

CCR Surface Impoundment History of Construction Documentation

San Miguel Electric Cooperative, Inc.

Atascosa County, Texas

October 14, 2016

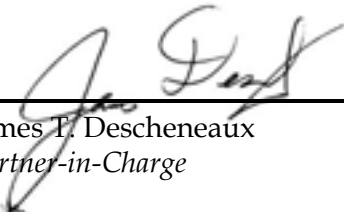
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Project No. 0303548
Atascosa County, Texas



James T. Descheneaux
Partner-in-Charge



Kenneth R. Schroeder, P.E.
Project Director/Project Engineer



Charles O. Johnson
Project Manager



E. Doyon Main, P.E.
Project Consultant

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
T: 512-459-4700
F: 512-597-8365

*Texas Registered Engineering Firm F-2393
Texas Board of Professional Geoscientist Firm 50036*

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1.0

INTRODUCTION

San Miguel Electric Cooperative, Inc., (San Miguel) owns and operates a 440-MW lignite-fired electric power generating plant (the San Miguel Plant) and associated lignite-mining facilities in Atascosa County, Texas (the San Miguel Plant). The San Miguel Plant is located approximately 6 miles south of Christine, Texas.

The San Miguel Plant began electric power generation in January 1982. San Miguel has wholesale power contracts to furnish electric power to the South Texas Electric Cooperative, Inc. through the calendar year 2037.

The San Miguel Plant generates coal combustion residuals (CCR) that are regulated under Title 40, Code of Federal Regulations, Part 257 (40 CFR Part 257)(the CCR Rule). San Miguel operates two CCR surface impoundments at the San Miguel Plant:

- (1) the Ash Water Transport Ponds (Ash Ponds); and
- (2) the Equalization Pond (EP).

1.1

PURPOSE OF THIS REPORT

Regulations in 40 CFR §257.73, Structural Integrity Criteria for Existing CCR Surface Impoundments, require that owners and operators of existing CCR surface impoundments compile a history of construction of each CCR surface impoundment and post the documentation on an internet site accessible by the public.

The documentation must include the following, to the extent feasible, in accordance with 40 CFR §257.73(c)(1):

- (i) *The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.*
- (ii) *The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7 1/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.*
- (iii) *A statement of the purpose for which the CCR unit is being used.*
- (iv) *The name and size in acres of the watershed within which the CCR unit is located.*
- (v) *A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.*
- (vi) *A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit.*

- (vii) *At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.*
- (viii) *A description of the type, purpose, and location of existing instrumentation.*
- (ix) *Area-capacity curves for the CCR unit.*
- (x) *A description of each spillway and diversion design features and capacities and calculations used in their determination.*
- (xi) *The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.*
- (xii) *Any record or knowledge of structural instability of the CCR unit.*

This report is a compilation of documents provided by San Miguel describing the history of construction of the two CCR surface impoundments at the San Miguel Plant.

1.2 ORGANIZATION OF THIS REPORT

This report describes the Ash Ponds and EP CCR surface impoundments construction history at the San Miguel Plant as described in this section.

Section 2 describes each of the CCR surface impoundments at the San Miguel Plant and summarizes the available documentation as required in 40 CFR §257.73(c)(1).

Section 3 describes notification and recordkeeping requirements related to CCR surface impoundment history of construction documentation that San Miguel will implement to comply with the CCR Rule.

Section 4 lists sources of information used to document the Ash Ponds and EP construction history.

Appendix A contains a copy of each document referenced in this report.

1.3 UPDATE OF THIS REPORT

In accordance with 40 CFR §257.73, San Miguel must update the information compiled in this report consistent with any significant change regarding the Ash Ponds or the EP history of construction.

2.0

CCR SURFACE IMPOUNDMENTS DOCUMENTATION

The San Miguel Plant is a coal fired steam electric plant capable of generating approximately 440 MW. San Miguel began construction of the plant in 1977. The San Miguel Plant began generating electric power in 1982.

San Miguel currently operates two CCR surface impoundments at the Plant which are subject to requirements in 40 CFR §257:

- the Ash Water Transport Ponds (Ash Ponds); and
- the Equalization Pond (EP).

San Miguel Plant records show that the Ash Ponds are two adjoining and connected CCR surface impoundments separated by an earthen dike and hydraulic gate. The northern Ash Pond is designated "A" or "1A", and the southern Ash Pond is designated "B" or "1B" in San Miguel historical reports and correspondence (NFS 1984, PSI 1987b).

San Miguel Plant records show that the EP is a single CCR surface impoundment (T&G 1977a).

San Miguel records show that both the Ash Ponds and the EP were constructed between CY 1977 and CY 1978 as part of the original San Miguel Plant construction. Therefore, both the Ash Ponds and the EP were constructed and received CCR before October 19, 2015. In addition, both the Ash Ponds and the EP currently receive CCR. Hence, in accordance with 40 CFR §257.53, both the Ash Ponds and the EP are classified as active existing CCR surface impoundments.

The history of construction of the Ash Ponds and the EP are described below in accordance with requirements in 40 CFR §257.73(c)(1).

2.1

OWNERSHIP AND UNIT IDENTIFICATION

San Miguel is required to document, to the extent feasible, the "name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state" in accordance with 40 CFR §257.73(c)(1)(i). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant and public records.

2.1.1 *Owner Name and Address*

San Miguel Plant records state that the San Miguel Plant CCR surface impoundments are owned and operated by the San Miguel Electric Cooperative, Inc. The full name and address of the San Miguel Plant owner is:

San Miguel Electric Cooperative, Inc.
6200 FM 3387
Christine, Texas 78012

2.1.2 *CCR Unit Name*

San Miguel Plant records state that the name of one of the CCR surface impoundments is the Ash Water Transport Ponds (Ash Ponds). The Ash Ponds consist of Ash Water Transport Pond "A" and Ash Water Transport Pond "B". The two Ash Ponds are assigned a single Solid Waste Management Unit number on the Notice of Registration issued by the TCEQ (TCEQ 2015).

The name of the other CCR Surface Impoundment is the Equalization Pond (EP).

2.1.3 *CCR Unit Identification Number*

San Miguel records state that the Ash Ponds are listed as Solid Waste Management Unit (SWMU) No. 014 on the Notice of Registration (NOR) for Solid Waste Registration (SWR) 031434 issued to San Miguel by the Texas Commission on Environmental Quality (TCEQ) (TCEQ 2016). The NOR also states that the EP is SWMU No. 015.

The NOR states that both the Ash Ponds and the EP are active surface impoundments (TCEQ 2016).

A copy of the NOR dated August 8, 2016 is included in Appendix A. A current copy of the NOR can be found on the TCEQ "Central Registry" internet site accessible to the public.

2.2 *UNIT LOCATION AND WATERSHED*

San Miguel is required to document, if feasible, the "location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7 1/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available" in accordance with 40 CFR §257.73(c)(1)(ii).

San Miguel Plant records show that the Ash Ponds are located on the San Miguel Plant site generally south of the Plant and west of the EP. The EP is located generally southeast of the Plant. The locations of the Ash Ponds and the EP on the San Miguel Plant site are shown on Figure 1. In addition, the locations of the Ash Ponds and the EP are shown on an annotated excerpt of the most recent U.S.

Geological Survey (USGS) 7 1/2-minute topographic quadrangle map on Figure 2 (USGS 2013).

2.3 ***CCR UNIT PURPOSE***

San Miguel is required to document, if feasible, a “statement of the purpose for which the CCR unit is being used” in accordance with 40 CFR §257.73(c)(1)(iii). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

2.3.1 ***Purpose of the Ash Ponds***

San Miguel Plant records show that the Ash Ponds receive the following wastewater streams as shown on the facility NOR (TCEQ 2016) and the Plant water balance diagram (San Miguel 1982):

- 1) bottom ash transport water overflow from hydrobins used to dewater bottom ash CCR;
- 2) lignite pile stormwater and dust suppression runoff via periodic makeup from the Lignite Yard Retention Pond (LYRP);
- 3) boiler blowdown;
- 4) cooling tower blowdown;
- 5) boiler feedwater treatment wastewater;
- 6) treated sewage wastewater;
- 7) Flue Gas Desulfurization (FGD) scrubber wastewater; and
- 8) stormwater drainage from a limited part of the Plant.

The TCEQ issued TPDES Permit No. WQ0002601000 to San Miguel for discharge of stormwater runoff from portions of the San Miguel Plant (TCEQ 2105). However, that permit does not allow any discharge from the Ash Ponds. Instead, San Miguel recycles water collected in the Ash Ponds for ash water transport to the extent practical.

San Miguel relies on evaporation for removal of excess water from the Ash Ponds, and addition of water from the Raw Water Pond, from the EP, from the LYRP, or from process units for make-up water, to maintain a water level in the Ash Ponds needed for efficient operation of the San Miguel Plant.

2.3.2 ***Purpose of the Equalization Pond***

The EP receives FGD scrubber wastewater (spent limestone slurry) as shown on the San Miguel Plant NOR (TCEQ 2016) and as described in TPDES Permit No. WQ0002601000 (TCEQ 2015).

The TCEQ issued TPDES Permit No. WQ0002601000 to San Miguel for discharge of stormwater runoff from portions of the San Miguel Plant (TCEQ 2105). However, that permit does not allow any discharge from the EP. Instead, the San Miguel Plant relies on evaporation to remove excess water from the EP, and/or pumping water from the EP to the Ash Ponds, for removal of excess water to manage the water level in the EP needed for efficient operation of the San Miguel Plant.

2.4 WATERSHED

San Miguel is required to document, if feasible, the “name and size in acres of the watershed within which the CCR unit is located” in accordance with 40 CFR §257.73(c)(1)(iv). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant and public records.

Watershed mapping published by the Natural Resource Conservation Service (NRCS) shows that the Ash Ponds and EP are located in the Atascosa watershed (Hydrologic Unit Code 12110110)(NRCS 2008). The total area of that watershed is approximately 893,000 acres. The crests of the dikes surrounding the Ash Ponds and the EP are elevated above the adjoining ephemeral stream and flood plain.

San Miguel drawings prepared for construction of the Ash Ponds show that the Ash Ponds receive direct precipitation inside its perimeter dikes, stormwater runoff from a drainage area of approximately 32 acres, and pumped stormwater drainage from approximately 7 acres (T&G 1977b, T&G 1980a, T&G 1980c, T&G 1981).

San Miguel drawings prepared for construction of the EP show that the EP receives direct precipitation inside its perimeter dikes and stormwater runoff from a drainage area of approximately 28.5 acres (T&G 1977a, T&G 1977c, T&G 1980a).

In accordance with requirements in TPDES Permit No. WQ0002601000, neither the Ash Ponds nor the EP discharge water to the watershed in normal operation.

2.5 FOUNDATION AND ABUTMENTS CONSTRUCTION

San Miguel is required to document, if feasible, a “description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed” in accordance with 40 CFR §257.73(c)(1)(v). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

San Miguel obtained a geotechnical investigation for design of the San Miguel Plant prior to construction of the San Miguel Plant. The purpose of the geotechnical investigation was to characterize key material properties of the San Miguel Plant site soils for use for plant design and construction, if possible, and related key construction limitations and requirements. Results of the

investigation and a summary of Ash Ponds and EP construction recommendations were included in two letter reports that NFS submitted to San Miguel (NFS 1978b, NFS 1984).

NFS described the foundation and abutment soils of the Ash Ponds and EP as generally consisting of an upper clay stratum ranging from approximately 22 to 30 feet thick. This stratum was encountered at depths from 14 feet below the bottom of Ash Ponds and from 7 to 14 feet below the bottom of the EP. NFS described the upper clay as consisting of hard, moderately-to-highly plastic, relatively impermeable clays, sandy clays, and silty clays.

NFS described the soil underlying the upper clay stratum as a very dense silty fine sand stratum. The thickness of the underlying sand stratum in the area of the Ash Ponds and EP was not described in the NFS geotechnical engineering report. Based on the information obtained, the geotechnical investigation recommended installation of a five-foot deep inspection trench on the interior side of the base of the Ash Pond and EP dikes. The geotechnical investigation reports include a plan of borings and cross sections with material properties of the native soils encountered (NFS 1984).

San Miguel Plant documentation includes report of a dike stability analysis in 2012 (the CY 2012 dike stability report)(Arias 2012). That report describes soil borings that were drilled and sampled through the Ash Pond and the EP dike crests and through soils near the Ash Pond and the EP dike exterior toe of slope.

The descriptions of dike foundation and abutment soils in the CY 2012 dike stability analysis report are generally consistent with the descriptions of the corresponding soils in the CY 1978 geotechnical investigation report (see NFS 1979, NFS 1984, and Arias 2012).

2.6 **CONSTRUCTION**

San Miguel is required to document, if feasible, a “statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit” in accordance with 40 CFR §257.73(c)(1)(vi). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

2.6.1 **Initial Construction**

The Ash Ponds and the EP were designed by Tippet & Gee, Inc. The Ash Ponds and the EP were constructed by San Miguel between July 1977 and May 1978 (NFS 1984).

The Ash Ponds and EP were constructed by a combination of excavation and fill to lines and grades in accordance with drawings and technical specifications for construction of the San Miguel Plant (NFS 1979b, T&G 1977a, T&G 1977c). Printed excerpts of technical specifications for the San Miguel plant construction, provided by San Miguel, were included in the *Assessment of Dam Safety of Coal Combustion Surface Impoundments, Final Report* prepared by CDM Smith. The excerpts include specifications for construction of the Ash Ponds, but not for the EP (CDM Smith).

Operation of the Ash Ponds and the EP began in 1981 (NFS 1984).

Printed excerpts of technical specifications for the San Miguel plant construction provided by San Miguel were included in a dike stability analysis prepared for San Miguel in CY 2014 (CDM Smith 2014).

The excerpts specified that Ash Ponds earthwork be constructed in accordance with the following requirements:

- Strip organic and topsoil from the area to receive fill.
- Use native clays, silty clays, and sandy clays with permeability less than 1.0×10^{-7} centimeters per second (cm/sec) encountered during plant grading including, if suitable, Ash Ponds and EP excavation borrow, on the inner third of the impoundment dikes.
- Use the more pervious soils encountered during plant grading including, if suitable, Ash Ponds and EP excavation borrow, to construct the outer shell of the dikes.
- Excavate a five foot-deep inspection trench along the center of the proposed northern dike and along the interior toe of the eastern, western, and southern dikes to for the purpose of inspecting the dike foundation soils.
- Scarify foundation soils to a depth of one foot and adjust moisture content if necessary.
- Re-compact foundation soils and place and compact dike fill in maximum nine inch thick loose lifts to 95% of the maximum dry density as determined by Texas Highway Department Test Method Tex-113-E at one percent dry to four percent wet of the optimum moisture content.
- Grade dike side slopes to 2.5 horizontal to 1 vertical (2.5H:1V).
- Place a 12-inch thick layer of topsoil on the top and exterior side slope of the dikes and sprig with Coastal Bermuda grass.

San Miguel obtained a plan to test the completed Ash Ponds and EP including borings in the completed dikes and clay liners to confirm compliance with the then-current Texas Department of Health (TDH) Regulations for Solid Waste Management, dated April 1977 (NFS 1978b). However, frequent and intense rainstorm events in 1978 shortly after completion of the dikes prevented that geotechnical investigation. As a substitute, NFS recommended borings of the

dikes after completion of construction in lieu of sampling the then-flooded pond bottoms (NFS 1978b). Soil samples were to be collect from the borings for the following analysis:

- grain size distribution;
- coefficient of permeability; and
- and Atterberg limits.

NFS recommended evaluation of the soil sample test results in accordance with guidelines for industrial solid waste (ISW) surface impoundment liners issued by the Texas Department of Water Resources (TDWR), successor to the TDH for waste management facilities and predecessor of the TCEQ. The TDWR liner guidelines recommended that surface impoundment liners consist of either four feet of natural soil or three feet of compacted clay with the following properties:

- at least 30% soil particles passing the No. 200 sieve, and at least 50% of those particles be plastic;
- a Liquid Limit of at least 30;
- a Plasticity Index of at least 15; and
- a permeability less than or equal to 1×10^{-7} centimeters per second (cm/sec).

Alternatively, the TDWR recommended certification of the Ash Ponds and EP according to the field test reports and soils information collected before and during pond construction, so the borings were not installed. In a March 1979 letter from the San Miguel engineering consultant stated that the Ash Ponds and EP were constructed of clay rich soil with coefficients of permeability less than 1.0×10^{-7} cm/sec (NFS 1979b). The TDWR agreed that the TDWR permit requirement to line all wastewater retention ponds (*i.e.*, the Ash Ponds and the EP) with either a synthetic liner or three feet of clay rich soil to achieve a permeability less than 1.0×10^{-7} cm/sec had been achieved (TDWR 1979).

2.6.2 *Ash Ponds Liner Reconstruction*

San Miguel Plant records were used to establish the following summary of San Miguel reconstruction of the Ash Ponds liners.

2.6.2.1 *Ash Pond A Liner Reconstruction*

San Miguel Plant records state that Ash Pond A began receiving ash transport water in CY 1981 and was full of ash transport water shortly thereafter (NFS 1984). Ash Pond B was not in full use at that time, and consequently, reportedly contained only a few feet of ash transport water in the bottom of the pond.

A TDWR inspector observed seepage on the exterior of parts of the Ash Pond A western and eastern perimeter dikes during a routine inspection in May 1983. As

a result, the TDWR requested that San Miguel investigate the seeps and develop options to correct the seeps (TDWR 1983).

In response to TDWR's inspection, San Miguel requested an investigation of Ash Pond A from the geotechnical engineer involved in original Ash Ponds and EP design and construction. Specifically, San Miguel requested an assessment of the condition of Ash Pond A and corrective measure recommendations for any conditions related to seepage that may be encountered.

The resulting investigation identified seven potential seep areas on the dike exterior side slope at locations on the eastern, southern, and western sides of the Ash Ponds (NFS 1984). The reported identified jointing in the dike in-situ foundation and abutment clay reported to be those portions where seepage was observed in the Ash Ponds dikes. The report stated that the jointing served as potential sources of the seeps. Consequently, the report recommended installation of collection pipes and sumps to facilitate conveyance of seepage from the seep zones to the Ash Ponds, thereby eliminating the seepage at the surface.

In a letter response to the TDWR, San Miguel proposed to address each of the seven seep areas by construction of the seepage collection trenches and sumps recommended in the CY 1984 geotechnical report, which San Miguel attached to the letter to the TDWR (San Miguel 1984).

Subsequently, San Miguel obtained test excavations in the area of the seeps and further seep repair recommendations (PSI 1985). Joints and fissures were reported in the clay exposed in the excavations. The report concluded that the seep collection trenches and reconstruction of the clay liner of Ash Pond A were viable methods for controlling the seepage.

San Miguel chose to implement reconstruction of the clay liner in Ash Pond A to correct the seepage from that pond. San Miguel obtained recommendations for reconstruction of the uppermost three feet of clay in Ash Pond A (PSI 1987a, T&G 1987). Both sets of recommendations were generally consistent.

Before and during construction, San Miguel implemented Standard Proctor soil testing of native clay soil materials to define a minimum compacted dry density and range of moisture content that would meet the technical specifications (PSI 1987b, PSI 1987c).

San Miguel completed reconstruction of the Ash Pond A liner and associated construction quality assurance inspection and testing (San Miguel 1987c, San Miguel 1987d). San Miguel specified that the Ash Pond A liner must have three feet of compacted clay with the following properties:

- Liquid Limit greater than 30;
- Plasticity Index greater than 15;

- Permeability less than $1 * 10^{-7}$ cm/sec; and
- Compaction test results with a dry density of at least 95% of the Standard Proctor maximum dry density (MDD) and a moisture content of three to four percent wet of the optimum moisture content (OMC), for MDD and OMC determined in accordance with ASTM D 698.

Daily construction reports state that the Ash Pond A liner was reconstructed between July and September 1987 (PSI 1987c). Additional correspondence, daily reports, and field notes for the Ash Pond A liner reconstruction project are shown in Appendix A (NFS 1984, PSI 1985, PSI 1987a, PSI 1987b, PSI 1987c, PSI 1987d, PSI 1987f, PSI 1987g, PSI 1991, San Miguel 1983, San Miguel 1984, San Miguel 1987a, San Miguel 1987b, San Miguel 1987c, San Miguel 1987d, T&G 1983a, T&G 1983b, T&G 1987, TDWR 1983).

2.6.2.2 *Ash Pond B Liner Reconstruction*

San Miguel Plant records include a field inspection and field moisture-density soil test results of the Ash Pond B liner in CY 1991 (PSI 1991). The test reports present the results of six compaction tests of the floor of the Ash Pond B clay liner conducted on June 13, 1991 and reference the presence of earthwork equipment at the site. Additional records of a CY 1991 Ash Pond B Liner reconstruction project have not been identified in San Miguel Plant records.

2.7 **DRAWINGS**

San Miguel is required to document, if feasible, at “a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation” in accordance with 40 CFR §257.73(c)(1)(viii).

San Miguel Plant records include drawings showing the Ash Ponds and the EP (T&G 1977a, T&G 1977b, T&G 1977c, T&G 1979, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981); see Appendix A.

2.8 **INSTRUMENTATION**

San Miguel is required to document, if feasible, a “description of the type, purpose, and location of existing instrumentation” in accordance with 40 CFR §257.73(c)(1)(viii).

The San Miguel Plant staff responsible for operation of the Ash Ponds and the EP stated that instrumentation at the Ash Ponds and EP consists of a staff gauge in each pond, and that San Miguel uses the staff gauge to monitor the water level in the corresponding pond (San Miguel 2015).

2.9 *AREA-CAPACITY RELATIONSHIP*

San Miguel is required to document, if feasible, “(a)rea-capacity curves for the CCR unit” in accordance with 40 CFR §257.73(c)(1)(ix). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

2.9.1 *Ash Ponds*

As shown on San Miguel drawings, both of the two Ash Ponds are shown to be approximately 2450 feet long and 240 feet wide at the dike crest interior top of bank; have a common dike crest elevation; are approximately 20 feet deep from the dike crest to the pond bottom; and have 2.5 horizontal to 1 vertical (2.5H:1V) interior side slopes (T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980c, T&G 1981). Based on those dimensions, the total area inside the Ash Ponds dike crests is approximately 27 acres. An area-capacity curve of the Ash Ponds based on those dimensions is shown on Figure 3.

2.9.2 *Equalization Pond*

As shown on San Miguel drawings, the EP is an irregular shape that is approximately 1,570 feet long and 710 feet wide at the dike crest interior top of bank; 20 feet deep from the dike crest to the pond bottom; and has 3H:1V interior side slopes (T&G 1977a, T&G 1980b, T&G 1980d). Based on the dimensions and shape of the EP, the total area inside the EP is approximately 23.7 acres. An area-capacity curve of the EP based on those dimensions is shown on Figure 4.

2.10 *SPILLWAY AND DIVERSION DESIGN*

San Miguel is required to document, if feasible, a “description of each spillway and diversion design features and capacities and calculations used in their determination” in accordance with 40 CFR §257.73(c)(1)(x).

San Miguel plant records show that neither the Ash Ponds nor the EP have an outlet or emergency spillway or diversion feature (T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981).

Consequently, requirements for documentation in accordance with 40 CFR §257.73(c)(1)(x) are not applicable to the Ash Ponds and the EP.

2.11 *CONSTRUCTION SPECIFICATIONS, MONITORING, MAINTENANCE, AND REPAIR*

San Miguel is required to document, if feasible, the “construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit” in accordance with 40 CFR §257.73(c)(1)(xi). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

2.11.1 *Construction Specifications*

San Miguel Plant records include printed excerpts of technical specifications for the San Miguel plant construction (CDM Smith 2014); see Appendix A.

The excerpts include specifications for construction of the Ash Ponds, but not for the EP. San Miguel Plant records show that the EP was constructed at the same time as the Ash Ponds (NFS 1978b, NFS 1979b, NFS 1984, TDWR 1979).

2.11.2 *Surveillance, Maintenance, and Repair*

The San Miguel Plant staff responsible for operation of the Ash Ponds and the EP reported that San Miguel implements surveillance, maintenance, and repair of the Ash Ponds and the EP in accordance with 40 CFR §257.83(a)(i) and (ii) as described below (San Miguel 2016b):

- Weekly Inspection: San Miguel inspects the Ash Ponds and the EP at least weekly in accordance with 40 CFR §257.83(a)(i) and (ii). Each inspection includes identification of appearances of actual or potential structural weakness and other conditions that are disrupting, or have the potential to disrupt, the operation or safety of the Ash Ponds or the EP.
- Monitoring Instrumentation: San Miguel monitors the Ash Ponds and EP instrumentation (staff gauge) at least monthly in accordance with requirements in 40 CFR §257.83(a)(1)(iii).
- Annual Inspection: San Miguel obtains inspection of the Ash Ponds and the EP annually by a qualified professional engineer to confirm that the design, construction, operation, and maintenance of the Ash Ponds and EP are consistent with recognized and generally-accepted good engineering standards in accordance with 40 CFR §257.83(b).
- Inspection Records: San Miguel maintains record of weekly, monthly, and annual inspections in the San Miguel Plant operating record for a minimum of five years. Beginning with the inspection following promulgation of the CCR Rule, San Miguel will also post annual inspections on the San Miguel internet site accessible to the public.
- Maintenance and Repair: San Miguel maintains and repairs the Ash Ponds and the EP as necessary and as soon as practical following discovery of deterioration that could affect the structural integrity and/or operation of the corresponding CCR surface impoundment.

STRUCTURAL INSTABILITY

San Miguel is required to document, if feasible, “(a)ny record or knowledge of structural instability of the CCR unit” in accordance with 40 CFR §257.73(c)(1)(xii). This section provides that information for the Ash Ponds and the EP obtained from San Miguel Plant records.

San Miguel obtained inspection of the Ash Ponds and the EP by a qualified professional engineer in CY 2015 in accordance with requirements in 40 CFR §257.83 (HDR 2016). The inspection reported some maintenance opportunities.

The San Miguel staff responsible for operation of the Ash Ponds and the EP stated that San Miguel is addressing problems identified in the CY 2015 inspection report, as is described in the CCR surface impoundment structural stability assessment (ERM 2016c).

3.0 NOTIFICATION AND RECORD KEEPING

San Miguel will issue notifications and implement recordkeeping in accordance with 40 CFR §257.105 and 40 CFR §257.106 and as described below.

3.1 NOTIFICATION

San Miguel will notify the Executive Director of the TCEQ, the State Director as defined in 40 CFR §257.105(d), in accordance with 40 CFR §257.106(f)(8) when this History of Construction Documentation Report is available in the San Miguel Plant operating record and publically accessible internet site.

In accordance with TCEQ instructions related to CCR units in Texas on the TCEQ website:

http://www.tceq.state.tx.us/permitting/waste_permits/ihw_permits/ihw.html

San Miguel will send each notification to the TCEQ via internet electronic mail to:

CCRNotify@tceq.texas.gov

3.2 RECORDKEEPING

San Miguel will maintain this History of Construction Documentation Report, including potential future revisions and updates, and associated documentation in the San Miguel Plant operating record starting no later than October 17, 2016 and for a period of five years thereafter.

3.3 INTERNET POSTING

San Miguel will maintain this History of Construction Documentation Report, including potential future revisions and updates, and associated documentation and on the San Miguel Plant internet site accessible to the public within 30 days of placement of each of those documents in the San Miguel Plant operating record and for a period of five years thereafter.

3.4 HISTORY OF CONSTRUCTION UPDATE

In accordance with 40 CFR 257.73, San Miguel must update the relevant information if there is a significant change to any information compiled regarding the Ash Ponds or the EP history of construction.

4.0

REFERENCES

Information used for this CCR Surface Impoundment History of Construction Documentation report for the Ash Ponds and the EP are from personal communication, San Miguel Plant files, and public source documents listed below. A copy of each referenced San Miguel document is included in Appendix A.

4.1

REFERENCED REPORTS AND CORRESPONDENCE

- ERM 2016 CCR Surface Impoundment Structural Stability Assessment, Project No. 0303548, Report No. A8307, Environmental Resources Management, October 17, 2016
- NFS 1978a *San Miguel Plant Groundwater Protection, Brazos Electric Power Cooperative, Inc.*, Job No. 75285-13, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., June 1, 1978.
- NFS 1978b *San Miguel Steam Electric Station Groundwater Protection, San Miguel Electric Cooperative*, Job No. 75285-13, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., September 25, 1978.
- NFS 1979a *Re: Minutes of the Monthly Consultants Meeting – San Miguel Plant, Christine, Texas, January 30, 1979*, Tillman A. Riewe, P.E., NFS/National Soil Services, Inc., February 9, 1979.
- NFS 1979b *San Miguel Steam Electric Station, Groundwater Protection*, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., March 19, 1979.
- NFS 1984 *Study of Ash Pond Leakage, San Miguel Electric Station*, Report No. D-75285-13A, to Tippet & Gee Inc., Gary G. LaFrance, P.E., from Ralph F. Reuss, P.E., NFS Services, Inc., January 20, 1984.
- PSI 1985 Letter to San Miguel Electric Cooperative, Inc., Re: Inspection of Ash Ponds at the San Miguel Power Station, from Ralph F. Reuss, P.E., Professional Service Industries, Inc., September 4, 1985.
- PSI 1987a Letter to San Miguel Electric Cooperative, Inc. Re: Liner Construction Unit #1 Ash Pond, Koi Z. Woodson, from Ralph F. Reuss, P.E., Professional Service Industries, Inc., NSS Division, January 27, 1987.

- PSI 1987b Letter to San Miguel Electric Cooperative, Inc. Re: Pond Liner Sampling and Testing, Pond 1A Repair Project, Report No. 311-70065-1, from Robert P. Arias, P.E., Professional Service Industries, Inc., May 7, 1987.
- PSI 1987c Daily Reports for San Miguel Electric Cooperative, Inc. Re: 1A Ash Pond Soil Testing, Professional Services Industries, Inc., July 21, 1987.
- PSI 1987d Letter to San Miguel Electric Cooperative, Inc. Re: Pond Liner San Miguel Power Plant, Project No. 311-70065-2, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.
- PSI 1987e Letter to San Miguel Electric Cooperative, Inc. Re: -200 Sieve Analysis 1A Ash Pond Soil Testing, PSI File No. 311-70065-3, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.
- PSI 1987f Letter to San Miguel Electric Cooperative, Inc. Re: *Pond Liner Rehabilitation*, PSI Project No. 311-70065-26, from Robert P. Arias, P.E., Professional Services Industries, Inc., August 19, 1987.
- PSI 1987g Letter to San Miguel Electric Cooperative, Inc. Re: *Summary Report Pond 1A Soil Liner Re-Construction*, PSI File No. 311-70065-66, Robert P. Arias, P.E., Professional Services Industries, Inc., October 30, 1987.
- PSI 1991 *Report of Inspection Services, San Miguel Electric Cooperative*, Report No. 911-00155-63, Professional Services Industries, Inc., June 13, 1991.
- San Miguel 1979a Letter to National Soil Services, Inc. Re: Certification of Ponds, from Gerald V. Camber, San Miguel Electric Cooperative, Inc., February 13, 1979.
- San Miguel 1979b Letter to National Soil Services, Inc., Re: Authorization to Proceed, from E.I. Wohlschlegel, San Miguel Electric Cooperative, Inc., February 14, 1979.
- San Miguel 1983 Letter to Texas Department of Water Resources, Re: Industrial Wastewater Inspection of May 26, 1983, San Miguel Electric Cooperative, SMEC File No. 311.9055, from R.P. Metcalfe, P.E., San Miguel Electric Cooperative, Inc., August 19, 1983.

- San Miguel 1984 Letter to Texas Depart of Water Resources Re: TDWR Letter dated July 29, 1983, from Robert Cmiel, San Miguel Electric Cooperative, Inc., March 2, 1984.
- San Miguel 1987a Letter to Professional Service Industries, Inc. Re: General Notes for San Miguel Unit #1, 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.
- San Miguel 1987b Letter to V.K. Knowlton Paving Contractor, Inc. Re: San Miguel Unit #1 General Notes for 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.
- San Miguel 1987c *Contract for 1A Ash Pond Liner Reconstruction – V.K. Knowlton Paving Contractor, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.*
- San Miguel 1987d *Contract for 1A Ash Pond Liner Reconstruction – Professional Service Industries, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.*
- San Miguel 2015 Personal communication, James Pritchett P.E., Mechanical Engineer, San Miguel Electric Cooperative, Inc., to Charles Johnson, Associate Engineer, Environmental Resources Management, June, 2015.
- San Miguel 2016a Personal communication from Mari Willis, San Miguel Electric Cooperative, Inc. to Charles Johnson, Environmental Resources Management, August 8, 2016.
- San Miguel 2016b Personal communication from Mark Shilling, San Miguel Electric Cooperative, Inc. to Charles Johnson, Environmental Resources Management, October 4, 2016.
- San Miguel 2016c Personal communication from Mark Shilling, San Miguel Electric Cooperative, Inc. to Charles Johnson, Environmental Resources Management, October 6, 2016.
- T&G 1983a Letter to NFS Re: San Miguel Plant, Unit No. 1, Ash Pond Leakage, SMEC Texas 155 San Miguel, from M.L. Hughes, P.E., Tippet & Gee Inc., October 21, 1983.
- T&G 1983b Transmittal of Drawings, San Miguel Plant, Unit No. 1, Ash Pond Leakage, San Miguel Electric Cooperative, from Kevin Lacey, P.E., Tippet & Gee Inc., October 26, 1983.

- T&G 1987 Letter to San Miguel Electric Cooperative, Inc. Re: Ash Water Pre-Settle Pond Study, SM4 Texas 155 San Miguel, from L. L. Hughes, P.E., Tippet & Gee Inc., January 9, 1987.
- TDWR 1979 Letter to San Miguel Electric Cooperative, Inc., Re: Permit No. 02043 and SWR No. 31434, from C.R. Miertschan, P.E., Texas Department of Water Resources, March 29, 1979.
- TDWR 1983 *Industrial Wastewater Inspection of May 26, 1983, San Miguel Electric Cooperative*, by Vernon R. Francis, Supervisor, Texas Department of Water Resources, July 29, 1983.

4.2

REFERENCED DRAWINGS

The following documents obtained from San Miguel Plant files were used as sources of information used for this this CCR Surface Impoundment History of Construction Documentation report for the Ash Ponds and the EP.

- T&G 1977a *Sludge Disposal Basin, 69 kV Substation & Temp. Parking Area, San Miguel Plant Unit No. 1*, Drawing No. C-12, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised April 5, 1977.
- T&G 1977b *Site Plan Section No. 8, San Miguel Plant Unit No. 1*, Drawing No. 1-C-37, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised August 18, 1977.
- T&G 1977c *Site Preparation Sections & Details, San Miguel Plant Unit No. 1*, Drawing No. C-2 Rev. 2, Tippet & Gee, Inc., 1977.
- T&G 1979 *Ash Pond Drop Inlet, Found. Plan & Details Ash Pond Acid Tank Pier, Found. Plan & Details*, Drawing No. 1-C-177, Rev. 3F3. Tippet & Gee, Inc., April 1, 1977, revised April 6, 1979.
- T&G 1980a *Plant Site Plan and Vicinity Map, San Miguel Plant Unit No. 1*, Drawing No, 1-C-1C Rev 3, Tippet & Gee, Inc., April 1, 1977, revised April 14, 1980.
- T&G 1980b *Site Plan Section No. 13, San Miguel Plant Unit No. 1*, Drawing No. 1-C-42, Rev. 2, Tippet & Gee, Inc., April 1, 1977, revised April 14, 1980.
- T&G 1980c *Site Plan Section No. 11, San Miguel Plant Unit No. 1*, Drawing No. 1-C-40, Rev. 6, Tippet & Gee, Inc., April 1, 1977, revised June 13, 1980.

- T&G 1980d *Site Plan Section No. 12, San Miguel Plant Unit No. 1, Drawing No. 1-C-41, Rev 4, Tippet & Gee, Inc., April 1, 1977, revised August 6, 1980.*
- T&G 1981 *Site Plan Section No. 4, San Miguel Plant Unit No. 1, Drawing No. 1-C-33, Rev. 7, Tippet & Gee, Inc., April 1, 1977, revised May 13, 1981.*

4.3 REFERENCED PUBLIC SOURCE DOCUMENTS

- CDM Smith 2014 *Assessment of Dam Safety of Coal Combustion Surface Impoundments, Final Report, Appendix D, Documents Provided by San Miguel, Project No. 93083.1801.044.SIT.SANMG, CDM Smith, Inc., March 2014, revised April 2014.*
- NRCS 2008 *TX_HU12_Geo83 - The 8, 10, and 12 hydrologic unit boundaries for Texas, Hydrologic Unit Code 12110110, obtained at http://www.ftw.nrcs.usda.gov/huc_data.html, Natural Resource Conservation Service, 2008*
- TDH 1977 *Regulations for Solid Waste Management, Texas Department of Health, April 1977.*
- USGS 2013 *Caballos Cree Quadrangle, Texas, 7.5 Minute Series, U.S. Geological Survey, 2013*

Figures

October 2016
Project No. 0303548

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

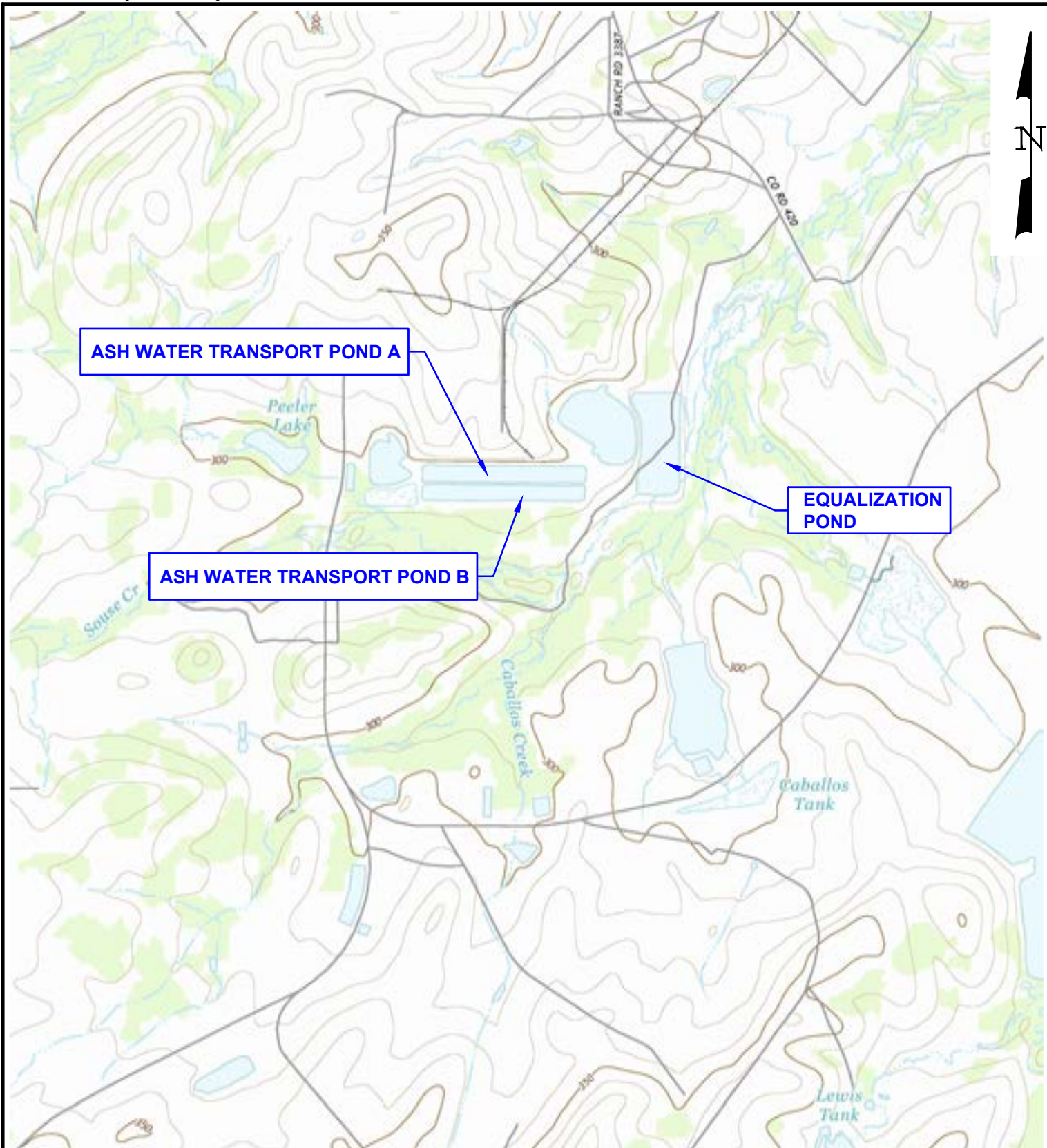


Environmental Resources Management

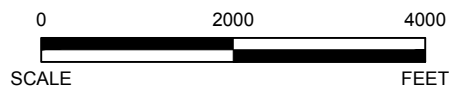
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DATE: 9/8/2016	SCALE: AS SHOWN	REVISION: 0
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FIGURE 1
 SITE PLAN
 CCR Closure and Post Closure Plan
 San Miguel Electric Cooperative, Inc. Facility
 Atascosa County, Texas





SOURCE: USGS TOPOGRAPHIC QUADRANGLE, 7.5 MINUTE SERIES, CABALLOS CREEK, TEXAS, 2016.



ERM-Southwest, Inc. TX PE Firm No. 2393

Environmental Resources Management

FIGURE 2
SITE LOCATION MAP

San Miguel Electric Cooperative, Inc. Facility
Atascosa County, Texas



DESIGN: CJ	DRAWN: CAK	CHKD.:
DATE: 9/14/2016	SCALE: AS SHOWN	REV.:

Figure 3 - Ash Ponds Stage-Storage Curve

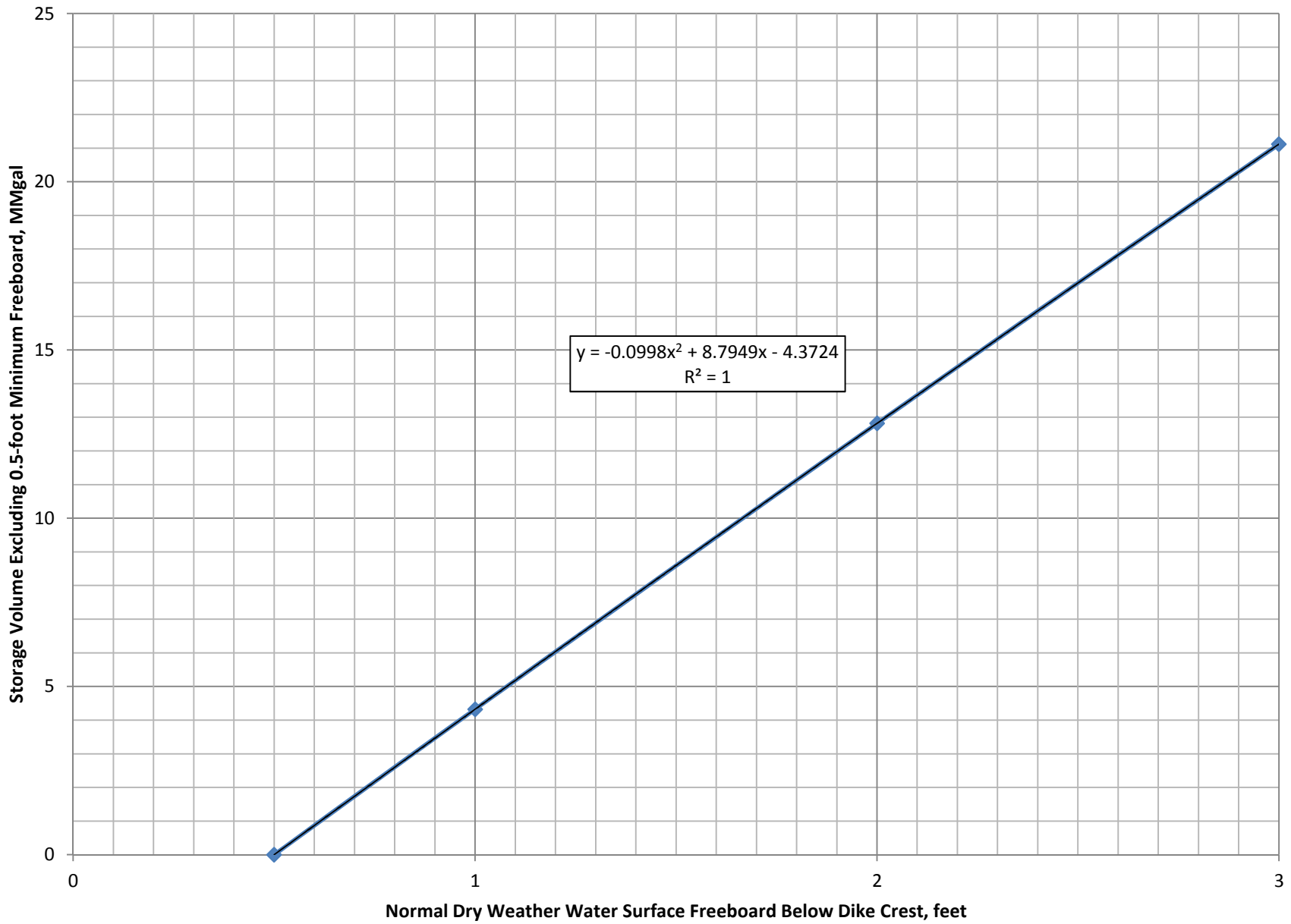
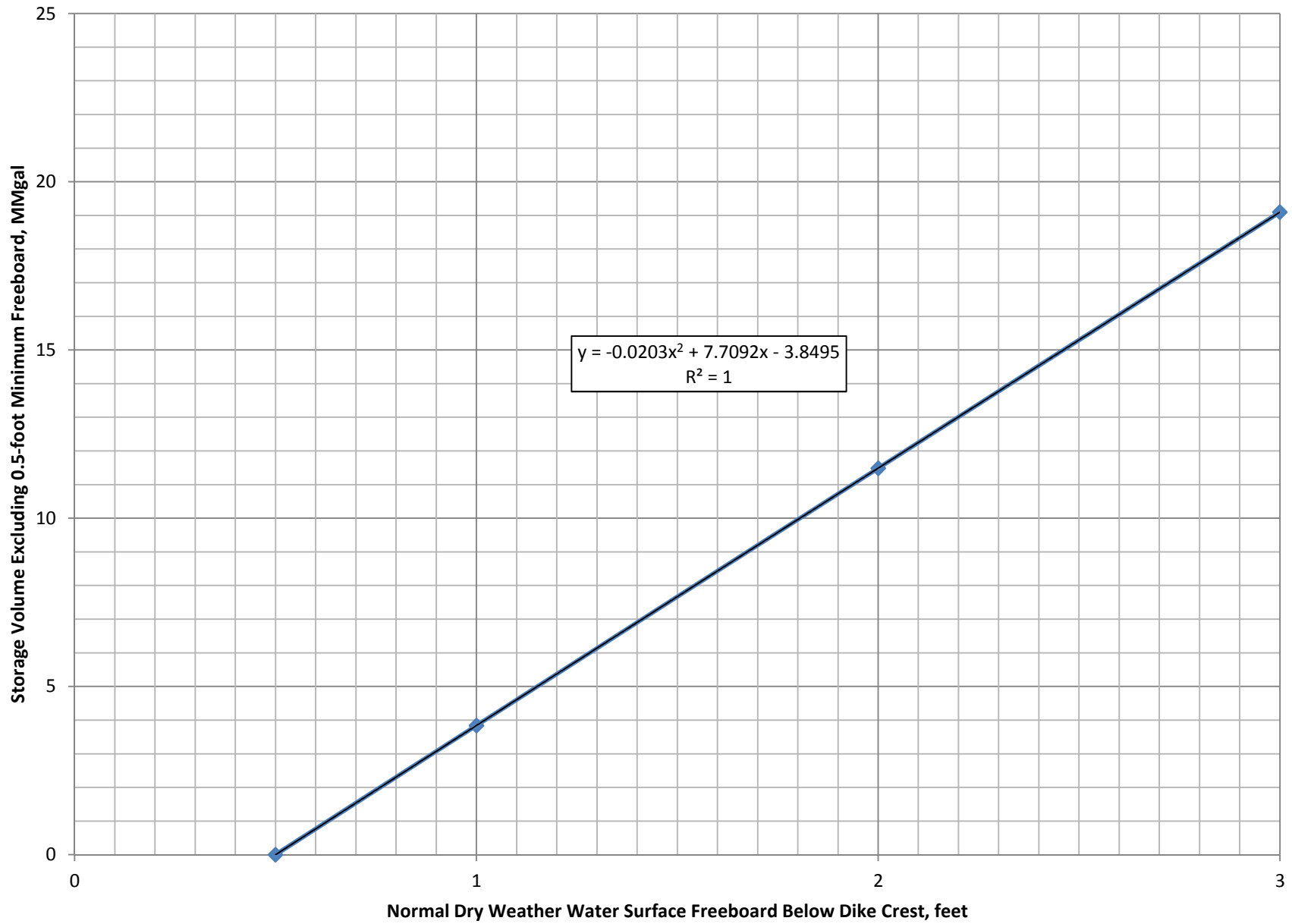


Figure 4 - EP Stage-Storage Curve



Appendix A

October 2016
Project No. 0303548

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

SAN MIGUEL REFERENCE DOCUMENTS

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

NFS 1978a

San Miguel Plant Groundwater Protection, Brazos Electric Power Cooperative, Inc., Job No. 75285-13, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., June 1, 1978.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

CONSULTING ENGINEERS
214 310-9211
P. O. BOX 24506
4017 SHILLING WAY
DALLAS, TEXAS 75224

114

June 1, 1978
Job No. 75285-13

Hicks & Ragland Engineering
Co., Inc.
40th and Avenue U
P. O. Box 3008
Lubbock, Texas 79410

Attention: Mr. Jay Stallcup

SAN MIGUEL PLANT
GROUNDWATER PROTECTION
BRAZOS ELECTRIC POWER COOPERATIVE, INC.

Gentlemen:

Enclosed are the permeability test locations for the Sludge Disposal Pond, Water Well Storage Pond, and Ash Disposal Ponds of the San Miguel Power Plant. These locations need to be staked and their surface elevations determined. This survey work is required as a preliminary step to our water quality studies for these ponds and has been authorized by Brazos Electric Power Cooperative, Inc. Please advise us of your schedule to accomplish this work.

If you have any questions, please call us.

Very truly yours,

NFS/NATIONAL SOIL SERVICES, INC.

Pierce L. Chandler, Jr.
Pierce L. Chandler, Jr., P. E.

PLC/jb
Encl.

