Interim Remedial Measures
Completion Report
Sherwin-Williams Facility,
Emeryville, California
April 19, 1996
LF 2616.94-004

Prepared for
The Sherwin-Williams Company
101 Prospect Avenue, N.W.
Cleveland, Ohio 44115

LEVINE • FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

LEVINE • FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 19, 1996

LF 2616.95-004

Regional Water Quality Control Board
Mr. Sum Arigala
California Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Completion Report, Interim Remedial Measures, Sherwin-Williams Facility, Emeryville, California

Dear Dave:

Enclosed is the Draft Completion Report for the Interim Remedial Measures at the Sherwin-Williams Facility in Emeryville, California. Levine-Fricke, Inc. ("Levine-Fricke") has prepared this Interim Remedial Measures (IRM) Completion Report on behalf of The Sherwin-Williams Company (Sherwin-Williams) for submittal to the Regional Water Quality Control Board (RWQCB). This IRM Completion Report presents the results of remedial activities conducted at the Sherwin-Williams Facility in Emeryville, California ("the Site"). This report summarizes on-site observations and monitoring of remedial activities conducted by Levine-Fricke, and a review of documents provided by others. This report is limited to the IRMs implemented on site for Sherwin-Williams.

If you have any questions, please call Roger Leventhal, P.E., Alex Jenkins, or either of the undersigned.

Sincerely,

Mark D. Knox

Mark D. Knox, P.E.
Principal Engineer

cc: Distribution List

Enclosure

1900 POWELL STREET, 12TH FLOOR, EMERYVILLE, CALIFORNIA 94608-1811 *phone* (510) 652-4500 *fax* (510) 652-2246

San Francisco Bay Area · Sacramento · Irvine · San Diego · Phoenix · Salt Lake City · Denver · Chicago · Tallahassee · Newark · Honolulu

DISTRIBUTION LIST

Alameda County Health Care Services Agency
Ms. Susan Hugo
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

Sherwin-Williams
Mr. Dave Gustafson
Sherwin-Williams
101 Prospect Avenue, N.W.
Cleveland, Ohio 44115-1075

Larry Mencin
The Sherwin-Williams Company
101 Prospect Avenue, N.W.
Cleveland, Ohio 44115-1075

Frank McHugh
The Sherwin-Williams Company
1450 Sherwin Avenue
Emeryville, California 94608

CONTENTS

CERTIFICATION iii

1.0 INTRODUCTION 1
1.1 Site Background 1
1.1.1 Site History 1
1.1.2 Remedial Investigation 1
1.1.3 Development of IRM Alternatives 2
1.2 Interim Remedial Measures 2
2.1 Slurry Wall 3
2.1.1 Description of Work 4
2.1.2 Construction Activities and Slurry Wall Materials 4
2.1.3 Slurry Wall Quality Assurance/Quality Control 6
2.1.4 Site Health and Safety 7
2.2 Cap and Storm-Water Collection System 8
2.2.1 Summary of Construction Activities 8
2.2.2 Cap and Storm-Water Collection System Quality Assurance/Quality Control 9
2.2.3 Concrete and Soil Compaction Testing 10
2.2.4 Asphalt and Concrete Sealing 10
2.2.5 Underground Obstacles 11
2.2.6 Site Health and Safety 11
2.3 Ground-Water Extraction System 12
2.3.1 System Description 12
2.3.2 Well Installation and Development 13
2.4 Ground-Water Treatment System 13
2.4.1 Process Description 13
2.4.2 NPDES Permit 14

3.0 MAINTENANCE AND MONITORING OF THE SITE 15
3.1 Cap and Storm-Water Collection System 15
3.2 Ground-Water Monitoring 16
3.3 Ground-Water Extraction and Treatment System 16
3.3.1 System Startup 16
3.3.2 Routine Operation, Maintenance, and Monitoring 17

FIGURES

1 Site Location Map

2 Site Plan

3 Process Flow Diagram, Ground-Water Treatment System

APPENDICES

A Daily Construction Reports, Slurry Wall, By Levine·Fricke

B Daily Field Logs, Slurry Wall Construction, By Geo·Con

C Record Drawings, Slurry Wall Construction, By Sherwin-Williams

D Laboratory Results, Slurry Wall Permeability, By Geo·Con

E Field Instrumentation Measurements, Slurry Wall Construction, By Levine·Fricke

F Record Drawings, Cap and Storm-Water Collection System Construction, By Osborne Engineering

G Periodic Construction Reports, Cap and Storm-Water Collection System, By Levine·Fricke

H Soil and Concrete Testing Results, Cap and Storm-Water Collection System By Power Engineering Contractors and Smith-Emery GeoServices

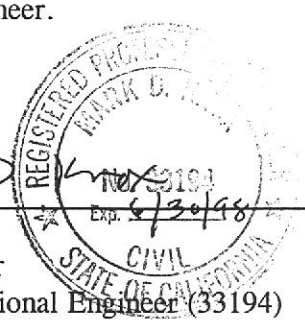
I Field Measurements, Photo Ionization Detector, Cap and Storm-Water Collection System By Power Engineering Contractors

J Field Logs of Well Construction and Lithology, Ground-Water Extraction System, By Levine·Fricke

K Record Drawings, Ground-Water Treatment System, By Sherwin-Williams

CERTIFICATION

All engineering information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a Levine·Fricke California Professional Engineer.



Mark D. Knox
Principal Engineer
California Professional Engineer (33194)

4/19/96
Date

1.0 INTRODUCTION

Levine·Fricke, Inc. ("Levine·Fricke") has prepared this Interim Remedial Measures (IRM) Completion Report on behalf of The Sherwin-Williams Company (Sherwin-Williams) for submittal to the Regional Water Quality Control Board (RWQCB). This IRM Completion Report presents the results of remedial activities conducted at the Sherwin-Williams Facility in Emeryville, California ("the Site"; see Figure 1). This report summarizes on-site observations and monitoring of remedial activities conducted by Levine·Fricke, and a review of documents provided by others. This report is limited to the IRMs implemented on site for Sherwin-Williams.

1.1 Site Background

1.1.1 Site History

The Sherwin-Williams Company owns and operates a coatings manufacturing plant located at the corner of Horton Street and Sherwin Avenue (1450 Sherwin Avenue) in Emeryville, Alameda County, California. The plant has been in operation since the early 1900s, manufacturing various types of coating products. It also produced lead-arsenate pesticides from the 1920s until the late 1940s. In 1987, Sherwin-Williams changed its manufacturing at the Site from oil-based products to water-based products. The change in manufacturing operations included the closure and dismantling of an oil tank storage facility, solvent tank storage facilities and the demolition of the former lead-arsenate pesticide manufacturing area.

1.1.2 Remedial Investigation

Several phases of soil and ground-water investigation were subsequently conducted from 1988 to 1991 to assess the nature and extent of a range of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and certain inorganic compounds (mostly arsenic and lead) detected at the Site as a result of the investigation of the tank storage and production facilities. Investigations of chemical compounds in soil were conducted in four areas of the Site: the former oil tank storage, the former solvent tank storage, a paved parking area near the former solvent tank storage, and an arsenic source area. Based on the results of these investigations, three general categories of chemicals were identified in A-zone ground water in the site vicinity that require remediation: VOCs, SVOCs (including total petroleum hydrocarbons [TPH]), and arsenic. Analytical data indicated that chemical compounds detected in A-zone ground water did not appear to have affected B-zone ground water at concentrations requiring remediation.

1.1.3 Development of IRM Alternatives

In 1990, the Sherwin-Williams Company retained Levine·Fricke to develop IRMs for the Site. An evaluation was conducted in accordance with site investigation and treatability study work plans prepared by Levine·Fricke for Sherwin-Williams. The objectives of the IRMs were to minimize or eliminate potential human exposure to affected soil and ground water, prevent or minimize off-site migration of the affected ground water, and control source areas to prevent or minimize further ground-water affects on site. Proposed IRMs were developed for the Site based on the cost effectiveness and implementability of the alternative IRMs.

1.2 Interim Remedial Measures

The IRMs for the Site were presented in Levine·Fricke's report, "Evaluation of Interim Remedial Measures" dated December 20, 1991. An overview of the IRMs is presented in Figure 2. The RWQCB concurred with the proposed IRMs in a letter signed by the Executive Officer, Steve Ritchie, dated March 10, 1992. The IRMs, and the tasks performed to implement them, are summarized below:

IRM 1: Installation of a slurry wall to contain chemical-affected areas and inhibit further off-site migration of affected ground water. The slurry wall is intended to contain on-site affected ground water and prevent migration of affected ground-water off site. The slurry wall also prevents migration of affected ground water from upgradient sites. In addition, the slurry wall helps reduce the amount of ground water requiring extraction and subsequent treatment, which meets regulatory concerns regarding excessive pumping of ground water and reduces operational costs for implementation. Implementation of this IRM involved excavating a slurry wall trench (keyed into the underlying low permeability bay muds), then backfilling with a soil-bentonite or cement-bentonite mixture to create a relatively impermeable barrier around the affected areas. Geo·Con, Inc. was the slurry wall contractor. Levine·Fricke monitored construction activities for environmental aspects, construction and testing techniques, and adherence to specifications. Slurry wall construction began in July 1993 and was completed in November 1994.

See Section 2.1 for detailed description of the slurry wall construction and quality control monitoring.

IRM 2: Installation of a cap and storm-water collection system to prevent infiltration into chemical-affected soils from storm-water runoff. This IRM significantly reduces the potential for vertical leaching of chemicals into ground water due to rain-water infiltration, while providing a direct barrier to wind or erosion, and human exposure. Implementation of this IRM involved regrading the Site, construction of a storm-water collection system of drains, catch basins, conveyance piping, and appurtenances, and capping the Site with concrete or asphalt. Power Engineering Contractors ("PEC") was the general contractor for the cap and storm-water collection system. Levine·Fricke performed periodic monitoring of construction activities for

environmental aspects, construction and testing techniques, and adherence to specifications. Construction of the cap and storm-water collection system began in March 1995 and was completed in September 1995.

See Section 2.2 for details of the cap and storm-water collection system construction and quality control monitoring.

IRM 3: Installation of a ground-water extraction system (GWES) to create an inward hydraulic gradient. The purpose of this IRM is to provide a zone of lower hydraulic potential and to create an inward hydraulic gradient. The GWES consists of three shallow ground-water extraction wells and conveyance piping, compressed air tubing and conduits, and appurtenances. Pneumatic pumps currently extract ground water at a total average flow rate of less than 3 gallons per minute (gpm). UCI was the GWES contractor. Levine·Fricke installed the three ground-water extraction wells and is currently performing operation, maintenance, and monitoring activities for the GWES. Construction of the GWES took place during the latter stages of cap and storm-water collection system construction.

See Section 2.3 for details on the installation of the extraction system.

IRM 4: Installation of a ground-water treatment system (GWTS) to treat extracted ground water. Extracted ground water from the GWES contains arsenic and other heavy metals, VOCs, and SVOCs. The GWTS consists of an electrochemical system for removal of heavy metals ("Andco System"), and a biological system for removal of organics ("Tri-Bio System"). Treated water is discharged into an on-site storm drain which discharges into Temescal Creek to the north of the Site. Temescal Creek empties into the San Francisco Bay. Discharge of treated ground water has been authorized under the RWQCB's General Waste Discharge Requirements Order 94-087, NPDES No. CAG912003, issued March 15, 1995. UCI was the GWTS contractor Sherwin-Williams monitored the installation of the system components. Levine·Fricke assisted with treatment system startup, and is currently conducting operation, maintenance, and monitoring activities for the GWTS. The GWTS was constructed during the latter stages of cap and storm-water collection system construction.

See Section 2.4 for detailed description of the GWTS, and Section 3.2 for results of system startup and ongoing operation.

2.1 Slurry Wall

This section presents a description of the slurry wall construction and the results of quality assurance/quality control (QA/QC) monitoring and testing. Levine·Fricke prepared the preliminary design memorandum for the slurry wall. Sherwin-Williams completed the preparation of plans and specifications and bid the project to several slurry wall contractors. The selected slurry wall contractor, Geo·Con, Inc., performed an additional soil investigation on May 24 and 25, 1993, by drilling 11 borings along the proposed slurry wall centerline. The soil investigation determined depth to

aquiclude. In addition, the retrieved soil samples were used to prepare soil-bentonite backfill test samples, and subsequently perform permeability analyses to develop the mix design. Undisturbed aquiclude samples were also retrieved to perform permeability analyses.

Geo·Con mobilized to the Site to construct the slurry wall on July 28, 1993, and commenced construction activities adjacent to the rear warehouse loading docks on August 7, 1993. Work progressed until September 1, 1993, when approximately two-thirds of the slurry wall was complete. Work was suspended until November 11, 1994, when deed transfer negotiations were completed with the City of Emeryville for purchase of land parcels from the Southern Pacific Lines, where the remaining section of the slurry wall was to be constructed. The slurry wall construction was completed on November 16, 1994.

Field documentation of the construction activities are presented in the appendices, including Levine·Fricke's daily construction reports (Appendix A); Geo·Con's daily logs (Appendix B); and record construction drawings (Appendix C).

2.1.1 Description of Work

A continuous bentonite slurry wall was constructed in the northern portion of the Sherwin-Williams paint manufacturing facility (see Appendix C and Figure 2). The wall was constructed in situ by excavating a trench, and backfilling with relatively impermeable bentonite construction material. The composite slurry wall is comprised of either cement-bentonite (C-B) soil-bentonite or (S-B) slurry backfill, with the permeability design criteria of $1x10^{-6}$ and $1x10^{-7}$ cm/sec, respectively. The intent of the slurry wall is to contain on site affected ground water.

The majority of the slurry wall (approximately 2,000 linear feet) was constructed with S-B backfill. The approximately 210-foot long C-B wall, with greater compressive strength than the S-B wall, was placed adjacent to the existing building on the Rifkin property (see Appendix C).

2.1.2 Construction Activities and Slurry Wall Materials

Bentonite Slurry. The slurry construction material was powdered bentonite, a mined and refined montmorillonite. The bentonite was mixed with water at an approximate 1:2 ratio, respectively by weight, to produce a pumpable fluid.

The bentonite and water were batch mixed in a high speed vortex mixer to accelerate hydration. This permitted direct pumping from the mixer to the trench excavation. The slurry was pumped into the open trench to prevent collapse of the trench walls during excavation activities.

Soil-Bentonite Backfill. The soil-bentonite backfill was formulated with excavated trench soils blended with bentonite, in both powder and slurry forms, to achieved a 3

percent by weight bentonite mix, and a 3- to 6-inch slump consistency. The blending of materials was performed in discrete batches using earthmoving equipment.

Cement-Bentonite Slurry. The cement-bentonite slurry was formulated with Type 1, Portland Cement. One thousand pound jumbo sacks of cement were batch mixed with hydrated bentonite slurry in a high speed vortex mixer. The design mix achieved a minimum 0.17 cement to water ratio.

Slurry Wall Construction Techniques. The slurry wall trench was excavated with a long reach track-mounted excavator. The trench section is 3-feet wide, extends through the native overburden, 20 to 30 feet, and terminates in a minimum 3-foot key in the underlying "bay mud" aquiclude. Two different methods were used to place the S-B and C-B materials.

Soil-Bentonite Wall Construction. The slurry wall construction began adjacent to the loading docks (Station 13+50, refer to plans). After removing the overbearing concrete slab, an initial 3-foot deep, 30-foot long excavation was made before bentonite slurry was pumped into the trench excavation via a pipeline system. The excavation progressed in a similar manner, displacing the excavated soil with bentonite slurry, and the approximate 80-feet long and 21-feet deep lead-in trench was completed.

The soil generated from the excavation was used to prepare the S-B backfill. When the lead-in trench excavation was completed, the dozer pushed the prepared S-B backfill into the lead-in trench at station 13+50. The trench excavation continued, in a westerly direction, during backfill placement to develop capacity for the now displaced bentonite slurry. When the S-B backfill reached original grade, an approximate 8:1 slope was developed, and the excavation was maintained 30 to 50 feet ahead of the S-B backfill.

The trench excavation crossed the loading docks and terminated at the northwestern most corner of the Site, at about station 6+40. The excavation and backfill operation returned to the lead-in trench, where the previously placed backfill material was removed, and an approximate 8:1 slope was developed in the backfill west of the lead-in trench.

The trench excavation and S-B backfill operation continued in a counter clockwise direction to approximately 15 feet from the east end of the proposed C-B wall (station 19+60). After the C-B wall construction was completed, the S-B wall construction resumed and tied-in at the C-B wall's east end. At this point, work was terminated for over one year because of property transfer negotiations.

After resumption of work in November 1994, a S-B lead-in trench was constructed at approximately station 22+00, and the S-B wall construction progressed back at station 6+40. The lead-in trench backfill was removed and replaced with fresh S-B to complete the slurry wall construction.

Cement-Bentonite Slurry Wall Construction. The C-B trench excavation and C-B slurry placement techniques were similar to the S-B construction, though the temporary placement of bentonite slurry was eliminated. The C-B slurry was formulated with portland cement and bentonite slurry, creating a material with similar fluid properties to bentonite slurry. Subsequently, the excavated soil was displaced with C-B slurry pumped directly to the trench, and the C-B slurry remained in the trench to cure as the final product.

The primary concern with C-B slurry was excavating and backfilling the trench in a timely manner, so that the cement constituent of the C-B batches were cured within the same initial set time. The QC of this property was important to the compressive strength and permeability of the C-B slurry wall. The excavated soil from the C-B trench was segregated from the excavated S-B soils, and was used as fill for site cap subgrade.

Slurry Wall Cap. After the in-place S-B and C-B backfill cured, the top 3-feet of backfill, and adjacent native soil was removed to develop a 7-foot wide trench. A woven geotextile was placed over the full 7-foot wide trench, and the trench was backfilled and compacted to grade with imported clay soil.

Surplus Excavated Trench Spoils. The slurry wall trenching operation generated surplus soil which was produced by displacement from the backfill. The surplus soil was stockpiled for future use as fill in grading for the site cap. The soil from the former lead-arsenate pesticide area (with an elevated arsenic content) was segregated as designated fill within the same area from where it was excavated.

2.1.3 Slurry Wall Quality Assurance/Quality Control

The slurry wall construction and materials' properties were monitored on site and analyzed in the laboratory for QA/QC. The quality of the constituents was monitored to verify that the designed permeability of the slurry walls would be met.

Slurry Wall Trench Excavation QA/QC. A weighted cable sounding line was constantly suspended in the trench during excavation. The sounding line was used to measure the depth of the slurry wall excavation. Also dragging the sounding line allowed for determining the uniformity and cleanliness of the key bottom.

Bentonite Slurry QA/QC. The bentonite slurry, comprised of bentonite and water, is the common constituent to the two trench backfill materials, and is the primary constituent that mitigates permeability. Density and viscosity are the two main properties of the bentonite slurry. The density indicates the bentonite to water ratio, and the viscosity, measured by the Marsh Funnel test, indicates the slurry's hydration.

The density and viscosity of the bentonite slurry were field tested, at the batch mixer and point of discharge into the trench periodically each day of production. The bentonite itself was delivered in 90- and 1,000-pound sacks with certificates of analysis.

In addition, field tests were performed for pH, filtrate loss, and gel strength to ensure bentonite quality.

Soil-Bentonite Backfill QA/QC. The S-B backfill was batch mixed using earthmoving equipment. A number of field tests were performed on the material before each batch or each 100 cubic yards (cy) of backfill was placed in the trench.

A slump test, similar to a concrete slump test, was performed to verify a 3- to 6-inch slump consistency. The slump was used to indicate the backfill's strength, which was important to achieve the specified 5:1 to 10:1 (horizontal to vertical) backfill slope. After the slump test was performed the same material was subjected to sieve analysis to verify whether oversized material was present and determine if sufficient fines were present to develop a relatively impermeable material.

The placed S-B backfill material was laboratory tested for permeability with a rigid wall triaxial permeameters apparatus with constant head. Approximately every 100 cy of backfill was sampled and sent to a geotechnical laboratory, where the sample was prepared and cured before analyzing for permeability. Periodic permeability testing was performed on the samples to determine if and when the specified permeability (1x10-7 cm/sec) was reached. All S-B samples tested for permeability met or exceeded the specifications (Appendix D).

Cement-Bentonite Slurry QA/QC. Field tests for viscosity and density, similar to the bentonite slurry, were performed on the C-B slurry. The samples were collected at the point of discharge into the trench.

Six fluid C-B slurry samples were retrieved at approximate 50-foot intervals along and from various depths within the excavated trench. The samples were sent to a state-certified geotechnical laboratory for analysis of density, water content, unconfined compressive strength, and permeability. Other than permeability the C-B samples met or exceeded the specifications.

The permeability was incrementally measured using flexible wall triaxial permeameters apparatus with constant head. Two sets of samples were taken to measure permeability of the C-B wall. The first set of seven samples averaged a permeability of 9.9x10-7, slightly exceeding specification. The average permeability of the second set of six samples measured approximately 2x10-6 cm/sec, very close to but slightly below specification (i.e., specified permeability was 1x10-6 cm/sec). The laboratory results are presented in Appendix D. Since the pumping wells are expected to create an inward hydraulic gradient, it was determined that the measured permeability for the C-B wall was acceptable.

2.1.4 Site Health and Safety

A site-specific Health and Safety Plan (HSP) was prepared by Geo·Con dated August 9, 1993, as required by OSHA 29 CFR 1910.120, prior to commencement of the slurry

wall construction. Ambient air was the primary source of potential exposure to the known site chemicals. The HSP addressed the health and safety concerns for both on-site personnel and the general public.

An air monitoring plan, included in the Geo·Con Health and Safety Plan, was developed and prepared to monitor air quality using four methods. VOCs were monitored in the workers' breathing zone with a photoionization detector. Workers with the highest exposure risk were further monitored for arsenic and lead using personal air monitoring equipment. Dust concentrations were monitored using a MIE miniram device. The miniram was used in the areas of earthwork activities, and at the site perimeter. High-volume air samplers were deployed along the exclusion zone perimeter to further monitor arsenic and lead from fugitive dust emissions.

Field instrumentation measurements were maintained by Levine·Fricke during construction activities recording real-time monitoring and analytical results. The field measurements are presented in Appendix E. Monitoring results indicated that dust levels during earthwork activities did not exceed permissible limits.

2.2 Cap and Storm-Water Collection System

This section describes the construction of the site cap, the storm-water collection system, and the results of the associated QA/QC monitoring. The purpose of the cap is to significantly reduce the potential of exposure from underlying soils and to minimize contact between on-site rainfall and affected soil. Construction activities included installation of a storm-water runoff conveyance system, regrading the Site, and capping the Site with asphalt and concrete.

Levine·Fricke prepared the preliminary design memoranda for the cap and drainage structures. The design and preparation of plans and specifications were completed by Osborne Engineering. The project was bid out by Sherwin-Williams personnel. The selected contractor, Power Engineering Contractors, mobilized to the Site in January 1994. Initially, construction activities were restricted to the southern portion of the Site. PEC demobilized in July 1994 when that portion of the work was completed.

PEC demobilized so that Sherwin-Williams could complete parcel negotiations with the City of Emeryville for the northern site property, and the subsequent slurry wall construction was completed in that area. PEC remobilized and resumed work in the northern portion of the Site in March 1995, and completed the cap and storm-water collection system construction in September 1995. Record drawings of the cap and storm-water collection system are contained in Appendix F.

2.2.1 Summary of Construction Activities

Storm-Water Collection System. PEC and their subcontractors constructed a storm-water collection system of trench drains, catch basins, manholes, and conveyance

piping that collected surface runoff and discharged into Temescal Creek. During excavation activities the ambient air was monitored by PEC with an OVM meter within the workers' breathing zone.

Prefabricated trench drains were installed in concrete on both sides of the railroad tracks to the east and south of the propane refueling dock. The trench drains were connected to the underground storm-drain conveyance piping.

The proposed site grading consisted of discrete cells draining to catch basins to collect surface-water runoff. These concrete catch basins were installed, and connected to the underground storm-drain conveyance piping. Manholes were installed at pipe inflection points.

The storm-water conveyance piping was constructed of smooth lined, corrugated polypropylene pipe (CPEP). O-ring, bell, and spigot type joints were used to reduce the infiltration potential. Pipe diameters ranged from 18 to 24 inches.

Pipes that crossed under the railroad tracks were protected by pipe casing. The casings were installed by a modified jack and bore method. The conveyance pipe was sleeved through the casing, and grouted in place.

A gate valve was installed in the main storm-drain just upstream from the discharge point to Temescal Creek. The gate valve will normally be in the open position. The gate valve can be closed in an emergency to prevent off-site discharge in the event that surface release of hazardous materials occurs.

Site Grading and Cap Construction. During construction activities, fill material was generated, and was used to regrade the Site. Displaced soils were generated during the slurry wall construction. A significant amount of subsurface demolished concrete was also generated during the cut-off wall construction.

The concrete rubble was crushed using an excavator-mounted hydraulic crushing jaw. The crusher reduced the concrete to a 4-inch-minus material. The crushed material was then blended with soil spoils, and the blended material was graded to proposed elevations.

The subsurface in the former lead-arsenate pesticide area (southern area) was known to contain elevated levels of arsenic and lead, relative to the overall Site. Therefore, the soil and concrete generated in the southern portion of the Site were segregated and contained in that area when graded.

2.2.2 Cap and Storm-Water Collection System Quality Assurance/Quality Control

Levine·Fricke performed QA/QC on the environmental aspects of the cap and storm-water collection system construction. This comprised of periodic site visits to observe construction activities, and to observe whether QA/QC testing procedures were being

performed. Levine·Fricke's Periodic Construction Reports are presented in Appendix G. PEC subcontracted material testing for soil compaction and concrete to Smith-Emery GeoServices; results are included in Appendix H.

Storm-Water Collection System QA/QC. Infiltration and exfiltration of ground water and storm water, respectively, are the primary concerns associated with the conveyance system. Construction and installation of the storm-water collection and conveyance system were observed periodically to verify whether the conveyance pipe bed, coupler, slope, and backfill were constructed properly.

Double-gasketed pipe couplers joined the pipe joints of the conveyance system. This allowed the system to be pressurized, reducing the leakage potential. The pipe segments were discretely pressure tested between catch basins and manholes. Pressure tests were observed to meet or exceed the manufacturer's recommendations (see periodic construction reports in Appendix G).

Pea gravel was used as the bedding and backfill for pipe excavations. Consequently, the pea gravel was encapsulated in a nonwoven geotextile filter fabric to prevent fines from migrating into the backfill. Observations included noting the means and methods of material placement, and checking that the designed flowline slope was achieved prior to backfill placement. The pea gravel backfill was placed to within 3 feet of finish subgrade, and covered, with a minimum 2-foot overlap of the geotextile. Compacted native backfill was placed in the top 3 feet of the excavation.

Cap Construction QA/QC. Cap construction QA/QC involved periodic observations of the asphalt, concrete, base rock, and subgrade preparation, and placement. The cap sections and placement techniques were observed to verify the cap's integrity. Asphalt and concrete placement was also monitored for surface depressions where water could potentially collect.

2.2.3 Concrete and Soil Compaction Testing

Smith-Emery GeoServices were subcontracted by PEC to perform concrete and soil compaction testing for specification compliance purposes. It was PEC's responsibility to schedule and manage Smith-Emery's material sampling, and analytical results. Copies of the results are presented in Appendix H, as noted in 2.2.2.

2.2.4 Asphalt and Concrete Sealing

Asphalt and concrete within the boundary of the slurry wall were surface treated with sealant to further decrease potential surface water infiltration. The asphalt and concrete were treated with two types of sealant.

Asphalt Sealant. Both new and existing asphalt surfaces were sealed with an emulsion based slurry sealant. The sealant was observed to be placed by a pugmill mixer over large areas, and by hand with squeegees.

Concrete Crack Sealant. A survey of existing concrete cracks was performed by PEC. Subsequently, cracks 1/4-inch or greater in width were sealed with a pourable epoxy compound and Sherwin-Williams' staff inspected and confirmed that this work was completed.

2.2.5 Underground Obstacles

During both the slurry wall construction and the cap-related construction, existing underground obstacles were encountered that impeded progress and required deviation from the original plans. Encountered underground obstacles included, but were not limited to, pipes, abandoned concrete structures, and underground storage tanks.

Encountered subsurface abandoned concrete structures were either avoided by relocating work, or demolished and removed from the excavation. Removed concrete rubble was later crushed and consolidated with soils, and placed as subgrade.

Encountered underground pipes varied in size and material, and the majority were out of service. These pipes were abandoned in place if not broken and if they did not conflict with construction activities. If the pipes were broken during construction activities, or interfered with proposed construction, they were removed to the extent necessary to complete the work, and plugged with grout.

Underground storage tanks were encountered in two areas of the Site. The first tank, encountered during slurry wall construction, was located to the south of the boiler house, partially buried below the transformer pad. Because of the above-mentioned physical restraints, the tank was abandoned in place, and was reported to the County of Alameda meeting on October 19, 1995.

The other underground storage tanks were encountered during cap construction activities. Four buried railroad tankcars were found on the western property boundary with Southern Pacific Lines, which took responsibility for their removal. Two smaller torpedo tanks were later located in the vicinity of the buried railroad. The adjacent property owner, the Southern Pacific Lines, took responsibility for these tanks, which were removed and disposed of at an approved facility.

2.2.6 Site Health and Safety

A site-specific Health and Safety Plan (HSP) dated December 22, 1993 was prepared for PEC by Earth Safety Dynamics. The HSP identified inhalation as the primary route of exposure.

Levine·Fricke was responsible for periodic ambient and personal air monitoring. The former lead-arsenate manufacturing area was known to be affected primarily with arsenic, lead, and volatile organic compounds (VOCs). The northern portion of the Site was known to be affected primarily with VOCs. Levine·Fricke operated and maintained air sampling equipment for heavy metals, and PEC was responsible for monitoring and

maintaining records of its own personnel with a photoionization detector (PID) for VOCs (see Appendix I).

Ambient Air Monitoring. The ambient air was monitored during construction activities for fugitive dust containing heavy metals, primarily as arsenic and lead. High volume air samplers with filters were deployed adjacent to property boundaries and within the Sherwin-Williams compound. The collected air samples were sent to a state-certified laboratory under strict protocol for analysis. All analyzed sample results indicated that contaminants in dust from construction activities were below action levels.

Personal Air Monitoring. Personal air monitoring for heavy metals was implemented for PEC personnel using Personal Air Monitors (PAMs) with filter cassettes. Each PAM was a constant flow air pump with the filter cassette attached to the designated representative worker's lapel to sample dust generated in the breathing zone. The filter cassettes were sent to a state-certified laboratory under strict protocol for analysis. All analyzed sample results indicated that contaminants in dust in the breathing zone were below action levels.

2.3 Ground-Water Extraction System

This section provides a description of the ground-water extraction system (GWES) recently installed and currently in operation at the Site. Levine·Fricke prepared the preliminary design memorandum of the extraction system. The design and preparation of plans and specifications was completed by Sherwin-Williams personnel. The GWES was installed by UCI with oversight by Sherwin-Williams. Levine·Fricke was responsible for oversight for the drilling of three ground-water extraction wells. Installation of the well pumps and conveyance piping was performed by UCI. Construction of the GWES took place during the latter stages of cap and storm-water collection system construction.

2.3.1 System Description

The GWES consists of three shallow ground-water extraction wells (located within the contained area), ground-water conveyance piping, compressed air lines, and appurtenances. The three wells are pneumatic, and use on-site compressed air available from the coatings plant operations. A pulse counter was installed at each wellhead to approximate totalized flow. The pumps only operate when ground water is present in each well and when the water level in the influent tank at the ground-water treatment system (GWTS) is within a set range.

The locations of the extraction wells are shown in Figure 2. Ground water extracted from wells EX-1 and EX-2 is primarily affected with VOCs and SVOCs. Extraction well EX-3 is located in the northeastern part of the Site near the former arsenic source area. Consequently, ground water extracted from well EX-3 is primarily affected with arsenic, VOCs, and semivolatile organic compounds (SVOCs).

2.3.2 Well Installation and Development

The three extraction wells were installed using the hollow-stem auger drilling method. Soil samples were collected continuously, and were used to characterize the subsurface lithology. The wells were completed with 5-inch-diameter stainless steel casing in a 10-inch-diameter borehole, with 15 feet of slotted screen.

During well installation, after the well casing had been placed in the completed borehole, the well annulus opposite the perforated interval was backfilled with clean sand to a height of approximately 1 foot above the top of the perforations. Approximately 1 foot of bentonite pellets were then placed above the sand pack to isolate the perforated interval from material above and inhibit the entrance of grout into the sand pack. A cement-bentonite grout was then placed in the remainder of the borehole. A concrete utility vault was then placed over the top of the casing to protect the integrity of the well.

After installation, the wells were developed by bailing, swabbing, and pumping to remove sediment from around the well and to enhance hydraulic communication with the surrounding formation. During well development, approximately 10 well volumes of water was removed from each well. Specific conductance, pH, and temperature was measured during this purging process to aid in evaluation of ground-water quality. Observations concerning quantity and clarity of water withdrawn was also recorded during this process.

Field logs of well construction and lithology are included in Appendix J. Figure 2 provides a site plan that indicates the locations of the ground-water extraction and treatment system (GWETS).

2.4 Ground-Water Treatment System

The conceptual design and performance specifications of the GWTS was prepared by Levine·Fricke. Sherwin-Williams personnel provided final design input and was responsible for construction oversight of UCI during installation of the GWTS. Construction of the GWTS took place during the latter stages of cap and storm-water collection system construction.

2.4.1 Process Description

The GWTS consists of an electrochemical system for removal of heavy metals ("Andco system"), and a biological system for removal of organics ("Tri-Bio system"). Figure 2 provides a site plan that indicates the locations of the GWETS. Figure 3 is a simplified process flow diagram of the treatment system that includes the locations of the influent, effluent, and intermediate sampling stations. Appendix K presents some of the record drawings for the GWTS.

Extracted ground water flows into a 2,000-gallon influent tank at the Andco System. The water then flows through two electrochemical cells, where metals co-precipitate with ferric ions (Fe III) that are released into solution by electric current across the electrodes. Some of the water from the electrochemical cells is recirculated back into the influent tank. The remainder of the water continues through the process. The water passes through a reactor tank, a retention tank, and a pH correction tank before entering a clarifier, where solids containing heavy metals flocculate and settle out. The solids underflow is pumped into a slurry tank, then into a filter press where dewatered sludge is generated. The sludge is managed appropriately for off-site disposal. The supernatant liquid from the slurry tank flows by gravity back to the Andco system influent tank. Treated overflow water leaving the clarifier enters a pumping tank. This water is then pumped through two multimedia filters and into a 15,000-gallon holding tank. Sample port I-1 for the treatment system influent is located between the influent tank and the electrochemical cells. Samples for the Andco system effluent are taken at a sample port ("ANDEFF") between the multimedia filters and the holding tank.

Water from the 15,000-gallon holding tank is pumped into the first of five aerobic cells at the Tri-Bio System. Water flows by gravity through all five cells where, in the presence of oxygen and nutrients, biological activity breaks down the organic matter. The outflow goes into a clarifier, where solids settle out. The solids underflow is pumped into a sludge digester thickener tank, then into a sludge conditioning tank. The solids are then pumped into a filter press where dewatered sludge is generated. Water leaving the clarifier passes through a 500-gallon holding tank, then is discharged into the storm drain that discharges into Temescal Creek along the northern boundary of the Site. Final effluent samples (sample port E-1) are collected between the Tri-Bio System clarifier and the 500-gallon holding tank. Receiving water samples R-1 and R-2 are taken at Temescal Creek at points 50 feet upstream and 150 feet downstream, respectively, from the point of discharge into the creek. Temescal Creek ultimately discharges into the San Francisco Bay.

2.4.2 NPDES Permit

Discharge of treated ground water has been authorized under the California Regional Water Quality Control Board's (RWQCB's) General Waste Discharge Requirements Order 94-087, National Pollution Discharge Elimination System (NPDES) Permit No. CAG912003, issued March 15, 1995.

The NPDES permit and authorization letter established effluent and receiving water limitations for the GWTS. The NPDES effluent limit for arsenic was tentatively set at 25 micrograms per liter (μg/l), the original design criteria for the Andco system. However, the GWTS effluent has in most cases met the NPDES general permit limit for arsenic, which is set at 10 μg/l. NPDES limits were also set for cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc. Effluent concentrations of 1,2-dichloroethane and vinyl chloride were limited to 0.5 μg/l. Benzene was limited to 1.0 μg/l. Total petroleum hydrocarbons were limited to 50.0 μg/l. Effluent concentrations of other VOCs and SVOCs were limited to 5.0 μg/l.

Other limits and guidelines were set for other water quality and hydraulic parameters, such as pH, toxicity, dissolved oxygen, and flow rate.

The NPDES permit also outlines the RWQCB's Self-Monitoring Program for Discharges of Extracted and Treated Ground Water. The program establishes a schedule and methodology for sampling, measurements, and analyses. The program also specifies record keeping and reporting requirements. The schedule requires weekly sampling of flow rates, monthly sampling of arsenic, VOCs, total petroleum hydrocarbons (TPH), pH, temperature, and turbidity, quarterly sampling of total dissolved solids, and annual sampling of heavy metals, toxicity, dissolved oxygen, and hardness. Receiving water samples are taken annually. Reports to the RWQCB are submitted quarterly, including an annual summary report, and include tables, graphs, figures, laboratory reports, and field notes. Additional RWQCB notifications and corrective actions are required if permit limits are exceeded. Special startup requirements for sampling, measurements, and analyses were also specified.

3.0 MAINTENANCE AND MONITORING OF THE SITE

A monitoring plan is currently being developed to evaluate the effectiveness of the interim remedial measures (IRMs) in controlling off-site migration of affected ground water. The slurry wall and the cap and storm-water collection system are passive IRMs, and will not require frequent monitoring to maintain their effectiveness. The GWES and the GWTS are active IRMs that will require periodic maintenance and monitoring to operate effectively and maintain compliance. In addition, ground-water monitoring will be required to evaluate the effectiveness of the IRMs. The following provides many of the components of a site monitoring program. However, it is anticipated that the complete program will be developed under a comprehensive long-term risk management plan. This plan will be developed based on the initial results for the remedial systems and based on regulatory approval. The final elements of monitoring will eventually fall under the risk management plan.

3.1 Cap and Storm-Water Collection System

Visual inspection of the cap and storm-water collection system will be scheduled semiannually. The cap will be inspected for cracks or other evidence of weathering or creep that may compromise its structural or environmental integrity. Possible future maintenance activities include reapplying sealant to asphalt or concrete areas, repaving asphalt areas, and replacing concrete as needed. The storm-water collection system will also be observed regularly. Other possible maintenance activities include purging, repair, and/or replacement of storm drain piping, catch basins, and appurtenances, and repair of underground utility lines.

3.2 Ground-Water Monitoring

Additional monitoring wells will be installed on- and off-site to assess the effectiveness of the slurry wall in preventing migration of affected ground water. Levine·Fricke installed additional ground-water monitoring wells in early 1996 as part of the monitoring well network.

Periodic sampling of the ground water and measurement of water levels will be scheduled to evaluate the effectiveness of remedial measures. Initially, quarterly monitoring of selected wells is anticipated. After one to two years, it is anticipated that the ground-water levels will stabilize and sufficient water quality data will be collected to verify that remedial goals are being met. At that point, it is anticipated that ground-water monitoring will be reduced to a semiannual basis.

3.3 Ground-Water Extraction and Treatment System

The operation, maintenance, and monitoring activities will be implemented to maintain the effectiveness of the GWETS. This will involve adhering to the Self-Monitoring Program described above, and performing the necessary maintenance tasks to keep the GWETS operating consistently.

3.3.1 System Startup

A detailed report discussing startup activities and results of the first quarter of GWETS operation and sampling, measurement, and analysis results was submitted to the RWQCB on January 30, 1996. A brief overview of maintenance and monitoring activities follows.

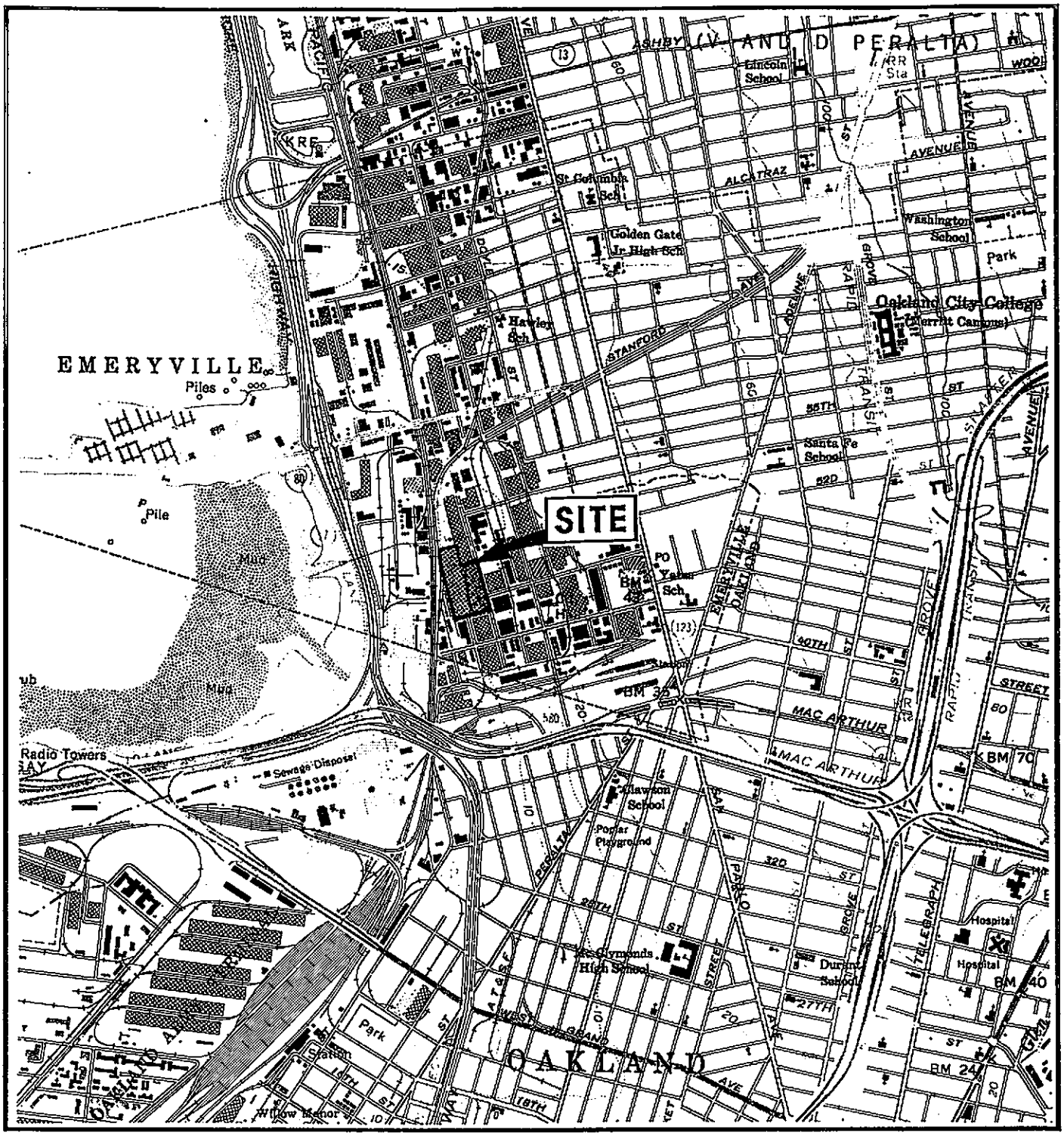
The GWETS was officially started up and began discharging on October 16, 1995. Prior to this date, treated water had been discharged into a rented 20,000-gallon storage tank. This storage tank was on site during startup operations, beginning on September 21, 1995. Water from the 20,000-gallon storage tank was pumped into the Tri-Bio system for treatment before discharge beginning November 27.

Startup operations involved training from system vendors for Levine·Fricke and Sherwin-Williams personnel, troubleshooting and calibration of equipment, and initial maintenance and modification of system components. Treatment system maintenance tasks performed during the first quarter of GWETS operation included acid washing the electrochemical cell, mixing polymer and acid solutions, emptying the Andco System filter press, backwashing the multimedia filters, cleaning the influent tank pressure transducer, repairing the effluent flowmeter, assembling the pH meter and dissolved oxygen meter, adjusting nutrient and other process chemical feed rates, acquiring and organizing a storage cabinet, and performing periodic housekeeping activities.

The GWTS complied with all NPDES effluent limitations throughout the first quarter of operation, with the exception of TPH as diesel (TPHd). The GWTS effluent for arsenic was within the NPDES limit of 10 μg/l. The effluent was also within NPDES limits for other heavy metals. VOCs, SVOCs, and TPH as gasoline (TPHg) were also effectively removed by the GWTS. Modifications to the biological treatment system were implemented in January 1996. Currently the system is operating in compliance with TPHd discharge limits.

3.3.2 Routine Operation, Maintenance, and Monitoring

Routine operation, maintenance, and monitoring of the GWETS will involve many of the same tasks undertaken during the first quarter of operation. The Self-Monitoring Program described above will continue to be followed. Operational parameters will be refined and equipment will be repaired or replaced periodically throughout the life of the system to maintain the effectiveness of the GWETS in achieving its design objectives and to keep the GWETS operating effectively.



MAP SOURCE:
U.S.G.S. Oakland West Quadrangle,
Oakland, California
7.5 Minute Series

Figure 1 : SITE LOCATION MAP

Project No. 2616

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

JDR11JUL89em

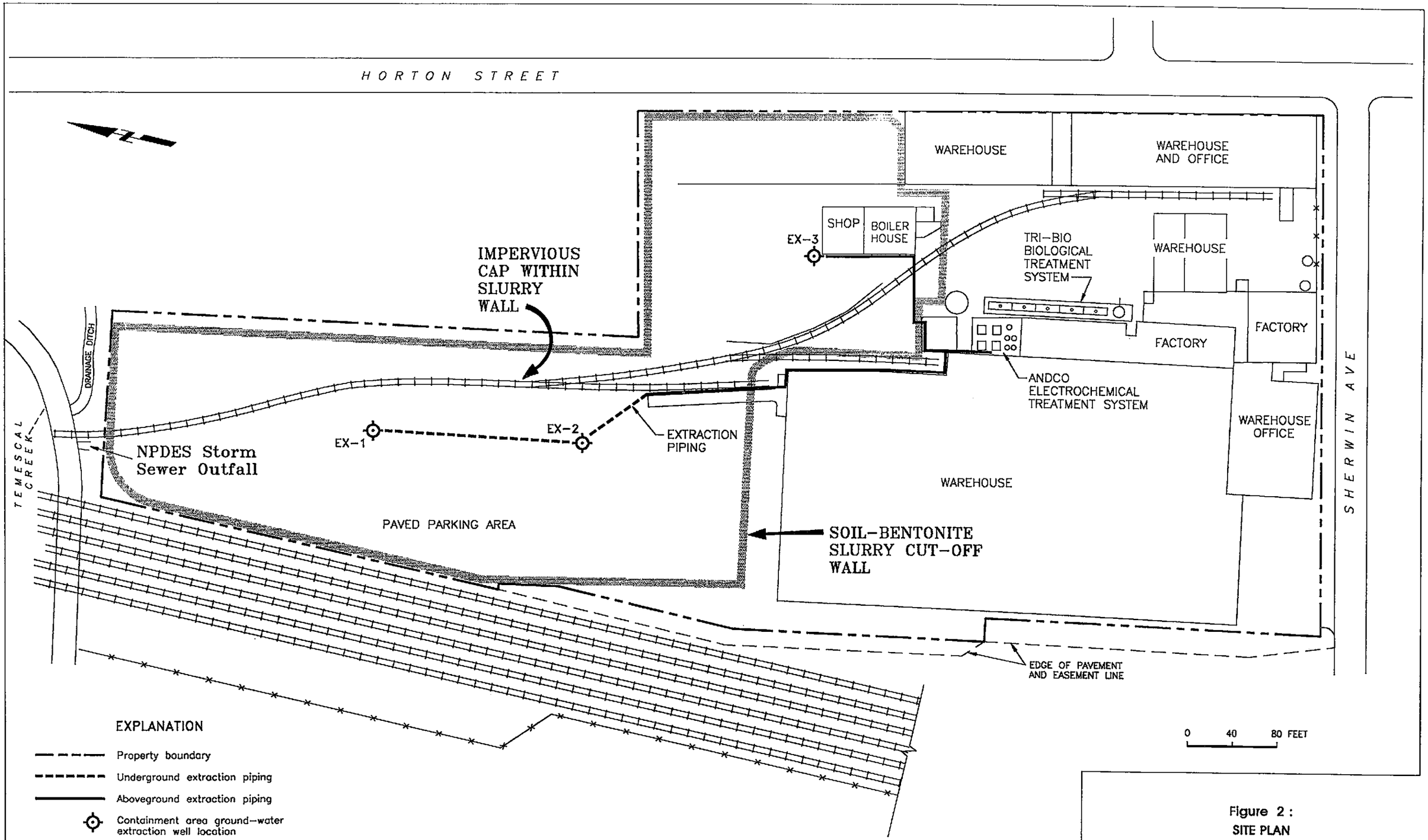


Figure 2 :
SITE PLAN

Project No. 2616

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

2616B001.RDL:DAT 013096

FROM WELL #1
FROM WELL #2
FROM WELL #3
INFLUENT
RECYCLE
FLOOR SUMP
ANDCO SYSTEM SECONDARY CONTAINMENT AREA
POLYMER
CLARIFIER
FILTER FEED PUMP P-1201
2000 GALLON EQUALIZATION TANK T-301
PROCESS PUMP P-301
SAMPLE POINT I-1
ELECTROCHEMICAL CELLS
800 GALLON REACTOR TANK T-701
800 GALLON RETENTION TANK T-401
800 GALLON pH ADJUST TANK T-601
375 GALLON PUMPING TANK T-1201
SLURRY TRANSFER PUMP P-501
MULTIMEDIA FILTERS
SLURRY TANK OVERFLOW
FILTRATE
FILTER PRESS
2,200 GALLON SLURRY TANK T-501
TRI-BIO SYSTEM SECONDARY CONTAINMENT AREA
FILTER PRESS
FILTER PRESS PUMP P-502
SLUDGE TO DRUMS
SLUDGE TO DRUMS
SAMPLE POINT ANDEFF
SLUDGE DIGESTER THICKENER TANK T-4000
SLUDGE CONDITIONING TANK T-6000
FLOOR SUMP
PUMP P-3101
PUMP P-4101
PUMP P-5101
INFLUENT PUMP TRI-B10
15,000 GALLON HOLDING TANK T-1100
EFFLUENT DISCHARGE
SAMPLE POINT E-1
CLARIFIER
500 GAL EFFLUENT HOLDING TANK
CELL #5
CELL #4
CELL #3
CELL #2
CELL #1

C:\ACAD12\2616\PID.DWG

Figure 3:
PROCESS FLOW DIAGRAM
GROUND-WATER TREATMENT SYSTEM

Project No.2616

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

APPENDIX A

DAILY CONSTRUCTION REPORTS, SLURRY WALL BY LEVINE·FRICKE

Levine•Fricke

DAILY CONSTRUCTION REPORT
No. 1

Date/Day: 5/24-26/93 - Mon - Wed

Project: 2616.15 Weather: Rain/Overcast

Owner: Sherwin-Williams Site Conditions: Moist

Contractor: Geo-Con Temperature: 70°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1		Dan Rose
Gregg Drilling	1	1	Steve & Paul

Equipment:
1- B53 Drill Rig

Activities: Travel Time:0.25 hrs.

Gregg Drilling was contracted by Geo-Con to drill 11 bore holes along the proposed length of projected slurry trench wall. Geo-Con retrieved the cuttings from the augers, and collected them in 55-gal. drums. The drums are to be shipped to Pittsburgh, Pennsylvania to develop SB mix test samples.

Levine•Fricke was logging the boring profiles from the cuttings as they surfaced. At the bottom of each bore hole (at approximately 20 to 25 feet below the surface) a 3-in. dia., 30-in. long Shelby Tube was hydraulically pushed to retrieve an undisturbed sample of the aquiclude to perform permeability tests.

During the drilling operation periodic sampling of the atmosphere with an OVM was performed. All of samples within the breathing zone, and most of those taken at the source (i.e. the bore hole) read non-detectable. When OVM readings at the source were at 50 ppm or above, workers went to Level "C" protection. OVM readings taken from the source are recorded on drilling logs.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 2

Date/Day: 7/28/93 - Wed.

Project: 2616.15
Owner: Sherwin/Wms.

Weather: Overcast
Site Conditions:

Contractor: Geo-Con

Temperature: 68°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1		Steve Windslow HSO
Lombardo		1	Dave

Equipment:
Concrete Saw

Activities: Travel Time:

At about 9:00 I had a phone conversation with Dave Brown (G-C), who informed me that they had started work at the site this morning. He said that they were just getting organized, and would probably begin concrete saw cutting later in the morning. He also expected the fence contractor to be on site sometime today.

I visited the site at about 11:00, met with Steve (G-C) as he requested per his voice mail. We discussed the trench wall layout. I explained that S-W was doing the CM on site, and that the wall layout in certain locations was a place to fit situation. I suggested that he speak with Bob Stemm (S-W) to answer those sorts of questions.

We then discussed the H&S aspects of the project. Steve said that he anticipated being on site for the next couple of weeks. We reviewed the air sampling equipment and protocol as per the HSP's. We agreed that sampling during the concrete cutting was unnecessary, though I would return to the site tomorrow with a PID to confirm.

I departed the site at about 12:00 to go to the shed to organize equipment.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 3

Date/Day: 7/29/93 - Th

Project: 2616.15
Owner: Sherwin/Wms.
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 68°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
	1		
Lombardo		1	

Equipment:

Activities: Travel Time:

Prior to arriving on the site at about 13:00, I visited the shed to pick up the OVM/PID, and calibrate it.

Upon arrival I spoke with Steve (G-C), about his concrete saw cutting and temporary fence installation progress. He had completed the raised concrete slab cutting, and was about to begin cutting the loading dock slab. The temporary fence installation appeared about 2/3 complete.

Steve informed me that the proposed easterly most trench would include wells LF-1 and LF-B1. He also said that they encountered a second slab below the raised slab in the same area.