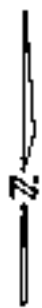
Table 1

SUMMARY OF RESULTS
YARD DRAINAGE RETENTION POND

Test No.	Field Test No.	Sample Elevation	Description	Liquid Limit	Plastic Limit	Plasticity Index	Passing No. 200 Sieve
56	2	283.5 - 284.5	Gray silty sand, w/bentonite	-	-	Non-plastic	18.9
55	3	283.5 - 284.5	Tan clayey sand, w/calcareous crystals and bentonite	37.4	25.4	12.0	33.5
54	4	283.5 - 284.5	Brown and tan clayey sand, w/calcareous crystals and bentonite	37.6	18.2	19.4	39.7
53	1	284.0 - 285.0	Grayish-tan silty sand w/bentonite	28.4	27.6	0.8 (N.P.)	20.8
52	6	283.5 - 284.5	Grayish-tan clayey sand, w/bentonite	31.9	25.3	6.6	35.8
51	6	283.5 - 284.5	Brown and tan clayey sand, w/bentonite	40.6	15.2	25.4	33.8
50	7	286.5 - 287.5	Brown sandy clay, w/calcareous crystals and bentonite	49.4	22.1	27.3	55.3
49	8	286.5 - 287.5	Tan clayey sand, w/calcareous crystals and bentonite	53.6	18.4	35.2	43.2
Composite Sample (Nos. 3, 4, 5, 6, and 8)			Tan clayey sand, w/calcareous crystals and bentonite	42.9	21.6	21.3	37.9

SUMMARY OF RESULTS
YARD DRAINAGE RETENTION POND

Test No.	Field Test No.	Optimum Moisture	Molting Moisture	Remold Permeability		k Value ft/day	ft/yr	After Test Moisture	Swell (%)
				Maximum Dry Density pcf	Molded Density (%)				
56	2	21.5	20.1	101.6	94.3	1.72×10^{-7}	1.78×10^{-1}	21.6	0.00
55	3	21.2	19.8	102.8	94.3	2.29×10^{-6}	2.36	27.2	0.00
54	4	21.2	20.5	102.8	98.3	2.39×10^{-8}	2.48×10^{-2}	22.9	0.00
53	1	21.5	21.4	101.6	95.3	4.77×10^{-7}	4.93×10^{-1}	22.8	0.00
52	6	21.2	20.0	102.8	97.6	3.63×10^{-8}	3.76×10^{-2}	22.8	0.00
51	5	21.2	20.4	102.8	96.8	1.95×10^{-6}	2.02×10^{-2}	23.5	0.00
50	7	24.1	23.7	95.5	96.2	9.00×10^{-9}	9.31×10^{-3}	29.2	1.63
49	8	21.2	21.1	102.8	95.3	4.47×10^{-9}	4.63×10^{-3}	27.2	2.72



Scale 1" = 200'

N10+00
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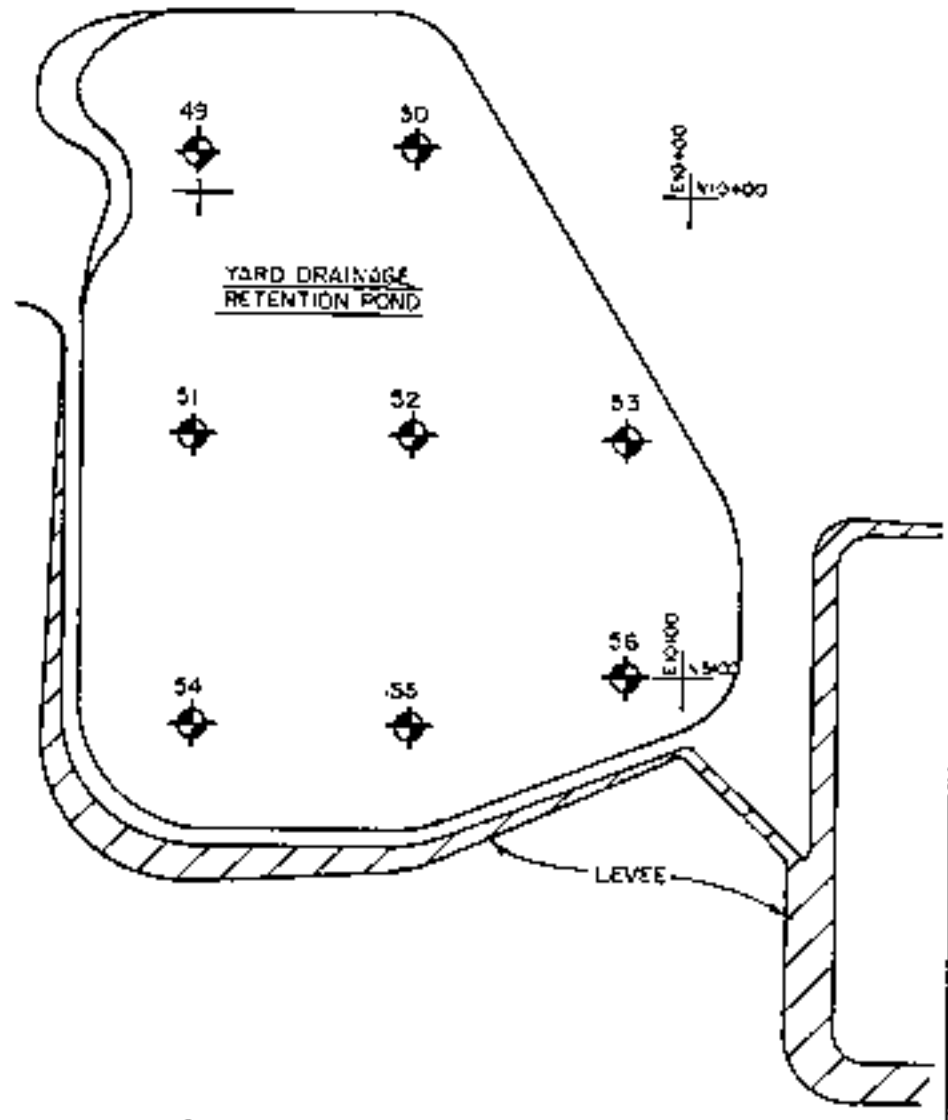
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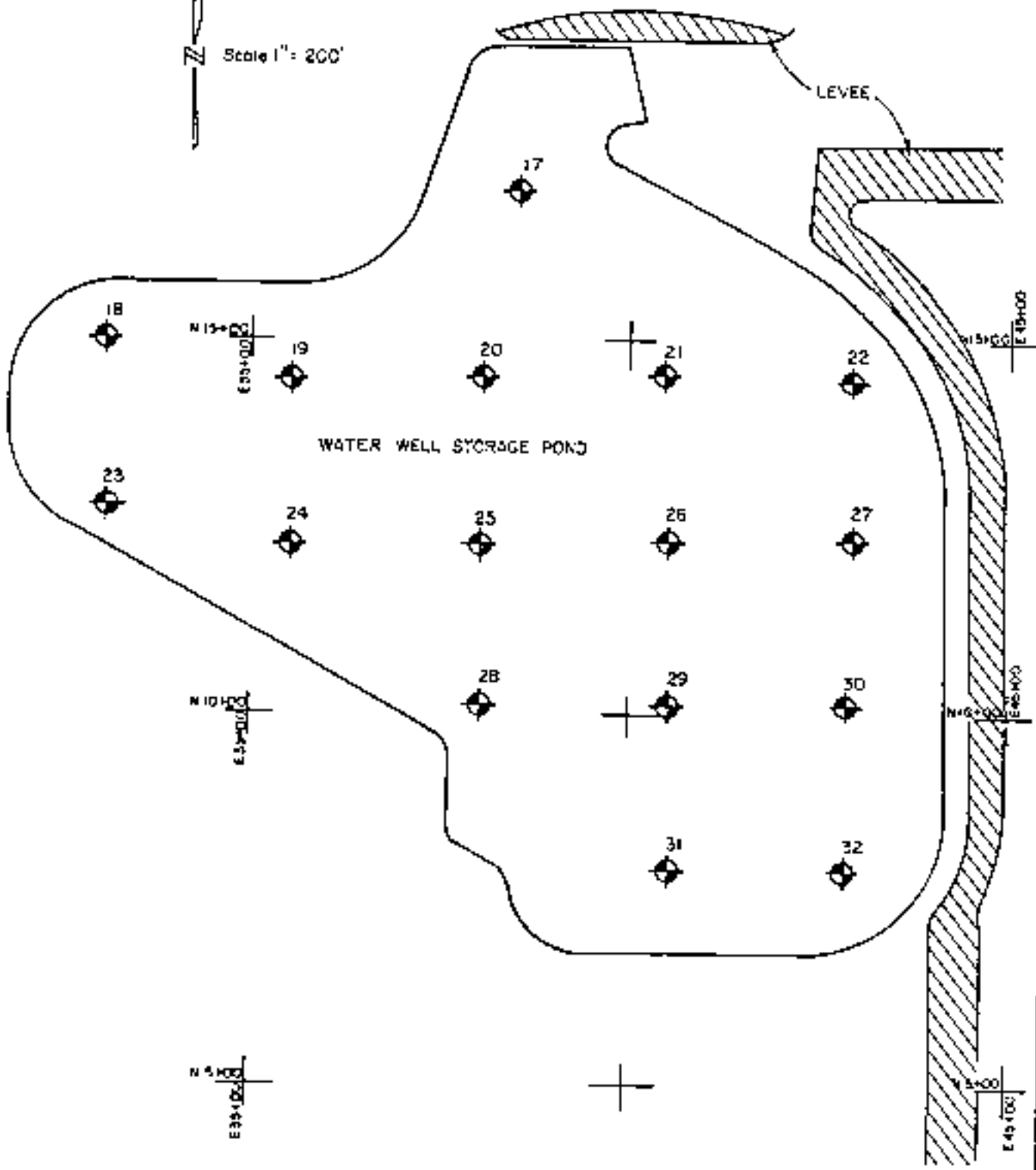
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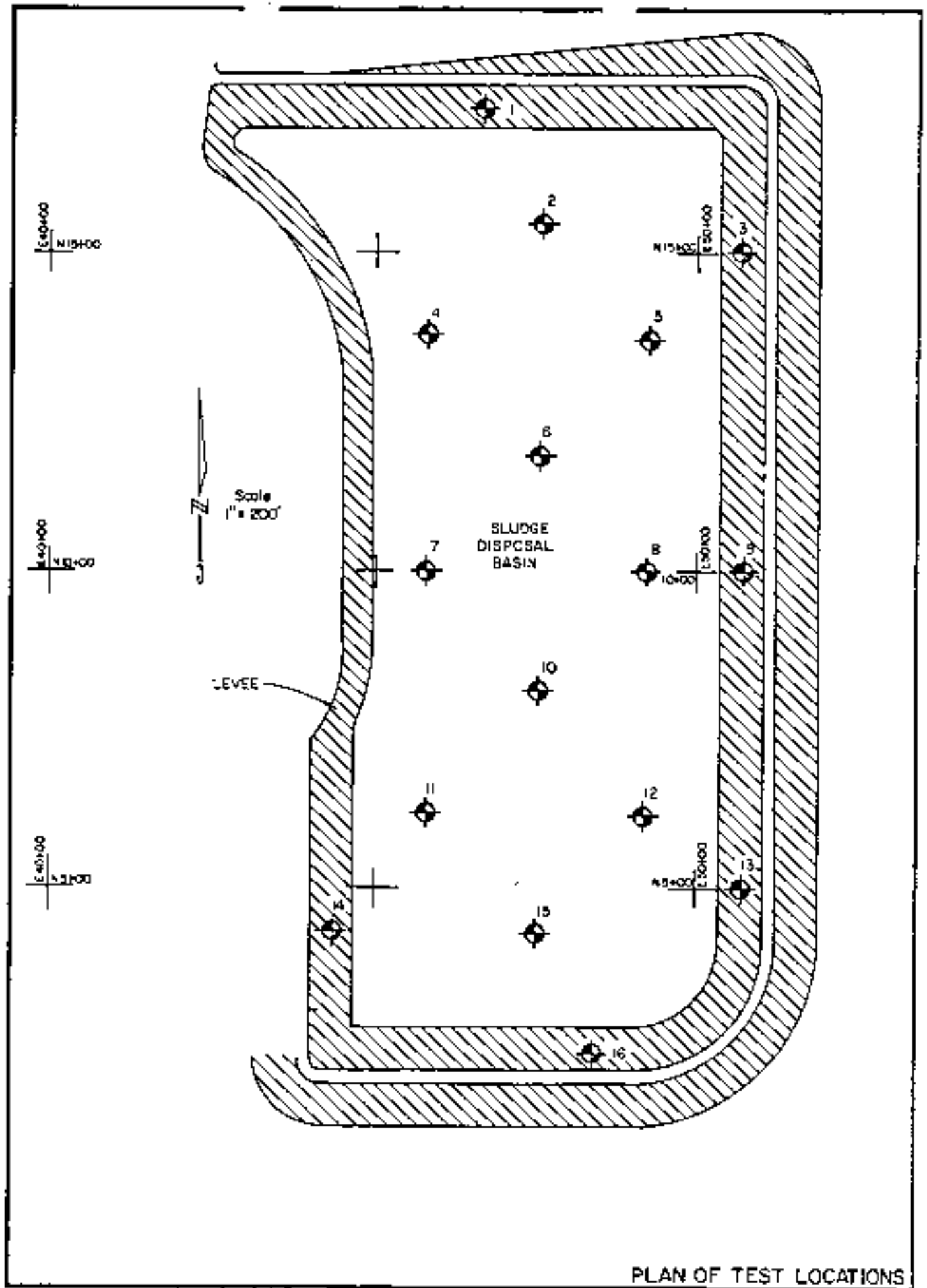


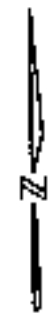
PLAN OF TEST LOCATIONS

N
Scale 1" = 200'

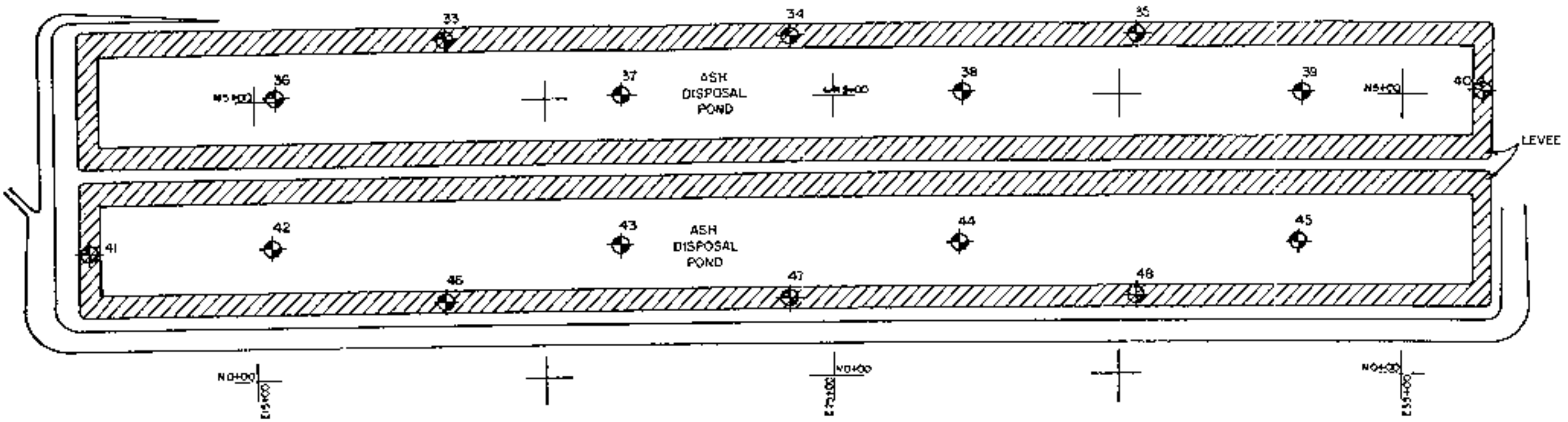


PLAN OF TEST LOCATIONS





Scale 1" = 200'



PLAN OF TEST LOCATIONS

NFS 1978b

San Miguel Steam Electric Station Groundwater Protection, San Miguel Electric Cooperative, Job No. 75285-13, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., September 25, 1978.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

NFS / NATIONAL SOIL SERVICES, INC.

117 c/f
CONSULTING ENGINEERS

214 330-9211

P. O. BOX 24596

4087 SHILLING WAY

DALLAS, TEXAS 75224

September 25, 1978

Job No. 75285-13

San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

Attention: Mr. Ernest I. Wahlschlegel
General Manager

SAN MIGUEL STEAM ELECTRIC STATION
GROUNDWATER PROTECTION

Gentlemen:

In accordance with our discussion of August 29, 1978, we are submitting a revised plan to obtain the necessary geotechnical data for certifying the ponds at the San Miguel Plant site.

HISTORY

The water well storage pond, the ash disposal ponds, and the yard drainage retention ponds were designed based on data obtained in our foundation investigation for the plant island. This information was contained in two volumes; Volume I, Foundation Design Analysis and Recommendations for the Plant Island, and Volume II, Field and Laboratory Data for the Plant Island, of our report No. 75285, dated May 14, 1978. A boring plan, together with the location of the facilities, is shown on Plate 1. From the boring data and results of laboratory testing, a set of generalized soils profiles was developed for these pond areas. The profiles are shown on Plates 2 through 5.

Based on the soils information, it was recommended that the water well pond incorporate a ten-foot inspection trench beneath the embankment and an impervious core within the embankment. For the ash ponds, a five-foot inspection trench was recommended, along with an impervious core in the ash pond embankments. Subsequent to the issuance of our report, it was also recommended that the yard drainage retention pond and sludge disposal ponds be constructed similarly. With the exception of the west end of the ash disposal ponds and the southeast end of the yard drainage retention pond, moderately to highly plastic, relatively impermeable clay soils were consistently encountered. Accordingly, additional borings were not planned in the pond areas prior to construction.

STATE CERTIFICATION

A post-construction investigation to verify the compliance of these ponds with State regulations was developed in November, 1977. Details were based on the Texas Department of Health Regulations for Solid Waste Management, dated April, 1977. Plans of the proposed certification borings are shown on Plates 6 through 9. These borings were to have been five feet below the existing pond bottom. Additional depth was not required due to the optimum soil conditions. Samples obtained from these borings were to be used for the determination of dry unit weight, grain size distribution, coefficient of permeability, and liquid and plastic limits for each of the soil types encountered. In addition, the information from this investigation was to be correlated with the previously developed soils data.

The yard drainage retention pond was the first water containment structure to be investigated. Bulk samples were obtained in eight locations, as shown on Plate 6, on April 19, 1978. Sufficient materials were taken at each test location to run a standard compaction test, a remolded falling head permeability, Atterberg limits (liquid and plastic limits), and percent passing the minus No. 200 sieve determinations. These laboratory tests are summarized on Table 1 and 2.

Test locations Nos. 53, 55, and 56 exceeded the specified permeability limit of 1×10^{-7} cm/sec. Test locations Nos. 52, 53, 55, and 56 could not meet the requirements of a liquid limit not less than 30 and a plasticity index not less than 15. It should be noted that these four test locations comprise the southeast quadrant of the yard drainage retention pond which had previously been identified as a problem area. As a result of these studies, it was decided to place a three-foot clay blanket over the southeast quadrant of the pond. Shortly thereafter, a three-foot blanket of dark gray clay was placed in the southeast quadrant. These clays were obtained from required site excavation. Before samples could be obtained to verify in-place density of this blanket, excessive rainfall resulted in approximately three feet of water over the blanket. However, observations made during the selection of the materials and the liquid and plasticity index would indicate that the material meets the permeability requirements. The liquid limit of this material varied from 55.5% to 59.0% and the plasticity index ranged from 23.3 to 44.0. Continued excessive amounts of rainfall throughout the summer not only have continued to keep the yard drainage retention pond filled, but have also resulted in significant water accumulations in the other ponds. These accumulated amounts are sufficient and continued rains have made water

removal next to impossible. In addition, if the water could be successfully removed, it is questionable whether the floor of the pond could be dried sufficiently for access without great difficulty to complete the pond floor borings.

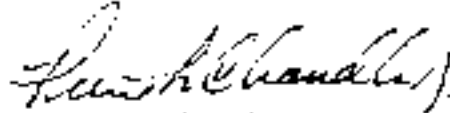
Accordingly, we recommend that the State be contacted concerning an alternate procedure for verification of these ponds. This revised procedure is basically in accordance with the Texas Department of Water Resources Technical Guidelines dated March, 1978. The revised procedure would consist of drilling borings on the down dip side and partial perimeter of the various ponds as shown on Plate 1. These borings, together with the borings previously drilled in the area would basically agree in number with those recommended by the referenced technical guidelines. These new borings would be drilled to a depth of at least ten feet below the existing pond floor elevation. Representative samples of the various strata encountered in these new borings would be tested to determine permeability characteristics, percent passing the No. 200 sieve, and liquid and plastic limits. Information from these new borings would be integrated into the existing soils information for verification that additional remedial treatment or liner is not required. It is felt that the use of perimeter borings would be an acceptable alternate to the original pond floor borings. This conclusion is based on the fact that, with the exception of the yard drainage retention pond, profiles around and through the pond areas and additional borings in the plant site have indicated satisfactory soil conditions at the remaining ponds.

It is recommended that the State be contacted concerning this substitution. We would be more than willing to assist you in any manner in this contact with the State.

If you have any questions, please call us.

Very truly yours,

NFS/NATIONAL SOIL SERVICES, INC.



Pierce L. Chandler, Jr., P.E.
Senior Project Engineer

PLC/gt

Reviewed by: Tillman A. Riewe, P.E.

Copies submitted: 5



cc: Mr. Ron Magel
Mr. Dub Matthews

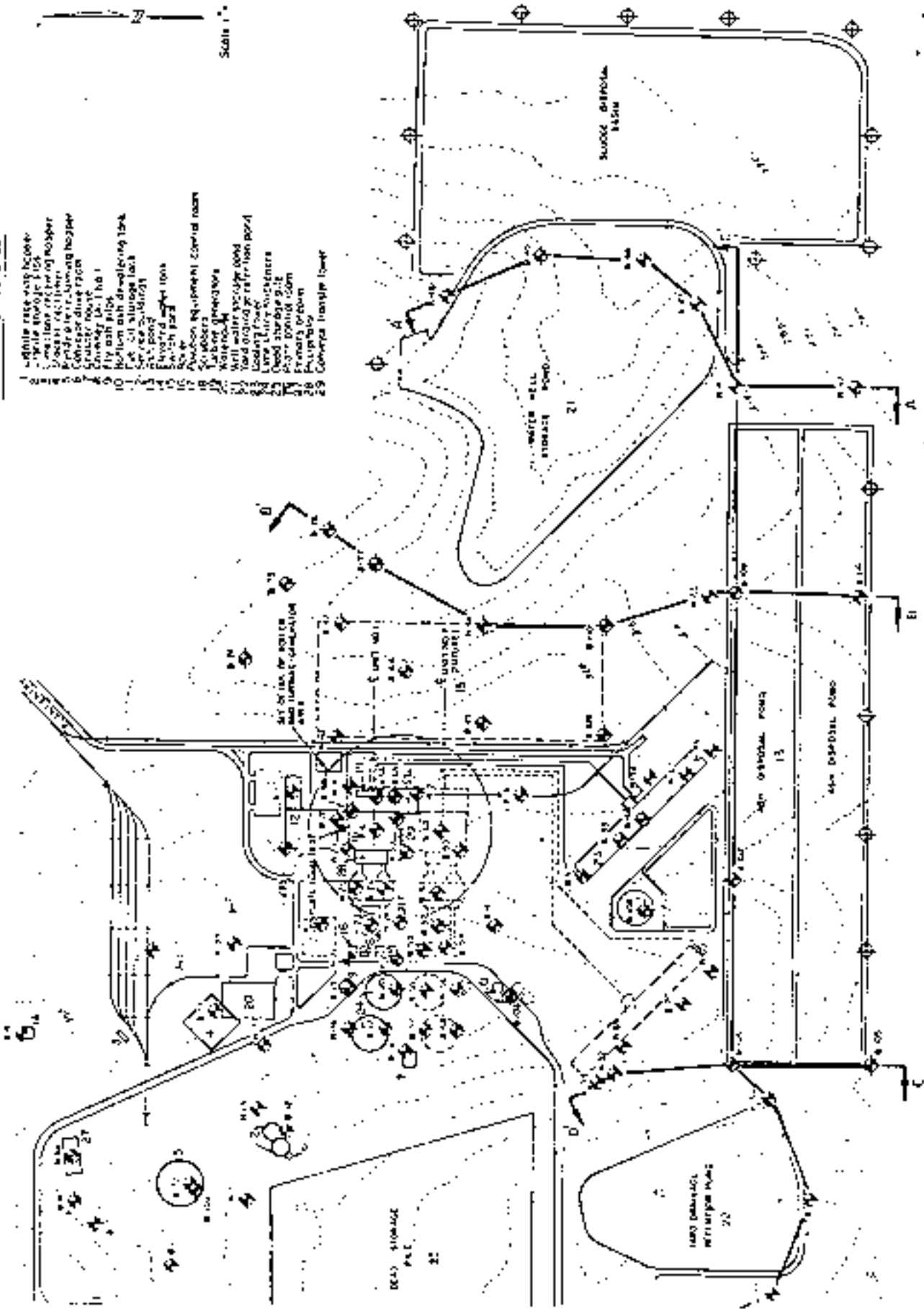
ILLUSTRATIONS





LIST OF STRUCTURES

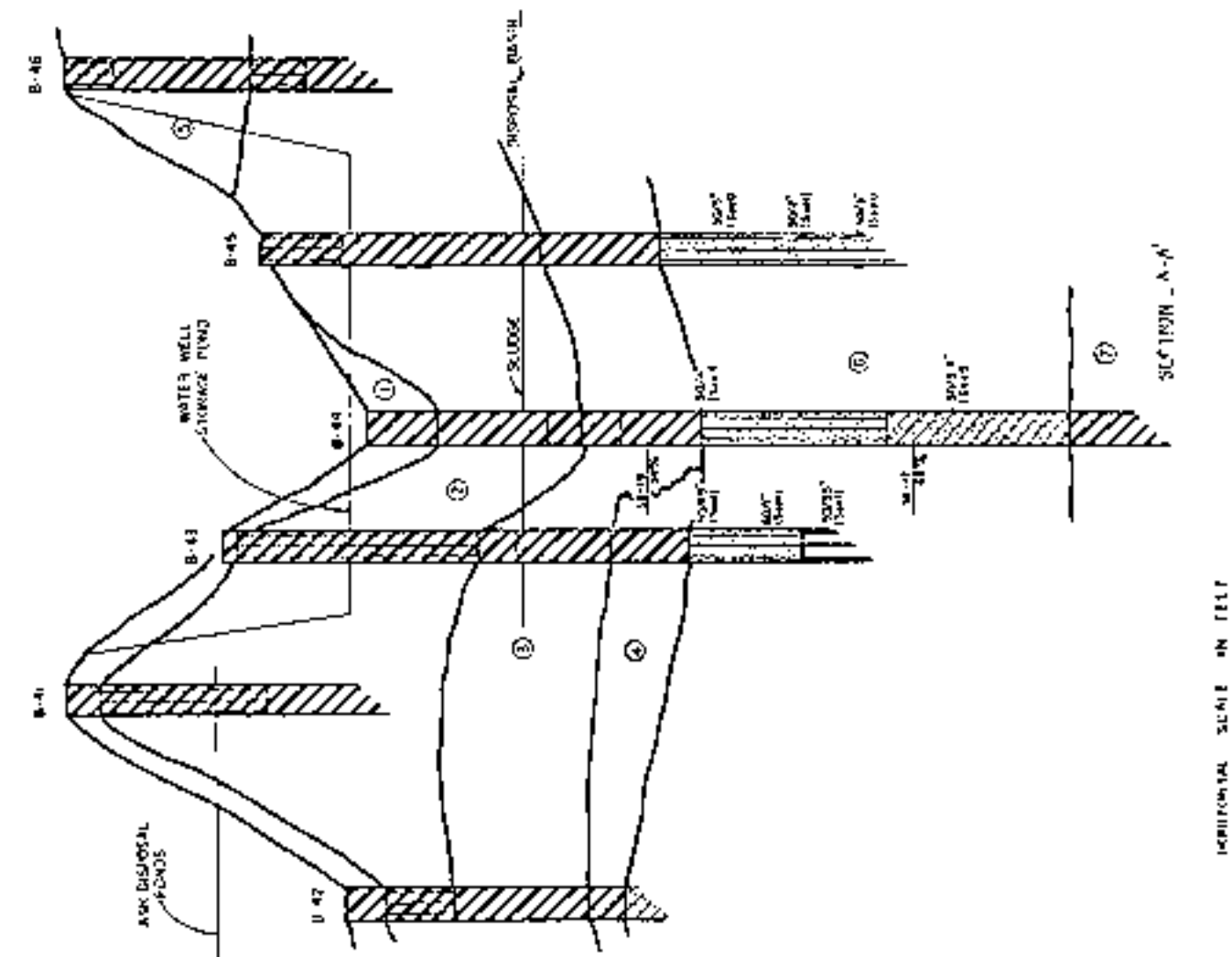
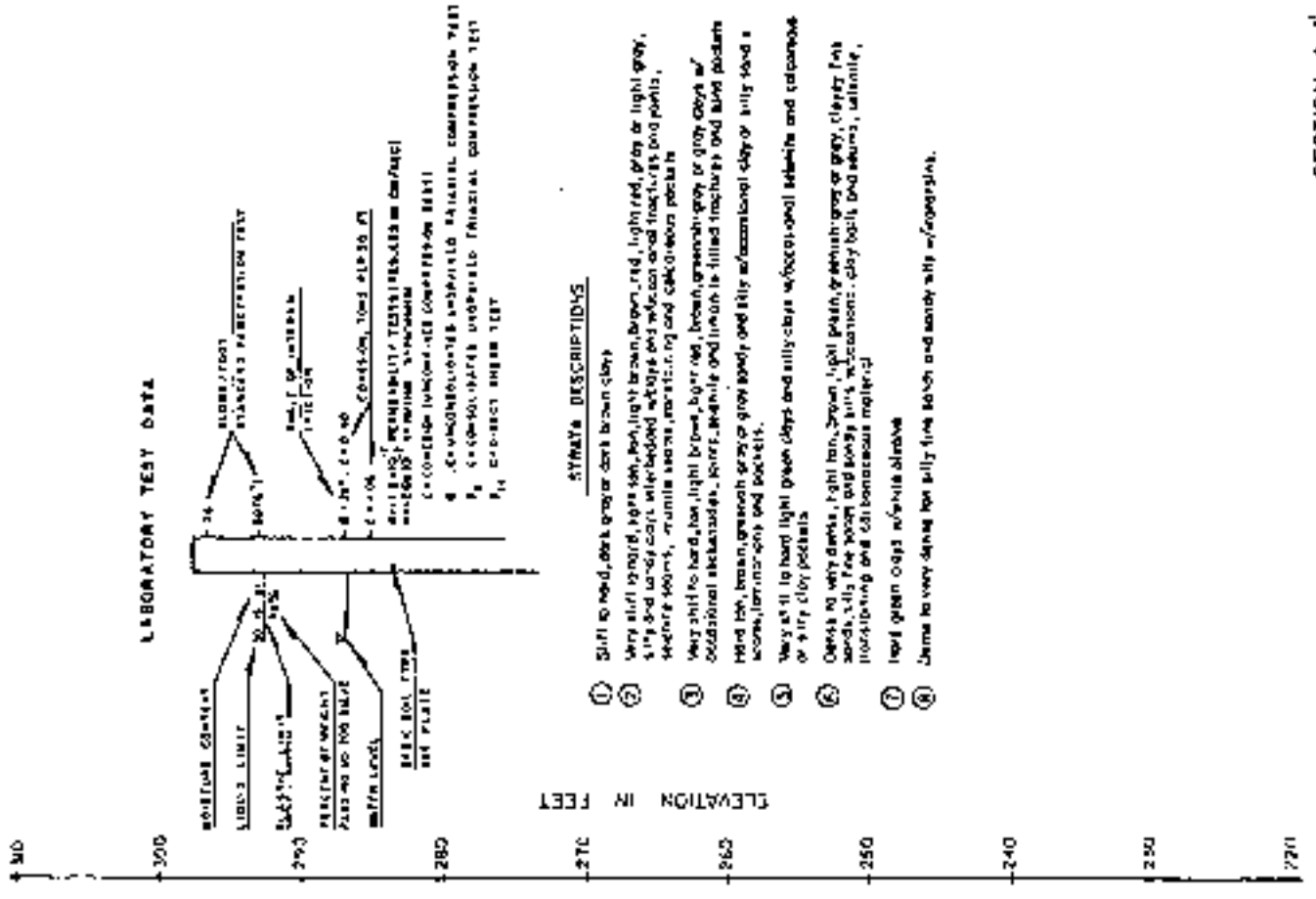
- 1 White race-way below
- 2 White storage tank
- 3 Gas flare
- 4 Gas flare
- 5 Gas flare
- 6 Gas flare
- 7 Gas flare
- 8 Gas flare
- 9 Gas flare
- 10 Bottom ash dewatering tank
- 11 Fuel oil storage tank
- 12 Sewer sump
- 13 Sewer sump
- 14 Sewer sump
- 15 Sewer sump
- 16 Sewer sump
- 17 Sewer sump
- 18 Sewer sump
- 19 Sewer sump
- 20 Sewer sump
- 21 Sewer sump
- 22 Sewer sump
- 23 Sewer sump
- 24 Sewer sump
- 25 Sewer sump
- 26 Sewer sump
- 27 Sewer sump
- 28 Sewer sump
- 29 Sewer sump

Scale 1" = 400'

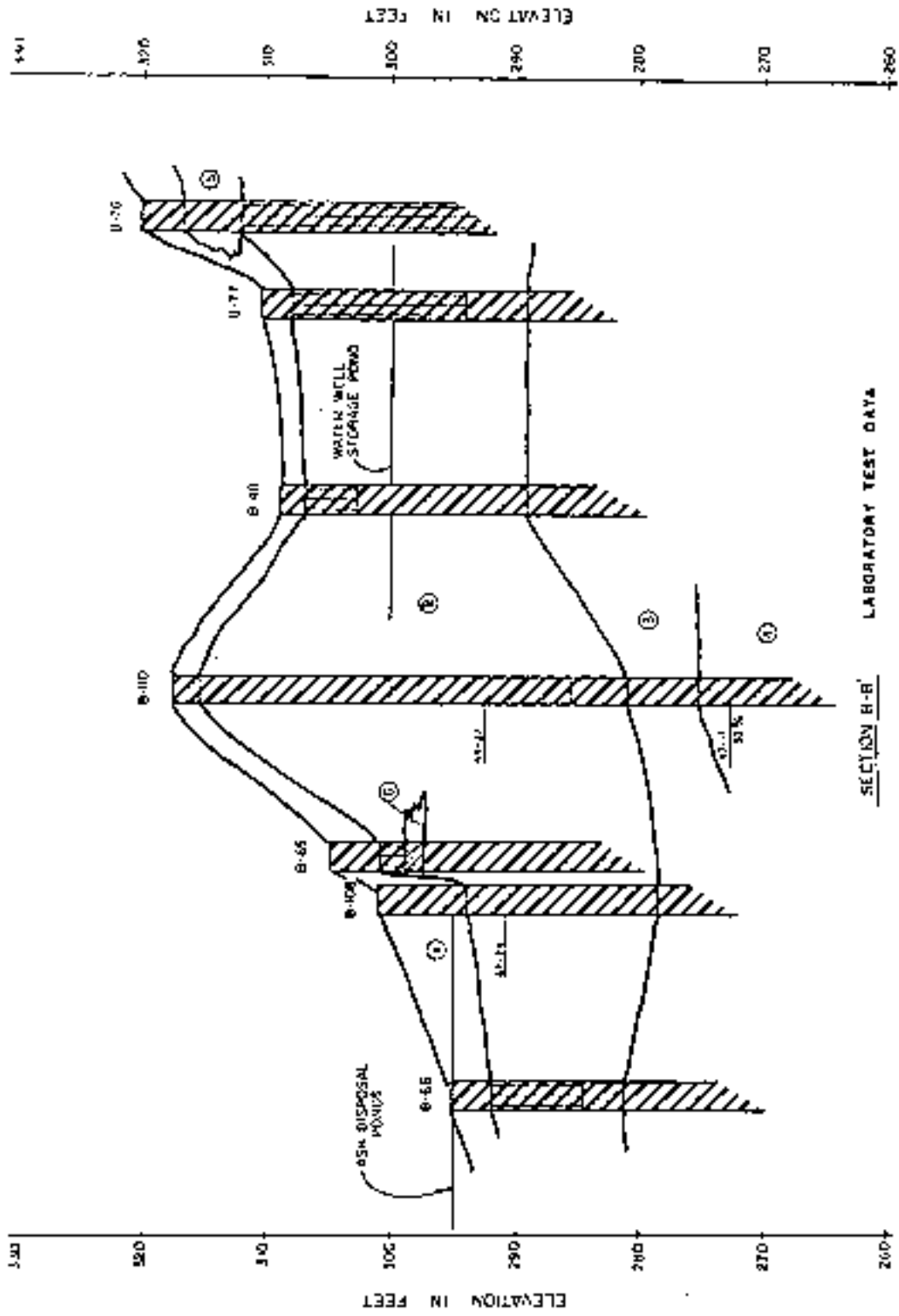
LEGEND
 Existing Buildings
 Proposed Buildings



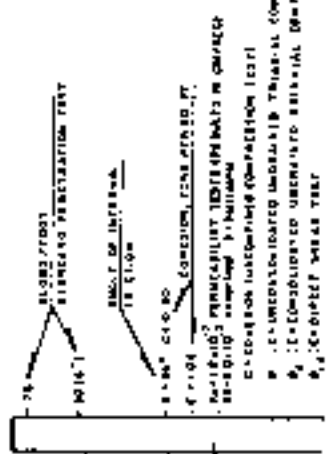
 Proposed Buildings
 Existing Buildings
 Sewer Lines
 Water Lines



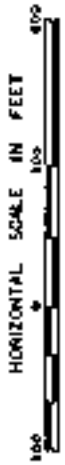
- SYMBOL DESCRIPTIONS**
- ① Silty to hard, dark gray to dark brown clay
 - ② Very silty gray, light tan, light brown, red, light red, gray or light gray, silty and sandy clay, interbedded with silty sand and fine-grained sand, silt, silty sand, fine silty sand, silty clay, silty clay loam, silty clay shale
 - ③ Very silty to hard, tan, light brown, light red, brown, greenish gray or gray, clay or occasional siltstone, lower, medium and high to filled structure and low plasticity, laminations and blocky
 - ④ Very silty to hard, light green clay and silty clay with occasional siltstone and calcareous silty clay pebbles
 - ⑤ Dense to very dense, light tan, brown, light brown, greenish gray or gray, clay, silty sand, silty fine sand and silty fine sand, calcareous, clay ball, sandstone, siltstone, limestone and calcareous material
 - ⑥ Very green clay siltstone shale
 - ⑦ Same as very dense tan silty fine sand and sandy silt w/ calcareous.



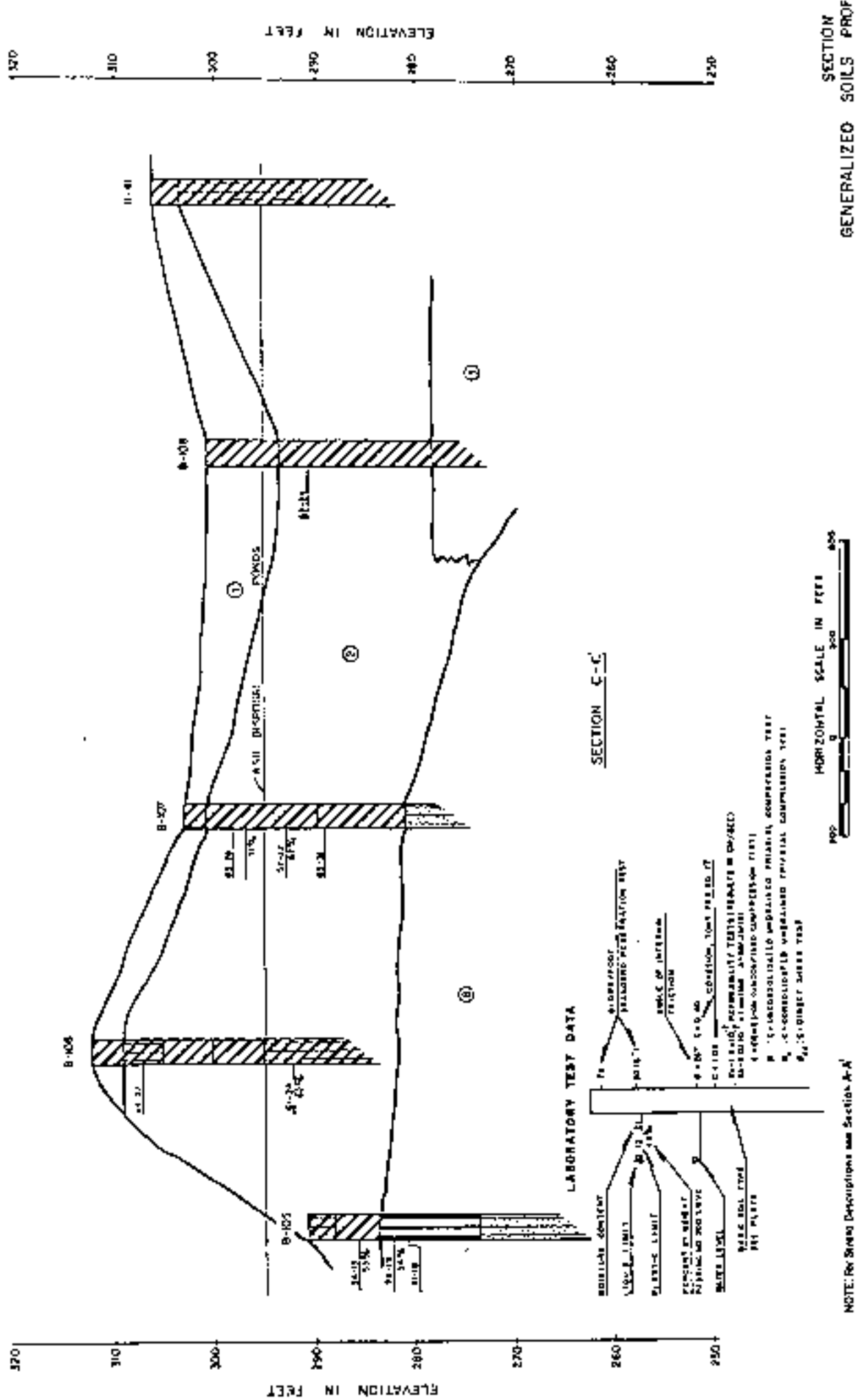
SECTION B-B LABORATORY TEST DATA



NOTE: For Shrinkage Descriptions see Section A-A



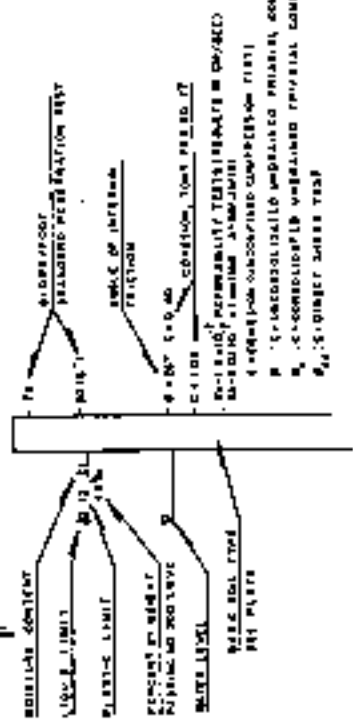
SECTION B-B
GENERALIZED SOILS PROFILE



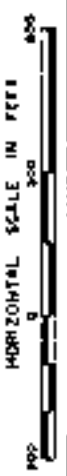
320
310
300
290
280
270
260
250

ELEVATION IN FEET

LABORATORY TEST DATA

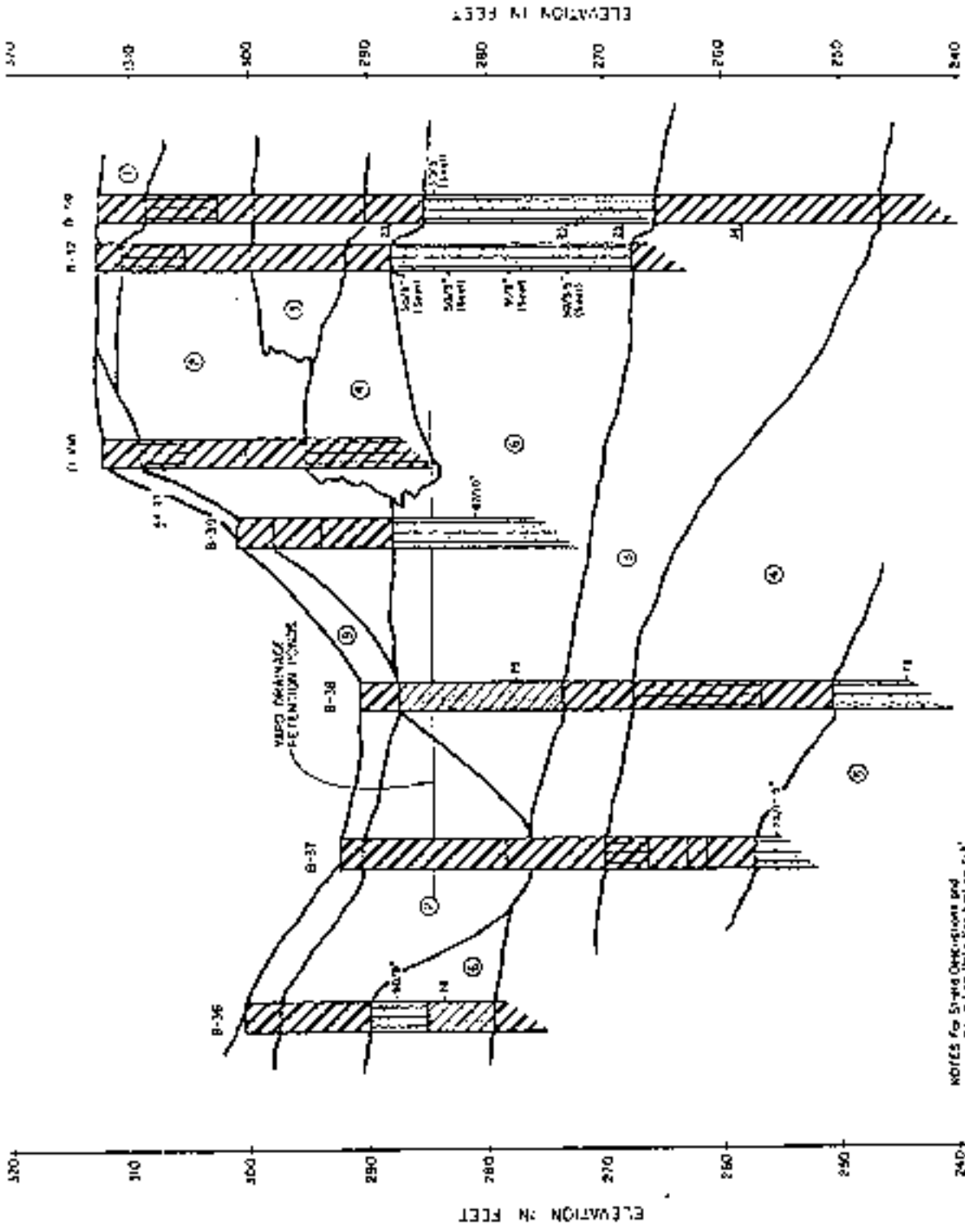


- Moisture Content
- Liquid Limit
- Plastic Limit
- Shrinkage Limit
- Unconfined Compression Test
- Consolidation Test
- Penetration Test



NOTE: For Soils Descriptions see Section A-A

SECTION
GENERALIZED SOILS PROF
PLATE



SECTION D-D
GENERALIZED SOILS PROFILE



Scale 1" = 200'

N10+00
E0+00

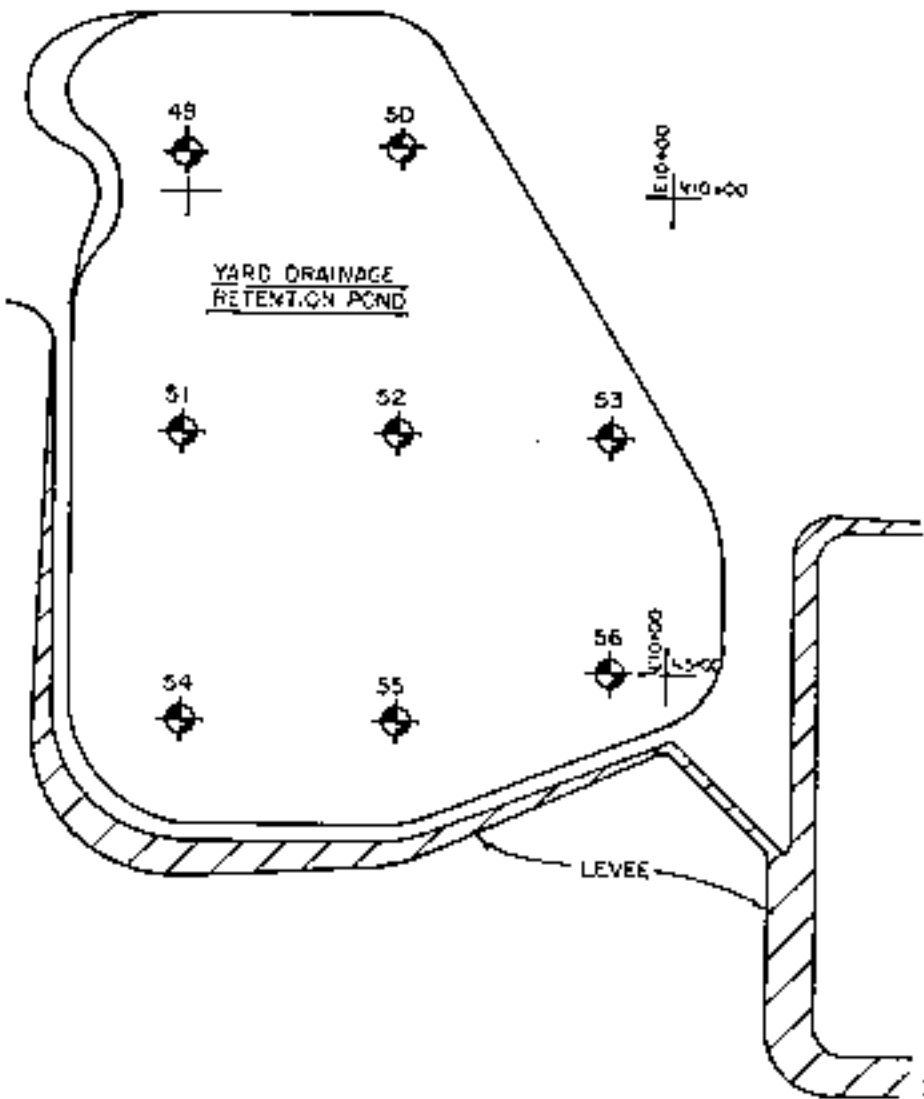
E10+00
N10+00

N5+00
E0+00

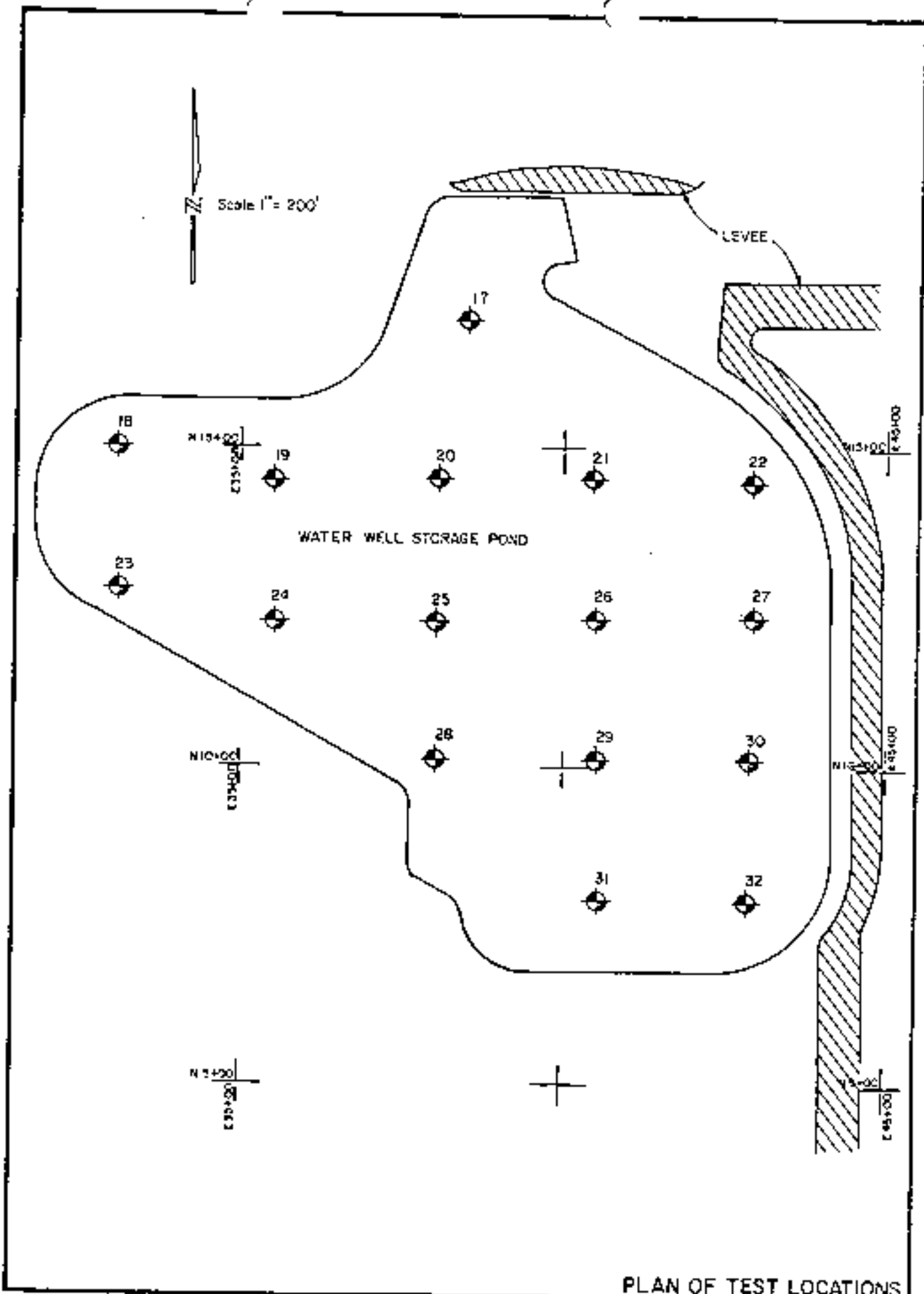
E10+00
N10+00

N0+00
E0+00

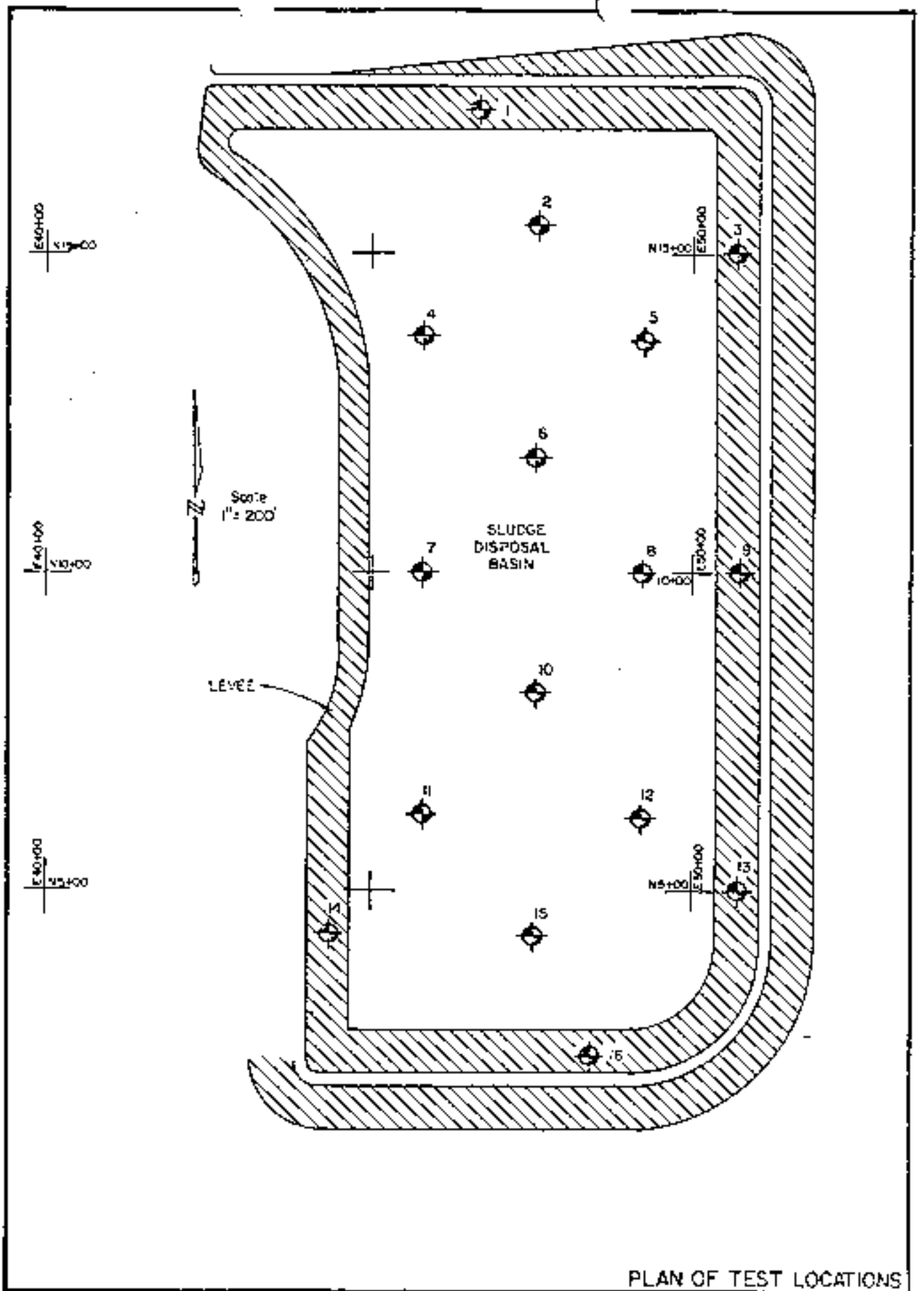
E10+00
N0+00



PLAN OF TEST LOCATIONS



PLAN OF TEST LOCATIONS



PLAN OF TEST LOCATIONS

Scale 1" = 200'

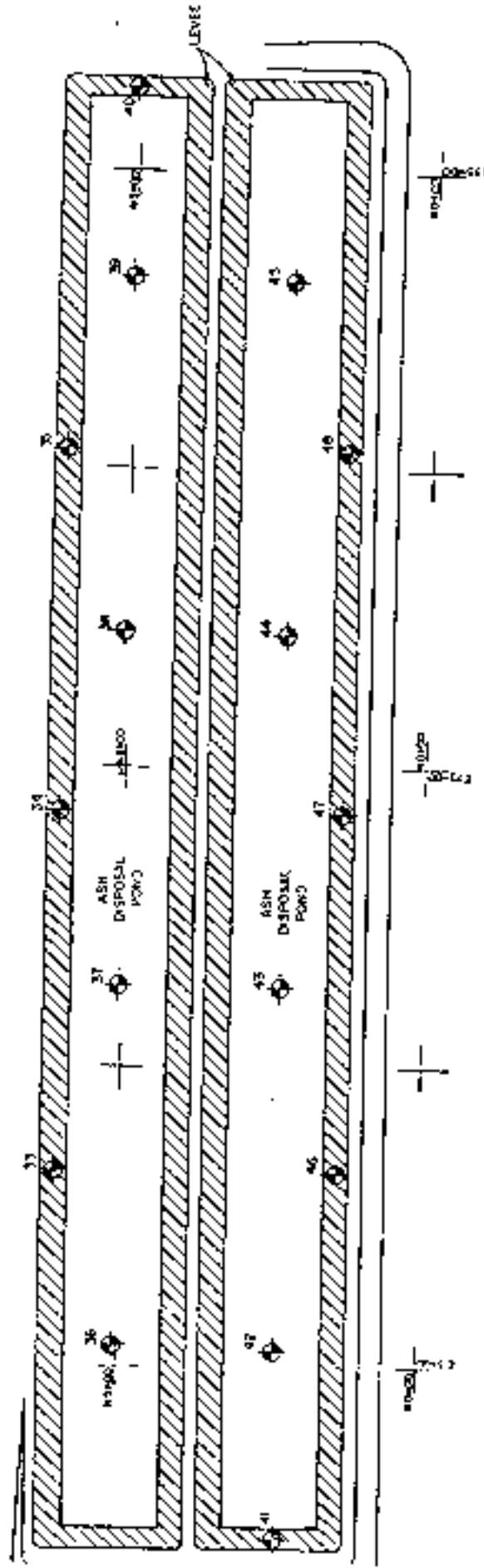


Table 1

SUMMARY OF RESULTS
YARD DRAINAGE RETENTION POND

<u>Test No.</u>	<u>Field Test No.</u>	<u>Sample Elevation</u>	<u>Description</u>	<u>Liquid Limit</u>	<u>Plastic Limit</u>	<u>Plasticity Index</u>	<u>Passing No. 200 Sieve</u>
56	2	283.5 - 284.5	Gray silty sand, w/bentonite	-	-	Non-plastic	18.9
55	3	283.5 - 284.5	Tan clayey sand, w/calcareous crystals and bentonite	37.4	25.4	12.0	33.5
54	4	283.5 - 284.5	Brown and tan clayey sand, w/calcareous crystals and bentonite	37.6	18.2	19.4	39.7
53	1	284.0 - 285.0	Grayish-tan silty sand w/bentonite	28.4	27.6	0.8 (N.P.)	20.8
52	6	283.5 - 284.5	Grayish-tan clayey sand, w/bentonite	31.9	25.3	6.6	35.8
51	6	283.5 - 284.5	Brown and tan clayey sand, w/bentonite	40.6	15.2	25.4	33.8
50	7	286.5 - 287.5	Brown sandy clay, w/calcareous crystals and bentonite	49.4	22.1	27.3	55.3
49	8	286.5 - 287.5	Tan clayey sand, w/calcareous crystals and bentonite	53.6	18.4	35.2	43.2
Composita Sample (Nos. 3, 4, 5, 6, and 8)							
				42.9	21.6	21.3	37.9

Table 2

SUMMARY OF RESULTS
YARD DRAINAGE RETENTION POND

Test No.	Field Test No.	Optimum Moisture	Molding Moisture	Remold Permeability Maximum Dry Density (%)	Molded Density (%)	k Value		Alter Test Moisture	Swell (%)
						cm/sec	ft/day		
56	2	21.5	20.1	101.6	94.3	1.72×10^{-7}	4.87×10^{-4}	1.78×10^{-1}	0.00
55	3	21.2	19.8	102.8	94.3	2.29×10^{-6}	6.98×10^{-3}	2.36	0.09
54	4	21.2	20.5	102.8	98.3	2.39×10^{-8}	6.79×10^{-5}	2.48×10^{-2}	0.00
53	1	21.5	21.4	101.6	95.3	4.77×10^{-7}	1.35×10^{-3}	4.93×10^{-1}	0.00
52	6	21.2	20.0	102.8	97.6	3.63×10^{-8}	1.03×10^{-4}	3.76×10^{-2}	0.00
51	5	21.2	20.4	102.8	95.8	1.95×10^{-8}	5.54×10^{-5}	2.02×10^{-2}	0.00
50	7	24.1	23.7	95.5	96.2	9.00×10^{-9}	2.55×10^{-5}	9.31×10^{-3}	1.63
49	8	21.2	21.1	102.8	95.3	4.47×10^{-9}	1.27×10^{-5}	4.63×10^{-3}	2.72

NFS 1979a

*Re: Minutes of the Monthly Consultants Meeting – San Miguel Plant,
Christine, Texas, January 30, 1979, Tillman A. Riewe, P.E.,
NFS/National Soil Services, Inc., February 9, 1979.*

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

NFS / NATIONAL SOIL SERVICES, INC. CONSULTING ENGINEERS

214 330-9211
P. O. BOX 24596
4087 SKILLING WAY
DALLAS, TEXAS 75224

February 9, 1979

SAN MIGUEL ELECTRIC
COOP. ROUTING
PLANT MGR. RMA
MAINT. SUPV. _____
TECH. SUPV. _____
FUELS _____
OPER. SUPV. _____
SAFETY SPEC. _____
TRAIN. SPEC. _____

*E. Chandler
Comments and clarifications
needed for mtg. 3/2/79*

San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

Attention: Mr. Ron Magel
Plant Manager

Re: Minutes of the Monthly Consultants
Meeting - San Miguel Plant, Christine, Texas
January 30, 1979

Gentlemen:

We are in receipt of the minutes of the January 30 meeting and have one question with respect to the last paragraph on page 5.

It is our understanding that Mr. Harris recommended approval of the alternate plan for certifying the ponds and not recommending that the ponds be certified. However, if in fact he has recommended certifying the ponds, then there would be no need for the planned certification for which we are awaiting approval of our plan. Accordingly, we would appreciate clarification of the above subject.

If you have any questions, please call us.

Very truly yours,

NFS/NATIONAL SOIL SERVICES, INC.

Tillman A. Riewe
Tillman A. Riewe, P. E.

TAR/lcr

cc: Mr. Pierce Chandler

RECEIVED

FEB 12 1979

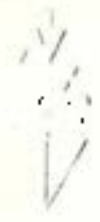
S. M. E. C., INC.
JOURDANTON, TEXAS 78026

NFS 1979b

San Miguel Steam Electric Station, Groundwater Protection, Pierce L. Chandler, Jr., P.E., NFS/National Soil Services, Inc., March 19, 1979.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

P2C



NFS / NATIONAL SOIL SERVICES, INC. CONSULTING ENGINEERS
214 330-9211
P. O. BOX 24596
4087 SHILLING WAY
DALLAS, TEXAS 75224

March 19, 1979
Job No. 75285-13

San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

Attention: Mr. Ernest I. Wohlschlegel, P.E.
General Manager

SAN MIGUEL STEAM ELECTRIC STATION
GROUNDWATER PROTECTION

Gentlemen:

In accordance with our recent discussions we are supplying the following information to satisfy questions raised during the issuance of a permit for the operations of various impoundments at the San Miguel Steam Electric Station. These questions were raised by Mr. Bill Brown and Mr. Roy Miller, Enforcement and Field Operations Division of the Texas Department of Water Resources. It is understood that satisfactory answers to these questions will allow operation of the various impoundments.

With respect to the question concerning construction of the blanketed area of the yard drainage retention pond - it was noted during the original certification program that the south-east quadrant of the yard drainage retention pond contained soil materials which probably would not meet State requirements for groundwater protection. A subsequent testing program consisting of liquid and plastic limit determinations, percent passing No. 200 sieve determinations, and falling head permeability testing, confirmed this fact. As a result of these studies, a three-foot compacted blanket of dark gray clay (Unified Soil Classification - CH) was placed over the entire southeast quadrant of the yard drainage retention pond. These clays were obtained from required site excavation. Before samples could be obtained to verify in-place density of this blanket, excessive rainfall resulted in approximately three feet of water over the blanket. Continued excessive amounts of rainfall throughout the summer, fall, and winter have continued to keep the yard drainage retention pond filled. Accordingly, in-place densities and permeability testing have not been conducted on samples obtained from the compacted blanket. However, observations made during the selection of the materials and the liquid limits and plasticity indices, would indicate that the blanket material will adequately meet the permeability requirements of 1×10^{-7} cm/sec. Liquid limits of the blanket materials varied from 55.5 percent to 59.0 percent and the plasticity indices ranged from 23.3 to 44.0.

San Miguel Electric Cooperative, Inc.
Mr. Ernest L. Wohlschlegel, P.E.

2

March 19, 1979
Job No. 75285-13

With respect to the question concerning materials used in the other impounding areas, the materials used for construction of dikes were obtained from required on-site excavations and consisted entirely of sandy clays and clays of moderate to high plasticity. (Unified Soil Classification - CL and/or CH) These embankments were constructed by placing the clay materials in loose lifts not exceeding nine-inches in thickness and compacting to a density equivalent to 95-percent of the maximum dry unit weight determined utilizing the Texas Highway Test Method, Tex 113-E. These clay soils were compacted at a moisture content ranging from one-percent below the optimum value to four-percent above the optimum value. The permeability of compacted samples was not defined, since results of permeability determinations on undisturbed samples indicated that the coefficient of permeabilities were less than 1×10^{-7} cm/sec, and it can be concluded that comparable or lower permeabilities would be developed by reworking and compaction of the cohesive borrow.

We appreciate the opportunity to provide this additional information and trust it is sufficient for your needs. If you have questions, or need further information, please contact us.

Very truly yours,

NFS/NATIONAL SOIL SERVICES, INC.



Pierce L. Chandler, Jr., P.E.

PLC/nf

cc: San Miguel Electric Cooperative, Inc.
Mr. Gerald Camber

Tippett and Goe
Mr. M. L. Hughes

NFS 1984

Study of Ash Pond Leakage, San Miguel Electric Station, Report No. D-75285-13A, to Tippet & Gee Inc., Gary G. LaFrance, P.E., from Ralph F. Reuss, P.E., NFS Services, Inc., January 20, 1984.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

STUDY OF ASH POND LEAKAGE
SAN MIGUEL STEAM ELECTRIC STATION
JOURDANTON, TEXAS

Report to
TIPPETT & GEE, INC.
Consulting Engineers
Abilene, Texas

By
NFS SERVICES, INC.
Consulting Engineers
Dallas, Texas

January, 1984

JAN 25 1984

TIPPETT & GEE

SOLID ENGINEERING REPORT

STUDY OF ASH POND LEAKAGE
SAN MIGUEL STEAM ELECTRIC STATION
JOURDANTON, TEXAS

January 20, 1984
Report No. D-75285-13A

Tippett & Gee, Inc.
Consulting Engineers
502 North Willis Street
Abitene, Texas 79603

Attention: Mr. M. L. Hughes, P. E.

Gentlemen:

Submitted here is our report of our study of the ash pond leakage at the above-referenced facility. This study was requested by your letter of October 21, 1983.

DISCUSSION OF LEAKAGE PROBLEM

The San Miguel Steam Electric Station has two ash disposal ponds, identified as ponds "A" and "B," which are located south of the plant power block as shown on the Plan of Borings, Plate I, in the illustrations section of the report. Both of these ash disposal ponds are rectangular impoundments, 2,475 feet long by 265 feet wide (measured along center line of embankment crest) with a common dike separating the north pond (pond "A") from the south pond (pond "B"). Construction of the ash disposal ponds started in July, 1977, and was completed in May, 1978.

In early June of 1978, extremely heavy rainfall associated with a tropical storm was experienced throughout South Texas. A substantial amount of water accumulated in both ash disposal ponds as a result of this storm, with the ponds remaining partially filled with

surface water for a long period thereafter. Pond "A" was placed into service in 1981 and has been full of liquid ash waste for approximately two years. Pond "B" has not had significant use to date and contains only a few feet of liquid ash waste.

In July, 1983, San Miguel Electric Cooperative, Inc., was notified by the Texas Department of Water Resources (TDWR) that, as a result of a routine industrial wastewater inspection made on May 26, 1983 by a TDWR representative, the west and east side outer banks of ash pond "A" were apparently leaking contents. TDWR requested that the reason for the pond leakage be identified and proposals made for correction of the problem. A copy of the TDWR correspondence, together with copies of all other correspondence related to the ash ponds, are included in the appendix to this report.

Subsequent inspections and tests made by San Miguel plant personnel revealed seven suspected leakage areas around the ash ponds. The areas are designated as areas "A" through "G" and are shown on Plate 2. Areas "A," "C," and "D" correspond to the locations of leakage cited by TDWR. Samples of surface water were analyzed for evidence of contamination with the following results:

<u>Date</u>	<u>Sampling Point</u>	<u>pH</u>	<u>Specific Conductance (umhos/cm)</u>	<u>Sulfate (ppm)</u>	<u>Chloride (ppm)</u>	
10/15/83	A	7.45	4,700	1,964	749	
	B	8.3	5,400	2,357	760	
	C	7.5	8,600	5,108	737	
	D	7.4	6,800	2,750	760	
	E	7.4	4,700	2,200	647	
	F	7.4	6,200	2,652	1,010	
	G	7.95	4,500	2,122	318	
	Ash Pond "A"	7.8	8,100	3,929	964	
	Ash Pond "B"	8.3	7,900	4,518	783	
10/30/83	A	7.2	4,300	2,161	629	
	B	8.1	1,800	668	33	
	C	8.4	7,000	12,573	1,953	
	D	7.5	8,000	2,947	835	
	E	8.0	7,000	2,357	391	
	F		-----Not Tested-----			
	G	7.9	7,000	1,650	532	
	Ash Pond "A"	7.2	7,000	4,479	1,020	
	Ash Pond "B"	8.4	7,000	4,322	781	

Comparison of the parameters defining the surface water quality with those characterizing the quality of the wastewater in the ponds indicates the probability of contamination of the surface water at the seven sampling points.

A site meeting was held on November 9, 1983 to permit assessment of the pond leakage by representatives of NFS Services, Inc. Those in attendance were:

NFS Services, Inc.	Mr. R. F. Reuss Mr. W. C. Worley Mr. G. G. LaFrance
San Miguel Electric Cooperative, Inc.	Mr. Robert Cmiel
Tippett & Gee, Inc.	Mr. E. G. Peveler

A second site inspection was made on January 9, 1984, to determine locations of proposed seepage collection lines and sumps. Messrs. Robert Cmiel and Wade Sebby of the San Miguel Station and G. G. LaFrance of NFS participated in this latter inspection.

PREVIOUS INVESTIGATIONS

Geotechnical parameters relating to design and construction of the ash disposal ponds are presented in Volume I, Foundation Design Analysis and Recommendations for the Plant Island, and Volume II, Field and Laboratory Data for the Plant Island, of NFS Report No. 75285, dated May 14, 1978. Records of field inspections and tests performed by NFS Services, Inc., during construction of the ash disposal ponds are summarized in NFS Inspection Report Nos. 194 (dated July 28, 1977) through 361 (dated June 8, 1978).

Additional geotechnical studies were performed by NFS Services, Inc., relative to certification of the ash disposal ponds, as well as the other plant site ponds. The initial certification plan for the ash disposal ponds was developed in November, 1977 and was based on drilling ten borings in the pond bottom (five in each pond) to a depth of five feet below the pond bottom. In addition, eight borings were to be drilled along the embankment crest of the dikes. Samples obtained from these borings were to be used for the determination of

dry unit weight, grain-size distribution, coefficient of permeability, and liquid and plastic limits for each of the soil types encountered. In addition, the information from this investigation was to be correlated with the previously developed soils data.

Due to the prolonged wet conditions in the ash disposal ponds, as well as the other plant site ponds, an alternate certification plan was proposed by NFS Services, Inc., based on drilling borings on the down dip side and partial perimeter of the various ponds shown on Plate I of the illustrations for this report. Both the initial certification plan and the revised certification plan are explained in detail in the NFS correspondence dated September 25, 1978, a copy of which is included in the appendix.

Subsequently, a field representative for TDWR recommended certification of the plant site ponds, including the ash disposal ponds, based on a field inspection performed by TDWR prior to January 30, 1979. Final certification of the ponds, including the ash disposal ponds, by TDWR was based in part on representations made by NFS as to the construction of the ponds as outlined in the NFS letter dated March 19, 1979 (refer to the appendix for a copy of this letter) in lieu of implementation of either the original or the revised certification programs.

SUBSURFACE CONDITIONS AND POND CONSTRUCTION

Preconstruction subsurface conditions in the vicinity of the ash disposal ponds are represented by the logs of borings B-35, B-39, B-41, B-42, B-60, B-65, B-66, B-105, B-106, B-107, and B-108. Locations of the borings are shown on Plate I, with the logs of the referenced borings being presented on Plates 3 through 15. Logs of these borings are also illustrated in graphical form on Sections A-A', B-B', C-C', and D-D' of the Generalized Soils Profiles, Plates 16 through 19.

In general, the preconstruction subsurface soil formations consisted of an upper clay stratum underlain by a sand stratum. The upper clay stratum was comprised of hard, medium to high-plasticity clays, sandy clays, and silty clays having some evidence of jointing

and slickensides. Results of six falling-head permeability tests performed on undisturbed clay specimens situated within the uppermost 15 feet below the original ground surface showed coefficient of permeability values ranging from 6.30×10^{-7} cm/sec to 4.29×10^{-9} cm/sec. The lower sand stratum consists of very dense, green to light brown and light gray, silty fine sand. Based on the boring data, the upper clay stratum extends to at or below Elev 288, or at least seven feet below the bottom of the ash ponds. Piezometric data developed during the geotechnical investigation for the plant site indicated the existence of a very deep groundwater table at about Elev 268 or approximately 27 feet below the bottom of the ash ponds.

Original ground surface elevations in the vicinity of the ash disposal ponds varied from a high of about Elev 316 at the middle of the north dike of pond "A" to a low of about Elev 292 at the southwestern corner of pond "B." The top of dike elevation is 315, with the bottom of the ponds being at Elev 295. Except for previously noted areas of high and low original ground elevations, the dikes of ponds "A" and "B" are comprised of a lower section of in-situ clay and an upper section of compacted clay. A five-foot-deep inspection trench was opened and backfilled with compacted clay along the toe of the interior slope except in areas where the dike is composed entirely of compacted clay embankment, in which case the inspection trench was positioned beneath the embankment crest. Interior and exterior slopes of the dikes are 2.5 H:1 V.

Field inspection records verify that no pervious soil strata were encountered in either the inspection trenches or the pond bottoms. Above-ground portions of the dikes consist of compacted medium to high-plasticity clays, sandy clays, and silty clays obtained from excavations made in the interior of the ash ponds. The clay fill was placed in maximum nine-inch loose lifts and compacted at a moisture content ranging from minus one to plus four percentage points above the optimum moisture content to at least 95 percent of the maximum dry density determined by THD Method TEX 113-E.

ANALYSES AND RECOMMENDATIONS

Areas of suspected pond leakage, identified as areas "A" through "G" and shown on Plate 2, were observed by NFS personnel during the November 9, 1983 site inspection. Based on the visual observations made at that time and also during the January 9, 1984 inspection, it is very probable that, with the exception of areas "B" and "G", the identified wet areas do result from pond leakage. In the case of suspected leakage area "B", the absence of seepage emerging from the outer dike slope at this location makes it less clear as to the probable source of the contaminated surface water sampled from the deep swale near the northwest corner of pond "A". With respect to suspected leakage area "G", this wet area appears to result from surface water being discharged from the nearby culvert. Both areas "B" and "G" should be assessed further during a dry period when the effects of surface water are absent.

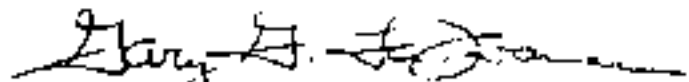
The geotechnical parameters recommended by this firm for use in designing the ash ponds were based on the assumption the medium to high-plasticity clays comprising the dikes and bottom of the ponds would have a permeability of less than 1×10^{-7} cm/sec when wetted. For the most part, field performance of the ash ponds has verified the initial design assumption. At the locations of the suspected leakage areas, subsurface conditions are different than previously assumed due to localized variations in soil types or structure, such as the presence of continuous joints. Based on the observed pattern of lateral movement of fluid from the ponds at several locations of leakage, it is likely that jointing of the in-situ clays at certain locations has provided a continuous flow path instead of a discontinuous flow path. The presence of massive clay formations beneath the bottom of the ponds and decreased jointing with depth warrant the conclusion that downward migration is negligible. Consequently, the leakage problem essentially involves lateral movement of pond fluid through localized discontinuities.

Recommended remedial work to control the pond leakage and to eliminate the possibility of contaminating surface water consists of installing seepage collection pipes, channeling the seepage to sumps, and pumping the accumulated seepage back into the ponds. A suggested plan and details for the collection system are shown on Plate 20. This recommended collection system, however, will not alleviate the leakage, if any, at area "B" inasmuch as any seepage emerging from or at the toe of slope would immediately enter the culvert and be discharged to the area west of ash disposal pond "B". If further assessment of the "B" area during a dry period confirms the likelihood of pond leakage at this location, a pipe toe drain and sump, constituting a closed system in order to separate seepage from the surface water runoff in the swale, will be required at this location. If required, typical design details will be furnished at a later date.

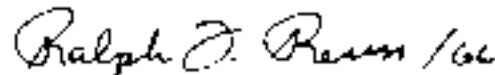
We trust that the information presented in this report satisfies the recent inquiries made about the ash pond leakage and provides a reasonable solution for correcting the problem. Please call us if there are any questions or if we may be of additional assistance.

Very truly yours,

NFS SERVICES, INC.



Gary G. EdFrance, P. E.
Manager of Engineering



Ralph F. Reuss, P. E.
President

GGL/RFR/lcr

Copies submitted: 3

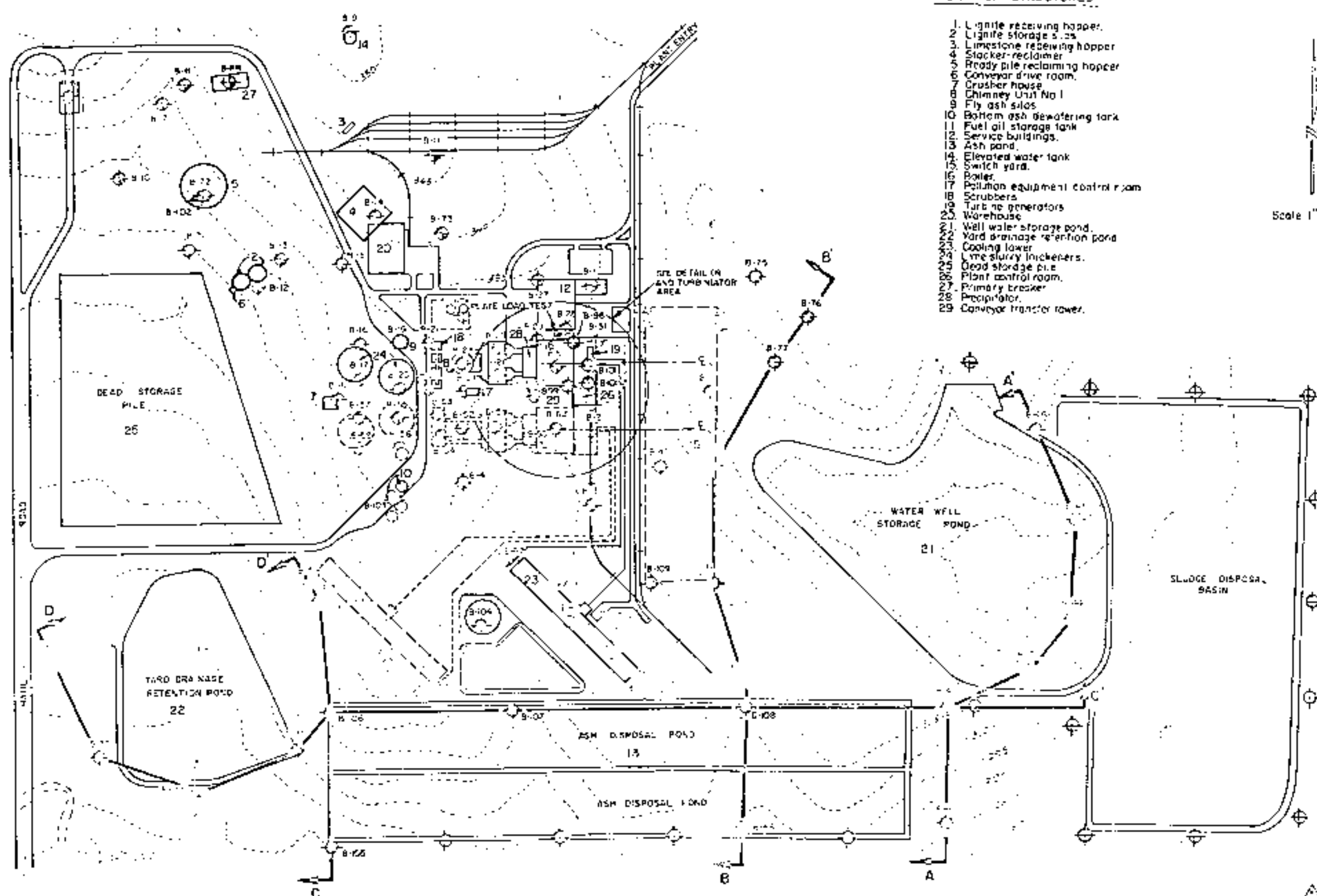
LIST OF STRUCTURES

1. Lignite receiving hopper.
2. Lignite storage silos.
3. Limestone receiving hopper
4. Stacker-reclaimer
5. Ready pile reclaiming hopper
6. Conveyor drive room.
7. Crusher house
8. Chimney Unit No 1
9. Fly ash silos
10. Bottom ash dewatering tank
11. Fuel oil storage tank
12. Service buildings.
13. Ash pond.
14. Elevated water tank
15. Switch yard.
16. Boiler.
17. Pollution equipment control room
18. Scrubbers
19. Turbine generators
20. Warehouse
21. Well water storage pond.
22. Yard drainage retention pond
23. Cooling tower
24. Lime slurry thickeners.
25. Dead storage pile
26. Plant control room.
27. Primary breaker
28. Precipitator.
29. Conveyor transfer tower.

Scale 1" = 400'

LEGEND

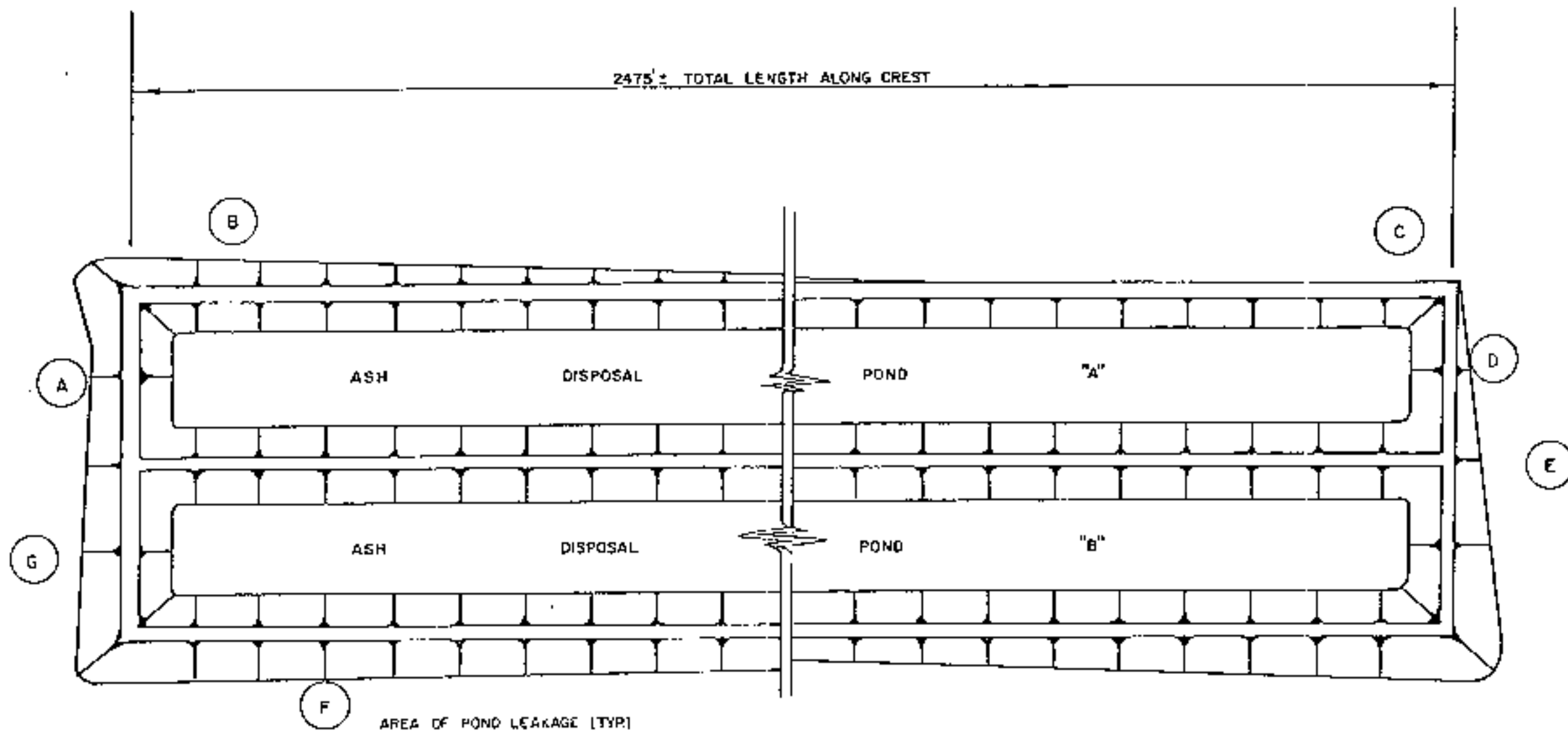
- ⊕ Existing Borings
- ⊕ Proposed Borings



△ CORRECTIONS APRIL 1, 1978
 ⊕ CORRECTIONS JULY 2, 1977
 ⊕ CORRECTIONS JANUARY 1977
 ⊕ CORRECTIONS SEPTEMBER 1976



Scale: 1" = 200'



LOCATION OF LEAKAGE AREAS

LOG OF BORING NO. B-SES-35
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 S.S.	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU FT.
								0.5	1.0	1.5	
		ELEVATION: 314.0									
		Hard brown clay									
		(CH)									
5		Hard light tan silty clay w/calcareous pebbles									
		w/occasional coarse sand									
		(CL - CH)									
10		Hard light gray sandy clay w/iron stains									
15				55	15						
		(CL)									
20		Hard light reddish-brown clay w/occasional silty clay seams w/limonite laminations									
		w/telenite pebbles									
		(CH)									
25		Hard light red and light gray silty clay w/iron laminations, telenite laminations w/some sand									
		(CL)									
30		Hard light brownish-tan clay w/telenite seams									
		- jointed									
35											
		(CH)									
40		Hard tan sandy clay w/calcareous pebbles w/iron stains									
		(CL)									
45		Very dense green to tan fine sand	502	5"							
			180								
50			27	5"							
			180								

(Continued)

PROF. DR. W. M. BROWN
1964-65

LOG OF BORING NO. B-565-35 (Cont'd.)
 G&T COOPERATIVE PROJECT
 PLEASANTON, TEXAS

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	PASSING NO. 200 SIEVE %	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
								0.5	1.0	1.5	
55		w/occasional clayey sand pockets		50/2	5"						
60				50/2	5"						
65		Hard gray sandy clay, w/4.0" silty sand seam at 64.5' w/numerous clay laminations									
70		Hard grayish-brown clay, w/numerous sand pockets, slightly slickensided									
75											
80											
85											
90											
95											
100											

COMPLETION DEPTH: 100'
 DATE: 1-29-76

INTERNATIONAL SOIL SERVICES
 CONSULTING ENGINEERS

LOG OF BORING NO B-5E5-39
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Boring

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	NO. TESTS NO. 200 SIEVE BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT	SHEAR STRENGTH IN TONS/50 FT			UNIT OR. WT. LB5 /CU FT.
							0.5	1.0	1.5	
		ELEVATION: 301.0								
		Hard dark brown sandy clay (CL)								
5		Hard light brownish-red clay, jointed w/ calcareous seams and limonite pockets (CH)								
10		Hard reddish-brown sandy clay, w/ occasional limonite pockets (CL)								
15		Very dense light gray and light brown silty fine sand, w/ light brown clay seams, clayey fine sand seams and occasional calcareous seams (SM)	87.0							
20										
25										
30										
35										
40										
45										

COMPLETION DEPTH: 25.0'
DATE: 1/5/72

LOG OF BORING NO. B-SES-41
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CON'T. %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 306.2								
		Hard dark brown clay								
		(CM)								
5		Hard reddish-brown and light gray silty clay, w/ selenite seams and cockles								
10										
15		(CL)								
		Hard light reddish-brown clay, jointed w/ iron laminations and selenite seams								
20		w/ silty clay seams at 20.0' w/ iron laminations								
		(CH)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 71.3'
DATE: 1-14-76

STANDARD SPEC. NO. 1-100-100
CONTRACT NO. 1-14-76

LOG OF BORING NO. B-555-42
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/50 FT			UNIT DRY WT LBS./CU FT.
							0.5	1.0	1.5	
		ELEVATION: 285.4								
		Hard dark brown clay								
		(CH)								
5		Hard light reddish-brown and light gray silty clay, w/numerous clay laminations and seams								
		(CL)								
10		Hard light brownish-tan clay, w/selenite seams, jointed								
		(CH)								
15		-turning slightly sandy at 15.0' -w/occasional iron stains								
		(CH)								
20		Hard brown sandy clay								
		(CL)								
25		Very dense gray clayey fine sand, w/occasional dark gray clay balls								
		(SC)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 21.3'
DATE: 1-15-76

APPENDIX 30-1, 30-2, 30-3, 30-4, 30-5, 30-6, 30-7, 30-8, 30-9, 30-10, 30-11, 30-12, 30-13, 30-14, 30-15, 30-16, 30-17, 30-18, 30-19, 30-20, 30-21, 30-22, 30-23, 30-24, 30-25, 30-26, 30-27, 30-28, 30-29, 30-30, 30-31, 30-32, 30-33, 30-34, 30-35, 30-36, 30-37, 30-38, 30-39, 30-40, 30-41, 30-42, 30-43, 30-44, 30-45, 30-46, 30-47, 30-48, 30-49, 30-50, 30-51, 30-52, 30-53, 30-54, 30-55, 30-56, 30-57, 30-58, 30-59, 30-60, 30-61, 30-62, 30-63, 30-64, 30-65, 30-66, 30-67, 30-68, 30-69, 30-70, 30-71, 30-72, 30-73, 30-74, 30-75, 30-76, 30-77, 30-78, 30-79, 30-80, 30-81, 30-82, 30-83, 30-84, 30-85, 30-86, 30-87, 30-88, 30-89, 30-90, 30-91, 30-92, 30-93, 30-94, 30-95, 30-96, 30-97, 30-98, 30-99, 30-100

LOG OF BORING NO. 8-565-60
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Unrigged Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL	SAMPLES	SOIL DESCRIPTION	ELEVATION	% PASSING #200 SIEVE	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/60 FT			UNIT DRY WT LBS./CU FT.
										0.5	1.0	1.5	
				319.2									
5			Hard brown sandy clay ICL										
10			Hard light gray silty clay w/numerous selenite pockets ICL										
15			Hard light red clay w/selenite seams -w/numerous iron laminations ICM										
20			Hard light gray silty clay w/occasional clayey pockets ICL										
25			Hard light brownish-tan clay w/iron stains, jointed -w/selenite pockets ICM										
30			Hard light brown sandy clay w/clay pockets and iron stains ICM										
35			Very dense light green silty fine sand, w/iron stains IC										
40					50%	5" heel							
45			-w/occasional red clay seams -w/occasional sandy silt laminations below 48'										
50													

WISJAMES DRUG - SOIL SERVICES
LUNDA, TEXAS ENGINEERS

LOG OF BORING NO. B-585-60 (Cont'd.)
 G&T COOPERATIVE PROJECT
 PLEASANTON, TEXAS

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/50 FT.			UNIT DRY WT LBS/CG FT
							0.5	1.0	1.5	
55		Mord gray clay w/occasional sandy clay packets to 63' w/occasional sand packets								
60										
65		-slightly slickensided								
70										
75										
80										
85										
90										
95										
100										
105										
110										
115										
120										
COMPLETION DEPTH										
DATE		1-31-76								

GEOTECHNICAL SOIL SERVICES
 CONTRACT NO. 12-44224

LOG OF BORING NO. B-SES-65
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL - SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	WEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 704.3								
		Hard dark brown clay								
		(CH)								
5		Hard light red and light gray silty clay								
		(CL)								
		Very dense light gray clayey fine sand								
		(SC)								
10		Hard light reddish-brown clay								
		-w/silty clay laminae and pockets								
		-jointed								
		-w/limonite stains								
15										
20		-selenite stains								
		(CH)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 51.0'
DATE: 11-15-73

APPROVED FOR THE PROJECT BY: _____
DATE: _____

LOG OF BORING NO. B-SES-66
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	PASSING NO. 200 SEIVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/50 FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 295.0								
		Hard dark brown clay (CH)								
5		Hard light reddish-brown silty clay, jointed, w/numerous clay laminations and iron stains (CL)								
10		Hard light reddish-brown clay, w/silty clay laminations (CH)								
15		Hard light brownish-tan clay, w/selenite seams, jointed w/slightly slickensided (CH)								
20		w/sandy clay laminations and pockets, below 20.8'								
25										
30										
35										
40										
45										

COMPLETION DEPTH: 41.5'
DATE: 1-18-74

LOG OF BORING NO. B-105
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ FT.			UNIT DRY WT. LBS./CU FT.
							0.5	1.0	1.5	
		ELEVATION: 290.8'								
		Stiff brown silty clay								
		(CL)								
5		Tan clay, w/occasional crystal material	55	34	15					
		(CL)								
10		Dense tan sandy silt -iron stained	54	29	19					
		(ML)		31	18					
20		Dense tan silty fine sand, iron stained								
25		(SM)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7-30-76

LOG OF BORING NO. B-106
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 322.2'								
		Very stiff dark brown clay								
		(CH)								
5		Hard tan fine silty clay -iron stains	44	27						
		(CL)								
10		hard tan clay, w/occasional selenite								
		(CH)								
15		Very stiff light brown clay, w/occasional selenite								
		(CH)								
20		Hard tan silty clay, w/occasional calcareous material	62	61	24					
		(CL)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7 20 76

LOG OF BORING NO. B-107
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 302.9'								
		Stiff dark brown clay (CH)								
5		Hard light tan clay, w/iron stain -light brown -occasional very stiff selenite (CH)	71	83	28					
10		Hard tan clay -occasional crystal material (CH)								
15		Very dense silty fine sand (SM)								
20										
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7/20/76

LOG OF BORING NO. B-108
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

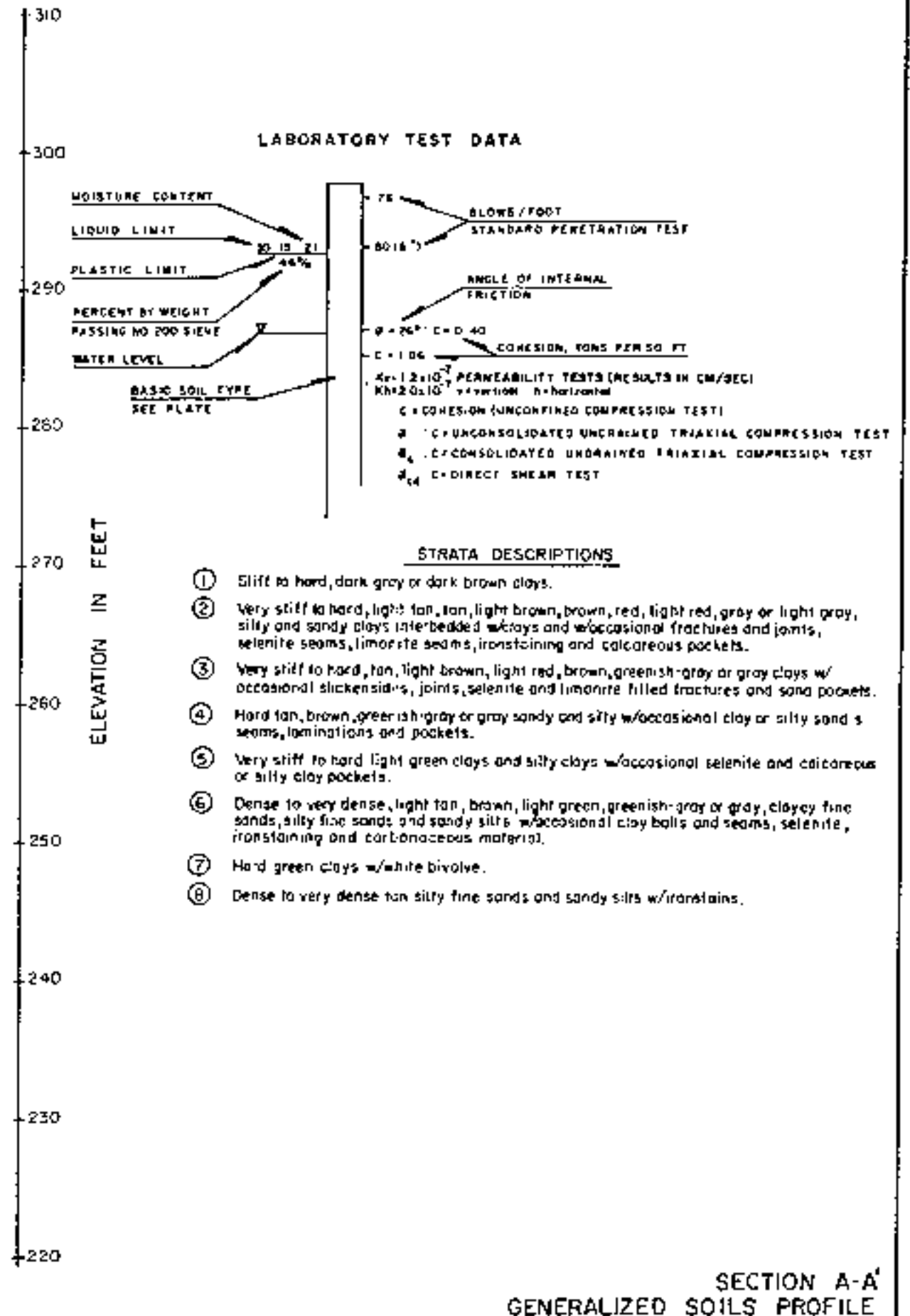
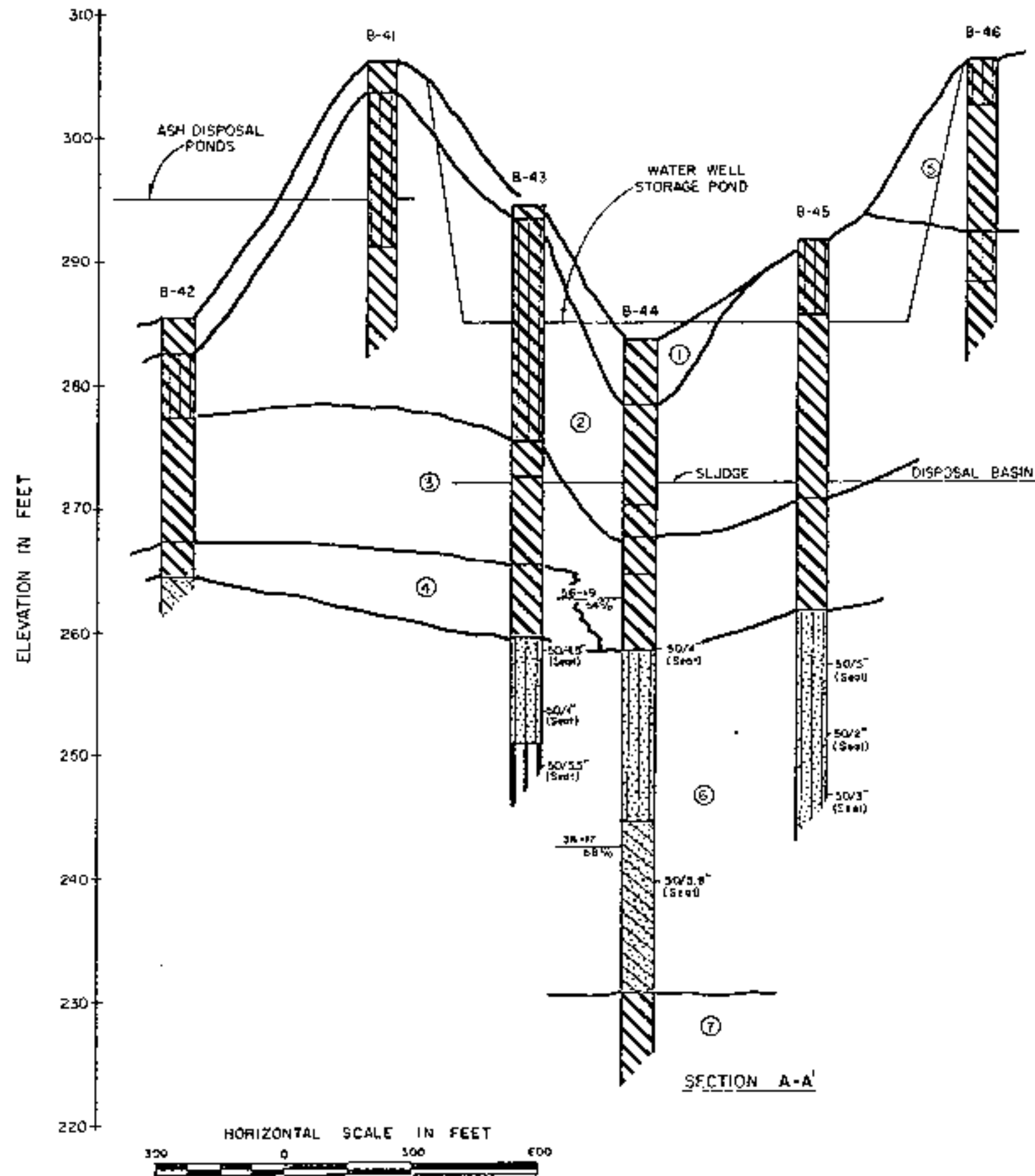
LOCATION: See Plan of Borings

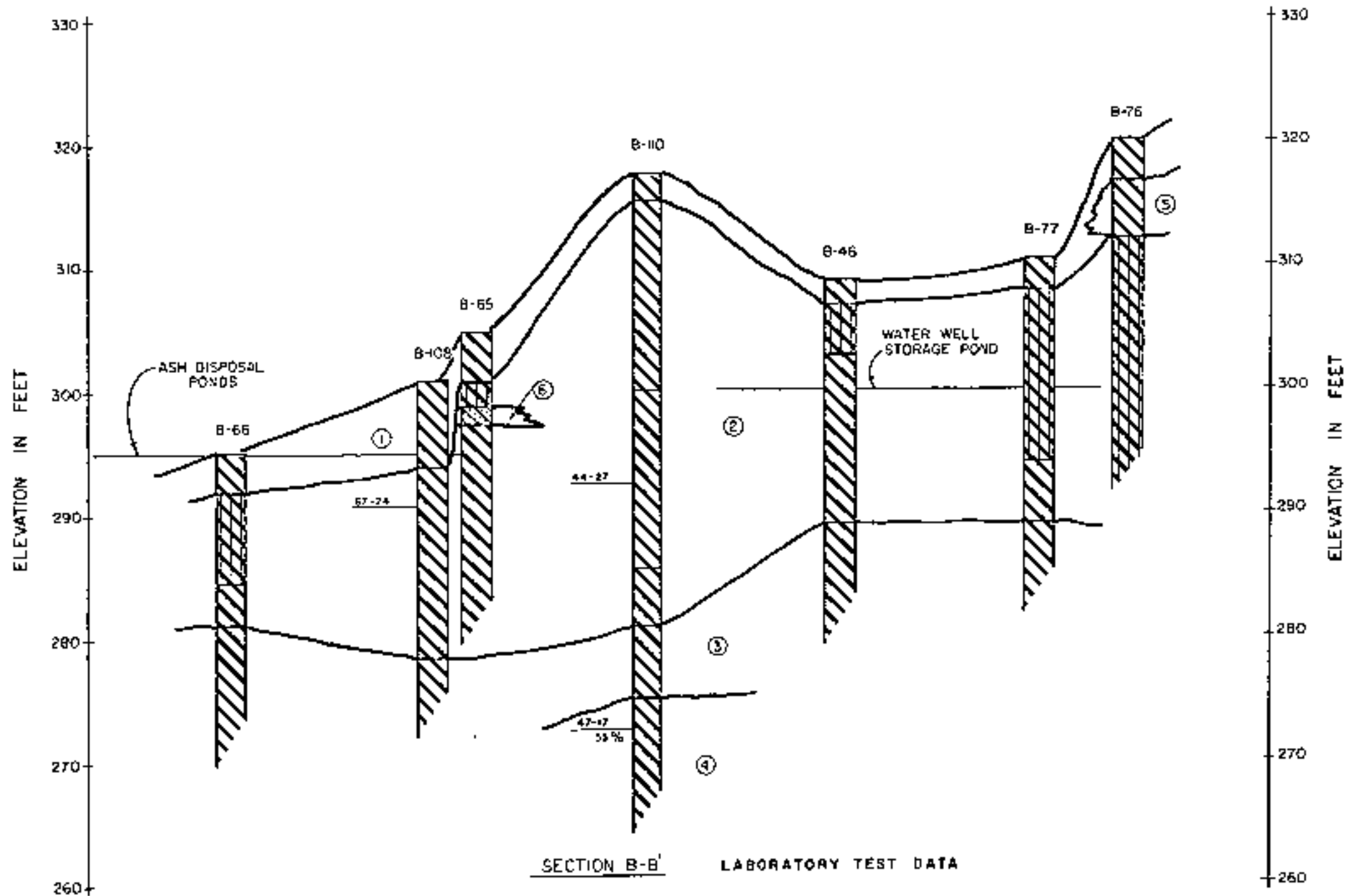
DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 300.9'								
		Stiff dark brown clay								
		-very stiff								
5		(CH)								
		Very stiff brown clay, iron stained								
10			67	24						
		-tan								
15										
20										
25		Hard light brown clay, iron stained								
		(CH)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7-17-76