I left a voicemail for JTW with this information. She later called me, and said MDK needed to know by next Tuesday, all the wells that would require closure due to trench conflict. And, that there was no specific information in our boring logs from that area about slab thickness.

Steve and I then walked the site to project the trench location at existing wells. A minimum offset of 10 feet from the fence to the outside wall, to allow for the excavator swing, is required. Subsequently, two other wells, LF-7 and LF-8, are potentially threatened by the trench at 12 foot offset. Though, it appears that the contractor may be able to negotiate around the wells. All other wells appear to be outside of the trench footprint.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.:2616.15 Report No.:3 Date/Day:7/29/92 - Th

After completing the site walk with Steve, I walked the portions of the site with the PID, that had been saw cut to detect possible released vapors. I also sampled below the raised slab, where possible, at the easterly most area of the site. The PID detected no vapors at any of the locations.

After completing the above sampling I departed the at about 15:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 4

Date/Day: 7/30/93 - Fri.

Project: 2616.15
Owner: Sherwin/Wms.
Contractor: Geo-Con

Weather: Sunny
Site Conditions: Dry
Temperature: 75°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
	1		
Lombardi		1	

Equipment:
Concrete Saw

Activities: Travel Time:

I arrived on site at about 13:00. I observed that Dave (Lom.) was near completion in cutting the concrete in the loading dock/parking area. I also observed Steve (G-C) leveling the site trailer that had arrived on site earlier today. There was also a forklift truck parked adjacent to the trailer.

I inquired to Steve when he expected the c.c. to be removed. He stated that it was Lombardi's decision, which he did not know. He told me that he expected the temporary fence installation to be completed by the end of the day.

After walking the site I departed the at about 14:00.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 5

Date/Day: 8/2/93 - Mon.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1		
Lombardo		1	

Equipment:
Forklift
Concrete Saw

Activities: Travel Time:

I arrived on site at about 8:00, and spoke with Steve (G-C) about today's activities.

He stated that C.C. saw cutting would continue in the parking area, though C.C. demolition was not expected, as scheduled on Fri. (7/29/93). He did state that equipment was scheduled to arrive throughout the day.

I also observed that the drum storage area to the north of the parking area was being demolished by another contractor.

I departed the site at about 8:30.

I returned to the site at about 1:00, and observed the unloading of steel trench plate. Otherwise, not apparent changes had occurred.

I departed the site at about 1:15.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 6

Date/Day: 8/3/93 - Tue.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 78°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	4	
Lombardo		1	

Equipment:
Forklift, Mixer, Piping, Trench Plate, Bentonite
Concrete Saw

Activities: Travel Time:

I arrived on site at about 8:30. I observed that the contractors crew had been increased, and that the project field supervisor (Tom) was now on site.

We discussed the work schedule. Tom said that he should be receiving the remainder of his equipment today, and that should it arrive on schedule it will take the better part of a day to get things operational. He then would need time to hydrate the bentonite. Therefore, he did not anticipate excavating before Thursday or Friday.

I then join the bid walk for the site cap, that was already in progress.

Before departing the site at about 9:30 I spoke to Tom about removing the conductive casing at LF-B1. He said that it should not be a problem to excavate around the casing, then pull it in tact.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 7

Date/Day: 8/4/93 - Wed.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	

Equipment:
Forklift, Excavator, Mixer, Pumps, Piping, Water Tank, Bentonite

Activities: Travel Time:

I arrived on site at about 8:00. I was told by Steve (G-C) that Lombardo was to send a demo crew to remove the c.c., but they supposedly were not 40 hr. H&S trained. Therefore, they were informed by Steve that 40 hr. H&S trained personnel were required as stated in their contract. When I later spoke with Tom (G-C) about this he said he didn't know when c.c. demo would begin.

We also discussed the areas designated for arsenic rubble, and which c.c. would be considered originating from the high arsenic area. I suggested that he speak to Bob (S/W), in that the plans required clarification.

I departed the site at about 9:00 to retrieve a copy of the underground plans for Tom.

I returned to the site at about 10:30 with the plan. We again discussed the c.c. demo. Tom was still not sure what was happening with Lombardo. The equipment was to arrive early p.m., and if the crew were not 40 H&S trained he would have his operator use their equipment.

I departed the site at about 11:00, to the shed to calibrate the PAM's, which was completed at about 12:30.

I again returned to the site, at about 3:30, to observe further developments. More slurry equipment had arrived, and

the filling of the water tank was in progress. The remaining equipment (i.e. generator, dozer...) are to arrive tomorrow.

Tom anticipated c.c. demo tomorrow morning at about 9:00, and hoping to break ground late in the afternoon.

The anticipated work week schedule is to be 10 hr. days 5-6 days a week.

I departed the site at about 4:30.

considered as "high-arsenic" begins at the loading docks, though the highest anticipated area is at the raised pad to the east.

I departed the site at about 12:00 to the shed to pick up the Hi Vol's and related equipment. Prior to departing the site I requested Steve to monitor the c.c. demo operation in my absence. I returned to the site at about 1:00, and placed the equipment. I returned to the shed at about 2:30.

I observed that a Lombardo worker was on site, he apparently arrived on site at about 12:30, to complete the c.c. saw cutting at the ramp. He departed the site at about 3:30.

After lunch I returned to the site at about 3:00, and resumed monitoring the c.c. demo operation. Larry was present, was there until the end of work, in the hope that the excavation would begin.

I called Dave (G-C) to organize the closure of LF-B1. I learned from Kenton (L-F) that LF-1 would be officially closed when removed in the trench excavation operation. LF-B1 is scheduled to be closed Tuesday 8/10/93 at 8:00, by Gregg Drilling.

I then organized for AEN to pick up air samples tomorrow at 5:00, and for a quick turn around. Results are scheduled for 5:00 Monday 8/9/93.

At about 6:15, after the c.c. demo and trench plate placement, Tom inquired about site security in that the temporary fence gate required S/W locks. I called Bob about this, and he directed me to Dave W. (S/W) to organize the necessary materials.

I departed the site at about 6:45 to the shed to recharge the PID and Miniram.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 9

Date/Day: 8/6/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 78°F

Visitors:
Mark Knox

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	4	
Robertson		2	Trucker

Equipment:
Excavator, Loader, Dozer, Forklift, Mixer, Trucks, Water Tank, Bentonite

Activities: Travel Time:

Before arriving to the site at about 7:15, I stopped at the shed to pick up the PID and Miniram that were recharging.

I set up the HI Vol's, PAM's and calibrated the PID. The three PAM's were given to Steve (G-C) to dispatch to workers he wished to designate.

The contractor continued setting up the by excavating a shallow trench (1-2ft.) to lay the slurry pipe where it crossed the main site entrance. They continued welding pipe to reach to about Sta. 13+50.

At about 9:30 I spoke with Bob (S/W), when he requested that I remind Tom (G-C) to place some fill and level the ground adjacent to the R/R tracks.

At about 10:00 I returned to the trailer to complete paperwork from yesterday, and review the Spec's. Tom informed me that he intended to mix a 1% Bentonite solution in the mixer, then blend the remaining 2% dry in the mixing bed. I phoned CRN (Levine•Fricke) to confirm that this was acceptable.

At about 12:30 I reviewed the material testing procedure and schedule with Tom. There were some questions as to the scheduling. At about 1:00 MDK (Levine•Fricke) arrived on site. We briefly reviewed the operation Plans and Spec's.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 9 Date/Day: 8/6/93 - Fri.

Bill (S/W) arrived, and we discussed the 1/shift or every 100 cu.yds. He agreed that it would be the lesser of the two.

At about 1:30 G-C began excavating at about sta. 13+90 (the N.E. corner of Bldg. 35), and at about 2:00 the first slurry was pumped. The top of the aquiclude was encountered at about 18 feet below O.G.

I gave the submitted S-B mix design and proposed independent lab elected by G-C to MDK. He then departed the site at about 3:00.

At about 3:15 the slurry mixer motor failed, which stop production for about 45 min. The motor was not repaired, however the bentonite was able to mixed, though slower.

At about 3:45 I began collecting the Hi Vol samples, then at about 4:30 I did the same with the PAM's. I recalibrated the Pam's, and recorded the data.

I spoke with Roxy (AEN), and canceled the pick up for today. Due to the late start, breakdown I felt today's samples were not accurate representatives of the project. AEN will pick up the samples at the shed early Mon. morning, and will have results by the end of the same day. The quick turn around will apply only to Sat's samples.

After completing preparing the air samplers for tomorrow, I departed the site at about 6:00 to recharge equipment.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 8

Date/Day: 8/5/93 - Thu.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Partly Sunny
Site Conditions: Dry
Temperature: 75°F

Visitors: Bill, Larry (S/W)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Lombardo		1	c.c

Equipment:
Forklift, Excavator, Backhoe, Mixer, Loader, Bentonite

Activities: Travel Time:

I arrived on site at about 8:30. After calibrating the PID and Miniram, I proceeded to the northwest corner of parking area, where at about 9:00 G-C began c.c. demo. At first the hoeram was progressing slowly, and at about 9:45 Tom (G-C) mobed the excavator. The excavator would lift the precut portion of slab, then drop it to break it into manageable sections.

At about 10:00 I brought the PAM's into the trailer, where Steve (G-C) was conducting a H&S refresher course. I demonstrated to the 3 workers the proper wearing, purpose and procedures in operating the PAM's.

At about 10:30 I visited Bob's (S/W) office to discuss some questions that have been asked by the contractor; can c.c. from outside the high arsenic area be incorporated with the c.c. stockpile generated from the drum storage area, can Bill (S/W) send an ACAD disc to us for plans, where is the newly proposed trench at the N.E. corner of Bldg.35 to be placed (i.e. will it conflict with well LF-2?), and a clarification of "high-arsenic" trench parameters?

At the time of my arrival Larry (S/W) was only present. In the time that it took to explain the above to Larry, Bob and Bill arrived. The questions were answered as follows; the c.c. could be incorporated, Bill would send the disc when he returns to his office, the trench will be moved to the east about 3 feet, and should not affect LF-2, and the area

considered as "high-arsenic" begins at the loading docks, though the highest anticipated area is at the raised pad to the east.

I departed the site at about 12:00 to the shed to pick up the Hi Vol's and related equipment. Prior to departing the site I requested Steve to monitor the c.c. demo operation in my absence. I returned to the site at about 1:00, and placed the equipment. I returned to the shed at about 2:30.

I observed that a Lombardo worker was on site, he apparently arrived on site at about 12:30, to complete the c.c. saw cutting at the ramp. He departed the site at about 3:30.

After lunch I returned to the site at about 3:00, and resumed monitoring the c.c. demo operation. Larry was present, was there until the end of work, in the hope that the excavation would begin.

I called Dave (G-C) to organize the closure of LF-B1. I learned from Kenton (L-F) that LF-1 would be officially closed when removed in the trench excavation operation. LF-B1 is scheduled to be closed Tuesday 8/10/93 at 8:00, by Gregg Drilling.

I then organized for AEN to pick up air samples tomorrow at 5:00, and for a quick turn around. Results are scheduled for 5:00 Monday 8/9/93.

At about 6:15, after the c.c. demo and trench plate placement, Tom inquired about site security in that the temporary fence gate required S/W locks. I called Bob about this, and he directed me to Dave W. (S/W) to organize the necessary materials.

I departed the site at about 6:45 to the shed to recharge the PID and Miniram.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 10

Date/Day: 8/7/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 78°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	1	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:30, and set up Hi Vol's and distributed PAM's. Then after calibrating the PID and Miniram I monitored the trench excavation operation that commenced at about 8:15, after the Mixer motor was replaced.

I reviewed Tom's (G-C) bentonite 3% mix calculation. Spoil volumes were calculated using key depth soundings and stationing. The width was considered a uniform 3 feet. Tom estimated a 100 PCF for the in-situ density. Therefore, a calculated 10 PCF deviation would increase or decrease the mix 0.03%+/-. Reviewing the test sample data indicates that the 0.03%+/- deviation would not appreciably affect the permeability.

At about 8:45, at Sta. 12+90 we encountered a 1.5" dia. steel, apparent electrical, conduit at about 2ft. below O.G. Shortly there after we encountered a 15" dia. vitrified clay conduit at about 3ft. below O.G. This pipe was damaged, and subsequently broken back to the trench walls, then plugged on the discharge side with a 5Gal. bucket. The excavation resumed at about 10:00.

I phoned Bob (S/W), and informed him of the above development. He stated that the pipe was roof drainage for the front half of Bldg.35, and needed to be reestablished by Geo-Con, but that it can wait until the end of the project.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 10 Date/Day: 8/7/93 - Sat.

At about 10:30 the first trench backfill was placed at the lead-in trench (Sta. 13+50). The prepared S-B backfill was transported with a 10 wheel dump truck from the mixing bed to the lead-in trench, and placed by end dumping.

The backfill was slumped at about 4", developing a backfill slope of about 8:1.

The work progressed in the established manner stated above. A total of the days work: excavated length=180ft.; depth avg.=20ft.; bentonite=36.75T (slurry+backfill).

At about 4:00 I retrieved the Hi Vol samples, followed by the PAM samples. After deconning I departed the site at about 5:00.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 11

Date/Day: 8/8/93 - Sun.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 78°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	4	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:30. I calibrated the PID and Miniram, and calculated the volumes of yesterday's air samples (Hi Vol's & PAM's).

The trench excavation and backfill operation continued as previously established. Various size conduit was encountered Sta's: 10+15 (3'D), 9+32 (3'D) and 9+12 (1'D).

At about Sta. 9+20 wood pilings and other timber were encountered in the excavation. The top of pilings were, in some locations, just below grade, and extended below the bottom of the key. At about 4:00, at Sta. 9+10 a timber wall of sorts was encountered, that appeared to transverse the trench, starting at about 12ft. below O.G. About 1.5hrs. was spent trying to break through and remove it, without success. The operation was abandoned.

The crew then directed their attentions to the site clean up. Tom (G-C) inquired if, rather than having the truck traffic use the temporary fence gate, as originally planned, that the parking area be cleaned, and divert truck traffic through there to the back of the plant. I phoned Bob (S/W) for approval of the above proposal. Bob saw no problem with it, if they were able well clean the surface of the spoils.

A fire hose, D6 and loader were used to clean the parking area. Water collected at the catch basin, but a barrier was place over it to prevent discharge.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 11 Date/Day: 8/8/93 - Sun.

Once trench plates were placed at the gate, at about 6:15, I departed the site for the shed to deposit the air samples that are to be picked up tomorrow morning. I departed the shed at about 6:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 12

Date/Day: 8/10/93 - Tue.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:
Mary Lou (S/W)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Gregg Drilling	1	1	Press.Grout LF-B1

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

Before arriving to the site at about 7:30, I stopped at the shed to pick up the PID and Miniram. The trench excavation resumed operation at about 8:00.

Bentonite had been delivered in 2T Bulk Bags to be used in the dry mix with the soil. This is in the attempt to reduce the bentonite dust generated in this process.

With its application it appeared that the duration of generated dust was reduced, but the concentration of dust at the time of dispensing appeared elevated.

Gregg Drilling arrived on site at about 8:30 to pressure grout well LF-B1 for abandonment. They completed the task, and departed the site at about 9:30.

At about 9:00 the excavator was able to break through the timber obstruction (refer DCR #11, 8/8/93), and proceeded without further difficulty.

At about 10:00 Nick (G-C) departed the site, supposedly to the hospital, complaining of experiencing "blackouts". Apparently the delayed affect of an automobile accident injury sustained yesterday evening. Frank replaced Nick as the operator on the excavator.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 10 Date/Day: 8/10/93 - Tue

The excavating operation continued as previously established, though the aquiclude appeared to be encountered at a lower of about 22-23 feet below grade, starting about mid-span and in the north third of the west trench. This seems consistent with the boring logs in this area.

At about 1:00 Mary Lou and Bob (S/W) were on site. I informed Bob, as requested by MDK (L-F), of the extended hours (10-12hrs/day, 6days/wk) that G-C was working. This is contrary to Levine•Fricke Work Plan of; 5, 8hr days. I explained that from a technical standpoint there probably was little concern, though with respect to H&S there would not be real time monitoring for the period of my absence. Bob said that he did not have a problem with me not being on site full time.

At about 2:00 Joe (G-C) arrived on site. He is to assist Tom when Tom is not on site. Apparently Tom will be transferred to another site this weekend, and another replacement is to arrive Sat.

At about 3:00 the excavator hit the well head of LF-9. It did slight damage, and will be repaired once work is completed in that area. Until then the well casing is being protected by a 5Gal. bucket.

At about 4:30 the trench excavation finished for the day, and the crew concentrated on the site clean up.

Mary Lou periodically visited the site inquiring about the operations, though stayed outside the work zone. After completing my paperwork I departed the site at about 6:00 to the office to print and copy air monitoring data for Steve (G-C).

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 13

Date/Day: 8/11/93 - Wed.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:
Mary Lou (S/W)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	4	
Robertson		2	Truckers

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the PID and Miniram for the days activities. Mary Lou (S/W) was on site at the time of my arrival.

The excavator resumed work at Sta. 6+90 at about 8:00, and completed the west trench at Sta. 6+10, at about 11:30, without difficulties. The excavator then assisted in the placement of the backfill by decanting slurry from the trench, and mixing it with the soil. The backfill slope was maintained at about 7:1, as had been the previous days.

At about 9:30 I called Bob (S/W), at Joe's (G-C) request to remove 55Gal. drums from the raised platform, where the Pb and As soils are to be mixed. Bob directed us to Steve (S/W), and Joe, Mary Lou and I met with him. He said he would move or remove the drums per Joe.

At about 12:00 Tom (G-C) inquired about the trench cap. He could not find spec's on materials. I talked with CRN (L-F), and discussed that CRN's comments were not incorporated into the spec's. I directed Tom to the Plans. They have a detail, though they do not specify relative compaction, nor type of Geotextile. Tom is to speak with Bill (S/W) for this information.

Mary Lou departed the site at about 2:30.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 13 Date/Day: 8/11/93 - Wed

At about 3:30 I spoke with Tom and Steve (G-C), and suggested that they might want to start in Level "C" in the As area of the site until we have lab results that indicate acceptable environment. They said they would take it under consideration.

I went to the trailer to complete yesterday's paperwork. Upon completion I returned to the EZ to set up the Hi Vol's and PAM's for tomorrow. I gave Steve (G-C) the field data from the previous 4 working days, and departed the site at about 6:00.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 14

Date/Day: 8/12/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:
CRN (L-F)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	5	
Robertson		2	Truckers
Industrial R/W Co.	1	3	R/R Demo

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:15 to start up the Hi Vol's and PAM's, and calibrate the PID and Miniram. I was told by Steve (G-C) that S/W had still not moved the 55Gal. drums (refer DCR #13, 8/11/93), and requested that I speak with Bob (S/W) about it. I paged Bob, but I received no response.

Work had moved to the portion of trench east of Bldg. 35 (Sta's 13+00 to 14+70). The excavator was removing the overbearing c.c., and excavating 2-3 feet below grade without slurry. Joe (G-C) wanted to be able to see any utilities or obstructions that might be encountered. This task was performed in Level "C" PPE.

G-C was also working at moving the slurry pipeline over to that portion of the site for anticipated excavation later today. Pipe was being fabricated for the C-B trench, expected to begin early next week.

A subcontractor was on site to remove the active R/R tracks, while G-C performed the demolition within the same trench footprint.

CRN visited the site at about 8:30. We discussed the sampling schedule, and he would arrange for lab to analyze the backfill.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 14 Date/Day: 8/12/93 - Thu.

At about 9:30 I noticed a strong odor emanating from the trenching operation. I took a PID reading in the breathing zone just down wind of the excavation. A constant reading of about 500 ppm was observed, but an elevated reading as high as 1000 ppm noted. I directed the 2 operators in that area to cease operations, move away from the area, as this is the level of work stoppage.

I went to the office trailer, and informed Joe of the developments. We returned to the trench with visquine. He directed Frank (G-C) to replace the soil in the trench and cover the trench with the plastic. The area was then cordoned off with "caution " tape. Upon completion the sampled ambient air reduced to a steady reading of about 5 ppm.

Joe, Steve and I discussed this most recent development. Steve determined that according to the HSP, they are required to go to Level "B" (i.e. supplied air).

After calling Bob to apprise him of the above situation, he requested that we call Bill (S/W) at about 11:00, for his direction. In the following discussion it was determined that Benzene was the governing constituent at 20 ppm to go to Level "B". I told Bill that we might be able to rule out Benzene by using Sensidyne tubes. This would then possibly negate the Level"B" upgrade.

I went to our shed, and picked up the equipment. I also picked up some soil samples from our lab that are to be returned to S/W. At about 12:00 Steve and I sampled the soil through the visquine. Results indicated a Benzene level of about 25 ppm; verifying the probable upgrade to Level "B". I informed Bob of the results, and he said he would relay the info to Bill.

Subsequent to the above determination G-C was having difficulty locating a supplier who rents supplied air equipment. Subsequently, G-C is having to ship the equipment from their Pittsburgh, PA headquarters. It is anticipated to arrive early next week.

Consequently, the schedule has been altered to adjust to this delay. They will not be working this Sunday, 8/15/93, but intend to work that Monday, 8/16/93.

At about 2:30 I arranged for a sample with AEN for tomorrow at about 12:00. I completed paperwork between site visits, and departed the site at about 5:00.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 15

Date/Day: 8/13/93 - Fri.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 75°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the PID and Miniram.

The day's main operation was the demolition of surface material (i.e. concrete, asphalt and tracks) in the south portion of the site. Real time air monitoring indicated that acceptable levels at the time of testing during the day.

I retrieved the Hi Vol samples, recalibrated the PAM pumps and calculated the volumes for analysis. AEN picked up the samples at about 11:00.

More jumbo bags of bentonite were delivered. When unloading the material, placed a number of the bags up on platform for later use in the dry mixing.

Upon removal of the asphalt in the area of the active tracks, G-C backfilled the void with crushed rock taken from the area just to the east of the tracks.

I departed the site at about 4:00 to the office to fax copies of the DCR's to Larry (S/W). I departed the office at about 4:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 16

Date/Day: 8/14/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 75°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loafer, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the PID and Miniram prior to entering the exclusion zone.

The demolition of the slab at the elevated platform was the primary operation of the day. Shortly after beginning the slab removal, some electrical conduit and wire was encountered. The conduit ended up running the full length of the trench footprint parallel to Horton St.

At about Sta. 18+75 a 4' dia. manhole was encountered, that when removed had a white chalky material, and some purplish colored material (this is commonly associated with arsenic) underlying it. There were also VOC's present (10.5 ppm). Extra caution was taken when removing the manhole.

At about 9:45 I spoke with Joe (G-C) about the tracked dirt that was drying, and causing a dust problem. That is, the dust was not generated directly in the area where the excavation was occurring, but at various locations around the site where truck traffic and the like had tracked mud.

He said that he did not have anything set up for dust control, but he was in the process of moving the plumbing over to that area for the cement mixer, and when completed he would have water there for dust control. I suggested he call Bob (S/W) for permission to use the S/W water hose that is adjacent to where they are working. Shortly thereafter he instructed his crew to use the S/W water hose.

I also told Joe that he would have to cover the stockpile of demolition debris with plastic. I asked if he had enough plastic on site for this purpose. He assured me that he would cover it.

I continued to explain that now that the concrete had been removed from the platform the underlying soil, considered highly affected with arsenic, was now exposed. Therefore, the trench would need to be covered, or kept wetted over the weekend. He proposed to cap the trench with a thin lift of imported clay.

I departed the site, as the stockpile was being covered with plastic sheeting, and the clay was being placed, at about 3:30 for the shed to recharge equipment.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 17

Date/Day: 8/16/93 - Mon.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

Prior to arriving on site at about 7:30, I stopped at the shed to pick up the SCBA Equipment and PAM's. Upon my arrival there was no apparent work in progress. When I asked the workers why they were not working, they replied that they had no instructions.

I observed that the east face of the debris stockpile did not have plastic sheeting covering it. When I inquired as to why it wasn't covered, Joe (G-C) responded that he did not know. He claimed that it had been covered when they departed the site on Saturday. Though, there was no apparent fugitive sheet of plastic to be seen on site.

I spoke to Joe about the day's projected work he had no clear response. He said he was waiting for Steve (G-C) and the Level "B" equipment. I reiterated that he needed to get his dust control in order. He said that he did not have enough hose to reach to the platform, and he did not know where to get more hose.

I departed the site to the office at about 9:00, to submit last week's field reports. When I returned I observed that the excavator was inoperable, and waiting for a mechanic.

The Ram Hoe continued demolition on the platform. When I sampled the air there there was apparent excessive dust (0.8mg/m3). I told Joe that he had to implement his dust control if he wanted to continue working in that area. He shut down that operation, and concentrated on moving his fire hose.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 17 Date/Day: 8/16/93 - Mon.

At about 11:00 Bob (S/W) requested that I attend a meeting with Lisa Greenawald (S/W Personnel Administrator). Apparently, a S/W employee complained of dizziness and headache, which the employee associated to the dust on site.

I explained that the VOC's, as indicated by the PID, were well below acceptable limits, and as yet, we have not excavated into the high arsenic soil. Therefore, the possibility of exposure was remote, but it might be prudent to do a blood test to substantiate any assumptions. I also suggested that if they had any further concerns or questions to contact Shari Samuals (L-F) for assistance.

At about 2:00 the fire hose was established to the platform, where it was used to clean of loose soil. I explained to Joe that the traffic area in general needed cleaning, and he said he would lightly water the dirt prior to using the broom.

At about 3:00 they purchased more plastic, and cover the exposed east face of the stockpile.

I departed the site at about 4:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 18

Date/Day: 8/17/93 - Tue.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 75°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	7	
Robertson		1	

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and observed that the site had not been cleaned of tracked dirt, as was discussed with Joe (G-C) yesterday. Joe stated that the hose was damaged by a semi driving over it. When I asked why it was not protected with trench plate, as previously, he had no explanation. At about 9:15 an attempt was made to clean the site with water and the broom.

I set up the PAM's and Hi Vol's, and calibrated the PID and Miniram. Steve (G-C) trained the crew in proper use of Level "B" equipment.

At about 10:00 the crew was set up for, and began demolition work in the Level "B" area (Sta. 13+50 to 15+20). PID readings indicated VOC's as high as 200ppm directly at the trench. Though, reading significantly decreased a short distance from the trench; background levels at about 20ft. from the trench.

Due to the stress of working in Level "B" the crew to an extended lunch break, from about 12:00 to 1:30.

At about 2:00 the excavator encountered a thick slab about 3ft. below original grade, at about sta. 14+00. It required the excavator and Hoe Ram to break through.

At about 4:00 I returned to the site trailer to complete paperwork. At the trailer Joe was asking me how to

interpolate the boring log profile to determine anticipated trench depths between borings. There were other such questions that prevented me from completing my paperwork.

I departed the site at about 5:30.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 19

Date/Day: 8/18/93 - Wed.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 72°F

Visitors:
Dave Gustafson (S/W)
Electrician (Union Electric)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the PID and Miniram. I then set up the Hi Vol's and PAM's, and calculated the volumes of the previous day's samples. At about 9:45 AEN picked up the samples. I met Dave (S/W) on site, and discussed the most recent projects developments.

At about 8:15 demolition work resumed, in Level"B" PPE, in the area adjacent to the east wall of Bldg.35. Slurry was added to that portion where demolition was completed. Some concrete was encountered, though it was removed using the Hoe Ram and Excavator.

At about 10:00 the contractor elected to stop work to allow the electrician, who was not 40hr. trained, to wire the motor to the cement mixer, located on the platform. This gave the workers opportunity to recuperate from the Level "B" operations. Work resumed at about 11:15.

At about 2:00 Joe (G-C) showed me a block of concrete about 4ft. thick and 5ft. wide, located at about sta. 15+20. I contacted Dave (S/W) to determine if it was preferable, with respect to the site cap, to remove the concrete or leave it in place, and construct the trench under it. This second alternative was confirmed possible by Joe and Frank (G-C). Thus completed the demolition work in that portion of the site.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 19 Date/Day: 7/29/93 - Wed.

At about 1:00 the Hoe Ram began demolition at the east end of the C-B Wall. More concrete was encountered in this location. Two walls about 5ft. deep with a slab was removed.

I returned to the trailer to complete paperwork at about 4:15, and departed the site at about 5:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 20

Date/Day: 8/19/93 - Thu.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Overcast
Site Conditions: Dry
Temperature: 75°F

Visitors:
Dave Gustafson (S/W)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		2	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:30. After calibrating the PID and Miniram I proceeded to the east end of the C-B Wall, where demolition was already in progress.

Joe (G-C) requested direction from me as to how to proceed in the placement of the trench if there was going to be a lot of concrete obstacles. I responded by saying, that we would need to know the horizontal and vertical extent, as well as, the thickness of the various concrete sections. I suggested that they continue exploring the top 3-4ft. along the length of the trench footprint.

After the discussion with Joe I met with Dave and Bob (S/W), discussed the above condition with them. We then met with Joe at the excavation. Dave agreed that further exploration was needed, and directed Joe to continue digging and exposing the concrete.

The exploration exposed walls, slabs and blocks of concrete. The walls and slabs were demolished using the Hoe Ram and excavator. The blocks, 4 feet or thicker would remain in place, and excavated under them.

I then calculated the Hi Vol samples for a 12:15 pick up by AEN.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 20 Date/Day: 8/19/93 - Thu.

At about 11:00 Bill G. (G-C) arrived on site to discuss the causes for delays, that have occurred since Joe arrived on site. There appeared to be a general coordination problem. That is, the site has most recently been run in a reactive, rather than proactive, manner.

Bill briefly met with Dave and Bob, who requested that he update the construction schedule, because they are so far behind and out of the current schedule.

Bill suggested that a daily meeting occur to coordinate the various parties (G-C, S/W, and L-F), and develop strategy to stay on schedule. I explained that I had been trying to conduct such a meeting with Joe at the end of each day, but Joe has been unable to detail projected work. Subsequently, Bill suggested a morning meeting. That would give Joe the opportunity to think about, and plan at night for the following day.

I also mentioned that dust control has been an ongoing issue. I explained that when I monitored high dust readings on the Miniram, I would request that Joe employ dust control measures. Joe would then have some excuse about the fire hose (i.e. being too short, damaged, being used to make slurry, etc.), not being available.

I further explained that the dust and dirt, especially in the high arsenic area, where we are now working, is a significant concern being, that it is transported out of the exclusion zone. Consequently, an exposure risk to non-project personnel has developed throughout much of the site.

Subsequently, Bill instructed Joe to locate and hire a water truck, that is to be kept on site full time. He further instructed Joe to immediately clean the site of dust and mud with the fire hose. The remnants were forced to area of the Support Zone.

The final topic discussed with Bill and Joe, was how the lead-in trench would be constructed to progress work in the

opposite direction from which it was initiated. The following is what was agreed upon.

The lead-in trench (sa.13+30 to 13+50) would be cleaned of existing S-B backfill down to the bottom of the trench. It was anticipated that there would be a certain amount of sloughing of the backfill, where it would find its natural repose. If the natural repose was more than the maximum slope of 5:1, the excavator would pull or push the backfill to the lead-in trench, and remove the backfill. Once the constant slope was established, the excavator would then excavate the key, which as yet had not been done, in the lead-in trench. The trenching operation would then progress as previously established.

Bill wanted to use about 100cy of prepared low arsenic S-B backfill to bring the top of the backfill slope east of the Building #35. I explained that according to specifications, the high arsenic soil is to be maximized as backfill in that area. I confirmed this with RDL (L-F).

Bill departed the site at about 4:00. The site was washed down, and the mud was removed to the Support Zone. The asphalt around the railroad tracks adjacent to the lead-in trench was broken using the Hoe Ram, and left in place. The result was an uneven surface, therefore I requested that the area be covered with trench plates.

I departed the site at about 5:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 21

Date/Day: 8/20/93 - Fri.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 78°F

Visitors:
Chris Nardi, Shellie Fletcher (Levine•Fricke)
Dave Brown (G-C)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00. After calibrating the PID and Miniram I performed air monitoring of the site.

When Bob visited the site, I told him that G-C wanted to use about 100cy of prepared low arsenic S-B backfill, and explained the various repercussions; delay in preparing the high arsenic S-B, transporting it around to the parking area and consequently having more high arsenic soil stockpiled at the end of the project. Bob decided that they could use prepared low arsenic S-B backfill.

At about 8:30 Fred, a S/W employee, wanted know if he was working in a safe atmosphere. He was organizing the removal of the 55Gal. drums located on the platform, to make more space available to G-C for spoils stockpile. I told him that I had just completed a site reconnaissance, and the monitored air in that area appeared acceptable.

At about 9:00 Chris (L-F) arrived on site for a visit. There was not any excavation or slurry work in progress, so he departed the site at about 9:30.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.:21 2 Date/Day: 8/20/93 - Fri.

At about 10:15 the 710, which had been changed out from the Hoe Ram to a 3ft. bucket, excavated at the broken 15in. storm drain to measure the dimensions for replacement.

At about 11:00 the excavator began removing the existing S-B backfill from the lead-in trench (sta. 13+30 to 13+50). The S-B spoils were deposited on the mixing bed platform. The bottom of the trench was keyed to 20.5 below adjacent grade.

At about 2:00 I informed Joe, that due to nature of the S-B spoils it was about to flow beyond the boundaries of the platform. Joe instructed Brian (G-C) to construct a berm of the imported clay along the perimeter.

At about 10:00 Dave (G-C) arrived on site for a visit. We reviewed the issues discussed yesterday with Bill (G-C) (refer DCR #20). He also directed Joe to generate records of "Extra Work", and requested that I sign them. I told him that I did not have the authority to accept that responsibility, and suggested that he speak with Bob (S/W).

I also told him that it was difficult to assess the amount of extra work, because there was a significant portion that was due to mismanagement on the part of G-C. He stated that he understood that there was going to be a certain amount of mismanagement. That due to G-C being overly busy,he had less than qualified management.

Dave departed the site at about 11:00.

SRF (L-F) arrived on site at about 2:30. Shellie was on site for orientation to substitute for me on Sunday. Shellie departed the site at about 4:00.

At about 4:00 I observed that the PID was indicating a failed battery. At about 4:30 I went to the shed for a replacement. I returned to the site shortly after 5:00. I departed the site at about 6:30 when site clean up began.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 22

Date/Day: 8/21/93 - Sat.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:
Dave Brown (G-C)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		2	Truckers

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

Before arriving on site at about 8:15, I stopped at the shed to pick up the repaired PID. After calibrating the PID and Miniram, I performed air monitoring of the site. I observed that the backhoe was excavating between the maintenance shed and warehouse, in dry conditions, to locate utilities. At about 10:30 a 2in. water pipe was struck by the backhoe, and damaged. Bob was informed and the water shut off.

I met with Joe, and requested that we go to Bob's office for the daily meeting, as suggested by Bill (G-C) (refer DCR#20). Joe informed me that he had already had the meeting with Bob. I asked why he conducted the meeting without me, contrary to our agreement, and he responded that he did not know. I requested that we go to Bob's (S/W) office.

At the meeting Joe expressed that the details of the day's operations were; they were going to dig and backfill around the railroad tracks. I asked that he explain how the lead-in trench would be constructed. He responded, that it would be installed as was agreed upon yesterday, but he could not express the details.

At about 9:30 I informed Joe that he needed to deploy dust control measures. He said that it would be some time before the fire hose would be available from the slurry mixer. I

Michael Glaser

asked about the water truck that Bill (G-C) had instructed him to hire. He said he had not followed through with it.

After about a half hour of searching he was unable to locate a water truck. I told him that with the significant dust on site (1.84 on the Miniram) dust control is to be given top priority at this time. He was finally able to locate a water truck, that was delivered at about 1:00

He called Dave (G-C) who visited the site at about 12:00, and after meeting with Joe, told me that he was going to speak with Dave (S/W) about insufficient air monitoring for his personnel. Dave departed the site at about 2:30.

Joe had a difficult time understanding the boundaries of the lead-in trench, and the subsequent slope, which delayed excavation.

The previously placed S-B backfill did not slough, as was anticipated by Bill (G-C), and remained nearly vertical, with as much as a 6ft vertical face. Joe then directed Frank (G-C) to push the stiff backfill down through the slurry with the bucket of the excavator, into the far end of lead-in trench to develop a slope.

The excavator, was moved from excavating the trench at about sta. 13+90, to about 12+75, and developed a 2.5:1 slope of the existing backfill, filling the just established key with backfill. Joe asked me if it was now acceptable to continue backfilling with fresh backfill.

I told Joe that the manner in which he placed the backfill was not per specification. Joe asked me what I wanted him to do. I reminded him that Thursday, he, Bill and I had discussed, for nearly an hour, the specified, acceptable procedure so as to avoid any confusion, and delays today. He said he did not understand what he was to do.

I reiterated the understanding from Thursday that; the previously placed backfill in the lead-in trench would be excavated, the existing backfill removed to specified slope,

the lead-in trench key would be excavated, and S-B backfill placement would then resume at the top of slope.

Joe still had difficulty understanding what he should do. I then, literally, walked him through the procedure.

As the excavation advanced, approximately 100cy of the previously mixed S-B backfill was placed at the top of the slope. The 710 was used to push the heaped backfill along the top of the trench.

As the excavation advanced the platform mixing bed was filled with spoils, though no mixing was being done. The platform became too full to place more spoils, which subsequently forced the excavation operation to shut down at about 4:00.

Two jumbo bags (4 tons) of bentonite were scattered over the more accessible spoils at the front of the mixing bed.

At about 2:00 I went to Joe, and asked how he was proportioning the soil to bentonite. He said that he still had to calculate the area and weight. About an hour later, when they were about to place the mixed S-B, I asked him again for the proportioning. He said, he was not able to determine the quantity of soil that was being mixed, but assured me that there was sufficient bentonite to achieve permeability.

Even with the excavation shut down, because there was no space to dump on the platform, only one of the two trucks was hauling newly prepared S-B backfill. There was a 10-15 minute turn around between loads.

SRF (L-F) arrived on site at about 5:00, and was present when I asked Joe again if he ran any mix calculations, and his response was the same. Shellie was on site to transition for tomorrow. Shellie departed the site at about 6:00.

I stayed on site to observe the backfill operation, that continued as described above. I departed the site at about 6:00 when site clean up began.

PAGE 1 OF 2

DATE Aug 22, 1993

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT # 23

S	M	T	W	TH	F	S
X						

Slurry Cut-off wall

PROJECT: Sherwin-Williams

WEATHER Sunny

OWNER:

SITE CONDITIONS

CONTRACTOR: Geo-Con

TEMPERATURE

VISITORS

WORK FORCE

	SUPERVISORS	WORKERS	REMARKS
Geo-Con	1	5	
	1		Geo-Con H&S

EQUIPMENT

2 - end dumps	950B Cat Loader
1 - EL270 Hitachi excavator	
1 - JD710 backhoe	

ACTIVITIES

Arrive site 8:10 AM. Walked site w/ Joe. Spoke w/ Brian and Joe about # of bags of Bentonite. Brian told me he had put 3 bags of Bentonite into SB mix. He told me that his plan was to use 1/2 of the pad for mixing and 1/2 for dumping soil in order to speed up dumping and mixing (alt sides for mixing & dumping). I observed Brain mixing on only approx 1/2 of the pad and they [illegible] a clean path for the end dumps, following his plan. However, I observed that the 2-end dumps waited 5 to 10 mins to unload.

Excavation began at STA 14+92. At 9 AM took OVM & dust readings. At ~ 9:45 AM, Geocon excavator hit a sewer line. Geocon [illegible] S-W rep Bob [illegible] said it was a [illegible]. Excavation continued. (OVM readings to ~30 ppm [illegible]). Excavation [illegible] on south ~~other~~ side of concrete pad. (Sewer line 10' south of pad).

→ Went through Ben. calcs w/ Joe. The calcs seemed to be correct and that they had added an adequate amount of Ben. However, I told Joe that while the amount added may be adequate, that because of the [illegible] may not be [illegible]

COPIES:

SIGNED: [signature]

LEVINE FRICKE

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.15 **Report No.:** 23 **Date/Day:** Aug 22/SUN

[illegible] [illegible]. [illegible] Lunch, [illegible]
up-graded to [illegible] (upper [illegible] at [illegible]),
up-grade did not appear to be based on [illegible]'s
[illegible] results, but rather on [illegible]
[illegible] in some [illegible] [illegible]tors.
MIS-[illegible] [illegible] of [illegible] in [illegible]
[illegible] [illegible] 14+92 [illegible] 15+58).
At 5' [illegible] [illegible] STA 15+58, A [illegible]
reinforced concrete [illegible] footing was
encountered at 3' [illegible]. A dk. [illegible]
[illegible]
in several places (Affected groundwater). (Took a picture
of Footing & dk. fluid).
EXCAVATION STOPPED AT 2:30 PM. CREW PLACED
TRENCH PLATES OVER TRENCHES. EXCAVATION
STOPPED APPROX 15' E OF STA 15+58 due TO 3 - Footings
encountered ALONG RUN. H_2O was going to SD.
LABORER WASHED OFF PARKING LOT. HE TOLD ME
ALL THE DIRT WAS "Clean."
MBG ON site at ~3:30 pm. Told him what had
happened during the day.
LEFT SITE AT ~4:30 pm

Signed: [signature]

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 24

Date/Day: 8/23/93 - Mon.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	2	5	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00. After calibrating the PID and Miniram, and monitoring the site, I met Bret the new superintendent for G-C.

He said that he was not going to be permanently assigned to the site, but was here for only a few days before another job starts up in Denver. He intends to help get the project back on track.

He supervised the 15in. VCP pipe repair. A task that took 3-4 workers, 2 of which were in Level "B", and most of the day to prepare the pipe. They chipped at the pipe to square the broken ends. In so doing they broke a 1ft. triangular piece off of the pipe, furthering the difficulty of access to the pipe.

Bret asked me if he could "Bandit" the broken piece to the pipe, then concrete around it. I told him it was not my decision to make, that he needed to speak with Bob (S/W).

Bob was not available by phone or pager. Subsequently, Bret opted to further chase the pipe, and make another attempt at squaring the end. This time with success. He then ordered the pipe for delivery tomorrow morning.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 24 Date/Day: 8/23/93 - Mon.

At about 11:30 I spoke with MDK (L-F) by phone, and updated him on the most recent events of the project. I conveyed my concerns of lack of QA/QC, especially during Saturday, as noted in my DCR. In summary he felt it would be best to call Dave Gustafson to assure that proper personnel were controlling the site.

At approximately sta. 15+80 the excavator encountered more subsurface concrete. It appears that this is the most formidable that has been encountered so far. A significant amount of square rebar was included in the concrete. They were unable to locate the full depth of its extent.

I suggested that they excavate down to locate its boundaries, so we could determine strategy, as we had in the past. Joe (G-C) decided that he wanted to demolish the concrete as they went down.

I continued air monitoring the site until about 4:30, when I departed the site. I went to the office, and completed overdue paperwork until about 6:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 25

Date/Day: 8/24/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	5	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:45. After calibrating the PID and Miniram, and monitoring the site, I met with Joe and Bret (G-C) to discuss the day's projected work.

They said that all they intended to do today was concrete demolition adjacent to the railroad tracks, place trench cap atop the west wall and complete the 15in. VCP pipe repair.

We then met with Bob (S/W), and repeated the same. Though, Bob did say that the railcars have been unloaded, and can be moved off site. Also he was going to meet with Alan (S/W) to determine the earliest that G-C can get in and complete track demolition.

I departed the site at about 9:00 to the office, where I had a meeting with MDK and RDL (L-F). We discussed the most recent developments and projected scheduling sequence, because the current schedule issued last week no longer prevails. I returned to the site at about 10:00.

At about 10:30 it was determined that the concrete, adjacent to railroad tracks, has proven to be the largest encountered so far. I reiterated to Joe and Bret that it would be preferable to explore both laterally and vertically to determine the extent of the concrete to develop strategy.

Michael Glaser

Joe said that they would bring in a larger Hoe Ram, continued demolition, and ignored my request. I went to Bob, and reported the situation.

At about 11:00 I collected a soil sample of the imported clay, and dropped it off for the lab to run a compaction curve.

At about 11:15 they began the final repairs to the 15in. storm drain pipe. Prior to the workers entering the trench I monitored the air, and it was determine to again work in Level "B" PPE. As the pipe repair neared completion, Bret asked if clay backfill was acceptable, from the pipe bedding (about 4ft. B.O.G.) to the top of trench. I explained my concern with the existing storm drain sand backfill acting as a conduit, should groundwater rise to that elevation. He suggested placing a light bentonite coating around the pipe to act as a barrier to potential "piping".

At about 4:00 I observed, that yet again, they were using the water hose of the water truck to clean the site by force spraying the dirt ahead out of traffic area. And again I suggested to Joe that the front nozzles of the truck could more efficiently perform the same task, though the nozzles would need to be rotated down slightly to direct the pressure. Joe was concerned that he might damage the nozzles. I explained that they were designed to do that, and I called truck's owner, Mission Valley, to confirm this. They confirmed my suggestion, though requested that G-C contact them prior to adjusting the nozzles. I conveyed this message to Bret.

I departed the site at about 5:30 when worked had been completed except for site clean up.

Levine-Fricke

DAILY CONSTRUCTION REPORT
No.: 26

Date/Day: 8/25/93 - Wed.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:
Bill (G-C)

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the PID and Miniram before entering the exclusion zone to the sample. There were primarily 2 operation in progress at the time of entry.

Concrete demolition continued at approximately sta. 15+90. They were still trying to remove, what appears to be a deep foundation from a previous building, the concrete without knowing the full extent of its depth. The Hoe Ram was making slow progress.

When I again discussed the above approach with Joe his only response was that he was bringing in a larger Hoe Ram, and that it was expected to arrive at about 1:00. The demolition work was discontinued at about 12:30, and the Hoe Ram never arrived.

The other operation was placement of the clay cap. It was constructed by: excavating the top 3ft. of soil and S-B backfill to the specified width (2ft. beyond the trench walls); placing geotextile the full width of the trench; placing a 12-18in. lift of loose clay with the 950 and 270; compacting the lift; then placing 2 subsequent 8in. lifts in the same manner. The cap was placed from about sta. 13+10 to 9+50.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 26 Date/Day: 7/29/93 - Wed.

At about 11:00 I spoke with MDK and RDL (L-F) by phone and discussed the issues that were currently affecting the project.

I relayed a conversation that I had with Bret (G-C) about the cap compaction. In the discussion with Bret, who was overseeing the capping operation, he stated that there were not any compaction specification that he was required to achieve. I told him that this had already been resolved when Tom (G-C), who was on site superintendent. Bret said that according to Dave Brown there has been no written agreement with S/W about this.

I went on to explain that there was no QA/QC on the per cent bentonite mix for the S-B backfill. That is, the soil is not proportioned by volume to then determine its approximate weight, and subsequently the 2% weight of bentonite to be added.

Submitting a Notice of Noncompliance was discussed, but I explained that G-C was not required to follow a specified mixing procedure. G-C is only specified to meet a minimum bentonite content and permeability. Both of these can only be determined in the lab from representative field samples. I did volunteer that although their QA/QC can not be documented, that considering the test permeability samples (permeability was achieved at 1.8% bentonite), and the approximate (by visual observation) amount of added bentonite, they should be achieving the minimum requirements. The only way to verify this is by laboratory testing.

The only other concern at present is the above mentioned concrete demolition. A lot of time has been spent in general, and in specific (sta. 15+90 +/-) in attempting to remove concrete. There has been no change order or extra work submittals to this date. And, no known negotiations between S/W and G-C on this issue. When Dave Gustafson visited the site last week an exploratory procedure was established, though G-C has not been following it since his departure.

MDK and RDL said that they would call Dave or Bill (S/W), and convey these concerns and information for resolve.

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 26 Date/Day: 7/29/93 - Wed.

At about 3:30 I set up the PAM's and Hi Vol's for sampling tomorrow, and departed the site at about 4:30, and went to the office.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 27

Date/Day: 8/26/93 - Thu.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 85°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	5	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, and calibrated the air monitoring equipment prior to entering the EZ.

The crew was setting up the plumbing to pump slurry between the buildings (sta. 16+60 to 16+98) for the proposed trench. While the slurry piping was being placed, the excavation began at about 9:45. A number of various sized pipes in various locations traversed the trench at about 3-4ft. below original grade. Therefore, the excavator worked under dry conditions until it had removed enough soil around the pipe to work without interference. The excavator had a difficult time digging between the pipes without hitting both the subsurface pipes, and overhead pipes when extracting the spoils.

After lunch, at about 12:15, the slurry was introduced to the trench. Excavation continued to progress slowly due to the above mentioned obstacles.

At about 2:45 I called Eleanor (L-F) for the compaction curve information for the imported capping material. The results indicate a dry density of about 126.1 pcf and an optimum moisture of about 10.9%.

At about 4:00 the excavator broke down, consequently digging operations stopped. The crew then concentrated their efforts to concrete demolition at about sta. 16+10.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 27 Date/Day: 8/26/93 - Thu.

I departed the site at about 5:30, when G-C was placing trench plates over open trenches.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 28

Date/Day: 8/27/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 85°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	5	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on the site at about 7:45. After calibrating the PID and Miniram I sampled the air at about sta. 16+70, where the excavation operation was already in progress. I then retrieved the Hi Vol samples, and calculated their volumes as well as for the PAM's.

At about 9:30 CRN (L-F) arrived on site for a visit, and project update. We reviewed the restart of the S-B backfill at about sta. 14+00. The slope would be reestablished at its natural repose, with the toe of the slope being 10-20ft. from the toe of the excavation. This would probably result in a steeper than 5:1 slope as specified, but backfill would be initially placed as a surcharge on the top of slope, rather than allowing it flow down the slope, until the specified slope is achieved. CRN agreed that this procedure would be acceptable. CRN departed the site at about 10:00.

I departed the site at about 10:15 to go to the shed to leave the air samples for AEN, and to pick up brass tubes to sample the backfill for permeability tests. I returned to the site at about 10:45.

Shortly after my return I sampled the S-B backfill. Two samples were taken, one at about sta. 13+75 and another at about sta. 15+00.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 28 Date/Day: 8/27/93 - Fri.

At about 12:00 ERO (L-F) arrived on site for orientation and debriefing of the project and most recent events, respectively, to substitute for me this weekend. I explained the engineering and construction aspects of a cut-off-wall, the site specific conditions (ex. concrete demolition, and the H&S aspects of this particular site.

At about 3:00 CRN returned to the site to pick up the perm. samples. Just prior to his arrival, Joe (G-C) requested that we provide LEL monitoring for G-C to enter the trench at the concrete demolition, so they can cut some rebar with a cutting wheel. All L-F LEL meters were assigned to other sites, and the only rental agent was in Martinez. When I informed Joe of this he said that they would be shut down for the weekend if they could not cut the rebar. With the help of CRN we were able to locate one of the LEL meters that would not be used tomorrow, and arranged for ERO to pick it up this evening.

I departed the site at about 3:30 to the dentist. At about 4:30 I received a page from ERO, and returned to the site. He wanted to know how to schedule his 8 hours for tomorrow. I told him 8 to 5 would be best. I departed the site at about 5:00.

LEVINE● FRICKE

DAILY CONSTRUCTION REPORT (Continued)

roject No.: 2616.15 Report No.: #R8 A Date/Day: 5-27-93

HIT 40-50 ON PID @ 4:20. TOLD GEO-CON TO GO W/ RESPIRATOR.

HAD LEL LINED UP BY 4:30, INFORMED JOE.

Signed: _____

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT # 29

DATE 8-28-93

DAY	S	M	T	W	TH	F	S
							X

PROJECT: S-W Slurry Wall

OWNER: S-W

CONTRACTOR: GEO-CON

WEATHER Sunny

SITE CONDITIONS

TEMPERATURE 80+

VISITORS

WORK FORCE

JOE, BRETT + $	SUPERVISORS	WORKERS	REMARKS

EQUIPMENT

HOE RAM, EXCAVATOR, 10 WHEEL TRUCK	

ACTIVITIES

0830 - USING LEL METER MONITORING, LABORER ENTERED EXCAVATION AND USING ROTARY SAW CUT 6-8 REBARS (#6 or #8)

0835 - DISCUSSED DISCOVERY OF U.G.S.T. @ STA 16+55± . BRETT INFORMED ME OF GEO-CON'S INTENTION TO LEAVE TANK IN-PLACE AND EXCAVATE BELOW IT. TANK ~~CONTAINS~~ APPEARS ½ FULL OF SOME LIQUID. LEL SOUNDS ALARM (>20%) IF PROBE PLACED IN 4" Ø HOLE IN TOP OF UST.

0955 - CUT MORE REBAR (10-12 BARS #6-#8) LEL USED

1015 - TALKED BOB STEEN CONCERNING TANK. HE SAID LEAVE IT HE WOULD LEAVE DAVE GUSTAFSON MSG. IN REGARDS.

1115 - BEGAN MIXING

1100 - FINAL REBAR CUTTING W/ LEL MONITORING

1110 - EXCAVATION OF TRENCH FROM 15+58 → 16+60. MIXING OF SOIL BENTONITE ~~IN~~ TAKING PLACE.

1300 - SOIL BENTONITE BEING PLACE IN TRENCH AT TOP OF S.B. SLOPE.

1345 - BRETT REPORTED SLUMP TEST ON SOIL BENTONITE TO BE 3½ INCHES.

COPIES:

SIGNED: ERO

LEVINE • FRICKE

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.15 Report No.: #29 Date/Day: 8-28-93

1545 - JOHN (?) REPORTED A SLURRY ~~SLURRY~~ VISCOSITY OF 45-50 FOR TRENCH, ~~SLURRY~~ 40 FOR SOIL-BENTWITE MIXING. ALSO STATION AIR TESTING TO GO IN REPORT TO JOE, FROM JOE TO LF.

1645 - LEFT SITE EXC BELOW UST TAKEN PLACE. JOE STATED INTENTION TO WORK AS LATE AS POSSIBLE ~~IF~~ TO COMPLETE RR CROSSING BY MON AM 6:30.