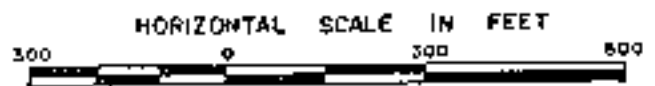
████████████████████
-

ILLUSTRATIONS





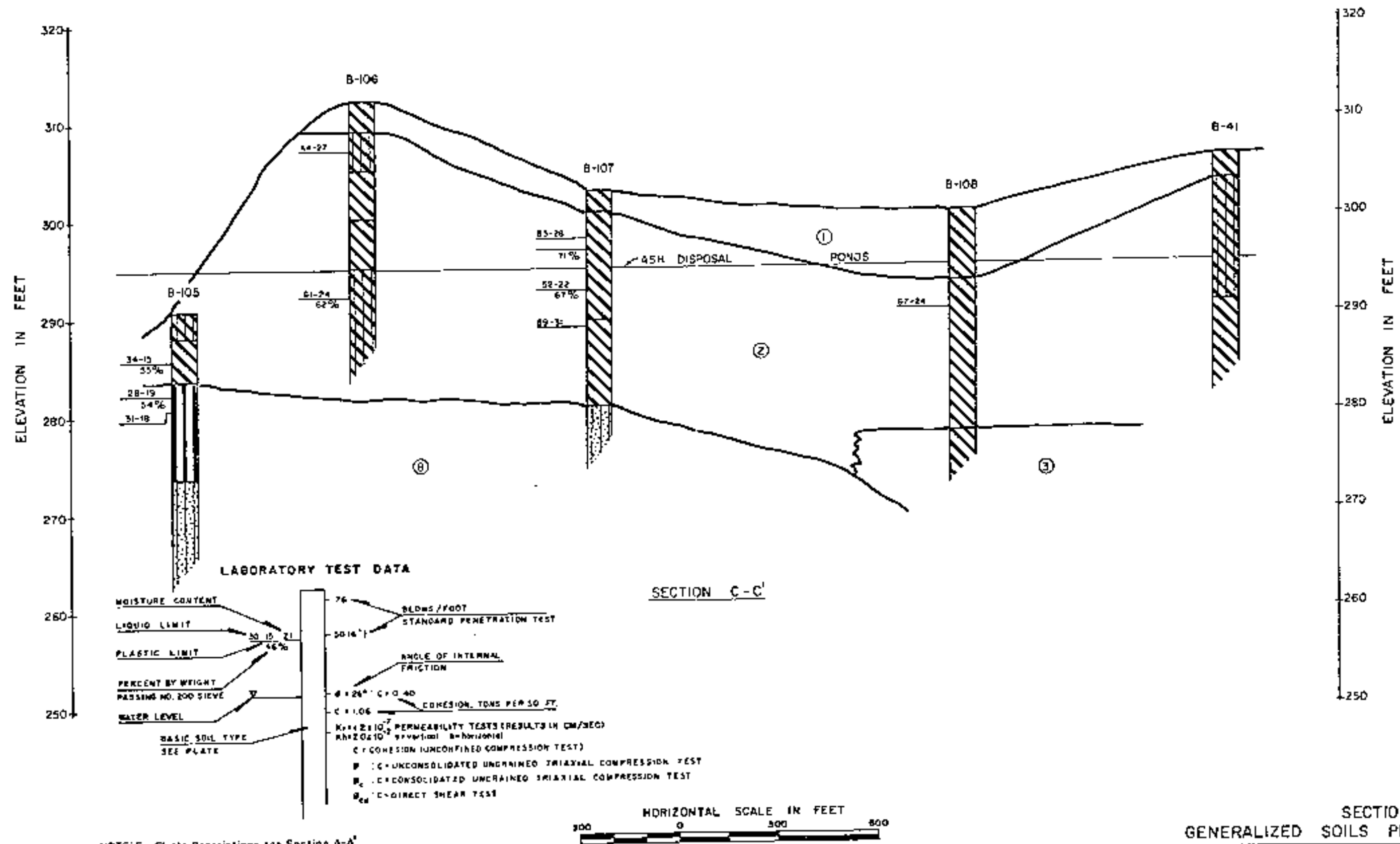
NOTE: For Strata Descriptions see Section A-A'

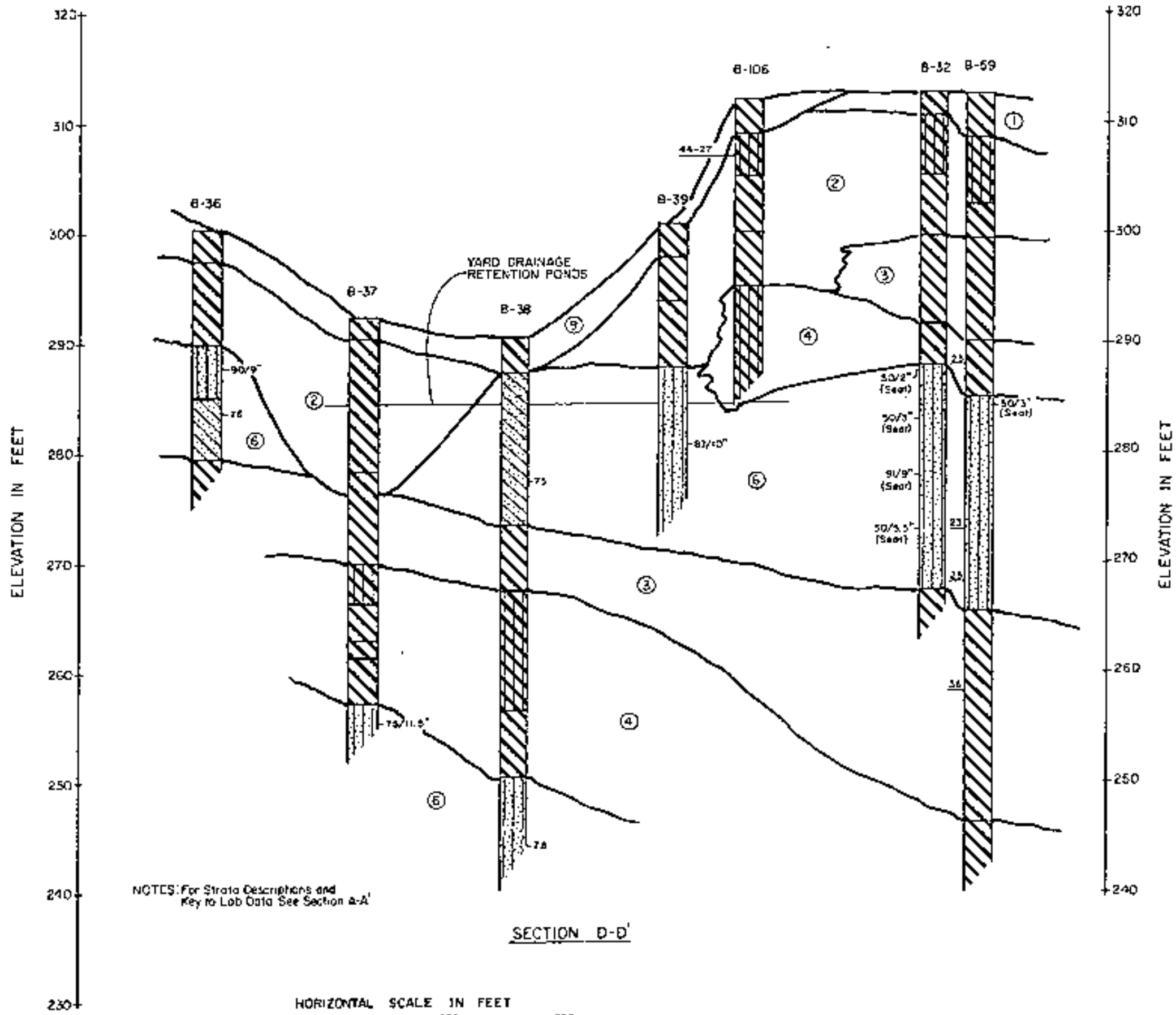


LABORATORY TEST DATA

MOISTURE CONTENT	76	76	BLDG./FOOT
LIQUID LIMIT	50	50	STANDARD PENETRATION TEST
PLASTIC LIMIT	21	21	ANGLE OF INTERNAL FRICTION
PERCENT BY WEIGHT PASSING NO. 200 SIEVE	46%		$\phi = 26^\circ; c = 0.40$
WATER LEVEL			$c = 1.08$ COHESION, TONS PER SQ. FT.
BASIC SOIL TYPE			$K_v = 2 \times 10^{-7}$ PERMEABILITY TESTS (RESULTS IN CM/SEC)
SEE PLATE			$K_h = 0.5 \times 10^{-7}$ PERMEABILITY TESTS (RESULTS IN CM/SEC)
			$\sigma_c = 1.08$ UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
			$\sigma_c = 1.08$ CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
			$\sigma_{cs} = 1.08$ DIRECT SHEAR TEST

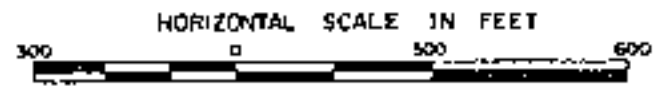
SECTION B-B'
GENERALIZED SOILS PROFILE





NOTES: For Strata Descriptions and Key to Lab Data See Section A-A'

SECTION D-D'



SECTION D-D'
GENERALIZED SOILS PROFILE



Not to Scale

2475' ± TOTAL LENGTH ALONG CREST

Wet Area "C"

Locate sump at edge of swale in line with the dike crest. Extend drain line to west 150'. Ground elevation difference between sump location and upper end of drain line is about one foot.

SUMP (TYP)

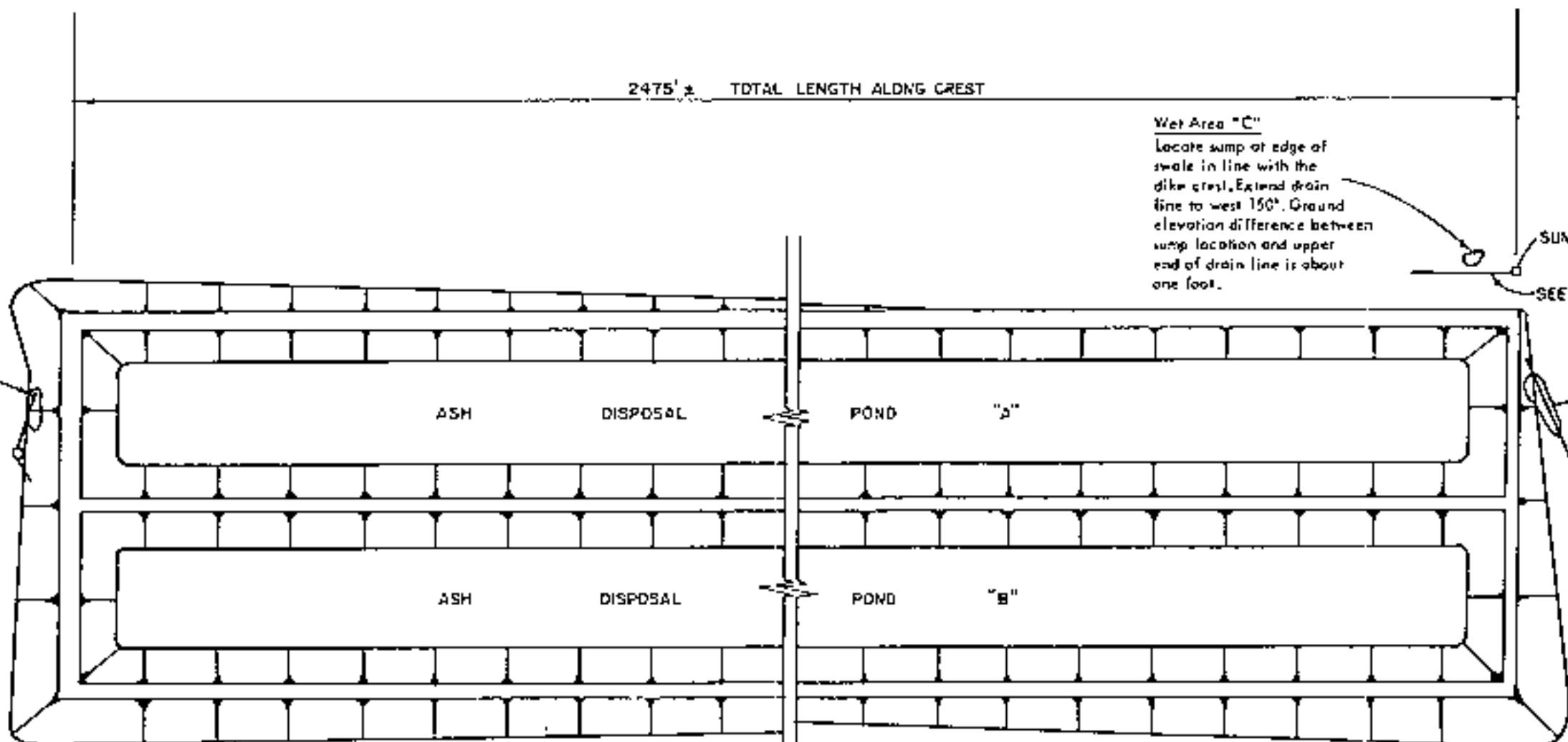
SEEPAGE COLLECTION PIPE (TYP)

Wet Area "A"

Position sump at toe of slope midway between wet area and pump foundation slab. Upper edge of wet area is about 8' higher than toe of slope. North drain line to sump (100') should extend through wet area. South drain line to sump (45') will collect runoff from pump area. Relocate existing compressed air lines at southern edge of wet area.

Wet Area "D"

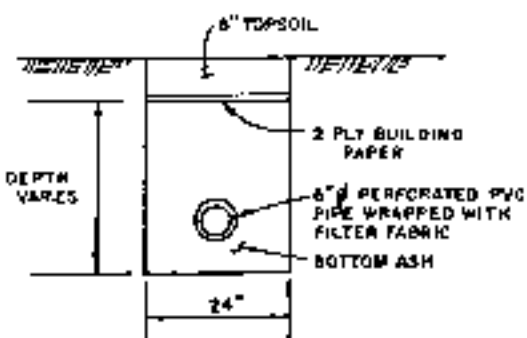
Locate sump in level area beyond toe of slope about 40' north of common dike. Extend drain line 200' ± northwest to beyond limits of wet area. Ground elevation difference between sump location and upper limit of wet area is about 8'.



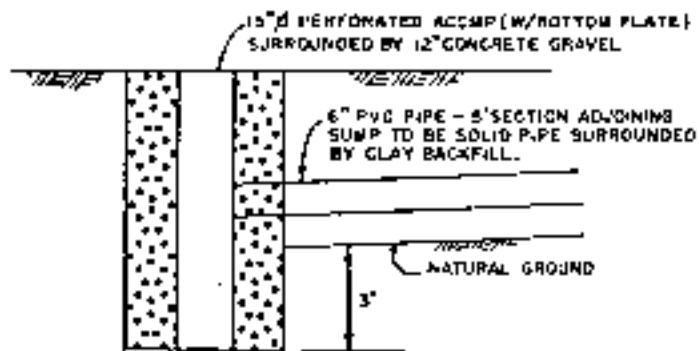
Wet Area "E"

Wet area extends beyond fence. Locate sump on west side of wet area midway between fence and north edge of wet area. Extend drain to the east beyond limits of wet area (250'). Ground elevation difference between sump location and upper end of drain line is about one foot.

EXISTING FENCE



SEEPAGE COLLECTION PIPE DETAIL
Not to Scale



SUMP DETAIL
Not to Scale

PSI 1985

Letter to San Miguel Electric Cooperative, Inc., Re: Inspection of Ash Ponds at the San Miguel Power Station, from Ralph F. Reuss, P.E., Professional Service Industries, Inc., September 4, 1985.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

Copy - > Bob (Miss)



Professional Service Industries, Inc.
National Soil Services Division

September 4, 1985

San Miguel Electric Cooperative Inc.
P. O. Box 780
Jourdonton, Texas 78026

Attention: Mr. Richard McCaskill
General Manager

Gentlemen:

This will summarize results of our August 29, 1985 inspection of the Ash ponds at the San Miguel Power Station. These ponds have exhibited localized areas of underseepage since first filling.

Our study of January 4, 1984 recommended installation of sand filled trenches for collection of underseepage. Several test excavations were made in connection with this program. Observations revealed that variable inflow rates and depths occurred in the excavations. Application of the trench system was therefore questionable and accordingly it was requested that additional studies be planned to consider alternate systems for control of underseepage or establish depth of the collector trenches.

SEEPAGE CONDITIONS

The pattern of exit seepage at the time of the previous inspection was difficult to define due to rainfall prior to the inspection. The recent inspection was made after a prolonged dry period. In addition, the north ash pond was essentially drained and the south pond was filled to within several feet of the top of the dikes. With reference to seepage areas observed in January 1984 as shown on Enclosure 1, the recent inspection revealed the following:

RECEIVED
S.M.E.C. Inc.
SEP 10 1985

1. No seepage was evident at locations "A" or "B" due to the lowered level in Pond "A".
2. Seepage in the areas of "D" and "E" was minor. Seepage exit areas were visible from joints in the clays and horizontal bedding planes exposed in the drainage ditch along the east dike.
3. Seepage exit areas were evident along the south dike, near the transmission towers and in area "F". No seepage was evident in area "G".

Current plans are to complete dewatering of Pond "A", remove the ash and then place the pond in service.

It was concluded, based on the previous inspection and review of available boring data, that underseepage was occurring through joints and fissures in the natural clays present in the bottom area and portions of the side slopes developed by excavation in natural soils. The recent inspection confirms this cause of underseepage. It thus appears that fissures and joints that are usually closed by swelling of the clays have remained opened and are sufficiently continuous to provide seepage pathways beneath the dikes.

UNDERSEEPAGE CONTROL

Control of underseepage can be effected by two methods, namely:

1. Sand filled collector trenches located along the toe of the dikes and extending through the fissured clays.
2. An impervious clay lining in the natural soils present in the bottom and side slopes of the ponds.

The second method was not considered previously since it was not anticipated that the ponds would be drained and the ash removed. However, development of a three foot compacted clay lining in the natural soils represents a positive method for control of underseepage and would minimize future operational costs for sump pumping from the trench collector system. However either method would effectively control underseepage relative effect on adjacent property.

COLLECTOR TRENCHES

The sand filled trenches would be located as recommended previously. However, trench depth should be increased to intercept the fissured clay stratum. Based on available data, specifically borings B-105, B-106, B-66, B-41 and B-42. A trench depth of 10 feet would intercept the fissured zone in the clays and have a bottom grade in the sandy clays and silts. In the event a trench collector system is selected then borings along the east, west and south dikes at 200 foot centers should be planned to establish final trench depth. The greater trench depth of 10 feet as compared to the previous depth of 2-5 feet can be excavated on vertical slopes with a Backhoe. Bottom grade can be sloped to drain to collector sumps.

COMPACTED LINING

The natural clays present in the bottom of the pond will be suitable for development of an impervious lining. Following removal of the ash, the upper two feet of the clay should be excavated and stockpiled. The upper 12 inches of the exposed clay should be scarified and compacted and the stockpiled clay then placed in nine inch lifts and compacted. The lining should be compacted to 95 percent of the maximum standard density at a moisture content 3-4 percent above the optimum value. Following completion of the lining the clay should be maintained in a moist condition and not allowed to dry and experience shrinkage cracking.

ADDITIONAL STUDIES

Borings along the toe of the dikes will be necessary in the event collector trenches are planned. No additional borings are recommended if a compacted lining is planned. However, construction inspection should be required to verify limits of the lining and density of the compacted clay.

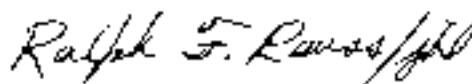
Presently there are no piezometers located in the dikes for monitor purposes. In the event a compacted clay lining is planned, it is recommended that six monitor wells be installed to develop baseline data on water levels and quality and demonstrate effectiveness of the lining. Two monitor wells should be located in the north and south dikes and one in the east and west dikes.

Summarizing, the previous study and recent site inspection shows that underseepage is occurring in the natural deposits through fissures and joints in the clays and along horizontal bedding planes. Two methods for control of underseepage are recommended for consideration. Either method is acceptable and relative cost and operational requirements can be used to select the control system.

We appreciate the opportunity to perform this study. Please call us if we can be of further assistance.

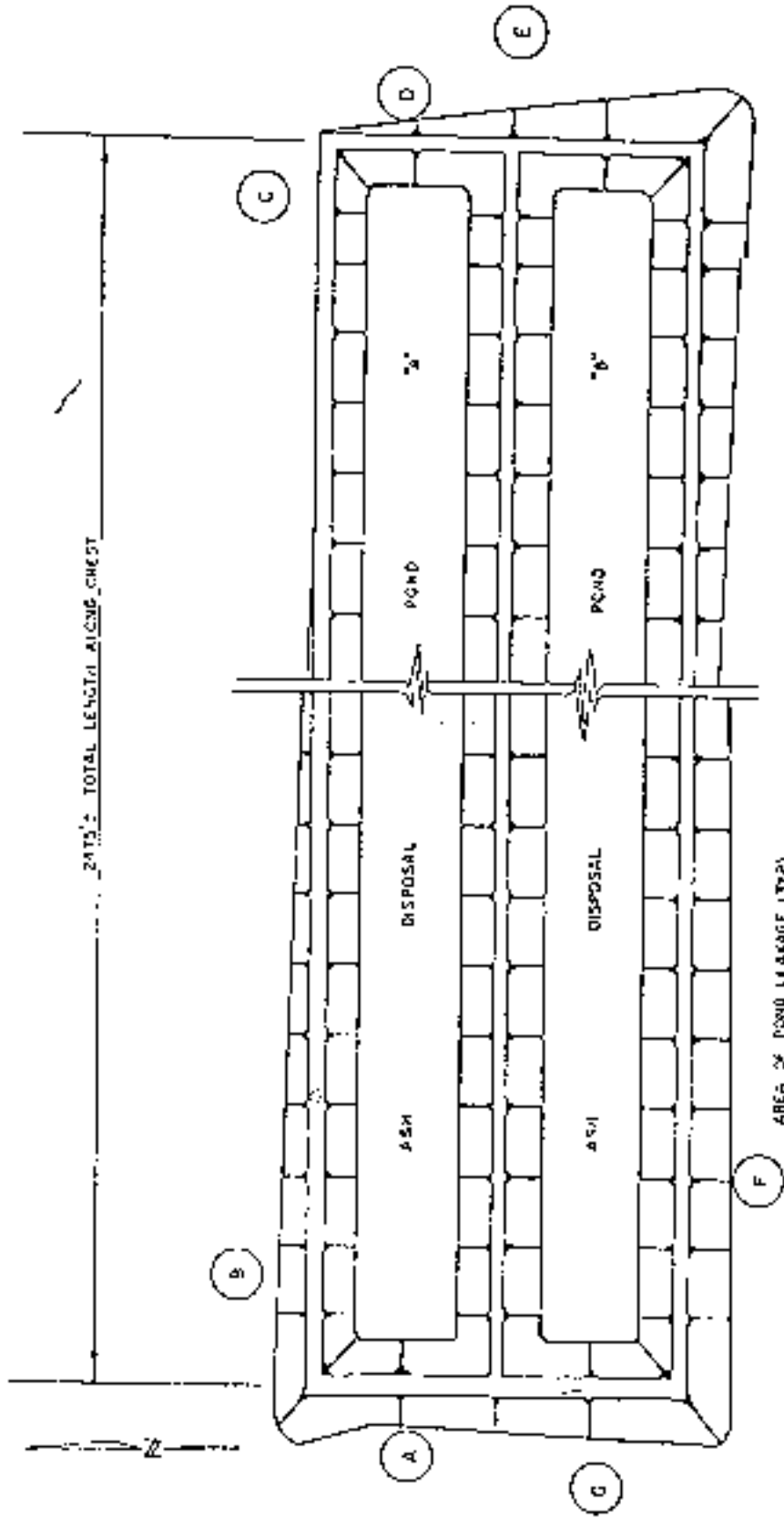
Very truly yours,

PSI/NATIONAL SOIL SERVICES DIVISION



Ralph F. Reuss, P.E.
Vice President

cc: Mr. R. Magel
RFR/ds



TOTAL LENGTH ALONG CHEST

2'

4.5M

DISPOSAL

POND

6'

4.5M

DISPOSAL

POND

AREA OF POND (LEAKAGE TYPE)

PSI 1987a

Letter to San Miguel Electric Cooperative, Inc. Re: Liner
Construction Unit #1 Ash Pond, Koi Z. Woodson, from Ralph F.
Reuss, P.E., Professional Service Industries, Inc., NSS Division,
January 27, 1987.



Professional Service Industries, Inc.
National Soil Services Division

January 27, 1987

San Miguel Electric Cooperative, Inc.
P.O. Box 280
Jourdanton, Texas 78026

Attention: Mr. Clyde Price

RECEIVED
JAN 28 1987
MAIL ROOM

JOURDANTON, TEXAS 78026

Re: Liner Construction
Unit #1 Ash Pond

Dear Mr. Price:

As requested in your letter dated January 20, 1987, Professional Service Industries, Inc. has prepared a sequence of steps which should be performed to obtain a relatively impervious clay lining in the Unit #1 ash pond. In addition, we have enclosed a copy of a proposal, which was previously submitted, for providing testing and quality control services during the referenced construction.

1. Proposed procedure for clay liner construction.

- (a) Remove ash and soils contaminated with ash from the bottom and sides of the pond until natural soils are encountered. It may be necessary to waste several inches of clay to assure that all ash and any softened clay is removed.
- (b) Excavate at least two feet of natural site clays which do not contain ash and stockpile. It is contemplated that half of the bottom of the pit can be used as a stockpile area.
- (c) The upper 12 inches of the exposed clays should then be scarified and moisture added to develop a moisture content three to four percent above optimum as determined by ASTM D 698 (Standard Proctor). Disc

RECEIVED

- to a uniform moisture content and compact to a minimum of 95 percent of the maximum dry density as determined by ASTM D 698 (Standard Proctor).
- (d) Place stockpiled fill in maximum nine inch thick loose lifts, add sufficient moisture to increase moisture content to three to four percent above optimum as determined by ASTM D 658 (Standard Proctor). Disc to decrease particle size and develop a uniform moisture content, and compact to a minimum of 95 percent of the maximum dry density as determine by ASTM D 698 (Standard Proctor).
- (e) Continue fill placement to develop a minimum three foot thick low permeability clay liner.

General Notes:

1. Operations along slopes that were excavated in natural soils should be parallel to the slope as compared to working up and down the slope.
2. The low permeability clay lining should overlap and bond to previous embankment fill for a distance of three to five feet. An overlap distance of at least three feet should also be planned for each field segment, assuming bottom area and slopes are worked in segments. To achieve the overlap on slopes it may be necessary to overbuild in the overlap area and then grade to a uniform slope. A sketch is attached.
3. The contractor has taken exception to moisture control and in particular to placement of fill at moisture contents above optimum. We cannot agree to construction of a clay liner without moisture

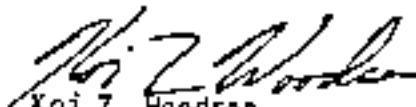
control. It is essential that the fill be placed in a manner which will result in a uniform clay fill with minimum permeability. Bond between soil particles and lifts is more important than compaction to achieve a specified density. Our previous experience with high plasticity clays warrants the conclusion that the clays at this site can be processed to moisture contents three to four percent above optimum and compacted to the desired density (similar clays were compacted at numerous times under our control at moisture contents approaching six to eight percent above optimum). In the event the contractor will not agree to the recommended moisture control then it may be necessary to obtain a proposal from another contractor who is qualified to perform the work. The recommended moisture control should not cause increased cost of the fill.

4. No provision has been made to prevent shrinkage, cracking and drying of the clay lining after construction. It is considered essential that the high plasticity clay lining be maintained at or near placement moisture until the lining is again covered with ash and/or water. A temporary spray irrigation system should be installed along the slopes to maintain moisture conditions in the lining.
5. It is recommended that at least one density test be performed for each 10,000 square feet of surface area for each compacted lift. It is also recommended that tests be performed on samples of the clay liner to verify physical parameters such as liquid limit, plasticity index and permeability.

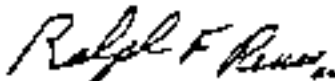
PSI appreciates the opportunity to be of service on this project. If you have any questions, please contact our office.

Very truly yours,

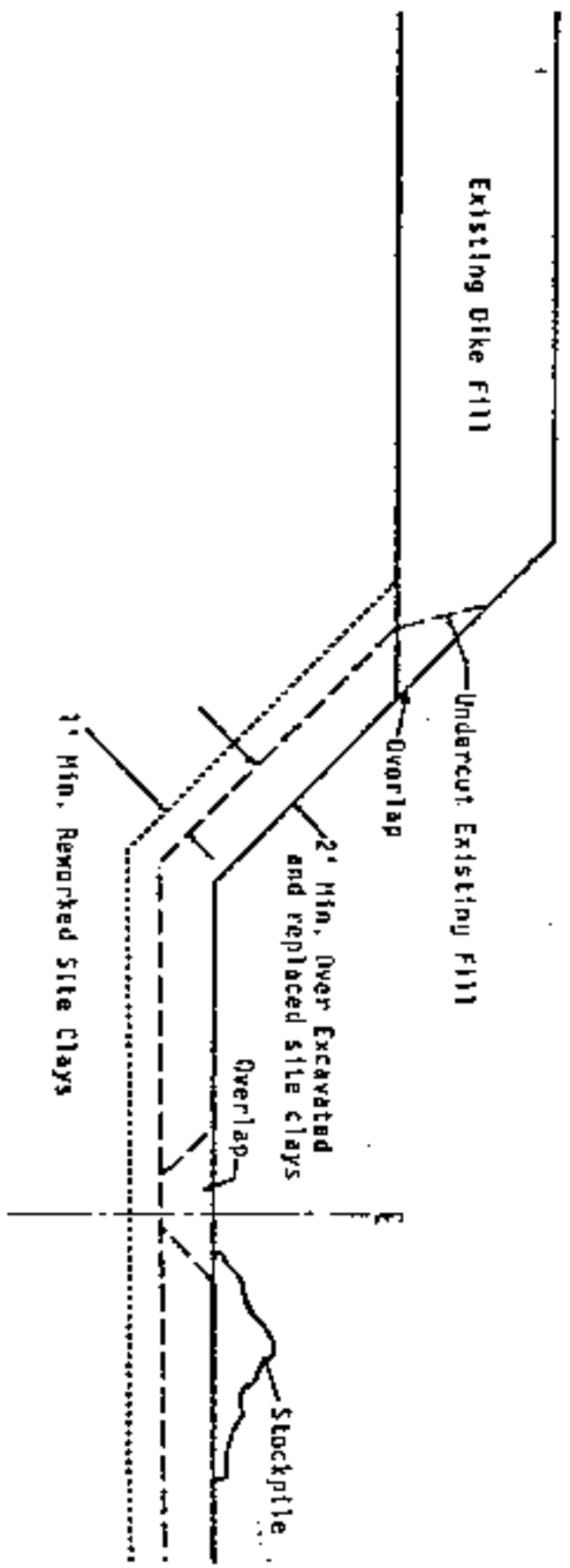
PSI/NATIONAL SOIL SERVICES DIVISION



Koi Z. Woodson
Branch Manager



Ralph F. Reuss, P.E.
Vice President



NOT TO SCALE

PSI 1987b

Letter to San Miguel Electric Cooperative, Inc. Re: Pond Liner Sampling and Testing, Pond 1A Repair Project, Report No. 311-70065-1, from Robert P. Arias, P.E., Professional Service Industries, Inc., May 7, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

May 7, 1987

RECEIVED
 S.M.E.C., Inc.

San Miguel Electric Cooperative, Inc.
 Post Office Box 280
 Jourdanton, Texas 78026

MAY 11 1987

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

Re: Pond Liner Sampling and Testing
 Pond IA Repair Project
 San Miguel Plant
 Jourdanton, Texas
 PSI Report No.: 311-70065-1

Gentlemen:

A site visit was conducted on March 16, 1987 for the purpose of sampling in-situ liner soils in place at the location of Pond IA. Eighteen (18) soil samples were collected on this date by Mr. Robert P. Arias, P.E. with the aid of a backhoe and technical personnel provided by the plant operation. Soil samples were collected on the pond side slopes and bottom at random locations. The results of the laboratory classification and testing are presented in Table 1.

The test results indicate that the existing clay liner materials are satisfactory for re-use of the compacted clay liner. In addition, a sample was collected from the Southeast corner of the pond for performance of a proctor test. These test results were utilized to compact two permeability samples for determination of soil permeability.

According to the falling head method, one permeability sample was remolded and tested with ash water as the permeant while the other sample was remolded and tested with distilled water as the permeant. The results of these tests are noted below.

<u>Sample No.</u>	<u>LL</u>	<u>PL</u>	<u>PI</u>	<u>Permeant</u>	<u>Permeability</u>
1	52	20	32	Ash Water	7.6×10^{-9} cm/sec ²
2	52	20	32	Distilled Water	1.3×10^{-8} cm/sec

EXHIBIT F

San Miguel Cooperative, Inc.
May 7, 1987
Page Two

As noted above the permeability test results of the sample remolded and tested with ash water indicates that ash water would be suitable for use in recompacting the clay liner.

If you have any questions concerning these results, please contact us.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)


Robert S. Arias, P.E.
Vice President

RPA/tt

SUMMARY OF LABORATORY RESULTS
 SAN MIGUEL 1A POND REPAIR PROJECT
 ourdantton, Texas

TABLE 1

LL = LIQUID LIMIT
 PL = PLASTIC LIMIT
 PI = PLASTICITY INDEX
 -200 = FINE PASSING
 # 200 Sieve
 MC = MOISTURE CONTENT

Sample No.	Location and Depth	Soil Classification	LC	PL	PI	-200	MC%
1	* Southeast corner at 1'	Light tan silty clay	65	28	37	69	29
2	* 85' from Southeast weir at 2'	Dark gray silty clay with ferrous staining	60	22	38	52	24
3	* 224' from East end of pond at 1.5'	Light tan silty clay	46	15	31	66	25
4	* 617' from East end of pond at 1'	Tan silty clay with some sand and gravel	60	22	38	64	26
5	* 1117' from East end of pond at 1.5'	Light grayish tan clay with sand	64	29	35	38	26
6	Pond bottom 218' from East end of pond at 0'-2'	Brown silty clay with gravel traces	67	24	43	71	29
7	Pond bottom 581' from East end of pond at 0'-2'	Mottled silty clay	65	23	42	64	21
8	510' from East end of pond at 1.5'	Brown silty clay	67	28	39	66	27
9	595' from East end of pond at 2'	Greenish gray clay	72	24	48	92	28
10	595' from East end of pond at 0.5'	Dark gray silty clay	50	16	34	73	23
11	901' from East end of pond below 2'-3' ASH at 1'	Mottled silty clay with some coarse sand and gravel	70	38	32	54	29
12	1083' from East end of pond below 3' ASH at 2'	Dark gray silty clay	50	16	34	70	20
13	1477' from East end of pond below 3' ASH at 2'	Light gray silty clay with calcareous traces and sand	48	18	30	64	20
14	1481' from East end of pond low 1' ASH at 2'	Dark gray silty clay	53	21	32	59	24

TABLE 1 (Continued)

Sample No.	Location and Depth	Soil Classification	LL	PL	PI	-200	MCX
15	1938' from East end at middle of pond bottom at 0'-2'	Tan fissured clay	86	26	60	99	30
16	Dewatering B10 area 0'-4'	Brown clay with interbedded fine ferrous stained silt	64	23	41	20	24
17	Borrow area 0'-4'	Light grayish tan sandy clay interbedded with fine silt	51	22	29	45	21
18	Run off pond borrow at 2.5'	Brown sandy clay	56	21	35	68	16

NOTES: * Samples taken from South side slopes of pond. Remainder of samples taken from North slope of pond or pond bottom as noted.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

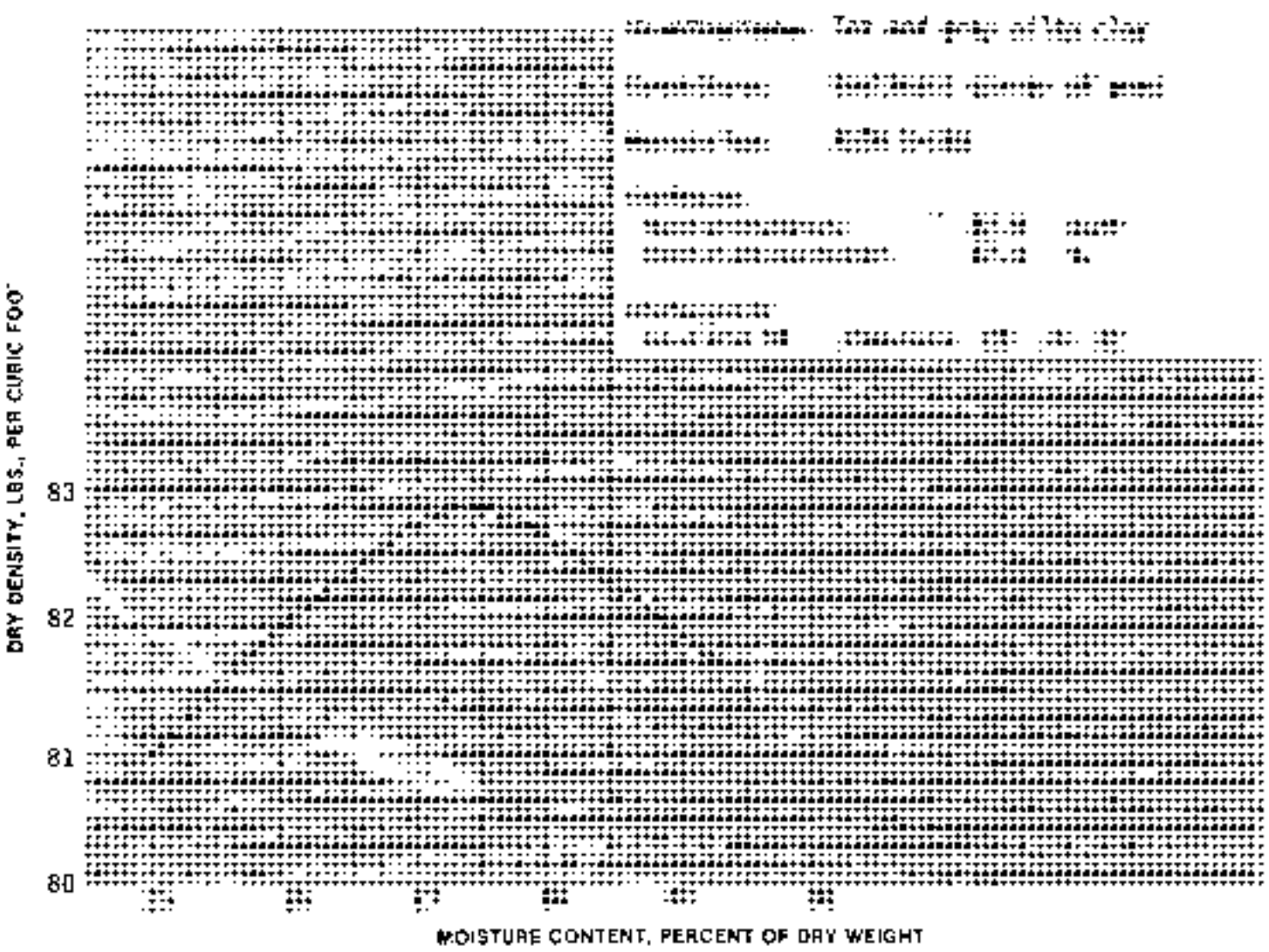
TESTED FOR: **SAN MIGUEL ELECTRIC COOP., INC.**
 Post Office Box 280
 Jourdanton, Texas 78026
 Attention: Mr. Clyde Price

PROJECT: **Pond 1A Repair Project**
 San Miguel Plant
 Jourdanton, Texas

DATE: **May 7, 1987**

OUR REPORT NO. **311-70065-1**

TEST DATA



Respectfully submitted,
 Professional Service Industries, Inc.

PSI 1987c

Daily Reports for San Miguel Electric Cooperative, Inc. Re: 1A Ash
Pond Soil Testing, Professional Services Industries, Inc., July 21,
1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

RECEIVED
 7-20-87

DAILY REPORT

DATE: 7-17-87

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108
 Contractor: V.K. Knowlton

DATE July 17, 1987

OUR REPORT NO 311-70065-6

REMARKS:

Upon observation of 1A Pond, three (3) questionable areas of concern were found. The N.W. corner of 1A Pond has water seepage. The clay in the area appears to be in good condition. At approximately 700'-800' west of the S.E. corner of 1A Pond, V.K. Knowlton encountered two (2) joints of sandy clay that is unacceptable according to the project specifications. A sample was taken to verify the unacceptability of the material. Water seepage was also encountered in this area. In the S.E. corner of 1A Pond, water was encountered as well. The decision has been agreed upon that all vegetation, fly ash, or contaminated clays of any kind will be removed before actual reconstruction of 1A Pond. A sample of clay was taken on the west side of the pond's N.W. corner for testing, to check acceptability of the material.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing
 Laboratory Division)

cc: (2) Above
 /dd



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT** 1A Ash Pond Soil
 Post Office Box 280 Testing
 Jourdanon, Texas 78026 P.O. #26643-032108
 ATTENTION: Mr. Clyde Price

DATE September 23, 1987 OUR REPORT NO 311-70065-63

WEATHER Partly Cloudy
 TEMPERATURE RANGE 70° TO 85°
 INSPECTOR R. Wehner

TYPE OF INSPECTION BEING PERFORMED

- | | |
|---|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input checked="" type="checkbox"/> Fracture Repair | _____ |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| BATCH PLANT | _____ |
| PLACEMENT (JOB SITE) | _____ |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: As requested, a representative of PSI, Inc. reported to the above referenced project site to repair fractures in the pond liner with a pumped bentonite slurry. Repairs of the fractures and weep holes were completed on this date.

cc: (2) Above
 dd

Respectfully submitted,
 Professional Service Industries, Inc. *clt*



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE: September 23, 1987 OUR REPORT NO: 311-70065-64

REMARKS: Weather: Sunny & Clear
Temperature Range: 80° to 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief resume* of work accomplished on this day:

Equipment Used:

1. Track Loader
2. CAT Spray King

Fractures were repaired today. A bentonite slurry was injected into fractured areas. Bentonite pellets were worked into the weep holes. The south slope is completed for all repairs.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CB

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE September 24, 1987 OUR REPORT NO 311-70065-65

REMARKS:

Weather: Sunny & Clear
Temperature Range: 80° to 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

1. Track Loader
2. CAT Spray King

Final ramp was cut out today and rip-rap is being placed. A final inspection of bentonite injected fractures will be done tomorrow. V.K. Knowlton will be pulling off jobsite today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT**
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE September 22, 1987

OUR REPORT NO 311-70065-61

WEATHER Sunny & Clear
 TEMPERATURE RANGE 70° TO 85°
 INSPECTOR R. Wehner

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

Fracture Repair

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: As requested, a representative of PSI, Inc. reported to the above referenced project site to repair fractures in the pond liner with a pumped bentonite slurry. Mechanical failures prevented the completion of the repairs on this date.

cc: (2) Above
 dd

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 22, 1987

OUR REPORT NO. 311-70065-62

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 80° to 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief resume¹ of work accomplished on this day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. (1) Liebherr Dozer | 3. (1) CAT Spray King |
| 2. (1) Track Loader | 4. (1) 120G Motor Grader |

The area southbetween Station 100' and 300' on the slope was completed today. V.K. Knowlton has began to move out most of their equipment today. Repair of the fractures will begin today. A betinite slurry will be used in fracture areas. A total of four (4) densities were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CEP

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 22, 1987

DLH REPORT NO 311-70065-62

Page 2 of 2

TEST DATA- Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	TEST NO. NUMBER	MAXIMUM LAKE DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	09-22-87	2nd Lift	33	88.2	27.0	87.0	98.6	1 - A
2	09-22-87	2nd Lift	33	88.2	28.0	85.5	96.9	1 - A
3	09-22-87	Final	33	88.2	26.7	86.0	97.5	1 - A
4	09-22-87	Final	33	88.2	28.5	86.8	98.4	1 - A

TEST LOCATION:

1	30' West of Station 100' and 15' from Top of Slope.
2	60' West of Station 200' and 10' from Bottom of Slope.
3	20' West of Station 100' and 25' from Bottom of Slope.
4	90' West of Station 200' and 20' from Top of Slope.

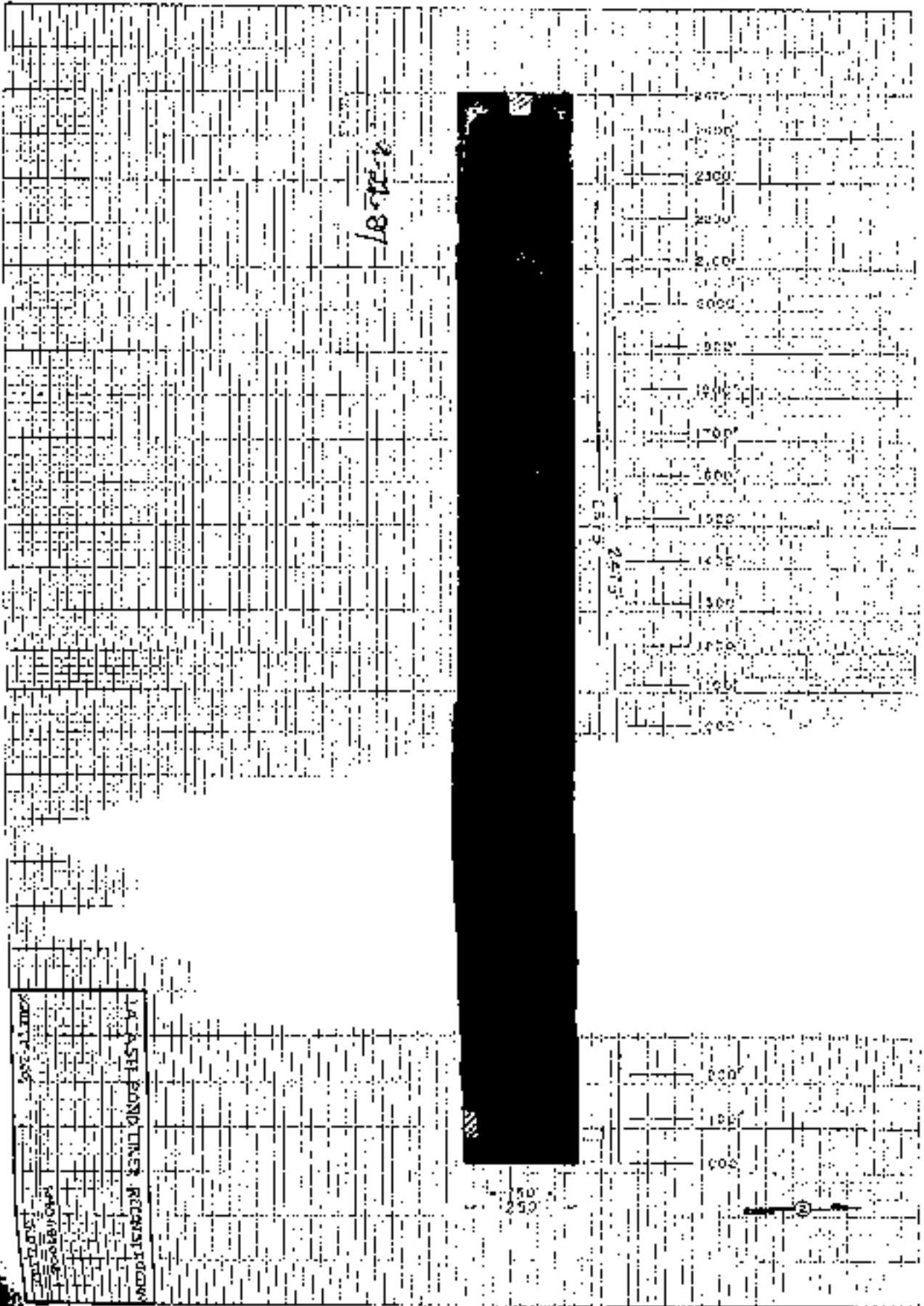
NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
H RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT**
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

IA Ash Pond Soil
Testing
P.O. #26643-032108

DATE **September 19, 1987**

OUR REPORT NO **311-70065-59**

WEATHER **Sunny & Clear**
TEMPERATURE RANGE **75°** TO **80°**
INSPECTOR **G. Quintanilla**

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input checked="" type="checkbox"/> <u>In-Place Field Density Tests</u>	_____
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	_____
<input type="checkbox"/> PLACEMENT (JOB SITE)	_____

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE Per request, a PSI Representative arrived on the job site to perform in-place field density tests. Upon arrival, the technician was notified that no density tests would be conducted due to rain and was told to return to the lab.

cc: (2) Above
/dd

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT: 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE: September 21, 1987 OUR REPORT NO. 311-70065-60 Page 1 of 2

REMARKS: Weather: Sunny & Clear
Temperature Range: 80° to 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief resume of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|-----------------------|
| 1. (1) 120G Motor Grader | 3. (1) Liebherr Dozer |
| 2. (1) Track Loader | 4. (1) Water Truck |

Rip-rap was placed in some more areas today. The ramp was cut out and work was performed in the N.W. corner. The last 200' section on the south slope is being worked also. Some of the equipment is being removed from the job site today. Repairs of the fractures and weep holes is scheduled for 09-22-87.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC., PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 21, 1987

OUR REPORT NO: 311-70005-60

Page 2 of 2

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	TEST SITE	NO. OF SAMPLES	MAXIMUM LABORATORY DENSITY	WATER CONTENT	STRENGTH PRO. DENSITY	PERCENT COMPACTION	COMMENT
1	09-21-87	Subgrade	33	88.2	27.1	88.5	100.3	1 - A
2	09-21-87	Subgrade	33	88.2	26.6	87.3	98.9	1 - A
3	09-21-87	1st Lift	33	88.2	26.3	86.3	97.8	1 - A
4	09-21-87	1st Lift	33	88.2	27.5	86.2	97.7	1 - A

TEST LOCATION:

1	40' West of Station 100' and 25' from Bottom of Slope.
2	70' West of Station 200' and 10' from Top of Slope.
3	20' West of Station 100' and 15' from Top of Slope.
4	50' West of Station 200' and 10' from Bottom of Slope.

NOTES: DENSITIES SHOWN: (dry) per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density, obtained on sample indicated by test ID number

- 1 FILL MATERIAL
- 2 HACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

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Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT IA Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE September 18, 1987 OUR REPORT NO 311-70065-58 Page 1 of 2

REMARKS: Weather: Cloudy & Overcast
Temperature Range: 75° to 80°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|-----------------------|
| 1. (1) Liebherr Dozer | 4. (1) CAT Spray King |
| 2. (1) 120G Motor Grader | 5. (1) Track Loader |
| 3. (1) Water Truck | |

The damaged area in the bottom of the pond was repaired today. Most of the work concentrated on the pond floor today. Rip-rap was placed on the west slope on both sides of the concrete area. A 200' section is yet to be completed on the south slope. Fractures were inspected today and an alternative for repairing these fractures has been decided. V.K. Knowlton started at 7:00 a.m. and stopped at 3:30 p.m. due to rain. A total of two (2) densities were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CP

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 17, 1987

OLN REPORT NO: 311-70065-58

Page 2 of 2

TEST DATA: Optimum moisture: {33, 23.7}

TEST NO.	DATE	TYPE	TEST NUMBER	WET UNIT WEIGHT (LBS./CU. FT.)	WATER CONTENT	IN PLACE UNIT WEIGHT	PERCENT COMPACTION	COMMENT *
1	09-17-87	Final	33	88.2	28.5	84.0	95.2	1 - A
2	09-17-87	Final	33	88.2	27.6	85.0	96.3	1 - A

TEST LOCATION: POND FLOOR

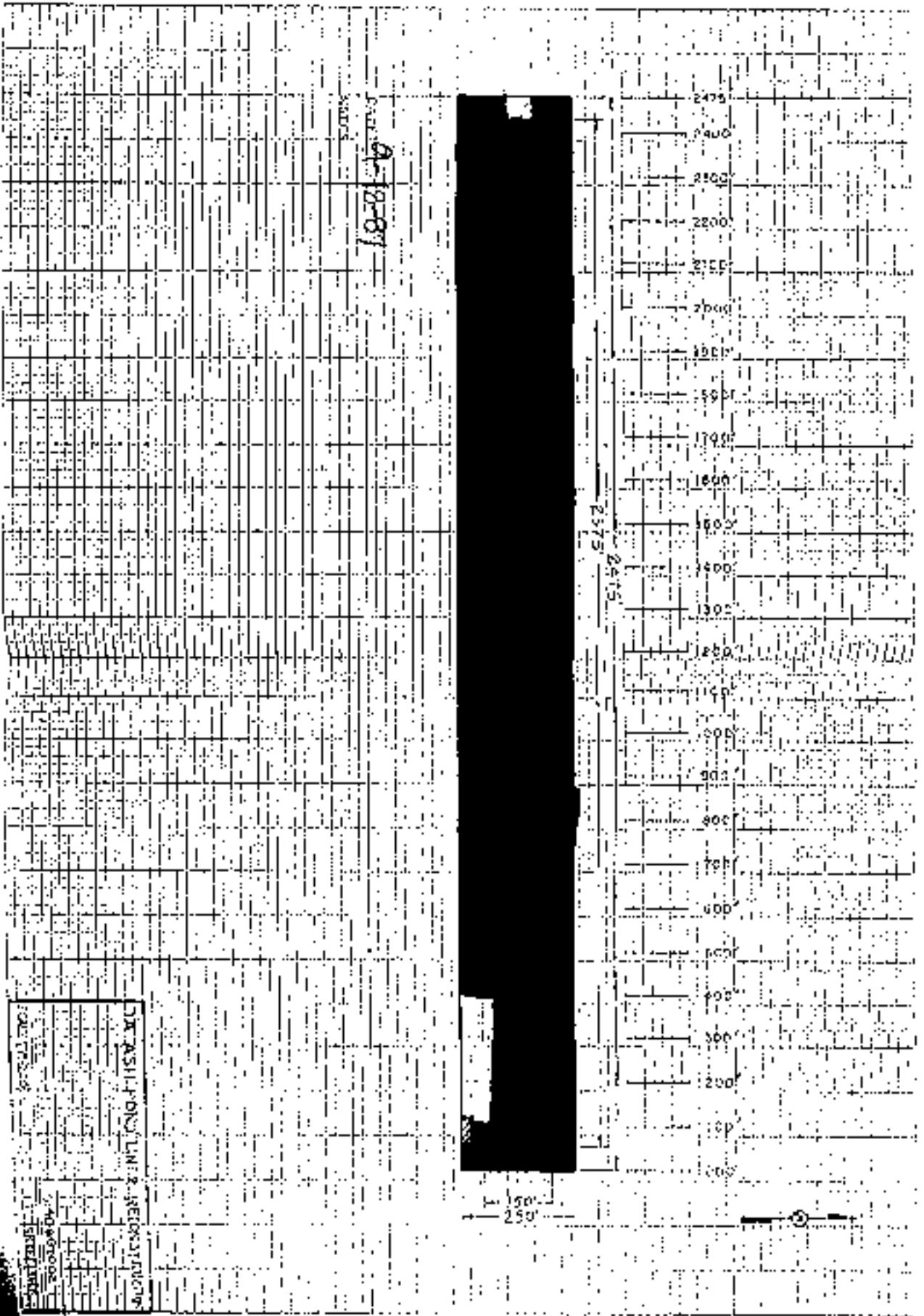
1	40' North of South Slope and 20' West of Station 700'.
2	50' North of South Slope and 85' West of Station 700'.

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- * 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

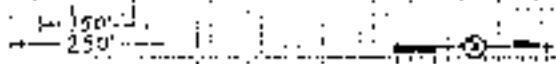
REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



DATE: 4-18-07
 NAME:

DAVIDSON LINE & MECHANICAL
 40 WOODS
 1500 1500





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE September 17, 1987 OUR REPORT NO 311-70065-57

REMARKS: Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control


Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|-----------------------|
| 1. (1) Liebherr Dozer | 4. (1) Water Truck |
| 2. (1) 1200 Motor Grader | 5. (1) CAT Spray King |
| 3. (1) 637D Scraper | |

V.K. Knowlton's equipment problems were solved by approximately 10:00 a.m. An agreement has not yet been reached on the reconstructed areas with fractures. V.K. Knowlton is waiting for a front end loader to arrive on the job site for the placement of rip-rap on both ends of the pond. Productivity is almost at a half at this time due to the condition of the pond floor. V.K. Knowlton cannot do any work on the pond floor without damaging the floor. The pond floor is still being pumped of excess water. A 200' section still remains to be worked on the south slope. No compaction tests were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted, 
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd

17
A-18-87

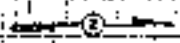


STATES

TASSET FUND LINE REVISIONS	
DATE	DESCRIPTION



150
200





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 16, 1987

OUR REPORT NO 311-70065-56

Page 1 of 4

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|-----------------------|
| 1. (1) Liebherr Dozer | 4. (1) 637D Scraper |
| 2. (1) D6 Dozer | 5. (1) Water Truck |
| 3. (1) 120G Motor Grader | 6. (1) CAT Spray King |

The pond floor was completed today, except for cleaning and shaping of the floor. V.K. Knowlton worked one of the reconstructed areas that had a fracture problem. Water is still being pumped out of the pond floor. Due to equipment problems experienced by V.K. Knowlton, productivity was slowed today. A total of thirteen (13) density tests were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

GK

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC.** PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 16, 1987

OUR REPORT NO 311-70065-56

Page 2 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE	SP. D. NUMBER	MAXIMUM AVERAGE DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS *
1	09-16-87	Final	33	88.2	26.3	86.3	97.8	1 - A
2	09-16-87	2nd Lift	33	88.2	26.5	88.5	100.3	1 - A
3	09-16-87	1st Lift	33	88.2	26.6	87.3	98.9	1 - A
4	09-16-87	Subgrade	33	88.2	27.9	86.8	98.4	1 - A
5	09-16-87	1st Lift	33	88.2	27.5	87.0	98.6	1 - A
6	09-16-87	1st Lift	33	88.2	27.0	87.8	99.5	1 - A

TEST LOCATION: POND FLOOR, STATION 2000'-2475'

1	35' West of Station 2000' and 5' South of the North Slope.
2	10' West of station 2100' and 10' South of the North Slope.
3	90' West of Station 2200' and 15' South of the North Slope.
4	55' West of Station 2300' and 20' South of the North Slope.
5	70' West of Station 2400' and 25' South of the North Slope.
6	20' West of Station 2300' and 30' South of the North Slope.

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by test ID number

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. 426643-032108

DATE: September 16, 1987

OUR REPORT NO: 3ii-70065-56

Page 3 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	ELEV. / DEPTH	TEST NUMBER	MOISTURE / LAB. DENSITY	WATER CONTENT	AIR DRY UNIT WEIGHT	PERCENT COMPACTION	COMMENT
7	09-16-87	Final	33	88.2	26.5	86.5	98.0	1 - A
8	09-16-87	2nd Lift	33	88.2	27.8	85.3	96.7	1 - A
9	09-16-87	2nd Lift	33	88.2	26.1	86.0	97.5	1 - A
10	09-16-87	2nd Lift	33	88.2	27.5	87.0	98.6	1 - A
11	09-16-87	Final	33	88.2	27.4	86.3	97.8	1 - A
12	09-16-87	Final	33	88.2	26.0	87.8	99.5	1 - A

TEST LOCATION: POND FLOOR, STATION 2000'-2475'.

7	30' West of Station 2100' and 35' South of the North Slope.
8	20' West of Station 2200' and 40' South of the North Slope.
9	80' West of Station 2300' and 25' South of the North Slope.
10	65' West of Station 2400' and 20' South of the North Slope.
11	60' West of Station 2200' and 15' South of the North Slope.
12	10' West of Station 2300' and 10' South of the North Slope.

NOTES: 1. TESTS SHOWN: 100% per 1000 cu ft
WATER CONTENT: Per Cent (dry weight)
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL/CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RE-COMPACTION REQUIRED
- C. TESTS AFTER RE-COMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 16, 1987

OUR REPORT NO: 311-70065-56

Page 4 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	TYPE	MOISTURE (%)	MAXIMUM LABORATORY DENSITY (%)	WATER CONTENT (%)	FIELD DENSITY (%)	PERCENT COMPACTION (%)	COMMENT *
13	09-16-87	Final	33	88.2	27.8	85.3	96.7	1 - A

TEST LOCATION:

13	45' West of Station 2400' and 45' South of the North Slope.

NOTES: DENSITIES SHOWN LBS. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.

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Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE September 15, 1987

OUR REPORT NO. 311-70065-55

Page 1 of 3

REMARKS:

Weather: Sunny & Clear
 Temperature Range: 90" to 95"
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|-----------------------|
| 1. (1) 120G Motor Grader | 5. (1) Water Truck |
| 2. (1) Liebherr Dozer | 6. (1) CAT Spray King |
| 3. (1) D6 Dozer | 7. Discing Equipment |
| 4. (1) 637D Scraper | |

The area between Station 2400' and Station 2475' on the west slope was completed today. Approximately 90% of the 1A Pond is completed. The area between Station 1600' and Station 2300' on the pond floor and the area between Station 0' and 200' on the south slope are yet to be completed. A motor grader is being used to do the final touch-up work on the slopes and the pond floor. A total of 12 densities were taken today. Water is still being pumped from the pond floor. V.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m. today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.

ccf

cc: (2) Above
 /dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAM MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 15, 1987

OUR REPORT NO. 311-70065-55

Page 2 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	LAYER / Depth	TEST NO.	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT *
1	09-15-87	2nd Lift	33	88.2	29.3	80.0	90.7	1 - B
2	09-15-87	2nd Lift	33	88.2	26.3	86.2	97.7	1 - A,C
3	09-15-87	Final	33	88.2	28.2	82.3	93.3	1 - B
	09-15-87	Final	33	88.2	26.1	88.5	100.3	1 - A,C
5	09-15-87	Final	33	88.2	29.2	77.0	87.3	1 - B
6	09-15-87	Final	33	88.2	26.3	83.5	94.6	1 - B

TEST LOCATION: WEST SLOPE, STATION 2400'-2475' (POND FLOOR, STATION 1600'-1800', NORTH SIDE)

1	40' South of N.W. Corner of West Slope and 15' from Top of Slope.
2	Retest of Test #1.
3	15' South of N.W. Corner of West Slope and 20' from Bottom of Slope.
4	Retest of test #2.
5	20' West of Station 1600' and 20' South of North Slope.
6	35' West of Station 1800' and 5' South of North Slope.

NOTES: DENSITIES SHOWN - (1) in place density
WATER CONTENT - (1) in place dry weight
PERCENT COMPACTION - Based on maximum dry density obtained on sample tested by
solid number

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 15, 1987

OUR REPORT NO 311-70065-55

Page 3 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TEST DEPTH	SOIL NO	MOISTURE (%)	WATER CONTENT (%)	AIR DRY DENSITY (PCF)	PERCENT COMPACTION	COMMENTS
7	09-15-87	Final	33	88.2	26.7	86.8	98.4	1 - A,C
8	09-15-87	Final	33	88.2	27.6	85.0	96.3	1 - A
9	09-15-87	Final	33	88.2	26.2	87.5	99.2	1 - A,C
10	09-15-87	Final	33	88.2	27.7	85.8	97.2	1 - A
11	09-15-87	1st Lift	33	88.2	28.2	85.0	96.3	1 - A
12	09-15-87	1st Lift	33	88.2	28.8	85.7	97.1	1 - A

TEST LOCATION: POND FLOOR, STATION 1600'-2200'

7	Retest of Station 1600' from Test #5 of Page #2.
8	65' West of Station 1700' and 15' South of North Slope.
9	Retest of Station 1800' from Test #6 of Page #2.
10	20' West of Station 1900' and 30' South of North Slope.
11	90' West of Station 2000' and 25' South of North Slope.
12	15' West of Station 2100' and 10' South of North Slope.

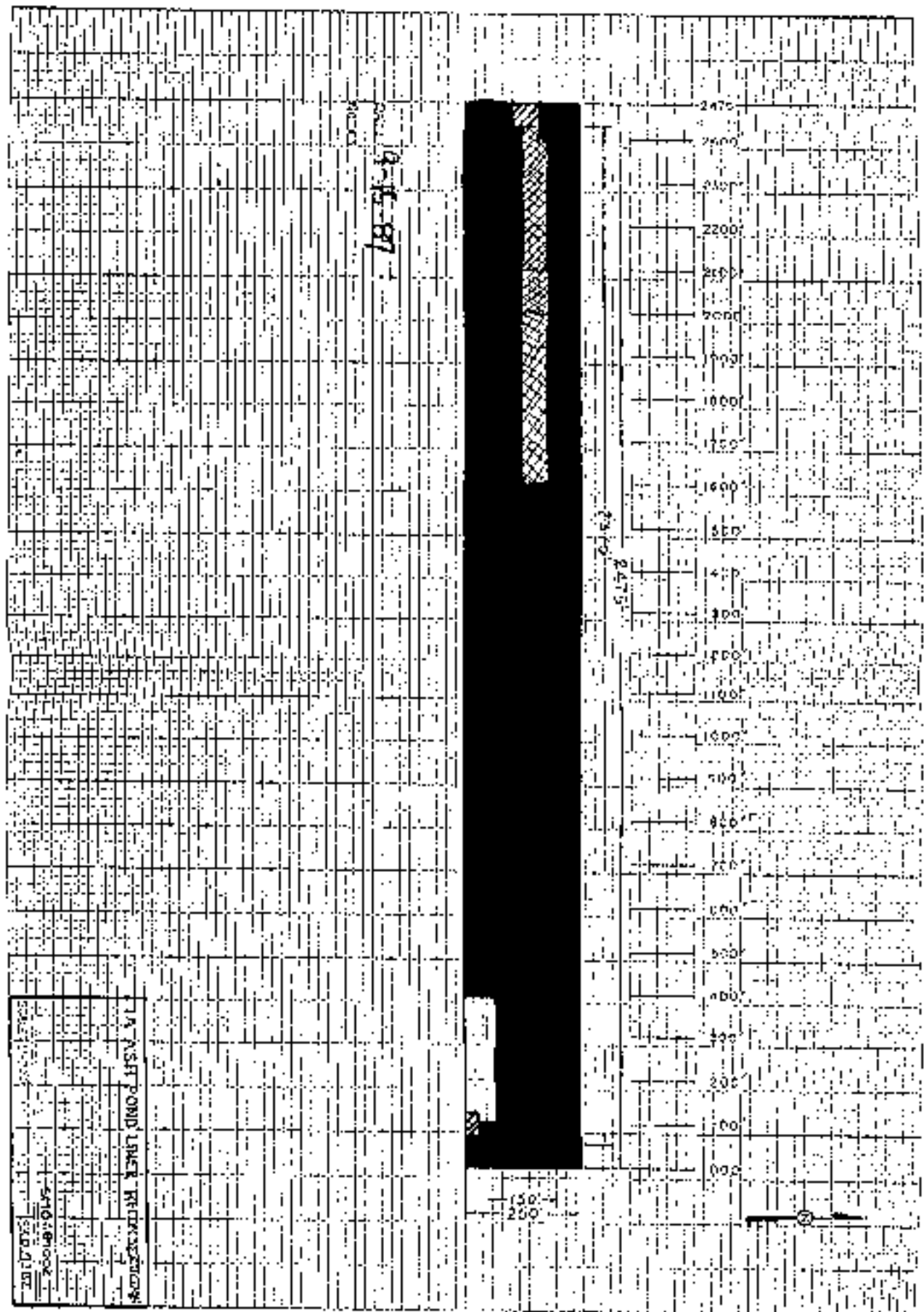
NOTES: DENSITIES SHOWN: (1) - per cubic foot
WATER CONTENT: (2) - Percent of dry weight
PERCENT COMPACTION: (3) - Based on maximum dry density of soil determined by Standard Proctor Test (ASTM D 1557)

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RE-COMPACTION REQUIRED
- C TEST IS AFTER RE-COMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



1.4 ASHT POND LINER PREPARATIONS	
1.4.1	Excavation
1.4.2	Gravel
1.4.3	Clay
1.4.4	Asphalt
1.4.5	Final



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE September 14, 1987 OUR REPORT NO 311-70065-54 Page 1 of 3

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|--------------------------|---------------------|
| 1. (1) Liebherr Dozer | 4. (1) Water Truck |
| 2. (1) D6 Dozer | 5. (1) Spray King |
| 3. (1) 1206 Motor Grader | 6. (1) 637D Scraper |

V.K. Knowlton concentrated on the west slope in the N.W. corner and from Station 1500' to Station 2000' on the pond floor. A total of eight (8) densities were taken today. V.K. Knowlton began work at 7:00 a.m. and finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CF

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 14, 1987

OUR REPORT NO. 311-70065-54

Page 2 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	LIFT / DEPTH	SP. GRAV. (G.M./C.C.)	MAX. MOI. (AS PER SPEC.)	WATER CONTENT (%)	MOISTURE RHY. PLASTICITY	PERCENT COMPACTION	COMMENT
1	09-14-87	Final	33	88.2	27.0	85.8	97.2	1 - A
2	09-14-87	2nd Lift	33	88.2	27.1	87.0	98.6	1 - A
3	09-14-87	2nd Lift	33	88.2	26.5	86.5	98.0	1 - A
4	09-14-87	2nd Lift	33	88.2	26.2	86.7	98.2	1 - A
5	09-14-87	2nd Lift	33	88.2	27.9	86.0	97.5	1 - A
6	09-14-87	2nd Lift	33	88.2	28.3	87.3	98.9	1 - A

TEST LOCATION: POND FLOOR - Station 1500' thru 2100'

1	20' West of station 1500' and 20' South of North Slope.
2	40' West of Station 1600' and 35' South of North Slope.
3	65' West of Station 1700' and 10' South of North Slope.
4	80' West of Station 1800' and 45' South of North Slope.
5	10' West of Station 1900' and 15' South of North Slope.
6	55' West of Station 2000' and 30' South of North Slope.

NOTES: DENSITY IS SHOWN IN THE PROBABILEST
WATER CONTENT: Per Cent of Dry Weight
PERCENT COMPACTION: Based on Maximum Dry Density
Determined by Standard Proctor Test
and 2% Air Void

- 1. FILL MATERIAL
- 2. RACKLE
- 3. BASE COURSE
- 4. CURB
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 14, 1987

OUR REPORT NO 311-70065-54

Page 3 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	DEPTH	TEST NO.	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	REMARKS	
7	09-14-87	Subgrade	33	88.2	28.0	85.5	96.9	1 - A
8	09-14-87	1st Lift	33	88.2	26.7	86.0	97.5	1 - A

TEST LOCATION: WEST SLOPE IN N.W. CORNER - Station 2400-2475'.

7	20' south of the N.W. corner of Station 2400' thru 2475' of west slope and 5' from the bottom of slope.
8	35' South of the N.W. corner of Station 2400' thru 2475' of west slope and 20' from the bottom of slope.

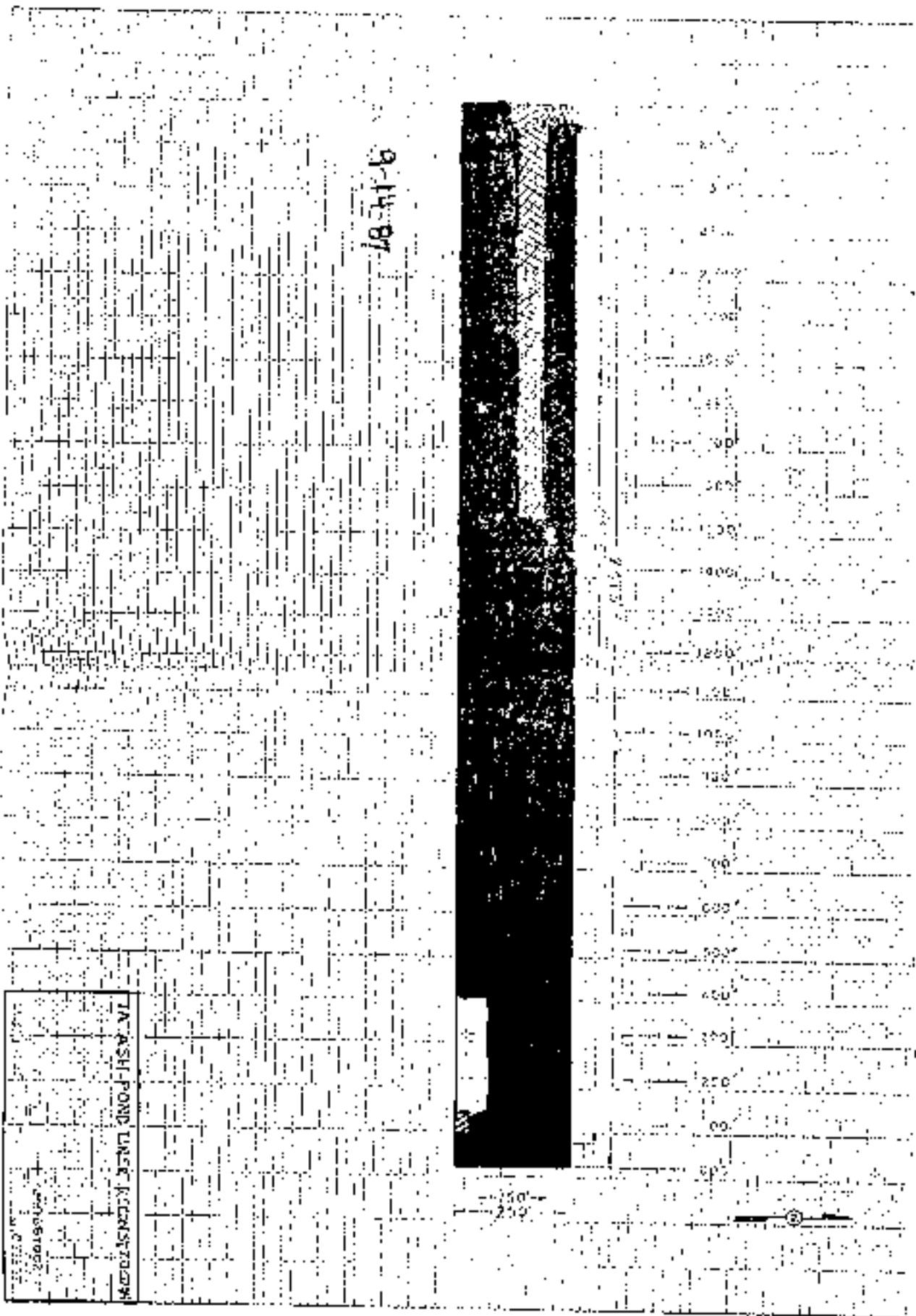
NOTES: DENSITY SHOWN (%) per 100 lbs
WATER CONTENT (%) per 100 lbs water
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by test number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A TESTS SUITE COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TESTS AFTER RECOMPACTION

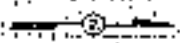
REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



9-14-87

TACASH-POND LINER LICENSE #2002M
 1000
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 800
 700
 600
 500
 400
 300
 200
 100
 0





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 12, 1987

OUR REPORT NO 311-70065-53

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

1. (1) 120G Motor Grader
2. (1) Water Truck
3. (1) Liebherr Dozer

V.K. Knowlton worked on shaping the north slope today. The area of the north slope at Station 2100' thru 2400' was completed for final testing. Slopes were also watered today. Three (3) density tests were taken.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT**
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 12, 1987

CUH REPORT NO. 311-70065-53

Page 2 of 2

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	TYPE	MOISTURE (%)	WATER CONTENT (%)	WET DENSITY (lb/cu ft)	PERCENT COMPACTION	COMMENT *
1	09-12-87	Final	33	88.2	26.7	86.8	1 - A
2	09-12-87	Final	33	88.2	28.9	84.5	1 - A
3	09-12-87	Final	33	88.2	27.3	86.7	1 - A

TEST LOCATION:

1	25' West of Station 2100' and 10' from top of slope.
2	40' West of Station 2200' and 20' from bottom of slope.
3	65' West of Station 2300' and 15' from bottom of slope.

NOTES: DENSITIES SHOWN (lb/cu ft) are based on
WATER CONTENT per Grad of dry weight
PERCENT COMPACTION based on maximum dry
density obtained on samples obtained by
Soil Proctor

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

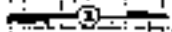
9-12-87



2850
2800
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2700
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2600
2550
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450
400
350
300
250

1. A. ASST. POND LINE & REFIN. C. L. DIA.
2. 5000000
3. 5000000
4. 5000000

150
250





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 11, 1987

OUR REPORT NO. 311-70065-52

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 85° to 90°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

1. (1) 6370 Scraper
2. (1) Liebherr Dozer
3. (1) D6 Dozer
4. (1) Water Truck
5. (1) 120G Motor Grader

The area at Station 2000' on the north slope was completed today. V.K. Knowlton is still pumping water from the pond floor. This area should be ready for compaction on Monday (09-14-87). A total of six (6) tests were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 11, 1987

OUR REPORT NO: 311-70065-52

Page 2 of 2

TEST DATA: Optimum moisture: {33, 23.7}

TEST NO	DATE	LIFT	NO. SAMPLES	WATER CONTENT (%)	MOISTURE (%)	PERCENT COMPACTION	COMMENT*	
1	09-11-87	1st Lift	33	88.2	26.1	87.3	98.9	1 - A
2	09-11-87	2nd Lift	33	88.2	26.2	87.5	99.2	1 - A
3	09-11-87	2nd Lift	33	88.2	26.5	85.8	97.2	1 - A
4	09-11-87	2nd Lift	33	88.2	26.8	88.3	100.1	1 - A
5	09-11-87	2nd Lift	33	88.2	27.6	88.5	100.3	1 - A
6	09-11-87	Final	33	88.2	26.7	86.8	98.4	1 - A

TEST LOCATION: NORTH SLOPE

1	40' West of Station 2300' and 20' from bottom of slope.
2	20' West of Station 2000' and 10' from top of slope.
3	15' West of Station 2100' and 5' from bottom of slope.
4	55' West of Station 2200' and 15' from bottom of slope.
5	75' West of Station 2300' and 10' from top of slope.
6	85' West of Station 2000' and 15' from top of slope.

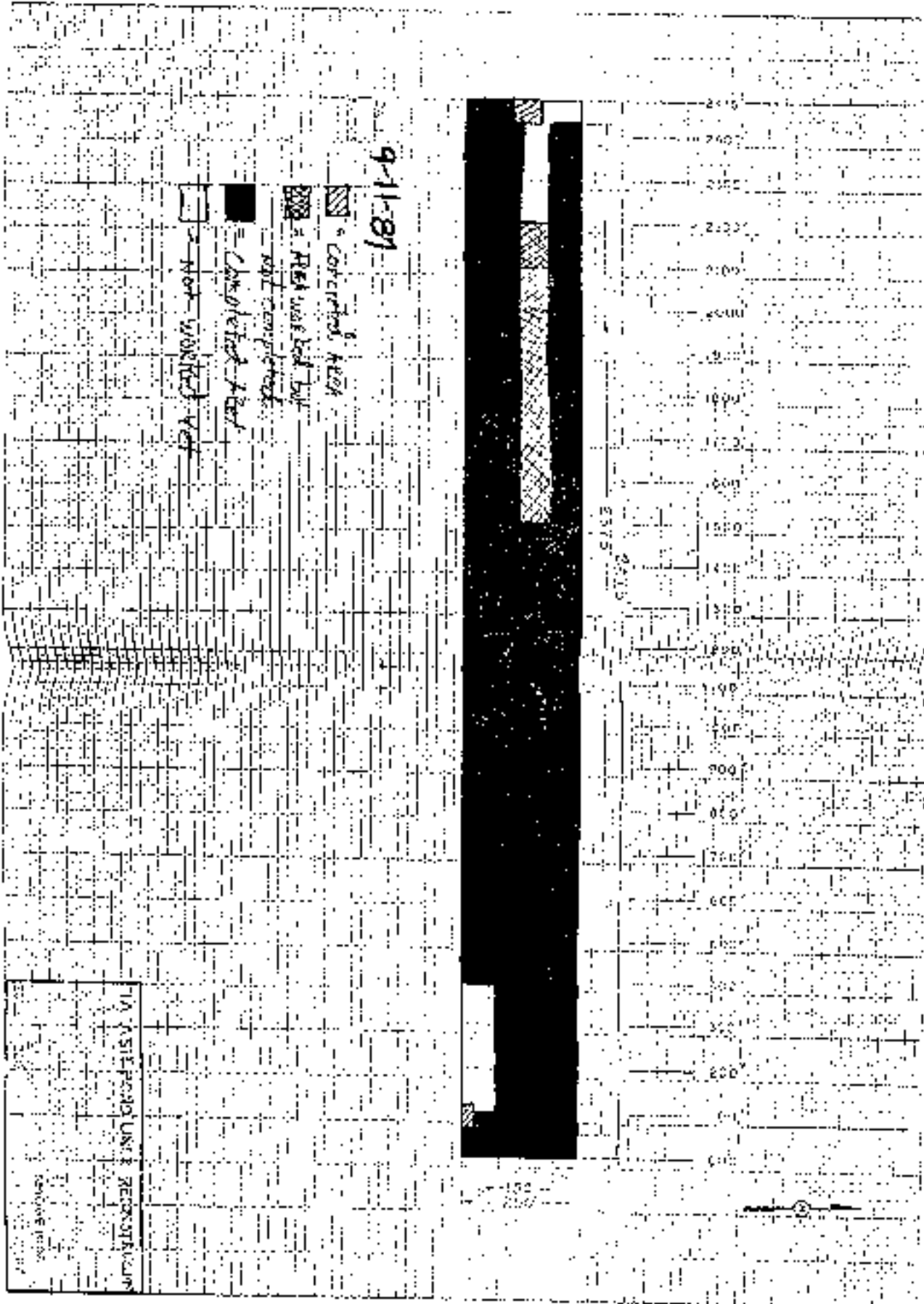
NOTES: DENSITIES SHOWN (% of Proctor) are
WATER CONTENT (% of Total Weight)
PERCENT COMPACTION: Based on maximum dry
density obtained on sample in field by
test 311-70065-52

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc.





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAM MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 10, 1987

OUR REPORT NO 311-70065-51

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

EQUIPMENT USED:

- | | |
|-----------------------|--------------------------|
| 1. (1) Water Truck | 4. (1) 637D Scraper |
| 2. (1) D6 Dozer | 5. (1) 120G Motor Grader |
| 3. (1) Liebherr Dozer | |

The area between Station 1900' and 2300' was worked today. The area at Station 1900' was completed. V.K. Knowlton is still pumping water from the pond floor. The contractor began at 7:00 a.m. and finished at 6:00 p.m. A total of 6 densities were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 10, 1987

OUR REPORT NO: 311-70065-51

Page 2 of 2

TEST DATA: Optimum moisture: (33, 23,7)

TEST NO.	DATE	DEPTH / LAYER	TEST NUMBER	WET DENSITY (PCF)	WATER CONTENT (%)	WET DENSITY CORRECTED (PCF)	PERCENT COMPACTION	COMMENTS
1	09-10-87	Subgrade	33	88.2	26.5	85.8	97.2	1 - A
2	09-10-87	Subgrade	33	88.2	26.6	86.5	98.0	1 - A
3	09-10-87	Final	33	88.2	26.0	87.8	99.5	1 - A
4	09-10-87	1st Lift	33	88.2	26.8	87.5	99.2	1 - A
5	09-10-87	1st Lift	33	88.2	27.1	86.5	98.0	1 - A
6	09-10-87	1st Lift	33	88.2	26.7	86.0	97.5	1 - A

TEST LOCATION: NORTH SLOPE STATIONS 2200', 2300', 1900', 2000', and 2100'.

1	30' West of Station 2200' and 25' from bottom of slope.
2	65' West of station 2300' and 20' from top of slope.
3	45' West of Station 1900' and 5' from bottom of slope.
4	90' West of Station 2000' and 5' from top of slope.
5	15' west of Station 2100' and 15' from top of slope.
6	45' West of Station 2200' and 20' from bottom of slope.

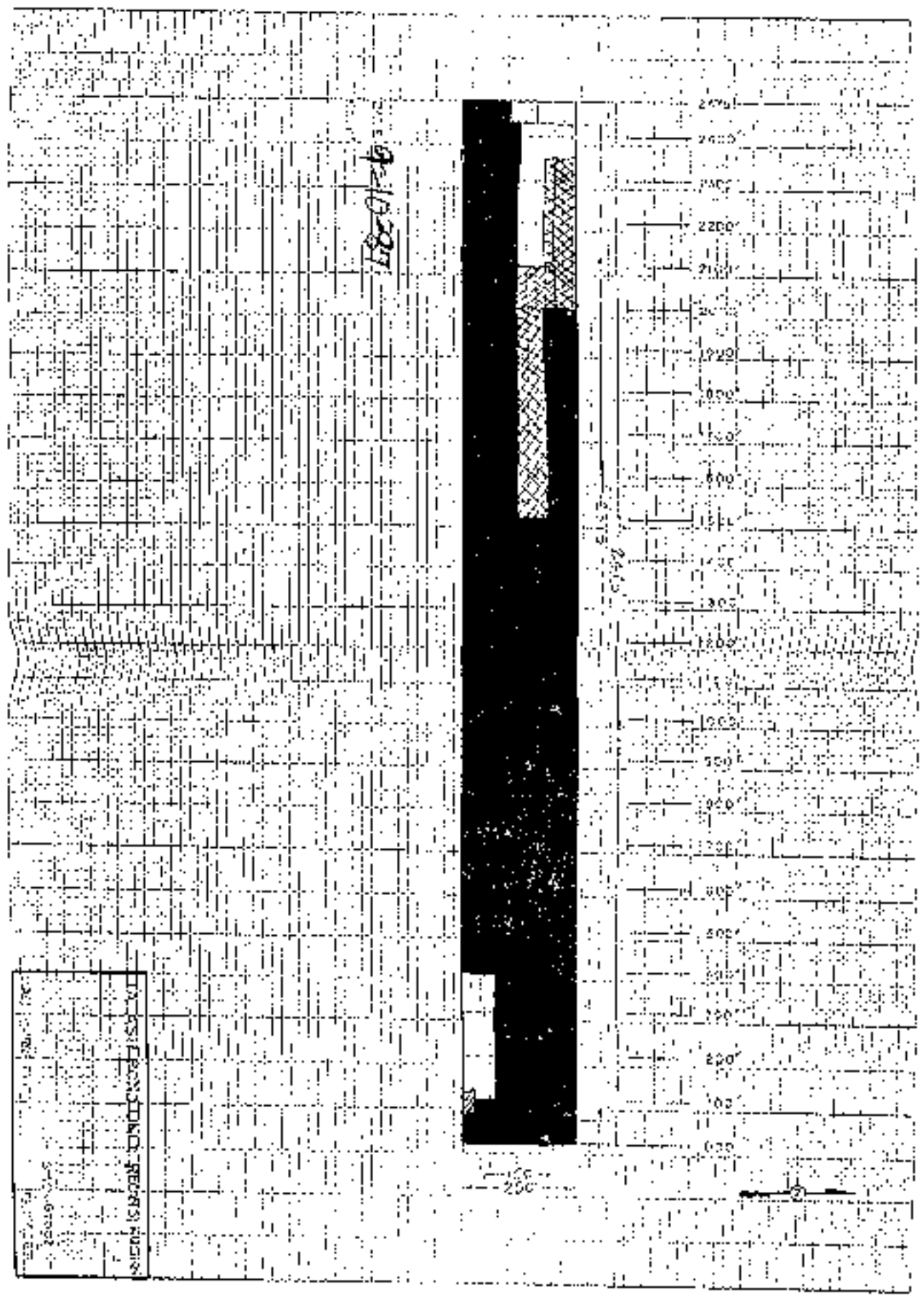
NOTES: DENSITIES SHOWN: 1. on per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density included on sample submitted by test number

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CLAYEY
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



D.A. GSI FONDANO RECORDS

250

250

250



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 9, 1987

OUR REPORT NO 311-70065-50

Page 1 of 3

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. (1) 637D Scraper | 3. (1) Water Truck |
| 2. (1) Liebherr Dozer | 4. (1) 120G Motor Grader |

The area between Stations 1900' and 2100' on the north slope was worked today. Water is still being pumped from the pond floor. Productivity was slow today due to water on the pond floor. A total of two (2) densities were taken today. Upon observation of the south slope of 1A pond, a letter was submitted to a SMC representative describing the areas to be reworked due to fractures, cave-ins, and weather conditions. A copy of this letter is enclosed for your review.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 9, 1987

OUR REPORT NO: 311-70065-50

Page 2 of 3

TEST DATA: Optimum moisture: {33, 23.7}

TEST NO.	DATE	LIFT	SOIL NUMBER	WET WEIGHT (LBS)	WATER CONTENT	DRY WEIGHT (LBS)	PERCENT COMPACTION	COMMENT
1	09-09-87	1st Lift	33	88.2	27.6	88.5	100.3	1 - A
2	09-09-87	2nd Lift	33	88.2	27.2	88.0	99.7	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1900'

1	40' West of Station 1900' and 10' from bottom of slope.
2	10' West of Station 1900' and 25' from bottom of slope.

NOTES: DENSITIES SHOWN: lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained in laboratory and by soil number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 9, 1987

OUR REPORT NO 311-70065

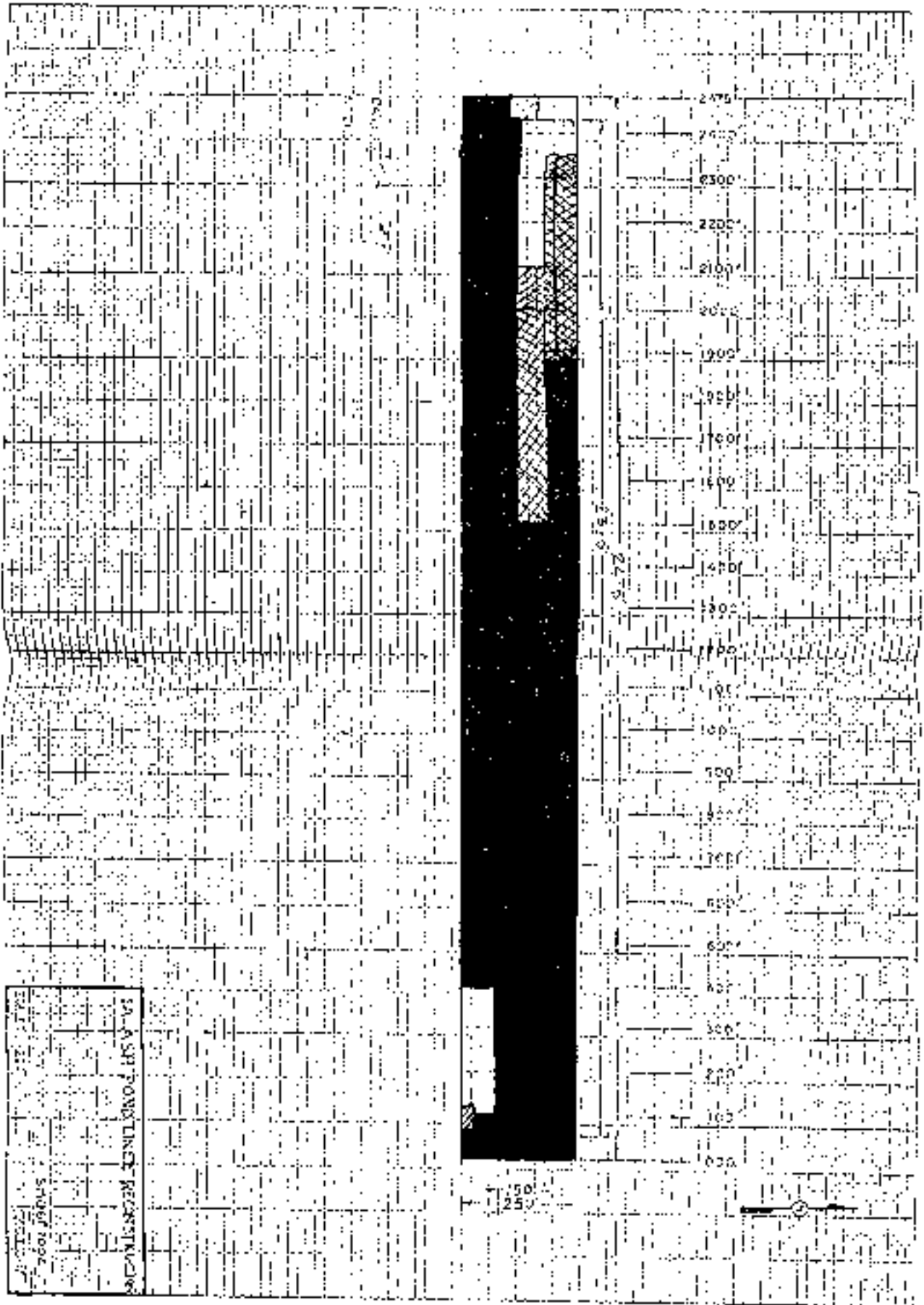
Page 3 of 3

REMARKS: As of 09-09-87, areas that need to be reworked due to fractures and weather conditions are as follows:

1. Station 300'-400', 80' x 30' area - cave-in, a 2' area should be reworked.
2. Station 1400'-1500', 50' x 30' area - fracture, a 9" lift should be reworked.
3. Station 2200'-2400', 175' x 30' area - fracture, a 9" lift should be reworked.

From my observations of the south slope in 1A pond, our (PSI) recommendations are that these areas listed above should be reworked. Immediately thereafter, weep holes should be placed to reduce or correct any further problems that may be encountered on the south slope. If there are any questions concerning the south slope, please feel free to contact our office. Thank you.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 8, 1987

OUR REPORT NO 311-70065-49

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

1. (1) 637D Scraper
2. (1) Liebherr Dozer
3. (1) Water Truck
4. (1) 120G Motor Grader

V.K. Knowlton completed the areas at Station 1800' on the north slope today. V.K. Knowlton has finished pumping the water on the east end of the pond and has positioned the pump in the approximate center of the pond where more standing water has been encountered. Productivity is still slow due to the water in the pond. A total of two (2) densities were taken today. V.K. Knowlton stopped at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: September 8, 1987

OUR REPORT NO: 311-70065-49

Page 2 of 2

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	LAYER NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	09-08-87	2nd Lift	33	88.2	28.1	84.3	95.5	1 - A
2	09-08-87	Final	33	88.2	27.1	86.5	98.0	1 - A

TEST LOCATION: NORTH SLOPE

1	20' west of Station 1800' and 20' from bottom of slope.
2	65' west of Station 1800' and 10' from top of slope.

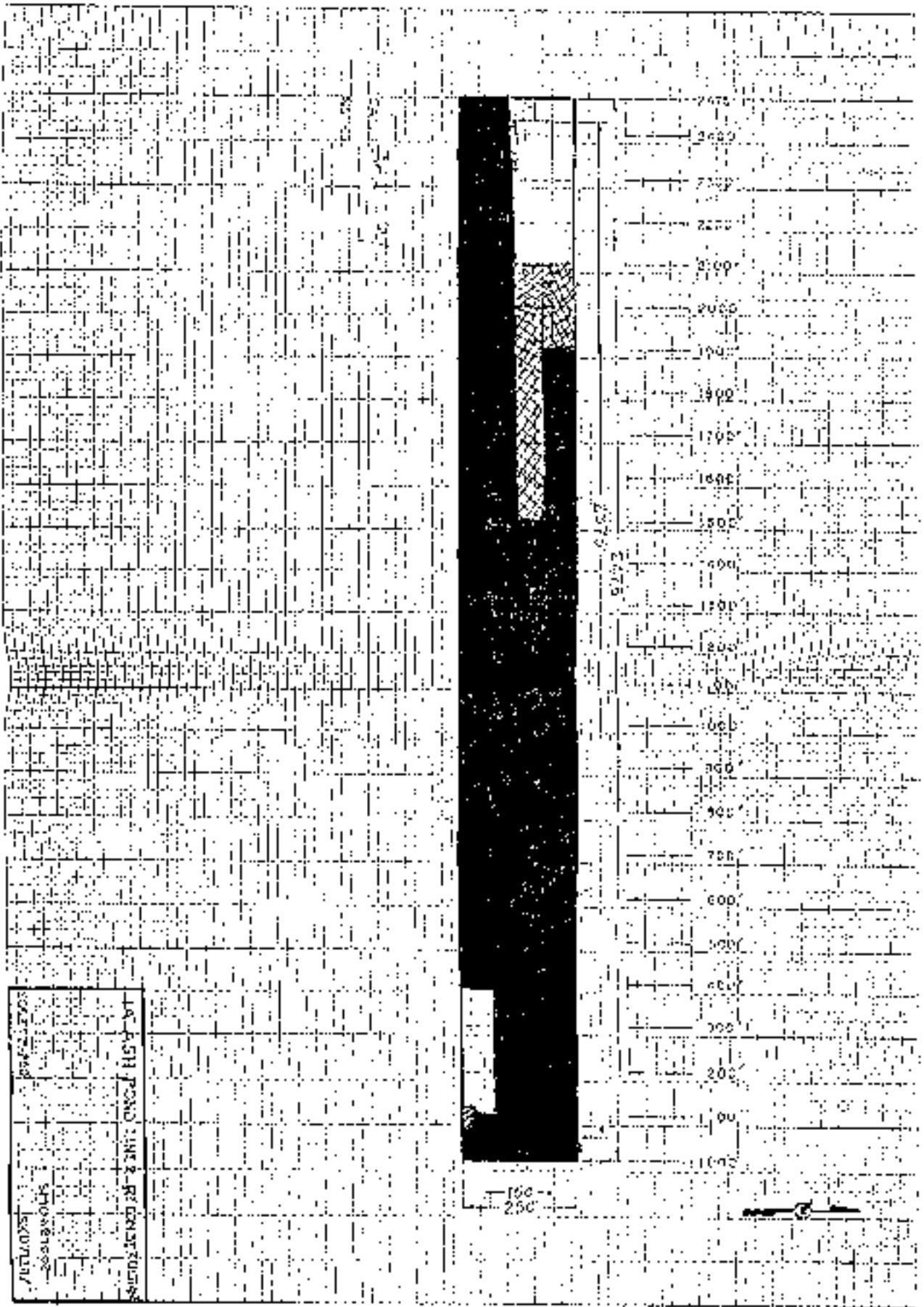
NOTES: DENSITIES SHOWN lbs./cu. ft.
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATION
- B RECOMPACT ON REF
- C TEST IS AFTER LOCALIZATION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-03210B
ATTENTION: Mr. Clyde Price

DATE September 4, 1987 OUR REPORT NO 311-70065-48

REMARKS: Weather: Sunny & Clear
Temperature Range: 85° to 90°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

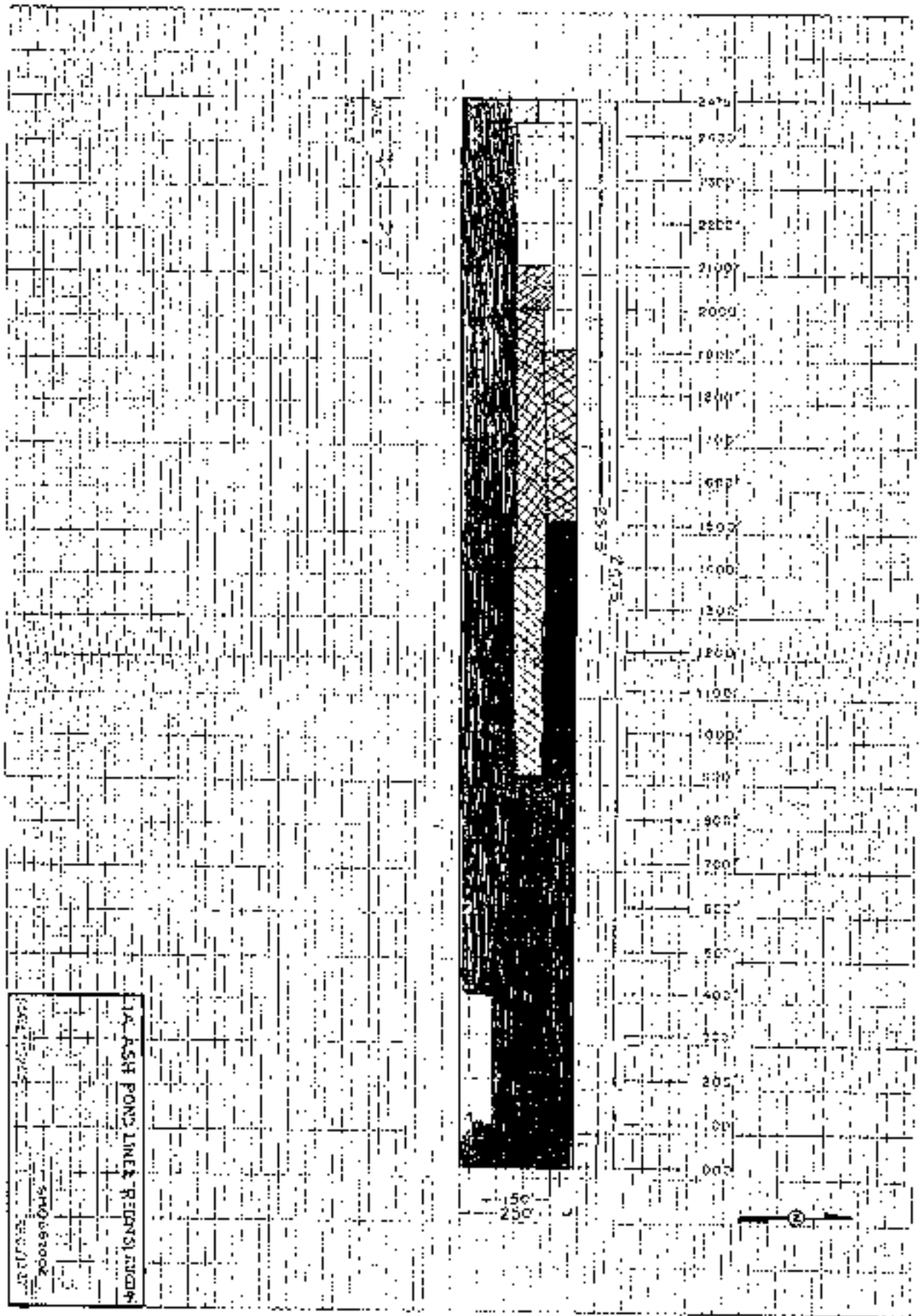
1. (1) Liebherr Dozer
2. (1) Water Truck

V.K. Knowlton arrived on the project site at 7:00 a.m. They worked on more clean up around the pond. V.K. Knowlton is still unable to work on the pond due to the wet condition of the site. Locations of the weep holes drilled on 09-03-87 and the weep holes still to be drilled for SMC were determined. No testing was performed today. Work will resume Tuesday morning, 09-08-87.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2)
/dd



ASH POND LINER REINFORCED
 SMOOTH ROCK
 ASH





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 3, 1987

OUR REPORT NO. 311-70065-47

WEATHER Sunny & Clear
TEMPERATURE RANGE 75° TO 85°
INSPECTOR K. McWilliams & K. Bowen

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input checked="" type="checkbox"/> Drill Weep Holes	_____
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	_____
<input type="checkbox"/> PLACEMENT (JOB SITE)	_____
_____	_____

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: As requested, two (2) PSI Representatives of PSI, Inc. reported to the above referenced project site to drill a number of weep holes. Seventeen (17) weep holes were drilled.