Signed: _____

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT # 30

PAGE 1 OF ____

DATE 8/29/93

	S	M	T	W	TH	F	S
DAY	X						

PROJECT: S-W Slurry Wall

OWNER: S-W

CONTRACTOR: GEO-CON

WEATHER PCldy

SITE CONDITIONS ____

TEMPERATURE 65

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
JOE, BRETT +5			

EQUIPMENT

EXC, BACKHOE, LOADER DOZER	

ACTIVITIES

0800 - ARRIVED TO FIND EXC WORKING FROM CONCRETE PLATFORM AT STA 17+20 R/R TRACK AREA EXCAVATED AND FULL OF SLURRY. SOIL BENTONITE APPARENTLY REPLACED UP TO STA 15+60. BRETT USING BACKLOADER TO PLACE CAP MAT'L @ STA 13+40. QUESTIONED BRETT ABOUT BACKFILL FOR CAP COMPACTION REQUIREMENTS - NONE IN SPECS.

0830 - GEO-CON REPORTED TO ME THAT UST WAS UNINTENTIALLY RUPTURED SAT. DURING EXCAVATION AROUND AND UNDER UST. BOB STOA IS AWARE THIS HAPPENED.

1000 - EXCAVATION, SOIL BENTONITE BACKFILLING AND CAP BACKFILLING OPERATIONS CONTINUING.

1315 - ABANDONED PIPE EXCAVATED + PLUGGED @ 18+30 ± 12"ϕ VCP.

1430 - WIND CAME UP, DUST BECOMING FAIRLY BAD. INFORMED JOE + BRETT THAT MINIMUM WAS READING 1.0 SO SOME WATER SHOULD BE USED FOR DUST CONTROL

1500 - FOUND DOUBLE CONTAINED PIPE (SEWER) IN TRENCH @ 18+80 ± OUTSIDE BROKEN TO ENCASE IN CONCRETE.

COPIES:

SIGNED: ERO

18ALIG38

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 31

Date/Day: 8/30/93 - Mon.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00, when ERO (L-F) and I transitioned from the weekend work. No anomalies or problems of significance were noted, other than the unexpected encounter of an abandoned UST. When ERO departed the site at about 8:30, I spoke with Joe (G-C) about predetermining the approximate amount of spoils that would not be used as S-B backfill, and isolate that material from the mixing material, so as not to waste bentonite and more easily apply the soil to the future cap. Joe said he was able to determine by calculation the approximate volume of soil, but he could not approximate how much of the spoils would be used for backfill and consequently how much would then be stockpiled.

It was observed that the S-B backfilling operation was continuing using the 950 to place the material. Loading at the mixing bed and transporting it to approximately sta. 15+60. The 710 would assist by pushing the overtopped material down along the top of the trench.

The 270 was excavating atop the platform, but at times had to wait for the backfill operation to catch up and displace the slurry. Consequently, it was a slow operation.

At about 12:30 the backfill operation changed, where the 270 moved to the SW corner of the mixing bed platform, and directly placed the S-B material from there. The backfill was

brought to and above the retaining wall of the platform, to act as a plug for the slurry.

At about 11:00 I met with Bret and Frank (G-C) to discuss how the last of the S-B wall would be placed. It was critical to reduce the amount of slurry for final disposal, yet maintain the S-B slope and off set from the toe of excavation. They understood the objectives, and said they would attempt to maintain specifications as best as possible.

At about 10:15 I spoke with Bret (G-C) about the specifications of the clay cap. He said that he spoke with Dave (G-C), and he still does not know what are the spec's.

At about 1:30 I was able to contact MDK (L-F) about the above mentioned spec's. He said he would follow up with Sherwin-Williams.

At about 3:00 the trench excavation progressed to where a double contained VCP SD pipe was encountered, and had been slightly damaged on Sunday. Frank had hoped to excavate that portion of the trench dry, so he could visually observe the excavation, and avoid further damaging the pipe. Unfortunately, just after he achieved the depth to the pipe, the plug, retaining the slurry, failed. He quickly placed soil in the trench in an attempt to prevent slurry from entering the pipe, and discharging into the storm drain system.

The remainder of the excavation was excavated under slurry. The trench hand attempted to continually locate the pipe with a sounding rod, so as to reduce the potential of further damage to the pipe. Bret monitored at the adjacent manhole in Horton St. for slurry discharge. No slurry was observed to have discharged during the operation.

As the trench then progressed well LF-1 was encountered at about 4:30, and the full casing was subsequently removed.

The railroad contractor was on site for most of the day replacing tracks where the wall had crossed.

At about 4:45 Joe requested that I meet with him and Bret at the trailer. He said that he had the trench and backfill logs completed. When we arrived it was apparent that Bret was still working on them. From what I could gather from the comments, they had been back calculating the amounts of bentonite needed for the amount of backfill placed. That is, Bret was still calculating weights, soil and bentonite, for backfill already placed. Also, when I again inquired as to how they were determining the soil volume for mixing, they had no clear explanation. Finally, they determined that they were not yet ready for my acceptance, and requested that we complete this at a later date.

In an attempt to salvage the LF-B1 well casing, the casing was dropped into the excavation. Consequently, the casing was severely damaged, and scrapped.

I departed the site at about 5:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 32

Date/Day: 8/31/93 - Tue.

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 7:45, and set up the Hi Vol's and PAM's, and calibrated the PID and Miniram.

The capping operation at about sta. 15+00, and the S-B excavation and backfill operation where in progress. The excavation continued until about 11:30, where it was terminated approximately 15ft. from the juncture with the projected C-B wall.

After lunch, at about 12:15, excavation and placement of the C-B wall began at the eastern most end. At approximately 6-8ft. below original grade, a hard soil was encountered. The excavator had a difficult time digging through it. It appeared to be a an approximate 5ft. thick lens of compacted fill.

At about 1:15 I asked Joe (G-C) at the site of excavation the frequency and methodology of sampling the C-B backfill. He stated that he did not know. I then went to Bret (G-C) with the same question, and he also did not know what was required.

I then directed Bret to pages 32 and 33 of the contract documents, that contain the specifications. When he referred to his set of spec's he discovered that those pages were missing. I made copies from my set, and reviewed the sampling requirements. Subsequent to the review he stated that he

Michael Glaser

needed to fabricate a sampler to retrieve backfill from intermediate depths.

At about 2:00 I went to Bob's (S/W) office to see if he had received the fax from Bill (S/W) with the capping spec's, as had been arranged through MDK (L-F). He had just received the information stating 90% relative compaction at 2% +/- of optimum moisture. I then passed this on to Bret.

At about 3:30 I was paged by Bob, who informed me that he had just received a Stop Work Order from the City of Emeryville. Supposedly, Geo-Con was required to have a Grading Permit to perform the contracted work.

G-C was allowed to complete the C-B panel that they were excavating. They completed that at about 4:30.

After the backfill of the panel was completed I departed the site at about 5:30.

Levine•Fricke

DAILY CONSTRUCTION REPORT
No.: 33

Date/Day: 9/1/93

Project: 2616.15
Owner: Sherwin/Williams
Contractor: Geo-Con

Weather: Clear
Site Conditions: Dry
Temperature: 80°F

Visitors:

Work Force:	Suprvsr.	Wrkr	Remarks
Geo-Con	1	6	
Robertson		1	Trucker

Equipment:
EX270 Excavator, D6 Dozer, 950 Loader, 710 Backhoe w/Hoe Ram, Forklift, Dump Truck, 20KGal. Water Tank & Mixer

Activities: Travel Time:

I arrived on site at about 8:00. Due to the work stoppage (refer DCR#32, 8/31/93), there was no work in progress.

I calibrated the PID and Miniram, and performed a general site monitoring. The air quality was within allowable limits. Though, at that time I observed that G-C had not placed a moisture barrier over the completed portion of C-B wall, approximately sta. 19+70 to 20+00, as required by specification.

I spoke to Joe (G-C) about this, and he said he did not know about that spec, and that he would place an approximate 6in. lift of S-B backfill on top of the C-B backfill. He then said that once the C-B wall was completed in its entirety, he would remove the top foot +/- and place fresh C-B backfill just prior to placing the cap.

At about 8:45 Dave (G-C) arrived on site, and he, Bret (G-C), Bob (S/W) and I went to Emeryville's, City Hall, to rectify the Stop Work Order. It appeared that Geo-Con is required to have a Grading Permit, supposedly contrary to what Dave had been told, by a City inspector, prior to the start of the project.

Michael Glaser

Levine•Fricke
DAILY CONSTRUCTION REPORT

Project No.: 2616.15 Report No.: 33 Date/Day: 9/1/93 - Wed.

When we returned to the Site at about 10:00, I retrieved the Hi Vol. samples, and both they and the PAM's. I called AEN, and arranged a pick up.

I called Mike (L-F) about the availability of a nuke gage to run compaction tests on the wall cap. He said that the gages were reserved for other projects, but we could probably share the one that would be used near the S/W site.

For unknown reasons the contractor did not resume excavating until after lunch, at about 12:30. They completed the tie-in of the S-B wall into the C-B wall at the east end of the C-B wall, sta. 19+75.

At about 2:00 Steve (G-C) arrived on site, and requested field monitoring data to analyze and determine necessary monitoring for the cap placement. I told him that I had all the current data on hard disc, but as yet had not printed it. He gave me the fax number where he can be reached, and I promised him the data tomorrow.

I spoke with Joe prior to departing the site at about 6:00, and he said that they would not be doing any construction work tomorrow. They only would be doing site clean up, because the Site would be vacated during the long weekend.

APPENDIX B

DAILY FIELD LOGS, SLURRY WALL CONSTRUCTION BY GEO CON

SAT

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED AUG 0 8 1993

SLURRY TRENCH QUALITY CONTROL

DATE 8/7/93 JOB NAME Emeryville JOB NUMBER G-2004-6

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
13+50	0	NA	LEAD IN Trench
13+30	19	3	
370 13+10	18	3	ST 13+00 BEGIN TO EXCAVATE 2 DEPTH TO TOE
350 12+90	18	3.5	APPX ℄ ELECTRICAL CONDUIT CROSS LOCATION
340 12+70	15	3	
330 12+50	20	3.5	ST 12+40 LOCATE 18" STORM DRAIN LINE
410 12+30	20	3	ENCOUNTERED SAND TO GRADE
400 12+10	20	3	
430 11+90	23	3	
460 11+70	22	3	FOUND 2' WIDE 2' DEEP CONCRETE SLAB
440 11+50	22	3	CONCRETE UNDERNEATH TO GRADE 22'

3560 D

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4.5"			From mix PAT 10 AM
			4			From mix PAT 2 PM

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
13+10	11 AM	TOP	71		64.5		43	9 AM	
12+10	2 PM	TOP	72		65		45	2 PM	

1 PM Sample From mix PAD To STEVENSON

	To date
12.5 Ton Remove at BATCH PLANT	12.5 Ton
12.25 Ton Placed in BACKFILL	12.25 Ton
Fill in Trench 3560	3560 ft
	Total Concrete 36.7

GEO-CON, INC. Tom Fuller OWNER

SUN

GEO·CON INC.
Geotechnical Contracting
"Experience and Expertise"

RECEIVED AUG 10 1993

SLURRY TRENCH QUALITY CONTROL

PG. 2

DATE 7/8/93 JOB NAME Emeryville JOB NUMBER G20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
2+50	24	3	2+32 6" PVC 3' DEEP
2+30	24	3	2+10 6" PVC 1' DEEP
2+10	24	3	2+00 WET WELL POINT IN WALL ALIGNMENT
			LOT SOIL DRYING TO REMOVE

960 ℄

BACKFILL						
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	COMMENTS
		12+10	4			
		11+75	5			

SLURRY									
TRENCH			UN	UN PLANT					COMMENTS
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
11+20	3:45	TOP	72		47		42	4:30	
10+50	5:00	TOP	70		45		78	7:00	

	To Date
14 Ton Bentonite in Backfill	33.25
7 Ton Bentonite in AT Batch Plant	24.5
TOTAL # Tons	2,100 ℄

GEO-CON, INC. _____ OWNER _____

5UP

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED AUG 1 0 1993

SLURRY TRENCH QUALITY CONTROL

P91

DATE 7/6/93 JOB NAME Everville JOB NUMBER 92076

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
11+50	22	2	
11+30	22	2	11+20 SAMPLE TAKEN TO LAB
11+10	22	3	
10+90	23	2	
10+70	23	3	
10+50	23	3	
10+30	23	3	
10+10	23	3	5 UNIT 2' LIFT 8' TOP
9+90	23	3	
9+70	24	3	
9+50	24	3	

11+50

STATION	PRE MIX WC	BACKFILL STATION	SLUMP	WC	%PASSING # 200	COMMENTS

SLURRY									
TRENCH				PLANT					COMMENTS
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	

GEO-CON, INC. _____ OWNER _____

TOC

GEO•CON INC.
Geotechnical Contracting
"Experience and Expertise"

RECEIVED AUG 11 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8/10/93 JOB NAME Evansville JOB NUMBER G20016

EXCAVATION			
STATION	DEPTH	KEY	COMMENTS
9+10	24		9:30 Sample Taken to Lab
8+90	24		
8+70	24		
8+50	24		
8+30	24		
8+10	25		
7+90	26		
7+70	27		
7+50	27		
7+30	27		
7+10	26		
6+90	26		

		BACKFILL				
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	COMMENTS
5,590			4"			
			5"			

SLURRY									
TRENCH				PLANT					COMMENTS
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]						

To Date
38 Ton Bentonite in Backfill 65.25
2.6 Ton Bentonite in Slurry 22.1
Total ft Trench 5,580 14,690

GEO-CON, INC. [signature]

OWNER [signature]

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED AUG 1 2 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-11-93 JOB NAME EMERYVILLE JOB NUMBER 920046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
6+90	26	3	
6+70	26	3	
6+50	26	3	
6+30	26.5	3	
6+10	26.5	3	
9095			

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4"			
			4"			

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH QUALITY CONTROL

DATE 8-26-93 JOB NAME EMERYVILLE JOB NUMBER 0300-46

EXCAVATION

STATION	DEPTH	KEY
14+72	30.5	3
14+52	30.5	3
14+32	[illegible]	3
14+12	30.5	3
13+92	31.0	3
13+72	31.0	3
3065		

COMMENTS

STA 14+72 – 13+72

[illegible]

BACKFILL

STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200
			4		

COMMENTS

5 Tons

SLURRY

TRENCH				PLANT				
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME
14+20	10	11	5	[illegible]	[illegible]		[illegible]	[illegible]
				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				[illegible]	[illegible]		[illegible]	[illegible]

COMMENTS

GEO-CON, INC. [signature] OWNER [signature]

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-31-93 JOB NAME EMERYVILLE J.A. JOB NUMBER 1200446

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
13+72	21	3	
13+52	20.5	3	
13+30	17	3	
14+72	20.5	3	14+72 - 14+52
14+72	20.5	3	4' REMOVED 16 MC OF CONCRETE
1259.5			

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4			
						3.54
						2 Bags

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	Am	T	74	#1	[illegible]	—	45	8:3	
	Pm	T	76	#1	25	—	41	11:32	
				#1	03	—	45	4:32	

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.
Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 0 7 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-30-93 JOB NAME EMERYVILLE JF JOB NUMBER 0230046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
14+12	32.5	3	
15+12	32.5	3	14+12 — 15+12
15+52	31	3	
15+55	31	3	
1371			

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4			
			4			3.79 Ton

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	Am	T	74		105		45	Pm	
	Pm	T	76		V	Am			

GEO-CON, INC. Scott [illegible] OWNER [illegible]

171C

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH QUALITY CONTROL

DATE 8-27-93 JOB NAME Sherwin Williams JOB NUMBER (2) C 00 46

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
16+46	19	3	- 1st Corner Between Bldg = 16+60
16+60	19.5	3	~~78~~ 78
16+70	21	3	~~205~~ 405
16+90	22	3	~~215~~ 430 SF ~~1485~~ 1485
17+10	22	3	~~—~~ 440
17+16	22	3	~~—~~ 132 = 16+98
			Station Hts Do Not Match Plan

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
		Am	3.5			
		Pm	3.5			4.46 Ton

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	Am	T	75		65	16	45	Am	
	Pm	T	75		65		44	Pm	

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH QUALITY CONTROL

DATE 8-25-93 JOB NAME Sherwin Williams JOB NUMBER C 20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
15+58	21.0	3	RR Cross'g
15+60	21	3	42
15+80	20	3	410
16+00	20	3	400. SF 1764
16+20	20	3	400
16+40	19.5	3	395
16+46	~~19.5~~	3	117 = 16+60
			Station #s Do Not Match Plans

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
		PM only	3.5			1124SF
						3.37 Ton
						Bias Bentnik

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	AM	T	75	NO	mixing			~~AM~~	
	PM	T	78		65		45	PM	

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-29-93 JOB NAME [illegible] JOB NUMBER

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
16+16	22	3	- = 16+96
17+20	26	3	96
17+40	26	3	520 CF 19 16
17+60	26	3	540
17+80	26	3	560
17+90	26	3	260 = 17+[illegible]

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			3.5			
						5.74 Ton

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	8:50	-	72	[illegible]	65	16	45	10"	
	[illegible]	-	78	[illegible]	65	—	44	Proc	

GEO-CON, INC. [illegible] OWNER [illegible]

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-30-93 JOB NAME Sherwin Williams JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
17+90	26	3	= 17+65
18+10	25	3	510
18+20	25	3	500
18+30	25	3	500 SF 3010
18+70	25	3	500
18+90	25	3	500
19+10	25	3	500

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			3			
			3			9.03 Ton

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	9 am	T	74	No Mixing					
	am	T	76						

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.
Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 0 7 1998

SLURRY TRENCH QUALITY CONTROL

DATE 8-31-98 JOB NAME [illegible] JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
19+38	27	3	- = 1702
20+00	27	3	54
20+20	27	3	540 SF 1458
20+40	27	3	540 SFD 1458
20+52	27	3	324

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
						52 [illegible] = 23,744
						4 [illegible] = 7 To.
						WATER [illegible] = 4,600

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
				-1	[illegible]	-	[illegible]		
				-2	[illegible]	-	[illegible]		
				-3	72	-	-		
				-4	72	-	-		

GEO-CON, INC. [signature] OWNER [illegible]

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 07 1993

SLURRY TRENCH
QUALITY CONTROL

DATE 8-31-93 JOB NAME Sherwin Williams JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
19+10	25	3	–
19+30	27	3	520
19+50	27	3	540 SF 1060

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4		Am	
					Pm	None mixed

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
				None		Mixed			

GEO-CON, INC. _____ OWNER _____

GEO·CON INC.

Geotechnical Contracting
"Experience and Expertise"

RECEIVED SEP 0 7 1993

SLURRY TRENCH QUALITY CONTROL

DATE 9-1-93 JOB NAME Sherwin Williams JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
19+50	27	3	—
19+70	27	3	540
19+90	27	3	540
19+98	27	3	216 = 19+72
			SF 1296

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
		Am	—		No Am backfill mixed	
		Pm	4			
						3.88 Ton
						~~7~~ Bags

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	
	Am	T	78	No Slurry mixed					
	Pm	T	80						

Wall Complete

GEO-CON, INC. _____ OWNER _____

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/3/94 JOB NAME Emeryville CA JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
22+00 0+00	22	3+	REMOVED PIECE OF CONCRETE FROM SLAB AND
0+10	23		225 FOUND CB WALL UNDER IT. WHILE TRYING TO TIE-IN
0+20	21		220 TO IT, WE LOCATED A 10" LINE. GOT PLANT ENGINEER
0+30	19		200 TO PROVIDE US WITH INFORMATION ABUT IT. FOUND
0+40	19		190 A DRAWING THAT SHOWED IT TO BE ABANDONED. COMPLETE
0+50	19		190 CB TIE-IN AROUND PIPE AND EXCAVATED SLURRY WALL
0+60	21		200 HEADED NORTH. DUG ALONG CONCRETE PIER, PARALL
0+70	21		210 TO NEWLY INSTALLED CORRUGATED PIPE TRENCH. HAD
0+80	22		215 SLIGHT PROBLEM WITH PEA GRAVEL RUNNING INTO
0+90	22		220 SLURRY TRENCH. (0+10 → 0+30) CONTINUED NORMAL
			EXCAVATION TO 0+90.
			(1870 sf x 3') x 110 pcf x .03
			⇒ 9.25 Tons needed in backfill
			(185 bags)

SF to Day = 1870
SF to Date = 1870

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES	no backfill mixed today	LAB
					BUILDING / PARKING LOT; CONCRETE PIER; CB wall; SB wall; 10" ABANDONED PIPE	

SLURRY									COMMENTS
TRENCH				PLANT					TEST ON WATER
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	PH → 6.5
		760	1.14			1.04	—	41	Hardness → 50 ppm
		760	1.09			1.04	—	45	
					8.0	—	19.4	40	

Geo-Con, Inc. Pete Mattos Owner

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/4/94 JOB NAME Emeryville CA JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
0+90	22	3'+	
1+00	23	}	225 Began mixing backfill from 11/3/94. Added
1+10	23	}	230 our 3% bentonite and started placing backfill at STA 0+00 via backhoe bucket. Continued excavation when slurry level rose. Dug one cut before engineer from Levine-Fricke informed us that job was being temporarily shut down by Sherwin-Williams, at 3:30PM. Began preparing site for indefinite shutdown (standby).
			ADDED → 9.75 Tons to backfill of 11/3 (195 bags)
			(455 SF × 3') × 110 pcf × .03 = 745 bags needed

SF to Day = 455
SF to Date = 2325

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES		LAB
		1.94	4 1/2		SAMPLE TAKEN FOR LAB ANALYSIS	
					FIELD RESULTS	
					% MOISTURE ⇒ 30.37	
					2 1/2" → 100% passing	
					#200 → 26.83% passing	

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	
—	—	—	1.10		8.0	1.03	16.8	41	
			1.12			1.03		43	

Geo-Con, Inc. _____ Owner _____

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/10/94 JOB NAME Emeryville CA JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
1+10	23	3'+	Remobilized to site and continued mixing
1+20	23	230	backfill material from 10/4/94. Brought in
1+30	23	230	dump trucks to aid in backfilling of
1+40	23	230	trench. Built a pad in front of office
1+50	23	230	trailer to mix backfill, due to platform
H60	23	230	failing in several locations while attempting
			to mix alongside trench. Backfill up
			to top to STA 01+30. Continued normal
			excavation headed north.
			ADDED 8 TONS (160 bags) to backfill material

SF to Day = 1150
SF to Date = 3475

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES	→ SAMPLE TAKEN FOR LAB ANALYSIS	LAB
		1.86	5"			
		1.91	3½"			

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	
			1.09			1.03		48	
			1.10					41	
					8.0	1.03	17.0	43	

Geo-Con, Inc. Curtis Martin Owner

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/11/94 JOB NAME Emeryville CA JOB NUMBER CZ0046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
1+60	23	3'+	
1+70	23		230 Continued excavation of slurry wall
1+80	23		230 headed north. Used a second dump
1+90	24		235 truck to haul mixed backfill to trench.
2+00	24		240 Dug around existing well located near
2+10	24		240 ℄ of trench, which kept it on inside
2+20	24		240 of wall. Began zone cleanup of RR
2+30	24		240 tracks on completed end. Pulled loaded
2+40	24		240 rail car into plant and removed an
2+50	24		240 empty rail car.
2+60	24		240
			ADDED 13 TONS (260 bags) to backfill

SF to Day = 2375
SF to Date = 5850

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES		LAB
		1.76	4 1/2"		SAMPLE TAKEN FOR LAB	
		1.79	5"		ANALYSIS	

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	
			1.11		8.0	1.03	14.8	41	MOST OF SLURRY
			1.14			1.03		44	WAS PUMPED TO
								43	BACKFILL

Geo-Con, Inc. Rita Mullins Owner

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/12/94 JOB NAME Emeryville CA JOB NUMBER 120046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
2+60	24	3'+	
2+70	24		240 CONTINUED SLURRY TRENCH EXCAVATION
2+80	24		240 GOING NORTH. ENCOUNTERED AN
2+90	24		240 EXISTING CMP AT STA 3+20. BROKE
3+00	24		240 ABANDONED LINE (LOCATED APPROX 3' BELOW
3+10	24		240 SURFACE) AND PLUGGED BOTH ENDS
3+20	24		240 WITH CLAY. CLEANED WORK PLATFORM
3+30	24		240 OF EXCESS MATERIAL, (GRAVELY MATERIAL
3+40	24		240 FROM TOP AREA OF TRENCH)
			ADDED 10 STONS (2/10 BAGS) TO BACKFILL PLUS A PARTIAL JUMBO BAG (4000lb) FOUND ON SITE.

SF to Day = 1920
SF to Date = 7770

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES		LAB
		1.76	4"		SAMPLE TAKEN FOR LAB ANALYSIS	
		1.79	5"			

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	ALL SLURRY
		1.15 →				1.03		41	PUMPED TO BACKFILL
		1.14 →			8.0	1.03	12.2	40	

Geo-Con, Inc. Rita Martin Owner

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/13/94 JOB NAME Emeryville CA JOB NUMBER 020046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
3+40	24	3'+	
3+50	24		240 CONTINUED NORMAL EXCAVATION OF
3+60	24		240 SLURRY WALL HEADED NORTH. EXCAVATED
3+70	24		240 TO NE CORNER. WORK PLATFORM IS
3+80	24		240 DETERIORATING DUE TO DUMP TRUCK TRAFFIC.
3+90	25		245
4+00	25		250
4+10	25		250
4+20	25		250
4+30	25		250
4+40	25		250
4+50	25		250
4+60	25		250 ADDED 3/0 BAGS (5.5 TONS) TO
4+65	25		125 BACKFILL MATERIAL

SF to Day = 3080
SF to Date = 10850

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES	SAMPLE TAKEN FOR LAB ANALYSIS	LAB
		1.72	4"			
		1.75	4 1/2"			

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	ALL SLURRY
			1.16		8.0	1.04	13.4	46	PUMPED TO BACKFILL
			1.14						

Geo-Con, Inc. Pete Multon Owner _____

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/14/94 JOB NAME Emeryville CA JOB NUMBER 120046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
4+65	25	3'+	
4+70	25		125 CONTINUED SLURRY WALL EXCAVATION
4+80	25		250 AROUND CORNER ON NE END OF JOBSITE
4+90	26		255 AND BEGAN HEADING WEST. FINISHED WITH
5+00	26		260 65 FT LEFT TO COMPLETE.
5+10	26		260
5+20	26		260
5+30	26		260 TWO RAIL CARS WERE BROUGHT INTO
5+40	26		260 PLANT AND WE WILL ASSIST IN MOVEMENT
5+50	26		260 OF THEM TOMORROW
5+55	26		130
			REMOVING TOP PORTION OF CUT DUE TO EXCESS
			GRAVEL:
			ADDED 195 BAGS (9.75 T) TO BACKFILL
			MIX

SF to Day = 2320
SF to Date = 13170

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES		LAB
		1.65	5"		SAMPLE TAKEN FOR LAB ANALYSIS	

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	
			1.26						100 SLURRY PUMPED TO TRENCH
			1.29						

Geo-Con, Inc. Curtis Maltbie Owner

GEO·CON INC.
Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/16/94 JOB NAME Emeryville CA JOB NUMBER 120046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
5+90	26	3'	
6+00	26	↓	260 COMPLETED FINAL CUT OF SB WALL.
6+10	26		260 MADE TIE-IN TO EXISTING SB WALL.
6+20	26		260 TRENCH BACKFILLING COMPLETE. BEGAN DISASSEMBLY OF MIX PLANT AND CLEANUP OF WASTE SPOILS.
			SF Today → 780
			TOTAL SF → 14860

BACKFILL						COMMENTS
STATION	PRE MIX WC	STATION	SLUMP	WC	%PASSING # 200	
			4"			

SLURRY									COMMENTS
TRENCH				PLANT					
STATION	TIME	DEPTH	Y	PLANT	Y	FILTRATE	VISC	TIME	NO SLURRY MADE TODAY

GEO-CON, INC. Pete Mattos OWNER

GEO·CON® INC.

Geotechnical Contracting
"Experience and Expertise"

SLURRY TRENCH
QUALITY CONTROL

DATE 11/15/94 JOB NAME Emeryville CA JOB NUMBER C20046

EXCAVATION			COMMENTS
STATION	DEPTH	KEY	
5+55	26	3'+	
5+60	26		130 EXCAVATED FIRST CUT OF THE DAY WHICH
5+70	26		260 WENT UNDER RR TRACKS. DID NOT FIND
5+80	26		260 ANY UTILITIES CROSSING THE TRENCH AS
5+90	26		260 PREVIOUSLY SUSPECTED. TURNED AROUND AND
			STRADDLED TRENCH TO MAKE FINAL CUT
			(TIE-IN). WHILE ATTEMPTING TO EXCAVATE AROUND
			KNOWN STORM DRAIN, BUCKET TOOTH CAUGHT
			THE BELL FITTING AND BROKE OFF A PIECE NEAR
			THE TOP. A DECISION WAS MADE TO REPAIR
			IT TEMPORARILY AND LATER POUR A CONCRETE
			ANTI-SEEP COLLAR AROUND IT. AN 8" CLAY PIPE
			WAS ALSO BROKE. IT WAS ALSO
			PLUGGED. FOUND A THIRD PIPE
			(STEEL) WHICH WAS BETWEEN 24" and RR.

SF to Day = 910

SF to Date = 14080

BACKFILL					COMMENTS	
STA	TIME	DENS	SLUMP	FINES		LAB
		1.69	4"		SAMPLE TAKEN FOR LAB ANALYSIS	
					DID NOT COMPLETE FINAL CUT.	
					ALL BACKFILL IS MIXED IN	
					PIT. ADDED 150 BAGS (7.5 TONS)	
					TO BACKFILL	

SLURRY									COMMENTS
TRENCH				PLANT					
STA	TIME	VISC	DENS	TIME	pH	DENS	FILT	VISC	
			1.32						NO SLURRY MADE
			1.37						TODAY, USING SLURRY
									FROM TRENCH

Geo-Con, Inc. Pete Mattos Owner

APPENDIX C

RECORD DRAWINGS, SLURRY WALL CONSTRUCTION BY SHERWIN-WILLIAMS

BLDG 31

20'-0"

6'-6"

SLURRY WALL

RELOCATED AIR [illegible]
FROM BUILDING

VALVE #2
BLDG 31

SECTIONAL
VALVE

MAIN WATER
VALVE

VALVE #8
BLDG.33

VALVE #7
BLDG 8

BUILDING 12

RAISED CONC
PLAT. (TRANS.)

6"ø CONC
PIERS

7'-0" EMPTY
ABOVE GROUND
TANK TO BE
REMOVED

DETAIL "1"

1" = 10'

9'-0"

4'-6"

5'-0"

A

A

RECEIVER TANK
FOUNDATION PLAN BY OWNER

10"

#4 BAR
@ 12" E.W.
BOTTOM

SECTION A-A

KEY

INDICATES LOCATION OF
SOIL BORING

INDICATES LOCATION WITH
RESTRICTIVE CONSTRUCTION SCHEDULE

INDICATES CEMENT BENTONITE IN LIEU OF
SOIL BENTONITE SLURRY WALL

INDICATES MONITORING WELL

ST 19+72

P/L

ADJOINING PROPERTY
BUILDING LINE

GT-4

10'-0"
MINIMUM

ST 4+79

10'-0"

P/L

12

APPROX
2'-0

LF-8

REMOVED
PUMP HOUSE

LF-7

GT-3

EXIST. CONC. PIER
TO REMAIN

12

5'-0"

0+00

SLURRY WA

ST
22+1

HORTON STREET (60' WIDE)

℄

EDGE/ CONCRETE SLAB

CONCRETE SIDEWALK

ST 17+65

10'-0"

15'-0"

EXISTING CONCRETE PAVING

WAREHOUSE (31)

WAREHOUSE AND OFFICE (1)

DETAIL "1"

E-3

ST 16+98

ST 16+60

FORMER R.R. TRACKS

STOCKPILE OF MATERIALS WITH POTENTIAL ARSENIC

SHOP (38)

BOILER HOUSE (12)

6

SAW CUT CONCRETE

R.R. SPUR TRACK

RAMP

BRIDGE @ 3RD FLOOR

YARD A-1

TANK STORAGE (34)

WARE-HOUSE (27)

STAIRWAY

YARD B

YARD A-2

PARCEL 1

GT-5

ST 15+58

LF-2

11'-0"

12

CUT TRANSMISSION SPLICE BARS PRIOR TO CONSTRUCTION

ST 15+10

CONCRETE SLAB

GROUND WATER TREATMENT SYSTEM

INDICATES CONC. SAWCUT

10'-0"

TANK STORAGE (29)

TANK

30

STORAGE (4)

PACKAGING/LAB (2)

MANUFACTURING (28)

CONCRETE SIDEWALK

ERWIN AVE. (50' WIDE)

21"ø STORM DRAIN

RAILROAD GATE

ST 5+85

ST 6+38

GT-1

LF-9

TAMESCAL CREEK

NEW FENCE

MATERIALS WITH LOW ARSENIC CONCENTRATION

ARSENIC AREA

E-2

8" CONCRETE SLAB W/ NO WIRE REINFOR

EXIST FENCE TO BE MOVED

CONCRETE DRUM STORAGE AREA

PLANNED PARKING AREA

GT-2

ST 9+36

NEW POWER OPERATED SLIDING GATE

RE-INSTALL EXIST FENCE

LF-10

LF-B3

1

GATE TO BE REMOVED

REMOVED CRACK PORTION OF BACKFILL AND PLACE IN COMPACTED 8" LIFTS A CLAY CAP

6 OZ. GEO MEMBRANE

3'-0"

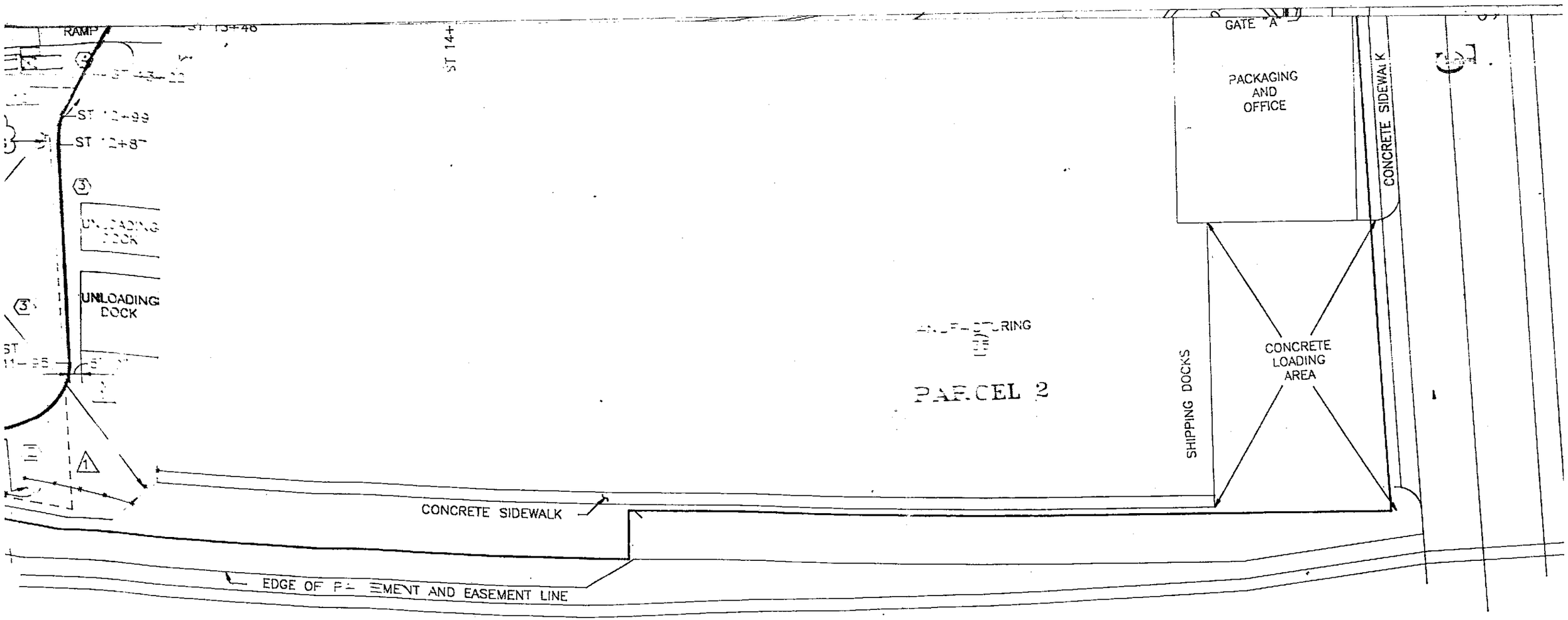
2'-0"

2'-0"

3'-0"

3'-0" MIN EMBEDMENT IN TO SILTY CLAY CONFINING LAYER

TYPICAL CROSS SECTION
SLURRY CUT-OFF WALL



1/26 '96	AS BUILT SLURRY WALL LOCATION – 4 PLACES PER LAVINE–FRICKE. DELETED OBSOLETE NOTES.
11/10 '95	REVISION
6/26 '93	ADDED SURVEYOR STATIONS ALONG SLURRY WALL
5/28 '93	ADDED EXTRACTION WELLS, PERIMETER WELL, CHANGE WALL AT N.W.CORNER OF BLDG. 35
5/6 '93	CHANGED CORNERS OF SLURRY WALL, ADDED AIR TANK FDN, CHANGED FENCE, CHANGED ARSENIC AREA
3/23/93	ADDENDUM NO. 1
3/11 '93	INCREASED THICKNESS OF WALL, CAP CHANGE WALL AROUND N.E. CORNER BLDG. 35
2/9 '93	ADDED SOIL BORING LOCATIONS, GEN REVISION
9/25/92	ADDED WATER TREATMENT SYSTEM
9/2. 92	ADDED ALTERNATE ROUTE FOR SLURRY WALL
8/14 92	CHANGE WALL AROUND BLDG. 12
5/8 92	REVISED SLURRY PLACEMENT

EVARD Jr., BERNING

SHERWIN WILLIAMS®

CONSUMER ENGINEERING

OAKLAND, CALIFORINA

PLOT PLAN

SLURRY WALL

SCALE: 1"=40'

Y SL0 407 L

APPENDIX D

LABORATORY RESULTS, SLURRY WALL PERMEABILITY BY GEO CON

GEO-CON INC.

Geotechnical Contracting
1764 National Avenue
Hayward, CA 94545-1722
(~~415~~ 510) 887-2002 / Fax (~~415~~ 510) 887-3091

LETTER OF TRANSMITTAL

DATE: August 11, 1993

ATTENTION: Roger Levanthal

RE: Sherwin Williams
Emeryville, CA
GCI Ref. No. C2-0046

TO:
Levine Fricke
1900 Powell Street, 12th Floor
Emeryville, CA 94608

WE ARE SENDING ☒ ATTACHED ☐ UNDER SEPARATE COVER VIA _____:

- ☐ SAMPLES
- ☐ LITERATURE
- ☐ PLANS
- ☐ PRINTS
- ☐ SHOP DRAWINGS
- ☐ ENGINEERING DRAWINGS
- ☐ CHANGE ORDERS
- ☐ LETTERS
- ☐ CONTRACTS
- ☐ OTHER _____

COPIES	DATE	NO	DESCRIPTION
1			CB Test results
1			CB-1 UCS results

THESE ARE BEING SENT:

- ☒ FOR YOUR APPROVAL
- ☐ FOR YOUR USE
- ☒ FOR YOUR REVIEW
- ☐ FOR YOUR COMMENTS
- ☐ FOR YOUR SIGNATURE
- ☐ FOR YOUR _____
- ☐ APPROVED AS NOTED
- ☐ APPROVED AS SUBMITTED
- ☐ APPROVED AS CHANGED
- ☐ REJECTED AS NOTED
- ☐ REJECTED AS CHANGED
- ☐ RETURNED FOR CORRECTIONS
- ☐ RESUBMIT _____ COPIES FOR APPROVAL
- ☐ SUBMIT _____ COPIES FOR DISTRIBUTION
- ☐ RENEW _____ COPIES FOR _____
- ☐ _____

NOTES: Mix design CB-1 6% bentonite/17% cement/0.2% thinner is submitted for approval.

COPY TO: Sherwin-Williams, B. Berning
Job Superintendent

SIGNATURE: David D. Brown
David D. Brown

TITLE: District Manager

DATE: 8/11/93

J&L TESTING COMPANY, INC.

CLIENT STATUS REPORT

✓ Geotechnical Laboratory	___ Material Stabilization Laboratory
___ Geosynthetics Laboratory	___ R&D Laboratory

Client Name:	Geo Con	Project:	Emeryville, CA
Client Contact:	Steve Day	Client P.O. No:	27301
Telephone No:	(412) 856-7700	JLT Job No:	93S1456-01
Project Status as of:	July 20, 1993	Fax No:	(412) 373-3357

DESCRIPTION: Submitted herein are the preliminary results of six (6) flex-wall permeability tests. A summary of the results are as follows:

Sample ID No.	Results After First 5 Days	First Day After 5th Day	As of 7/19/93	As of 7/20/93
CB-1	1.96×10^{-7}	2.79×10^{-7}	2.54×10^{-7}	2.64×10^{-7}
CB-2	4.67×10^{-6}	4.22×10^{-6}	5.09×10^{-6}	4.88×10^{-6}
CB-3	2.26×10^{-7}	5.58×10^{-7}	9.41×10^{-7}	7.72×10^{-7}
CB-4	1.23×10^{-6}	1.23×10^{-6}	9.26×10^{-7}	9.55×10^{-7}
CB-5	1.25×10^{-6}	1.26×10^{-6}	1.13×10^{-6}	1.21×10^{-6}
CB-6	8.64×10^{-7}	1.68×10^{-7}	4.13×10^{-7}	5.24×10^{-7}

This is just an update; the tests are still running.

Submitted By: _____ Telephone: (412) 746-4441

Date: July 20, 1993 Fax: (412) 745-4261

(FXR 15)

UNCONFINED COMPRESSION TEST

7-15-1993

Project Data

Project No.: 93-109-15 Date: 07-14-93 Data file: GEOCB128
Client: GEO-CON
Project: EMERYVILLE CA.
Sample location: CB-1 SAMPLE 4
Sample description: B/W 6% C/W 17% THINNER/WATER 0.2%
Remarks: Tested by djn/mjm Entered by mjm
Ckd by MJM Fig No.

Sample No. 1 Data

Type of sample: 28 DAY BREAK
Specific Gravity= 2.65 LL= PL= PI=

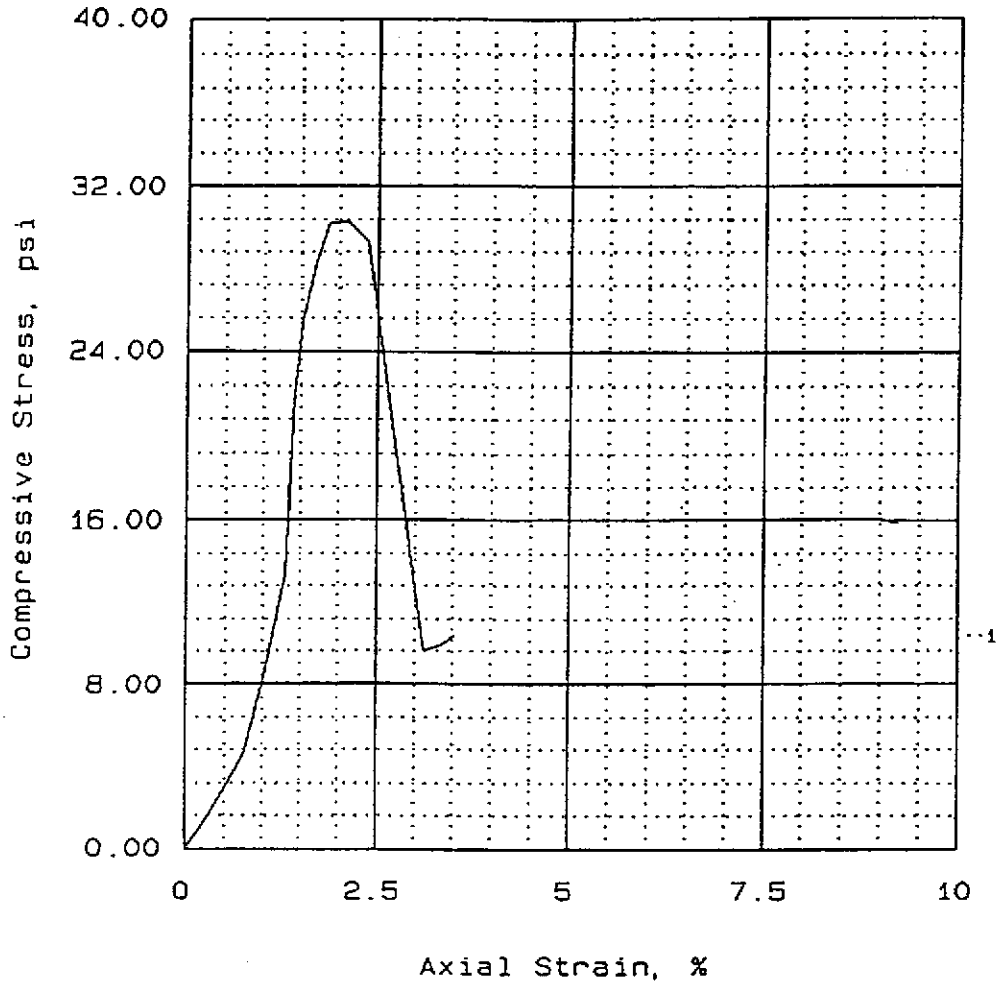
Sample Parameters	Before Test		
Diameter, in	2.04		
Height, in	4.30	Weight, grams	264.4
Moisture, %	% 180.306415576		
Dry density, pcf	25.6		
Saturation, %	87.3		
Void ratio	5.475		

Test Data

Deformation dial constant= 0.001 in per input unit
Primary load ring constant= 0.2859 lbs. per input unit
Secondary load ring constant= 0 lbs. per input unit
Crossover reading for secondary load ring= 0 input units
Rate of strain= 0.050 % per minute

	Def. Dial Units	Def. in	Load Dial Units	Load lbs.	Strain %	Deviator Stress psi
0	0.0	0.000	0.0	0.0	0.0	0.00
	11.0	0.011	16.0	4.6	0.3	1.39
	32.0	0.032	53.0	15.2	0.7	4.60
3	44.0	0.044	97.0	27.7	1.0	8.39
4	56.0	0.056	155.0	44.3	1.3	13.36
	61.0	0.061	255.0	72.9	1.4	21.96
	65.0	0.065	295.0	84.3	1.5	25.38
7	73.0	0.073	330.0	94.3	1.7	28.34
	80.0	0.080	352.0	100.6	1.9	30.18
	91.0	0.091	354.0	101.2	2.1	30.27
10	102.0	0.102	344.0	98.3	2.4	29.34
11	134.0	0.134	114.0	32.6	3.1	9.65
12	145.0	0.145	118.0	33.7	3.4	9.96
13	151.0	0.151	123.0	35.2	3.5	10.37

UNCONFINED COMPRESSION TEST



Sample number:	1				
Unconfined strength, psi	30.27				
Undrained shear strength, psi	15.14				
Rate of strain, ~~%/min~~ IN/MIN	0.050				
Water content, %	180.3				
Void ratio	5.4747				
Saturation, %	87.3				
Dry density, pcf	25.6				
Specimen diameter, in	2.04				
Specimen height, in	4.30				

Description: B/W 6% C/W 17% THINNER/WATER 0.2%

LL =	PL =	PI =	GS = 2.65	Type: 28 DAY BREAK

Project No.: 93-109-15
Date: 07-14-93
Remarks:
Tested by djn/mjm
Entered by mjm
Ckd by MJM

Fig No.

Client: GEO-CON

Project: EMERYVILLE CA.

Location: CB-1
SAMPLE 4

UNCONFINED COMPRESSION TEST

GAI Consultants, Inc.

GEO-CON INC.

Geotechnical Contracting
1764 National Avenue
Hayward, CA 94545-1722
(415) 887-2002 / Fax (415) 887-3091

LETTER OF TRANSMITTAL

DATE: August 13, 1993

ATTENTION: Bill Berning

RE: Sherwin-Williams
Emeryville, CA
GCI Ref. No. C2-0046

TO:

Sherwin-Williams
Coatings Division
101 Prospect Avenue, N.W.
Cleveland, OH 44115

COATINGS ENGINEERING
AUG 17 [illegible]
SHERWIN-WILLIAMS

WE ARE SENDING ☒ ATTACHED ☐ UNDER SEPARATE COVER VIA _____ :

- ☐ SAMPLES
- ☐ LITERATURE
- ☐ PLANS
- ☐ PRINTS
- ☐ SHOP DRAWINGS
- ☐ ENGINEERING DRAWINGS
- ☐ CHANGE ORDERS
- ☐ LETTERS
- ☐ CONTRACTS
- ☒ OTHER _____

COPIES	DATE	NO	DESCRIPTION
1			Permeability test results

THESE ARE BEING SENT:

- ☐ FOR YOUR APPROVAL
- ☒ FOR YOUR USE
- ☐ FOR YOUR REVIEW
- ☐ FOR YOUR COMMENTS
- ☐ FOR YOUR SIGNATURE
- ☐ FOR YOUR _____
- ☐ APPROVED AS NOTED
- ☐ APPROVED AS SUBMITTED
- ☐ APPROVED AS CHANGED
- ☐ REJECTED AS NOTED
- ☐ REJECTED AS CHANGED
- ☐ RETURNED FOR CORRECTIONS
- ☐ RESUBMIT _____ COPIES FOR APPROVAL
- ☐ SUBMIT _____ COPIES FOR DISTRIBUTION
- ☐ RENEW _____ COPIES FOR _____
- ☐ _____

NOTES _____

COPY TO: R. Leventhal, Levine-Fricke

SIGNATURE: David D. Brown

TITLE: District Manager

DATE: 8/13/93

GEOTECHNICAL LABORATORY TEST RESULTS
FLEX-WALL PERMEABILITY TESTS
CB SAMPLES
EMERYVILLE, CALIFORNIA
GEO - CON PROJECT NO. C2 - 0046

JLT
J&L TESTING COMPANY, INC.
GEOTECHNICAL AND GEOSYNTHETICS MATERIALS TESTING AND RESEARCH

GEOTECHNICAL LABORATORY TEST RESULTS
FLEX-WALL PERMEABILITY TESTS
CB SAMPLES
EMERYVILLE, CALIFORNIA
GEO - CON PROJECT NO. C2 - 0046

PREPARED FOR:

Geo Con, Inc.
Corporate 1, Building 11
Suite 400
4075 Monroeville Blvd.
Monroeville, PA 15146

PREPARED BY:

J&L Testing Company, Inc.
938 South Central Avenue
Canonsburg, Pennsylvania 15317

August 4,1993

JLT J&L TESTING COMPANY, INC.
GEOTECHNICAL AND GEOSYNTHETICS MATERIALS TESTING AND RESEARCH

August 4, 1993
Job No.: 93S1456-01
P.O. No. 27301

Geo Con, Inc.
Corporate 1, Building 11
Suite 400
4075 Monroeville Blvd.
Monroeville, PA 15146

ATTENTION: Mr. Steve Day

RE: GEOTECHNICAL LABORATORY TEST RESULTS
FLEX-WALL PERMEABILITY TESTS
CB SAMPLES
EMERYVILLE, CALIFORNIA

Dear Mr. Day:

Submitted herein are the results of long term flex-wall permeability tests performed on CB samples for the Emeryville, California Project. The results presented are the final permeability values. The first page of each test result package are the final results and the succeeding pages present interim results. The testing duration was 5 initial days plus 11 extended days of testing for each sample as you directed. All samples were initially prepared and consolidated in a Trautwein rigid wall permeameter to form the samples and then transferred to the flex-wall unit for final testing. Two (2) copies of the report are attached.

Please call if you have any questions. We thank you for your confidence in JLT and look forward to servicing you again in the future.

Sincerely,

J&L TESTING COMPANY, INC.