: (2) Above

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE September 3, 1987

OUR REPORT NO 311-70065-46

REMARKS:

Weather: Sunny & Clear
Temperature Range: 80° to 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

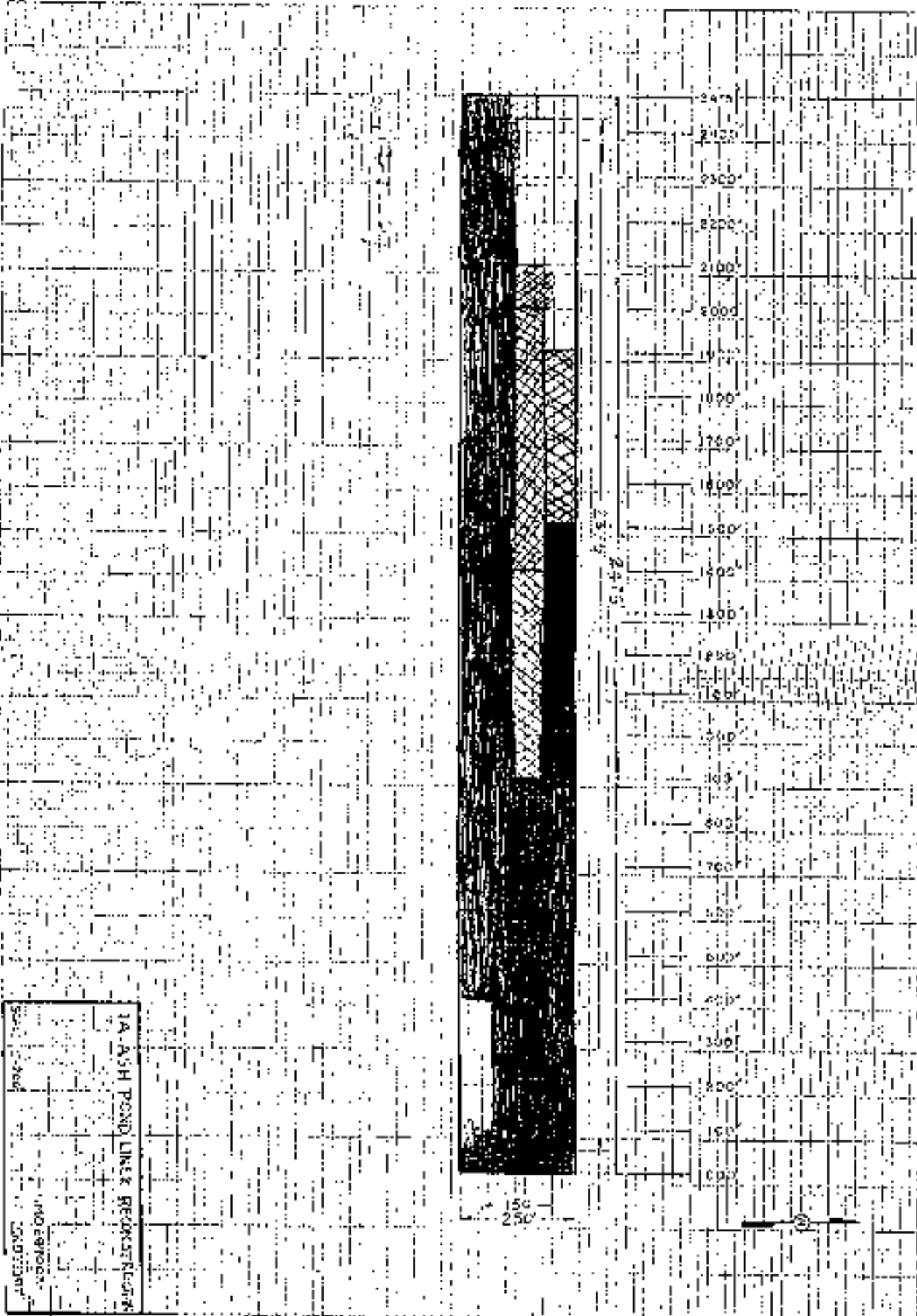
1. (1) Liebherr Dozer
2. (1) D637 Scraper

V.K. Knowlton arrived at 7:00 a.m. Only two (2) representatives of V.K. Knowlton worked today. V.K. Knowlton began pumping water out of the pond and cleaning the muddy areas around the pond for better maneuvering of heavy equipment. Representatives of PSI, Inc. arrived at approximately 8:30 a.m. to drill the weep holes that were previously staked. A total of 17 holes were drilled. The drilling operation was completed by 2:30 p.m. No density tests were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



1A ASH POND LINE & RECORD REEF
 250 500
 250 500



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE September 2, 1987

OUR REPORT NO 311-70065-45

WEATHER Sunny & Clear
 TEMPERATURE RANGE 75° TO 85°
 INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

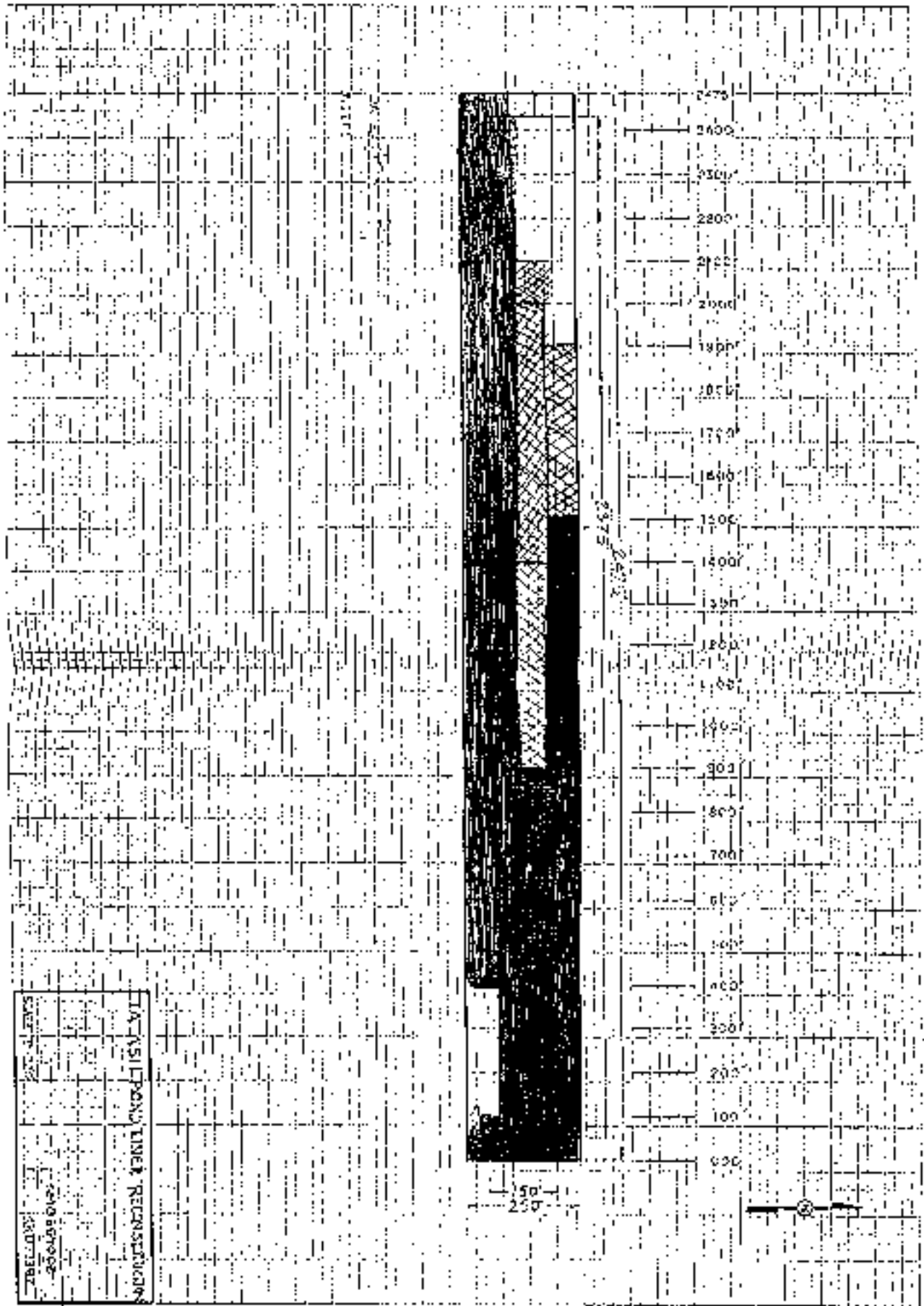
- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: V.K. Knowlton reported the the above referenced project site at 7:00 a.m. The condition of the site was still too wet to be worked. The location of the weep holes was staked today. These areas are scheduled to be drilled on 09-03-87.

(2) Above

Respectfully submitted,
 Professional Service Industries, Inc.

CF



TAN-SHIL POND TINEK RESTRICTIONS

DATE: 10/10/2008

BY: [Signature]



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26543-032108

DATE September 1, 1987

OUR REPORT NO. 311-70065-44

WEATHER Sunny & Clear
TEMPERATURE RANGE 75° TO 80°
INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

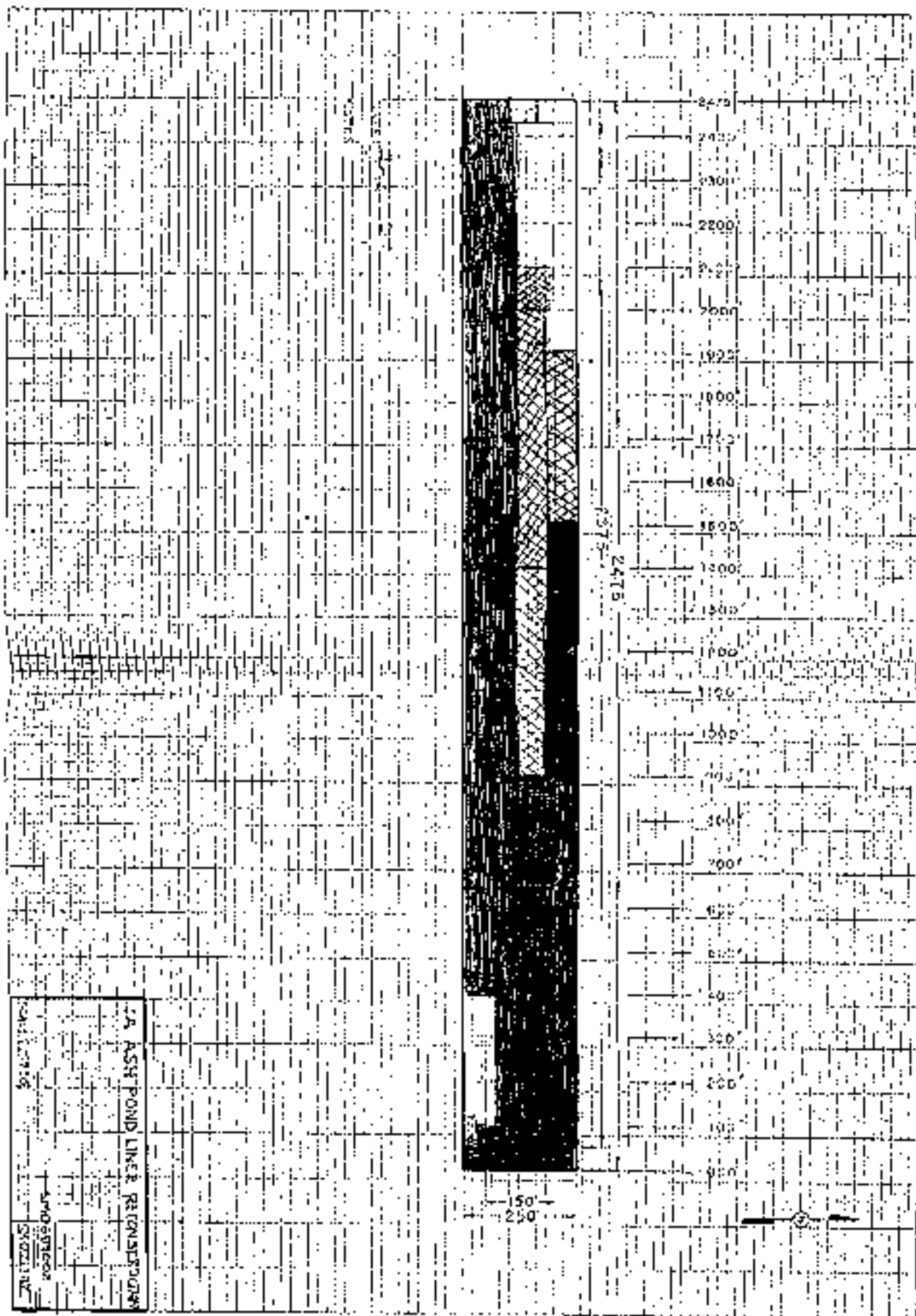
PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: As requested, a representative of PSI, Inc. reported to the above referenced project site at 7:00 a.m. A representative of V.K. Knowlton arrived at the site to check the condition of the site. The condition of the site prevented any work from being accomplished today. Pumping water from the pond floor was discussed.

(2) Above

Respectfully submitted,
Professional Service Industries, Inc.
CLP



2A. ASSE POND LINER RECONSTRUCTION
 SHEET NO. 168
 DATE: 08/08/00
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT: 1A Ash Pond Soil Testing
Post Office Box 280
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE August 31, 1987 OUR REPORT NO 311-70054-42

WEATHER Cloudy
TEMPERATURE RANGE 65° TO 70°
INSPECTOR G. Guintanilla

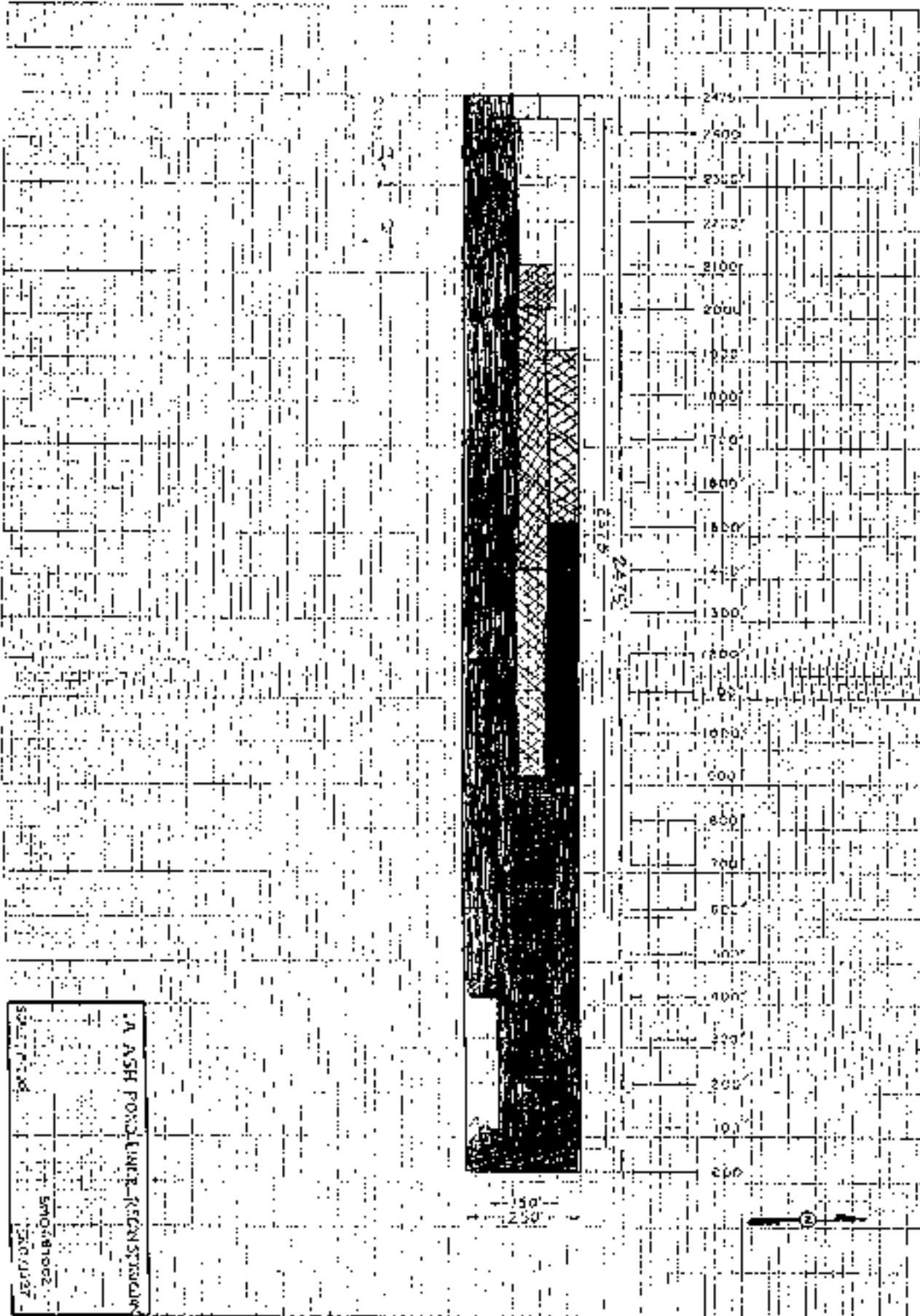
TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: V.K. Knowlton began work at 7:00 a.m. The pond areas were too wet to be worked. Weep holes were scheduled to be drilled by representatives of PSI, Inc. Drilling of the weep holes was attempted, but unsuccessful due to the pond condition. The drilling of the weep holes was tentatively rescheduled for 09-03-87.

(2) Above

Respectfully submitted,
Professional Service Industries, Inc. *GA*



ASH FOND LINE - ALTERNATIVE
 ASH FOND LINE
 SCALE 1" = 200 FT
 2000

150'

100'



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT: 1A Ash Pond Soil
 Post Office Box 280 Testing
 Jourdanon, Texas 78026 P.O. #26643-032108
 ATTENTION: Mr. Clyde Price

DATE August 31, 1987 OUR REPORT NO 311-70065-43

WEATHER Cloudy
 TEMPERATURE RANGE 60° TO 70°
 INSPECTOR K. McWilliams & K. Bowen

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input checked="" type="checkbox"/> Drill Weep Holes	_____
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	_____
<input type="checkbox"/> PLACEMENT (JOB SITE)	_____

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: As requested, two (2) PSI Representatives reported to the above referenced project site to drill a number of weep holes. An attempt was made to drill the weep holes but the site conditions prevented any progress from being made. Our services were tentatively rescheduled for 09-03-87.

: (2) Above

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.D. #26643-032108

DATE August 29, 1987

OUR REPORT NO 311-70065-41

WEATHER Rainy
 TEMPERATURE RANGE 70° TO 75°
 INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	
<input type="checkbox"/> PLACEMENT (JOB SITE)	

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE As requested, the assigned technician reported to the above referenced project site. Upon arrival, the technician was notified that no work would be performed today due to the rain.

: (2) Above
 /dd

Respectfully submitted,
 Professional Service Industries, Inc. *dx*



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE August 28, 1987 OUR REPORT NO 311-70065-40 Page 1 of 3

REMARKS: Weather: Rainy
Temperature Range: 65° to 70°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

1. (1) Liebherr Dozer
2. (1) D6 Dozer
3. (1) 120G Grader
4. (1) 637D Scraper

V.K. Knowlton completed the area between Stations 1600' and 1800' on the north slope. A total of 10 densities were taken today. Work on the project was stopped at approximately 4:30 this afternoon due to the rain.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC. *GG*

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 28, 1987

OUR REPORT NO 311-70065-40

Page 2 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	ELEV		MAXIMUM MOISTURE CONTENT	WATER CONTENT	FIELD DENS DENSITY	PERCENT COMPACTION	COMMENT*
		Grade	Top of Material					
1	08-28-87	Final	33	88.2	28.5	84.8	96.1	1 - A
2	08-28-87	2nd Lift	33	88.2	26.9	85.5	96.9	1 - A
3	08-28-87	2nd Lift	33	88.2	27.6	85.8	97.2	1 - A
4	08-28-87	Subgrade	33	88.2	27.0	85.0	96.3	1 - A
5	08-28-87	Final	33	88.2	28.9	84.5	95.8	1 - A
6	08-28-87	Final	33	88.2	29.4	85.0	96.3	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1500'-1900'

1	45' West of Station 1500' and 5' from top of slope.
2	70' West of Station 1600' and 10' from bottom of slope.
3	25' West of Station 1700' and 15' from top of slope.
4	80' West of Station 1800' and 20' from bottom of slope.
5	30' West of Station 1600' and 25' from top of slope.
6	95' West of Station 1700' and 10' from bottom of slope.

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry
density obtained on sample indicated by
SOIL NO.

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 28, 1987

OUR REPORT NO 311-70065-40

Page 3 of 3

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	LIFT / DEPTH	NO. OF TOLLS	MAX. MO. LAC. TEST DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
7	08-28-87	1st Lift	33	88.2	29.1	83.3	95.0	1 - A
8	08-28-87	Subgrade	33	88.2	27.6	85.8	97.2	1 - A
9	08-28-87	Subgrade	33	88.2	28.8	85.7	97.1	1 - A
10	08-28-87	Subgrade	33	88.2	27.4	85.5	96.9	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1800'-2200'

7	30' West of Station 1800' and 20' from top of slope.
8	25' West of Station 1900' and 10' from bottom of slope.
9	70' West of Station 2000' and 10' from top of slope.
10	60' West of Station 2100' and 15' from bottom of slope.

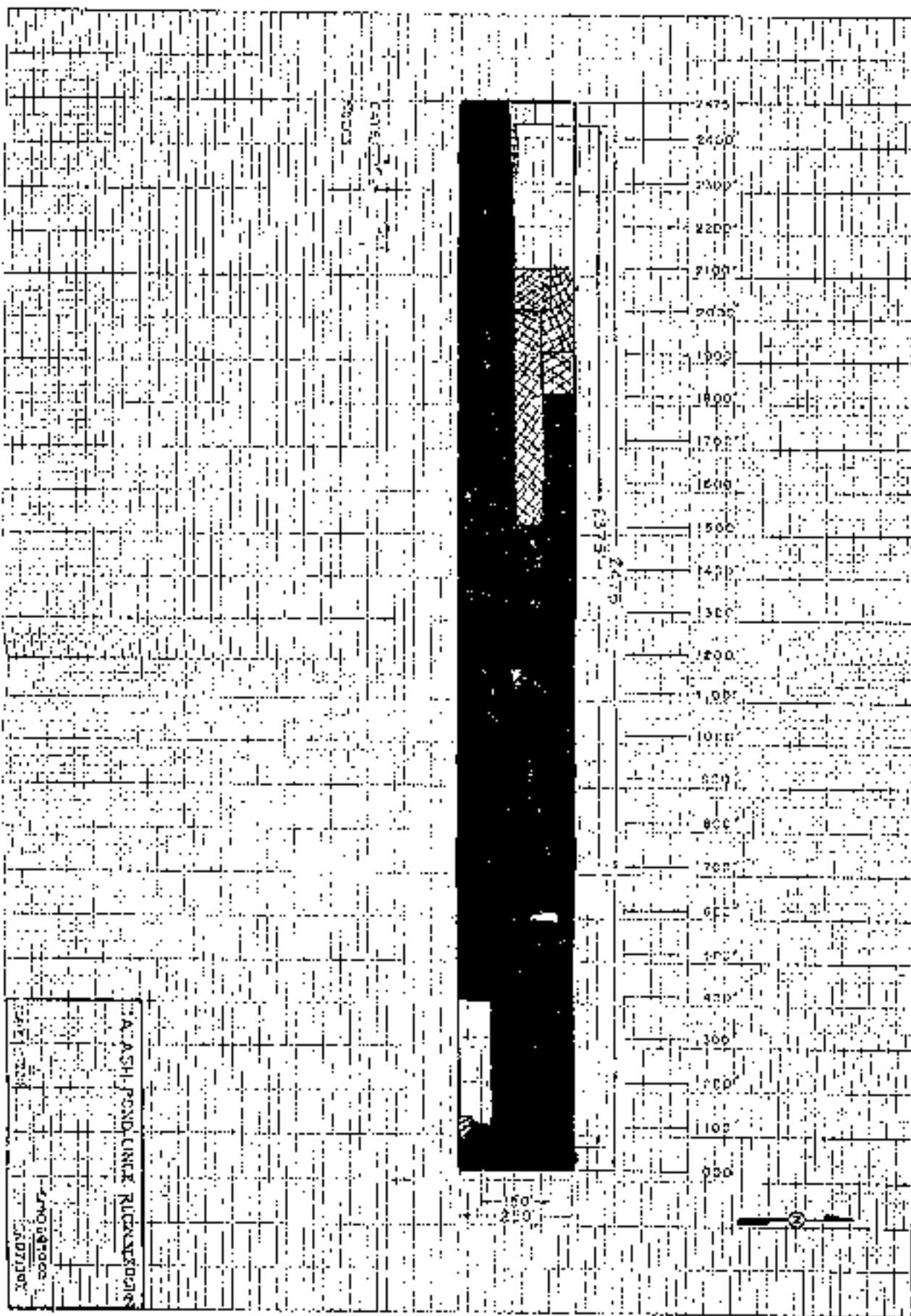
NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CLMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATION
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



ASHI-POND LINE, RICHMOND
 47004900
 507100



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

JA Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 27, 1987

OUR REPORT NO 311-70065-39

Page 1 of 5

REMARKS:

Weather: Sunny & Clear
Temperature Range: 80° to 90°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. (2) 637D Scrapers | 5. (1) CAT. Spray King |
| 2. (1) D6 Dozer | 6. (1) 120G Motor Grader |
| 3. (1) Liebherr Dozer | 7. Discing Equipment |
| 4. (1) Water Truck | |

The area on the pond floor between Station 900' and 1400' was completed today. The area on the north slope between Stations 1500' and 1900' was worked but not completed. Four (4) density tests were taken with the moisture content below the project specifications on the north slope. These areas were reworked and retested with the moisture content within the project specifications. An area of concern on the south slope was discussed with SMC. Two (2) areas where fractures have occurred should be reworked. Weep holes should be placed in these areas before anymore fractures occur. A total of 24 densities were taken today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CFP

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 27, 1987

OUR REPORT NO 311-70065-39

Page 2 of 5

TEST DATA:

TEST NO	DATE	TYPE	TEST NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	MOISTURE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	08-27-87	Subgrade	33	88.2	22.7	91.3	103.5	1 - E
2	08-27-87	Subgrade	33	88.2	12.2	89.5	101.4	1 - E
3	08-27-87	Subgrade	33	88.2	23.5	85.0	96.3	1 - E
4	08-27-87	Subgrade	33	88.2	24.3	83.2	94.3	1 - B, E
5	08-27-87	Subgrade	33	88.2	28.4	84.5	95.8	1 - A
6	08-27-87	Subgrade	33	88.2	32.3	83.5	95.0	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1500'-1900' / POND FLOOR, STATION 1400'-2000'

1	35' West of Station 1500' and 10' from top of slope.
2	68' West of Station 1600' and 20' from top of slope.
3	75' West of Station 1700' and 15' from bottom of slope.
4	10' West of Station 1800' and 30' from bottom of slope.
5	25' West of Station 1400' and 30' South of North slope.
6	80' West of Station 1500' and 20' South of North slope.

NOTES: DENSITIES SHOWN (lbs./cu.ft.)
WATER CONTENT: Percent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D Moisture in excess of specs.
- E Moisture below specs.

REMARKS:

Respectfully submitted
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, (INC. PROJECT)
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 27, 1987

OUR REPORT NO 311-70065-39

Page 3 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE	SOIL NUMBER	WET UNIT WEIGHT (LAB OR FIELD)	WATER CONTENT	MOISTURE CORRECTED DENSITY	PERCENT COMPACTION	COMMENTS *
7	08-27-87	Subgrade	33	88.2	33.7	84.5	95.8	1 - A
8	08-27-87	Subgrade	33	88.2	27.7	86.5	98.0	1 - A
9	08-27-87	Subgrade	33	88.2	27.9	86.8	98.4	1 - A
10	08-27-87	Subgrade	33	88.2	27.4	87.5	99.2	1 - A
11	08-27-87	Subgrade	33	88.2	28.0	85.5	96.9	1 - A, C
12	08-27-87	Subgrade	33	88.2	27.0	87.0	98.6	1 - A, C

TEST LOCATION: POND FLOOR, STATION 1600'-2000' / NORTH SLOPE, STATION 1500'-1900'

7	30' West of Station 1600' and 5' South of North slope.
8	65' West of Station 1700' and 10' South of North slope.
9	20' West of Station 1800' and 15' South of North slope.
10	80' West of Station 1900' and 25' South of North slope.
11	Retest of Test #1.
12	Retest of Test #2.

NOTES: DENSITIES IN G/CM³ Lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample identified by soil ID number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 27, 1987

OUR REPORT NO 311-70065-39

Page 4 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE / DEPTH	SOIL NUMBER	WET DENSITY	WATER CONTENT	IN PLACE TR. DENSITY	PERCENT COMPACTION	COMMENTS
13	08-27-87	Subgrade	33	88.2	27.1	86.5	98.0	1 - A,C
14	08-27-87	Subgrade	33	88.2	26.7	86.8	97.5	1 - A
15	08-27-87	1st Lift	33	88.2	26.5	86.5	98.0	1 - A
16	08-27-87	2nd Lift	33	88.2	27.3	84.0	95.2	1 - A
17	08-27-87	1st Lift	33	88.2	29.1	83.3	95.0	1 - A
18	08-27-87	1st Lift	33	88.2	30.3	84.0	95.2	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1500'-1900'

13	Retest of #3
14	Retest of #4
15	10' West of Station 1500' and 10' from bottom of slope.
16	20' West of Station 1500' and 20' from top of slope.
17	30' West of Station 1600' and 15' from bottom of slope.
18	45' West of Station 1700' and 30' from top of slope.

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample designated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST BEFORE RECOMPACTION
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. - PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 27, 1987

OUR REPORT NO: 311-70065-39

Page 5 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	LAYER / LIFT	NO. OF TAMPERS	WET UNIT WEIGHT	WATER CONTENT	RELATIVE DRY DENSITY	PERCENT COMPACTION	COMMENT
19	08-27-87	1st Lift	33	88.2	27.4	85.5	96.9	1 - A
20	08-27-87	Final	33	88.2	27.3	86.8	98.4	1 - A
21	08-27-87	Final	33	88.2	27.6	85.0	96.3	1 - A
2	08-27-87	Final	33	88.2	29.4	85.0	96.3	1 - A
23	08-27-87	Final	33	88.2	27.3	86.7	98.2	1 - A
24	08-27-87	Final	33	88.2	27.7	85.8	97.2	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1800' / POND FLOOR, STATION 900'-1400'

19	90' West of Station 1800' and 20' from bottom of slope.
20	5' West of Station 900' and 30' South of North slope.
21	25' West of station 1000' and 45' South of North slope.
22	40' West of Station 1100' and 50' South of North slope.
23	65' West of Station 1200' and 35' South of North slope.
24	80' West of Station 1300' and 20' South of North slope.

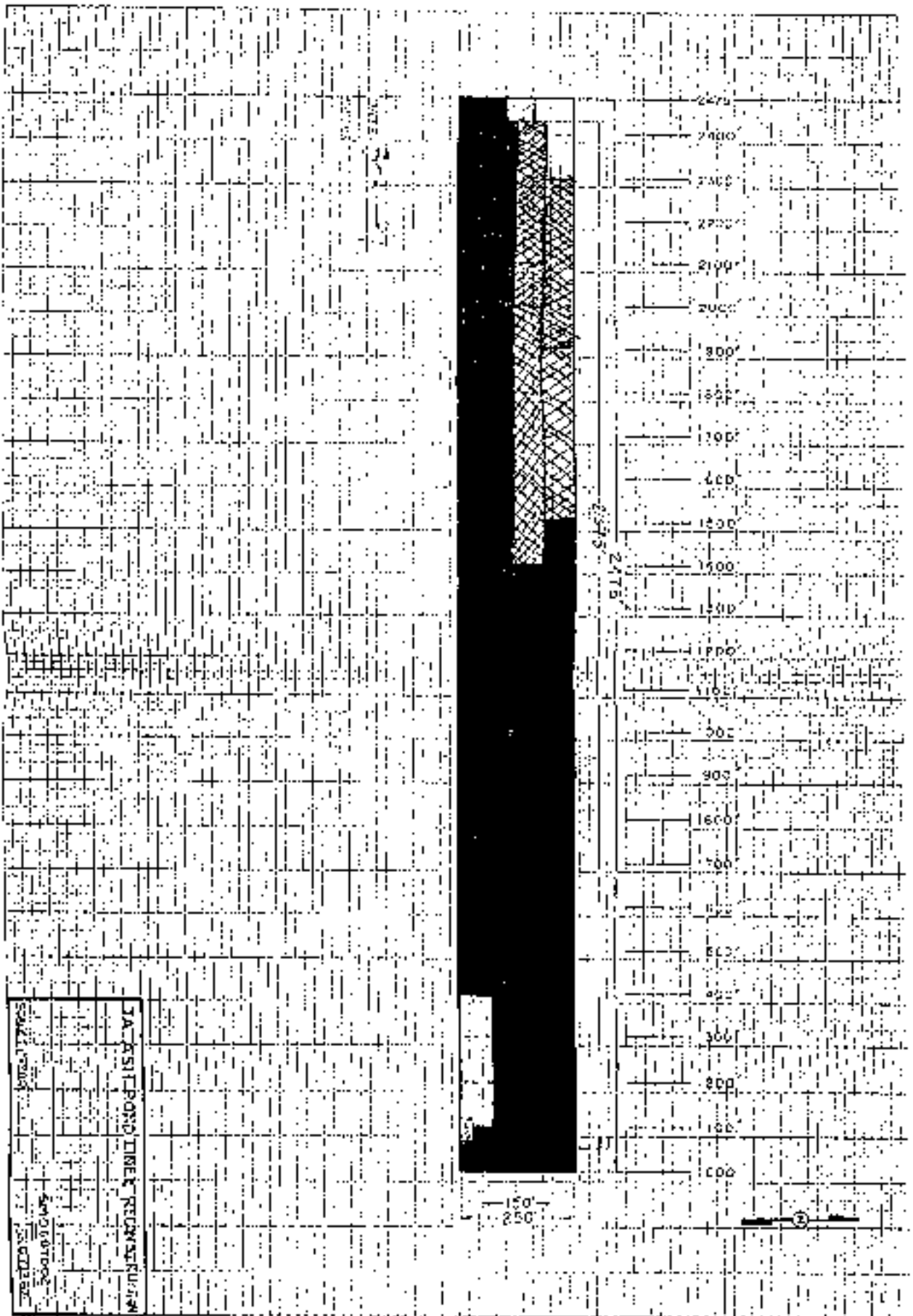
NOTES: DENSITIES SHOWN lbs./cu.ft. based on
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on a rough dry
density obtained in same or adjacent
spec. ID number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SO. CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.





Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE August 26, 1987

OUR REPORT NO 311-70065-3B

Page 1 of 5

REMARKS:

Weather: Sunny & Clear
 Temperature Range: 90° to 95°
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. (2) 637D Scrapers | 5. (1) Water Truck |
| 2. (1) D6 Dozer | 6. (1) 120G Motor Grader |
| 3. (1) Liebherr Dozer | 7. Discing Equipment |
| 4. (1) Spray King | |

An area on the north slope, Station 1300'-1500' was completed. The area on the pond floor, Station 900'-2000' was worked but not completed. Four (4) density tests taken today did not meet the moisture specifications. These areas were reworked and retested. A total of 22 density tests were taken today.

At the request of SMC, measurements of an area where heavy saturation and standing water are still reoccurring were taken. This area appears to be from Station 0 + 00 to approximately Station 1000', and approximately 20' wide. This water should be left in the holes to maintain the pressure of the seep areas. A possible alternative would be the use of bentonite in this area. V.K. Knowlton stopped working at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above

7dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 26, 1987

OUR REPORT NO. 311-70065-38

Page 2 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	LAYER	SOIL NO.	MAXIMUM AFTERS DENSITY	WATER CONTENT	DENSITY (pcf)	PLACED COMPACTION	REMARKS*
1	08-26-87	Subgrade	33	88.2	19.6	92.8	105.2	1 - E
2	08-26-87	Subgrade	33	88.2	18.4	95.0	107.7	1 - E
3	08-26-87	Subgrade	33	88.2	19.5	89.5	101.4	1 - E
4	08-26-87	Subgrade	33	88.2	16.3	90.3	102.3	1 - E
5	08-26-87	Subgrade	33	88.2	26.7	87.0	98.6	1 - A
6	08-26-87	1st Lift	33	88.2	28.1	87.0	98.6	1 - A

TEST LOCATION: POND FLOOR, STATION 1500'-2000' / NORTH SLOPE, STATION 1400'

1	20' West of Station 1500' and 20' South of North slope.
2	65' West of Station 1600' and 5' South of North slope.
3	90' West of station 1700' and 15' South of North slope.
4	15' West of Station 1800' and 35' South of North slope.
5	40' West of Station 1900' and 30' South of North slope.
6	15' West of Station 1400' and 10' South of North slope.

NOTES: DENSITIES SHOWN (pcf) per test
WATER CONTENT (Per Cent) of dry weight
PERCENT COMPACTION (Based on maximum dry density obtained on sample indicated by soil number)

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
E. Moisture below specifications

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 26, 1987

OUR REPORT NO 311-70065-38

Page 3 of 5

TEST DATA: Optimum moisture: 33, 23.7]

TEST NO	DATE	LIFT / COURSE	WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	WATER CONTENT (%)	FIELD DRY DENSITY (PCF)	PERCENT COMPACTION	COMMENT *
7	08-26-87	2nd Lift	33	88.2	26.8	90.0	102.0	1 - A
8	08-26-87	2nd Lift	33	88.2	27.4	87.5	99.2	1 - A
9	08-26-87	Subgrade	33	88.2	27.5	87.0	98.6	1 - A,C
10	08-26-87	Subgrade	33	88.2	27.2	88.0	99.7	1 - A,C
11	08-26-87	Subgrade	33	88.2	28.3	86.5	98.0	1 - A,C
12	08-26-87	Subgrade	33	88.2	29.2	85.8	97.2	1 - A,C

TEST LOCATION: NORTH SLOPE, STATION 1300'-1500' / POND FLOOR, STATION 1500'-1900'

7	35' West of Station 1300' and 20' from bottom of slope.
8	60' West of Station 1400' and 10' from top of slope.
9	Retest of Test #1.
10	Retest of Test #2.
11	Retest of Test #3.
12	Retest of Test #4.

NOTES: DENSITY SHOWN (pcf) per ASTM D1557
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample obtained by test # number

- 1 FILL MATERIAL
- 2 HACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST AFTER RECOMPACTION
- B TEST BEFORE RECOMPACTION
- C TEST AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC., PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

IA Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 26, 1987

OUR REPORT NO: 311-70065-39

Page 4 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	FILL	SOIL NO	WATER CONTENT (%)	WET UNIT WEIGHT (lb/cu ft)	MOISTURE (%)	PERCENT COMPACTION	COMMENT *
13	08-26-87		Final	33	88.2	27.2	87.3	98.9	1 - A
14	08-26-87		Final	33	88.2	28.1	87.0	98.6	1 - A
15	08-26-87		Grade	33	88.2	26.2	84.3	95.5	1 - A
5	08-26-87		2nd Lift	33	88.2	29.2	85.5	96.9	1 - A
17	08-26-87		2nd Lift	33	88.2	27.1	86.5	98.0	1 - A
18	08-26-87		2nd Lift	33	88.2	28.5	84.8	96.1	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1300'-1600' / POND FLOOR, STATION 800'-1500'

13	30' West of Station 1300' and 10' from bottom of slope.
14	25' West of Station 1400' and 30' from bottom of slope.
15	10' West of Station 1500' and 15' from bottom of slope.
16	50' West of Station 900' and 25' South of North slope.
17	75' West of Station 1000' and 45' South of North slope.
18	40' West of Station 1100' and 15' South of North slope.

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil number

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL COMPACT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT: 1A Ash Pond Soil Testing
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price
P.O. #26643-032108

DATE: August 26, 1987 OUR REPORT NO: 311-70065-39 Page 5 of 5

TEST DATA: Optimum moisture: {33, 23.7}

TEST NO	DATE	Lift / Slope	SOIL NO. / NO. MOIST	MAXIMUM WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	REMARKS
19	08-26-87	2nd Lift	33	88.2	26.1	86.5	98.0	1 - A
20	08-26-87	2nd Lift	33	88.2	28.0	84.8	96.1	1 - A
21	08-26-87	1st Lift	33	88.2	30.1	84.5	95.8	1 - A
2	08-26-87	2nd Lift	33	88.2	29.1	84.8	96.1	1 - A

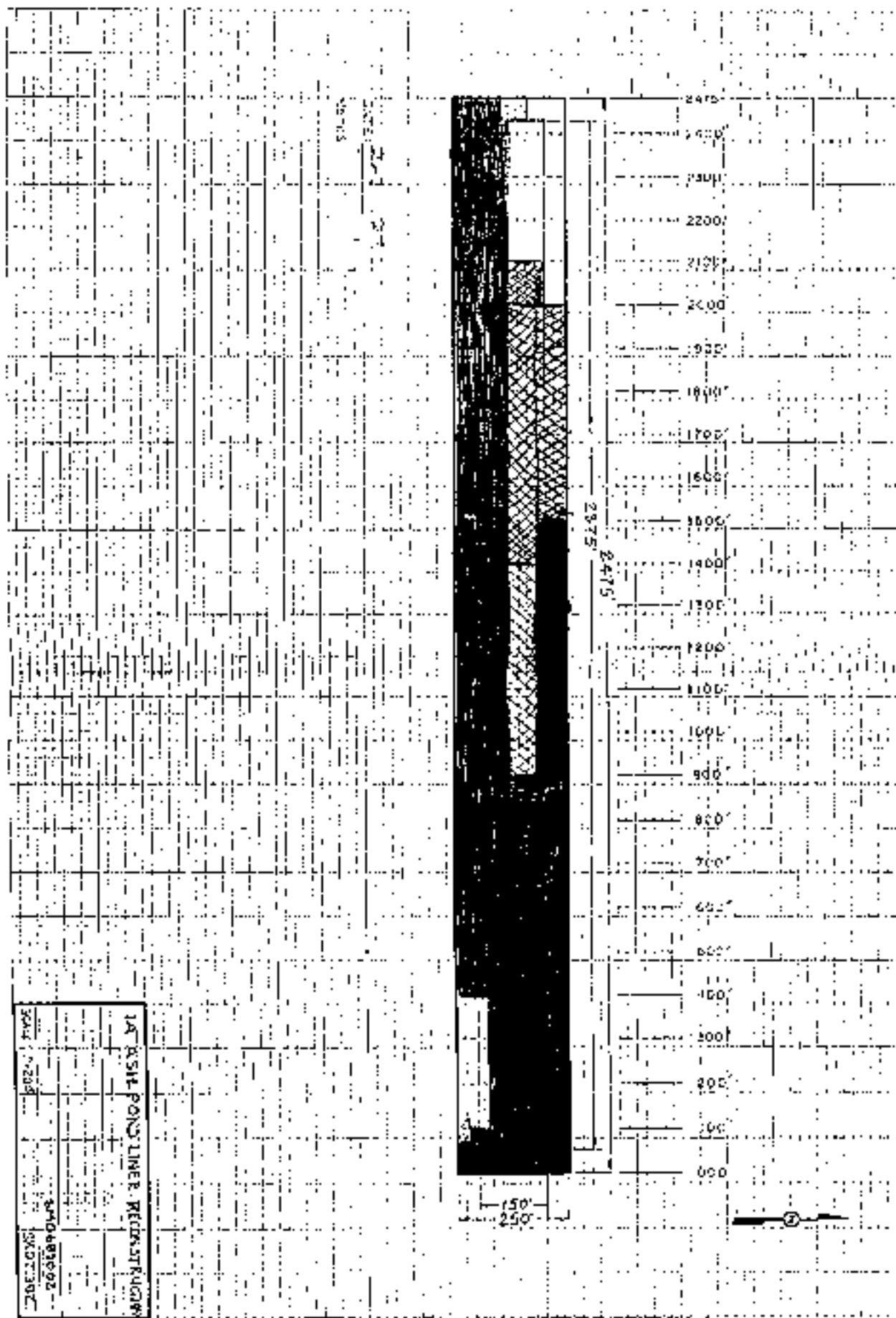
TEST LOCATION: POND FLOOR, STATION 1200'-1600'

19	65' West of Station 1200' and 25' South of North slope.
20	95' West of Station 1300' and 5' South of North slope.
21	10' West of Station 1400' and 45' South of North slope.
22	20' West of Station 1400' and 30' South of North slope.

NOTES: DENSITY SHOWN lbs. per cubic foot 1. FILL MATERIAL
WATER CONTENT: Pct. Cont. of dry weight 2. BACKFILL
PERCENT COMPACTION: Based on maximum dry density obtained in sample of soil and by soil ID number 3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER
A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RE COMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



1A
 POND LINER RECONSTRUCTION
 2010-08-02
 2010-08-02



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 25, 1987

OUR REPORT NO 311-70065-37

Page 1 of 5

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. (2) 637D Scrapers | 5. (1) 120G Motor Grader |
| 2. (1) Liebherr Dozer | 6. (1) Water Truck |
| 3. (1) D6 Dozer | 7. Discing Equipment |
| 4. (1) Spray King | |

Areas on the north slope, Station 1300'-1500', and the pond floor, Station 400'-1400' were worked today. Areas that did not meet the specifications previously have been reworked and retested. Most of the work today concentrated on the pond floor. V.K. Knowlton worked until 6:00 p.m. A total of 23 compaction tests were taken today.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CP

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 25, 1987

OUR REPORT NO 311-70065-37

Page 2 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENT
1	08-25-87	Grade	33	88.2	28.7	87.8	99.5	1 - A,C
2	08-25-87	Grade	33	88.2	28.5	86.8	98.4	1 - A,C
3	08-25-87	2nd Lift	33	88.2	29.6	86.0	97.5	1 - A,C
4	08-25-87	2nd Lift	33	88.2	27.7	86.5	98.0	1 - A,C
5	08-25-87	2nd Lift	33	88.2	30.1	86.1	97.6	1 - A,C
6	08-25-87	Grade	33	88.2	30.8	86.0	97.5	1 - A,C

TEST LOCATION: NORTH SLOPE, STATION 1300'-1400' / POND FLOOR, STATION 600', 700', 800', 900', 1000', & 1100'.

1	Retest of Test #2, PSI Report #311-70065-36, dated 08-24-87.
2	Retest of Test #3, PSI Report #311-70065-36, dated 08-24-87.
3	Retest of Test #4, PSI Report #311-70065-36, dated 08-24-87.
4	Retest of Test #5, PSI Report #311-70065-36, dated 08-24-87.
5	Retest of Test #6, PSI Report #311-70065-36, dated 08-24-87.
6	Retest of Test #7, PSI Report #311-70065-36, dated 08-24-87.

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST 5 AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 25, 1987

OUR REPORT NO 311-70065-37

Page 3 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	TEST NO. (S.M. 101)	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY (pcf)	PERCENT COMPACTION	COMMENTS
7	08-25-87	Grade	33	88.2	26.4	87.0	98.6	1 - A,C
8	08-25-87	Grade	33	88.2	28.0	86.3	97.8	1 - A,C
9	08-25-87	Grade	33	88.2	29.1	86.7	98.2	1 - A,C
10	08-25-87	Grade	33	88.2	30.0	86.5	98.0	1 - A,C
11	08-25-87	Grade	33	88.2	31.0	84.3	95.5	1 - A,C

TEST LOCATION:

7	Retest of Test #8, PSI Report #311-70065-36, dated 08-24-87.
8	Retest of Test #9, PSI Report #311-70065-36, dated 08-24-87.
9	Retest of Test #10, PSI Report #311-70065-36, dated 08-24-87.
10	Retest of Test #11, PSI Report #311-70065-36, dated 08-24-87.
11	Retest of Test #12, PSI Report #311-70065-36, dated 08-24-87.

NOTES: DENSITIES SHOWN IN POUNDS PER CUBIC FOOT
WATER CONTENT: Percent of dry weight
PERCENT COMPACTION: Based on maximum dry density of standard sample calculated by SCL 2 method

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT*
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 25, 1987

OUR REPORT NO. 311-70065-37

Page 4 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO.	DATE	DEPTH	TYPE	VOL. NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	W. PLACED ON FIELD DENSITY	PERCENT COMPACTION	COMMENT
1	08-25-87	Grade		33	88.2	29.2	85.8	96.9	1 - A
2	08-25-87	Final		33	88.2	28.0	87.5	99.2	1 - A
3	08-25-87	Final		33	88.2	29.8	85.4	96.8	1 - A
4	08-25-87	Final		33	88.2	26.7	88.8	100.6	1 - A
5	08-25-87	1st Lift		33	88.2	26.8	88.3	100.1	1 - A
6	08-25-87	1st Lift		33	88.2	26.7	88.7	100.5	1 - A

TEST LOCATION: POND FLOOR, STATIONS 2000', 600'-1000'.

1	20' West of Station 2000' and 30' South of North slope.
2	35' West of Station 600' and 20' South of North slope.
3	60' West of Station 700' and 35' South of North slope.
4	85' West of Station 800' and 40' South of North slope.
5	10' West of Station 900' and 10' South of North slope.
6	25' West of Station 1000' and 15' South of North slope.

NOTES: DENSITIES SHOWN - Dry unit weight (pcf)
WATER CONTENT - Per Cent of dry weight
PERCENT COMPACTION - Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 25, 1987

OUR REPORT NO 311-70065-37

Page 5 of 5

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	LAYER	MOISTURE	MAXIMUM LABORED DENSITY	WATER CONTENT	FIELD DENSITY	PERCENT COMPACTION	COMMENT*
7	08-25-87	1st Lift	33	88.2	29.8	85.5	96.9	1 - A
8	08-25-87	1st Lift	33	88.2	27.9	86.7	98.2	1 - A
9	08-25-87	1st Lift	33	88.2	29.0	86.8	98.4	1 - A
10	08-25-87	Final	33	88.2	29.3	87.0	98.6	1 - A
11	08-25-87	Final	33	88.2	30.4	86.3	97.8	1 - A
12	08-25-87	1st Lift	33	88.2	30.8	86.0	97.5	1 - A

TEST LOCATION: POND FLOOR, STATION 400', 500', & 1100'-1400' / NORTH SLOPE, STATION 1300'.

7	45' West of Station 1100' and 25' South of North slope.
8	70' West of Station 1200' and 5' South of North slope.
9	60' West of Station 1300' and 35' South of North slope.
10	80' West of Station 400' and 15' South of North slope.
11	95' West of Station 500' and 45' South of North slope.
12	40' West of station 1300' and 10' from bottom of slope.

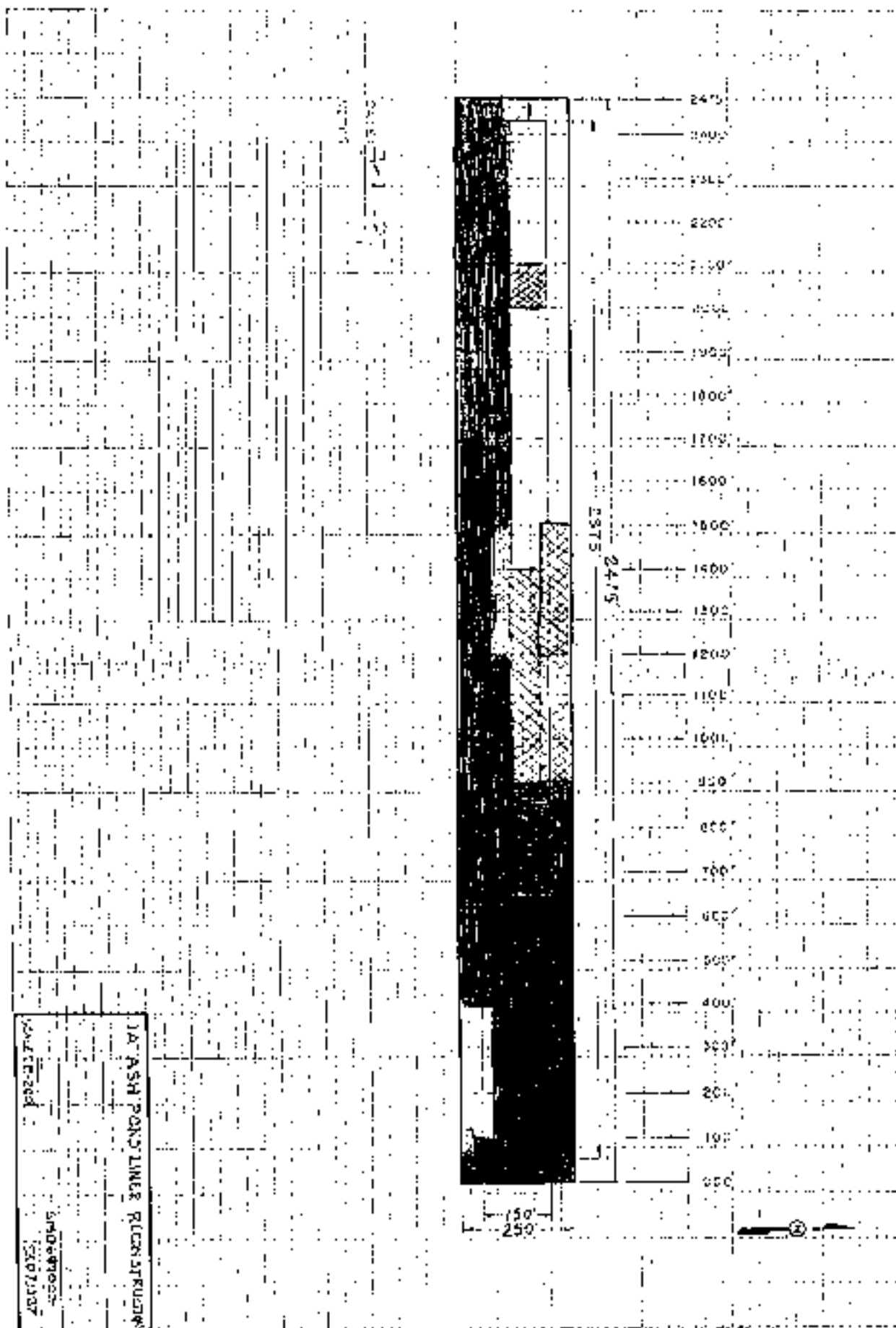
NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample prepared by same IR number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C *25" IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



ASH POND LINER RECONSTRUCTION
 5/10/2008
 5/10/2008

2



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanon, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE August 24, 1987 OUR REPORT NO 311-70065-36 Page 1 of 4

REMARKS: Weather: Sunny & Clear
Temperature Range: 93° to 98°
Inspector: K. McWilliams
Type of inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|--------------------------------|--------------------------|
| 1. (1) 637 D Scraper | 4. (1) CAT. Spray King |
| 2. (1) Liebherr Bulldozer | 5. (1) Water Truck |
| 3. (1) D6 CAT. Dozer with Rake | 6. (1) Discing Equipment |

V.K. Knowlton worked on the north slope and pond floor. The areas tested did not meet the moisture specifications. These areas will be reworked and retested. A total of 15 density tests were taken today. V.K. Knowlton finished work at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above
/dd



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE August 24, 1987

OUR REPORT NO 311-70065-36

Page 2 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE	LL (%)	PL (%)	WATER CONTENT (%)	AIR RATIO (%)	PERCENT COMPACTION	COMMENTS
1	08-24-87	Grade	33	88.2	22.2	94.5	107.1	1 - E
2	08-24-87	Grade	33	88.2	20.7	84.5	95.8	1 - E
3	08-24-87	Grade	33	88.2	16.4	80.7	91.5	1 - 3, E
4	08-24-87	Grade	33	88.2	28.6	85.5	96.9	1 - A, C
2A	08-24-87	Grade	33	88.2	23.4	81.0	91.8	1 - 3, E, C
3A	08-24-87	Grade	33	88.2	23.2	76.2	86.4	1 - 3, E, C

TEST LOCATION: NORTH SLOPE

1	Station 12 + 50, 25' from bottom of slope.
2	Station 13 + 55, 30' from bottom of slope.
3	Station 14 + 35, 20' from bottom of slope.
1A	RETEST OF TEST #1 ABOVE.
2A	RETEST OF TEST #2 ABOVE.
3A	RETEST OF TEST #3 ABOVE.

NOTES: DENSITIES SHOWN lbs./per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- 1 FILL MATERIAL
- 2 HACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTS AFTER RECOMPACTION
- D Moisture in excess of specs.
- E Moisture below specs.