Joe Zhou, P.E.
Manager - Geotechnical Services

938 South Central Avenue Canonsburg, Pennsylvania Tel: (412) 746-4441 Fax: (412) 745-4261

ENGINEE	Steve Day	JOB NO.	93S1456-01	DATE REC.	7-2-93
DATE AS	July 3, 1993	JOB NAME	CB Samples	DATE CMP.	8-4-93
DATE DU	ASAP		Emeryville, California	REC. B	YZ
			Geo Con Proj. No. C2-0046	PAGE N	1 of 1
			P.O. No. 27301		

SUMMARY OF LABORATORY TEST RESULTS

BORING AND SAMPLE NO.	DEPTH feet	CLASSIFICATION	FINAL PERM k cm/sec	NATURAL WATER CONTENT (%)	ATTERBERG LIMIT		UNCON. COMPRES		LOSS OF IGNITION	USCS CLASS	LOSS ON IGNITION (500C) (%)	GRAIN SIZE		OPT MOIST			TRIAXAL CELL PRESSURE (psi)
					LIQUID LIMIT	PLASTIC LIMIT	STRESS (pcf)	STRAIN (%)				SIEVE	HYDR.		U.U.	CIU	
CB-1	N/A		1.68X10-7														
CB-2	N/A	* Cell Pressure 50 psi	2.96X10-6														
CB-3	N/A	* Headwater 36 psi	1.25X10-6														
CB-4	N/A	* Tailwater 34 psi	4.03X10-7														
CB-5	N/A		9.30X10-7														
CB-6	N/A		2.03X10-7														

vos TEST COMP and CHECKED TEST IN PROGRESS

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	5.00
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	2.05
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	305.00
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	70.34
Moisture Content %	:	345.00	Moisture Content %	:	354.40
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	15.48

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.30
Head, h	(psi)	:	2.00
Time, t	(min)	:	235
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.68E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	211
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.96E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.80
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	198
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.79E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.50
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	136
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.54E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/20/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	157
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.64E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/21/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.50
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	185
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.87E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.97E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/23/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.35
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	115
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.10E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.75
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.47E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.70
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	221
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.19E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.20
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	56
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.47E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-1	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	5.00	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	309.80	Final Wet Weight (g)	:	
Wet Density (pcf)	:	75.07	Wet Density (pcf)	:	
Moisture Content %	:	345.00	Moisture Content %	:	
Dry Density (pcf)	:	16.87	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.50
Length, L	(in)	:	5.00
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	165
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.09E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	3.65
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	1.95
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	199.60
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	69.69
Moisture Content %	:	491.10	Moisture Content %	:	434.90
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	13.03

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	13.10
Length, L	(in)	:	3.65
Area, A	(sqin)	:	2.99
Head, h	(psi)	:	2.00
Time, t	(min)	:	235
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.96E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	5.40
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	62
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.67E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	8.90
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	113
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.22E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	12.90
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	136
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 5.09E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/20/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	7.10
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	78
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.88E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	11.10
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	160
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.72E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	14.30
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.65E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	13.00
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	280
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.49E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.70
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	66
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.01E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-2	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.88	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	230.20	Final Wet Weight (g)	:	
Wet Density (pcf)	:	71.88	Wet Density (pcf)	:	
Moisture Content %	:	491.10	Moisture Content %	:	
Dry Density (pcf)	:	12.16	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	6.90
Length, L	(in)	:	3.88
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	165
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.24E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	3.96
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	1.90
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	214.60
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	72.84
Moisture Content %	:	396.70	Moisture Content %	:	319.00
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	17.38

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	4.90
Length, L	(in)	:	3.96
Area, A	(sqin)	:	2.84
Head, h	(psi)	:	2.00
Time, t	(min)	:	237
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.25E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	160
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.26E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.00
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	108
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 5.58E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.00
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	64
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 9.41E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/20/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	2.00
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	156
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 7.72E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/21/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.30
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	155
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.28E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.90
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	159
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 7.20E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/23/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.20
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	105
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 6.89E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.10
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	185
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.01E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	2.60
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	217
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 7.22E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.50
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	50
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 6.02E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-3	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.36	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	263.60	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.25	Wet Density (pcf)	:	
Moisture Content %	:	396.70	Moisture Content %	:	
Dry Density (pcf)	:	14.75	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.30
Length, L	(in)	:	4.36
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	163
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.22E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	3.00
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	1.95
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	171.20
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	72.73
Moisture Content %	:	352.90	Moisture Content %	:	298.10
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	18.27

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.70
Length, L	(in)	:	3.00
Area, A	(sqin)	:	2.99
Head, h	(psi)	:	2.00
Time, t	(min)	:	400
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.03E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.20
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	120
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.23E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	5.20
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	195
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.23E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.30
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	65
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 9.26E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.20
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.65E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/23/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.60
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	105
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.65E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.90
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.19E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.50
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	221
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.14E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.20
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	54
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.71E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-4	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.35	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	199.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	72.08	Wet Density (pcf)	:	
Moisture Content %	:	352.90	Moisture Content %	:	
Dry Density (pcf)	:	15.91	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.50
Length, L	(in)	:	3.35
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	52
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.45E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	3.50
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	2.60
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	215.80
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	44.20
Moisture Content %	:	286.80	Moisture Content %	:	310.90
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	10.76

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	13.00
Length, L	(in)	:	3.50
Area, A	(sqin)	:	5.31
Head, h	(psi)	:	2.00
Time, t	(min)	:	400
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 9.30E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	4.00
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	154
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.25E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	5.20
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	199
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.26E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	3.20
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	136
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.13E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/20/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	4.00
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	159
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.21E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/21/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.40
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	166
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.06E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	6.55
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	210
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.50E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/23/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	2.50
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	105
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.14E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	2.50
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	90
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.34E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	6.30
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	220
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.38E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.50
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	54
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.34E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-5	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	3.48	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	218.70	Final Wet Weight (g)	:	
Wet Density (pcf)	:	76.14	Wet Density (pcf)	:	
Moisture Content %	:	286.80	Moisture Content %	:	
Dry Density (pcf)	:	19.68	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	4.50
Length, L	(in)	:	3.48
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	53
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.08E-06 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	8/2/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB#C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	4.59
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	2.05
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	276.20
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	69.39
Moisture Content %	:	361.50	Moisture Content %	:	418.00
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	13.40

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.80
Length, L	(in)	:	4.59
Area, A	(sqin)	:	3.30
Head, h	(psi)	:	2.00
Time, t	(min)	:	238
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.03E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	2.20
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	160
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 8.64E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7-15-93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.30
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	112
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 1.68E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/19/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.90
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	137
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.13E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/20/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.30
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	156
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 5.24E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/21/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.00
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	190
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.31E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/22/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.00
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	199
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.16E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/23/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.70
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	105
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 4.19E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/26/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	JOB # C2-0046			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.15
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	185
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.91E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/27/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	1.10
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	216
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.20E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/28/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.30
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	51
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 3.70E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

SUMMARY OF TRIAXIAL PERMEABILITY TEST RESULTS

Client	:	GEO-CON	DATE	:	7/29/93
Project Location	:	EMERYVILLE, CA.	Job No.	:	93S1456-01
Sample Number	:	CB-6	Tested By	:	JB
Description	:	SLURRY			

Physical Property Data

Initial Height (in)	:	4.55	Final Height (in)	:	
Initial Diameter (in)	:	2.00	Final Diameter (in)	:	
Initial Wet Weight (g)	:	275.30	Final Wet Weight (g)	:	
Wet Density (pcf)	:	73.30	Wet Density (pcf)	:	
Moisture Content %	:	361.50	Moisture Content %	:	
Dry Density (pcf)	:	15.88	Dry Density (pcf)	:	

Test Parameters

Cell Pressure	(psi)	:	50.00
Head Water	(psi)	:	36.00
Tail Water	(psi)	:	34.00

Permeability Input Data

Flow, Q	(cc)	:	0.70
Length, L	(in)	:	4.55
Area, A	(sqin)	:	3.14
Head, h	(psi)	:	2.00
Time, t	(min)	:	163
Temp, T	(Deg C)	:	23.0

Computed Permeability

PERMEABILITY, K = 2.70E-07 (cm/sec) at 20 Degrees C

J & L TESTING CO, INC.

GEO-CON INC.

Geotechnical Contracting
1764 National Avenue
Hayward, CA 94545-1722
(510) 887-2002/Fax (510) 887-3091

LETTER OF TRANSMITTAL

MDK
CRM
File 2616.15

DATE: October 12, 1993

ATTENTION: D. Gustafson

RE: Slurry Cutoff Wall
Emeryville, CA
GCI Ref. No. C2-0046

TO:

Sherwin Williams
Coatings Division
101 Prospect Avenue, N.W.
Cleveland, OH 44115

WE ARE SENDING ☒ ATTACHED ☐ UNDER SEPARATE COVER VIA _____

- ☐ SAMPLES
- ☐ LITERATURE
- ☐ PLANS
- ☐ PRINTS
- ☐ SHOP DRAWINGS
- ☐ ENGINEERING DRAWINGS
- ☐ CHANGE ORDERS
- ☐ LETTERS
- ☐ CONTRACTS
- ☐ OTHER _____

COPIES	DATE	NO	DESCRIPTION
1			Permeability Test Results (to date)

THESE ARE BEING SENT:

- ☒ FOR YOUR APPROVAL
- ☐ FOR YOUR USE
- ☐ FOR YOUR REVIEW
- ☐ FOR YOUR COMMENTS
- ☐ FOR YOUR SIGNATURE
- ☐ FOR YOUR _____
- ☐ APPROVED AS NOTED
- ☐ APPROVED AS SUBMITTED
- ☐ APPROVED AS CHANGED
- ☐ REJECTED AS NOTED
- ☐ REJECTED AS CHANGED
- ☐ RETURNED FOR CORRECTIONS
- ☐ RESUBMIT _____ COPIES FOR APPROVAL
- ☐ SUBMIT _____ COPIES FOR DISTRIBUTION
- ☐ RENEW _____ COPIES FOR _____
- ☐ _____

NOTES _____

COPY TO
Levine-Fricke
Attn: Roger Levanthal ✓

SIGNATURE David D. Brown
David D. Brown

TITLE: District Manager

DATE: 10/12/93

Table 1

Summary of Laboratory Testing Results for Soil-Bentonite Samples

Emeryville CA

Sample No.	Location	Date Sampled	Sample Type	Sample Matrix	Visual Classification	Moisture Content (%)	Silt and Clay Fraction (%)	Permeability (cm/sec)	Type of Permeability Test	Net Confining Pressure (psi)	Remolded Dry Density (pcf)	Gradient	Comments
7 August 1993	Not noted	7 August 1993	Grab (disturbed)	Soil-bentonite	Clay with fine sand and occasional gravel, dark gray, very soft (CL)	34	60	4×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	84	92	Too soft for setup in flexwall permeameter
9 August 1993 (A)	Not noted	9 August 1993	Grab (disturbed)	Soil-bentonite	Clay with fine sand and fine gravel inclusions, dark gray, very soft (CL)	36	73	7×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	82	92	Too soft for setup in flexwall permeameter
9 August 1993 (B)	Not noted	9 August 1993	Grab (disturbed)	Soil-bentonite	Clay with fine sand and fine gravel inclusions, dark gray, very soft (CL)	36	72	7×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	83	92	Too soft for setup in flexwall permeameter
10 August 1993	STA 9+30	10 August 1993	Grab (disturbed)	Soil-bentonite	Sandy Clay to Clayey Sand, fine to medium gravel inclusions, gray, very soft (CL/SC)	38	50	8×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	83	92	Too soft for setup in flexwall permeameter
11 August 1993	Not noted	11 August 1993	Grab (disturbed)	Soil-bentonite	Sandy Clay, fine to medium gravel inclusions, gray, very soft (CL)	41	60	6×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	79	92	Too soft for setup in flexwall permeameter
13+30	STA 13+30	Not noted	Grab (disturbed)	Soil-bentonite	CL	29	50	6×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	96	92	Too soft for setup in flexwall permeameter
13+60	STA 13+60	Not noted	Grab (disturbed)	Soil-bentonite	SC	31	38	9×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	89	92	Too soft for setup in flexwall permeameter
14+00	STA 14+00	Not noted	Grab (disturbed)	Soil-bentonite	SC	30	43	8×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	94	92	Too soft for setup in flexwall permeameter
15+00	STA 15+00	Not noted	Grab (disturbed)	Soil-bentonite	CL	48	50	7×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	90	92	Too soft for setup in flexwall permeameter
16+00	STA 16+00	Not noted	Grab (disturbed)	Soil-bentonite	CL	32	56	6×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	88	92	Too soft for setup in flexwall permeameter
18+00	STA 18+00	Not noted	Grab (disturbed)	Soil-bentonite	CL	51	55	6×10^{-8}	Rigid Wall, BPSS, Triax Cell, Constant Head	0	89	92	Too soft for setup in flexwall permeameter
31 August 1993 - 3:00 pm	STA 19+30	31 August 1993	Grab (disturbed)	Soil - bentonite									
1 September 1993 - 10:00 am	STA 19+70	1 Sept 1993	Grab (disturbed)	Soil - bentonite									

General Notes

(a) Silt and clay fraction determined by washing over #200 sieve.

(b) BPSS = back pressure saturated.

Route: (1) MBG
(2) RDL
(3) 2616 File

GEO•CON INC.
GEOTECHNICAL CONTRACTING

March 4, 1994

Mr. David Gustafson
Sherwin-Williams Company
P. O. Box 6709
Cleveland, Ohio 44101-1709

Re: Slurry Cutoff Wall Construction
Emeryville, CA
GCI Project No C2-0046

Gentlemen:

Enclosed are copies of permeability test results which were run on Samples taken from the cement-bentonite portion of the cutoff wall. The specifications require a minimum permeability of $1 * 10^{-6}$ cm/sec. The test results range from $8 * 10^{-7}$ to $4 * 10^{-6}$ and are marginal at best.

Levine-Fricke should determine the adequacy of these results for future regulatory agency review. If the adequacy is not sufficient, we would propose to construct a supplemental soil-bentonite cutoff wall immediately inside and adjacent to the cement-bentonite wall. The cement bentonite wall should provide adequate protection against possible damage to the adjacent structure.

If Levine-Fricke requires the supplemental wall, we would propose to construct it when we return to complete the remainder of the soil-bentonite wall at the North end of the property. If this conflicts with your cap construction schedule, please advise and we will begin preparation to schedule the work for later this month or early April. It should be understood that this additional wall construction, if required, will be at Geo-Con's expense.

Very truly yours,

GEO•CON, INC.
David D. Brown
District Manager

CC: Mark Knox - Levine-Fricke
T. Gayer, C. McGhee - GCI

1764 National Avenue • Hayward, CA 94545-1722 • Tel (510)887-2002 • Fax (510)887-3091

Texas Office (817) 383-1400
Texas Office (713) 482-8660
Pittsburgh Headquarters (412) 856-7700
Florida Office (813) 647-5888
New Jersey Office (609) 848-2220

SHERWIN WILLIAMS
CEMENT–BENTONITE CUTOFF WALL
PERMEABILITY TEST RESULTS

DATE	LOCATION	DEPTH	TEST DATE	PERMEABILITY
9/09/93	21+00	TOP	1/07/94	$2.3 * 10^{-6}$ cm/sec
9/09/93	21+00	BOTTOM	12/30/93	$8.2 * 10^{-7}$ cm/sec
9/09/93	21+50	TOP	12/28/93	$1.6 * 10^{-6}$ cm/sec
9/09/93	21+50	BOTTOM	1/26/94	$2.8 * 10^{-6}$ cm/sec
9/08/93	22+00	TOP	1/03/94	$1.2 * 10^{-6}$ cm/sec
9/08/93	22+00	MIDDLE	1/13/94	$2.8 * 10^{-6}$ cm/sec
9/08/93	22+00	BOTTOM	1/05/94	$3.8 * 10^{-6}$ cm/sec

SPECIFICATION REQUIEMENT $1 * 10^{-6}$ CM/SEC

APPENDIX E

FIELD INSTRUMENTATION MEASUREMENTS, SLURRY WALL CONSTRUCTION BY LEVINE·FRICKE

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 5, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
9:30	000.0	0.00			N.E. Corner of Parking Area	Concrete Demolition/Breathing Zone
9:30	025.0	0.00			Sta. 10+66	Soil/Concrete Interface
11:00	000.0	0.00			Sta. 11+65	
1:00	000.0	0.00			Sta. 11+65	
1:30	000.0	0.00			Sta. 11+65	
2:00	000.0	0.00			Sta. 11+65	
2:30	000.0	0.00			Sta. 11+65	
3:00	000.0	0.00			Sta. 11+65	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 6, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
9:00	000.0	0.00	<0.002 <0.0006		Excavator	Sample No. 2616.15.1; Nick Houge
			<0.002 <0.0006		Trucker	Sample No. 2616.15.2; Kathy Turner
			<0.002 <0.0006		Trench Hand	Sample No. 2616.15.3; Steve Winslow
				0.00002 0.00035	S.W. Corner of Parking Area	Sample No. 00013005
				0.00003 0.00022	S.E. Railroad Gate	Sample No. 00013006
				0.00002 0.00017	Horton St.	Sample No. 00013007
1:30	005.0	0.00			Sta. 13+50	Dry excavation prior to slurry
2:30	000.0	0.00			Sta. 13+30	
3:30	001.3	0.00			Sta. 13+20	
4:30	000.0	0.00			Sta. 13+10	
5:30	000.0	0.00			Sta. 13+00	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 7, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00			<0.002 <0.0007		Excavator	Sample No. 2616.15.6; Nick Houge
8:00			<0.002 <0.0009		Trench Hand	Sample No. 2616.15.5; Steve Winslow
8:00			<0.002 <0.0007		Loader/Dozer	Sample No. 2616.15.4; Brian Schrock
8:00				<0.00002 <0.00007	S.W. Corner of Parking Area	Sample No. 13008
8:00				<0.00002 0.00007	S.E. Railroad Gate	Sample No. 13009
8:00				0.00002 0.00005	Horton St.	Sample No. 13010
8:30	000.0	0.00			Sta. 12+90 Excavation	
8:45	000.0	0.00			N. Mixing Bed	
9:30	050.0	0.00			Sta. 12+95 Excavation (4'D)	Broken Pipe Repair/Upgrade Level C
9:45	000.0	0.00			N. Mixing Bed	
9:50	060.0	0.00			Sta. 12+70 Excavation	Dry Excavation to Locate Pipe

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 7, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
10:30	000.0	0.00			Sta. 12+50 Excavation	
11:35	005.0	0.00			Sta. 12+30 Excavation	Dry Excavation to Locate Pipe
12:15	000.0	0.00			Sta. 12+30 Excavation	With Placed Slurry
12:30	000.0	0.00			Sta. 12+20 Excavation	
2:30	000.6	0.00			Sta. 12+10 Excavation	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 8, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta.11+00	Occassional Spikes Due to Bentonite
8:45	000.0	0.00			Sta.10+80	Apparent Odor/Breathing Zone
8:45	006.2	0.00			Sta.10+80	At the Soil
9:45	000.0	0.00			Sta.10+50	
10:30	000.0	0.00			Sta.10+30	
11:30	000.0	0.00			Sta.10+10	
12:30	000.0	0.00			Sta.10+10	
1:30	000.0	0.00			Sta.10+00	
2:30	000.0	0.00			Sta.10+00	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 10, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
9:45	000.0	0.00			Sta. 9+10	
10:45	000.0	0.00			Sta. 8+50	
11:30	000.0	0.00			Sta. 8+10	
12:15	000.0	0.00			Sta. 7+90	
1:30	000.0	0.00			Sta. 7+70	
2:30	000.0	0.00			Sta. 7+50	
3:30	000.0	0.00			Sta. 7+10	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 11, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m³	0.005 mg/m³	0.005 mg/m³		
		Pb - 10.9mg/m³	0.025 mg/m³	0.025 mg/m³		
STOP WORK	>500ppm	NA	NA	NA		
8:30	000.0	0.00			Sta. 6+50	
9:00	000.0	0.00			Sta. 6+50	
10:00	000.0	0.00			Sta. 6+20	
11:00	000.0	0.00			Sta. 6+10	Finished Excavation of West Trench
1:00	000.0	0.00			East of West Trench	S-B Mixing and Backfill
2:00	000.0	0.00			East of West Trench	S-B Mixing and Backfill
3:00	000.0	0.00			East of West Trench	S-B Mixing and Backfill
4:00	000.0	0.00			East of West Trench	S-B Mixing and Backfill
5:00	000.0	0.00			East of West Trench	S-B Mixing and Backfill

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 12, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:30	20.0	0.00			Sta. 14+70	Dry Excavation/Upgrade to Level "C"
9:00	500.0	0.00			Sta. 14+70	Work Stoppage/ 1000ppm Spike
9:15	5.0	0.00			Sta. 14+70	Trench Covered with Vsquine
9:30	5.0	0.00			Sta. 14+70	Trench Covered with Vsquine
10:30	000.0	0.00			Sta. 14+70	Trench Covered with Vsquine
12:30					Sta. 14+70	Sensidyne Tube Benzene/Results=25+/-ppm
2:00	000.0	0.00			Sta. 16+00	
3:30	000.0	0.00			Sta. 16+00	
4:15	000.0	0.00			Sta. 16+00	
			<0.003 <0.002		Forklift/Pipe Fabrication	Sample No. 2616.15.7; John Castilaw
			<0.002 <0.0007		Excavator	Sample No. 2616.15.8; Frank Montoya
			<0.002 0.0008		Loader	Sample No. 2616.15.9; Brian Schrock

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 12, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
				0.00026 0.00057	150' North of Bldg.31/ Horton St.	Sample No. 13011
				0.00007 0.00022	Northeast Corner of Bldg.31/Horton St.	Sample No. 13012
				0.00003 0.00009	Southwest Corner of Bldg.12	Sample No. 13013
				0.00005 0.00016	Northeast Corner of Bldg.35	Sample No. 13014

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 13, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			South End of the Raised Pad	
9:00	000.0	0.00			South End of the Raised Pad	
10:00	000.0	0.00			South End of the Raised Pad	
11:00	000.0	0.00			Railroad Tracks Adjacent to the S/W Air Compressor	
12:00	000.0	0.00			Railroad Tracks Adjacent to the S/W Air Compressor	
1:30	000.0	0.00			Railroad Tracks Adjacent to the S/W Air Compressor	
3:15	000.0	0.00			Railroad Tracks Adjacent to the S/W Air Compressor	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 14, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:30	000.0	0.20			Sta.18+00/Adjacent to Horton St.	Surface Dust on Platform
9:15	000.0	0.00			Sta.18+25/Adjacent to Horton St.	
9:45	000.0	0.00			Sta.18+50/Adjacent to Horton St.	
10:00	10.5	0.00			Sta.18+75/Adjacent to Horton St.	Manhole - Sample Taken at Soil/Slab Interface
10:00	000.0	0.00			Sta.18+75/Adjacent to Horton St.	Sample Taken at Breathing Zone
11:00	000.0	0.00			Sta.19+00/Adjacent to Horton St.	
12:00	000.0	0.00			Sta.19+25/Adjacent to Horton St.	
2:00	000.0	0.00			Sta.19+75/C-B Wall	
3:00	000.0	0.00			Sta.20+00/C-B Wall	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 16, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
10:00	000.0	0.80			Sta.19+75	Jackhammer/Work Stopped Until Dust Control In Place

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 17, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
10:00	000.0	0.00			Sta. 14+00/Trench Demolition to 4' B.O.G.	Start Work in Level "C"
11:00	000.4	0.00			Sta. 14+00/Trench Demolition to 4' B.O.G.	Finished Work in Level "C"
1:00	000.3	0.00			Sta. 13+80/15ft. East of Trench	Resume Work In Level "B"
1:30	200.0	0.00			Sta. 13+80/Trench Demolition to 4' B.O.G.	
1:30	000.4	0.00			Sta. 13+60/15ft. East of Trench	
2:00	000.4	0.00			Sta. 13+60/Trench Demolition to 4' B.O.G.	
2:30	000.4	0.00			Sta. 13+60/15ft. East of Trench	
			<0.002 <0.0008		Trucker	Sample No. 2616.15.10; Kathy Turner
			<0.003 <0.002		Hoe Ram	Sample No. 2616.15.11; Jeff Richards
			<0.002 <0.0008		Trench Hand	Sample No. 2616.15.12; Steve Winslow
				<0.00002 0.000075	Northeast Corner of Bldg.35	Sample No. 13015

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 17, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
				0.00003 0.000098	Southwest Corner of Bldg.38	Sample No. 13016
				0.00002 0.000099	Northeast Corner of Bldg.31/Horton St.	Sample No. 13017
				0.00013 0.00022	150ft. North of Northeast Corner of Bldg.31/Horton St.	Sample No. 13019

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 18, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.4	0.00			Sta. 14+00/25ft. East of Trench	Level "B" PPE
9:00	002.1	0.02			Sta. 14+30/25ft. East of Trench	
10:00	001.5	0.00			Sta. 14+60/25ft. East of Trench	Stop Work for Electrician/Stockpile Covered
11:30	001.9	0.00			Sta. 14+90/25ft. East of Trench	Resume Work
12:30	000.8	0.00			Sta. 15+20/25ft. East of Trench	
2:30	000.0	0.00			Sta. 15+50/25ft. East of Trench	Finish Level "B" Work
4:30	000.0	0.00			Spoils Stockpile on Raised Platform	
					Southwest Corner Building	Sample No. 13020
					150' No. of NE Corner Building/Horton St.	Sample No. 13021
					Northeast Corner Building/Horton st.	Sample No. 13022
					Northeast Corner Building 35	Sample No. 13023

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 19, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
9:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
10:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
11:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
12:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
1:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
2:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
3:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade
4:00	000.0	0.00			East Half of C-B Trench	Concrete Demolition to 4-5 Feet Below Adjacent Grade

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 20, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
9:30	000.0	0.00			Sta. 14+75	S-B Trench Excavation in Slurry
10:30	000.0	0.00			Sta. 14+60	S-B Trench Excavation in Slurry
11:30	000.0	0.00			Sta. 14+50	S-B Trench Excavation in Slurry
12:30	000.0	0.00			Sta. 14+25	S-B Trench Excavation in Slurry
1:30	000.0	0.00			Sta. 13+75	Asphalt and Concrete Demolition at Railroad Tracks
2:30	000.0	0.00			Sta. 13+75	Asphalt and Concrete Demolition at Railroad Tracks
3:30	000.0	0.00			Sta. 13+75	Asphalt and Concrete Demolition at Railroad Tracks
5:30	000.0	0.00			Sta. 13+75	Asphalt and Concrete Demolition at Railroad Tracks
6:30	000.0	0.00			Sta. 13+75	Asphalt and Concrete Demolition at Railroad Tracks

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 21, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:15	000.0	0.00			Sta. 13+80	S-B Trench Excavation
8:15	005.0	0.80			Mixing Bed Platform	Vehicular Traffic in The Spoils Stockpile
9:00	000.5	0.00			Sta. 13+80	S-B Trench Excavation
9:00	020.0	0.18			Mixing Bed Platform	Vehicular Traffic in The Spoils Stockpile
10:00	000.0	0.00			Sta. 16+75	Utility Exploration Between the Buildings
11:30	000.0	1.14			Mixing Bed Platform	Spoils Stockpile
11:30	000.4	0.00			Sta. 16+75	Utility Exploration Between the Buildings
1:30	000.0	0.00			Sta. 13+75	S-B Trench Excavation
1:30	000.0	0.00			Mixing Bed Platform	Water Truck Arrived for Dust Control
2:30	000.0	0.00			Mixing Bed Platform	Spoils Stockpile
2:30	000.0	0.00			Sta. 13+75	Excavation Stopped
3:30	050.0	0.00			Mixing Bed at Middle of Platform	PID Placed on Dozer with Brian/Level "B" Upgrade Suggested
4:30	000.0	0.00			Sta. 13+75	Slurry Filled Trench

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 21, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
5:30	010.0	0.00			Mixing Bed Platform at Fence Line	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 23, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:15	000.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at Grade
9:00	050.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at 4ft. B.O.G./Level "B"
10:30	012.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at 4ft. B.O.G./Level "B"
11:30	000.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at Grade
12:30	000.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at Grade
1:30	010.0	0.00			Sta. 13+00	15in. VCP Storm Drain Repair at 4ft. B.O.G./Level "B"
1:45	000.0	0.00			Sta. 15+90	Concrete Demolition 4-5ft. B.O.G.
2:30	000.0	0.80			Sta. 15+90	Concrete Demolition 4-5ft. B.O.G.
4:30	000.0	0.00			Sta. 15+90	Concrete Demolition 4-5ft. B.O.G.

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 24, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta. 15+90	Subsurface Concrete Demolition
8:00	010.0	0.00			Sta. 11+10	Clay Cap/Excavate S-B & Clay Placement/Level "C"
8:30	012.0	0.00			Sta. 15+90	Subsurface Concrete Demolition/Level "C"
10:30	000.0	0.00			Sta. 10+90	Clay Cap/Excavate S-B & Clay Placement/Level "C"
11:30	000.0	0.00			Sta. 15+90	Subsurface Concrete Demolition/Level "C"
11:30	000.0	0.00			Sta. 12+80	Storm Drain Repair/Level "B"
1:30	004.0	0.00			Sta. 12+80	Storm Drain Repair/Level "B"

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 25, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta. 15+90	Concrete Demolition
8:00	000.0	0.00			Sta. 13+10	Clay Cap Installation
9:30	000.0	0.00			Sta. 15+90	Concrete Demolition
10:00	010.0	0.00			Sta. 12+80	Clay Cap Installation
11:30	000.0	0.00			Sta. 12+60	Clay Cap Installation/Upgrade to Level "C"
12:30	000.0	0.00			Sta. 15+90	Concrete Demolition
1:30	000.0	0.00			Sta. 12+80	Clay Cap Installation/Upgrade to Level "C"
2:00	000.0	0.00			Sta. 12+20	Clay Cap Installation/S-B Backfill Removal
3:00	015.0	0.00			Sta. 11+90	Utility Exploration Excavation/Level "C"/Spikes
4:00	004.0	0.00			Sta. 16+80	Utility Exploration Excavation/Level "C"/Spikes
					Sta. 16+80	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 26, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:30	000.0	0.00			General Site Walk	
8:30	000.0	0.00			Sta. 16+80	
9:30	000.0	0.00			Sta. 14+90	
9:30	004.0	0.00			Mixing Bed/At Fence Line w/Horton St.	Started Mixing Operation/B.Schrock @ Level "B"
10:30	000.4	0.00			Mixing Bed/At Fence Line w/Horton St.	
10:30	000.2	0.00			Sta. 16+80	Excavation
11:30	000.0	0.00			Mixing Bed/At Fence Line w/Horton St.	
12:30	000.0	0.00			Sta. 16+80	Slurry Placed
1:30	000.4	0.00			Sta. 16+80	
2:30	000.8	0.00			Sta. 16+80	
3:30	000.0	0.00			Sta. 16+80	
4:30	000.0	0.00			Sta. 15+90	Concrete Demolition
			<0.002 <0.001		Loader/Trench Hand	Sample No. 2616.15.13; Jeff Richards

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 26, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
			<0.002 0.002		Excavator	Sample No. 2616.15.14; Frank Montoya
			<0.002 <0.001		Trench Hand	Sample No. 2616.15.15; Tazz Beckham
				0.00008 0.00012	Southwest Corner Building	Sample No. 13024
				0.00004 0.00009	Northeast Corner Building 35	Sample No. 13025
				0.00016 0.00025	Northeast Corner Building/Horton St.	Sample No. 13026
				0.00024 0.00029	150' No. of Northeast Corner Building/Horton st.	Sample No. 13027

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 27, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.4	0.00			Sta. 16+60	Excavation Personnel in Level "C"
9:00	000.0	0.00			Sta. 16+70	Excavation Personnel in Level "C"
10:00	000.0	0.00			Sta. 16+70	Excavation Personnel in Level "C"
11:00	000.0	0.00			Sta. 16+80	Excavation Personnel in Level "C"/Excavation Completed
2:00	000.0	0.00			Sta. 16+10	Concrete Demolition
3:00	000.0	0.00			Sta. 16+10	Concrete Demolition
4:00	000.0	0.00			Sta. 16+50	Excavation
4:20	040.0	0.00			Sta. 16+50	Excavation Around Tank/Level "C"

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 28, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta. 16+25	Concrete Demolition
9:00	000.0	0.00			Sta. 16+25	Concrete Demolition
10:00	000.0	0.00			Sta. 16+25	Concrete Demolition
11:15	000.0	0.00			Sta. 16+25	Excavation
12:45	000.0	0.00			Sta. 16+25	Excavation
2:00	000.0	0.00			Sta. 16+25	Excavation
3:00	000.0	0.00			Sta. 16+25	Excavation
4:00	000.0	0.00			Sta. 16+25	Excavation
5:00	000.0	0.00			Sta. 16+25	Excavation

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 29, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta. 17+20	Excavation Below Platform Wall
9:15	000.0	0.00			Sta. 17+20	Excavation
1:15	000.0	0.00			Sta. 18+30	
2:30	000.0	1.01			Sta. 16+10	Cap Backfill
3:30	000.0	0.50			Sta. 18+30	Excavation at Sewer
4:30	000.0	1.00			Sta. 16+30	Excavation at Sewer

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 30, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			General Site Walk	No Work In Progress
9:00	008.0	0.00			Mixing Bed on Platform	Upgrade to Level "C"
10:00	006.0	0.00			Mixing Bed on Platform	Upgrade to Level "C"
11:00	000.0	0.00			Sta. 18+00	Excavation
1:00	000.0	0.00			Sta. 18+10	Excavation
2:00	000.0	0.00			Sta. 18+20	Excavation
3:00	010.0	0.00			Sta. 18+30/SS Pipe	Dry Excavation
4:00	003.0	0.00			Sta. 18+30/SS Pipe	Slurry
5:00	000.0	0.00			Sta. 18+30/SS Pipe	Slurry

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 31, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			Sta. 14+90	Cap Installation
8:00	000.0	0.00			Sta. 18+75	S-B Excavation
9:00	000.0	0.00			Sta. 18+75	S-B Excavation
10:00	000.0	0.00			Sta. 18+75	S-B Excavation
11:00	000.0	0.00			Sta. 18+75	S-B Excavation
1:00	000.0	0.00			Sta. 19+10	C-B Wall Excavation
2:00	000.0	0.00			Sta. 19+10	C-B Wall Excavation
3:00	000.0	0.00			Sta. 19+10	C-B Wall Excavation
			<0.002 <0.001		Backhoe/Cap Installation	Sample No. 2616.15.16; Bret Redman
			<0.002 0.001		Trench Hand	Sample No. 2616.15.17; Tazz Beckham
			<0.002 0.001		Excavator	Sample No. 2616.15.18; Frank Montoya
				<0.00008 0.00028	Northeast Corner of Bldg. 35	Sample No. 13028
				0.00029 0.00034	75ft. North of Bldg. 38	Sample No. 13029

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: August 31, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
				0.00010 0.00022	150ft. North of Northeast of Bldg. 31/Horton St.	Sample No. 13030
				0.00069 0.0023	Northeast Corner of Raised Platform/Horton St.	Sample No. 13031

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 1, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:30	000.0	0.00			Platform	No Work Due to City of Emer. Work Stoppage
12:30	000.0	000.0			19+70	Restart
2:30	000.0	000.0			19+75	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 7, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	000.0	0.00			General Site Walk	270 Break Down
8:00	10.0	0.00			Mixing Bed	Brian Upgraded to Level "C"
1:00	000.0	3.4			22+00	Brian Upgraded to Level "C"
2:00	000.0	0.00			22+00	S-B Removal for Cap Placement
3:00	000.0	0.00			16+75	Day's Work Completed at 3:30

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 8, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	1500.0	0.00			21+10	Started Excav./Dry Condition - Stopped Work, Upgraded to Level "B"
9:00	50.0	3.5			21+80	Restart/Wet Condition, Frank in Level "B"/Dust Control Implemented
						Pump/Mixer Mechanical Breakdown
12:00	10.0	0.09			22+10	Restart/Level "C"
1:00	000.0	0.00			22+00	
2:00	9.0	0.35			21+90	
3:00	000.0	0.00			21+70	
3:00	10.0	0.00			16+30	Exposed SS Pipe for Repair
					Loader	Sample No. 2616.15.19; Brian Shrock
					Excavator	Sample No. 2616.15.20; Frank Montoya
					Trench Hand	Sample No. 2616.15.21; Tazz Beckham
					Mid Platform/Horton Street	Sample No. 13032
					Mid Platform/West Side	Sample No. 13033

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 8, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
					Northeast Corner Building 35	Sample No. 13034
					North End of Platform/Horton Street	Sample No. 13035

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 9, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:15	4.0	0.0			21+00	C-B Excavation
8:15	0.0	0.0			16+70	SS Repair
9:10	2.0	0.0			21+00	C-B Excavation
9:15	0.0	0.0			16+70	SS Repair
10:00	0.0	0.0			21+00	C-B Excavation
10:10	0.0	0.0			16+70	SS Repair
11:00	0.0	0.0			16+70	SS Repair
11:15	0.0	0.0			21+00	C-B Excavation
11:50	0.0	0.0			21+00	C-B Excavation
12:00	0.0	0.0			16+70	SS Repair
1:15	0.0	0.0			21+00	C-B Excavation
1:15	0.0	0.0			16+70	Noone Working
1:15	0.0	0.0			Fence	Noone Working
2:30	0.0	0.0			21+00	C-B Excavation
2:35	0.0	0.0			16+70	SS Repair
3:10	0.0	0.0			21+00	C-B Excavation

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: September 9, 1993
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
3:10	0.0	0.0			16+70	SS Repair
					Slurry Wall Completed	

NOTES:

Bret assumed air monitoring responsibilities in my absence while demobilizing equipment for slurry wall completion.

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 2, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:30	4.30				Sta. 0+05	Locate C-B Wall
14:30	6.10				Sta. 0+20	C.C. Removal
16:00	3.80				Sta. 0+20	C.C. Removal

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 3, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
8:00	12.2				Sta. 0+10	Begin C-B/S-B Tie-in
9:00	34.6				Sta. 0+15/10'Deep	Slurry Added
11:00	5.20				Sta. 0+00/22'Deep	
12:00	4.40				Sta. 0+25/3'Deep	
14:00	1.20				Sta. 0+50/15'Deep	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 10, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
9:30	3.50				Sta. 1+20	Dry Excavation to Reestablish Excavation
11:30	0.00				Sta. 1+30	Excavate w/Slurry
13:30	0.00				Sta. 1+40	
13:30	0.60				Backfill Mix Bed	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 12, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
12:30	0.00				Sta. 2+60	Begin Excavation
14:30	0.00				Sta. 2+90	
14:30	0.00				Backfill Mix Bed	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 14, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
					Backfill Mix Bed	Pete Maltese
					Trench Ex/5+50	Grant Perry
9:30	0.00				Sta. 5+30	
14:00	0.00				Sta. 5+80	

PROJECT: Sherwin-Williams
PROJECT No: 2616.94.02
DATE: November 15, 1994
SAMPLER: MBG

FIELD INSTRUMENT MEASUREMENTS

TIME	PID	MINIRAM	PAM	HI VOLS	LOCATION/ACTIVITY	GENERAL NOTES/WORKER'S NAME
		ACTION LEVELS				
PPE Upgrade	>50 ppm	As - 0.1mg/m^3	0.005 mg/m^3	0.005 mg/m^3		
		Pb - 10.9mg/m^3	0.025 mg/m^3	0.025 mg/m^3		
STOP WORK	>500ppm	NA	NA	NA		
					Backfill Mix Bed	Pete Maltese
					Trench Ex/5+90	Grant Perry
9:30	0.00				Sta.6+00	
12:30	0.00				Sta. 6+10	
14:00	0.00				Sta. 6+20	

APPENDIX F

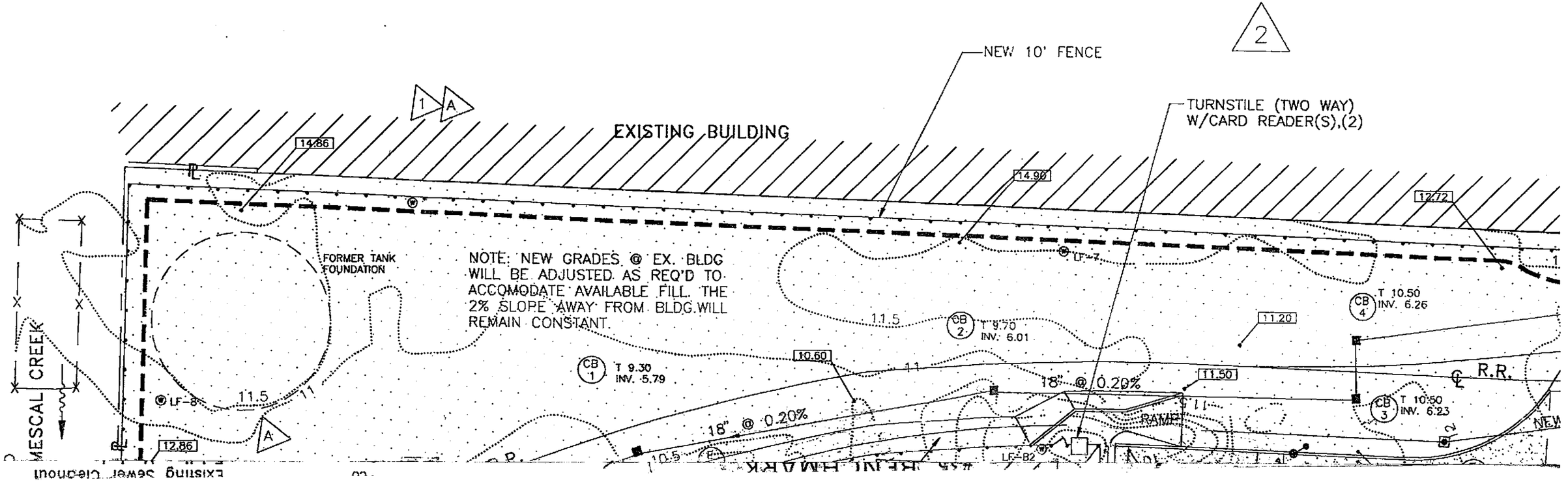
RECORD DRAWINGS, CAP AND STORM-WATER COLLECTION SYSTEM CONSTRUCTION BY OSBORNE ENGINEERING

A

EXISTING BUILI

NOTE RE. GRADING
CUT AND FILL WILL BALANCE, SEE 304 L REDUCED PLAN FOR APPLICABLE RESTRICTIONS. ADJUST GRADES AS REQUIRED (MAINTAIN 2% MIN. & 3:1 MAX.SLOPE, ROUND ALL TOPS & BOTTOMS OF SLOPES).

NOTE RE. DRAIN LINES
ALL DRAIN LINES ARE PLASTIC; HANCOR, INC. 'TITELINE'



HORTON STREET (60' WIDE)

EX. BLACKTOP PAVE

EX. GUTTER EL. 15.27

LF-12

EX. CONC RETAINING WALL WITH CHAIN-LINK FENCE ON TOP

NEW STUB WALL

EX. CONC CURB

EX. CONC WALK

EX. GAS METER

19.65

LF-B1

LF-1

EXISTING BUILDING #31

6" SEWER

EX. CONC

13.15

INV. 8.05

CO 2

TD 6

T 18.40

T 13.00

INV. 8.00

CB 6

EX. WALL

14.20

14.40

6" SEWER

BUTT JOINT

EX. TANK (RELOCATED BY OTHERS)

R.R.

CB MH

18.05

17.80

17.50

CB

13.50

#38 EXISTING BUILDING

#12 EXISTING BUILDING

#17

NEW OVERHEAD 4" CASING BY OTHERS

8" @ 1.0%

TD 5

TD 4

EX. CONC

CAP 4" CASING

NEW U.G. 4" CASING (ON TOP OF EX.PAVM'T.)

EX. WALL

18.35

BUTT JOINT

12" @ 1.0%

MH 5

T ± 12.8

INV. 7.21

(STUB 15")

EX. CO

18" @ 0.20%

6" @ 1.0%

EX. WASH STATION

T ± 14.5

INV. 6.95

CO 7

EX. PIPE SUPPORT (TYP. OF 5)

CB 5

T 16.35

INV. 6.74

18" @ 20%

TD 3

MH 3

T 12.50

INV. 6.66

16.85

17.00

EX. RAMP

MH 4

T ± 12.5

INV. 7.01

LF-2

#29

#30

#4

EXISTING BUILDING

#2

12.5 EX.

EX. CONC BLOCK

18" @ 0.20% EX. CONC

TD 1

TD 2

8" @ 1.0%

LF-3

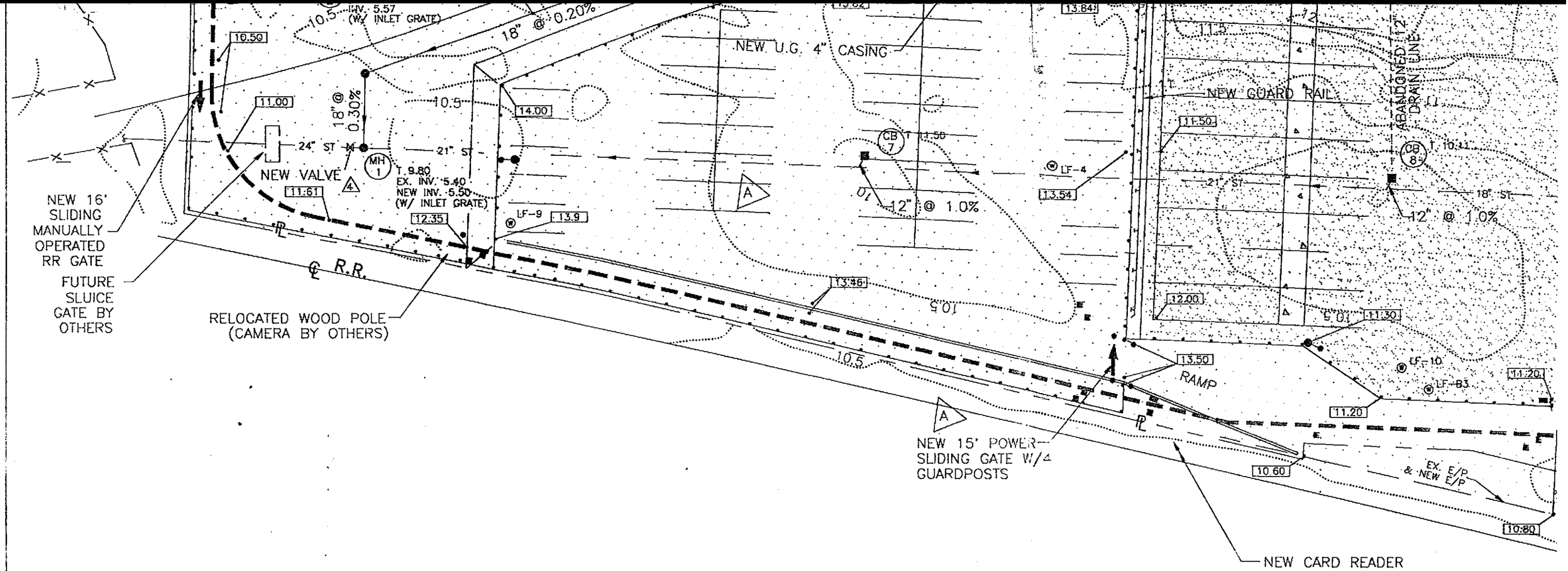
REBUILD SUMP SEE DRAWING Y 35 1 419 M (BY OTHERS)

NEW OVERHEAD 4" CASING BY OTHERS

NEW WALL & PIERS SEE Y 35 1 419 M

LEGEND

- Existing Fire Hydrant
- Existing Water Valve

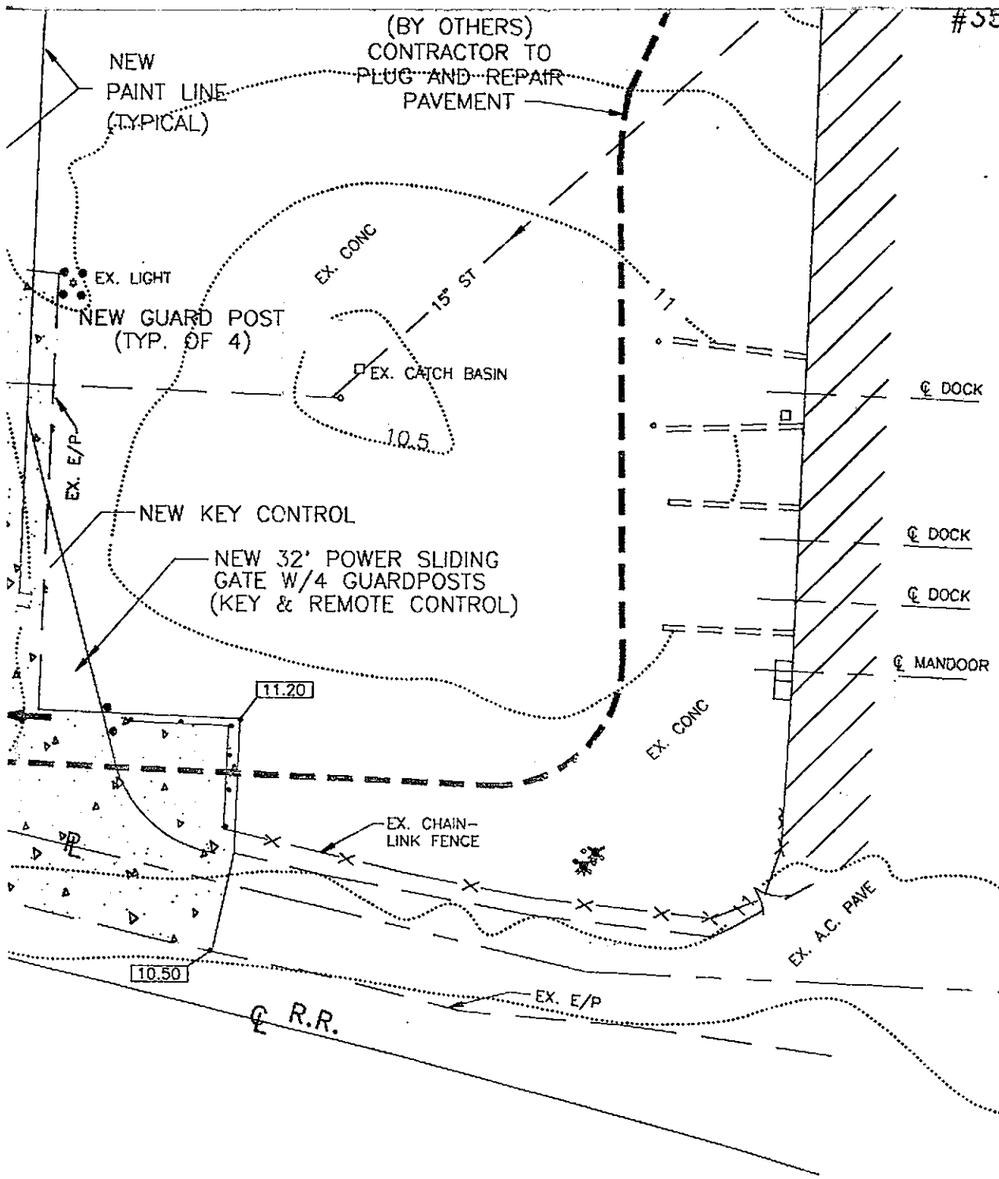


GRADING PLAN

SCALE: 1"=30'-0"

30 0 30 6

SCALE IN FEE



#55 BENCHMARK

USC&GS #H130 Elevation 24.514
(stamped H 130 24.468 1932)

At Emeryville, Alameda County, at the southeast corner of the intersection of Park Avenue and Hollis Street, at the city hall, in the north face of the north east corner of the building, about three feet above the ground, and set vertically.

SPECIAL INSTRUCTIONS

1. INSURE THAT AIRBORNE AND WATERBORNE CONTAMINATES REMAIN ON SITE DURING ALL CONSTRUCTION ACTIVITIES PER THE SHERWIN WILLIAMS APPROVED HEALTH AND SAFETY PLAN.

2. TESTING SCHEDULE:
   CONCRETE; MINIMUM OF ONE PER DAY FOR PLACEMENT OF OVER 5 CUBIC YARDS (3 SAMPLES EACH)
   TRENCH BACKFILL; MINIMUM OF ONE FIELD DENSITY TEST AT EACH LAYER FOR EVERY 1000 SQUARE YARDS.
   PAVEMENT BASE ROCK AND ASPHALT; PRODUCTS, INSTALLATION AND TESTING IN CONFORMANCE WITH THE CALTRANS REQUIREMENTS.

2

7/27/93	McB	BID ISSUE	
10/15/93	McB	ADD 6"STORM; ADD 4" U.G. CASING; DELETE SUBDRAINS; RAISE NORTH AREA GRADES; ADD NOTE TO CLARIFY GRADING.	ADD. A
1/12/94	McB	RAISE GRADES AND WALLS IN AUTO LOT 0.35'; LOWER GRADES EAST OF RR IN NORTH LOT.	1
3/29/94	McB	DELETE NORTH LOT IMPROVEMENTS; AUTO LOT, RAMP, GATE, STRIPPING, AND LIGHTING; BLGD. 31 PERSON DOOR AND RAMP; ADD SPECIAL INSTRUCTIONS.	2
8/15/94	McB	ADD NORTH LOT IMPROVEMENTS & CHANGE TRUCK GATE	3

DRAWN BY R.C.K.

CHKD BY

90

	Existing Sewer Cleanout
MH	Existing Manhole
	Existing Guard Post
	New Floodlight
P.PB	New Power and Remote Control Pullbox (or Power Only)
C.PB	New Communications Pullbox
E	New Extraction Well Manhole
MH	New Storm Manhole
CB	New Storm Catchbasin
CO	New Storm Cleanout
TD	New Storm Trench Drain
	Existing Contour Line (.5 Ft. Interval)
XX	New Contour Line (1 Ft. Interval)
XX.XX	New Spot Elevation
	New Concrete Pavement
	New Heavy Duty Asphalt Pavement
	New Light Duty Asphalt Pavement

NOTE:

1. CONTRACTOR SHALL CONFIRM SEWER OUTFALL ELEVATION PRIOR TO TRENCHING.

OSBORN ARCHITECTS • ENGINEERS
CLEVELAND, OHIO
10177

SHERWIN WILLIAMS CONSUMER ENGINEERING

OAKLAND, CALIFORINA

ENVIRONMENTAL CAP

GRADING AND UTILITY PLAN

APPENDIX G

PERIODIC CONSTRUCTION REPORTS, CAP AND STORM-WATER COLLECTION SYSTEM BY LEVINE·FRICKE

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 1/29/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS/CAP

ITEMS COMPLETED

TREATMENT PADS POURED

6"Ø SD LINE FROM TREATMENT PAD TO EXISTING C.C. DRIVE, INSTALLED

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

S.P.R.R. REPS ON SITE TO VIEW & DISCUSS BURIED RAIL CAR TANK REMOVAL

Signed:

LEVINE FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 2/4/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS./CAP

ITEMS COMPLETED

TREATMENT PADS POURED

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

POWER ENGR. AGREES TO ACCEPT RESPONSIBILITY FOR
PERSONNEL AIR MONITORING & TO KEEP L-F
APPRISED OF ANY INSPECTIONS, WHERE THEY WILL
NOT COVER ANYTHING PRIOR TO INSPECTION

Signed: _____

LEVINE FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 2/12/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS/CAP

ITEMS COMPLETED

TREATMENT PADS, BOLLARDS & APRON POURED
EXCAVATED DRUM STORAGE PAD; C.C. ENCOUNTERED.

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

VOC ENCOUNTERED IN BOLLARD HOLE (46 PPM) & SPOILS STOCKPILE (28 PPM)
WAS NOT ADVISED OF DRUM STORAGE PAD EXCAVATION (-4 FT. BOG)

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 2/9/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS

ITEMS COMPLETED

CC TREATMENT EQUIP. PADS + BOLARDS

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed:

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 2

DATE 2-24-94

	S	M	T	W	TH	F	S
DAY					X		

PROJECT: S-W CAP 2C16.03

OWNER: S-W

CONTRACTOR: Power

WEATHER Foggy am

SITE CONDITIONS NORMAL

TEMPERATURE Cool am

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power - Mike, Super.			

EQUIPMENT

ACTIVITIES

- ARRIVE @ 8:15 am VERY LITTLE GOING ON.
- MEET W/MIKE @ 8:35 DISCUSS TODAY'S ACTIVITIES. WE DISCUSS 4" TO 8" CONNECTION, 6" + 8" CONNECTION TO BOX, 8" INSIDE 18" CASING W/ GROUT. MIKE SAYS HE'LL GET 8x4 TEE ON FRIDAY. POWER WILL INSERT 8" BLACK PIPE IN 18" CASING TODAY AND GROUT AROUND PIPE.
- MIKE GETS ON PHONE @ 8:55 W/ BILL BERNING.
- 9:20 am MIKE SAYS THAT POWER IS GOING TO TRY TO DO ALL THINGS HE HAS REQUESTED. TEE'S WILL NOT ARRIVE TIL FRIDAY. POWER PLANS TO GROUT PIPE IN CASING.
- 12:00 pm MIKE MENTIONS THAT BILL BERNING PLANS TO CHANGE "LEAK TEST" FROM HOW IT IS STATED IN SPECS.
- 12:00 POWER PUMPING WATER FROM MANHOLE JUNCTION #5 EXCAVATION. PUMPING WATER TO LOW AREA NEAR BLDG. #17 + #31.
- 2:00 pm STILL NO GROUT PUMPED IN CASING AROUND PIPE.
- 2:00 pm SOME WORK GOING ON NEAR ADJACENT BLDG AT EAST SIDE OF SITE. REBAR DRILLED INTO EXISTING CONCRETE, PADDING LAID AGAINST BLDG.

COPIES:

SIGNED: EW

LEVINE● FRICKE

DAILY CONSTRUCTION REPORT (Continued)

oject No.: 2616.03 Report No.: _____ Date/Day: 2-24-94

- 3:30 PM GROUT PLACED INTO CASING. PIPE ELEVATED IN CASING SO IT IS NOT RESTING ON CASING INVERT.

Signed: _____

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 2/26/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS/CAP

ITEMS COMPLETED

SLAB POURED FOR DRUM STORAGE.
18"Ø CASING @ TD #4 & 5 INSTALLED + MH #5

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

EPOXY COAT SD → MH CONNECTIONS PRIOR TO DRYPACK
INSTALL WATERTIGHT FITTINGS AT POLYPIPE/PVC CONNECTIONS
18"Ø STL CASING VS 14"Ø C900 SPEC'D FOR JACK & BORE

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 3/5/94

Project No.: 2616.94.03 **Project Name:** SHERWIN-WMS/CAP

ITEMS COMPLETED

LEAK TEST 6"Ø PVC SS, OK'D
R/W AT RIFKIN PL
TREATMENT PLANT POLY TANKS ARRIVED

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

TD CC LAYOUT CHANGED CONST. JT @ R/R TIES

Signed:

LEVINE FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 3/12/94

Project No.: 2616.03 **Project Name:** SHERWIN - WM.

ITEMS COMPLETED

MOVED 5' WIDE BAND OF S-B STOCKPILE ADJ. TO TD6 TO POUR R/W (AIR MONITORS DEPLOYED)

PLACED & POURED TD4 & 5

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed:

LEVINE FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 3/19/94

Project No.: 2616.03 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

PLACED & POURED TD #6

2 JT'S (40') OF 18"Ø SD PLACED FROM MH#5

CHANGE ORDERS

NONCOMPLIANCES

18"Ø SD BEDDED, PLACED & SHADED PRIOR TO OBSERVATION

POWER ENG. DIDN'T NOTIFY L-F PRIOR TO PLACEMENT

DISCUSSIONS/COMMENTS

CITY OF EMERYVILLE RED TAGGED PROJECT 3/17/94

Signed:

PAGE 1 OF 1

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

DATE 3-23-94

	S	M	T	W	TH	F	S
DAY				X			

PROJECT: S-W CAP CONSTRUCTION

WEATHER FAIR

OWNER: S-W

SITE CONDITIONS NORMAL ?

CONTRACTOR: POWER

TEMPERATURE COOL

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
MIKE & DAN			

EQUIPMENT

ACTIVITIES

8:15 – 9:15 am ARRIVED TO DISCUSS W/ MIKE DAY'S ACTIVITIES. HE INFORMED ME THAT POWER WOULD FORM AND POUR CONCRETE COLLAR AROUND PIPE @ SHEAR WALL PENETRATION. SEE ATTACHED SKETCH. WE DISCUSSED DIMENSIONS OF COLLAR AND WHETHER ANY ADHESIVE OR COHESIVE WOULD BE USED @ INTERFACE BETWEEN COLLAR AND PIPE. MIKE SAID THAT NONE HAD BEEN DISCUSSED, AND THAT POWER DID NOT INTEND TO USE ANY.

1:15-1:45 ARRIVED TO FIND FORM WORK AS DISCUSSED. POUR WAS PERFORMED FOLLOWING VISUAL INSPECTION OF FORMS. SEE SKETCH.

18AUG88

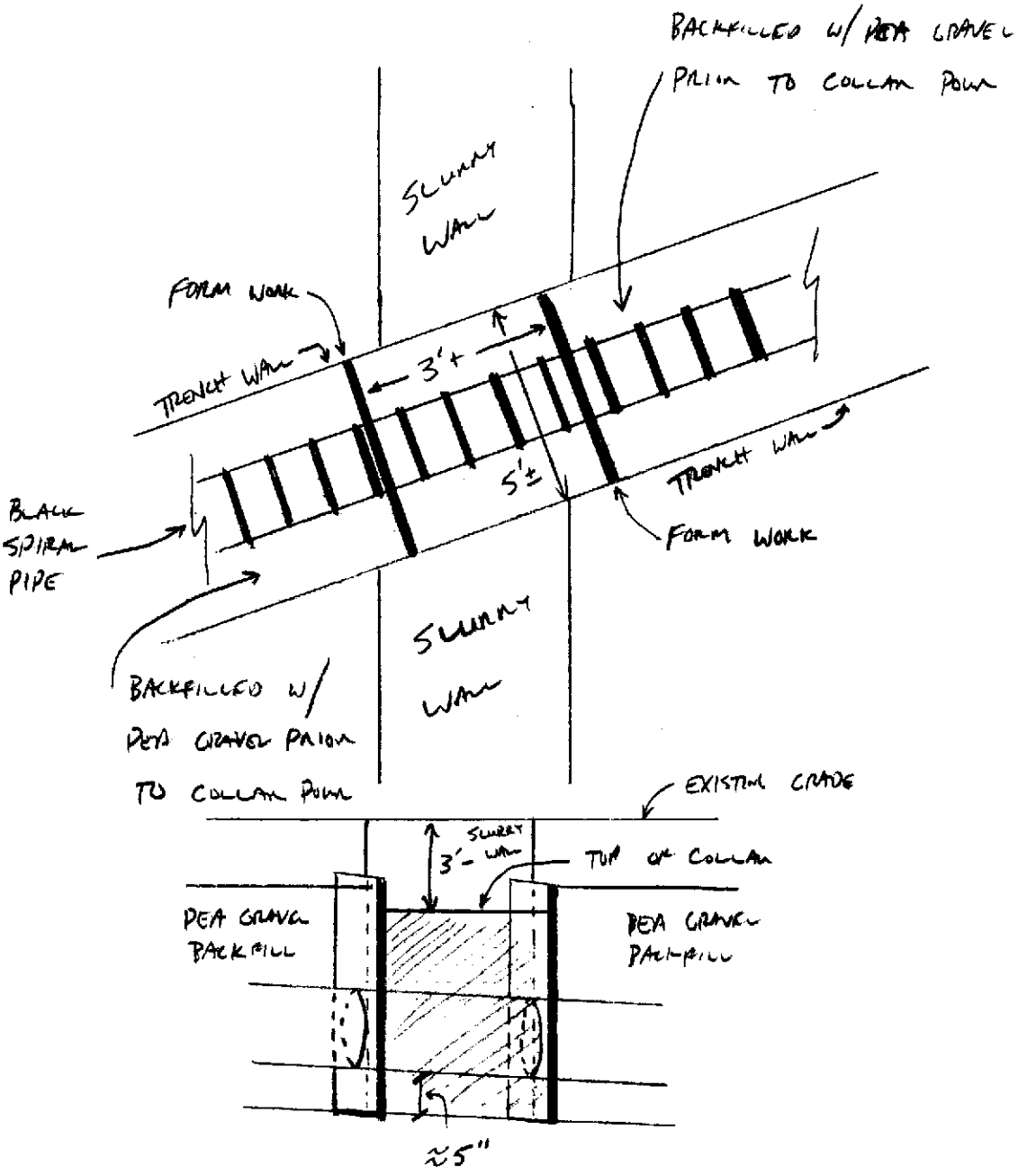
COPIES:

SIGNED: EN

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

SHEET 1 OF 1
JOB NO.: 2616.03
DATE: 3-23-94
COMPUTED BY: ETZO
CHECKED BY:

PROJECT: S-W CAP CONSTRUCTION
SUBJECT: COLLAR FOR STORM DRAIN PENETRATION OF SLURRY WALL



LEVINE FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 3/26/94

Project No.: 2616.03 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

C.C. COLLAR POURED AROUND 18"Ø SD APPROX 30' FROM MH#5 WHERE IT PENETRATES S-B WALL.

BACKFILLED 40' OF 18"Ø SD TRENCH STARTED

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed: _____

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 4/2/94

Project No.: 261603 **Project Name:** SHERWIN-WM's

ITEMS COMPLETED

BACKFILL 40' OF 18" ØSD TRENCH & POURED CC SLAB
FLIP-FLOPPED W-½ OF ARSENIC RUBBLE STOCKPILE TO E-½ FOR DIVERTED TRUCK TRAFFIC (AIR MONITOR ~~5~~ DEPLOYED)

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed:

B:\WKCONSUM.elg

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 4/9/94

Project No.: 2616.03 **Project Name:** SHERWIN-WMS

ITEMS COMPLETED

18"Ø SD FROM MH#5 TO MH#4.

- MIRAFI FILTER FABRIC PLACED AND INSTALLED IN SD TRENCH PRIOR TO BACKFILLING.

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

CITY OF EMERYVILLE ISSUE PERMIT (4/7/94)

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 4-16-94

Project No.: 2616 94.003 **Project Name:** SHERWIN-WILLIAMS

ITEMS COMPLETED

- 30" ϕ CASING INSTALLED BELOW RR SPUR FROM CB #4
- 18" ϕ SD INSTALLED AND GROUTED INTO 30" ϕ CASING, INCLUDING 4" STUB-UP FOR TRENCH DRAIN.

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed: _____

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 4/23/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WILLIAMS

ITEMS COMPLETED

COMPLETED JACK & BORE FOR 8"Ø PIPE TD1 TO TD2 TO MH3. CASING WAS GROUTED

COMPLETED 1ST FULL WEEK OF AIR MONITORING

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed:

B:\WKCONSUM.elg

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 4/30/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WILLIAMS

ITEMS COMPLETED

SET MH #3.

COMPLETED PRESS. TEST OF 18" Ø SD, MH #4 TO MH #5

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

ABOVE PRESS. TEST: A LEAK WAS DETECTED @ 1ST JOINT IN FROM MH #4. REPAIRED WITH MANUFACTURER'S BUTT COUPLER & DRY PACK GROUT.

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 5/7/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WILLIAMS

ITEMS COMPLETED

CONCRETE POURED FOR TD#1, #2 & #3.

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

4"Ø PVC PIPE AROUND R/R SWITCH IN TD#2 HAS LITTLE TO NO WASH ON UNDER SWITCH, WITH POTENTIAL TO BREAK.

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 5/14/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WMS

ITEMS COMPLETED

PLACED CB #5
R/W FTG (G 307L)
R/W @ HORTON AV.
AC PLACEMENT IN HEAVY DUTY AREA

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 5/21/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-Wm's

ITEMS COMPLETED

PLACEMENT & BACKFILL OF SD MH#3 TO CB#4
TYP BACKFILL: PEA GRAVEL & PIPE ENCAPSULATED IN GEOTEXTILE TO AB/ 1'BFG.
EXCAVATED CB#6
PLACEMENT & BACKFILL OF SD CB#5 TO CO#1

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

RVW'D POWER ENGR'S PID MONITORING; DEFICIENT, EXPLAINED CONCERNS TO MIKE (P.E.) FOR BREATHING ZONE & SOILS.

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 5/28/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WM's

ITEMS COMPLETED

BEGAN RUBBLE CRUSHING ⇒ AIR MON.
EX OF R/W & KEY C OF 306L

CHANGE ORDERS

NONCOMPLIANCES

TOP OF R/W: F, G, H & J OF 307L LOW BY ~~A~~ 3-6"

DISCUSSIONS/COMMENTS

SIGNIFICANT SOIL MIXED & RUBBLE ⇒ PROD. SLOW
LOCATED SURVEYOR FOR RUBBLE CRUSHING QUANTITY

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 6/4/94

Project No.: 2616.04.003 **Project Name:** SHERWIN-WM's

ITEMS COMPLETED

C.I.P. INSTALLED: WRAPPED & MASTIC'D @ CO#2

NGE ORDERS

ONCOMPLIANCES

DISCUSSIONS/COMMENTS

SOIL DRUM DISPOSAL BY BOB (S-W) USING S-W CONTRACTOR

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 6/11/94

Project No.: 2616.04.003 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

R/W C OF 306L

12"ØPIPE CASING UNDER R/R IN SP PROP GROUTED

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

MTG E MDK, LARRY (S-W), MIKE (P.E.) & RIFKIN REPS TO COORD. DRILLING ACCESS

BELL & SPIGOT SD PIPE TO BE USED FROM R/R-CASING TO EX CB, PER BILL (S-W)

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 6/18/94

Project No.: 2616.94.003 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

BACKFILL SD # CB#6

VGE ORDERS

ONCOMPLIANCES

DISCUSSIONS/COMMENTS

RVW'D DECON PROCEDURES & MIKE (P.E.) IN PREP FOR AS SOIL GRADING NEXT WK.

MTG & MDK, LARRY (S-W) & MIKE (P.E.) SCH FOR DRILLING; SUGGESTED JACKHAMMER WEEP HOLES TO EXPEDITE

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 6/25/94

Project No.: 2616.94-003 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

VERT. WEEP HOLES ADJ TO R/W AT PLATFORM

GRADING & SEGREGATING RUBBLE PILE

C' NGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

RAMAX COMPACTOR HYDRAULIC LINE BREAK WHEN OFF LOADED CARBONE CLN UP.

PER BILL B. (S-W), CHANGED SD PRES. TEST FROM 250 GAL TO 50 GAL/"Ø/M1/DY

Signed:

LEVINE • FRICKE

WEEKLY CONSTRUCTION SUMMARY

Week Ending: 7/2/94

Project No.: 2616.94-003 **Project Name:** SHERWIN-WM'S

ITEMS COMPLETED

SCATTERED SOIL STOCKPILE TO DRY BACK.

CHANGE ORDERS

NONCOMPLIANCES

DISCUSSIONS/COMMENTS

CARONE BROS TO RTN 7/5/94 TO COMPLETE COMP. & CB-6
SD LINE MH-4 TO CB-5, ~~FA~~ PRES. TEST FAILED

Signed:

LEVINE•FRICKE ACS

DAILY CONSTRUCTION REPORT

PAGE 1 OF 2

DATE 6/29/95

	S	M	T	W	TH	F	S
DAY					X		

PROJECT: S-W Environmental CAP/2616.95-3

OWNER: Sherwin-Williams

CONTRACTOR: DRYCO

WEATHER Overcast ; Wind W 15 mph

SITE CONDITIONS Soil moist to dry ; see activities

TEMPERATURE 60°F

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
DRYCO INC.	1 foreman	5	workers / foreman have dust masks / ear plugs
			foreman: Carlos Cortes

EQUIPMENT

CAT. Front-End Loader Track Mounted with 4-in-1 bucket 953B	6-Wheel End Dump #2104
CAT. Front-End Loader Track Mounted 965L	10-Wheel End Dump #2882
HYPAC Compactor C852B	CASE Backhoe with 4-in-1 bucket 580K #302

ACTIVITIES

I arrived on-site at 8:15 am. The "work area" was observed to be the northern part of "the site," bounded approximately by the site boundaries to the north, east, and west, and by the concrete apron to the south. Personnel from DRYCO were observed performing work apparently as a subcontractor to Power Engineering Contractors. DRYCO was observed performing tasks apparently related to Site Clearing as stated in section 02110 of the specifications prepared by Osborn Engineering. DRYCO was observed clearing debris from the northern portion of the work area, which was apparently damp to moist, and placing it in the southern portion of the work area, which was apparently dry. During a conversation @ approx. 9:00 am between Michael Glaser (Levine-Fricke) and the foreman (DRYCO) in my presence, the foreman stated that the moisture content of the soil varied. Therefore, the soil was blended, loaded into the end dumps, and relocated from the soil stockpile to a location adjacent to the retaining wall on the east side of the work area. The foreman

18AUG68

COPIES:

SIGNED:

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-3 Project Name.: S-W Environmental CAP Date/Day: 6/29/95 Th

told M. Glaser that representative from Power had instructed DRYCO to blend vegetarian present in the work area with the soil. The foreman told M. Glaser that Power had "briefly" discussed the hazards of the site with DRYCO and that not all personnel from DRYCO working on-site were OSHA 40-hour trained. M. Glaser expressed his concern that end dumps and other equipment driving on the dry soil may be causing above-permissible levels of potential fugitive dust. I observed a significant amount of dust raised by vehicles traveling on the dry soil migrating off-site to the east. The foreman stated that a water truck was scheduled to be on-site on Monday, July 3, but that he would be able to arrange for the water truck to come sooner, possibly today. No representatives from Power were observed to be present at any time during my visit, and the Power trailer, presumably containing the PID, was also observed to be locked during this time. During the above referenced conversation between M. Glaser and the foreman, the foreman also suggested building a ramp over the railroad tracks to minimize end dump traffic on the dry areas. 1½ hours after my arrival, I observed end dumps still raising dust by driving over dry soil

Signed: Alexander R. Jenkin

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

2616.95-3

PAGE ____ OF ____

DATE 7/11/95

	S	M	T	W	TH	F	S
DAY			X				

PROJECT: S-W ENVIRONMENTAL CAP

OWNER: SHERWIN-WILLIAMS

CONTRACTOR: POWER ENGINEERING CONTRACTORS

WEATHER PARTLY CLOUDY; MOSTLY SUNNY; LIGHT BREEZE

SITE CONDITIONS ____

TEMPERATURE UPPER 60's °F

VISITORS

ALEX JENKINS (ME), ROGER LEVENTHAL (LEVINE-FRICKE), MARK KNOX (LEVINE-FRICKE)

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
POWER ENGINEERING CONTRACTORS	1	2	Supervisor: Mike Spence
DRYCO	1	3	Supervisor: Cortes
JEPSON ELECTRIC	1	1	

EQUIPMENT

FRONT-END LOADER (POWER:DAN) IT28B	OTHER EQUIPMENT NOT IN USE
FRONT END LOADER W/ 4-IN-1 BUCKET MF 50EX 300	
BULLDOZER TRACK MOUNTED 955L	

ACTIVITIES

I arrived on-site @ 8:30 am. The "work area" was observed to be the northern part of "the site," bounded approximately by the site boundaries to the north, east, and west, and by the concrete apron to the south. Apparently, in the southwestern portion of the work area, during trenching work to lay electrical conduit along the western portion of the work area, two cylindrical structures were discovered west of (outside of) the slurry wall, side-by-side, that appeared to be tanks. Each tank appeared to have a small opening at the top, where a cap or plug apparently went. At the time of our arrival, the openings were uncovered, and the liquid contents were exposed to the atmosphere. Mike Spence attempted to demonstrate that each tank contained a different colored oily, viscous substance by dipping a piece of wood debris in each opening. Also, in a trench running east-west (perpendicular to the aforementioned trench), I observed a pool of what appeared to be an oily liquid. This trench was in relatively close proximity to the area where the tanks were located, also in the

184UG88

COPIES:

SIGNED: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Page _____ of _____

Project No.: 2616.95-3 Project Name.: S-W ENVIR. CAP Date/Day: 7/11/95 T

southwestern portion of the work area. Spence said that he would halt construction in the southwestern portion of the work area, and continue work in the other parts of the work area, which apparently consisted of work related to laying conduit and grading. Spence said that it was possible that the tanks were placed there by the railroad and noted that previously, other tanks that were discovered during the course of work at the site were placed by the railroad. Spence said that Power Engineering Contractors were capable of tank removal. Spence also suggested that the tanks could be left in place if they were first drained. Spence stated that the pool of liquid was inside (east of) the slurry wall, and was thereby contained. It was suggested that the pool of liquid would be first drained by a suitable company, such as Ericsson. Odors appeared to be [redacted] coming from the pool of liquid and no air monitoring equipment was observed. At approximately 10:00 am, I observed the bulldozer working on the eastern part of the work area raising a significant amount of dust which may be causing above-permissible levels of potential fugitive dust. Again, I observed no air monitoring equipment in use or present

Signed: Alexander R. Devlin

99\STATNERY\DACNSRPT.CDR:MPM 111594

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 3

DATE 7/21/95

	S	M	T	W	TH	F	S
DAY						X	

2616.95-003

PROJECT: S-W ENVIRONMENTAL CAP

OWNER: SHERWIN-WILLIAMS

CONTRACTOR: POWER ENGR. CONTR.

WEATHER

SITE CONDITIONS

TEMPERATURE

VISITORS

MIKE SPENCE - SUPERINTENDENT FOR POWER ENGR. CONTRACTORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS

EQUIPMENT

ACTIVITIES

I ARRIVED ON SITE @ APPROX 8:00 A.M. TO DO WORK RELATED TO PERMITTING FOR THE REMOVAL OF THE TWO PREVIOUSLY UNKNOWN UNDERGROUND STORAGE TANKS (UST'S) DISCOVERED DURING TRENCHING WORK APPARENTLY TO LAY ELECTRICAL CONDUIT. AS I WAS LEAVING THE SITE, MIKE SPENCE ARRIVED ON SITE. I BROUGHT TO MIKE SPENCE'S ATTENTION THAT KENTON GEE OF LEVINE-FRICKE WAS UNABLE TO LOCATE WELLS LF-5, LF-B2, AND LF-7, THAT WERE APPARENTLY BURIED UNDER SOIL RECENTLY GRADED BY DRYCO, WHO WERE APPARENTLY SUBCONTRACTORS TO POWER. MIKE SPENCE SAID HE REMEMBERED HEARING THAT WELLS LF-5 AND LF-B2 HAD BEEN DESTROYED, AND THAT HE BELIEVED THAT, ACCORDING TO THE CONTRACT BETWEEN POWER AND SHERWIN-WILLIAMS, ONLY NEW EXTRACTION WELLS WERE POWER'S RESPONSIBILITY TO PROTECT FROM DAMAGE. I EXPRESSED MY BELIEF TO HIM THAT HE WAS PROBABLY MISTAKEN ABOUT THE MONITORING WELLS BEING DESTROYED. I ALSO EXPRESSED MY DOUBT THAT THE PROTECTION OF

18/UC88

COPIES:

SIGNED:

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W ENVIR. CAP Date/Day: 7/21/95 F

EXTRACTION WELLS WOULD BE REQUIRED WHILE THE PROTECTION OF MONITORING WELLS WOULD NOT BE REQUIRED. HE SAID THAT DRYCO KNEW AND STAKED OUT THE LOCATION OF LF-7, BUT BURIED IT DURING GRADING WORK, AND DID NOT CURRENTLY KNOW ITS LOCATION. HE SAID DRYCO WAS RESPONSIBLE FOR PROTECTING LF-7 AND WOULD UNBURY IT. HE SAID THAT NO ONE HAD TOLD MIKE SPENCE NOT TO PROCEED IN THE AREA OF LF-5 AND LF-BZ. HE SAID THAT DAN, POWER'S BACKHOE OPERATOR, SPENT HALF A DAY LOOKING FOR BURIED WELLS WITH MICHAEL GLASER OF LEVINE-FRICKE, AND THAT FURTHER ATTEMPTS TO LOCATE THE WELLS BY POWER WOULD BE CONSIDERED AN EXTRA. HE ALSO SAID THAT THE CONTRACTOR THAT DID THE CONSTRUCTION OF THE SLURRY WALL LEFT THE WELLS BURIED UNDER A SOIL STOCKPILE, AND THEREFORE POWER WAS NOT RESPONSIBLE FOR UNCOVERING THEM. I INFORMED HIM THAT I WOULD PASS THIS INFORMATION ALONG @ LEVINE-FRICKE AND LEFT THE SITE @ APPROX 8:45 A.M. I ALSO SAID I BELIEVED THAT THIS ISSUE SHOULD BE RESOLVED BY SHERWIN-WILLIAMS AND POWER.

AT THE OFFICE @ LEVINE-FRICKE, I SPOKE WITH MICHAEL GLASER, WHO SAID HE DID NOT SPEND HALF A DAY WITH DAN LOOKING FOR WELLS. I INFORMED ROGER LEVENTHAL (L-F) OF THE SITUATION AS WELL, WHO NOTIFIED BILL BERNING (SHERWIN-WILLIAMS) ABOUT THE SITUATION. IT APPEARED AS THOUGH BILL BERNING WOULD TAKE CARE OF THE LOCATION OF THE WELLS WITH MIKE SPENCE, JUDGING BY A VOICE MAIL MESSAGE FORWARDED TO ME BY ROGER LEVENTHAL FROM

Signed: _____

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W ENVIR CAP Date/Day: 1/21/95 F

BILL BERNING, IN WHICH BILL BERNING SAID HE THOUGHT POWER WAS RESPONSIBLE AND WOULD CONTACT MIKE SPENCE.

I REVIEWED THE SPECIFICATIONS PREPARED BY OSBORN ENGINEERING COMPANY. I NOTICED THAT, ACCORDING TO SECTION 02070, SELECTIVE DEMOLITION, PART 1.03.D., PROTECTION, THAT DAMAGE TO MONITORING WELLS MUST BE PREVENTED. I CALLED MIKE SPENCE ON HIS MOBILE PHONE AND INFORMED HIM THAT SHERWIN-WILLIAMS HAD BEEN NOTIFIED, AND THAT THE ISSUE, IN MY OPINION, SHOULD BE RESOLVED BETWEEN SHERWIN-WILLIAMS AND POWER

Signed: _____

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

DATE 7/26/95

	S	M	T	W	TH	F	S
DAY				X			

2616.95-003

PROJECT: S-W ENVIRONMENTAL CAP

OWNER: SHERWIN-WILLIAMS

CONTRACTOR: POWER ENGR. CONTR. (USU.)

WEATHER SUNNY AND WARM

SITE CONDITIONS SOIL DRY

TEMPERATURE

VISITORS

MIKE SPENCE (SUPERINTENDENT FOR POWER ENGR. CONTR.

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
NONE WORKING			

EQUIPMENT

NONE OPERATIONAL	

ACTIVITIES

I arrived on site @ approx. 9:30 A.M. I observed that no work was taking place in the northern portion of the site (bounded on the south by the concrete apron and on the north, east, and west by the site boundaries). I observed two men with a dollie handling drums on the adjacent Rifkin Property. It appeared as though trenches excavated during previous work, apparently to lay conduit, had been backfilled, with the exception of the area in the vicinity of the recently discovered underground storage tanks (2 UST's). Open trenches that remained open at the time of my observation appeared to be a trench along the fenceline on the west side of the northern portion of the site, which I will refer to as the "fenceline trench", and a perpendicular trench (running east-west) branching off the fenceline trench. The fenceline trench appeared to run from about 10 feet north of the concrete apron, for about 140 feet, to about 100 feet north of the exposed tanks.

18AUG88

COPIES:

SIGNED: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W ENVIRONMENTAL CAP Date/Day: 7/26/95

An oily liquid appeared to be pooled at the bottom of the trench running perpendicular to the fenceline trench. I observed pink ⊕ symbols in the vicinity of LF-7, apparently an attempt to locate LF-7, the monitoring well that, according to Mike Spence (superintendent for Power Engineering) during a previous discussion with me, was inadvertantly buried by Dyco. I observed no indication that LF-5 or LF-B2 had been located, except for an orange stake in the vicinity of LF-B2 that was unmarked, and therefore may or may not be related to LF-B2. At approx. 10:30 A.M. I observed that the Power trailer was locked. Shortly thereafter, Mike Spence arrived on site. Mike Spence said that Power had done no work to locate the buried wells in the northern portion of the site, and that he had heard that location of the wells LF-5 and LF-B2 was to be discussed between Dave Gustafson of Sherwin-Williams and Mark Knox of Levine-Fricke. He also said that no one had told him not to proceed, that he would assume that he should (Power should) continue working in the northern portion of the site, and that the buried monitoring wells were not his concern. I stated my belief that, if the buried wells were to be abandoned, they must be located and properly destroyed according to regulations, not simply left buried. Mike Spence said he agreed. Mike Spence said he had no idea what the orange stake marked, but speculated that it was for grading purposes, and that he assumed Dyco was responsible for the pink ⊕ symbols, the

Signed: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 **Project Name.:** S-W ENVIR. CAP **Date/Day:** 7/26/95

word "WELL?" and the marking "+8'?" drawn in pink paint in the vicinity of LF-7. Later discussions with Kenton Gee of Levine-Fricke revealed that Kenton Gee was responsible for the markings in pink paint. Mike Spence said he guessed that current grade was 2 to 4 feet above old existing grade in the area of the buried wells LF-5 and LF-B2. Mike Spence said that no work was scheduled until Thursday of next week (8/3/95), after the UST's were removed, soil sample results were received, and authorization was granted to proceed in the southwestern portion of the northern portion of the site. Mike Spence said that, on Thursday 8/3/95, Power would lay conduit and backfill remaining open trenches, and Dyco would continue grading work in the vicinity of the buried wells. He said that Dyco was scheduled to bring in rock on Monday 8/7/95, and that the buried wells would be readily accessible until the end of next week (week of 7/31/95). Mike Spence said the trenches that were backfilled were backfilled on 7/14/95 and 7/17/95. I left the site @ approx 11:00 am.

Signed: Alexandra R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

2616.95-003

PAGE 1 OF 2

DATE 8/9/95

	S	M	T	W	TH	F	S
DAY				X			

PROJECT: S-W ENVIRONMENTAL CAP

OWNER: SHERWIN-WILLIAMS

CONTRACTOR: POWER ENGR

WEATHER SUNNY, CLEAR

SITE CONDITIONS

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
POWER ENGR CONTRACTORS	1	0	Mike Spence

EQUIPMENT

ACTIVITIES

I Observed no construction work taking place on the northern area of the site today, Upon brief inspection of the northern area, it appeared as though I-beams had been placed vertically into the ground along a line running east-west accross the northern area, and held in the vertical position apparently by poured concrete, presumably to mark off the future parking area on the northern side of the I-beam line, on the northern portion of the northern area of the site. I also observed that the oily liquid at the bottom of an east-west trench noted previously on the southwestern portion of the northern area of the site had appeared to become more viscous, presumably due to infiltration of water present previously in the liquid as well as evaporation. During a bid walk at the site I came across Mike Spence. He said that Power was currently doing "busywork" at the site and did not plan to do further work until issues were resolved pertaining to removal of the two UST's performed earlier, and missing well location. He also said

184UG58

COPIES:

SIGNED:

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W ENVIR CAP Date/Day: 8/9/95 W

that DRYCO was still responsible for locating LF-7, the monitoring well they buried, but that DRYCO (the grading/earthmoving contractor presumably working under Power) had not been on the site for a relatively long period of time, since Power does not want DRYCO working until Power can finish laying their electrical conduit in the southwestern portion of the northern area of the site. I requested that Mike Spence notify me of the construction schedule when work has been planned to continue. Mike Spence said he would.

Signed: _____

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF ____

DATE 8/23/95

	S	M	T	W	TH	F	S
DAY				X			

2616.95-003

PROJECT: S-W Environmental CAP

OWNER: SHERWIN-WILLIAMS

CONTRACTOR: POWER ENGINEERING CONTRACTORS

WEATHER SUNNY, CLEAR, SLIGHT BREEZE

SITE CONDITIONS DRY

TEMPERATURE ____

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
POWER	0	0	
DRYCO	0	0	

EQUIPMENT

Front End Loader 1T28B (parked)	
Backhoe 416 (parked	
DRYCO (water truck?) (parked)	

ACTIVITIES

I arrived on-site @ approx 10:45 a.m. I observed that Power's trailer was locked (the gate). I observed no workers from either Power or DRYCO on-site. I walked the site to examine what if any work had been done. I recalled Mike Spuce of Power telling me that the northern portion of the site (the raised area) west of the tracks and north of the lower [redacted] area (that was currently unpaved) had passed compaction tests and was ready for base rock to be placed (this was during a telephone conversation that took place Tuesday 8/15/95). He said that, since trenching work was completed, DRYCO would finish up earthmoving and compaction work east of the tracks and in the lower area, then bring in their base rock. He also said that missing wells that he had taken responsibility for would be found and brought up to new surface grade. He also said that existing skirts on existing monitoring wells would be replaced by traffic rated

18AUG88

COPIES:

SIGNED: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir CAP Date/Day: 8/23/95 W

skirts or bores and lids (this was all during the aforementioned telephone conversation). It appeared that new skirts had been placed on LF-4 and LF-7 (which apparently had been found). I saw no traces of LF-5, LF-B2, or LF-8. There appeared to be new bores ~4'x4'x1' set up within ten feet to the west of the [redacted] on-site railroad tracks in the lower area and between the raised area and the tracks, to be covered with, apparently, ~3' diameter steel lids. These boxes were approx 1' above current grade. They appeared to contain two stubbed-up pipes/conduits/casing, one of which appeared to contain a polyline (pull rope?) while the other was covered. I [redacted] guessed that these boxes could be extraction well heads. It appeared that the area to the east of the tracks had been graded and compacted with the exception of two ~25 foot long, 2 foot wide trenches running parallel to the Rifkin property line in the vicinity of LF-7. I observed that no base rock had been brought in [redacted] to any of the areas. In the aforementioned telephone conversation, Mike Spence said that DRYCO was experiencing difficulties in scheduling their base rock. I observed that there was a roughly 2-3 foot tall mound of soil in the vicinity of LF-4. I could

Signed: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-005 Project Name.: S-W Envir CAP Date/Day: 8/23/95 W

not be certain as to the status of earthwork in the lower area. I observed what appeared to be possibly a monitoring well casing/pipe approx. 15 feet south of the northern boundary of the site. I guessed that this could possibly be LF-8 as Mike Spence had described it, although it was not [redacted] stubbed up within a white skirt with a steel lid as were the other monitoring wells I had observed on-site. I could not remove the apparently makeshift lid placed on [redacted] what appeared to be the casing. I observed that what appeared to be the casing was apparently damaged and was now shaped less like a circle (along the plane of the earth) and more like a painter's palette. [redacted] I was leaving the site @ approx 11:45 am when I observed that the trailer was unlocked (Paver). I met Mike Spence of Power in the trailer and briefly discussed the progress of the construction work. He said DRYCO may be on-site on Friday to place lighting poles. He said DRYCO planned to do compacting work on Saturday and Monday, and could possibly do compaction tests by mid-Monday. He said that the base rock was scheduled to come to the site on Tuesday. Mike estimated that [redacted] work would be completed by the second or third

Signed: Alexander R. Jantz

Project No.: 2616.95-003 Project Name.: SW Envir CAP Date/Day: 8/23/95

(sherwin-Williams)

week in October. I asked Mike if Dave Gustafson had contacted Mike about encapsulating pea gravel with geotextiles in the electrical conduit trench as discussed during our aforementioned telephone conversation, and I informed Mike that I had sent Dave Gustafson a memo to let him know that the pea gravel was not encapsulated. Mike said that Dave had not contacted him or given him instructions regarding the pea gravel encapsulation, that he still believed that encapsulation was unecessary and did not agree with the basis for Michael Glaser's (Levine-Fricke) recommendation, and that, he admitted, since it had been some time since the storm drain trenches had been backfilled, he just plainly forgot to do it (encapsulate the pea gravel). He identified the well by the northern boundary as LF-8 and said that the condition it was in ~~was~~ the condition it was found. He verified that the two trenches by the Rifkin property were dug looking for LF-7 and would need to be backfilled. He said the mound of soil on the raised area would be deposited towards the northwest corner of the site. He said LF-5 and LF-B2 had not been found. He said he thought that two of the new ~4'x4'x1' boxes were placed on what was the recently installed extraction wells EX-1 and EX-2 and that Doner filled the bottoms of the boxes with grout and pulled polyline [redacted] between the vicinity of the treatment system where the conduit came out of the ground and EX-1 and EX-2. He

Signed: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir CAP Date/Day: 8/23/95 Tu

said that the new skirt I had observed around LF-4 and LF-7 was actually the casing for the two wells which was raised to the new grade. He said that the space between the PVC pipe and the casing was grouted by Power. He said Power did not install the new extraction wells and had assumed that Kenton or Levine-Fricke had installed them.

Signed: Alexander R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF ____

DATE 8/28/95

	S	M	T	W	TH	F	S
DAY		X					

2616.95-003

PROJECT: S-W Environmental CAP

OWNER: Sherwin-Williams

CONTRACTOR: Power

WEATHER Sunny, Clear, Light Breeze out of W

SITE CONDITIONS ~

TEMPERATURE ____

VISITORS

Miles Grant w/ Smith Enery

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power	1		Mike Spence
Dyco	1	3	

EQUIPMENT

Front End Loader 50EX	
Water Truck (parked)	
Hypac Compactor (parked)	

ACTIVITIES

I arrived on site @ approx. 1:30 pm. I checked for wells with Kenton Gee. All wells except for LF-5 and LF-B2 were accounted for [redacted] in the northern portion of the site. I observed that there were men working in the northern portion of the site, presumably from Dyco, walking the site, apparently clearing debris, driving stakes, and performing minor work. I observed that the boxes (vaults) placed over the extraction wells EX-1 and EX-2 [redacted] had solid concrete bottoms, apparently poured after the box was set, that contained no weepholes or other forms of drainage. I further observed that the ~3 foot diameter covers of the box did not appear to be watertight as they did not contain any gaskets or other rubber-like seal. I spoke to Mike Spence of Power. He said that no drainage

COPIES:

SIGNED: Alexander R. Jenkins

18AUG88

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir Cap Date/Day: 8/28/95 M

was specified but that he could easily drill holes in the roughly 4" of concrete at the bottom of the boxes. He also said that he was under the impression that the boxes were to be watertight. I pointed out that there were no seals on the cover or on the seat. He said that he was concerned that Dyco personnel had broken some electrical conduit, but that they told him they would fix it. Miles Grant of Smith Emery said that all northern areas of the site passed with above 90% compaction that Mike Spence said was required. Mike Spence said that Dyco would begin bringing in their base rock tomorrow. Miles said that Mike had told him that Dyco had not finished work at the far northern side of the site, but Miles said that compaction was 92% there, while it was about 98% to 100% elsewhere. I left the site @ approx 2:30 pm. I had also observed, before leaving, that all grading work appeared to be complete, and that I did not see previously mentioned mounds or trenches (they were apparently moved or backfilled

Signed: Alexander R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

DATE 8/29/95

	S	M	T	W	TH	F	S
DAY			X				

2616.95-003

PROJECT: S-W Environmental Cap

OWNER: Sherwin-Williams

CONTRACTOR: Power Engr Contractors
Dyco

WEATHER Sunny, Warm, Light Breeze

SITE CONDITIONS

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Dyco		4	Supervisor in Water Truck?

EQUIPMENT

Roller Compactor C850 B Hypac	Belly Dumps X ~~IIII~~ II
Grader 12 G	Water Truck Dyco
End Dump X II	Front-End Loader 50ex w/4 in 1 bucket and rear blade

ACTIVITIES

I arrived on site @ approx 11:15 am. I observed that the Power trailer was unlocked. I observed that the compactor and grader were working on the lower area of the northern portion of the site west of the on-site RR tracks and south of the raised area. Apparently, base rock had been brought in to the lower area. It appeared as though the grader finished grading the lower area then moved to the raised area. I observed the water truck water the [redacted] raised area as [redacted] one end dump and five belly dumps dumped what appeared to be base rock on the raised area. I observed the grader spread out the base rock on the raised area. It appeared as though the loader operator was using the rear blade to clear debris and coarse materials from the area east of the RR tracks. It appeared as though the [redacted] raised area was being well-watered. I could not find well LF-8 as it

18AUG88

COPIES:

SIGNED: Charles R. Jenkins

Project No.: 2616.95-003 **Project Name.:** S-W Envir. Cap **Date/Day:** 8/29/95 Tu

was marked yesterday (orange lid was clearly visible and stake sticking out of casing was painted orange). I asked the loader operator where LF-8 was. He indicated that a steel rod, sticking out of the ground at a slanted (45° to 60°) angle held in place by two rocks indicated the location of LF-8. He said Mike Spence said he would remove the roughly 4 inches of soil plus the base rock to uncover the well after the base rock had been placed over it. I asked if Dryco personnel were 40-hour trained. The loader operator said they were. I saw LF-4 and LF-7 clearly marked. I checked the area where the two wells were in the [redacted] western side of the site near the [redacted] current edge of the concrete apron. I saw one white well skirt and one pvc pipe sticking out of the ground. Also nearby was a wooden stake tied to a steel rod with orange ribbon sticking out of the ground. I presumed that either the stake and rod or the PVC pipe was the other well. I observed the Dryco personnel break for lunch then headed to the trailer and spoke to Mike. Mike confirmed what the loader operator said about how Mike Spence said that [redacted] Power agreed to uncover LF-8 after base rock had been placed. Mike said that the well should have been

Signed: Alexander R. Jenkins

Project No.: 2616.95-003 **Project Name.:** S-W Envir Cap **Date/Day:** 8/29/95 Tu

staked out better than I had described. I asked Mike Spence about the construction of the extraction well vaults, specifically if any expansion material or seal had been placed around the piping when the concrete bottom was poured. He said no, and that concrete had been chipped out around the pipes for most of its thickness, and that expansion material could be placed later and that he planned to seal the space with seca (sp?) sealant. I asked his reasons for doing this. He said he had no expansion material available at the time and was feeling pressure from the treatment system contractor to complete the extraction well boxes although, he added, specific work (that was dependent on the boxes being completed) was not done for at least one or two weeks after the boxes were placed. When I left the site @ approx 12:38 pm, Dyco personnel were working and base rock appeared to be arriving.

Signed: Alexander R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

DATE 9/5/95

	S	M	T	W	TH	F	S
DAY			X				

PROJECT: S-W Environmental CAP

OWNER: Sherwin-Williams

CONTRACTOR: Power Engr Contractors

WEATHER Sunny, Warm, Light breeze intermittent

SITE CONDITIONS

TEMPERATURE

VISITORS

Guy from Smith-Emery Geoservices

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power	1		Mike Spence
Walker's Concrete	1	2	2 workers were temps

EQUIPMENT

1 Concrete Mixer Truck #118	

ACTIVITIES

1 arrived on-site @ approx. 1:30 pm. I observed that no asphalt had been placed yet. I observed that a series of wooden boards had been placed to form a rectangular box, presumably as a mold for the concrete pad to be poured in. I observed that this rectangular box ran east-west and was located in the lower area west of the on-site RR tracks in the southern area of the northern part of the site. The man I had originally observed and assumed was the supervisor left in the concrete mixer truck shortly after I arrived. The other two workers appeared to be smoothing out concrete that had been poured in the western 1/3 to 1/2 of the rectangular box. Mike Spence of Power said the two men were temporary employees who were OSHA 40-hour trained. I observed Mike Spence occasionally smoothing out concrete, apparently for the benefit of the men. Mike Spence said that concrete work would stop soon at a cold joint, and the rest would be poured tomorrow. Mike Spence said that the man currently on

IBAUG88

COPIES:

SIGNED: Alexander R. Jenkins

Project No.: 2616.95-003 Project Name.: S-W Envir CAP Date/Day: 9/5/95 Tu

site had taken concrete samples (man from Smith-Emery LeoServices), and that another man from Smith-Emery had taken compaction tests of the base rock previously. Mike Spence said that compaction of the base rock was at 95% everywhere except for one test location towards the north of the site where the compaction was 91%. I did not see a hard-copy of the test results. Mike Spence said that required compaction of the base rock was 90%. I would later return to the Levine-Fricke office to research necessary documents to determine the required compaction of the aggregate base. At this time I suspected it may be 95%. If so, I believed that the compaction of the base rock would be inadequate. I examined the general area around LF-8 at the northern end of the site. I could not find LF-8. I observed that there was more soil pushed into the NE corner of the site, the N end of the raised area, and in the general vicinity of LF-8. I observed that LF-8 was not marked, and that a stake previously placed at LF-8 when the well was uncovered to mark its location was currently missing. I informed Mike Spence that the stake was missing. Mike Spence did not know the stake was missing, he said, but Dyco (apparently Paver's subcontractor) was still responsible for the well. I examine the extraction well vaults. It did not appear that the space between

Signed: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir CAP Date/Day: 9/5/95 Tu

the concrete vault bottom and the piping (well casing pipe and pipe leading, apparently, back to treatment system) had been sealed yet. Mike Spence verified this observation. I observed that blue tubing came out of the treatment system pipe and ran into what appeared to be a pressure gauge / pulse counter. I observed that green tubing went from the pressure gauge/pulse counter and went into the well casing pipe. I observed that black tubing came out of the well casing pipe and went into the treatment system pipe. I assumed that the blue and green tubing were for air and the black tubing was for ground water. I observed that the temporary well cap (I assumed this well cap would be removed and replaced with a seal) remained atop the well casing pipe with two holes punched or drilled in it. The black and green tubing went through these holes. I observed that the space between the hole walls and the tubing was not sealed, and I was concerned that, if these holes were to be watertight, the holes were not watertight. I would check this against the project documents at the office as well. I left the site at approx. 2:00 pm and would continue writing these notes (from rough notes) at the office.

Signed: Alexander R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

2616.95-003

DATE 9/5/95

DAY: S M T W TH F S — T (X)

PROJECT: S-W Environmental CAP

OWNER: Sherwin-Williams

CONTRACTOR: Power

WEATHER Sunny, Warm, Light breeze intermittent

SITE CONDITIONS

TEMPERATURE

VISITORS

Guy from Smith-Emery

WORK FORCE

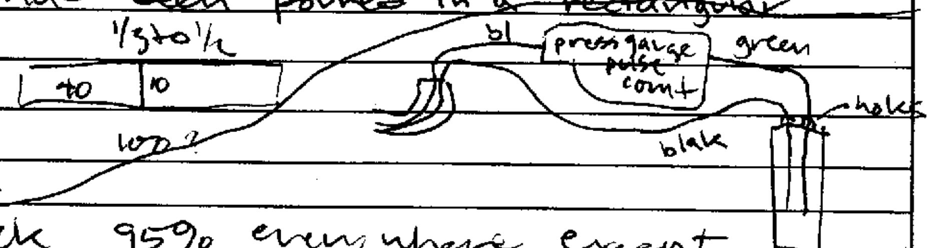
	SUPER-VISORS	WORKERS	REMARKS
Power Engineering Contractors	1		Mike Spence
Walker's Concrete	1	2	

EQUIPMENT

1 Concrete Mixer Truck #118	

ACTIVITIES

I arrived on-site @ approx 1:30 pm. I observed Mike Spence of Power speaking to a man on-site as I arrived. I observed that no asphalt had been placed yet. I observed that the two workers were smoothing out concrete (roughly 10 feet by 40 feet) that had been poured in ~~a rectangular~~



cold joint

base rock 95% everywhere except

91% one place ~~[illegible]~~

- north of site

finish pouring tomorrow

much soil pushed into NE corner site & N end raised

area of LF-8 ⇒ no LF-8 M.S. did not

know stake was gone

18AUG88

COPIES: (ROUGH NOTES

SIGNED:

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF ____

DATE 9/12/95

	S	M	T	W	TH	F	S
DAY			X				

2616.95-003

PROJECT: Sherwin-Williams Environmental Cap

WEATHER overcast

OWNER: Sherwin-Williams

SITE CONDITIONS ____

CONTRACTOR: Power

TEMPERATURE ____

VISITORS

3 men apparently working for Sherwin-Williams on the on-site railroad tracks

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power	1		Mike Spence
Dryco	1	5	

EQUIPMENT

1 water truck Dryco	3 Dryco pickup trucks
1 front-end loader w/4in1 50EX	1 Dryco End-Dump
1 Compactor Roller (not currently in use) Ingersoll Rand	

ACTIVITIES

I arrived on-site @ approx 9:30 am. I observed Mike Spence of Power Engineering Contractors on-site. I observed Dryco personnel working on the northern part of the site, "the work area," banded roughly by the site boundaries to the north, west, and east (at the Rifkin property) and the concrete apron to the south. Mike Spence informed me that the non-Dryco personnel I observed working on the rail road tracks on-site on the work area were not Power's subcontractors, but were working for Sherwin-Williams. I observed the water truck wetting down the "lower area," the area west of the on-site RR tracks and south of the "raised area," banded on the west by the site boundary and to the south by the concrete apron. I observed the loader making repeated passes on the lower area north of the concrete pad that was poured the previous week, apparently using

COPIES:

SIGNED: Alexandra R. Jenkins

IBAUG88

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir. Cap Date/Day: 9/12/95 Tu

its bucket and rear blade to prepare the lower area so that asphalt can be placed. After moving soil by the loader, a laborer, sometimes two, was raking the soil, apparently to smooth it out. Apparently, the plywood used to form a mold for the concrete pad had been removed. Laborers from Dyco were observed using edging tools, apparently to smooth out the edges of the concrete pad. I observed a man arrive on-site who began working in the work area shortly after speaking to Mike Spence. I will refer to this man as the "independent laborer." [redacted] I asked Mike Spence about the indep. laborer. Mike Spence said he was 40-hour OSHA trained, as are all the laborers from the company he usually gets them from. He said the indep. laborer was going to do odds-and-ends work such as move lumber, dig ditches, etc. He said the indep. laborer was currently digging a ditch around the electrical conduit stub up located in the lower area just south of the concrete pad and west of the on-site RR tracks that was to supply power to the light poles. He said that the location of the conduit would be adjusted as it was in the wrong place. I observed a Dyco end dump arrive @ approx. 10:10 am and drop a load of base rock in the southeastern corner of the work area. I asked Mike Spence why base rock was being

Signed: Alexander R. Jenkins

Project No.: 2616.95-003 Project Name.: S-W Envir Cap Date/Day: 9/12/95 Tu

brought in since I was under the impression that all work to place and compact base rock was completed. He said it was probably needed as Dryco completed their fine grading, scheduled for today, so they could begin placing asphalt tomorrow. He further said the area between the RR tracks (between each track) would need to be dug up and base rock placed there. I proceeded to walk the site. I observed that LF-7 appeared to be at finished grade with a new concrete [redacted] skirt. I observed both an orange rod and an orange stake [redacted] were protruding from the ground [redacted] in the area where LF-8 was located. I examined EX-1. I observed that expansion material / sealant had not yet been placed around the piping as discussed in previous notes. I observed that LF-4 had been brought apparently to finished grade (the corrugated plastic (?) casing pipe had been cut as well as the 2" pvc pipe), and the new concrete skirt and metal lid were placed next to LF-4. It appeared as though concrete boxes had been placed around the stubbed up electrical conduits which had also apparently been cut to grade (the tops of the boxes were slightly above grade and the stubups were just below grade. [redacted] It

Signed: Alexandra B. Jenkins

DAILY CONSTRUCTION REPORT (Continued) Page 4 of _____

Project No.: 2616.95-003 Project Name.: S-h Envir Cap Date/Day: 9/12/95 Tu

appeared as though the bottoms of at least some of these boxes had been grouted, apparently in an attempt to make them watertight. From a distance (since work was going on in the immediate area), it appeared that wells LF-10 and LF-B3 also had been brought to finsked grade and had the new concrete skirts. I asked Mike Spence if the area that had a 91% relative compaction measurement for base rock was further compacted. He said that, yes, Dyco went over that area again, then the sloped areas were hand compacted. He said the area that had previously had a 91% rel. compaction reading was not re-tested after the further compaction. At approximately 10:55, I concluded these notes and proceeded to observe events at the treatment system. At approximately 11:10 pm, I concluded my observation of the treatment system (roughly 15 minutes non-billable time), and I left the site @ about 11:15 am.

Signed: Alexander R. Jenkins

9999\STATNERY\DACNSRPT.CDR:MPM 111594

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 4

DATE 9/13/95

	S	M	T	W	TH	F	S
DAY				X			

2616.95-003

PROJECT: S-W Environmental Cap

OWNER: Sherwin-Williams

CONTRACTOR: Power Engr Contractors

WEATHER Overcast

SITE CONDITIONS

TEMPERATURE

VISITORS

Man apparently from fencing company to talk to Mike Spence

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Paver	1		Mike Spence
Dynco Cnat counting end dump		7	

EQUIPMENT

1 Front End Loader w/4in 1	1 A.B. Brooks End-Dump
2 Roller compactors	1 Greg's Trucking End-Dump
1 Water Truck	1 Trident Trucking End-Dump, etc.
1 Dynco End Dump	2 Dynco Pickup Trucks
	1 Track-Mounted CR361 Asphalt Paver Grayhound

ACTIVITIES

I arrived on site @ approx. 10:30 am. I observed that the "work area" was bounded by the site boundaries to the N, E (Rifkin property), and W (RR tracks), and the concrete apron to the S. It appeared as though asphalt had been laid on the "lower area" S of the raised area, N of the concrete apron, W of the on site RR tracks and east of the site boundary. This asphalt appeared to have been placed over most of the lower area from the line coincident with the eastern edge of the concrete pad on the east to the concrete apron to the south to the sloped area bounding the raised area to the north and to the line coincident with the ramp edge at the west of the lower area. I observed that end dumps were bringing in asphalt from off-site that was currently being placed on the "eastern area" east of the on-site RR-tracks. I observed that one Dynco operator was operating the asphalt

TBAUG88

COPIES:

SIGNED: Alexander R. Jenkins

Project No.: 2616.95-003 Project Name.: S-W Envir. Cap Date/Day: 9/13/95 W

placing machine while 2 men from Dryco appeared to be checking asphalt thicknesses and adjusting either side of the blade (on the rear of the asphalt placing machine) to lay out the correct thickness of uncompacted asphalt presumably. I observed one compactor making passes over the lower area. I did not observe the water truck making runs for netting down the work area. I observed Dryco labarers utilizing rakes and shovels working the asphalt in the eastern area. Note that it did not appear that asphalt was currently being placed right up to the edge of the on-site RR tracks. I asked Mike Spence how he interpreted the plans and specifications for the thickness of the asphalt being placed in the work area. He said that he interpreted them such that heavy duty areas as shown on the plans should receive 4" thick asphalt (the lower area that appeared to have had asphalt placed on it currently and an area east of the on-site RR tracks near the SW corner of the Rifkin property) and light duty asphalt should receive 2" thick asphalt (other remaining areas). I reminded him that the plans showed 2'2" thick asphalt on light duty areas that I felt was a mistake. I asked Mike Spence if tack coat (section 10177 on asphaltic concrete paving part 3.07) had been applied where the asphalt currently

Signed: Alexander R. Jarbi

Project No.: 2616 95-003 **Project Name.:** S-W Envir. Cap **Date/Day:** 9/13/95 W

abutted the vertical edges of the concrete pad and apron, and whether tack coat would be applied to other vertical edges such as the edge of the Rifkin property. I also showed him the section of the specs previously noted here. After a brief discussion with Dynco personnel, Mike Spence said that no tack coat had been applied yet. He said that the asphalt currently being rolled in the lower area was the first 2" lift, and that when the next 2" lift would be placed (this apparently was a heavy-duty area as shown on the plans), tack coat would be applied. Also, he said, tack coat would be applied to all vertical edges such as along the Rifkin property as required. I asked Mike Spence if [redacted] bituminous prime coat had been placed on the aggregate base prior to asphalt pavement being placed. He said that, no, there was nothing between the aggregate base and the asphalt. [redacted] I showed him [redacted] sheet YSLO 308L "asphalt pavement" section #2 on the legend. [redacted] I observed Mike Spence return to the Paver trailer to notify, he said, Bill Berning. He returned and said he could not reach anyone. He added that, typically, nothing is placed between aggregate base and asphalt pavement and stated that he thought that, since the plans were prepared in

Signed: Alexander R. Jenks

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.99-003 Project Name.: S-W Envir Cap Date/Day: 9/13/95 W

Ohio, that the specification to place bituminous prime coat between the aggregate base [redacted] and the asphalt pavement may apply in Ohio but not [redacted] here. At approx. 12:00 pm I walked to the treatment system and spoke with Joe Erard Jr. of Sherwin-Williams. I walked him over to [redacted] one of the extraction wells and pointed out how the tubing ran into the well through a cap with holes punched in it. I brought up possible concerns with not sealing the holes, namely water injecting the zone which I understood was to be effectively dewatered and volatilizing contaminants which may escape into the well vault and/or atmosphere. I noticed a rubber gasket around where the wellvault cover was to sit, which I had not previously noticed, apparently to make the vault watertight. We also briefly spoke about the progress of the startup of the treatment systems and extraction system. Dyco personnel were still on-site, presumably performing asphalt work when I left the site @ approx 12:30 pm.