REMARKS:

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE August 24, 1987

OUR REPORT NO 311-70065-36

Page 3 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE	WATER CONTENT (%)	MAXIMUM LAB DRY DENSITY (lb/cu ft)	WATER CONTENT (%)	FIELD DRY DENSITY (lb/cu ft)	PERCENT COMPACTION	COMMENTS
4	08-24-87	2nd Lift	33	88.2	20.2	85.2	96.6	1 - E
5	08-24-87	2nd Lift	33	88.2	19.8	91.7	104.0	1 - E
6	08-24-87	2nd Lift	33	88.2	21.7	87.5	99.2	1 - E
7	08-24-87	Grade	33	88.2	20.4	88.0	99.7	1 - E
8	08-24-87	Grade	33	88.2	17.6	86.2	97.7	1 - E
9	08-24-87	Grade	33	88.2	22.7	86.7	98.3	1 - E

TEST LOCATION: POND FLOOR

4	60' South of North slope, Station 6 + 00.
5	50' South of North slope, Station 7 + 25.
6	40' South of North slope, Station 8 + 15.
7	50' South of North slope, Station 9 + 10.
8	50' South of North slope, Station 10 + 20.
9	40' South of North slope, Station 11 + 15.

NOTES: DENSITY SHOWS (lb/cu ft) per cubic foot
 WATER CONTENT (Per Cent) of dry weight
 PERCENT COMPACTION (Based on maximum dry density obtained on sample in lab) by test ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACT ON REQUIRED
 C TEST IS AFTER RECOMPACTON
 D Moisture in excess of specs.
 E Moisture below specs.

REMARKS:

Respectfully submitted
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE August 24, 1987

OUR REPORT NO 311-70065-36

Page 4 of 4

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	LAYER	WATER CONTENT (%)	MAXIMUM CALIBRATED DENSITY	WATER CONTENT (%)	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENT
10	08-24-87	Grade	33	88.2	24.0	91.5	103.7	1 - E
11	08-24-87	Grade	33	88.2	24.0	89.5	101.4	1 - E
12	08-24-87	Grade	33	88.2	30.8	81.7	92.6	1 - B

TEST LOCATION:

10	40' South of the North slope, Station 12 + 10.
11	40' South of the North slope, Station 13 + 00.
12	35' South of the North slope, Station 14 + 00.

NOTES: DENSITIES SHOWN lbs./cu. ft. (pcf)
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample identified by test ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPEC. SECTION 202
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D Moisture in excess of specs.
- E Moisture below specs.

REMARKS:

Respectfully submitted,
 Professional Service Industries, Inc

DATE: 8-24-37



2475
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0

2475
2475

150
250



LA ASH POND LINER RECONSTRUCTION
DATE: 8-24-37
S.M. BROWN
P.R. HUBBARD



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #25543-032108

DATE: August 21, 1987

OUR REPORT NO: 311-70065-35

Page 1 of 6

REMARKS:

Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|-----------------------|---------------------------|
| 1. (2) 6370 Scrapers | 5. (1) CAT Spray King |
| 2. (1) Liebherr Dozer | 6. (1) 120 G Motor Grader |
| 3. (1) D-6 Dozer | 7. Discing Equipment |
| 4. (1) Water Truck | |

V.K. Knowlton worked and completed the area between Station 100'-300' on the pond floor and the area between 900'-1200' on the north slope. New proctor values were used today. A total of 30 density tests were taken today. V.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

CR

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 21, 1987

OUR REPORT NO: 311-70065-35

Page 2 of 6

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	NO. OF SAMPLES	MOISTURE (LABORATORY DENSITY)	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
1	08-21-87	Grade	33	88.2	30.9	85.5	96.9	1 - A
2	08-21-87	1st Lift	33	88.2	32.0	84.2	95.4	1 - A
3	08-21-87	Grade	33	88.2	30.2	87.5	99.2	1 - A
4	08-21-87	Grade	33	88.2	31.1	85.0	96.3	1 - A
5	08-21-87	Final	33	88.2	29.0	86.8	98.4	1 - A
6	08-21-87	Final	33	88.2	30.0	85.8	97.2	1 - A

TEST LOCATION: NORTH SLOPE, STATION 900'-1200' / POND FLOOR, STATION 100'-300'

1	20' West of Station 900' and 10' from the bottom of the slope.
2	30' West of Station 900' and 35' from the bottom of the slope.
3	10' West of Station 1000' and 10' from the top of the slope.
4	60' West of Station 1100' and 20' South of the North slope.
5	75' West of Station 100' and 35' South of the North slope.
6	50' West of Station 200' and 5' South of the North slope.

NOTES: DENSITIES SHOWN (1) - proctor chart
WATER CONTENT - Per Cent (by weight)
PERCENT COMPACTION - Based on maximum dry density obtained on sample indicated by solid number

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SO LACEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
H RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 21, 1987

OUR REPORT NO 311-70065-35

Page 3 of 6

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE OF TEST	TEST NUMBER	MAXIMUM LAKE DRY DENSITY	WATER CONTENT	% OF AIR DRY DENSITY	PERCENT COMPACTION	COMMENT*
7	08-21-87	Grade	33	88.2	27.6	87.8	99.5	1 - A
8	08-21-87	Grade	33	88.2	28.9	87.3	98.9	1 - A
9	08-21-87	Grade	33	88.2	30.0	85.8	97.2	1 - A
10	08-21-87	Grade	33	88.2	28.3	87.2	98.8	1 - A
11	08-21-87	Grade	33	88.2	28.7	87.0	98.6	1 - A
12	08-21-87	Grade	33	88.2	30.4	85.5	96.9	1 - A

TEST LOCATION: POND FLOOR, STATION 300'-600', 600'-900'

7	30' West of Station 300' and 10' South of the North slope.
8	60' West of Station 400' and 40' South of the North slope.
9	85' West of station 500' and 25' South of the North slope.
10	25' West of Station 600' and 35' South of the North slope.
11	30' West of Station 700' and 5' South of the North slope.
12	15' West of Station 800' and 15' South of the North slope.

NOTES: DENSITIES SHOWN (1) are proctor (2) are
WATER CONTENT (1) are (2) are (3) are
PERCENT COMPACTION (1) based on maximum dry
densities obtained on samples indicated by
test ID number

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 21, 1987

OUR REPORT NO 311-70065-35

Page 4 of 6

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	LIFT DEPTH	SOIL NO	MAXIMUM UNIT WEIGHT	WATER CONTENT	W. % AT OPTIMUM MOISTURE	PERCENT COMPACTION	COMMENT
13	08-21-87	2nd Lift	33	88.2	29.4	87.3	98.9	1 - A
14	08-21-87	1st Lift	33	88.2	28.2	87.7	99.4	1 - A
15	08-21-87	1st Lift	33	88.2	29.6	86.0	97.5	1 - A
6	08-21-87	Final	33	88.2	29.0	86.8	98.4	1 - A
17	08-21-87	2nd Lift	33	88.2	30.8	86.0	97.5	1 - A
18	08-21-87	2nd Lift	33	88.2	30.9	86.3	97.8	1 - A

TEST LOCATION: NORTH SLOPE, STATION 900'-1200'

13	50' West of Station 900' and 20' South of the North slope.
14	65' West of Station 1000' and 10' South of the North slope.
15	75' West of Station 1100' and 35' South of the North slope.
16	85' West of Station 900' and 25' South of the North slope.
17	20' West of station 1000' and 15' South of the North slope.
18	10' West of Station 1100' and 5' South of the North slope.

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT: Pct. Cont. of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on samples obtained by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 21, 1987

OUR REPORT NO 311-70065-35

Page 5 of 6

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	DEPTH	LIFT	SO. LI. NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	FIELD DENSITY (%)	PERCENT COMPACTION	COMMENT *
19	08-21-87	1st Lift		33	88.2	28.9	88.0	99.7	1 - A
20	08-21-87	1st Lift		33	88.2	27.5	87.0	98.6	1 - A
21	08-21-87	1st Lift		33	88.2	28.2	87.7	99.4	1 - A
2	08-21-87	2nd Lift		33	88.2	27.0	87.0	98.6	1 - A
23	08-21-87	2nd Lift		33	88.2	29.8	87.1	98.7	1 - A
24	08-21-87	2nd Lift		33	88.2	26.4	87.0	98.6	1 - A

TEST LOCATION: POND FLOOR, STATION 300'-600'.

19	30' West of Station 300' and 20' South of the North slope.
20	25' West of Station 400' and 35' South of the North slope.
21	10' West of Station 500' and 45' South of the North slope.
22	45' West of Station 300' and 30' South of the North slope.
23	60' West of Station 400' and 15' South of the North slope.
24	75' West of Station 500' and 5' South of the North slope.

NOTES: DENSITIES SHOWN are per cubic foot.
WATER CONTENT: Per Cent of dry weight.
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number.

- * 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 21, 1987

OUR REPORT NO 311-70065-35

Page 6 of 6

TEST DATA: Optimum moisture: (33, 23.7)

TEST NO	DATE	TYPE / DEPTH	MOISTURE (%)	WATER CONTENT (%)	WATER CONTENT (%)	FIELD DRY DENSITY (lb/cu ft)	PERCENT COMPACTION	COMMENTS
25	08-21-87	Final	33	88.2	26.7	90.0	102.0	1 - A
26	08-21-87	Final	33	88.2	26.8	90.5	102.6	1 - A
27	08-21-87	1st Lift	33	88.2	29.6	86.8	98.4	1 - A
28	08-21-87	1st Lift	33	88.2	29.3	87.0	98.6	1 - A
29	08-21-87	1st Lift	33	88.2	28.7	87.0	98.6	1 - A
30	08-21-87	Final	33	88.2	26.7	90.8	102.9	1 - A

TEST LOCATION: NORTH SLOPE, STATION 1000'-1200' / POND FLOOR, STATION 600'-900'.

25	20' West of Station 1000' and 20' from top of North slope.
26	40' West of Station 1100' and 10' from bottom of North slope.
27	45' West of Station 600' and 10' South of North slope.
28	75' West of Station 800' and 25' South of North slope.
29	15' West of station 700' and 15' South of North slope.
30	25' West of station 300' and 30' South of North slope.

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

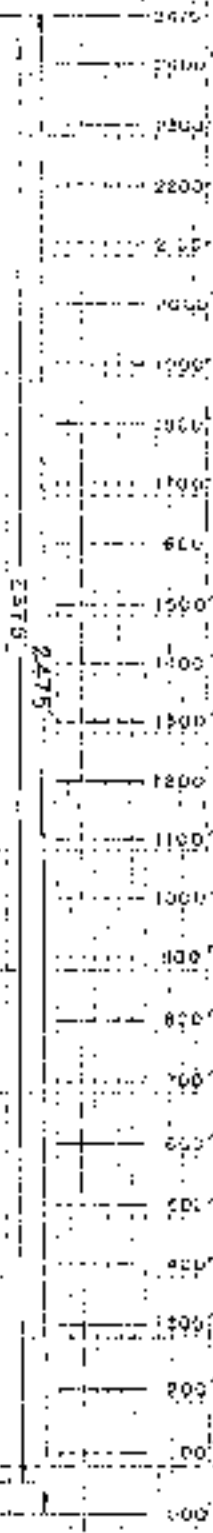
- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULT IS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

DATE 9-21-97



LA. ASH POND LINER RECORD RULING

SMO671002

SMO671002

SMO671002



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032108

DATE August 20, 1987

OUR REPORT NO 311-70065-34

Page 1 of 5

REMARKS:

Weather: Sunny & Clear
 Temperature Range: 95° to 100°
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|----------------------------|--------------------------|
| 1. (2) 637D Scrapers | 5. (1) Water Truck |
| 2. (1) Liebherr Dozer | 6. (1) CAT Spray King |
| 3. (1) D-8 Dozer | 7. (1) 120G Motor Grader |
| 4. (1) D-6 Dozer with Rake | 8. Discing Equipment |

V.K. Knowlton started at 7:00 a.m. A 600' section was worked today, along with a 300' section on the Pond Floor and a 300' section on the North Slope. The 300' Section on the North Slope was completed. A total of 24 densities were taken. V.K. Knowlton finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing
 Laboratory Division)

cc: (2) Above
 /dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC.-PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 20, 1987

OUR REPORT NO 311-70065-34

Page 2 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	DEPTH	TEST NO	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	FIELD DRY DENSITY (pcf)	PERCENT COMPACTION	COMMENT*
1	08-20-87	Final	22	82.6	35.9	81.8	99.0	1 - A
2	08-20-87	1st Lift	22	82.6	36.8	81.5	98.6	1 - A
3	08-20-87	Grade	22	82.6	36.4	80.3	97.2	1 - A
4	08-20-87	Grade	22	82.6	36.5	79.5	96.2	1 - A
5	08-20-87	2nd Lift	22	82.6	36.6	82.0	99.2	1 - A
6	08-20-87	1st Lift	22	82.6	36.4	81.3	98.4	1 - A

TEST LOCATION: NORTH SLOPE (STATION 500'-900')

1	30' West of Station 500' and 10' from Bottom of Slope.
2	20' West of Station 600' and 20' from Bottom of Slope.
3	65' West of Station 700' and 15' from Top of Slope.
4	30' West of Station 800' and 30' from Top of Slope.
5	15' West of Station 600' and 5' from Bottom of Slope.
6	45' West of Station 700' and 25' from Bottom of Slope.

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT* Per Cent of dry weight
PERCENT COMPACTION (Based on maximum dry density obtained on Sample indicated by test number)

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 20, 1987

OUR REPORT NO: 311-70065-34

Page 3 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	LAYER	NO. OF SAMPLES	MOISTURE AT LABORATORY DENSITY	WATER CONTENT	MOISTURE TENDENCY	PERCENT COMPACTION	COMMENTS
7	08-20-87	1st Lift	22	82.6	35.8	82.0	99.2	1 - A,C
8	08-20-87	Grade	22	82.6	35.7	82.3	99.6	1 - A,C
9	08-20-87	Grade	22	82.6	37.2	81.3	98.4	1 - A,C
10	08-20-87	Grade	22	82.6	37.8	80.5	97.4	1 - A,C
11	08-20-87	1st Lift	22	82.6	37.6	81.0	98.0	1 - A
12	08-20-87	2nd Lift	22	82.6	37.0	80.2	97.0	1 - A

TEST LOCATION: POND FLDOR (0-500')

7	Retest of Test #13, PSI Report #311-70065-31, Dated 08-18-87.
8	Retest of Test #14, PSI Report #311-70065-31, Dated 08-18-87.
9	Retest of Test #15, PSI Report #311-70065-31, Dated 08-18-87.
10	Retest of Test #16, PSI Report #311-70065-31, Dated 08-18-87.
11	25' West of Station 400' and 10' South of North Slope.
12	40' West of Station 500' and 20' South of North Slope.

NOTES: DENSITIES SHOWN: (1) in air, (2) in water
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on in-situ, in dry density obtained on sample obtained by (1) ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULT IS COMPLY WITH SPECIFICATIONS
- H RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. - PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 20, 1987

OUR REPORT NO: 311-70065-34

Page 4 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LIFT / DEPTH	MOISTURE (%)	WET DENSITY (PCF)	WATER CONTENT (%)	DENSITY (PCF)	PERCENT COMPACTION	COMMENT *
13	08-20-87	1st Lift	22	82.6	37.6	81.0	98.0	1 - A
14	08-20-87	2nd Lift	22	82.6	36.5	82.0	99.2	1 - A
15	08-20-87	1st Lift	22	82.6	37.0	81.7	98.9	1 - A
6	08-20-87	1st Lift	22	82.6	36.3	81.8	99.0	1 - A
17	08-20-87	Final	22	82.6	37.1	81.0	98.0	1 - A
18	08-20-87	2nd Lift	22	82.6	36.8	80.0	96.8	1 - A

TEST LOCATION: NORTH SLOPE (STATION 600'-800'); POND FLOOR (STATION 0-300')

13	25' west of Station 800' and 30' from Bottom of Slope. (North Slope)
14	30' west of Station 0-100' and 20' South of North Slope. (Pond Floor)
15	50' West of Station 100' and 25' south of North Slope. (Pond Floor)
16	80' west of Station 200' and 35' South of North Slope. (Pond Floor)
17	20' West of Station 600' and 10' from Bottom of Slope.
18	45' West of Station 700' and 25' from Bottom of Slope.

NOTES: DENSITIES SHOWN (lbs per cubic foot)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26632-032108

DATE: August 20, 1987

OUR REPORT NO: 311-70065-34

Page 5 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	DEPTH	REFY	SOIL NUMBER	MOISTURE (WET WEIGHT)	WATER CONTENT	PERCENT SOLIDS	PERCENT COMPACTION	GRADE*
19	08-20-87	2nd Lift		22	82.6	36.1	81.5	98.6	1 - A
20	08-20-87	Final		22	82.6	36.7	79.0	95.6	1 - A
21	08-20-87	Final		22	82.6	37.2	82.2	99.5	1 - A
22	08-20-87	Final		22	82.6	35.1	83.2	100.7	1 - E
23	08-20-87	2nd Lift		22	82.6	34.9	82.3	99.6	1 - E
24	08-20-87	2nd Lift		22	82.6	36.2	80.7	97.6	1 - A

TEST LOCATION: NORTH SLOPE (STATION 700'-900'); POND FLOOR (STATION 0-300')

19	30' West of Station 800' and 20' from Bottom of Slope.
20	60' West of Station 700' and 15' from Top of Slope.
21	45' West of Station 800' and 10' from Bottom of Slope.
22	20' West of Station 0-100' and 20' South of North Slope.
23	40' West of Station 100' and 25' South of North Slope.
24	10' West of station 200' and 5' South of North Slope.

NOTES: GRAVITY SHOWS lbs. per cubic foot
WATER CONTENT: Wet Unit of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample tested by soil number

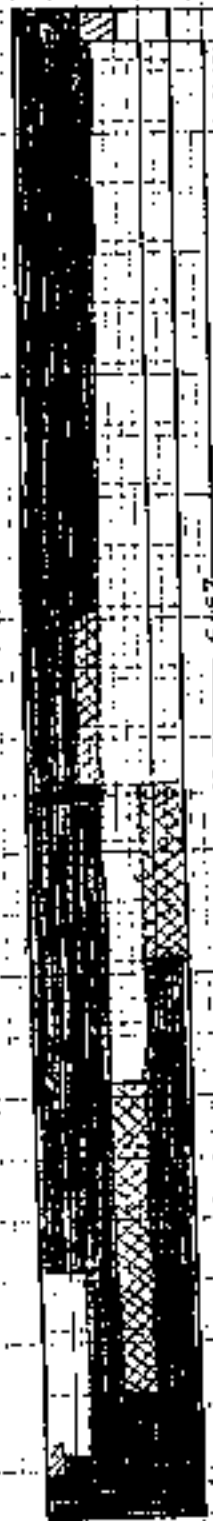
* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SO. CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D Moisture in excess of specs.
E Moisture below specs.

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

DATE 8-10-87
SITES



2475
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
000

LA ASH POND LINER REINSTRUCION
 SCALE 1"=20'
 VMD 6/11/87
 SVO/DABT



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108
Contractor: V.K. Knowlton

DATE July 20, 1987

OUR REPORT NO 311-70065-7

REMARKS:

EQUIPMENT USED

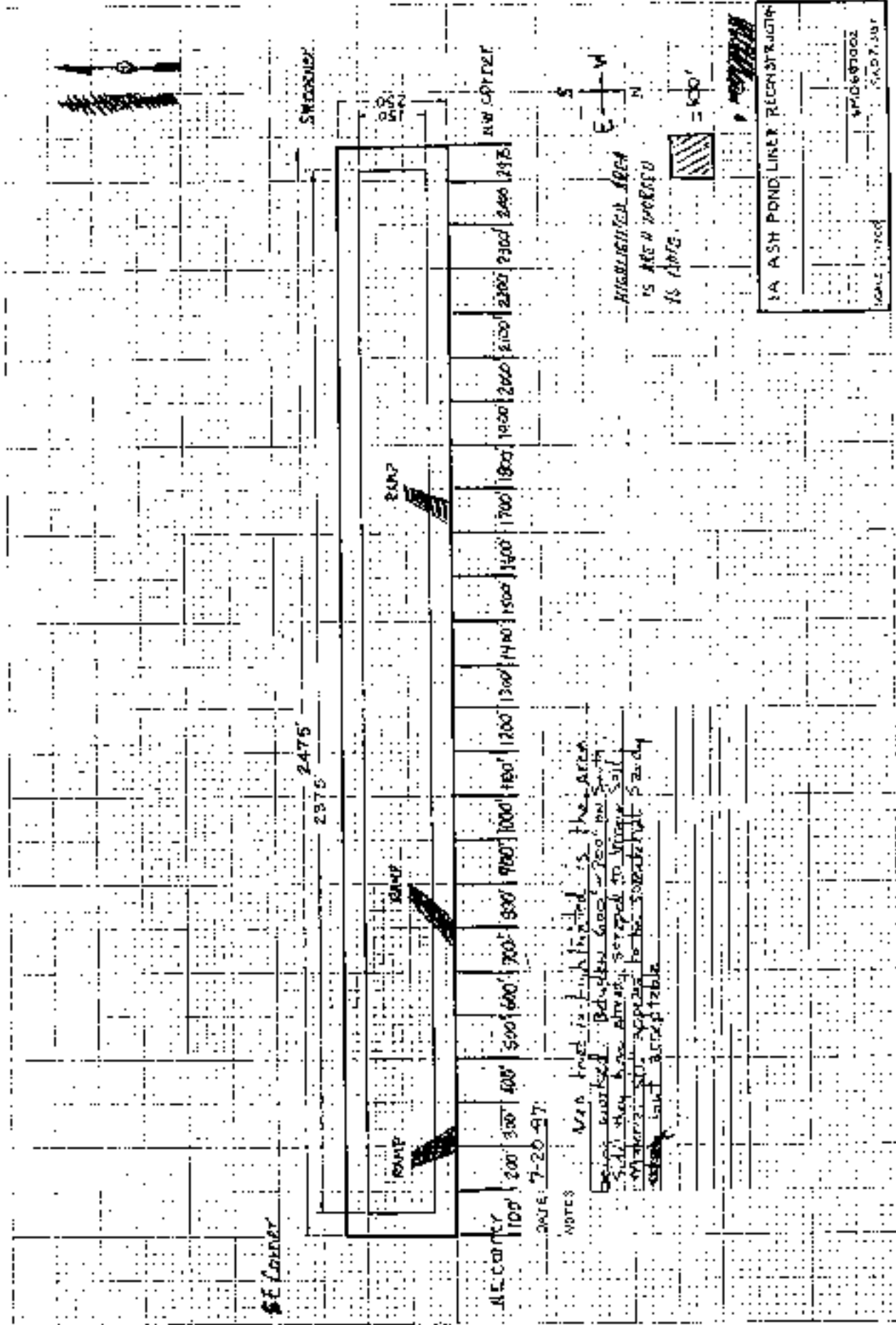
1. 3 - 6370 CAT. Scrapers
2. 1 - Liebherr 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - 120G CAT. Grader
5. 1 - CAT. Spray King

V.K. Knowlton is working the area on the bottom of 1A Pond, approximately 500'-800' west of the N.E. corner running the total width of the pond. V.K. Knowlton is still encountering sandy clay that is unacceptable in this area. In the area on the bottom of the pond, approximately 600'-800' west of the N.E. corner, water is still pretty heavy. This area may require coring to further continue construction. Approximately 60% of the pond has been cleaned of vegetation and contaminated soils. No actual reconstruction of the pond was performed on this date. No compaction tests were required on this day. Road on north side of 1A Pond was graded to smoother surface for better hauling. Pumps were put into the pond to remove water today.

If there are are questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division) *JK*

cc: (2) Above
/dd



SE Corner

2975' 2475'

SW Corner

RAMP

RAMP

RAMP

N.E. CORNER

N.W. CORNER

DATE: 7-20-97

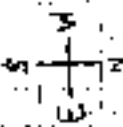
NOTES

Area that is highlighted is the area being worked. Between 600' and 700' on South side they have already scraped to virgin soil. Material still appears to be somewhat sandy, but acceptable.

HIGHLIGHTED AREA IS NOT WORKED



500'



ASH POND LINER RECONSTRUCTION

DATE: 7-20-97

SCALE: AS SHOWN



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 ourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
 Testing
 P.O. #26643-032:08

DATE August 19, 1987

OUR REPORT NO 311-70065-32

Page 1 of 4

REMARKS:

Weather: Sunny & Clear
 Temperature Range: 95° to 100°
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|----------------------------|--------------------------|
| 1. (1) 6370 Scraper | 5. (1) Water Truck |
| 2. (1) Liebherr Dozer | 6. (1) CAT. Spray King |
| 3. (1) D-8 Dozer | 7. (1) 120G Motor Grader |
| 4. (1) D-6 Dozer with Rake | |

V.K. Knowlton started work at 7:00 a.m. V.K. Knowlton was able to work a 300' section today. The North Slope, Station 400'-700' was worked, and 200' was completed. A total of 18 densities taken today. V.K. Knowlton finished work at 6:00 p.m. A copy of the tests performed on the material sampled on August 17, 1987 (PSI Report No. 311-70065-33) is enclosed for your review.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing
 Laboratory Division)

cc: (2) Above
 /dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Courdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 19, 1987 OUR REPORT NO 311-70065-32 Page 2 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	LAYER DEPTH	SOIL NO. NUMBER	GRAVITY WATER CONTENT	WATER CONTENT	FIELD MOISTURE DENSITY	PERCENT COMPACTION	CLASSIFICATION
1	08-19-87	1st Lift	22	82.6	37.2	80.5	97.4	1 - A
2	08-19-87	1st Lift	22	82.6	36.0	82.0	99.2	1 - A
3	08-19-87	Grade	22	82.6	36.9	81.8	99.0	1 - A
4	08-19-87	2nd Lift	22	82.6	36.2	80.0	96.8	1 - A
5	08-19-87	Final	22	82.6	36.4	80.3	97.2	1 - A
6	08-19-87	2nd Lift	22	82.6	35.9	82.0	99.2	1 - A

TEST LOCATION: NORTH SLOPE (STATION 400'-700')

1	35' West of station 400' and 10' from Bottom of Slope.
2	20' West of Station 500' and 20' from Bottom of Slope.
3	60' West of Station 600' and 10' from Top of Slope.
4	75' West of Station 400' and 15' from Top of Slope.
5	45' West of Station 400' and 10' from Bottom of Slope.
6	85' West of Station 500' and 20' from Bottom of Slope.

NOTES: DENSITIES SHOWN are proctor test
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry
density obtained on sample indicated by
soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 19, 1987

OUR REPORT NO 311-70065-32

Page 3 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	TYPE	NO. OF SAMPLES	WATER CONTENT (%)	WATER CONTENT (%)	DENSITY (PCF)	PERCENT COMPACTION	COMMENT*
7	08-19-87	Final	22	82.6	36.4	79.5	96.2	1 - A
8	08-19-87	1st Lift	22	82.6	37.9	79.8	96.6	1 - A
9	08-19-87	2nd Lift	22	82.6	38.1	80.0	96.8	1 - A
10	08-19-87	Final	22	82.6	37.7	79.4	96.1	1 - A
11	08-19-87	Grade	22	82.6	37.4	80.8	97.8	1 - A
12	08-19-87	Grade	22	82.6	36.3	80.3	97.2	1 - A

TEST LOCATION: NORTH SLOPE (STATION 200'-600')

7	30' West of Station 200' and 10' from Bottom of Slope.
8	25' West of Station 300' and 20' from Bottom of Slope.
9	65' West of Station 300' and 15' from Top of Slope.
10	75' West of Station 300' and 25' from Top of Slope.
11	10' West of Station 400' and 30' from Bottom of Slope.
12	50' West of Station 500' and 5' from Bottom of Slope.

NOTES: DENSITIES SHOWN (pcf) are dry unit weight
WATER CONTENT (%) Given in dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by test ID number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 19, 1987

OUR REPORT NO 311-70065-32

Page 4 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LAYER DEPTH	SPC. NO NUMBER	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	A PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS*
13	08-19-87	Grade	22	82.6	38.3	78.8	95.3	1 - A
14	08-19-87	1st Lift	22	82.6	37.8	81.3	98.4	1 - A
15	08-19-87	2nd Lift	22	82.6	35.9	82.5	99.8	1 - A
16	08-19-87	Final	22	82.6	36.0	83.5	101.0	1 - A
17	08-19-87	1st Lift	22	82.6	38.1	80.0	96.8	1 - A
18	08-19-87	2nd Lift	22	82.6	37.0	80.3	97.2	1 - A

TEST LOCATION: NORTH SLOPE (STATION 100'-300')

13	20' West of Station 100' and 25' from Bottom of Slope.
14	35' West of Station 100' and 30' from Bottom of Slope.
15	60' West of Station 100' and 10' from Top of Slope.
16	75' West of Station 100' and 15' from Top of Slope.
17	10' West of Station 200' and 30' from Bottom of Slope.
18	25' West of Station 200' and 10' from Bottom of Slope.

NOTES: DENSITIES SHOWN lbs. per cu ft. soil
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample obtained by test number

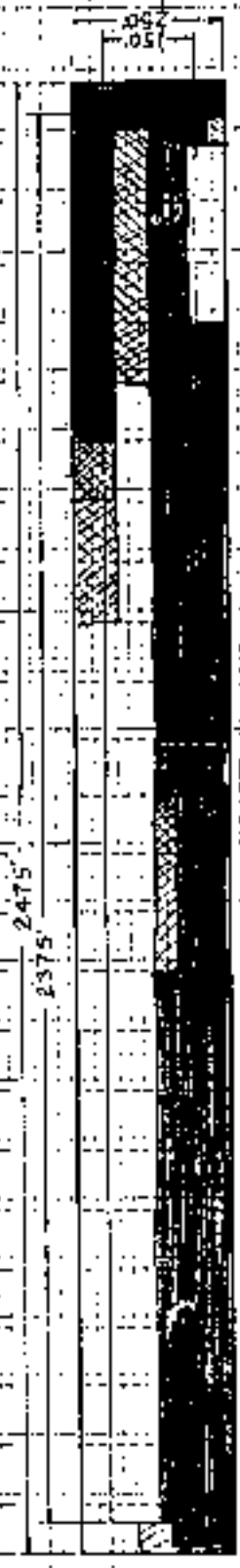
- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.

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DATE 3-19-87

NOTES

LTA ASH POND LAYER RESTRICTION	
DATE	3-19-87
BY	SKC7DB7



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

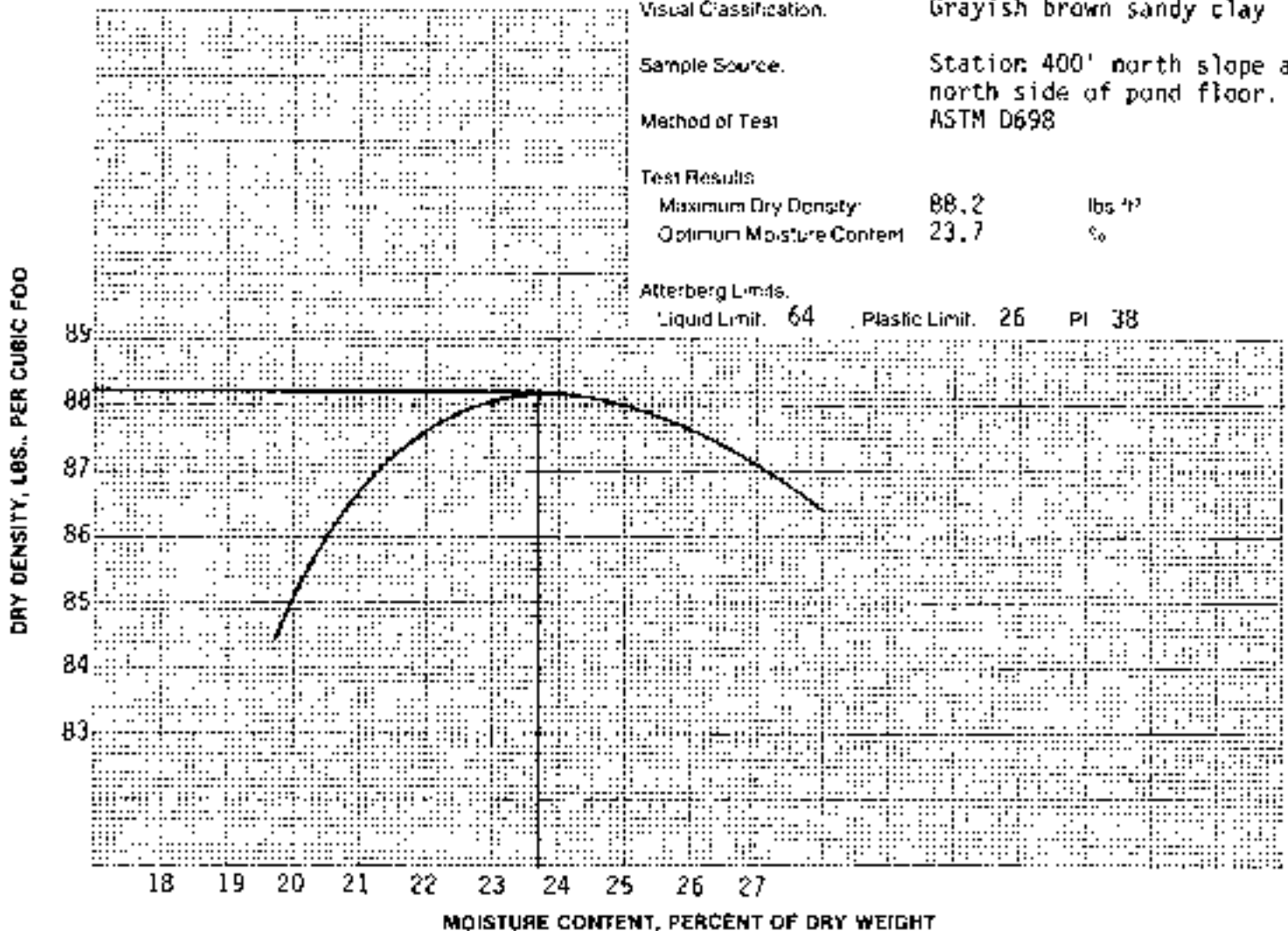
1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 18, 1987

OUR REPORT NO 311-70065-33

TEST DATA

Visual Classification. Grayish brown sandy clay
Sample Source. Station: 400' north slope and north side of pond floor.
Method of Test ASTM D698
Test Results
Maximum Dry Density 88.2 lbs/ft³
Optimum Moisture Content 23.7 %
Atterberg Limits.
Liquid Limit 64 Plastic Limit 26 PI 38



cc: (2) Above
/dd

Respectfully submitted,
Professional Service Industries, Inc.
C.P.P.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 18, 1987 OUR REPORT NO 311-70065-31 Page 1 of 4

REMARKS:

Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|----------------------------|--------------------------|
| 1. (1) 637G Scraper | 5. (1) Water Truck |
| 2. (1) Liebherr Dozer | 6. (1) CAT. Spray King |
| 3. (1) D-8 Dozer | 7. (1) 120G Motor Grader |
| 4. (1) D-6 Dozer with Rake | |

V.K. Knowlton started at 7:00 a.m. The area worked today was on the North Slope at Station 100'-500'. A total of 18 densities were taken. Four (4) failures occurred due to moisture content. This area is being watered and reworked again. V.K. Knowlton finished work at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (?) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Courdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 18, 1987

OUR REPORT NO 311-70065-31

Page 2 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LAYER	WATER CONTENT (%)	DENSITY (lb/cu ft)	WATER CONTENT (%)	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENT *
1	08-18-87	2nd Lift	22	82.6	36.0	81.5	98.6	1 - A
2	08-18-87	2nd Lift	22	82.6	36.6	80.5	97.4	1 - A
3	08-18-87	Final	22	82.6	36.5	82.0	99.2	1 - A
4	08-18-87	Final	22	82.6	36.7	82.3	99.6	1 - A
5	08-18-87	Grade	22	82.6	38.3	79.5	96.2	1 - A
6	08-18-87	1st Lift	22	82.6	39.0	78.8	95.3	1 - A

TEST LOCATION: EAST SLOPE (STATION 0-100') - NORTH SLOPE (STATION 0-100')

1	20' South of the N.E. Corner and 20' from Bottom of Slope.
2	30' North of the S.E. Corner and 30' from Top of Slope.
3	40' South of the N.E. Corner and 10' from Top of Slope.
4	10' North of the S.E. Corner and 15' from Top of Slope.
5	20' West of Station 0-100' and 20' from Bottom of Slope.
6	60' West of Station 0-100' and 30' from Top of Slope.

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC., PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 18, 1987

DLR REPORT NO: 311-70065-31

Page 3 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	TYPE	TEST NO. MOISTURE	MAXIMUM LAID DENSITY	WATER CONTENT	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENTS
7	08-18-87	2nd Lift	22	82.6	36.8	80.7	97.6	1 - A
8	08-18-87	Final	22	82.6	36.3	82.5	99.8	1 - A
9	08-18-87	Grade	22	82.6	36.7	82.2	99.5	1 - A
10	08-18-87	Grade	22	82.6	36.2	80.0	96.8	1 - A
11	08-18-87	Grade	22	82.6	38.8	78.5	95.0	1 - A
12	08-18-87	Grade	22	82.6	39.4	78.6	95.1	1 - A

TEST LOCATION: NORTH SLOPE (STATION 0-100' & 200'-500'), POND FLOOR (STATION 0-600') NORTH SIDE.

7	20' West of Station 0-100' and 20' from Bottom of Slope.
8	40' West of Station 0-100' and 10' from Bottom of Slope.
9	50' West of Station 200' and 25' from Top of Slope.
10	70' West of Station 300' and 15' from Bottom of Slope.
11	15' West of station 400' and 20' from Top of Slope.
12	30' West of Station 0-100' and 20' South of North Slope.

NOTES: DENSITIES SHOWN (dry) per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample obtained by
No. 10 number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 18, 1987

OUR REPORT NO 311-70065-31

Page 4 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LAYER	TEST NO	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	COMMENT *
13	08-18-87	1st Lift	22	82.6	33.3	83.2	100.7	1 - E
14	08-18-87	Grade	22	82.6	32.3	84.3	102.0	1 - E
15	08-18-87	Grade	22	82.6	33.1	83.7	101.3	1 - E
16	08-18-87	Grade	22	82.6	33.3	84.0	101.6	1 - E
17	08-18-87	Grade	22	82.6	37.5	80.0	96.8	1 - A
18	08-18-87	1st Lift	22	82.6	37.6	80.3	97.2	1 - A

TEST LOCATION: POND FLOOR (STATION 0-600') NORTH SIDE

13	30' West of Station 0-100' and 15' South of North Slope.
14	40' West of Station 100' and 30' South of North Slope.
15	65' West of Station 200' and 20' South of North Slope.
16	10' West of Station 300' and 40' South of North Slope.
17	75' West of Station 400' and 50' South of North Slope.
18	10' West of Station 500' and 10' South of North Slope.

NOTES: DENSITIES SHOWN: Dry per cubic foot
WATER CONTENT: Wet Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density of tested sample, calculated by ASTM method

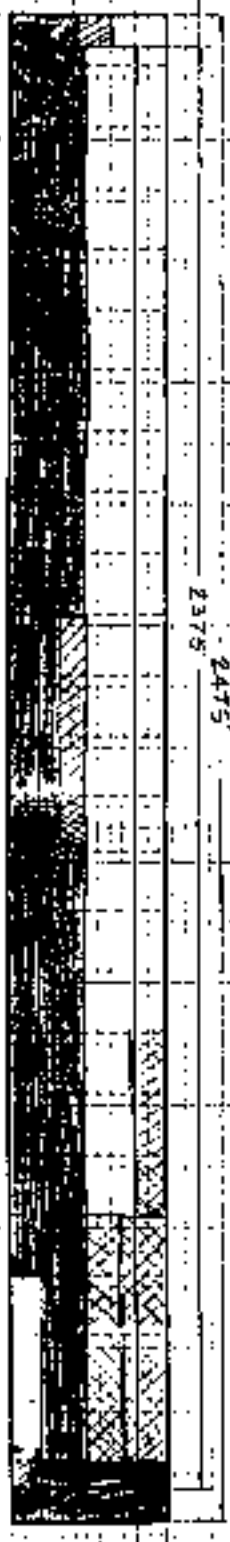
* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C *LST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

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2375
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DATE 9-16-57
NO. 11

LA ASH POND LINER RECONSTRUCTION
ENGINEER
SNO 71307
SCALE 1"=20'



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
Post Office Box 280 Testing
Jourdanon, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE August 17, 1987 OUR REPORT NO 311-70065-30 Page 1 of 5

REMARKS: Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|---------------------------|-------------------------|
| 1. (1) 637D Scraper | 5. (1) 120G CAT. Grader |
| 2. (1) Liebherr Dozer | 6. (1) CAT. Spray King |
| 3. (1) D8 Dozer | 7. (1) Water Truck |
| 4. (1) D6 Dozer with Rake | 8. Discing Equipment |

V.K. Knowlton started at 7:00 a.m. The areas worked today were on the Pond Floor at Station 1200'-1500', 700', 300'-700', 900', 0-300'. Seepage has reoccured again in the S.E. corner at Station 100'-600'. Another alternative will have to be used in this area. A change in material was encountered on the North Slope and the Pond Floor. A sample was taken for testing. A total of 24 densities were taken today. V.K. Knowlton finished work at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division) *clt*

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

JA Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 17, 1987

OUR REPORT NO: 311-7U065-30

Page 2 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	LIFT	WATER CONTENT (%)	MOISTURE (22, 33.0)	WATER CONTENT (%)	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	08-17-87	1st Lift	22	82.6	36.2	80.8	97.8	1 - A
2	08-17-87	1st Lift	22	82.6	38.3	78.8	95.3	1 - A
3	08-17-87	1st Lift	22	82.6	37.5	80.0	96.8	1 - A
4	08-17-87	2nd Lift	22	82.6	38.5	79.8	96.6	1 - A
5	08-17-87	2nd Lift	22	82.6	36.7	79.7	96.4	1 - A
6	08-17-87	2nd Lift	22	82.6	37.2	80.5	97.4	1 - A

TEST LOCATION: POND FLOOR (STATION 1200'-1500')

1	20' West of Station 1200' and 10' North of South Slope.
2	60' West of Station 1300' and 15' North of South Slope.
3	30' West of Station 1400' and 35' North of South Slope.
4	70' West of Station 1200' and 45' North of South Slope.
5	10' West of Station 1300' and 5' North of South Slope.
6	85' West of Station 1400' and 15' North of South Slope.

NOTES: DENSITIES SHOWN (lbs per cubic foot)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained in sample obtained by wet drumming

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A. TEST RESULTS COMPLY WITH TEXAS DEPARTMENT OF TRANSPORTATION
B. RECOMPACTION REQUIRED
C. TEST 5 AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Gourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 17, 1987

DJR REPORT NO 311-70065-30

Page 3 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	TYPE	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY (PCF)	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY (PCF)	PERCENT COMPACTION	COMMENTS
7	08-17-87	Final	22	82.6	36.9	81.8	99.0	1 - A
8	08-17-87	Final	22	82.6	36.5	81.3	98.4	1 - A
9	08-17-87	Final	22	82.6	37.0	81.0	98.0	1 - A
10	08-17-87	Final	22	82.6	37.6	81.1	98.1	1 - A
11	08-17-87	Final	22	82.6	38.0	81.5	98.6	1 - A
12	08-17-87	Final	22	82.6	36.0	82.0	99.2	1 - A

TEST LOCATION:

- 7 10' West of Station 700' and 20' North of South Slope.
- 8 60' West of Station 300' and 10' North of South Slope.
- 9 25' West of Station 400' and 45' North of South Slope.
- 10 55' West of Station 500' and 25' North of South Slope.
- 11 65' West of station 600' and 5' North of South Slope.
- 12 15' West of Station 900' and 35' North of South Slope.

NOTES: DENSITIES SHOWN (pcf) per ASTM 155
WATER CONTENT: Per ASTM 2230
PERCENT COMPACTION: Based on maximum dry density obtained on sample in accordance with ASTM 1557

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 17, 1987

OUR REPORT NO 311-70065-30

Page 4 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	TYPE	SOIL TYPE	MAXIMUM DRY DENSITY (PCF)	WATER CONTENT (%)	PERCENT COMPACTION	EFFICIENT COMPACTION	COMMENTS *
13	08-17-87	Grade	22	82.6	37.4	80.7	97.6	1 - A
14	08-17-87	Grade	22	82.6	38.9	80.2	97.0	1 - A
15	08-17-87	Grade	22	82.6	37.0	80.3	97.2	1 - A
16	08-17-87	1st Lift	22	82.6	36.8	80.8	97.8	1 - A
17	08-17-87	1st Lift	22	82.6	39.4	78.5	95.0	1 - A
18	08-17-87	1st Lift	22	82.6	36.4	80.3	97.2	1 - A

TEST LOCATION: POND FLOOR (STATION 0-300')

13	20' West of Station 0-100' and 10' North of South Slope.
14	35' West of Station 100' and 20' North of South Slope.
15	45' West of Station 200' and 30' North of South Slope.
16	10' West of Station 0-100' and 45' North of South Slope.
17	40' West of Station 100' and 5' North of South Slope.
18	15' West of Station 200' and 15' North of South Slope.

NOTES: DENSITIES SHOWN: lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 CURB/CHMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 17, 1987

OUR REPORT NO 311-70065-30

Page 5 of 5

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LAYER	SPEC. NO. NUMBER	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	REMARKS
19	08-17-87	2nd Lift	22	82.6	36.0	81.0	98.0	1 - A
20	08-17-87	2nd Lift	22	82.6	36.3	81.1	98.1	1 - A
21	08-17-87	2nd Lift	22	82.6	38.6	78.3	95.0	1 - A
22	08-17-87	Final	22	82.6	37.0	81.0	98.0	1 - A
23	08-17-87	Final	22	82.6	38.0	80.8	97.8	1 - A
24	08-17-87	Final	22	82.6	35.9	82.7	100.1	1 - A

TEST LOCATION: POND FLOOR (STATION 0-300')

19	50' West of station 0-100' and 10' North of South Slope.
20	75' West of station 100' and 25' North of South Slope.
21	85' West of Station 200' and 30' North of South Slope.
22	40' West of Station 0-100' and 40' North of South Slope.
23	15' West of Station 100' and 5' North of South Slope.
24	30' West of Station 200' and 45' North of South Slope.

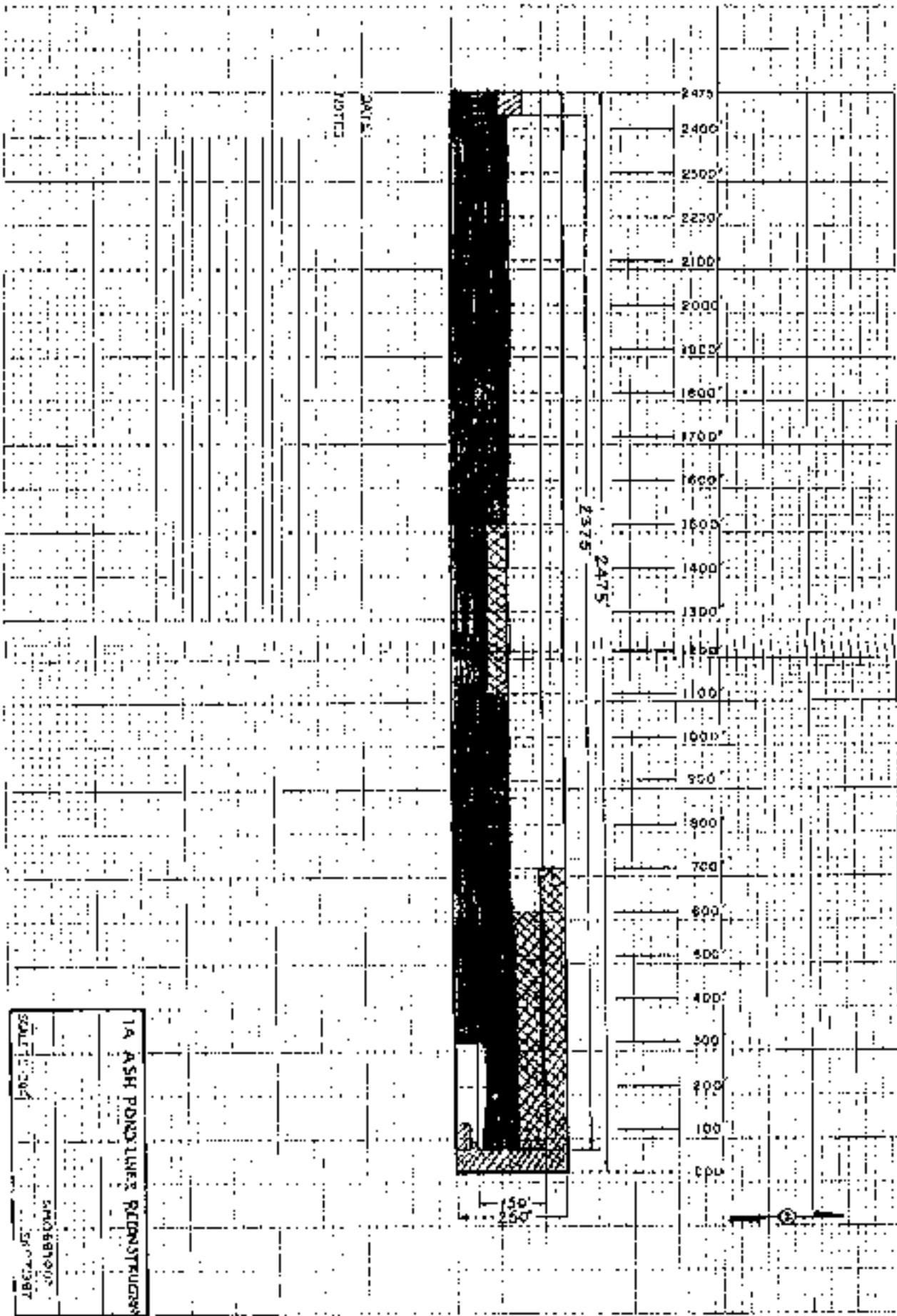
NOTES DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT* Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by test ID number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



DATE: 7/20/13

2375 2475

14 ASH POND LIME & PLUMSTON

SCALE: 1"=20'

SMOBBT/JP
SM 07/20/13



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 14, 1987

OUR REPORT NO 311-70065-29

Page 1 of 3

REMARKS:

Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|--------------------------------|-------------------------|
| 1. (2) 637D Scrapers | 5. (1) 120G CAT. Grader |
| 2. (1) Liebherr Bulldozer | 6. (1) CAT. Spray King |
| 3. (1) D8 CAT. Dozer | 7. (1) Water Truck |
| 4. (1) D6 CAT. Dozer with Rake | 8. Discing Equipment |

V.K. Knowlton started working at 7:00 a.m. V.K. Knowlton worked on the Pond Floor in the areas of Station 300'-700' and Station 800'-900'. Water has been removed from the Pond Floor on the north side between Station 300'-700'. This area will be sealed off today. Several tests were taken in areas where seepage had reoccurred. All of these tests passed in accordance with the project specifications, with the exception of one test on the south slope. This area will be reworked. A total of 12 densities were taken on this day. V.K. Knowlton finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

GH

cc: (2) Above

~~add~~



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE: August 14, 1987

OUR REF. PHONE NO. 311-70065-29

Page 2 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	DEPTH	TEST NO.	WATER CONTENT (%)	WATER CONTENT (%)	FIELD COMPACTION (%)	REMARKS	
1	08-14-87	2nd Lift	22	82.6	36.5	82.8	100.2	1 - A
2	08-14-87	2nd Lift	22	82.6	37.1	82.7	100.1	1 - A
3	08-14-87	2nd Lift	22	82.6	37.5	82.5	99.8	1 - A
4	08-14-87	2nd Lift	22	82.6	36.0	82.8	100.2	1 - A
5	08-14-87	2nd Lift	22	82.6	36.6	80.5	97.4	1 - A
6	08-14-87	2nd Lift	22	82.6	37.2	79.8	96.6	1 - A

TEST LOCATION:

1	20' West of Station 300' and 20' North from Toe of South Slope.
2	35' West of Station 400' and 25' North of South Slope.
3	60' West of Station 500' and 40' North of South Slope.
4	80' West of Station 600' and 5' North of South Slope.
5	25' West of Station 900' and 10' North of South Slope.
6	35' West of Station 800' and 30' North of South Slope.

NOTES: DENSITIES SHOWN (dry) are based on
WATER CONTENT (%) and dry weight
PERCENT COMPACTION. Based on maximum dry
density obtained on samples collected by
SI 10-8-87

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
H THE COMPACTION REQUIRED IS
C TEST IS AFTER RFF COMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 14, 1987

OUR REPORT NO 311-70065-29

Page 3 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	DEPTH	MOISTURE (%)	WET UNIT WEIGHT (lb/cu ft)	WATER CONTENT (%)	PERCENT COMPACTION (%)	PERCENT COMPACTION (%)	COMMENT*
7	08-14-87	Grade	22	82.6	37.1	82.7	100.1	1 - A
8	08-14-87	1st Lift	22	82.6	38.4	82.0	99.2	1 - A
9	08-14-87	1st Lift	22	82.6	36.7	82.3	99.6	1 - A
10	08-14-87	2nd Lift	22	82.6	36.3	81.5	98.4	1 - A
11	08-14-87	2nd Lift	22	82.6	36.1	83.0	100.4	1 - A
12	08-14-87	Final	22	82.6	35.9	83.0	100.4	1 - A

TEST LOCATION: POND FLOOR (STATION 700'-900')

7	20' West of station 700' and 20' North of South Slope.
8	40' West of Station 700' and 35' North of South Slope.
9	60' West of Station 800' and 5' North of South Slope.
10	30' West of Station 700' and 15' North of South Slope.
11	20' West of Station 800' and 20' North of South Slope.
12	70' West of Station 800' and 40' North of South Slope.