Signed: Meredith R. Jenkins

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 2

DATE 9/14/95

	S	M	T	W	TH	F	S
DAY					X		

2616.95-003

PROJECT: S-W Environmental Cap

OWNER: Sherwin-Williams

CONTRACTOR: Power Engineering

WEATHER Overcast

SITE CONDITIONS

TEMPERATURE

VISITORS

Brian in Marketing from Dyco to take Pictures
End-Dumps bringing in asphalt

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power Engr Contractors	1		
Dyco	1	7	

EQUIPMENT

2 Dyco Pickups w/ oil trailer	1 Asphalt Paver
1 Roller Compactor DD-32	1 Jumping Compactor BX-6
1 Front End Loader	

ACTIVITIES

I arrived on site @ approx 9:00 am. I took seven pictures of the asphalt work and the conditions of monitoring wells for documentation. I spoke briefly to Mike Spence. I observed Dyco working in the northern part of the site continuing their paving work. Mike Spence said he had spoken to Bill Benning. Mike Spence said that Bill had told him to place the bituminous prime coat [redacted] between the aggregate base (AB) and the asphalt in as many areas as possible. Mike indicated where asphalt work was stopped yesterday [redacted] on the [redacted] light-duty area east of the tracks, roughly in a line perpendicular to the Riffkin property boundary. Mike said that the oil for the tack coat and the prime coat could not be available until today, [redacted] and was used [redacted] in all areas today. I observed that the prime coat had been applied. Mike said that he observed tack coat being applied to the Riffkin

COPIES:

SIGNED: Christopher R. Jenkins

18AUG88

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.95-003 Project Name.: S-W Envir. Cap Date/Day: 9/14/95 TH

property wall. Mike Spence said the tack coat was applied, as planned all along, to the lower area S of the raised area (the heavy-duty area), via brush mop out of a bucket before the second lift was placed (see yesterday's notes). I walked the site and found LF-B3, LF-10, and LF-8, visible, surrounded by asphalt, and having new skirts and lids, apparently. I left the site @ approx. 10:15pm. I observed Dan, the operator for power engineering operating what appeared to be the IT28B loader in the area between the warehouse and the current parking area (arsenic area), performing work Mike Spence had said (during the aforementioned conversation) related to this project per agreement ~~bet~~ween Dave Gustafson and Danny of Power

Signed: Alexandra R. Jenkins

LEVINE•FRICKE

PAGE 1 OF 2

DATE 9/18/95

DAILY CONSTRUCTION REPORT

(NOTE THIS IS THE CORRECT # .94 NOT .95)
26016.94-003

	S	M	T	W	TH	F	S
DAY		X					

PROJECT: S-W Environmental CAP

WEATHER Sunny, Clear, Warm

OWNER: Shemwin-Williams

SITE CONDITIONS

CONTRACTOR: Power Engr Contractors

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Dryco	1	6	

EQUIPMENT

1 Roller Compactor DD-32	1 Hand Compactor not in use
2 Pickup Trucks DRYCO w/1oil trailer	
End Dumps X2 (one in use)	

ACTIVITIES

I arrived on site with Mark Knox (L•F) at approximately 3:30 pm I briefed him on recent site activities as I made my observations. I first looked for Joe Evard of Shemwin-Williams to inform him about the status of the samples he had taken 9/15/95 (Friday), but I could not find him. I observed that the Power trailer was locked and that Mike Spence of Power was not on site. I observed seven men working in the northern area of the site (the area bounded by the concrete apron to the south and the site boundaries to the north, east, and west) presumably for Dryco, presumably a subcontractor to Power Engineering Contractors. I observed the men doing asphalt work in a sloped area between the raised light-duty parking area (north of the lower heavy-duty area) and the on-site RR tracks. I observed that the paving machine was not being used as previously, as I had expected. I observed that most areas had been paved with asphalt. I observed

18AUG88

COPIES:

SIGNED: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616-94-003 Project Name.: S-W Envir CAP Date/Day: 9/18/95 M

that unpaved areas included sloped areas between the raised area and the on-site tracks south of the area where the men were currently working and between the raised area and the lower area. I observed that asphalt had been placed up to the edge of and in between the on-site tracks. I observed the area where the asphalt ended at the south in the vicinity of the on-site tracks. It appeared as though the asphalt in this area was slightly cracked. I could not be certain that the concrete was feathered and tack coat was applied under the asphalt here. I walked the site and took a quick inventory of the monitoring wells. I observed that wells LF-7, LF-8, LF-4, LF-10, LF-B3, and LF-3 were clearly visible in the paved area, all presumably set with new traffic-rated boxes (not considering LF-3, which I didn't inspect closely). I observed that LF-10 did not have a lid, while the other aforementioned wells did. I observed that the aforementioned unpaved sloped areas appeared ~~to~~ have a bituminous prime coat placed on the base rock (aggregate base). Mark Knox left the site at approx. 4:15 pm. I left the site at approx. 4:45 pm

Signed: Alexander R. Jenkins

TO FILE 2616.94-003

PAGE 1 OF 4

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

DATE 9/21/95

	S	M	T	W	TH	F	S
DAY					X		

2616.94-003

PROJECT: S-W Environmental CAP

WEATHER Mostly Cloudy; Light Breeze

OWNER: Sherwin - Williams

SITE CONDITIONS

CONTRACTOR: Power Engr Contractors

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power Engineering Contractors	1		Mike Spence

EQUIPMENT

ACTIVITIES

I arrived on-site @ approx 11:15 am. I met with Joe Evard (S-W) and Gary Wettstein (L-F) to discuss treatment system matters. Relating to the construction, Joe said someone had broken the bolt on the manway cover and he could not get the cover off as the bolt was still in its hole. Also, I expressed my concern that a tank to be delivered [redacted] in the afternoon would need to drive over the new asphalt. Joe said trucks (18-wheelers) have been driving into the area of the treatment system for the past few days, so he figured that it would be okay. I spoke to Mike Spence at about noon. Earlier, Roger Leventhal (L-F) had told me that Dave Gustafson (S-W) had requested that I check for cracks he had observed during a previous visit in the concrete close to the treatment system. I understood that Dave was concerned that the recently (relatively) placed concrete was

18AUG88

COPIES:

SIGNED: Deborah B. Neely

Project No.: 2616.94-003 **Project Name.:** S-W Envir. CAP **Date/Day:** 9/21/95

cracked already (so soon after it had been placed). Before speaking to Mike S., I walked the areas by LF-3, the Arsenic area (currently a raised parking area), the triangular area (below and including the ramp to the arsenic area, and the truck turnaround area. I walked these areas again with Mike S. I brought to Mike's attention the status of the manway cover as described by Joe. This appeared to be a surprise to Mike. I asked Mike S. if it would be okay for the truck pulling the tank to drive over the asphalt at the edge of the northern area of the site which was freshly paved. He mentioned that even [redacted] Dyco, the subcontractor to Power, which did the paving work in the northern area, was driving its trucks over the asphalt, as well as other large trucks did on their way to the truck turnaround area from the entrance. I mentioned to Mike S. Dave Gustafson's comment about cracks in the concrete areas mentioned earlier. Mike showed me the areas where Power had placed new concrete and where old concrete was left. Mike also showed me areas where he said old concrete was so cracked that it was removed per agreement with Dave G. and asphalt was placed in its place. Mike explained that areas in the new concrete which I observed to be cracks were joints in the concrete.

Signed: Alexander R. Jenkins

Project No.: 2616.94-003 **Project Name.:** S-W Envir CAP **Date/Day:** 9/21/95 Th

Aside from these joints which I observed mainly in the triangular area and the truck turnaround area, I observed several cracks in the new concrete around the trench drain running perpendicular to the length of the drain. Mike said he estimated that these cracks were only 2 inches deep while the trench drain concrete was roughly 18 inches deep. Mike indicated that the entire triangular area would be overlayed with new asphalt per agreement with Dave G. . I observed areas where concrete had apparently been removed and replaced with asphalt. Mike said this was done per agreement with Dave G. because the concrete was cracked badly (worse than the triangular area where asphalt would be overlayed over existing concrete). Mike S. said the original plan (according to the plans and specs, although I didn't verify this) was to seal all asphalt and old and new concrete within the slurry wall with slurry seal. He said that Dave did not want concrete sealed with slurry seal since the slurry seal was black, but it was okay for asphalt. He said Dave wanted a transparent sealant to be applied to the concrete. He said Dave, in addition wanted to seal cracked concrete with another crack sealant. He said that the sealant costs for areas of concrete that

Signed: Alexander R. Jenkins

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.94-003 Project Name.: S-W Envir. CAP Date/Day: 9/21/95 Th

were badly cracked was too high for Dave, so these areas were being overlayed with asphalt (more cracks result in more crack sealant to be used) then would be slurry sealed. He said Dave had wanted Power to use a Sherwin-Williams product for the transparent concrete seal and the crack seal. He said he understood that the concrete would first be sealed with the transparent seal and then the cracks would be sealed. He said when phase I of the construction was completed and the arsenic area was covered in asphalt, that this asphalt was sealed with a fog seal, not a slurry seal. He said that the placing of sealant over the asphalt and concrete (the specifics of the sealing) would be decided via discussions between S-W and Power (he said this several times). He added that Dave G. was currently in Brazil. He was not sure of any time requirements in placing of sealant.

Signed: Alexander R. Dennis

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 2

DATE 10/11/95

	S	M	T	W	TH	F	S
DAY				X			

2616.94-003

PROJECT: Sherwin-Williams Envir. CAP

OWNER: Sherwin-Williams

CONTRACTOR: Power Engineering Contractors

WEATHER Overcast Clearing

SITE CONDITIONS

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
Power	1		Mike Spence
Dyco	1	2	

EQUIPMENT

2 mobile slurry seal pugmills	

ACTIVITIES

I began observations of construction activities @ approx. 9:45 a.m. I had been on-site since about 9:00 am working on treatment system start-up. I observed that chain-link fencing had been placed parallel to the Rifkin property and the northern boundary of the site, as well as in other areas in the northern, ashphalted area of the site, since my previous daily construction report. I observed three men from Dyco, presumably working as a subcontractor to Power, utilizing brooms to apply slurry seal (between the new chain link fencing and the Rifkin property and northern fencing) to asphalted areas. The slurry seal was presumably premixed and was currently being applied from a bucket. I observed that the northwestern corner of the site had apparently received a slurry seal coat already. I observed Dyco using the mobile slurry seal pugmill to apply the slurry seal to the area east of the on-site tracks and west and south of the new chain-link

18AUG88

COPIES:

SIGNED: Alexander R. Dalton

DAILY CONSTRUCTION REPORT (Continued)

Project No.: 2616.94-003 Project Name.: S-W Envir. CAP Date/Day: 10/11/95 W

fencing, beginning in the north. I observed Dryco using a hand-held blower to clear particles and debris apparently from the southeastern part of the northern, asphalted area, presumably in preparation for slurry sealing. I caught the end of a conversation between Michael Glaser of Levine-Fricke and Mike Spence of Power Engineering Contractors. Mike said that he planned on Dryco completing much of the northern asphalted area and the Arsenic area today and tomorrow (with respect to slurry sealing) and completing remaining asphalt, such as heavy traffic areas and areas in between the on-site RR tracks perhaps on a weekend day.

Signed: Alexander R. Jarkin

LEVINE•FRICKE

DAILY CONSTRUCTION REPORT

PAGE 1 OF 3

DATE 10/18/95

	S	M	T	W	TH	F	S
DAY				X			

PROJECT: S-W Environmental CAP

OWNER: Sherwin-Williams

CONTRACTOR: Power Engineering

WEATHER Clear; Warm

SITE CONDITIONS

TEMPERATURE

VISITORS

WORK FORCE

	SUPER-VISORS	WORKERS	REMARKS
A&D	1	1	working on or by gate of fenced parking area
Power Engr Contractors	1		Mike Spence

EQUIPMENT

ACTIVITIES

I had arrived on site earlier to do work related to start-up of the treatment system. At approx 10:45, I began a walk-around survey of the site to assess project progress toward completion. It appeared as though the following areas had been slurry sealed (over the asphalt): all of the northern area up to the concrete apron, all asphalted areas along the onsite RR tracks (between the tracks and between the tracks and the trench drain), the arsenic area except for the area enclosed by the Power trailer fence, the triangular area next to the arsenic area, and the area about the former oils tank storage area. Mike Spence said that all [redacted] asphalted areas that needed to be slurry sealed were slurry sealed. I asked if seca sealant had been placed around piping in the extraction wells. Mike said that Dan, a worker for

18AUG88

COPIES:

SIGNED: Alexander B. Jenkins

Project No.: 2616.94-003 **Project Name.:** S-W EnvirCAP **Date/Day:** 10/18/95 W

Power Engineering, told Mike that, yes, he had placed the seca sealant in all the extraction well boxes around the piping (see previous Daily Construction Reports). Mike said Power planned to install a trench drain, piping, and sump/holding facility south of the slurry wall in the truck turnaround area (the drain would run east-west) as a spill control measure per request from Sherwin-Williams. Mike said he had not yet seen the seca sealant work. Mike said that Roger @ Levine-Fricke had informed Dave Gustafson of Sherwin-Williams who had informed Mike that all concrete cracks ≥ 1/8" must be sealed. Mike said that all sealant products require 1/4" cracks minimum and that he was found equipment to enlarge the 1/8" to 1/4" cracks. He said he is working on this with Sherwin-Williams currently. Mike said the area enclosed by the Power trailer fence would be slurry sealed when work was completed and the trailer was moved. I did a quick inventory of Levine-Fricke monitoring and extraction wells. I found LF-7, LF-8, EX-1, LF-4, EX-2, and LF-10, and LF-B3 The tops (covers) of all the aforementioned monitoring wells had been covered with slurry seal. As a

Signed: Alexandra R. Jenkins

Project No.: 2616.94-003 **Project Name.:** S-W Envir CAP **Date/Day:** 10/18/95 W

result, they were all difficult to find and many prove difficult to open. I found LF-B3 directly under a section of chain-link fencing, below a rod attached at both ends to fence posts, between two fence posts. During a previous visit, I observed that the fence posts were placed approximately 3 feet deep. I observed that they were currently sealed in concrete and slurry sealed. The rod was observed to be bolted at both ends to brackets anchored to each fence post. I found LF-3 and EX-3. I observed that all wells had metal lids on them currently. I completed my survey at approximately 11:45 am and proceeded to do work related to treatment system startup. I met Mike again and informed him about the fence covering LF-B3. I observed as he bent fabric sections of the fence and was able to remove and replace the lid of LF-B3. It appeared as though the well casing was accessible and not directly under the fence. However, the Master lock on the well casing cover was filled (the key hole) with enough debris that I could not open it with my key. I continued treatment system work at about 12:00 noon

Signed: Alexander R. Jahn

APPENDIX H

SOIL AND CONCRETE TESTING RESULTS, CAP AND STORM-WATER COLLECTION SYSTEM, BY POWER ENGINEERING CONTRACTORS AND SMITH-EMERY GEOSERVICES

KAISER
SAND & GRAVEL COMPANY
P.O. BOX 580 • PLEASANTON, CALIFORNIA 94566 • TEL. (510) 846-8800

December 22, 1993

TAWAY REDY MIX

Project:

Subject: Clayton 3/4" Class 2 Aggregate Base

Gentlemen:

The 3/4" maximum Class 2 Aggregate Base to be supplied by Kaiser Sand & Gravel Company conforms to the requirements of Caltrans Standard Specification Section 26. This aggregate is produced at the Clayton plant.

The typical physical properties of this aggregate are as follows:

Gradation:	Percent Passing	
Sieve Size	Clayton 3/4" Cl 2 A.B.	Caltrans Sect. 26
1"	100	100
3/4"	96	90 - 100
#4	42	35 - 60
#30	17	10 - 30
#200	8	2 - 9
R-Value	86	78 Min.
Sand Equivalent	41	25 Min.
Durability Index	59	35 Min.
Max. Dry Density		
ASTM D 1557	140 pcf @ 7.8% moisture	
CAL 216	145 pcf @ 7.3% moisture	

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 1

DATE: 01/14/94

CONCRETE INSPECTION REPORT

01/07/94

Inspected reinforcement for placement and grade of steel and placing of concrete at Building #35 ramp footing.

8 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

All work inspected complies with the approved plans, job specifications and the Uniform Building Code.

INSPECTED BY EMP. #1786, Brett Colwell
Workorder #249945

COATINGS ENGINEERING
JAN 2 1 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

0 0
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 2 DATE: 01/20/94

REBAR / CONCRETE INSPECTION REPORT

01/13/94

Inspected reinforcement for placement and grade of steel and placing of concrete at Building #35, 6" load ramp walls.

Inspected the addition of water and slump (water control) at same as above.

Verified truck trip tickets for conformance with mix design.

6 Cubic yards of Walkers Concrete Mix No. 7501213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1693, Gerald Worsley
Workorder #250585

COATINGS ENGINEER
JAN 27 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

2 0
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 3

CONCRETE COMPRESSION TESTS

DATE: 01/20/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/13/94	7501213	4	1693	01:25	10:45	3/3	65	1	0	6
206672	.0	7	3255		LOCATION IN STRUCTURE: 6" LOAD RAMP RETAINING WALLS 1ST LIFT BLDG. #35.										
					COMPLIANCE:										
				4000	01/07/94	5701213	3	1786	00:30	02:00	3/3	50	1	0	6
206675	.0	7	2175		LOCATION IN STRUCTURE: BLDG. 35 LOADING RAMP FOOTING.										
					COMPLIANCE:										

COATINGS ENGINEERING
JAN 27 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

0 0
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 4 DATE: 01/21/94

CONCRETE INSPECTION REPORT

01/14/94

Inspected the placing of concrete at Building 35 loading dock slurry trench.

Verified truck trip tickets for conformance with mix design.

35 Cubic yards of Mix No. 7501213.
1 set of 3 test specimens made.

All work inspected complies with the approved plans, job specifications and the Uniform Building Code.

INSPECTED BY EMP. #1786, Brett Colwell
Workorder #250628

COATINGS ENGINEERING
JAN 27 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 5

CONCRETE COMPRESSION TESTS

DATE: 01/25/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/14/94	7501213	4	1786	00:30	08:30	3/3	55	1	0	6
206952	.0	7	3220		LOCATION IN STRUCTURE: BLDG. #35 LOADING DOCK SLURRY TRENCH.										
					COMPLIANCE:										

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 6

DATE: 01/27/94

CONCRETE INSPECTION REPORT

01/19/94

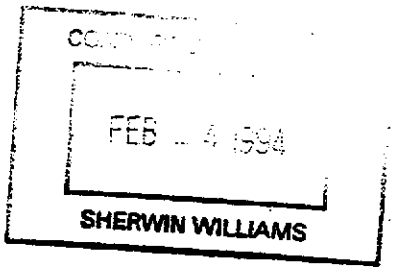
Inspected the placing of concrete at Building 35 loading dock.

25 Cubic yards of Mix No. 7501213.
1 set of 3 test specimens made.

Verified truck trip tickets for conformance with mix design.

All work inspected complies with the approved plans, job specifications and the Uniform Building Code.

INSPECTED BY EMP. #1786, Brett Colwell
Workorder #252000



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 822-8880
Fax (415) 822-5864

January 27, 1994

SECo File No.: 55347
SECo Report No.: 94-035

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

RE: 1450 Sherwin Drive
Emeryville, California

SUBJECT: MAXIMUM DENSITY/OPTIMUM MOISTURE DETERMINATION

STANDARD: ASTM D1557-78

SOURCE: Soil type # 1 was sampled by a Smith-Emery Company representative on January 19, 1994.

REPORT OF TESTS

In compliance with the request of your authorized representative, we have conducted the subject test, as per project requirements for the above referenced project.

The bulk soil sample was returned to our laboratory by our field technician.

Please see the attached graphs for test results

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D GILLIAM
Geotechnical Services, Supervisor

KDG:ccc

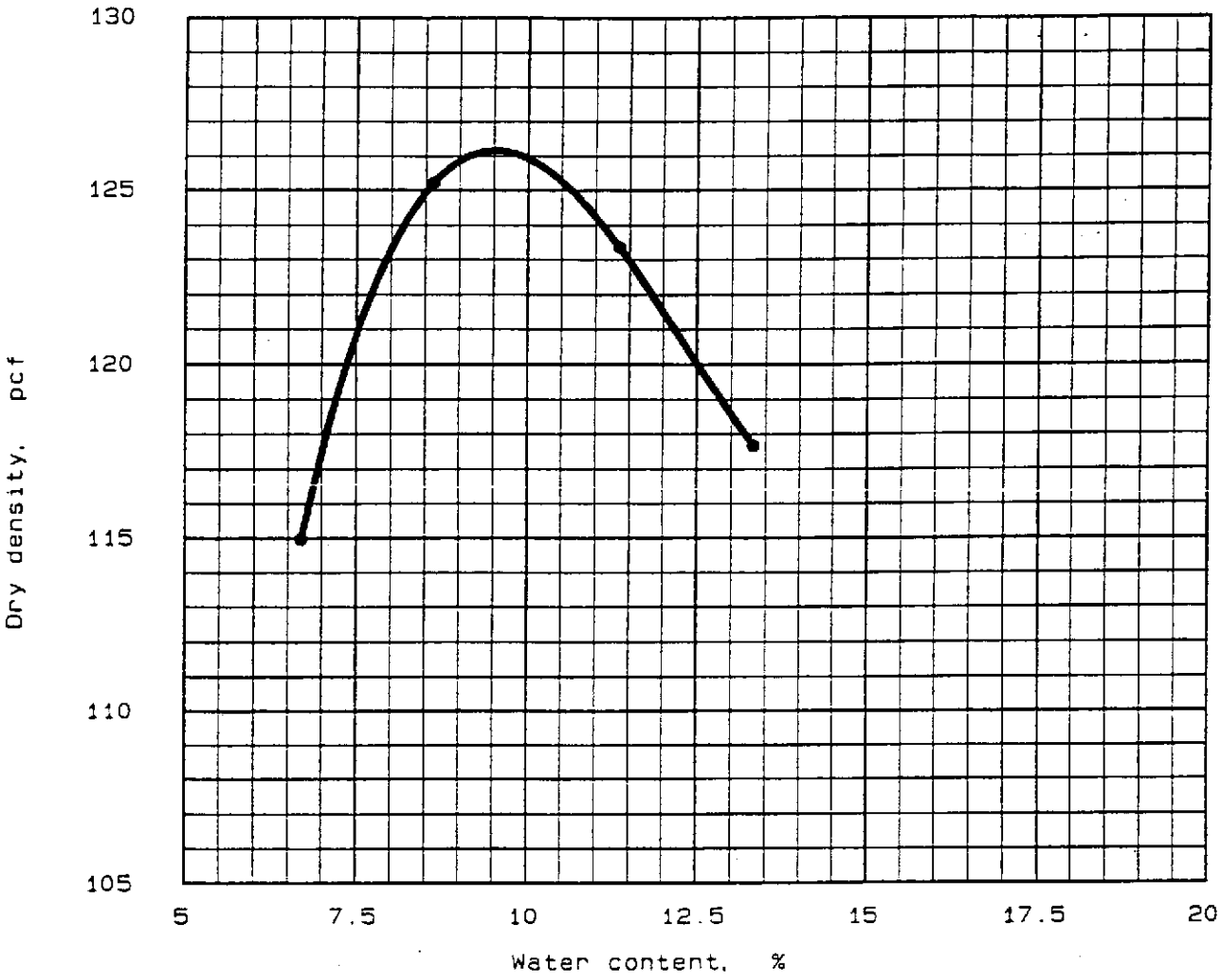
Los Angeles

781 East Washington Blvd.
Los Angeles, California 90021
(213) 749-3411
Fax (213) 746-7228

Anaheim

5427 East La Palma Ave.
Anaheim, California 92807
(714) 693-1026
Fax (714) 693-1034

Compaction Characteristics of Soils



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Grade	NV	NV	NV %		NV	NP		

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 9.5 % Maximum dry density = 126.1 pcf	Grey Aggregate Base

Job No.: 55347
Job Name: Sherwin Williams
Sample Location: On-Site Stockpile

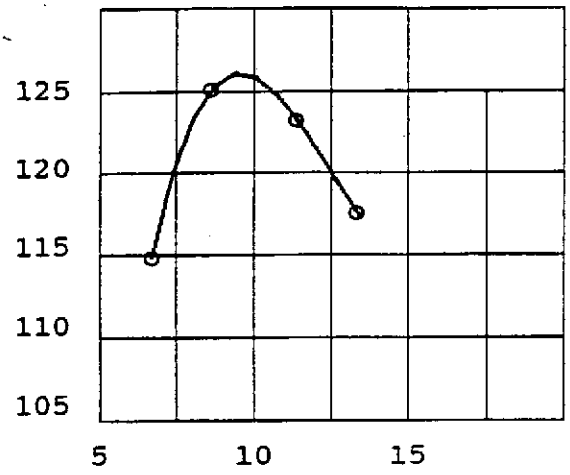
Date: 1-20-1994

Tested by: K. Gilliam
Date: 1-20-94
Sampled by: A.Argyriou
Date: 1-19-94
Remarks:
Import

Smith-Emery Company

Plate No. 1

PROCTOR TEST DATA



Project No.: 55347
Project: Sherwin Williams

POINT NO.	1	2	3	4
WM + WS	21.60	22.60	22.70	22.40
WM	12.40	12.40	12.40	12.40
WW+T #1	339.14	440.11	468.10	478.73
WD+T #1	324.35	413.40	430.90	434.58
WT #1	103.08	103.15	102.76	102.76
MOIST #1	6.7	8.6	11.3	13.3
MOISTURE	6.7	8.6	11.3	13.3
DRY DEN	115.0	125.2	123.3	117.7

Max dry den= 126.1 pcf Opt moisture= 9.5 %

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115
ATTN: BILL BERNING

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

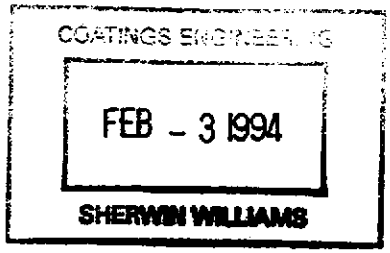
REPORT NO: 7

CONCRETE COMPRESSION TESTS

DATE: 01/27/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	STRENGTH PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/19/94	7501213	4	1786	00:30	08:30	3/3	50	1	0	6
2[illegible]83	.0	7	4155		LOCATION IN STRUCTURE: BLDG 35 LOADING RAMP										
					COMPLIANCE:										



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 8

DATE: 02/03/94

CONCRETE INSPECTION REPORT

01/27/94

Inspected the placing of concrete at Building #3 topping slab over existing slab.

22 Cubic yards of Walker Mix No. 6751911.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #253725

COATINGS ENG'R
FEB -3 '94
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

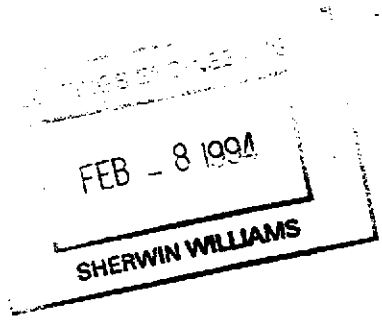
REPORT NO: 9

CONCRETE COMPRESSION TESTS

DATE: 02/03/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/27/94	6751911	4	1243	01:00	09:30	3/3	56	1	0	6
20[illegible]70	.0	7	3325		LOCATION IN STRUCTURE: BUILDING #30 - TOPPING SLAB.										
					COMPLIANCE:										



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 10

CONCRETE COMPRESSION TESTS

DATE: 02/04/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/07/94	5701213	3	1786	00:30	02:00	3/3	50	1	0	6
206675	.0	7 *	2175												
206676	.0	28	4140												
206677	.0	28	4385												

LOCATION IN STRUCTURE: BLDG. 35 LOADING RAMP FOOTING.
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 822-8880
Fax (415) 822-5864

February 7, 1994

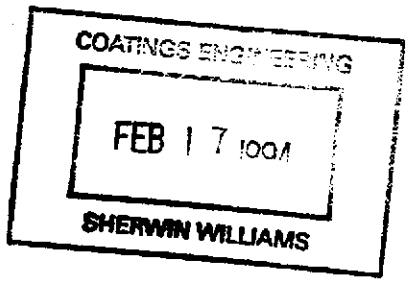
SECo File No.: 55347
SECo Report No.: 94-045

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING



REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

Los Angeles

781 East Washington Blvd.
Los Angeles, California 90021
(213) 749-3411
Fax (213) 746-7228

Anaheim

5427 East La Palma Ave.
Anaheim, California 92807
(714) 693-1026
Fax (714) 693-1034

SMITH-EMERY COMPANY

February 7, 1994

SECo File No.: 55347
SECo Report No.: 94-045

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

ELEVATION KEY		METHOD KEY
SG-Subgrade	FSG-Finish Subgrade	SC-Sandcone
FG-Finish Grade	FAB-Finish Agg. Base	NG-Nuclear Gauge
AB-Aggregate Base	BTM-Bottom	DT-Drive Tube

RESULTS OF DENSITY TESTS

Test No.:	Date	Test Type	Elev. Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
1	2-2-94	NG	FAB	12.0	119.49	95	95	1
LOCATION: BF, DRIVEWAY, EAST END.								
2	2-2-94	NG	FAB	12.2	121.12	96	95	1
LOCATION: BF, DRIVEWAY, CENTER.								
3	2-2-94	NG	FAB	11.9	121.32	96	95	1
LOCATION: BF, DRIVEWAY, WEST END.								
4	2-2-94	NG	FAB	10.1	122.8	97	90	1
LOCATION: BF, TREATMENT PLANT SLAB, NORTH END.								
5	2-2-94	NG	FAB	9.9	120.4	95	90	1
LOCATION: BF, TREATMENT PLANT SLAB, SOUTH END.								
6	2-2-94	NG	FAB	10.2	118.9	94	90	1
LOCATION: BF, TRUCK TURN AROUND, NORTH END.								
7	2-2-94	NG	FAB	10.3	119.5	95	90	1
LOCATION: BF, TRUCK TURN AROUND, CENTER.								

SMITH-EMERY COMPANY

February 7, 1994

SECo File No.: 55347
SECo Report No.: 94-045

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture,(%)
#1	Grey Aggregate Base	126.1	9.5

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: PROJECT MANAGER
OSBORN ARCHITECTS/ENGINEERS
668 EUCLID AVENUE
CLEVELAND OH 44114

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 11

CONCRETE COMPRESSION TESTS

DATE: 02/09/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/01/94	6751911	4	1243	01:15	01:45	3/3	53	1	3	6
209104	.0	7	3750		LOCATION IN STRUCTURE: EQUIPMENT PADS ON SLAB BUILDING #3										
					COMPLIANCE:										

COATINGS ENGINEERING
FEB , 7 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 12

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

DATE: 02/10/94

CONCRETE / REBAR INSPECTION REPORT

02/01/94

Inspected reinforcement for placement and grade of steel and placing of concrete at equipment pads inside Building 30. Mesh and rebar placement as per drawings.

7.5 Cubic yards of Walker Concrete Mix No. 6751911.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

02/03/94

Inspected reinforcement for placement and grade of steel and placing of concrete at hex slab north east of Building 30.

16.5 Cubic yards of Walker Concrete Mix No. 5701213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

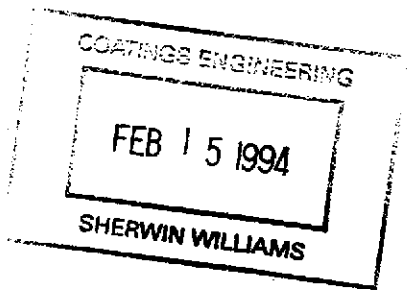
02/04/94

Inspected reinforcement for placement and grade of steel and placing of concrete at treatment slab east of Building 30. 70' x 17'.

40 Cubic yards of Walker Concrete Mix No. 5701213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #255061



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 13

CONCRETE COMPRESSION TESTS

DATE: 02/11/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/13/94	7501213	4	1693	01:25	10:45	3/3	65	1	0	6
206672	.0	7 A	3255		LOCATION IN STRUCTURE: 6" LOAD RAMP RETAINING WALLS 1ST LIFT BLDG. #35.										
206673	.0	28	4845		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
206674	.0	28	4830												

COATINGS ENGINEERING
FEB 2 1 1994
SHERWIN WILLIAMS

SMITH EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

4 0

OB NO: 55347
OB NAME:
OB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

NGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

ECHNICAL CONTACT: BOB PATTERSON

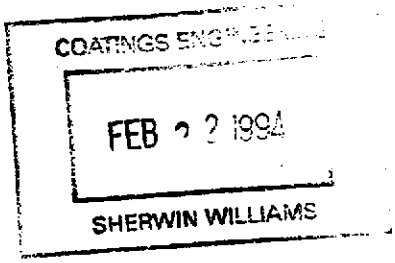
REPORT NO: 14

CONCRETE COMPRESSION TESTS

DATE: 02/11/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/14/94	7501213	4	1786	00:30	08:30	3/3	55	1	0	6
06952	.0	7 *	3220		LOCATION IN STRUCTURE: BLDG. #35 LOADING DOCK SLURRY TRENCH.										
06953	.0	28	5290		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
06954	.0	28	5375												
				4000	02/03/94	5701213	4	1243	00:35	01:35	3/3	55	1	3	6
06951	.0	7	2955		LOCATION IN STRUCTURE: SOG - HEX SLAB NE OF BUILDING 30										
					COMPLIANCE:										
				4000	02/04/94	5701213	4.75	1243	00:40	11:30	3/3	53	2	3	6
06952	.0	7	3095		LOCATION IN STRUCTURE: SOG SOUTH END										
					COMPLIANCE:										



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

3 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 15

CONCRETE COMPRESSION TESTS

DATE: 02/16/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/19/94	7501213	4	1786	00:30	08:30	3/3	50	1	0	6
207383	.0	7 *	4155		LOCATION IN STRUCTURE: BLDG 35 LOADING RAMP										
207384	.0	28	4950		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
207385	.0	28	5220												
				4000	02/09/94	7501213	3.5	1693	00:29	09:40	3/3	64	6	0	6
209921	.0	6	3625		LOCATION IN STRUCTURE: 9" SLAB ON GRADE MIDDLE OF SLAB										
					COMPLIANCE:										

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: PROJECT MANAGER
OSBORN ARCHITECTS/ENGINEERS
668 EUCLID AVENUE
CLEVELAND OH 44114

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 16

DATE: 02/17/94

CONCRETE INSPECTION REPORT

02/09/94

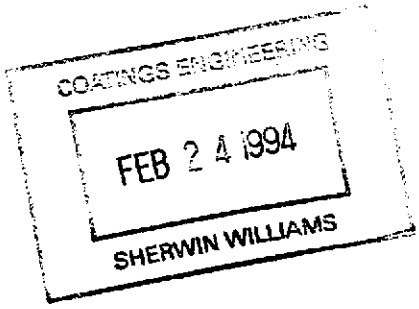
Inspected the placing of concrete and the addition of water and slump (water control) at 9" slab on grade, truck turn around area.

Verified truck trip tickets for conformance with mix design.

98 Cubic yards of Fiber Mesh Walkers Mix No. 7501213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1693, Gerald Worsley
Workorder #256885

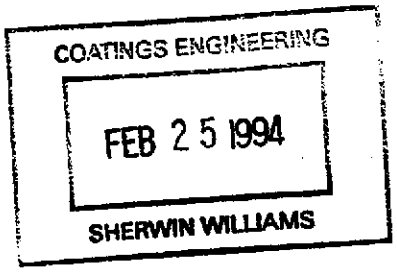


SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 822-8880
Fax (415) 822-5864

February 22, 1994

SECo File No.: 55347
SECo Report No.: 94-066



Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

SMITH-EMERY COMPANY

February 22, 1994

SECo File No.: 55347
SECo Report No.: 94-066

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

ELEVATION KEY		METHOD KEY
SG-Subgrade	FSG-Finish Subgrade	SC-Sandcone
FG-Finish Grade	FAB-Finish Agg. Base	NG-Nuclear Gauge
AB-Aggregate Base	BTM-Bottom	DT-Drive Tube

RESULTS OF DENSITY TESTS

Test No.:	Date	Test Type	Elev. Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
#8	2-16-94	NG	AB	9.9	120.4	95.5	90	1
LOCATION: BF @ TRUCK TURN AROUND, W. SIDE.								
#8A	2-16-94	SC	AB				90	1
LOCATION: BF @ TRUCK TURN AROUND, W. SIDE.								

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 1

SMITH-EMERY COMPANY

February 22, 1994

SECo File No.: 55347
SECo Report No.: 94-066

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#1	Grey Aggregate Base	126.1	9.5

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME:
JOB ADDRESS: SHERWIN WILLIAMS
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 17

CONCRETE COMPRESSION TESTS

DATE: 02/23/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NO	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/14/94	7501213	4.50	1792	00:45	08:00	3/3	0	1	0	6
[illegible]6	.0	7	3555		LOCATION IN STRUCTURE: DRIVEWAY ENTRANCE										
					COMPLIANCE:										

COATINGS ENGINEERING
MAR 4 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS: 1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 18

DATE: 02/24/94

CONCRETE INSPECTION REPORT

02/14/94

Inspected the addition of water and slump (water control) at driveway entrance.

Verified truck trip tickets for conformance with mix design.

56 Cubic yards of Walker Mix No. 7501213.
1 set of 3 test specimens made.

All work inspected complies with the approved plans, job specifications and the Uniform Building Code.

INSPECTED BY EMP. #1792, Ray Brown III
Workorder #258009

COATINGS ENGINEERING
MAR _ 3 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960 SMITH-EMERY COMPANY

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.

REPORT NO: 19

CONCRETE COMPRESSION TESTS

DATE: 02/24/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	01/27/94	6751911	4	1243	01:00	09:30	3/3	56	1	0	6
208270	.0	7 *	3325												
208271	.0	28	5485												
208272	.0	28	5410												

LOCATION IN STRUCTURE: BUILDING #30 - TOPPING SLAB.
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.

COATINGS ENGINEERING
MAR 3 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: PROJECT MANAGER
OSBORN ARCHITECTS/ENGINEERS
668 EUCLID AVENUE
CLEVELAND OH 44114

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 21

DATE: 03/02/94

CONCRETE INSPECTION REPORT

02/22/94

Inspected reinforcement for placement and grade of steel and placing of concrete at drum storage pad next to building #29. Rebar as per drawings.

7.5 Cubic yards of Mix No. 5701213
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

02/23/94

Inspected reinforcement for placement and grade of steel and placing of concrete at treatment plant slab; equipment pads.

13 Cubic yards of Walker Concrete Co. Mix No. 5701213
1 set of 3 test specimens made.

Rebar as per drawings.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #259595

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

4 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN.WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 22

CONCRETE COMPRESSION TESTS

DATE: 03/03/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/01/94	6751911	4	1243	01:15	01:45	3/3	53	1	3	6
09[illegible]4	.0	7 *	3750		LOCATION IN STRUCTURE: EQUIPMENT PADS ON SLAB BUILDING #3										
09[illegible]5	.0	28	5730		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
09106	.0	H	0												
				4000	02/23/94	5701213	5	1243	00:45	08:30	3/3	52	1	0	6
1[illegible]5	.0	7	2635		LOCATION IN STRUCTURE: EQUIPMENT PADS ON TREATMENT SLAB										
					COMPLIANCE:										
				4000	02/22/94	5701213	4	1243	00:50	08:30	3/3	54	1	0	6
1[illegible]8	.0	7	3060		LOCATION IN STRUCTURE: DRUM STORAGE SLAB NEXT TO B #29										
					COMPLIANCE:										

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 23

CONCRETE COMPRESSION TESTS

DATE: 03/03/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/03/94	5701213	4	1243	00:35	01:35	3/3	55	1	3	6
209541	.0	7 *	2955		LOCATION IN STRUCTURE: SOG - HEX SLAB NE OF BUILDING 30										
209542	.0	28	4650		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
209543	.0	H	0												

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

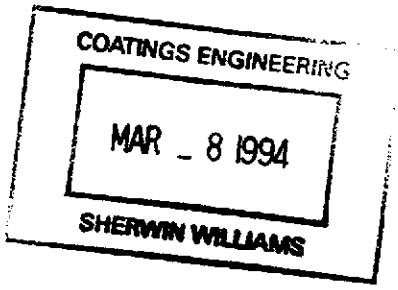
REPORT NO: 24

CONCRETE COMPRESSION TESTS

DATE: 03/04/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NUMBER	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	STRENGTH PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/04/94	5701213	4.75	1243	00:40	11:30	3/3	53	2	3	6
209582	.0	7 *	3095		LOCATION IN STRUCTURE: SOG SOUTH END										
209583	.0	28	4795		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
209584	.0	H	0												



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 25

CONCRETE COMPRESSION TESTS

DATE: 03/09/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/09/94	7501213	3.5	1693	00:29	09:40	3/3	64	6	0	6
209921	.0	6 *	3625		LOCATION IN STRUCTURE: 9" SLAB ON GRADE MIDDLE OF SLAB										
209922	.0	28	6100		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
209923	.0	28	5890												

COATINGS ENGINEERING
MAR 16 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

0 0

OB NO: 55347
OB NAME: SHERWIN WILLIAMS
OB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

NG EER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

ECHNICAL CONTACT: BOB PATTERSON

EP T NO: 26

DATE: 03/11/94

CONCRETE INSPECTION REPORT

3/03/94

Inspected reinforcement for placement and grade of steel and placing of concrete at low wall north side of parking lot, as per drawings.

13 Cubic yards of Walker Concrete Mix No. 6751911

1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #261241

COATINGS ENGINEER
MAR 18 19
SHERWIN WILLIA

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

3 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 27

CONCRETE COMPRESSION TESTS

DATE: 03/14/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/14/94	7501213	4.50	1792	00:45	08:00	3/3	0	1	0	6
210416	.0	7 *	3555		LOCATION IN STRUCTURE: DRIVEWAY ENTRANCE										
210417	.0	28	4865		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
210418	.0	28	4845												
				4000	03/04/94	6751911	4	1243	00:40	01:30	3/3	55	1	0	6
213352	.0	7	3910		LOCATION IN STRUCTURE:										
					COMPLIANCE:										

COATINGS ENGINEERING
MAR 18 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 28

DATE: 03/17/94

REINFORCED CONCRETE INSPECTION REPORT

03/11/94

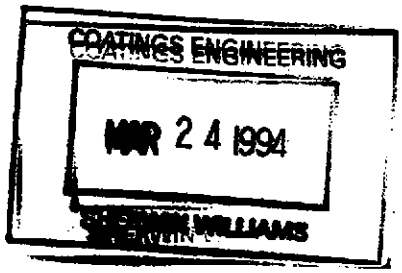
Inspected reinforcement for placement and grade of steel and placing of concrete at trench drain footings 4 and 5 per plan sheet YSLO-309-L (trench drain detail).

Verified truck trip tickets for conformance with mix design.

40 Cubic yards of Walker Mix No. 8001811.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1542, Gregg Jones
Workorder #262552



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

4 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 29

CONCRETE COMPRESSION TESTS

DATE: 03/23/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/22/94	5701213	4	1243	00:50	08:30	3/3	54	1	0	6
211858	.0	7 *	3060		LOCATION IN STRUCTURE: DRUM STORAGE SLAB NEXT TO B #29										
211859	.0	28	4685		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
211860	.0	28	4685												
				4000	03/15/94	7501811	4.50	1694	00:20	01:30	3/3	62	1	3	6
214622	.0	7	3575		LOCATION IN STRUCTURE: TRENCH DRAIN #6; PARKING LOT ADJOINING BLDG. #31										
					COMPLIANCE:										
				4000	03/11/94	8001811	4	1542	01:00	09:20	3/3	60	2	0	6
214625	.0	7	4085		LOCATION IN STRUCTURE: TRENCH PLATE FOOTING 4 & 5 50' FROM SOUTH										
					COMPLIANCE:										

COATINGS ENGINEERING
MAR 3 1 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 30

CONCRETE COMPRESSION TESTS

DATE: 03/23/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	02/23/94	5701213	5	1243	00:45	08:30	3/3	52	1	0	6
21[illegible]5	.0	7 *	2635												
21[illegible]6	.0	28	4105												
211857	.0	28	4050												

LOCATION IN STRUCTURE: EQUIPMENT PADS ON TREATMENT SLAB
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.

COATINGS ENGINEERING
MAR 31 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEBRING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 31

DATE: 03/23/94

REBAR / CONCRETE INSPECTION REPORT

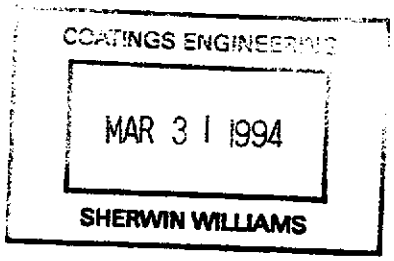
03/15/94

Inspected reinforcement for placement and grade of steel and placing of concrete at trench drain #6; length 90 ft. number four bars vertical at 12" on center with 90 degree bend at top of 6" bars epoxy 6" into existing slab. Horizontal two rows of #4 at 12" on center.
Parking lot adjoining building #31; length 60 ft.; 11" thick wall, 3 ft. high; inside face #5 bars, vertical 2 ft. on center horizontal #5; 12" at outside face vertical #4; 12" on center; horizontal #4; 12" on center. Grade 40 for #4 and smaller; grade 60 #5 bars and larger: ASTM A615.

21 Cubic yards of Walker Mix No. 7501811.
Truck #351; ticket: 114939
One set of three test specimens made.

The work inspected complies with the approved plans and the Uniform Building Code.

INSPECTED BY EMP. #1694, Dennis Roventini
Workorder #263626



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

2 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

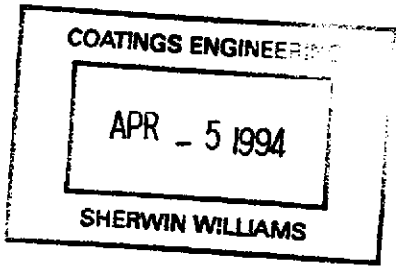
REPORT NO: 32

DATE: 04/01/94

CONCRETE COMPRESSION TESTS

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	03/04/94	6751911	4	1243	00:40	01:30	3/3	55	1	0	6
213352	.0	7 *	3910		LOCATION IN STRUCTURE: LOW WALL NORTH SIDE OF PARKING LOT.										
213353	.0	28	5870		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
213354	.0	28	5820												



SMITH-EMERY COMPANY
The Full Service Indpendent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 330-3000
Fax (415) 330-3030

April 4, 1994

SECo File No.: 55347
SECo Report No.: 94-127

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

April 04, 1994

SECo File No.: 55347
SECo Report No.: 94-127

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY			METHOD KEY	
SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base	SC-Sandcone	DT-Drive Tube
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom	NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
10	3/28/94	W. SIDE TRAIN TRACKS STORM DRAIN TRENCH 20' N. OF STORM DRAIN.	NG	AB	11.5	117.6	93.2	90	1
11	3/28/94	W. SIDE TRAIN TRACKS STORM DRAIN TRENCH 10' N. OF STORM DRAIN.	NG	AB	11.5	114.9	91.1	90	1
12	3/28/94	W. SIDE TRAIN TRACKS STORM DRAIN TRENCH 40' S. OF STORM DRAIN.	NG	AB	9.6	119.7	94.9	90	1
13	3/28/94	W. SIDE TRAIN TRACKS STORM DRAIN TRENCH 90' S. OF STORM DRAIN.	NG	AB	12.2	118.8	94.2	90	1
14	3/28/94	W. SIDE TRAIN TRACKS STORM DRAIN TRENCH 85' S. OF STORM DRAIN.	NG	AB	11.3	114.3	90.7	90	1

SMITH-EMERY COMPANY

SMITH-EMERY COMPANY

April 4, 1994

SECo File No.: 55347
SECo Report No.: 94-127

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#1	Grey Aggregate Base	126.1	9.5

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 33

CONCRETE COMPRESSION TESTS

DATE: 04/05/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	STRENGTH PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	03/29/94	7501213	4.75	1364	00:30	09:15	3/3	69	2	0	6
21[illegible]87	.0	6	3890												

LOCATION IN STRUCTURE: 8" SOG FOR TRUCK TURNAROUND - AT CENTER
COMPLIANCE:

COATINGS ENGINEERING
APR 12 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

2 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 35

CONCRETE COMPRESSION TESTS

DATE: 04/08/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	03/11/94	8001811	4	1542	01:00	09:20	3/3	60	2	0	6
214625	.0	7 *	4085		LOCATION IN STRUCTURE: TRENCH PLATE FOOTING 4 & 5 50' FROM SOUTH										
214626	.0	28	5660		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
214627	.0	28	5835												

COATINGS ENGINEERING
APR 12 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 34

DATE: 04/08/94

CONCRETE INSPECTION REPORT

03/29/94

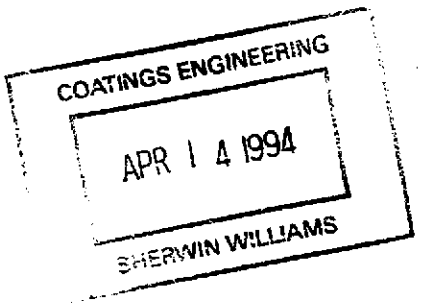
Inspected the placing of concrete at 8" slab on grade for truck turn around near trench drain.

Verified truck trip tickets for conformance with mix design.

43 Cubic yards of Walker Mix No. 7501213.
One set of three test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1364, Tom Carter
Workorder #267505



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 36

CONCRETE COMPRESSION TESTS

DATE: 04/13/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	03/15/94	7501811	4.50	1694	00:20	01:30	3/3	62	1	3	6
214622	.0	7 *	3575		LOCATION IN STRUCTURE: TRENCH DRAIN #6; PARKING LOT ADJOINING BLDG. #31										
214623	.0	28	5410		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
214624	.0	28	5485												

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

0 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 37

DATE: 04/21/94

CONCRETE / REBAR INSPECTION REPORT

04/13/94

Witnessed installation of rebar dowels using Hilti C100 type epoxy as per approved drawings.

Parking lot retaining wall along Horton Street (north to south).

The work inspected complies with the approved plans and Building Code.

04/14/94

Inspected reinforcement for placement and grade of steel and placing of concrete at retaining wall parking lot along Horton Street, 80' from north to south.
Rebar as per drawings.

9 Cubic yards of Walker Mix No. 5701213
One set of four test specimens made.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #270817

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 38

CONCRETE COMPRESSION TESTS

DATE: 04/26/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	STRENGTH PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	04/14/94	5701213	4.25	1243	00:30	01:15	3/3	55	1	0	6
220144	.0	7	3750		LOCATION IN STRUCTURE: RETAINING WALL, HORTON ST.SIDE OF JOBSITE, 1ST POUR										
					COMPLIANCE:										

COATINGS ENGINEER
MAY - 3 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

3 0

ATTN: PROJECT MANAGER
OSBORN ARCHITECTS/ENGINEERS
668 EUCLID AVENUE
CLEVELAND OH 44114

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 40

CONCRETE COMPRESSION TESTS

DATE: 04/27/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	03/29/94	7501213	4.75	1364	00:30	09:15	3/3	69	2	0	6
216787	.0	6 *	3890			LOCATION IN STRUCTURE: 8" SOG FOR TRUCK TURNAROUND - AT CENTER									
216788	.0	28	5750			COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.									
216789	.0	28	5520												
				4000	04/20/94	5701213	3.5	1243	00:45	10:35	3/3	56	1	0	6
221256	.0	7	3130			LOCATION IN STRUCTURE: TRENCH DRAIN #3									
						COMPLIANCE:									

RECEIVED
MAY 03 1994
OSBORN

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 39

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
OSBORN ARCHITECTS/ENGINEERS
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

COATINGS ENGINEER
MAY - 3 1994
SHERWIN-WILLIAMS

DATE: 04/28/94

CONCRETE / REBAR INSPECTION REPORT

04/20/94

Inspected the placing of concrete at trench drain #3.

9 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

04/22/94

Inspected reinforcement for placement and grade of steel and placing of concrete at retaining wall 2nd/80' section along Horton Street.

8 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

Rebar placement as per approved drawings.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter

==========

DOWEL INSPECTION REPORT

04/20/94

Witnessed dowel installation #4 rebar using Hilti epoxy type C100 as per specifications, retaining wall along Horton Street 160' long section north of Building #31.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #272672

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

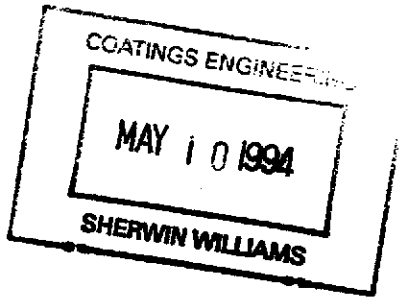
REPORT NO: 41

CONCRETE COMPRESSION TESTS

DATE: 05/04/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	04/22/94	5101213	3.75	1243	01:00	01:45	3/3	56	1	0	6
2[illegible]874	.0	7	3005		LOCATION IN STRUCTURE: WALL ALONG HORTON ST. 2ND 80' SECTION										
					COMPLIANCE:										



SMITH-EMERY COMPANY
The Full Service Indpendent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 330-3000
Fax (415) 330-3030

May 9, 1994

SECo File No.: 55347
SECo Report No.: 94-206

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

May 09, 1994

SECo File No.: 55347
SECo Report No.: 94-206

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
15	1742	5/4/94	BET. 2 & 3 OVERHEAD SUPPORT FOR ELECTRICAL 39" FROM (2).	NG / MC-1	*	11.2	107.27	85.0	90	1
16	1742	5/4/94	12' FROM BARREL STORAGE SOUTH.	NG / MC-1	*	14.0	114.38	90.0	90	1
17	1742	5/4/94	15' FROM SUPPORT BEAM ELETRICAL (2) NORTH.	NG / MC-1	*	12.6	117.87	93.0	90	1
18	1742	5/4/94	69" FROM DRAIN ON SIDEWALK FOR RAILROAD TRACKS N.E..	NG / MC-1	*	13.7	114.85	91.0	90	1
19	1742	5/4/94	13' FROM MIDDLE OF BARREL STORAGE NORTH.	NG / MC-1	*	10.6	114.53	90.0	90	1
20	1742	5/4/94	BET. 1 & ELETRICAL OVERHEAD SUPPORT SOUTH 10' FROM (1).	NG / MC-1	*	11.7	115.11	91.0	90	1

* - 4" BELOW FINAL GRADE.

SMITH-EMERY COMPANY

SMITH-EMERY COMPANY

May 9, 1994

SECo File No.: 55347
SECo Report No.: 94-206

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#1	Grey Aggregate Base	126.1	9.5

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 42

DATE: 05/11/94

CONCRETE / REBAR INSPECTION REPORT

05/04/94

Inspected reinforcement for placement and grade of steel and placing of concrete at trench drain #1.

Inspected reinforcement for placement and grade of steel at dowel installation along west side of trench drain #2.

Hilti type C100.

05/05/94

Inspected reinforcement for placement and grade of steel and placing of concrete at trench drain #1.

16 Cubic yards of Mix No. 7501213.
1 set of 3 test specimens made.

2nd pour slab on grade west of trench drain #2.

12 Cubic yards of Mix No. 7501213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #276013

COATINGS ENGINEER
MAY 17 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 43

CONCRETE COMPRESSION TESTS

DATE: 05/12/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/04/94	8001811	5	1243	00:45	08:20	3/3	57	1	0	6
222611	.0	7	4175		LOCATION IN STRUCTURE: TRENCH DRAIN #1										
					COMPLIANCE:										

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 44

CONCRETE COMPRESSION TESTS

DATE: 05/13/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	04/14/94	5701213	4.25	1243	00:30	01:15	3/3	55	1	0	6
22[illegible]4	.0	7 *	3750			LOCATION IN STRUCTURE: RETAINING WALL, HORTON ST.SIDE OF JOBSITE, 1ST POUR									
22[illegible]5	.0	28	5395			COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.									
22[illegible]6	.0	28	5375												
				4000	05/05/94	7501213	4	1243	00:30	10:15	3/3	59	2	0	6
22[illegible]6	.0	7	3855			LOCATION IN STRUCTURE: TRENCH DRAIN #2									
						COMPLIANCE:									
				4000	05/05/94	7501213	4	1243	00:45	01:10	3/3	58	1	0	6
22[illegible]9	.0	7	3960			LOCATION IN STRUCTURE: SLAB ON GRADE WEST OF TRENCH DRAIN #2									
						COMPLIANCE:									

COATINGS ENGINEERING
MAY 19 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 45

CONCRETE COMPRESSION TESTS

DATE: 05/17/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/10/94	7501213	4	1243	00:30	12:40	3/3	52	1	0	6
223707	.0	7	3360		LOCATION IN STRUCTURE: RETAINING WALL LAST 80' SOUTH END										
					COMPLIANCE:										

SHERWIN WILLIAMS
MAY 23 1994
COATINGS ENGINEERING

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 46

DATE: 05/17/94

CONCRETE/REBAR INSPECTION REPORT

05/10/94

Inspected reinforcement for placement and grade of steel and placing of concrete at last 80' section of retaining wall along Horton Street, south end. Rebar placement as per drawings. Also, footing west of trench drain #6; rebar as per specs.

13.5 Cubic yards of Mix No. 5701213.
One set of three test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #278006

COATINGS ENGINEERING
MAY 24 1994
SHERWIN WILLIAMS

COATINGS ENGINEERING
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 47

CONCRETE COMPRESSION TESTS

DATE: 05/18/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	04/20/94	5701213	3.5	1243	00:45	10:35	3/3	56	1	0	6
220156	.0	7 *	3130												
220157	.0	28	4405												
220158	.0	28	4455												

LOCATION IN STRUCTURE: TRENCH DRAIN #3
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.

COATINGS ENGINEERING
MAY 24 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 48

CONCRETE COMPRESSION TESTS

DATE: 05/20/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	04/22/94	5101213	3.75	1243	01:00	01:45	3/3	56	1	0	6
22[illegible]74	.0	7 *	3005												
22[illegible]75	.0	28	4490												
220876	.0	28	4420												

LOCATION IN STRUCTURE: WALL ALONG HORTON ST. 2ND 80' SECTION
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.

COATINGS ENGINEERING
MAY 26 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

SECo File No. 55732
SECo Report No.: 94-238

May 23, 1994

Miles, Inc.
4th & Parker Streets
Berkeley, California 94701

RECEIVED
MAY 31 1994
OSBORN

Attention: Mr. Paul Strok

RE: Miles - Central Utilities Plant
4th & Parker Streets
Berkeley, CAlifornia

COATINGS ENGINEERING
7 1994
SHERWIN WILLIAMS

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,
SMITH-EMERY COMPANY

KEITH D. GILLIAM
GeoServices, Supervisor

NOTE:
This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

KDG:ccc

May 23, 1994

SECo File No.: 55732
SECo Report No.: 94-238

Project : Miles, Inc.
4th & Parker Streets
Berkeley, California 94701

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl. No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
4	1522	5/18/94	EXC. BOTTOM TRANSFORMER PAD.	NG / MC-1	26 (FF-4')	25.1	93.9	95.0	90	1
5	1522	5/18/94	BP, 5' N. & 5' E. OF S.W. CORNER OF ELEC. BLDG.	NG / MC-1	27 (FF-3)	6.9	126.2	95.0	95	2
6	1522	5/18/94	BP, 5' N. & 15' W. OF S.E. CORNER OF GENERATOR PAD.	NG / MC-1	27 (FF-3')	9.3	130.7	99.0	95	2
7	1522	5/18/94	BP, 15' S. & 5' W. OF N.E. CORNER OF ELEC. BLDG.	NG / MC-1	21 (FF-3')	8.4	124.1	95.0	95	2
8	1522	5/18/94	CENTER OF SWITCHING YARD.	NG / MC-1	27 (FF-3')	8.4	126.5	96.0	95	2
9	1522	5/18/94	BP, 10' N. & 15' W. OF S.E. CORNER OF ELEC. BLDG.	NG / MC-1	27 (FF-3')	8.4	117.0	89.0	95	2
10	1522	5/18/94	BP, 5' N. & 10' E. OF S.W. CORNER OF GENERATOR PAD.	NG / MC-1	27 (FF-3')	8.7	124.2	95.0	95	2
11	1522	5/18/94	RETEST OF #9.	NG / MC-1	27 (FF-3')	8.2	126.8	96.0	95	2
12	1522	5/18/94	BP CENTER OF ELEC. BLDG.	NG / MC-1	28 (FF-2')	8.9	113.8	87.0	95	2
13	1522	5/18/94	RETEST OF #12.	NG / MC-1	28 (FF-2')	7.6	124.3	95.0	95	2
14	1522	5/18/94	BP, 5' S. & 5' E. OF N.W. CORNER OF ELEC. BLDG.	NG / MC-1	28 (FF-2')	8.4	131.0	99.0	95	2
15	1522	5/18/94	5' N. & 5' W. OF S.E. CORNER OF GENERATOR PAD.	NG / MC-1	28 (FF-2')	8.3	124.1	95.0	95	2
16	1522	5/18/94	WESTERN EDGE OF SWITCHING YARD.	NG / MC-1	28 (FF-2')	7.1	124.0	95.0	95	2
17	1522	5/18/94	5' N. & 5' E. OF S.W. CORNER OF GENERATOR PAD.	NG / MC-1	28 (FF-2')	7.5	125.7	96.0	95	2
18	1522	5/18/94	EASTERN EDGE OF SWITCHING YARD.	NG / MC-1	FSG	9.0	131.0	99.0	95	2
19	1522	5/18/94	CENTER OF GENERATOR PAD.	NG / MC-1	FSG	9.1	130.5	99.0	95	2
20	1522	5/18/94	N.W. CORNER OF SWITCHING YARD.	NG / MC-1	FSG	8.7	129.4	98.0	95	2
21	1522	5/18/94	BP 20' S. & 15' E. OF N.W. CORNER OF ELEC. BLDG.	NG / MC-1	FSG	8.8	131.0	99.0	95	2
22	1522	5/18/94	BP, 5' S. & 20' E. OF N.W. CORNER OF ELEC. BLDG.	NG / MC-1	FSG	8.3	128.6	97.0	95	2
23	1522	5/18/94	BP, 5' N. & 15' E. OF S.W. CORNER OF ELEC. BLDG.	NG / MC-1	FSG	8.5	125.7	96.0	95	2

SMITH-EMERY COMPANY

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

SECo File No.: 55732
SECo Report No.: 94-238

May 23, 1994

Project: Miles - Central Utilities Plant
4th & Parker Streets
Berkeley, California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#1	Black Clay w/Organics	98.5	24.5
#2	Lt. Brn Clayey Sandy Gravel	131.3	9.2

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY
The Full Service Indpendent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
P.O. Box 880550
San Francisco, California 94188
(415) 330-3000
Fax (415) 330-3030

D R G
JUN 1 '94

May 23, 1994

SECo File No.: 55347
SECo Report No.: 94-243

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

RE: 1450 Sherwin Drive
Emeryville, California

SUBJECT: MAXIMUM DENSITY/OPTIMUM MOISTURE DETERMINATION

STANDARD: ASTM D1557-78

SOURCE: Soil types #2 and #3 were sampled by a Smith-Emery Company representative on May 3, 1994.

REPORT OF TESTS

In compliance with the request of your authorized representative, we have conducted the subject test, as per project requirements for the above referenced project.

The bulk soil samples were returned to our laboratory by our field technician.

Please see the attached graphs for test results

Respectfully submitted,

SMITH-EMERY COMPANY

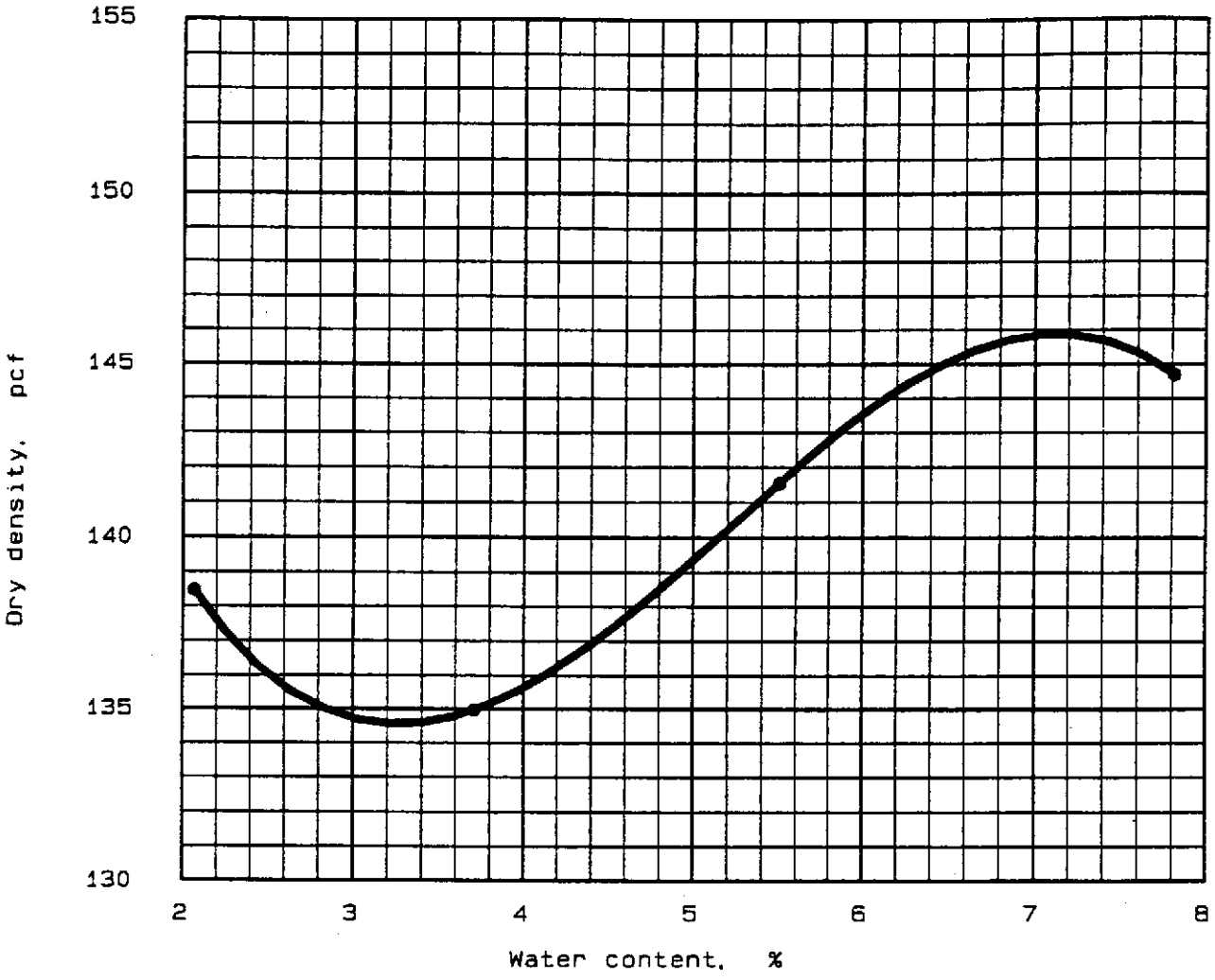
KEITH D GILLIAM
Geoservices Supervisor

KDG:ccc

Los Angeles
791 East Washington Blvd.
Los Angeles, California 90021
(213) 749-3411
Fax (213) 746-7228

Anaheim
5427 East La Palma Ave.
Anaheim, California 92807
(714) 693-1026
Fax (714) 693-1034

Moisture/Density Relative to Soils



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Grade	A.B.							

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 7.1 % Maximum dry density = 145.9 pcf	Grey Aggregate Base

Job No.: 55347
Job Name: Sherwin Williams Emeryville, Ca
Sample Location: Import On-Site

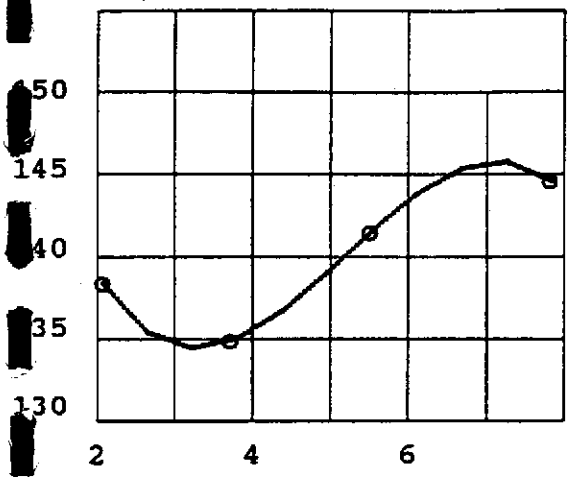
Date: 5-3-1994

Tested by: J.Peavich *
Date: 5-3-94 *
Sampled by: J.Peavich *
Date: 5-3-94
Remarks:

Smith-Emery Company

Plate No. 2

PROCTOR TEST DATA

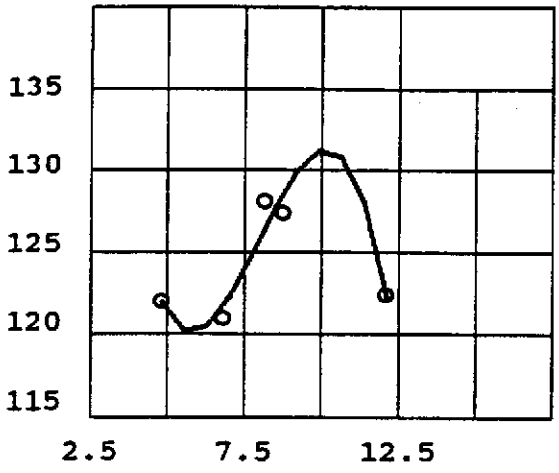


Project No.: 55347
Project: Sherwin Williams Emeryville, Ca

POINT NO.	1	2	3	4
WM + WS	22.90	23.60	24.10	23.00
WM	12.40	12.40	12.40	12.40
WW+T #1	361.40	341.17	330.36	398.47
WD+T #1	352.16	328.78	313.89	392.50
WT #1	102.84	103.36	102.93	102.94
MOIST #1	3.7	5.5	7.8	2.1
MOISTURE	3.7	5.5	7.8	2.1
DRY DEN	135.0	141.6	144.7	138.5

Max dry den= 145.9 pcf Opt moisture= 7.1 %

PROCTOR TEST DATA

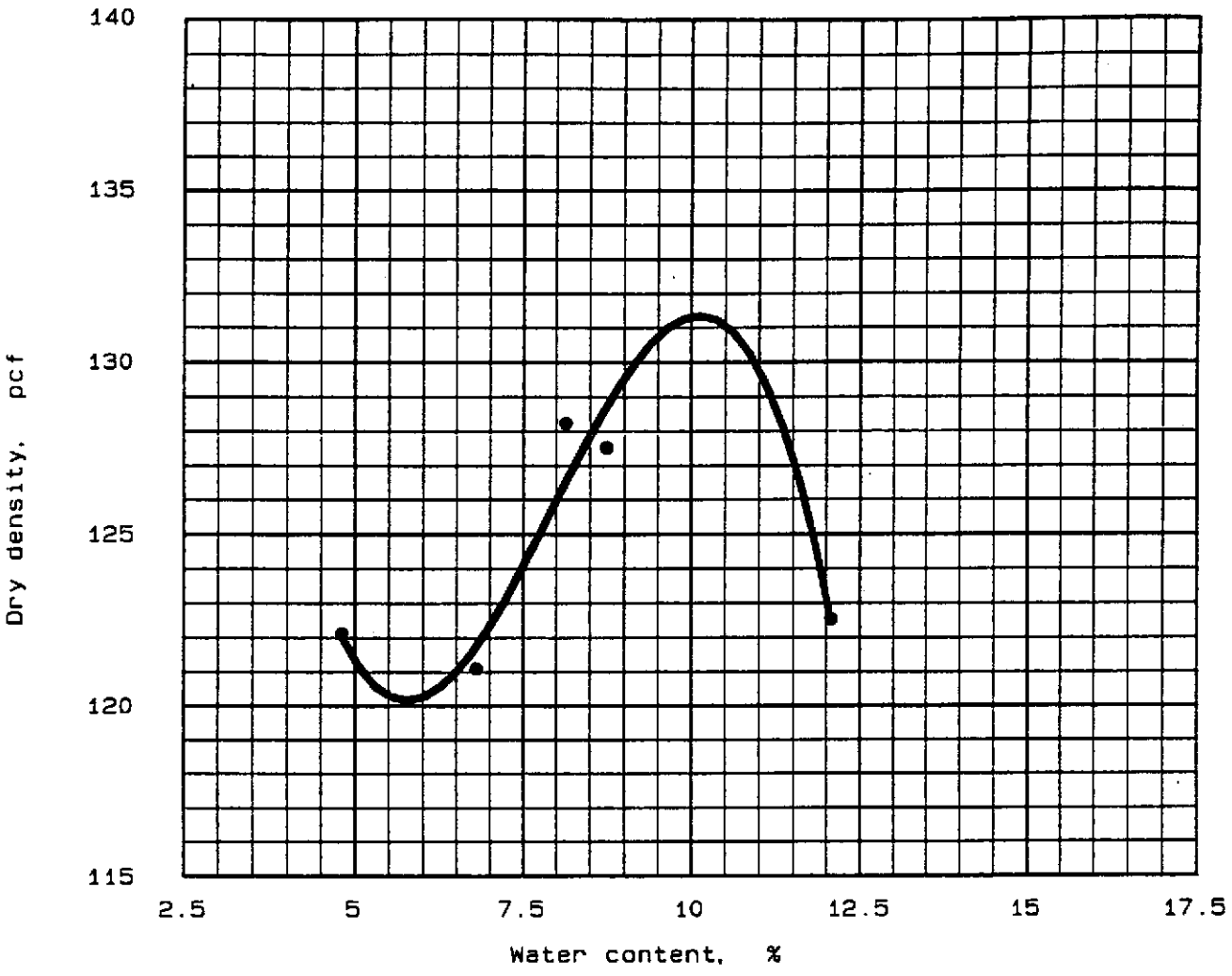


Project No.: 55347
Project: Sherwin Williams Emeryville, Ca

POINT NO.	1	2	3	4	5
WM + WS	22.00	22.10	22.80	22.80	22.70
WM	12.40	12.40	12.40	12.40	12.40
WW+T #1	344.19	378.87	396.18	321.48	347.50
WD+T #1	333.17	361.34	374.13	303.93	321.18
WT #1	103.36	102.95	102.91	102.84	102.87
MOIST #1	4.8	6.8	8.1	8.7	12.1
MOISTURE	4.8	6.8	8.1	8.7	12.1
DRY DEN	122.1	121.1	128.2	127.5	122.6

Max dry den= 131.3 pcf Opt moisture= 10.1 %

Moisture/Density Relative to Soils



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Grade	A.B.							

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 10.1 % Maximum dry density = 131.3 pcf	Dark Brown Recycled Aggregate Base

Job No.: 55347
Job Name: Sherwin Williams Emeryville, Ca
Sample Location: Import On-Site

Date: 5-3-1994

Tested by: J.Peavich *
Date: 5-3-94 *
Sampled by: J.Peavich *
Date: 5-3-94
Remarks:

Smith-Emery Company

Plate No. 3

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 49

DATE: 05/24/94

CONCRETE / REBAR INSPECTION REPORT

05/19/94

Inspected reinforcement for placement and grade of steel and placing of concrete at footing for new wall around tank north of Bldg. #38.

Verified truck trip tickets for conformance with mix design.

10 Cubic yards of Walker's Concrete Mix No. 570-1213. One set of three test specimens made.

Inspected the placing of #4 rebar dowels in Hilti C-100 epoxy at top of existing wall around tank north of Bldg. #38.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1364, Tom Carter
Workorder #280125

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9
ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 50

CONCRETE COMPRESSION TESTS

DATE: 05/26/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/19/94	570-1213	3	1364	00:57	10:20	3/3	70	1	0	6
22[illegible]9	.0	7	3270												

LOCATION IN STRUCTURE: FOOTING FOR NEW WALL AROUND TANK NORTH OF BLDG. #38
COMPLIANCE:

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 31, 1994

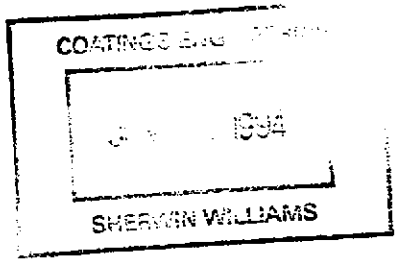
SECo File No.: 55347
SECo Report No.: 94-268

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING



REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904
781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 31, 1994

SECo File No.: 55347
SECo Report No.: 94-268

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
21	1728	5/25/94	FTG. WL.	NG/MC-1	FAB	13.2	113.2	90.0	90	1
22	1728	5/25/94	FTG. WL.	NG/MC-1	FAB	6.7	142.6	100.0	90	3
23	1728	5/25/94	FTG. WL.	NG/MC-1	FAB	7.3	132.0	92.0	90	3

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 31, 1994

SECo File No.: 55347
SECo Report No.: 94-268

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#1	Grey Recycled Aggregate Base	126.1	9.5
#3	Green Aggregate Base	142.8	7.4

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 51

DATE: 06/02/94

CONCRETE INSPECTION REPORT

05/25/94

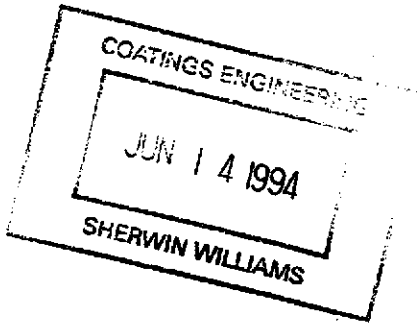
Inspected reinforcement for placement and grade of steel and placing of concrete at perimeter tank retaining walls per detail C-304L.

Verified truck trip tickets for conformance with mix design.

7 Cubic yards of Walker Mix No. 5701213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #1542, Gregg Jones
Workorder #278449



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 54

CONCRETE COMPRESSION TESTS

DATE: 06/08/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/10/94	7501213	4	1243	00:30	12:40	3/3	52	1	0	6
223707	.0	7 *	3360		LOCATION IN STRUCTURE: RETAINING WALL LAST 80' SOUTH END										
223708	.0	28	4830		COMPLIANCE. 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
223709	.0	28	4950												

COATINGS ENGINEERING
JUN 15 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

4 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 52

CONCRETE COMPRESSION TESTS

DATE: 06/02/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/05/94	7501213	4	1243	00:30	10:15	3/3	59	2	0	6
222766	.0	7 *	3855		LOCATION IN STRUCTURE: TRENCH DRAIN #2										
222767	.0	28	5075		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
222768	.0	28	5130												
				4000	05/05/94	7501213	4	1243	00:45	01:10	3/3	58	1	0	6
222769	.0	7 *	3960		LOCATION IN STRUCTURE: SLAB ON GRADE WEST OF TRENCH DRAIN #2										
222770	.0	28	4830		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
222771	.0	28	4845												

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

3 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 53

CONCRETE COMPRESSION TESTS

DATE: 06/03/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/04/94	8001811	5	1243	00:45	08:20	3/3	57	1	0	6
222611	.0	7 *	4175		LOCATION IN STRUCTURE: TRENCH DRAIN #1										
222612	.0	28	6700		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
222613	.0	28	6580												
				4000	05/25/94	5701213	4	1542	00:30	11:15	3/3	66	1	0	6
227591	.0	7	2530		LOCATION IN STRUCTURE: TANK RETAINING WALLS										
					COMPLIANCE:										

COATINGS ENGINEERING
JUN 9 1994

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 55

DATE: 06/09/94

CONCRETE / REBAR INSPECTION REPORT

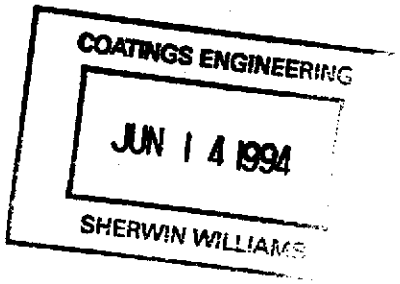
06/02/94

Inspected reinforcement for placement and grade of steel and placing of concrete at wall footings #1 east side of railroad tracks running north and south. 2nd wall footing east of tracks running east to west.

Rebar as per approved drawings and code.

56 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #282897



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 56

CONCRETE COMPRESSION TESTS

DATE: 06/09/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/02/94	5701213	4	1243	00:35	11:15	3/3	53	5	0	6
228523	.0	7	3185		LOCATION IN STRUCTURE: FOOTING FOR RETAINING WALLS SOUTH END OF FOOTING										
					COMPLIANCE:										

COATINGS ENGINEERING
JUN 14 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JO NO: 55347
JO NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

EN NEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

RE RT NO: 57

DATE: 06/14/94

CONCRETE COMPRESSION TESTS

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

C NU R	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/07/94	5701213	4	1204	00:30	13:15	4/4	70	1	0	6
22 02	.0	7	3660		LOCATION IN STRUCTURE: WALL, NORTH SECTION "C"										
					COMPLIANCE:										

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 58

DATE: 06/15/94

CONCRETE INSPECTION REPORT

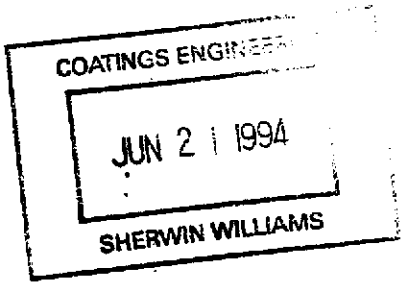
06/10/94

Inspected reinforcement for placement and grade of steel and placing of concrete at retaining wall east of tracks 10" thick, 6' tall. Rebar as per drawings.

18 Cubic yards of Mix No. 5701213.
One set of three test specimens made.

The work inspected complies with the approved plans and Building Code.

INSPECTED BY EMP. #1243, Darryl Potter
Workorder #284235



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 59

DATE: 06/15/94

CONCRETE / REBAR INSPECTION REPORT

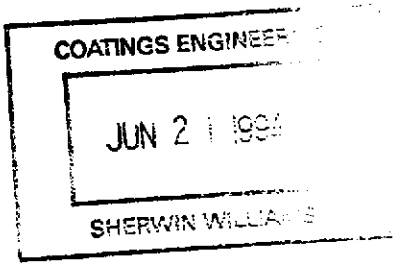
06/07/94

Inspected reinforcement for placement and grade of steel and placing of concrete at the retaining wall at north half of section C. Complete.

Verified truck trip tickets for conformance with mix design.

15 Cubic yards of Walker Mix No. 5701213.
One set of four test specimens made.

INSPECTED BY EMP. #1204, J. R. Brown
Workorder #283502



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 60

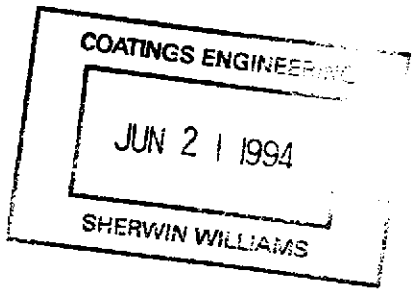
CONCRETE COMPRESSION TESTS

DATE: 06/16/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/19/94	570-1213	3	1364	00:57	10:20	3/3	70	1	0	6
225589	.0	7 *	3270												
225590	.0	28	4510												
225591	.0	28	4740												

LOCATION IN STRUCTURE: FOOTING FOR NEW WALL AROUND TANK NORTH OF BLDG. #38
COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JO NO: 55347
JO NAME: SHERWIN WILLIAMS
JO ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

EN EER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL
CONTACT: BOB PATTERSON

RE T NO: 61

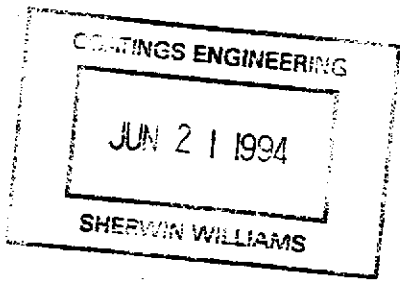
CONCRETE COMPRESSION TESTS

DATE: 06/17/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

C NU	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/10/94	5701213	3.5	1243	00:30	01:50	3/3	57	1	0	6
23 0	.0	7	2795												

LOCATION IN STRUCTURE: RETAINING WALL EAST OF RAILROAD TRACKS 1ST LIFT
COMPLIANCE:



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 62

CONCRETE COMPRESSION TESTS

DATE: 06/22/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	05/25/94	5701213	4	1542	00:30	11:15	3/3	66	1	0	6
227591	.0	7 *	2530		LOCATION IN STRUCTURE: TANK RETAINING WALLS										
227592	.0	28	3980		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
227593	.0	28	3925												

ENGINEERING
28 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

June 27, 1994

SECo File No.: 55347
SECo Report No.: 94-328

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

June 27, 1994

SECo File No.: 55347
SECo Report No.: 94-328

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
24	1728	6/22/94	INTERIOR WL. SEC. "C", S. END.	NG / MC-1	+3.0'	15.0	111.7	96.0	90	3
25	1728	6/22/94	INTERIOR WL. SEC. "C", S. END.	NG / MC-1	+4.5'	14.9	110.8	98.0	90	3
26	1728	6/22/94	INTERIOR WL. SEC. "C", S. END.	NG / MC-1	+3.5'	14.4	111.3	98.0	90	3
27	1728	6/22/94	INTERIOR WL. SEC. "C", S. END.	NG / MC-1	+2.5'	14.1	109.7	97.0	90	3
28	1728	6/22/94	INTERIOR WL. SEC. "C", S. END.	NG / MC-1	+1.5'	13.2	109.0	96.0	90	3
29	1728	6/23/94	PARKING LOT: 30' E OF FTG WL C.	NG / MC-1	+0.5'	20.0	105.9	93.0	90	3
30	1728	6/23/94	PARKING LOT: 60' E OF FTG WL C.	NG / MC-1	+1.0'	19.4	105.6	93.0	90	3
31	1728	6/23/94	PARKING LOT: FTG WL. C, N. END.	NG / MC-1	+6.0'	20.2	105.4	93.0	90	3
32	1728	6/23/94	FTG. WL. C.: N.W. SIDE, TRENCH DRAIN 1	NG / MC-1	FAB	8.3	133.3	91.0	90	2
33	1728	6/23/94	FTG. WL. C.: S.W. SIDE, TRENCH DRAIN 1	NG / MC-1	FAB	8.7	130.6	90.0	90	2
34	1728	6/23/94	PARKING LOT: 50' E OF FTG WL C.	NG / MC-1	FSG	17.2	110.8	97.0	90	3
35	1728	6/23/94	PARKING LOT: N.W. CORNER.	NG / MC-1	FSG	18.5	107.0	94.0	90	3
36	1728	6/23/94	PARKING LOT: S.W. CORNER.	NG / MC-1	+5.5'	19.7	106.0	94.0	90	3
37	1728	6/23/94	PARKING LOT: CENTER, 75' E. OF FTG. WL. C.	NG / MC-1	+0.5'	18.2	110.7	98.0	90	3

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 1

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904
781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax (714) 693-1034

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

June 27, 1994

SECo File No.: 55347
SECo Report No.: 94-328

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#2	Grayish-Green Agg. Base	113.3	17.2
#3	Gray Silty Clay w/Misc. Gravel	113.3	17.2

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 63

CONCRETE COMPRESSION TESTS

DATE: 06/30/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/02/94	5701213	4	1243	00:35	11:15	3/3	53	5	0	6
228623	.0	7 *	3185		LOCATION IN STRUCTURE: FOOTING FOR RETAINING WALLS SOUTH END OF FOOTING										
228524	.0	28	4245		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
228525	.0	28	4155												

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

July 5, 1994

SECo File No.: 55347
SECo Report No.: 94-353

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904
781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax (714) 693-1034

July 05, 1994

SECo File No.: 55347
SECo Report No.: 94-353

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
38	1834	6/27/94	12.5' W. OF HORTON 122.5 N. OF MAIN BLDG.	NG / MC-1	FSG	27.3	87.0	76.8	90	3
39	1834	6/27/94	17.5' E. OF COURTYARD.	NG / MC-1	FSG	22.4	102.1	90.1	90	3
40	1834	6/27/94	85' N. OF MAIN BLDG 15' W. OF HORTON.	NG / MC-1	FSG	23.0	97.7	86.2	90	3
41	1834	6/27/94	57.5 N. MAIN BLDG. 12.5 W. HORTON.	NG / MC-1	FSG	17.1	102.4	90.4	90	3
42	1834	6/27/94	10' S. ADJ BLDG 87.5 E. RET. WL.	NG / MC-1	FSG	21.0	100.7	88.8	90	3
43	1834	6/27/94	30' S. ADJ BLDG 27.5 E. RET. WL.	NG / MC-1	FSG	12.6	118.4	104.5	90	3

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

July 5, 1994

SECo File No.: 55347
SECo Report No.: 94-353

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#3	Gray Silty Clay w/Misc. Gravel	113.3	17.2

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

July 11, 1994

SECo File No.: 55347
SECo Report No.: 94-356

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

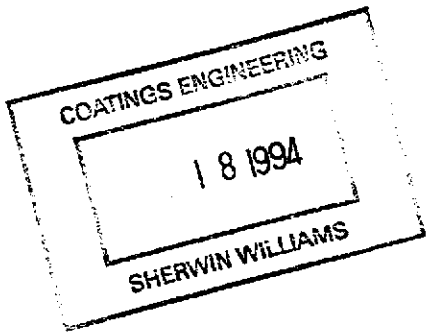
SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904
781 Base Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax (213) 746-7228
P.O. Box 880650, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1025 • Fax (714) 693-1034

July 11, 1994

SECo File No.: 55347
SECo Report No.: 94-356

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
44	1728	7/8/94	RETEST OF #38 OF 6/27/94.	NG/MC-1	FSG	16.5	109.6	97.0	90	3
45	1728	7/8/94	RETEST OF #40 OF 6/27/94.	NG/MC-1	FSG	20.0	104.3	92.0	90	3
46	1728	7/8/94	RETEST OF #42 OF 6/27/94.	NG/MC-1	FSG	16.2	108.3	96.0	90	3
47	1728	7/8/94	45 FT. OF HORTON ST. WL., 15 FT. S. OF N. WL.	NG/MC-1	FSG	19.7	100.2	88.0	90	3
48	1728	7/8/94	RETEST OF #47.	NG/MC-1	FSG	16.9	107.1	95.0	90	3

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

July 11, 1994

SECo File No.: 55347
SECo Report No.: 94-356

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture,(%)
#3	Gray Silty Clay w/Misc. Gravel	113.3	17.2

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

0 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 66

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

DATE: 07/14/94

CONCRETE INSPECTION REPORT

06/27/94

Inspected the placing of concrete at slab on grade between drain 1 and retaining wall section C.

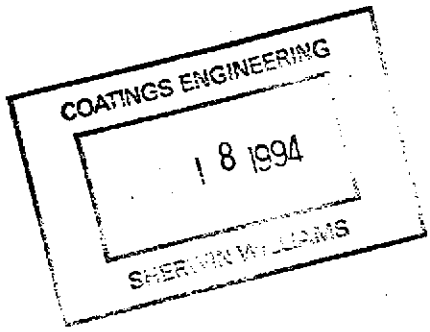
Inspected the addition of water and slump (water control) at same as above.

Verified truck trip tickets for conformance with mix design.

47 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

All work inspected complies with the approved plans, job specifications and the Uniform Building Code.

INSPECTED BY EMP. #1792, Sam Adham
Workorder #288490



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114
5427 East La Palma Avenue

• Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
• San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
• Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

4 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

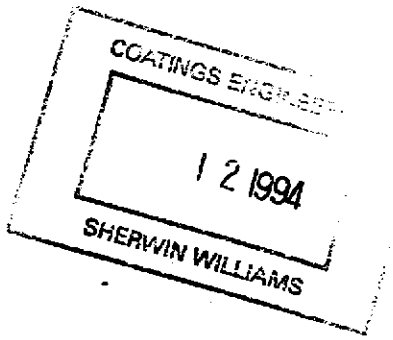
REPORT NO: 64

CONCRETE COMPRESSION TESTS

DATE: 07/06/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/07/94	5701213	4	1204	00:30	13:15	4/4	70	1	0	6
229502	.0	7 *	3660			LOCATION IN STRUCTURE: WALL, NORTH SECTION "C"									
229503	.0	28	4740			COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.									
229504	.0	28	4615												
229505	.0	H	0												
				4000	06/27/94	5701213	5	1792	00:40	08:40	3/3	63	1	0	6
24314	.0	7	2900			LOCATION IN STRUCTURE: SLAB ON GRADE BETWEEN DRAIN 1 & WALL SECTION C									
						COMPLIANCE:									



SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114
5427 East La Palma Avenue

• Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
• San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
• Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 65

CONCRETE COMPRESSION TESTS

DATE: 07/08/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/10/94	5701213	3.5	1243	00:30	01:50	3/3	57	1	0	6
[redacted]30	.0	7 *	2795		LOCATION IN STRUCTURE: RETAINING WALL EAST OF RAILROAD TRACKS 1ST LIFT										
[redacted]31	.0	28	4225		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
[redacted]32	.0	28	4175												

COATINGS ENGINEERING
1 5 1994
SHERWIN WILLIAMS

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114
5427 East La Palma Avenue

• Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
• San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
• Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTION:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 67

DATE: 07/20/94

CONCRETE INSPECTION REPORT

07/14/94

Inspected the placing of concrete (fibermesh) at trench closer at maintenance building.

Inspected the addition of water and slump (water control) at above location.

Verified truck trip tickets for conformance with mix design.

11 Cubic yards of Mix No. 5705213.
One set of three test specimens made.

The work inspected complies with the approved plans and the Uniform Building Code.

INSPECTED BY EMP. #1792, Sam Adham
Workorder #293472

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

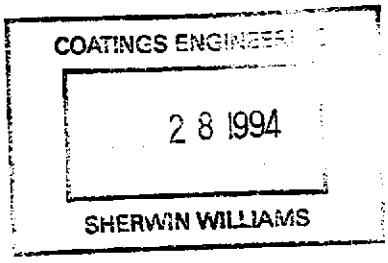
REPORT NO: 68

CONCRETE COMPRESSION TESTS

DATE: 07/26/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	06/27/94	5701213	5	1792	00:40	08:40	3/3	63	1	0	6
234314	0	7 *	2900		LOCATION IN STRUCTURE: SLAB ON GRADE BETWEEN DRAIN 1 & WALL SECTION C										
234315	0	28	4245		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
234316	0	28	4490												



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

0 0
ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO 69

DATE: 07/28/94

CONCRETE INSPECTION REPORT

07/22/94

Inspected the placing of concrete at driveway entrance at retaining wall (driveway #2).

Inspected the addition of water and slump (water control) at same as above.

Verified truck trip tickets for conformance with mix design.

6.5 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

INSPECTED BY EMP. #1792, 1792, Sam Adham
Workorder #295120

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

August 1, 1994

SECo File No.: 55347
SECo Report No.: 94-421

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

August 01, 1994

SECo File No.: 55347
SECo Report No.: 94-421

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California 94303

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
49	1728	7/22/94	10' E. OF GUTTER AT BLDG B8-12.	NG/MC-1	FG	12.5	119.7	91.0	90	5
50	1728	7/22/94	6' W. OF EXISTING FENCE AT E. SIDE NEAR HANDICAP.	NG/MC-1	FG	12.0	117.9	90.0	90	5
51	1728	7/22/94	20' N. E. OF END GUTTER AT TANK.	NG/MC-1	FG	12.0	117.5	90.0	90	5
52	1728	7/22/94	12' W. OF EXISTING FENCE AT N. END TO BLDGS.	NG/MC-1	FG	12.0	115.2	88.0	90	5
53	1728	7/22/94	8' S. OF N. BLDG. WL.	NG/MC-1	FG	12.0	117.9	90.0	90	5
54	1728	7/22/94	22' S. OF N.BLDG WL. AT CENTER AREA.	NG/MC-1	FG	12.5	116.3	89.0	90	5

SMITH-EMERY COMPANY

SMITH-EMERY COMPANY

August 1, 1994

SECo File No.: 55347
SECo Report No.: 94-421

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#5	Dark Brown Aggregate Base	131.13	10.1

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

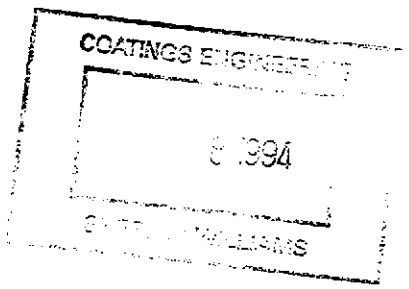
REPORT NO: 70

CONCRETE COMPRESSION TESTS

DATE: 08/03/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	07/22/94	5701213	5	1792	00:30	12:00	3/3	0	1	0	6
240589	.0	7	3290		LOCATION IN STRUCTURE: DRIVEWAY #2 AT RETAINING WALL										
					COMPLIANCE:										



SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

Hunters Point Shipyard, Bldg. 114
San Francisco, California 94124
P.O. Box 880550
San Francisco, California 94188
(415) 330-3000
Fax (415) 330-3030

August 8, 1994

SECo File No.: 55347
SECo Report No.: 94-443

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY COMPANY

KEITH D. GILLIAM
Geotechnical Services
Supervisor

KDG:ccc

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

Los Angeles
781 East Washington Blvd.
Los Angeles, California 90021
(213) 749-3411
Fax (213) 746-7228

Anaheim
5427 East La Palma Ave.
Anaheim, California 92807
(714) 693-1026
Fax (714) 693-1034

SMITH-EMERY COMPANY

August 8, 1994

SECo File No.: 55347
SECo Report No.: 94-443

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture,(%)
#4	Grey Onsite Silty Clay w/Gravel	113.3	17.2
#5	Dark Brown Aggregate Base	131.3	10.1
#6	Cement/Mixed w/Soil Type 4	109.0	17.5

SMITH-EMERY COMPANY - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

3 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, JERRY BRADSHAW RCE 17960

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 71

CONCRETE COMPRESSION TESTS

DATE: 08/11/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NUMBER	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	STRENGTH PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	07/14/94	5705213	5	1792	00:30	01:00	3/3	68	1	0	6
23[illegible]19	.0	7	3005		LOCATION IN STRUCTURE: TRENCH CLOSER AT MAINTENANCE BUILDING										
23[illegible]20	.0	28	4175		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
23[illegible]21	.0	28	4155												

COATINGS ENGINEER

6 1994

SHERWIN-WILLIAMS

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 2527 , JERRY BRADSHAW RCE 17960

TECHNICAL
CONTACT: BOB PATTERSON

REPORT NO: 72

CONCRETE COMPRESSION TESTS

DATE: 08/23/94

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	07/22/94	5701213	5	1792	00:30	12:00	3/3	0	1	0	6
240589	.0	7 *	3290		LOCATION IN STRUCTURE: DRIVEWAY #2 AT RETAINING WALL										
240590	.0	28	4740		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
240591	.0	28	4420												

COATINGS ENGINEER
2 9 1994
SHERWIN WILLIAMS

SMITH-EMERY GEOSERVICES
A MEMBER OF THE SMITH-EMERY COMPANIES, ESTABLISHED 1904

HUNTERS POINT SHIPYARD, BUILDING 114
P.O. BOX 880550
SAN FRANCISCO, CALIFORNIA 94188-0550
PHONE 415/330-3000
FAX 415/330-3030

May 15, 1995

SECo File No.: 55347
SECo Report No.: 95-172

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery Company has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY GEOSERVICES

KEITH D. GILLIAM
GeoServices Manager

KDG:ccc

NOTE:
This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

LOS ANGELES
791 EAST WASHINGTON BOULEVARD
LOS ANGELES, CALIFORNIA 90021
PHONE 213/745-5333
FAX 213/746-0744

ANAHEIM
5427 EAST LA PALMA AVENUE
ANAHEIM, CALIFORNIA 92807
PHONE 714/693-1026
FAX 714/693-1034

May 15, 1995

SEG File No.: 55347
SEG Report No.: 95-172

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California

ELEVATION KEY

SG-Subgrade FSG-Finish Subgrade AB-Aggregate Base
FG-Finish Grade FAB-Finish Agg. Base BTM-Bottom

METHOD KEY

SC-Sandcone DT-Drive Tube
NG-Nuclear Gauge

RESULTS OF DENSITY TESTS

Test No.:	Empl. No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
60	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE NEXT TO CATCH BASIN 13.	NG	-0.5	11.4	109.3	94	90	7
61	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE 50' N. OF CATCH BASIN 13.	NG	-1.0	11.0	107.7	92	90	7
62	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE100' N. OF CATCH BASIN 13.	NG	-1.0	13.3	105.6	90	90	7
63	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE 160' N. OF CATCH BASIN 13.	NG	-0.5	10.7	105.4	90	90	7
64	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE 50' S. OF CATCH BASIN 13.	NG	-0.5	11.9	108.7	93	90	7
65	1882	5/12/95	BACKFILL TRENCH FINISH SUBGRADE NEXT TO CATCH BASIN 13	NG	-1.5	15.8	105.1	90	90	7

SMITH-EMERY GEOSERVICES

May 15, 1995

SECo File No.: 55347
SECo Report No.: 95-172

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#7	Grey Sand	116.8	8.4

SMITH-EMERY GEOSERVICES
A MEMBER OF THE SMITH-EMERY COMPANIES, ESTABLISHED 1904

HUNTERS POINT SHIPYARD, BUILDING 114
P.O. BOX 880550
SAN FRANCISCO, CALIFORNIA 94188-0550
PHONE 415/330-3000
FAX 415/330-3030

D. B. C.
JUL 6 '95

June 20, 1995

SECo File No.:55347
SECo Report No.:L95-053

Sherwin Williams
101 Prospect Avenue
Cleveland, Ohio 44115

Attention: Mr. Bill Berning

RE: Sherwin Williams
Emeryville, CA

SUBJECT: MAXIMUM DENSITY/OPTIMUM MOISTURE DETERMINATION

STANDARD: ASTM D1557-78

SOURCE: Soil type # 7 was sampled by a Smith-Emery Company representative on 5/11/95.

REPORT OF TESTS

In compliance with the request of your authorized representative, we have conducted the subject test, as per project requirements for the above referenced project.

The bulk soil sample was returned to our laboratory by our field technician.

Please see the attached graphs for test results.

Respectfully submitted,
SMITH-EMERY COMPANY

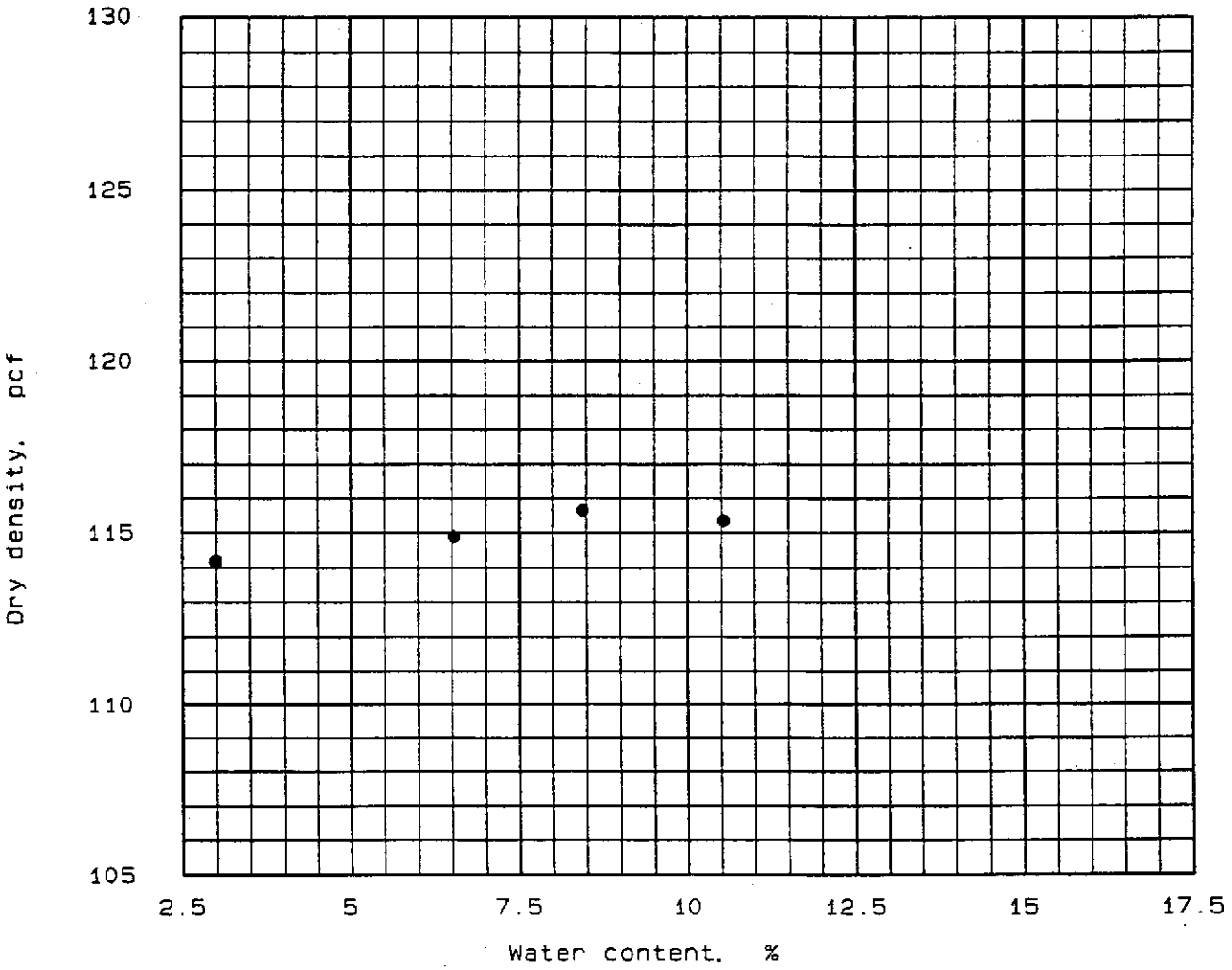
KEITH D. GILLIAM
Geoservices Manager

KDG:ld

LOS ANGELES
791 EAST WASHINGTON BOULEVARD
LOS ANGELES, CALIFORNIA 90021
PHONE 213/745-5333
FAX 213/746-0744

ANAHEIM
5427 EAST LA PALMA AVENUE
ANAHEIM, CALIFORNIA 92807
PHONE 714/693-1026
FAX 714/693-1034

Moisture/Density Relative to Soils



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 9.2 Maximum dry density = 115.7	Grey Sand

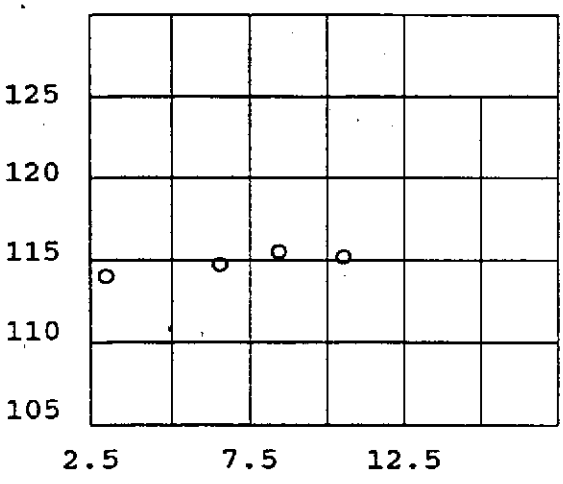
Job No.: 55347
Job Name: Sherwin Williams
Sample Location: On Site
REPORT # L95-053
Date: 5-11-95

Tested by: J.B
Date: 5-11-95
Sampled by: J.B
Date: 5-11-95
Remarks:
Import Material

Smith-Emery Company

Plate No. 7

PROCTOR TEST DATA



Project No.: 55347
Project: Sherwin Williams

POINT NO.	1	2	3	4
WM + WS	13.17	13.33	13.43	13.50
WM	9.25	9.25	9.25	9.25
WW+T #1	387.37	515.62	451.64	419.21
WD+T #1	379.11	490.35	424.54	388.94
WT #1	102.63	102.91	102.85	101.30
MOIST #1	3.0	6.5	8.4	10.5
MOISTURE	3.0	6.5	8.4	10.5
DRY DEN	114.2	114.9	115.7	115.4

Max dry den=115.7 pcf Opt moisture= 9.2 %

REPORT #L95-053

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9
ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 73

DATE: 07/12/95

CONCRETE INSPECTION REPORT

7/07/95

Inspected the placing of concrete at the rear driveway.

Inspected the addition of water and slump (water control) at the rear driveway.

Verified truck trip tickets for conformance with mix design.

16 Cubic yards of Mix No. 5701213.
1 set of 3 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #742, R. X. Joakimson
Workorder #371955

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 74

CONCRETE COMPRESSION TESTS

DATE: 07/14/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	07/07/95	5701213	4	742	00:30	01:30	3/3	0	1	0	6
288230	.0	7	3220												

LOCATION IN STRUCTURE: DRIVEWAY AND CLOSURE STRIP
COMPLIANCE:

Note: Astrick '*' represents information that has been previously reported and billed.

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

REPORT NO: 75

CONCRETE COMPRESSION TESTS

DATE: 08/04/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	07/07/95	5701213	4	742	00:30	01:30	3/3	0	1	0	6
28[illegible]0	.0	7 *	3220		LOCATION IN STRUCTURE: DRIVEWAY AND CLOSURE STRIP										
28[illegible]1	.0	28	4615		COMPLIANCE: 28 DAY TEST COMPLIES WITH SPECIFICATIONS.										
288232	.0	28	4405												

Note: Astrick '*' represents information that has been previously reported and billed.

SMITH-EMERY GEOSERVICES
A MEMBER OF THE SMITH-EMERY COMPANIES, ESTABLISHED 1904
HUNTERS POINT SHIPYARD, BUILDING 114
P.O. BOX 880550
SAN FRANCISCO, CALIFORNIA 94188-0550
PHONE 415/330-3000
FAX 415/330-3030

September 5, 1995

SEG File No.: 55347
SEG Report No.: 95-300

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery GeoServices has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY GEOSERVICES

KEITH D. GILLIAM
Geoservices Manager
Northern California

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

KDG:ld

cc: Osborn Architects/Engineers
Sherwin Williams

LOS ANGELES
791 EAST WASHINGTON BOULEVARD
LOS ANGELES, CALIFORNIA 90021
PHONE 213/745-5333
FAX 213/746-0744

ANAHEIM
5427 EAST LA PALMA AVENUE
ANAHEIM, CALIFORNIA 92807
PHONE 714/693-1026
FAX 714/693-1034

September 05, 1995

SEG File No.: 55347
SEG Repor t No.: 95-300

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California

ELEVATION KEY

SG-Subgrade	FSG-Finish Subgrade	AB-Aggregate Base
FG-Finish Grade	FAB-Finish Agg. Base	BTM-Bottom

METHOD KEY

SC-Sandcone	DT-Drive Tube
NG-Nuclear Gauge	

RESULTS OF DENSITY TESTS

Test No.:	Empl. No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
81	1916	8/28/95	TRUCK PARKING LOT, S.E. QUADRANT	NG	FSG	6.4	123.6	98	90	8
82	1916	8/28/95	TRUCK PARKING LOT, S.W. QUADRANT	NG	FSG	7.8	125.8	100	90	8
83	1916	8/28/95	TRUCK PARKING LOT, N.W. QUADRANT	NG	FSG	6.8	125.9	100	90	8
84	1916	8/28/95	TRUCK PARKING LOT, N.E. QUADRANT	NG	FSG	7.4	124.0	98	90	8
85	1916	8/28/95	AREA E. OF RAILROAD, N. END	NG	FSG	4.8	119.4	95	90	8
86	1916	8/28/95	AREA E. OF RAILROAD, N. END	NG	FSG	4.3	122.1	97	90	8
87	1916	8/28/95	AREA E. OF RAILROAD, MIDDLE	NG	FSG	4.0	124.7	99	90	8
88	1916	8/28/95	AREA E. OF RAILROAD, MIDDLE	NG	FSG	6.4	124	98	90	8
89	1916	8/28/95	AREA E. OF RAILROAD, MIDDLE	NG	FSG	7.2	124.1	99	90	8
90	1916	8/28/95	AREA E. OF RAILROAD, S. END	NG	FSG	5.7	113.4	92	90	8
91	1916	8/28/95	AREA E. OF RAILROAD, S. END	NG	FSG	5.3	123.8	98	90	8

SMITH-EMERY GEOSERVICES

September 5, 1995

SEG File No.: 55347
SEG Report No.: 95-300

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#8	Grey clayey silt with gravel	126.0	9.9

SMITH-EMERY GEOSERVICES - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 76

CONCRETE COMPRESSION TESTS

DATE: 09/12/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NUMBER	UN WT PCF	AGE@ TEST	STRENGTH TEST	PSI DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	09/05/95	69	4	742	00:30	11:00	4/4	0	1	0	6
29[illegible]00	.0	7	2690												

LOCATION IN STRUCTURE: TRAILER PAD
COMPLIANCE:

Note: Astrick '*' represents information that has been previously reported and billed.

SMITH-EMERY GEOSERVICES
A MEMBER OF THE SMITH-EMERY COMPANIES, ESTABLISHED 1904
HUNTERS POINT SHIPYARD, BUILDING 114
P.O. BOX 880550
SAN FRANCISCO, CALIFORNIA 94188-0550
PHONE 415/330-3000
FAX 415/330-3030

September 13, 1995

SEG File No.: 55347
SEG Report No.: 95-318

Power Engineering
1275 N. San Antonio Road
Palo Alto, California 94303

Attention: Mr. Danny Reynolds

Re: Sherwin Williams
1450 Sherwin Drive
Emeryville, California

SUBJECT: COMPACTION TESTING

REPORT OF TESTS

In compliance with your request, Smith-Emery GeoServices has conducted standard compaction testing for the above referenced project.

Field density tests to determine relative compaction were conducted in accordance with ASTM D2922, nuclear gauge method.

Test locations and results are presented on the attached Table 1. Maximum density/optimum moisture determinations were performed on representative samples in accordance with ASTM D1557, five layer method. Test results are presented on the attached Table 2.

Respectfully submitted,

SMITH-EMERY GEOSERVICES

KEITH D. GILLIAM
Geoservices Manager
Northern California

NOTE:

This report contains a weekly summary of compaction test results only and it should not be submitted to City or County grading departments as a certified compacted earth fill report.

KDG:ld

cc: Osborn Architects/Engineers
Sherwin Williams

September 13, 1995

SEG File No.: 55347
SEG Repor t No.: 95-318

Project : Sherwin Williams
1450 Sherwin Drive
Emeryville, California

ELEVATION KEY

SG-Subgrade FSG-Finish Subgrade AB-Aggregate Base
FG-Finish Grade FAB-Finish Agg. Base BTM-Bottom

METHOD KEY

SC-Sandcone DT-Drive Tube
NG-Nuclear Gauge

RESULTS OF DENSITY TESTS

Test No.:	Empl. No.:	Date	Location	Test Type	Elev. / Depth (ft.)	Moisture Content (%)	Dry Density (p.c.f.)	Relative Compaction Field (%)	Relative Compaction Specified (%)	Soil Type
92	1916	9/5/95	EMPLOYEE PARKING LOT - N. HALF	NG	FAB	7.5	126.4	96	90	5
93	1916	9/5/95	EMPLOYEE PARKING LOT - N. HALF	NG	FAB	8.2	125.2	95	90	5
94	1916	9/5/95	EMPLOYEE PARKING LOT - CENTER	NG	FAB	8.8	127.4	97	90	5
95	1916	9/5/95	EMPLOYEE PARKING LOT - S. HALF	NG	FAB	8.2	125.1	95	90	5
96	1916	9/5/95	EMPLOYEE PARKING LOT - S. HALF	NG	FAB	8.2	126.6	96	90	5
97	1916	9/5/95	TRUCK PARKING LOT - SWALE IN CENTER	NG	FAB	7.2	119.5	91	90	5
98	1916	9/5/95	TRUCK PARKING LOT - N. HALF	NG	FAB	7.7	124.0	95	90	5
99	1916	9/5/95	TRUCK PARKING LOT - N. HALF	NG	FAB	8.1	124.7	95	90	5
100	1916	9/5/95	TRUCK PARKING LOT - S. HALF	NG	FAB	8.3	128.0	98	90	5
101	1916	9/5/95	TRUCK PARKING LOT - S. HALF	NG	FAB	8.3	124.1	95	90	5
102	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - NORTHERN THIRD	NG	FAB	7.2	128.1	98	90	5
103	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - NORTHERN THIRD	NG	FAB	6.9	124.5	95	90	5
104	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - CENTER THIRD	NG	FAB	7.2	125.3	96	90	5
105	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - CENTER THIRD	NG	FAB	8.5	125.0	95	90	5
106	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - SOUTHERN THIRD	NG	FAB	7.8	124.5	95	90	5
107	1916	9/5/95	EASTERN HALF OF SITE, ALONG EXISTING BUILDING - SOUTHERN THIRD	NG	FAB	7.7	124.1	95	90	5

SMITH-EMERY GEOSERVICES

September 13, 1995

SEG File No.: 55347
SEG Report No.: 95-318

Project: Sherwin Williams
1450 Sherwin Drive
Emeryville. California

RESULTS OF MAXIMUM DENSITY/OPTIMUM MOISTURE TESTS

Soil Type	Classification	Maximum Density (PCF)	Optimum Moisture, (%)
#5	Dark brown recycled aggregate base	136.3	10.1

SMITH-EMERY GEOSERVICES - SAN FRANCISCO
TABLE 2

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

0 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9
ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 77

DATE: 09/13/95

CONCRETE INSPECTION REPORT

9/05/95

Inspected the placing of concrete at the truck ramp.

Inspected the addition of water and slump (water control) at the truck ramp.

Verified truck trip tickets for conformance with mix design.

9 Cubic yards of Mix No. 56101
1 set of 4 test specimens made.

The work inspected complies with the approved plans and specifications.

INSPECTED BY EMP. #742, R. X. Joakimson
Workorder #386879

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL
CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

COATINGS ENGINEERING

OCT - 9 1995

SHERWIN WILLIAMS

REPORT NO: 78

CONCRETE COMPRESSION TESTS

DATE: 10/04/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	09/05/95	69	4	742	00:30	11:00	4/4	0	1	0	6
297000	.0	7 *	2690			LOCATION IN STRUCTURE: TRAILER PAD									
297001	.0	28	3785			COMPLIANCE: 28 DAY TEST FAILS TO COMPLY WITH SPECIFICATIONS.									
297002	.0	28	3715												

Note: Astrick '*' represents information that has been previously reported and billed.

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

1 0

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9
ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

OCT 18 1995

SHERWIN WILLIAMS

REPORT NO: 79

CONCRETE COMPRESSION TESTS

DATE: 10/11/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	10/04/95	69	0	999	00:00	01:30	3/3	0	0	0	6
30 97	.0	7	3430		LOCATION IN STRUCTURE: DRIVEWAY EXTENSION										
					COMPLIANCE:										

Note: Astrick '*' represents information that has been previously reported and billed.

SMITH-EMERY COMPANY

The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 330-3030
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

2 0

JOB NO: 55347
JOB NAME: SHERWIN WILLIAMS
JOB ADDRESS:
1450 SHERWIN DRIVE
EMERYVILLE CA 9

ENGINEER: JAMES E. PARTRIDGE RCE 25270, VIC ZIKOOR RCE 39003

TECHNICAL CONTACT: BOB PATTERSON

ATTN: BILL BERNING
SHERWIN WILLIAMS
101 PROSPECT AVENUE
CLEVELAND OH 44115

DISTRIBUTED TO:
POWER ENGINEERING
SHERWIN WILLIAMS
CITY OF EMERYVILLE BLDG. DEPT.
SMITH-EMERY COMPANY

REPORT NO: 81

CONCRETE COMPRESSION TESTS

DATE: 11/01/95

Diameter: 6.0 Area: 28.27 Square Inches
Standard method used ASTM C39
All tests performed by Smith Emery

CYL NMBR	UN WT PCF	AGE@ TEST	STRENGTH PSI TEST	DESIGN	DATE OF POUR	MIX DESIGN DESIGNATION	SLUMP INCH	MADE BY	TIME IN MIXER	TIME OF DAY	CYL THIS SET/POUR	TEMP F	LOAD NMBR	PLANT CODE	DIAM INCH
				4000	10/04/95	69	0	999	00:00	01:30	3/3	0	0	0	6
300597	.0	7 *	3430												
300598	.0	28	4300												
300599	.0	28	4085												

LOCATION IN STRUCTURE: DRIVEWAY EXTENSION
COMPLIANCE:

Note: Astrick '*' represents information that has been previously reported and billed.

APPENDIX I

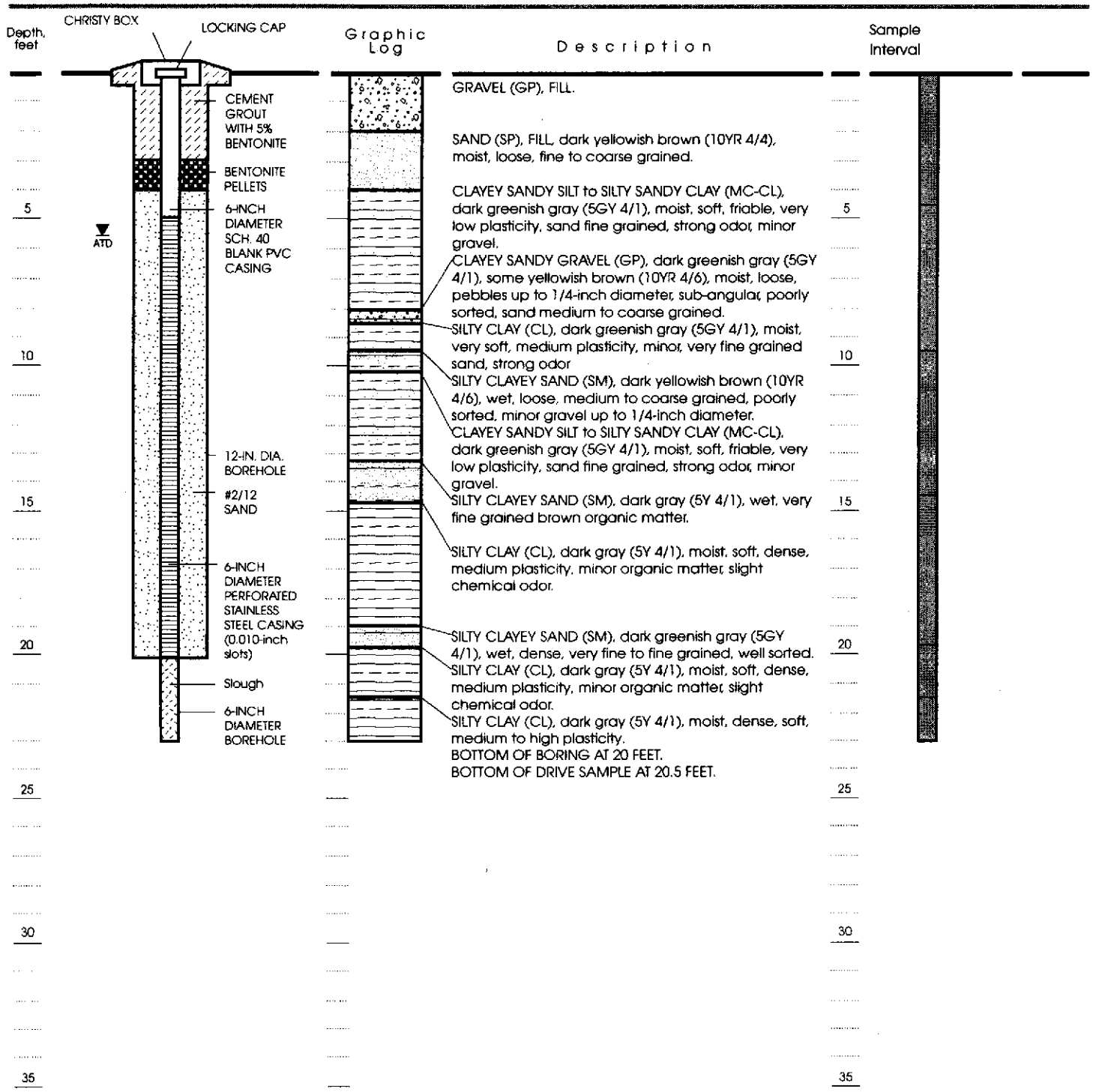
FIELD MEASUREMENTS, PHOTO IONIZATION DETECTOR, CAP AND STORM-WATER COLLECTION SYSTEM BY POWER ENGINEERING CONTRACTORS

SHERWIN - WILLIAMS
POWER ENGR

DATE	TIME	LOCATION	READING	Person working in location	Person taking reading
5-10-95	12:50	ALONG WEST SIDE OF TRACKS, N. Lot area	3.4 PPM	Marty G	MAS
"	14:00	" "	4.5 P.P.M	"	"
"	15:30	" "	7.3 PPM	"	"
5-11-95	09:00	" "	12.7 PPM	"	"
5-16-95	07:30	under driveway next to tower	0.2 PPM	"	"
"	08:30	"	2.3 PPM	"	"
5-17-95	09:00	EXCAVATION at CB MH # 1 (Trench)	2.0 PPM	DAN B Art F	"
"	12:45		0.6 PPM	"	"
5-18-95	0800	Excavation between #1+2 (Trench)	2.0 PPM	Don B Art	DLB
5-19-95	800	Trench between 1+2 (CB)	0.1 PPM	"	DLB
"	"	Trench between CB 2+3	3.0 PPM	"	DLB
"	"	Spoils between CB 2+3 & 2+1	1.4 PPM	"	DLB
5-22-95	07:00	Tested Complete Job Site	1.6 PPM	"	DLB
5-22-95	08:00	Between 1+2 Newer	15.3 PPM	"	DLB
5-22-95	11:15	"	1.4 PPM	"	DLB
5-22-95	15:00	General site	2.5 PPM	"	DLB
5-23-95	08:00	M.H. #1	2.3 PPM	"	DLB
5-23-95	09:00	General Site	1.0 PPM	"	DLB
5-24-95	0800	General Site	1.2 PPM	"	DLB
5-25-95	08:00	General Site	0.6 PPM	"	DLB
5-26-95	07:30	General Site	[redacted]0.2	Dan Dryco.	DLB
5-29-95	08:32	General Site	0.0	Dan Dryco	DLB

APPENDIX J

FIELD LOGS OF WELL CONSTRUCTION AND LITHOLOGY, GROUND-WATER EXTRACTION SYSTEM BY LEVINE·FRICKE



Well Permit No.: 95425
Date well drilled: July 17, 1995
Drilling company: Gregg
Sampling Method: Continuous
Drillind method: Hollow stem auger
LF Geologist: Kenton Gee

EXPLANATION

Clay
Silt
Sand
Gravel
Modified California Sampler
ATD Water level at time of drilling

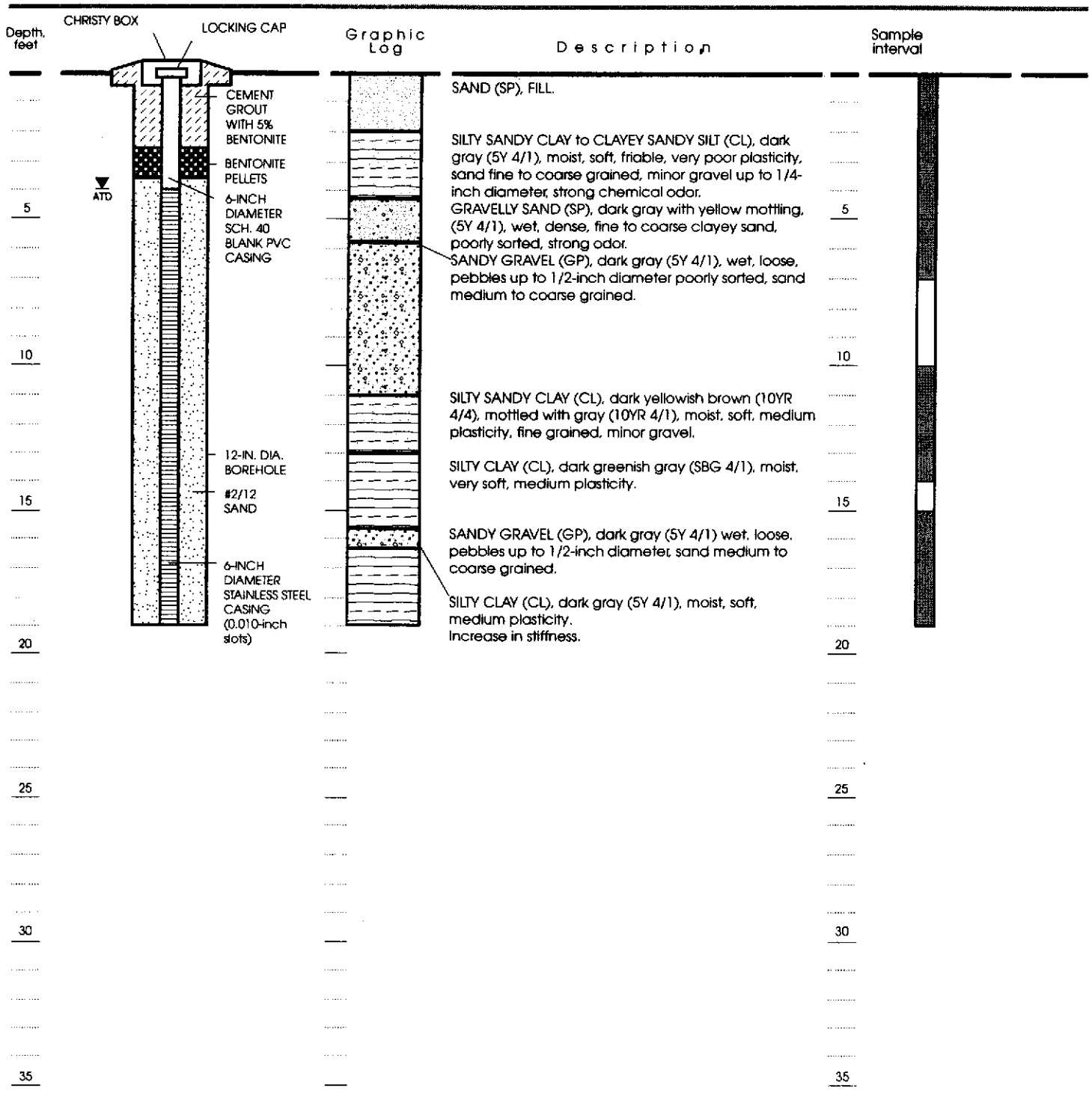
Approved by: RG 5306

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL EX-1

Project No. 3435.01

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3435L001.KAG:JSM 013196



Well Permit No.: 95425
Date well drilled: July 17, 1995
Drilling company: Gregg
Sampling Method: Continuous
Drillind method: Hollow stem auger
LF Geologist: Kenton Gee

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Modified California Sampler
- ATD — Water level at time of drilling

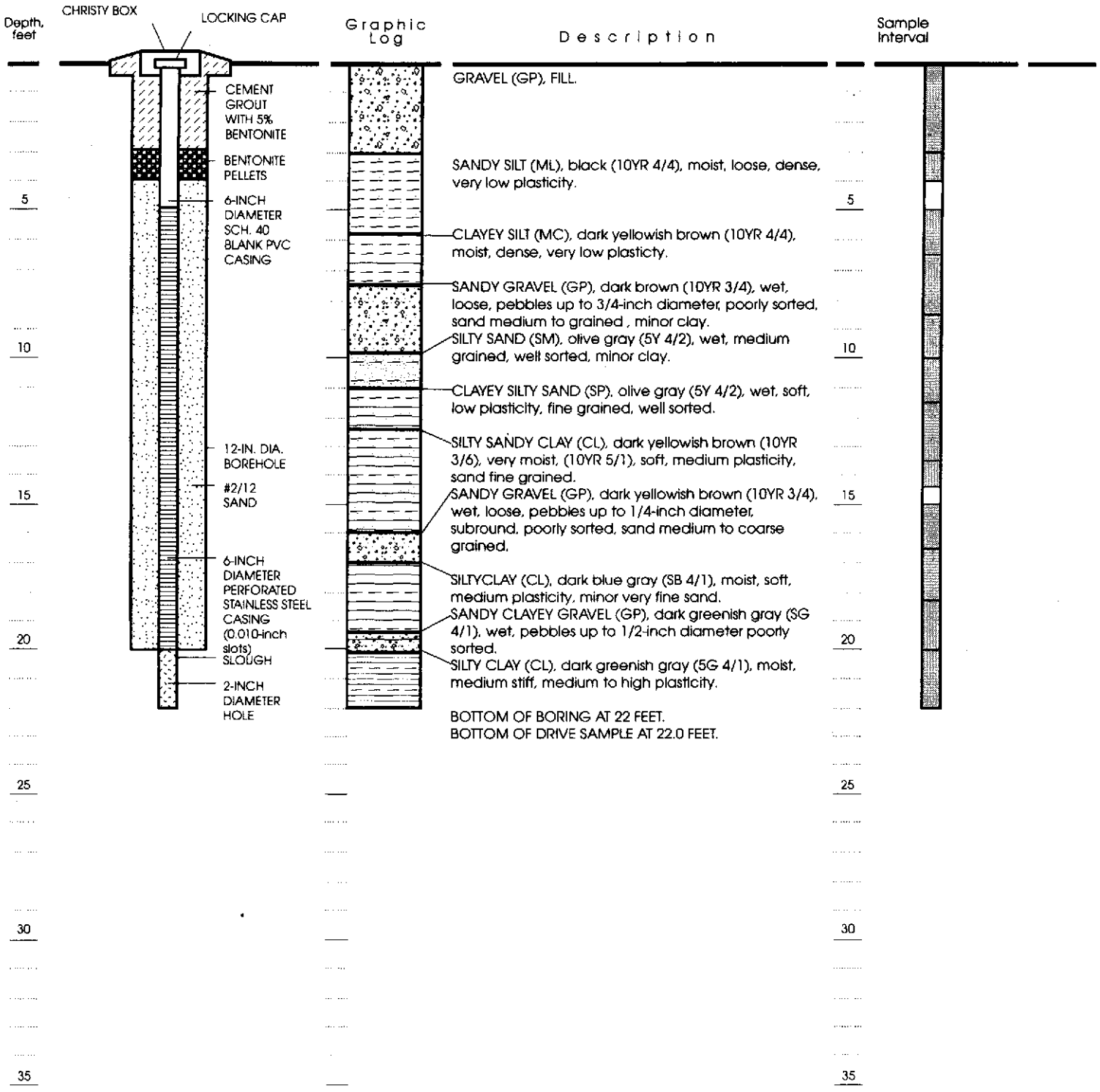
Approved by: [signature] RG 5300

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL EX-2

Project No. 3435.01

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3435L002.KAG:JSM 013196



Well Permit No.: 95425
Date well drilled: July 17, 1995
Drilling company: Gregg
Sampling Method: Continuous
Drillind method: Hollow stem auger
LF Geologist: Kenton Gee

EXPLANATION

Clay
Silt
Sand
Gravel
Modified California Sampler

Approved by: Daniel J. Burdick R.G. 5300

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL EX-3

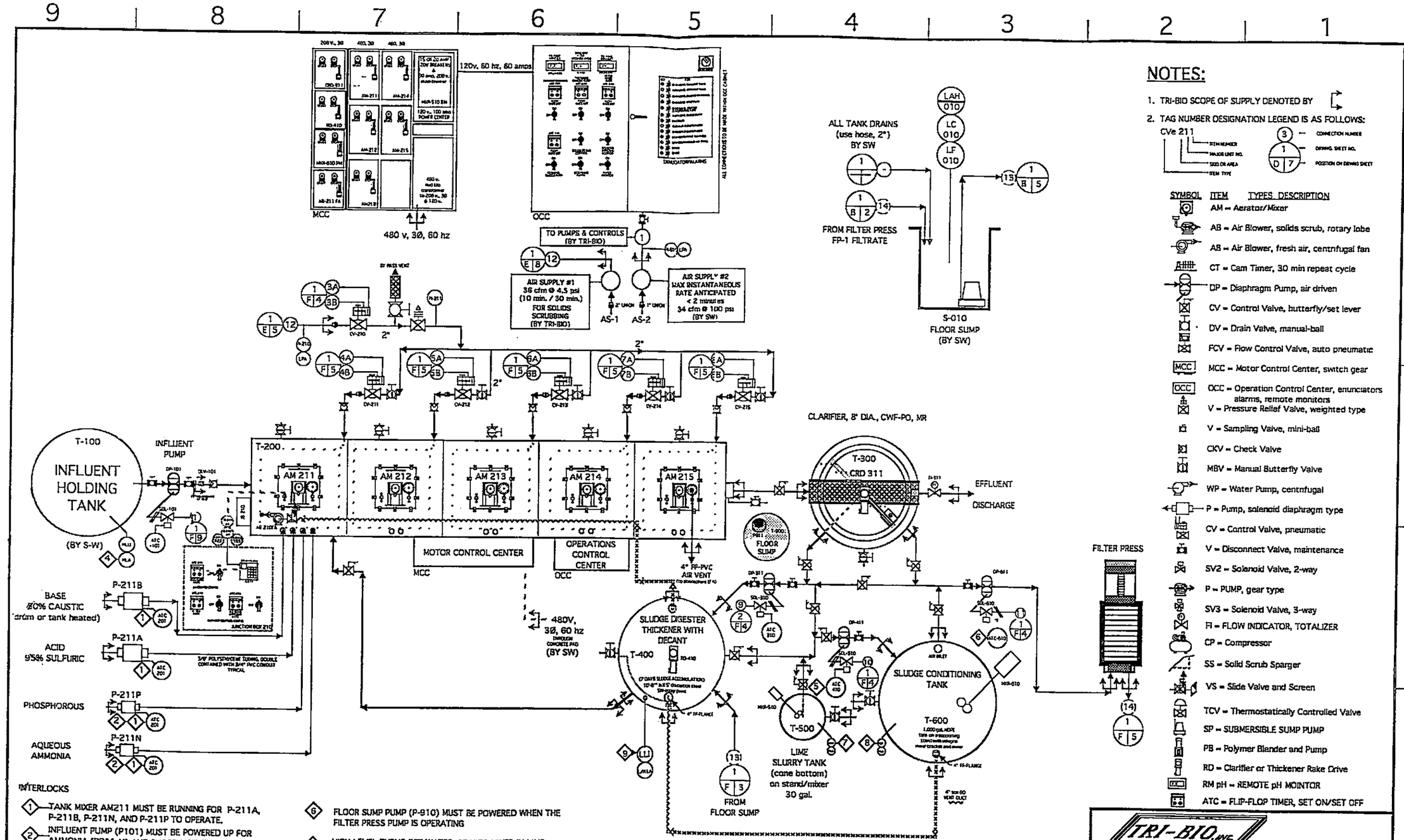
Project No. 3435.01

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3435L003.KAG:JSM 101095

APPENDIX K

RECORD DRAWINGS, GROUND-WATER TREATMENT SYSTEM BY SHERWIN-WILLIAMS



NOTES:

1. TRI-BIO SCOPE OF SUPPLY DENOTED BY
2. TAG NUMBER DESIGNATION LEGEND IS AS FOLLOWS:

CVe 211 — ITEM TYPE; MAJOR UNIT NO.; SUB OR AREA; ITEM NUMBER

3 — CONNECTION NUMBER; 1 — DRWNG. SHEET NO.; 07 — POSITION ON DRWNG SHEET

SYMBOL	ITEM	TYPES DESCRIPTION
	AM	= Aerator/Mixer
	AB	= Air Blower, solids scrub, rotary lobe
	AB	= Air Blower, fresh air, centrifugal fan
	CT	= Cam Timer, 30 min repeat cycle
	DP	= Diaphragm Pump, air driven
	CV	= Control Valve, butterfly/set lever
	DV	= Drain Valve, manual-ball
	FCV	= Flow Control Valve, auto pneumatic
MCC	MCC	= Motor Control Center, switch gear
OCC	OCC	= Operation Control Center, enunciators alarms, remote monitors
	V	= Pressure Relief Valve, weighted type
	V	= Sampling Valve, mini-ball
	CKV	= Check Valve
	MBV	= Manual Butterfly Valve
	WP	= Water Pump, centrifugal
	P	= Pump, solenoid diaphragm type
	CV	= Control Valve, pneumatic
	V	= Disconnect Valve, maintenance
	SV2	= Solenoid Valve, 2-way
	P	= PUMP, gear type
	SV3	= Solenoid Valve, 3-way
	FI	= FLOW INDICATOR, TOTALIZER
	CP	= Compressor
	SS	= Solid Scrub Sparger
	VS	= Slide Valve and Screen
	TCV	= Thermostatically Controlled Valve
	SP	= SUBMERSIBLE SUMP PUMP
	PB	= Polymer Blender and Pump
	RD	= Clarifier or Thickener Rake Drive
RM	RM	pH = REMOTE pH MOINTOR
	ATC	= FLIP-FLOP TIMER, SET ON/SET OFF

INTERLOCKS

1. TANK MIXER AM211 MUST BE RUNNING FOR P-211A, P-211B, P-211N, AND P-211P TO OPERATE.
2. INFLUENT PUMP (P101) MUST BE POWERED UP FOR AMMONIA (P211-N) AND PHOSPHATE (P212-P) PUMPS TO BE POWERED.
3. TANK MIXERS AM-311, AM-312, AM-313, AM-314, AND MUST BE RUNNING FOR P-111W, (by others) TO OPERATE.
4. AN INDICATED HI LEVEL IN TANK 100 SHUTS DOWN THE ARSENIC SYSTEM PUMPS
5. SUDGE THICKENING TANK RAKE MUST BE OPERATING WHEN THIS PUMP IS OPERATED
6. FLOOR SUMP PUMP (P-910) MUST BE POWERED WHEN THE FILTER PRESS PUMP IS OPERATING
7. HIGH LEVEL TURNS OFF WATER, STARTS MIXER IN LIME SLURRY TANK.
8. HIGH LEVEL STOPS THICKENER TRANSFER PUMP
9. HIGH LEVEL IN THICKENER STOPS CLARIFIER SLUDGE PUMP

FIGURE 2

DATE:	7/27/93	PREPARED FOR:	RFP SW/LF-7/15/93
DRWN BY:	CSM	SIZE	D
SCALE:	N/A		

TRI-BIO, INC.
BIOLOGICAL PROCESS DESIGN
2008 POPLAR LANE, ALLENTOWN, PA 18103: ph (215) 395-8309, fax 7259

TITLE: PROCESS AND INSTRUMENTATION DIAGRAM
SHERWIN-WILLIAMS, EMERYVILLE, CA

SUBJECT: MBF SERIES 6-6 BIOLOGICAL TREATMENT SYSTEM GROUNDWATER

DRAWING NO. TB/SW-P&ID,1-7/27/93 | SHEET 1 OF 1

VALVE		NORMAL	SPARGE DRAIN	AIRSPARGE	BACKWASH	SETTLE	RINSE
FILTER 1210	FILTER 1220						
FCV 1212	FCV 1222	O	C	C	C	C	O
FCV 1213	FCV 1223	O	C	C	C	C	C
FCV 1214	FCV 1224	C	C	C	O	O	C
FCV 1215	FCV 1225	C	C	O	C	C	C
FCV 1216	FCV 1226	C	C	C	C	C	O
FCV 1217	FCV 1227	C	O	C	C	C	C

O - OPEN C - CLOSED

CUSTOMER BIOLOGICAL SYSTEM PERMISSIVE

1220 SPARGE 1220 RINSE 1220 SETTLE FILTER 1220 BACKWASH INITIATE 1220 NORMAL 1220 IN BACKWASH

M/M CONTROL BOX

SV-1223 SV-1224 SV-1227 SV-1228 SV-1225 SV-1222

VENT AIR IN 1/4" OD TUBING

FILTER F1220 20"DIA

FILTER F1210 20"DIA

1"CS 1"PVC 1 1/2"PVC

INSTRUMENT AIR SUPPLY 15 SCFM @80 PSIG

AIR SPARGE 10-15 SCFM

SET @ 60 PSI

HIGH ALARM PUMP PERMISSIVE PH INDICATOR

TOTALIZER CUSTOMER PUMP

EFFLUENT TO SHEET 1 OF 2 AND BIO SYSTEM

EFFLUENT TANK BY CUSTOMER T1301

PUMP SHUTDOWN HOT TAP

BACKWASH HOLDING TANK LEVEL HIGH

BACKWASH PUMP P-1202 FAILURE

BACKWASH PUMP P1202

BACKWASH AND REJECT TO T301 SHT 1

SET @ 30 GPM

FILTER 1210 IN BACKWASH FILTER 1210 NORMAL FILTER 1210 BACKWASH INITIATE

SV-1213 SV-1214 SV-1217 SV-1216 SV-1215 SV-1212

FILTER 1210 AIR SPARGE FILTER 1210 RINSE FILTER 1210 SETTLE

M/M CONTROL BOX

FROM CLARIFIER SHEET 1

MULTI-MEDIA ON/OFF/AUTO

FILTER PUMP FAILURE LEVEL HIGH FILTER FEED PUMP P-1201 FAILURE DRIVE FAULT

SAMPLE ST-1201

MULTI-MEDIA BACKWASH REQ'D

FILTER FEED PUMP P1201

PUMPING TANK T1201 375 GAL

DRAIN

MODEL - MMS20-2

WORK THIS DRAWING WITH DRAWINGS 3-12755-01 SH1, 3-12755-18 SH 1 & 2

rev	date	by	description
0	1/14/94	DO	ISSUED FOR CONSTRUCTION
1	12/13/93	DO	GENERAL REVISIONS

REVISIONS

PROPRIETARY

ANDCO ENVIRONMENTAL PROCESSES, INC.
595 COMMERCE DRIVE
AMHERST, NEW YORK 14228

ANDCO HEAVY METAL REMOVAL PROCESS
PROCESS & INSTRUMENTATION DIAGRAM
SHERWIN WILLIAMS
EMERYVILLE , CA

drawn	RoK	date 9/3/93	drawing no. 12755	sht. no. 2 of 2
checked	DEB	date 12/6/93	scale NONE	drawing 3-12755-01
approved		date		

plot date : 2/1/94 cad file no. 12755\12755012

PUMP DATA		
MARK	MAKE & TYPE	FUNCTION
P101	SHERWOOD MODEL CMXP583T, 1 1/2HP 480V/3ø/60Hz 50 GPM @ 50TDH	ACID WASH PUMP
P301	SHERWOOD MODEL CMXP333T, 1 1/2 HP 240-480V/3ø/60Hz 30 GPM @ 50 TDH	30 GPM @ 50TDH PROCESS FEED PUMP
P302	LMI MODEL A761-72S 48 GPD	ACID METERING PUMP
P402	LMI MODEL A161-75HP 48 GPD	POLYMER FEED SYSTEM
P501	WILDEN MODEL M4	SLURRY TRANSFER PUMP
P502	WILDEN MODEL M8	FILTER PRESS PUMP
P801	LMI MODEL A761-72S 48 GPD	CAUSTIC
P701	LMI MODEL A761-77 (SS) 48 GPD	H_2O_2 METERING PUMP
P1201	WORTHINGTON D52G 2 HP 1 1/4x1x5 480V/3ø/60Hz 15 GPM @ 101TDH	FILTER FEED PUMP
P1202	WORTHINGTON D52G 2 HP 1 1/4x1x5 480V/3ø/60Hz 30 GPM @ 108TDH	BACKWASH PUMP
MTR301	LIGHTNIN / VEXTOR V5U25 1/3HP 120V/1ø/60Hz	TANK T301 MIXER
MTR402	SHARPE MODEL S-025 1/4HP 120V/1ø/60Hz	CLARIFIER FLASH CHAMBER MIXER
MTR601	LIGHTNIN / VEXTOR V6U18 1/4HP 120V/1ø/60Hz	TANK T601 MIXER
MTR701	LIGHTNIN / VEXTOR V6U18 1/4HP 120V/1ø/60Hz	TANK T701 MIXER

EFFLUENT CONDITIONS	
pH	8.5
CADMIUM	0.0093 mg/l
ARSENIC	0.025 mg/l
COPPER	0.0029 mg/l
LEAD	0.0032 mg/l
ZINC	0.086 mg/l
IRON	1.00 mg/l

INFLUENT CONDITIONS	
FLOW	15 GPM
pH	7.0
CONDUCTIVITY	1000-4000 umhos
CADMIUM	0.2 mg/l
ARSENIC	180 -
COPPER	0.10 mg/l
LEAD	0.05 mg/l
ZINC	6.0 mg/l

LEGEND

1XX ELECTROCHEMICAL SYSTEM
3XX PROCESS PUMPING SYSTEM
4XX CLARIFIER SYSTEM
5XX FILTER PRESS SYSTEM
6XX pH ADJUSTMENT SYSTEM
12XX MULTI-MEDIA FILTER SYSTEM
13XX EFFLUENT SYSTEM

PROCESS LINE
SECONDARY LINE
AIR LINE
ELECTRICAL LINE
ELECTRICAL LOGIC INTERLOCK
INTERCONNECTING

NOTES:

1. 100 PSI INSTRUMENT AIR PER ANSI/ISA-57.3 IS REQUIRED
2. VENT IS TO BE PIPED TO OUTSIDE ATMOSPHERE.
3. ALL SYMBOLS PER ISA STD. S5.1
4. CUSTOMER'S POWER REQUIREMENTS: 480V/3ø/60Hz-60A
5. ALL PIPING IS PVC UNLESS OTHERWISE NOTED.

WORK THIS DRAWING WITH DRAWINGS 3-12755-01 SH 1&2, 3-12755-02 SH 1&2

rev	date	by	description
1	3/7/94	RPB	AS BUILT
0	1/14/94	DO	ISSUED FOR CONSTRUCTION
C	1/12/94	DO	GENERAL REVISIONS
B	12/2/93	DO	GENERAL REVISIONS
A	11/5/93	DO	GENERAL REVISIONS

REVISIONS

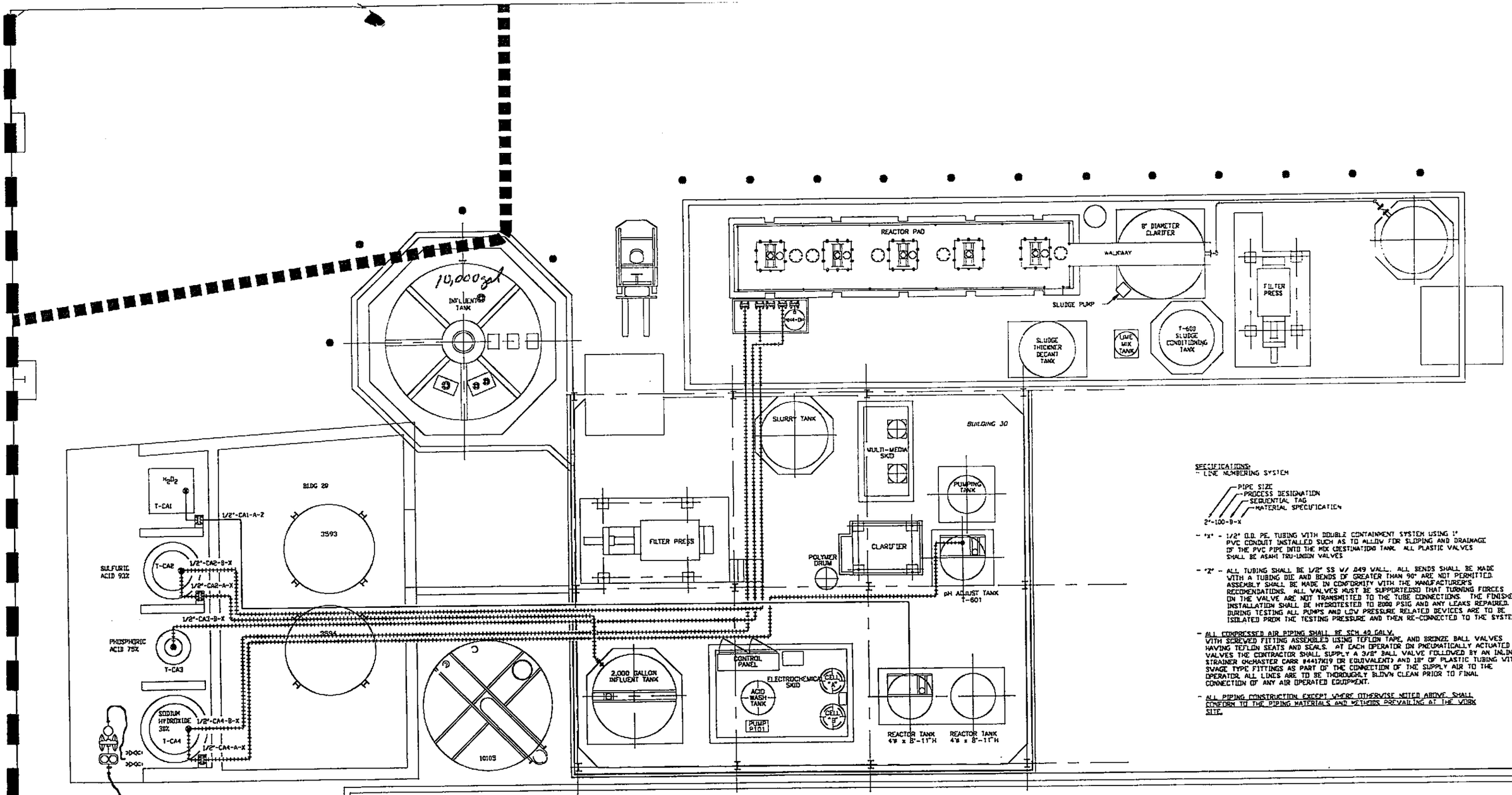
PROPRIETARY

ANDCO ENVIRONMENTAL PROCESSES, INC.
595 COMMERCE DRIVE
AMHERST, NEW YORK 14228

ANDCO HEAVY METAL REMOVAL PROCESS
PROCESS & INSTRUMENTATION DIAGRAM
THE SHERWIN WILLIAMS CO
EMERYVILLE , CA

drawn	RoK	date 9/2/93	worked no. 12755	sht. no. 1 of 2	
checked	DEB	date 11/22/93	scale NONE	dwg.no. 3-12755-01	
approved		date			

plot date : 3/7/94 cad file no. 12755\12755011



SPECIFICATIONS:
- LINE NUMBERING SYSTEM

- "X" - 1/2" O.D. PE. TUBING WITH DOUBLE CONTAINMENT SYSTEM USING 1" PVC CONDUIT INSTALLED SUCH AS TO ALLOW FOR SLOPING AND DRAINAGE OF THE PVC PIPE INTO THE MIX DESTINATION TANK. ALL PLASTIC VALVES SHALL BE ASAHI TRU-UNION VALVES

- "Z" - ALL TUBING SHALL BE 1/2" SS W/ .049 WALL. ALL BENDS SHALL BE MADE WITH A TUBING DIE AND BENDS OF GREATER THAN 90° ARE NOT PERMITTED. ASSEMBLY SHALL BE MADE IN CONFORMITY WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL VALVES MUST BE SUPPORTEDSO THAT TURNING FORCES ON THE VALVE ARE NOT TRANSMITTED TO THE TUBE CONNECTIONS. THE FINISHED INSTALLATION SHALL BE HYDROTESTED TO 2000 PSIG AND ANY LEAKS REPAIRED. DURING TESTING ALL PUMPS AND LOW PRESSURE RELATED DEVICES ARE TO BE ISOLATED FROM THE TESTING PRESSURE AND THEN RE-CONNECTED TO THE SYSTEM.

- ALL COMPRESSED AIR PIPING SHALL BE SCH. 40 GALV. WITH SCREWED FITTING ASSEMBLED USING TEFLON TAPE, AND BRONZE BALL VALVES HAVING TEFLON SEATS AND SEALS. AT EACH OPERATOR ON PNEUMATICALLY ACTUATED VALVES THE CONTRACTOR SHALL SUPPLY A 3/8" BALL VALVE FOLLOWED BY AN IN-LINE STRAINER (McMASTER CARR #4417M19 OR EQUIVALENT) AND 18" OF PLASTIC TUBING WITH SWAGE TYPE FITTINGS AS PART OF THE CONNECTION OF THE SUPPLY AIR TO THE OPERATOR. ALL LINES ARE TO BE THOROUGHLY BLOWN CLEAN PRIOR TO FINAL CONNECTION OF ANY AIR OPERATED EQUIPMENT.

- ALL PIPING CONSTRUCTION EXCEPT WHERE OTHERWISE NOTED ABOVE SHALL CONFORM TO THE PIPING MATERIALS AND METHODS PREVAILING AT THE WORK SITE.

GENERAL NOTE:
THE LOCATION OF PIPES SHOWN ON THE DRAWINGS IS APPROXIMATE. THE CONTRACTOR SHALL USE EXISTING PIPE RACEWAYS WHEREVER PRACTICAL AND SHALL ROUTE PIPING SO AS TO AVOID OBSTRUCTION OF NORMAL OPERATING AREAS.

SCOPE OF WORK:
———— ALL PIPING SHOWN ON DRAWINGS IN BOLD LINES IS NEW. ALL OTHER PIPING EXISTS IN PLACE.

+++++++ INDICATES PIPING WITH DOUBLE CONTAINMENT

- THE CONTRACTOR SHALL SUPPLY ALL LABOR SUPERVISION AND MATERIALS NOT SPECIFICALLY EXCLUDED ABOVE NECESSARY TO INSTALL THE EQUIPMENT AND CONSTRUCT THE PIPING SYSTEMS SHOWN ON THE DRAWINGS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS VALVES, FLANGES UNIONS, PIPE SUPPORTS AND CONNECTIONS TO THE EXISTING PIPING SYSTEM.

- DRAINING OF LINES NECESSARY FOR MAKING PIPING CONNECTIONS WILL BE DONE BY SHERWIN WILLIAMS PERSONEL WHO WILL DISPOSE OF ALL DRAINED MATERIAL. THE CONTRACTOR SHALL MAKE ALL CONNECTIONS TO EXISTING PIPING ON A SCHEDULE SET UP BY THE SHERWIN WILLIAMS AREA SUPERVISOR ARRANGED SO AS TO MINIMIZE DOWN TIME. OPENING OR CLOSING OF VALVES TO FACILITATE CONNECTIONS SHALL BE DONE BY SHERWIN WILLIAMS PERSONEL ONLY. THE OWNER WILL SUPPLY TAGS FOR ALL SUCH VALVES THAT THE CONTRACTOR SHALL APPLY. HE SHALL ALSO REMOVE THE TAGS ONLY AFTER THE AREA SUPERVISOR AGREES THAT THE PIPING IS READY FOR SERVICE.

- ALL WORK SHALL BE DONE IN COMPLIANCE WITH SITE SAFETY RULES AS INTERPRETED BY THE SITE SAFETY DIRECTOR OR HIS APPOINTEE.

- CONSTRUCTION IS TO BE CARRIED OUT DURING REGULAR PLANT WORKING HOURS DAY SHIFT, WITH THE PLANT IN OPERATION. CONSTRUCTION IS TO BE CARRIED OUT IN SUCH A MANNER AS MINIMIZE THE AFFECT ON ONGOING PLANT OPERATIONS. WHERE NECESSARY TO ACCOMODATE PLANT OPERATION AND/OR TO FACILITATE CONSTRUCTION, ADDITIONAL FLANGES OR OTHER PIPING ELEMENTS ARE TO BE PROVIDED EVEN THOUGH NOT SHOWN ON THE DRAWING.

- ALL MATERIALS SHALL BE FREE OF DEFECTS AND ALL CONSTRUCTION DONE IN A WORKMANSHIP LIKE MANNER. ALL PIPING SHALL BE LEAK FREE AND ADEQUATELY BRACED SO AS TO RESIST THE DEFLECTIONS CAUSED BY THE DIAPHRAGM PUMP. ANY LEAKES SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
- THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS FROM THE PREMISIS AND PROPERLY DISPOSE OF IT.

FOR CONTRACTOR BIDDING

DRWN. BY: J. EVARD Jr.
CHKD. BY:
ENG. APP.:
DEPT. APP.:

DATE	BY	CHANGE DESCRIPTION	REV.

SHERWIN WILLIAMS
COATINGS ENGINEERING
OAKLAND, CALIFORNIA

GROUNDWATER TREATMENT
CHEMICAL ADDS PIPING

SCALE: 1"=1'-0"
DATE: 7/19/94
DRWG. NO. Y-030-701-N