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT - Per Cent of dry weight
PERCENT COMPACTION - Based on maximum dry density obtained on sample indicated by test number

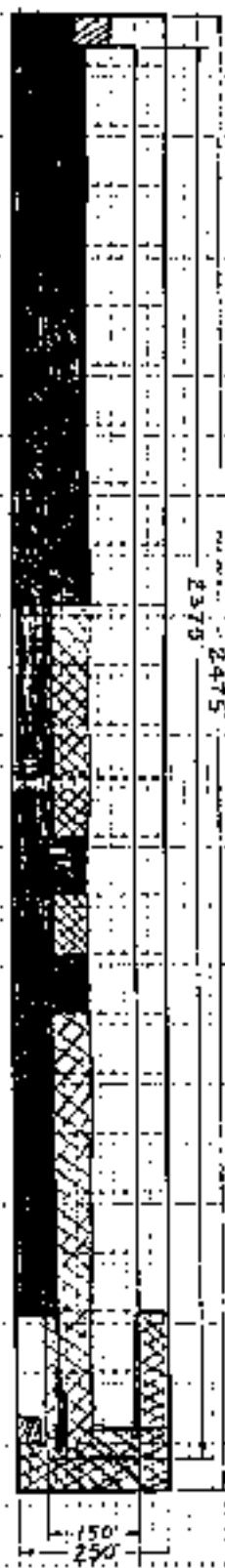
- * 1 - FILL WATER A1
- 2 - BACKFILL
- 3 - BASE COURSE
- 4 - SUBBASE
- 5 - SOIL CEMENT
- 6 - OTHER

A - TEST RESULTS COMPLY WITH SPECIFICATIONS
B - RECOMPACTION REQUIRED
C - *LIST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

2475
2400
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2100
2000
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1800
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1300
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1000
900
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500
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100
000



DATE 8-14-81
JMS:LT

JA. ASH POND LINER RECONSTRUCTION
SINOBETON
SCALE 1" = 200'



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil
 Post Office Box 280 Testing
 Jourdanon, Texas 78026 P.O. #26643-032108
 ATTENTION: Mr. Clyde Price

DATE August 13, 1987 OUR REPORT NO 311-70065-28 Page 1 of 3

REMARKS: Weather: Sunny & Clear
 Temperature Range: 95° to 100°
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|--------------------------------|-------------------------|
| 1. (2) 637D Scrapers | 5. (1) 120G CAT. Grader |
| 2. (1) Liebherr Bulldozer | 6. (1) CAT. Spray King |
| 3. (1) D8 CAT. Dozer | 7. (1) Water Truck |
| 4. (1) D6 CAT. Dozer with Rake | 8. Discing Equipment |

V.K. Knowlton started at 7:00 a.m. V.K. Knowlton worked on the East Slope and the Pond Floor at Stations 400', 1500', 1000', 900', 300', and 500'-700'. Seepage is apparent once again on the Pond Floor at the S.E. corner, from Station 100'-600'. V.K. Knowlton will attempt to seal it off again. A total of twelve (12) in-place field density tests were taken today. V.K. Knowlton finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing
 Laboratory Division)

cc: (2) Above
 /dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 13, 1987

OUR REPORT NO 311-70065-28

Page 2 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LIFT	SOIL NO. NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	FIELD TEST DENSITY	PERCENT COMPACTION	COMMENTS*
1	08-13-87	1st Lift	22	82.6	36.0	80.3	97.2	1 - A
2	08-13-87	1st Lift	22	82.6	36.1	80.5	97.5	1 - A
3	08-13-87	2nd Lift	22	82.6	37.2	79.8	96.6	1 - A
4	08-13-87	2nd Lift	22	82.6	37.7	80.2	97.0	1 - A
5	08-13-87	Final	22	82.6	36.9	81.8	99.0	1 - A
6	08-13-87	Final	22	82.6	36.3	82.5	99.8	1 - A

TEST LOCATION: EAST SLOPE, POND FLOOR (STATIONS 400', 1000', and 1500')

1	20' South of N.E. Corner and 20' from Bottom of Slope. (Station 0-100', East Slope)
2	20' North of S.E. Corner and 35' from Bottom of Slope. (Station 0-100', East Slope)
3	40' West of Station 400' and 20' North from Toe of South Slope.
4	60' West of Station 1500' and 20' North from Toe of South Slope.
5	35' West of Station 1500' and 15' North from Toe of South Slope.
6	25' West of station 1000' and 10' North from Toe of South Slope.

NOTES: DENSITY IS SHOWN LAST IN EACH LINE.
WATER CONTENT: Per Cent of dry weight.
PERCENT COMPACTION: Based on maximum dry density obtained for sample obtained by
1 - 0.075" sieve

* 1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER
A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 13, 1987

OUR REPORT NO 311-70065-28

Page 3 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	LIFT	WATER CONTENT (%)	DENSITY (lb/cu ft)	WATER CONTENT (%)	PERCENT COMPACTION	REMARKS	
7	08-13-87	1st Lift	22	82.6	36.3	81.8	99.0	1 - A
8	08-13-87	1st Lift	22	82.6	37.1	82.8	100.2	1 - A
9	08-13-87	1st Lift	22	82.6	37.6	80.3	97.2	1 - A
10	08-13-87	1st lift	22	82.6	37.2	80.5	97.4	1 - A
11	08-13-87	Grade	22	82.6	38.2	80.3	97.2	1 - A
12	08-13-87	1st Lift	22	82.6	38.1	81.0	98.0	1 - A

TEST LOCATION: POND FLOOR (STATION 300'-700') (STATION 900')

7	20' West of station 300' and 20' North from Toe of South Slope.
8	40' West of station 400' and 30' North from Toe of South Slope.
9	60' West of Station 500' and 35' North from Toe of South Slope.
10	30' West of station 600' and 10' North from Toe of South Slope.
11	20' West of station 900' and 15' North from Toe of South Slope.
12	70' West of station 900' and 20' North from Toe of South Slope.

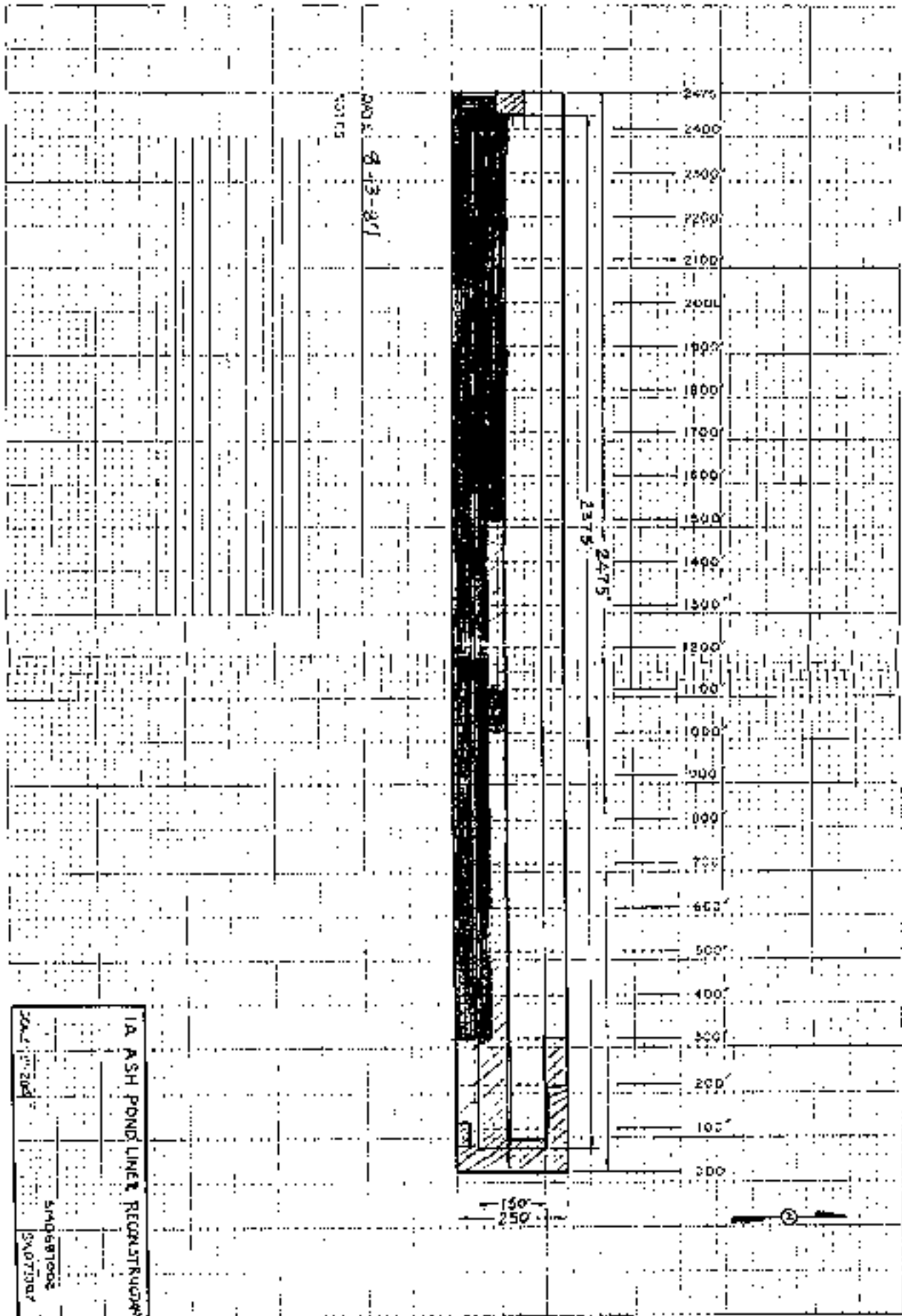
NOTES: DENSITIES SHOWN: lbs per cubic foot
WATER CONTENT: Per Cent - Dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test data

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
U RECOMPACTION REQUIRED
C RETEST AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. #26643-032108

DATE August 12, 1987

OUR REPORT NO 311-70065-27

Page 1 of 2

REMARKS:

Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|---------------------------|-------------------------|
| 1. (2) 637D Scrapers | 5. (1) 120G CAT. Grader |
| 2. (1) Liebherr Bulldozer | 6. (1) CAT. Spray King |
| 3. (1) D8 CAT. Dozer | 7. (1) Water Truck |
| 4. (1) D6 CAT. Dozer | 8. Discing Equipment |

V.K. Knowlton started working at 7:00 a.m. today. The areas worked include Station 1200'-1700', Station 300'-700', and the East Slope. A total of six (6) in-place field densities tests were taken today. V.K. Knowlton finished work at 6:00 p.m.

If there are any question concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing
P.O. 426643-032108

DATE August 12, 1987

CONTRACT NO 311-70065-27

Page 2 of 2

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	DEPTH	TEST NUMBER	MAXIMUM DRY DENSITY	WATER CONTENT	RELATIVE DENSITY	PERCENT COMPACTION	COMMENTS
1	08-12-87	Grade	22	82.6	36.0	81.8	99.0	1 - A
2	08-12-87	Grade	22	82.6	37.2	79.8	96.6	1 - A
3	08-12-87	Grade	22	82.6	36.4	81.0	98.0	1 - A
4	08-12-87	Grade	22	82.6	36.2	79.3	96.0	1 - A
5	08-12-87	Grade	22	82.6	36.4	79.5	96.2	1 - A
6	08-12-87	Grade	22	82.6	36.0	81.3	98.4	1 - A

TEST LOCATION: EAST SLOPE, STATION 0-100'; POND FLOOR, STATION 300'-700'

1	20' South of the N.E. Corner in Station 0-100' and 20' from Bottom of Slope.
2	25' North of the S.E. Corner in Station 0-100' and 30' from Bottom of Slope.
3	20' West of Station 300' and 20' North from the Toe of the South Slope.
4	45' West of Station 400' and 25' North from the Toe of the South Slope.
5	65' West of Station 500' and 5' North from the Toe of the South Slope.
6	30' West of Station 600' and 10' North from the Toe of the South Slope.

NOTES: DENSITY SHOWN IS IN PERCENT OF THE
WATER CONTENT PER CENT OF DRY WEIGHT
PERCENT COMPACTION Based on maximum dry
density obtained per sample and by
METHOD used.

1 FILL MATERIAL
2 BAKED CL
3 BASE COURSE
4 SURFACE
5 SOIL CLINELY
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully Submitted,
Professional Service Industries, Inc

DATE

8-10-67

NOTES

Asph Sealing
used today

Asph Sealing
used today



ASPH PONDLINE RECORD

DATE	8-10-67
NOTES	Asph Sealing used today
ASPH PONDLINE RECORD	



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

IA Ash Pond Soil Testing
 P.O. #26643-032108

DATE August 11, 1987 OUR REPORT NO 311-70065-25 Page 1 of 2

REMARKS: Weather: Sunny and Clear
 Temperature Range: 95° to 100°
 Inspector: G. Quintanilla
 Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

- | | |
|--------------------------------|-------------------------|
| 1. (2) 6370 Scrapers | 5. (1) 120G CAT. Grader |
| 2. (1) Liebherr Bulldozer | 6. (1) CAT. Spray King |
| 3. (1) D8 CAT. Dozer | 7. (1) Water Truck |
| 4. (1) D6 CAT. Dozer with Rake | 8. Discing Equipment |

V.K. Knowlton started at 7:00 a.m. today. Station 1000' was worked. The subgrade and the 1st Lift were completed in this area. V.K. Knowlton also concentrated work on trouble spots where standing water was found. Reworking of the south slope from station 1100'-2400' at the toe of the slope was also done today. V.K. Knowlton is attempting to repair seepage spots and tie into the pond bottom before using the alternative of weep holes. A total of three (3) densities were taken today. V.K. Knowlton stopped working at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing Laboratory Division) *ck*

cc: (2) Above
 /dd

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **SAN MIGUEL ELECTRIC COOPERATIVE, INC** PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE: **August 11, 1987** OUR REPORT NO: **311-70065-25** Page 2 of 2

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	DEPTH (FT)	SOIL NO	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	COMMENT
1	08-11-87	Grade	22	82.6	36.5	81.3	98.4	1 - A
2	08-11-87	1st Lift	22	82.6	36.1	83.0	100.4	1 - A
3	08-11-87	2nd Lift	22	82.6	36.5	82.8	100.2	1 - A

TEST LOCATION:

1	30' West of Station 1000' and 10' North from Toe of South Slope.
2	45' West of Station 1000' and 20' North from Toe of South Slope.
3	55' West of Station 1000' and 30' North from Toe of South Slope.

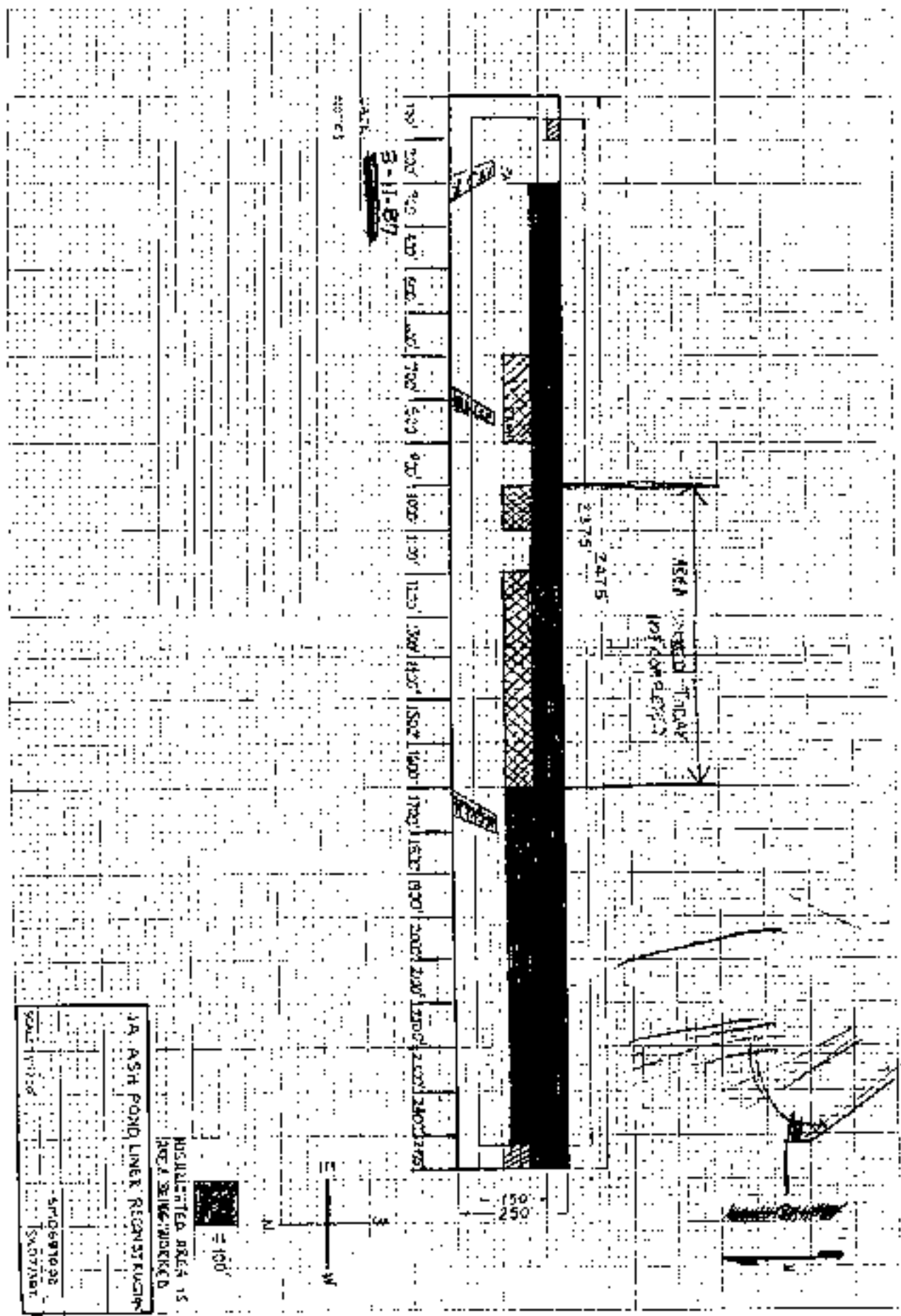
NOTES: DENSITIES SHOWN (lbs./cu.ft.) based on
 WATER CONTENT Per Generaly weight
 PERCENT COMPACTION Based on maximum dry
 density obtained in compaction test
 soil 22 number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
 Professional Service Industries, Inc.





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 10, 1987

OUR REPORT NO 311-70065-24

Page 1 of 3

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 96°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Work was concentrated on the pond floor, between Station 1200'-2400'. Trouble spots where heavy concentration of water is encountered, are areas being worked. V.K. Knowlton has removed 3' of material in these areas and they are attempting to seal heavy water spots by replacing sandy material with good clay. A total of 12 densities were taken today. V.K. Knowlton began work at 7:00 a.m. and finished at 6:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. (PROJ) 01
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 10, 1987

CUR REPORT NO: 311-70065-24

Page 2 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LAYER	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY (PCF)	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY (PCF)	PERCENT COMPACTION	REMARKS*
1	08-10-87	Grade	22	82.6	36.1	83.0	100.4	I - A
2	08-10-87	Grade	22	82.6	37.3	82.3	99.6	I - A
3	08-10-87	Grade	22	82.6	36.9	81.8	99.0	I - A
	08-10-87	Grade	22	82.6	36.3	83.3	100.8	I - A
5	08-10-87	Final	22	82.6	36.0	82.5	99.8	I - A
6	08-10-87	2nd Lift	22	82.6	36.1	81.8	99.0	I - A, C

TEST LOCATION: POND FLOOR (1200'-1600')

1	20' West of Station 1200' and 10' North from Toe of South Slope.
2	30' West of Station 1300' and 15' North from Toe of South Slope.
3	45' West of Station 1400' and 25' North from Toe of South Slope.
4	55' West of Station 1500' and 20' North from Toe of South Slope.
5	60' West of Station 1600' and 5' North from Toe of South Slope.
6	Retest of Test #7 of Report 08-07-87 in Station 2200'.

NOTES: DENSITY SHOWS THE PERCENTAGE TEST
WATER CONTENT THE PERCENTAGE WET
PERCENT COMPACTION Based on maximum dry
density obtained on sample under field
conditions

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 SAND COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 10, 1987

OUR REPORT NO: 311-70065-24

Page 3 of 3

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	TYPE	WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	WATER CONTENT (%)	FIELD DRY DENSITY (PCF)	PERCENT COMPACTION	COMMENT *
7	08-10-87	Final	22	82.6	36.5	81.3	98.4	1 - A
8	08-10-87	Final	22	82.6	36.1	81.5	98.6	1 - A
9	08-10-87	Final	22	82.6	36.4	81.0	98.0	1 - A
10	08-10-87	Final	22	82.6	36.5	81.5	98.6	1 - A
11	08-10-87	Final	22	82.6	37.2	80.5	97.4	1 - A
12	08-10-87	1st Lift	22	82.6	36.5	82.8	100.2	1 - A

TEST LOCATION: POND FLOOR (STATION 2000'-2400') (STATION 1600')

7	30' West of Station 2000' and 20' North from Toe of South Slope.
8	60' West of Station 2100' and 30' North from Toe of South Slope.
9	50' West of station 2200' and 15' North from Toe of South Slope.
10	35' West of Station 2300' and 10' North from Toe of South Slope.
11	10' West of station 2400' and 5' North from Toe of South Slope.
12	20' West of Station 1600' and 10' North from Toe of South Slope.

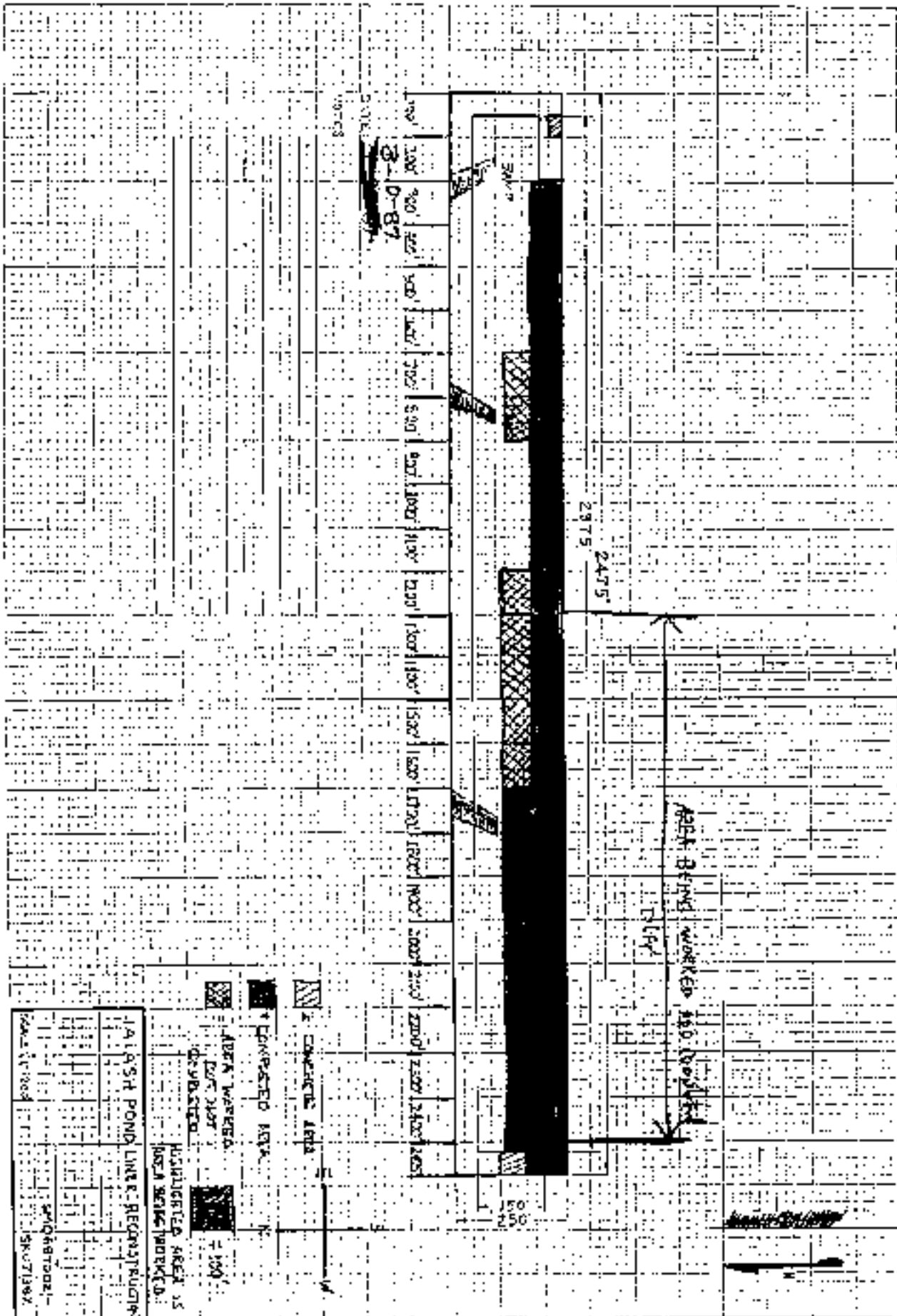
NOTES: DENSITIES SHOWN ON REPORT ARE:
WATER CONTENT: PERCENT BY WEIGHT
PERCENT COMPACTION: Based on maximum dry density obtained in standard compaction test.

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A: TEST RESULTS COMPLY WITH SPECIFICATIONS
- B: RECOMPACTION REQUIRED
- C: TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc



LINE
1000'
900'
800'
700'
600'
500'
400'
300'
200'

2875'
2475'

AREA BEING WORKED
100' DEPTH

AREA	SYMBOL	DESCRIPTION
CONCRETE AREA	[Cross-hatched box]	CONCRETE AREA
COMPACTED AREA	[Solid black box]	COMPACTED AREA
AREA TO BE WORKED	[Diagonal lines box]	AREA TO BE WORKED
HIGHLIGHTED AREA IS	[Dotted box]	HIGHLIGHTED AREA IS
AREA BEING WORKED	[Dotted box]	AREA BEING WORKED

J.A. POND LINER RECONSTRUCTION
 100' DEPTH
 100' DEPTH
 100' DEPTH
 100' DEPTH



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 7, 1987

OUR REPORT NO

311-70065-21

Page 1 of 4

REMARKS:

Weather: Sunny & Clear
Temperature Range: 90° to 100°
Inspector: G. Quintanilla
Type of Inspection: Soils, Controlled Fill (Compaction)

Brief summary of work accomplished today:

The area at Station 300' on the South Slope was worked and completed. The pond floor between Station 1700' and 2100' was also completed today. Thirteen (13) density tests were performed today. V.K. Knowlton worked from 7:00 a.m. to 6:00 p.m. Results of tests performed on samples of soil from the South Slope are enclosed for your review.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 7, 1987

OUR REPORT NO 311-79065-21

Page 2 of 4

TEST DATA- Optimum moisture: (5, 28.2)

TEST NO.	DATE	DEPTH	NO. OF BLOWNS	MOISTURE ABST. CONTENT	WATER CONTENT	AIR DRY UNIT WT.	PERCENT COMPACTION	COMMENTS
1	08-07-87	Grade	5	86.8	31.5	84.8	97.6	1 - A
2	08-07-87	1st Lift	5	86.8	32.3	85.0	97.9	1 - A
3	08-07-87	2nd Lift	5	86.8	31.3	84.5	97.3	1 - A
4	08-07-87	Final	5	86.8	33.5	84.3	97.1	1 - A

TEST LOCATION: SOUTH SLOPE, STATION 300' (100' SECTION).

1	30' West of Station 300' and 15' from Bottom of Slope.
2	50' West of Station 300' and 25' from Top of Slope.
3	75' West of Station 300' and 40' from Bottom of Slope.
4	15' West of Station 300' and 10' from Bottom of Slope.

NOTES: DENSITY'S SHOWN IN % OF THEORETICAL DENSITY.
WATER CONTENT: Per Cent of dry weight.
PERCENT COMPACTION: Based on maximum dry density obtained in laboratory test of same soil.

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TESTS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT:
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 7, 1987

OUR REPORT NO: 311-70065-21

Page 3 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO.	DATE	LIFT / DEPTH	NO. OF TAMPERS	MEAN TO BEAST DENSITY	WATER CONTENT	W. P. (%)	PERCENT COMPACTION	COMMENT
1	08-07-87	2nd Lift	22	82.6	36.2	79.3	96.0	1 - A
2	08-07-87	Final	22	82.6	35.7	79.2	95.8	1 - A
3	08-07-87	Final	22	82.6	36.4	79.5	96.2	1 - A
4	08-07-87	Final	22	82.6	36.9	78.5	95.0	1 - A
5	08-07-87	2nd Lift	22	82.6	35.0	80.0	96.8	1 - A
6	08-07-87	2nd Lift	22	82.6	36.8	79.3	96.0	1 - A

TEST LOCATION: POND FLOOR STATION 1600'-2400' (800' SECTION)

1	20' West of Station 1600' and 20' North from Toe of South Slope.
2	30' West of Station 1700' and 15' North from Toe of South Slope.
3	40' West of Station 1800' and 20' North from Toe of South Slope.
4	60' West of Station 1900' and 5' North from Toe of South Slope.
5	75' West of Station 2000' and 30' North from Toe of South Slope.
6	15' West of Station 2100' and 10' North from Toe of South Slope.

NOTES: DENSITIES SHOWN IN THIS REPORT ARE
WATER CONTENT PERCENTAGE IS
PERCENT COMPACTION. Based on maximum dry
density obtained in laboratory tests.

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RE-COMPACTION REQUIRED
- C. TEST IS AFTER RE-COMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 7, 1987

OUR REPORT NO: 311-70065-21

Page 4 of 4

TEST DATA: Optimum moisture: (22, 33.0)

TEST NO	DATE	LIFT	WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	WATER CONTENT (%)	PERCENT COMPACTION	COMMENT*	
7	08-07-87	2nd Lift	22	82.6	34.3	80.0	96.8	1 - A
8	08-07-87	2nd Lift	22	82.6	35.0	80.0	96.8	1 - A
9	08-07-87	2nd Lift	22	82.6	36.9	78.5	95.0	1 - A

TEST LOCATION:

7	30' West of Station 2200' and 20' North from the Toe of the South Slope.
8	55' West of Station 2300' and 10' North from the Toe of the South Slope.
9	85' West of Station 2400' and 35' North from the Toe of the South Slope.

NOTES: DENSITIES SHOWN: Dry, per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained in compaction test by ASTM Method

- 1. FILL MATERIAL
 - 2. BACKFILL
 - 3. BASE COURSE
 - 4. SUBBASE
 - 5. SOIL CEMENT
 - 6. OTHER
- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
 - B. 90% COMPACTION REQUIRED
 - C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. Project
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

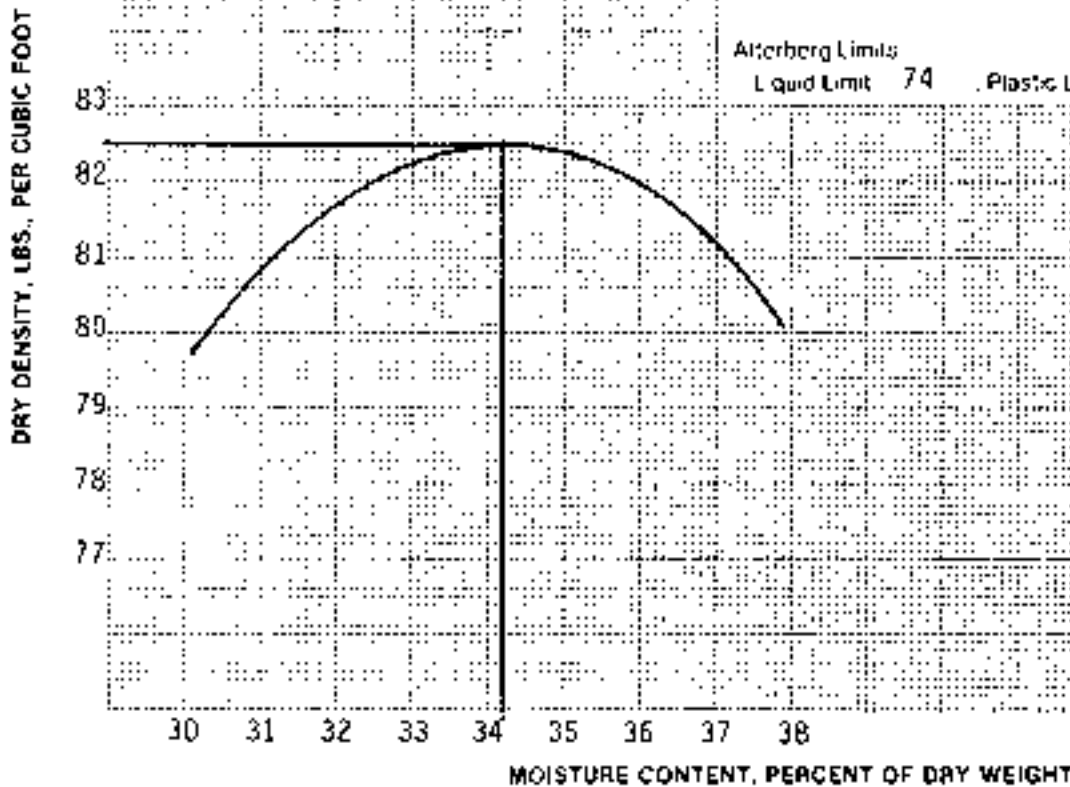
1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE August 7, 1987

OUR REPORT NO 311-70065-23

TEST DATA

Visual Classification Reddish tan clay with some sand
 Sample Source Bottom of the South Slope at Stations 1900'-2100'
 Method of Test ASTM D-698
 Test Results
 Maximum Dry Density 82.5 lbs./ft.³
 Optimum Moisture Content 34.2 %
 Atterberg Limits
 Liquid Limit 74 Plastic Limit 37 PI 37



cc: (2) Above
 /dd

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 6, 1987

OUR REPORT NO. 311-70065-20

Page 1 of 5

REMARKS:

Weather: Sunny & Clear
Temperature Range: 95° to 100°
Inspector: G. Quintanilla
Type of Inspection: Soils, Controlled Fill (Compaction)

Brief Resume* of Work Accomplished on This Day:

Equipment Used:

- | | |
|---------------------------|----------------------|
| 1. (2) 637D Scrapers | 5. (1) Water Truck |
| 2. (1) Liebherr Bulldozer | 6. (1) Spray King |
| 3. (1) D8 Dozer | 7. Discing Equipment |
| 4. (1) D6 Dozer with Rake | |

V.K. Knowlton worked on the South Slope, Station 400'-600' and the Pond Floor, Station 1600'-2400'. The South Slope, Station 400'-600' was completed and Pond Floor section will be completed tomorrow. A total of 17 compaction tests were taken and comply with the project specifications. Equipment used today is listed above. V.K. Knowlton started work at 7:00 a.m. and finished at 6:30 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division) *AK*

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 6, 1987

OUR REPORT NO 311-70065-20

Page 2 of 5

TEST DATA: Optimum moisture: {5, 28.2}

TEST NO	DATE	DEPTH	NO. SAMPLES	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	WET PLACE UNIT WEIGHT (pcf)	PERCENT COMPACTION	COMMENTS
1	08-06-87	Grade	5	86.8	31.4	83.7	96.4	1 - A
2	08-06-87	Grade	5	86.8	30.6	84.3	97.1	1 - A
3	08-06-87	1st Lift	5	86.8	30.7	85.7	98.7	1 - A
4	08-06-87	1st Lift	5	86.8	32.5	83.8	96.5	1 - A
5	08-06-87	2nd Lift	5	86.8	35.1	82.5	95.0	1 - A
6	08-06-87	2nd Lift	5	86.8	33.5	85.0	97.9	1 - A

TEST LOCATION:

1	40' West of Station 400' and 20' from Bottom of Slope.
2	60' West of Station 500' and 40' from Top of Slope.
3	20' West of Station 400' and 40' from Bottom of Slope.
4	75' West of Station 500' and 30' from Bottom of Slope.
5	10' West of Station 400' and 30' from Bottom of Slope.
6	40' West of Station 500' and 15' from Bottom of Slope.

NOTES: DENSITIES SHOWN ARE PROBABLY
WATER CONTENT BASED ON WET WEIGHT
PERCENT COMPACTION BASED ON PROBABLY
DENSITY OF 100 pcf and 28% moisture
CONTENT

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE: August 6, 1987

OUR REPORT NO: 311-70065-20

Page 3 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	TYPE	NO. OF SAMPLES	WET WEIGHT (LBS)	WATER CONTENT (%)	IN PLACE DRY DENSITY (PCF)	PERCENT COMPACTION	COMMENTS*
7	08-06-87	Final	5	86.8	33.1	85.3	98.2	1 - A
8	08-06-87	Final	5	86.8	31.8	85.2	98.1	1 - A

TEST LOCATION: SOUTH SLOPE (400'-600') (200' SECTION)

7	75' West of Station 400' and 15' from Top of Slope.
8	80' West of station 500' and 50' from Bottom of Slope.

NOTES: DENSITIES SHOWN (LBS per cubic foot)
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained by sample indicated by test number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
 Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Courdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 6, 1987

OUR REPORT NO: 311-70065-20

Page 4 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	LIFT	NO. OF SAMPLES	WATER CONTENT (%)	WATER CONTENT (%)	MOISTURE CORRECTED DENSITY	PERCENT COMPACTION	COMMENTS
1	08-06-87	2nd Lift	5	86.8	34.1	85.0	98.0	1 - A
2	08-06-87	2nd Lift	5	86.8	34.7	84.2	97.3	1 - A
3	08-06-87	2nd Lift	5	86.8	33.9	84.7	97.5	1 - A
4	08-06-87	1st Lift	5	86.8	32.7	84.8	97.6	1 - A
5	08-06-87	1st Lift	5	86.8	31.1	85.1	98.0	1 - A
6	08-06-87	1st Lift	5	86.8	33.9	84.8	97.6	1 - A

TEST LOCATION: POND FLOOR STATION 1700'-2400' (700' SECTION)

1	25' West of Station 1700' and 20' North from toe of South Slope.
2	40' West of Station 1800' and 15' North from Toe of South Slope.
3	55' West of Station 1900' and 25' North from Toe of South Slope.
4	30' West of Station 2000' and 5' North from Toe of South Slope.
5	70' West of Station 2100' and 10' North from Toe of South Slope.
6	60' West of station 2200' and 15' North from toe of South Slope.

NOTES: DENSITIES SHOWN IN POUNDS PER CUBIC FOOT
WATER CONTENT PERCENT BY WEIGHT
PERCENT COMPACTION Based on maximum dry density obtained in samples obtained by test number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Courdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 6, 1987

OUR REPORT NO: 311-70065-20

Page 5 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	LIFT	SOIL TYPE	WATER CONTENT (%)	DENSITY (lb/cu ft)	PERCENT COMPACTION	REMARKS
7	08-06-87	1st Lift	5	30.9	85.5	98.5	1 - A
8	08-06-87	1st Lift	5	32.9	85.8	98.8	1 - A
9	08-06-87	1st Lift	5	32.3	85.0	97.9	1 - A

TEST LOCATION:

7	20' West of Station 2300' and 5' North from toe of South Slope.
8	40' West of Station 2400' and 10' North from Toe of South Slope.
9	50' West of Station 1600' and 25' North from Toe of South Slope.

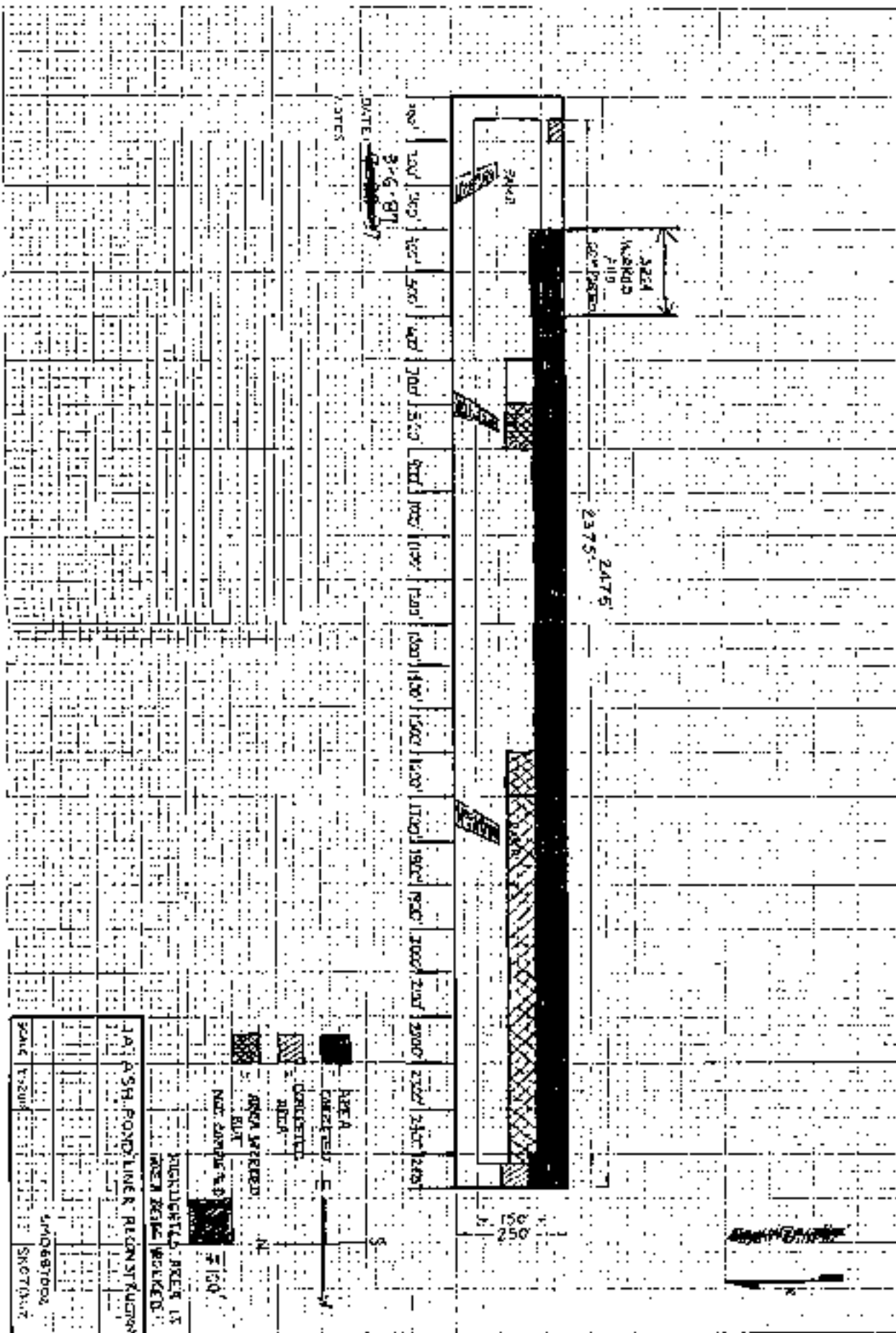
NOTES: DENSITIES SHOWN (lb. per cubic foot)
WATER CONTENT (Per Cent of dry weight)
PERCENT COMPACTION: Based on maximum dry density obtained on samples tested by ASTM D-1557

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTING AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



DATE: 11-1-57

SITES

1A) ASH POND LINER REINFORCING	
DATE	11-1-57
BY	AMC/STP/DA
SCALE	AS SHOWN

HIGHLIGHTED AREA IS BEEN REPAIRED

ASPH. PAPER

BLU

CONCRETE

GRAVEL

SAND



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC.** PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

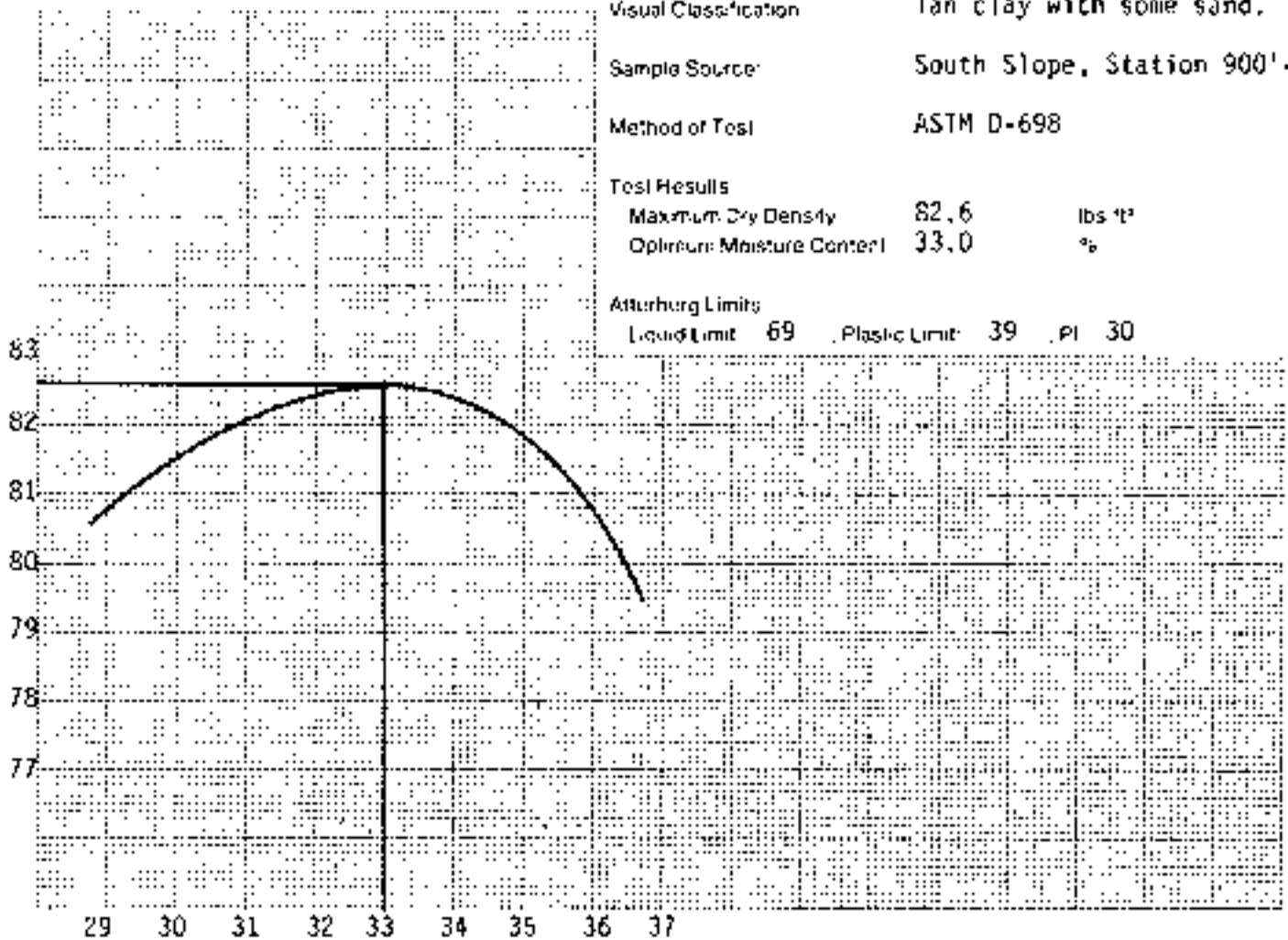
DATE August 6, 1987

DUH REPORT NO 311-70065-22

TEST DATA

Visual Classification Tan clay with some sand.
Sample Source South Slope, Station 900'-1300'
Method of Test ASTM D-698
Test Results
Maximum Dry Density 82.6 lbs/ft³
Optimum Moisture Content 33.0 %
Atterberg Limits
Liquid Limit 69 Plastic Limit 39 PI 30

DRY DENSITY, LBS., PER CUBIC FOOT



MOISTURE CONTENT, PERCENT OF DRY WEIGHT

cc: (2) Above
/dd

Respectfully submitted,
Professional Service Industries, Inc.

Handwritten initials



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil Testing
 Post Office Box 280 P.O. #26643-032108
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

DATE August 5, 1987 OUR REPORT NO 311-70065-19 Page 1 of 6

REMARKS:

Weather: Sunny & Clear

Temperature Range: 90° to 95°

Inspector: G Quintanilla

Equipment Used:

- | | |
|-------------------------------|------------------------|
| 1. (3) 637D Scrapers | 5. (1) CAT. Spray King |
| 2. (1) Liebherr Bulldozer | 6. (1) Water Truck |
| 3. (1) D8 CAT. Bulldozer | 7. Discing Equipment |
| 4. (1) D6 Bulldozer with Rake | |

V.K. Knowlton is working a 300' section of the slope and a 300' section of the pond floor. A total of 25 compaction tests were taken today. One (1) density test taken today was unacceptable due to a lack of moisture. A retest was taken in this area yielding a passing test. V.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m. The equipment used today is listed above.

Another small area with seepage was encountered today in Station 1500'. SMC wants V.K. Knowlton to finish slope and then note the trouble spots for discussion at a later date. Another thing that needs to be brought to the attention of V.K. Knowlton is an area in Station 1500'-1800' on the Pond Floor was worked and is being placed in a manner that does not comply with contract. Under General Notes #3 - fill must be placed in a manner which will result in a uniform clay fill with minimum permeability. Pictures were taken in this area to show the unevenness of the 1st lift. At 4:00 p.m. SMC, PSI, and V.K. Knowlton discussed and resolved the problem.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
 (Shilstone Engineering Testing
 Laboratory Division)

CRP



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 5, 1987

OUR REPORT NO: 311-70065-19

Page 2 of 6

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	TYPE	NO. OF TROUSERS	WATER CONTENT (%)	WATER CONTENT (%)	MOISTURE (%)	FIELD COMPACTION (%)	COMMENT*
1	08-05-87	Grade	5	86.8	30.9	84.0	96.7	1 - A
2	08-05-87	Grade	5	86.8	29.6	85.3	98.2	1 - E
3	08-05-87	Grade	5	86.8	31.5	84.7	97.5	1 - A
4	08-05-87	1st lift	5	86.8	30.6	85.7	98.7	1 - A
5	08-05-87	1st lift	5	86.8	31.3	84.5	97.3	1 - A
6	08-05-87	1st Lift	5	86.8	31.1	84.3	97.1	1 - A

TEST LOCATION: PGND FLOOR BETWEEN STATION 1700'-2000'

1	Station 1700'
2	Station 1800'
3	Station 1900'
4	Station 1700'
5	Station 1800'
6	Station 1900'

NOTES: TESTS SHOWN IN BOLD TYPE ARE AT OPTIMUM WATER CONTENT. The Control Sample Method of Compaction. Based on maximum dry density obtained from a Proctor test by the same method.

* 1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SURFACE
5. SOIL CEMENT
6. OTHER
A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AT 1% RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

IA Ash Pond Soil Testing
P.O. #26643-032108

DATE August 5, 1987

OUR REPORT NO 311-70065-19

Page 3 of 6

TEST DATA. Optimum moisture: {5, 28.2}

TEST NO	DATE	TYPE	SOIL NO.	MAXIMUM DRY UNIT WEIGHT	WATER CONTENT	WELFARE (%)	PERCENT COMPACTION	COMMENTS
7	08-05-87	Grade	5	86.8	31.9	84.5	97.3	1 - A
8	08-05-87	Grade	5	86.8	33.3	84.7	97.5	1 - A
9	08-05-87	Grade	5	86.8	32.3	85.0	97.9	1 - A
10	08-05-87	Grade	5	86.8	30.6	85.0	97.9	1 - A
11	08-05-87	Grade	5	86.8	30.8	86.0	99.0	1 - A
12	08-05-87	Grade	5	86.8	31.3	84.5	97.3	1 - A

TEST LOCATION: SOUTH SLOPE (STATION 600'-900') (300' SECTION/DAY)

7	85' West of Station 600' and 40' from Bottom of Slope.
8	20' West of Station 700' and 15' from Bottom of Slope.
9	10' West of Station 800' and 45' from Bottom of Slope.
10	15' West of Station 600' and 15' from Top of Slope.
11	35' West of Station 700' and 35' from Bottom of Slope.
12	25' West of Station 800' and 10' from Top of Slope.

NOTES: DENSITY SHOWN (lbs per cubic foot)
WATER CONTENT: PERCENT OF DRY WEIGHT
PERCENT COMPACTION: Based on maximum dry density obtained from test samples prepared by wet tamping

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 5, 1987

OUR REPORT NO: 311-70065-19

Page 4 of 6

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	TYPE OF SOIL	NO. OF TESTS	MAXIMUM DRY UNIT WEIGHT	WATER CONTENT (%)	FIELD MOISTURE (%)	PERCENT COMPACTION	COMMENT*
1	08-05-87	Grade	5	86.8	32.1	84.7	97.5	I - A,C

TEST LOCATION: SOUTH SLOPE (STATION 600'-900')

1	Retest of Test #2.							

NOTES: DENSITIES SHOWN IN THIS REPORT ARE
WATER CONTENT BY WEIGHT OF WET SOIL
PERCENT COMPACTION IS BASED ON MAXIMUM DRY
UNIT WEIGHT AND OPTIMUM MOISTURE CONTENT
DETERMINED BY

- * 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 5, 1987

OUR REPORT NO: 311-70065-19

Page 5 of 6

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	DEPTH	NO. SAMPLES	WATER CONTENT (%)	WATER CONTENT (%)	DENSITY (PCF)	PERCENT COMPACTION	COMMENT*
1	08-05-87	Grade	5	86.8	35.7	82.5	95.0	1 - A
2	08-05-87	Grade	5	86.8	32.1	85.5	98.5	1 - A
3	08-05-87	Grade	5	86.8	33.5	82.7	95.2	1 - A
4	08-05-87	1st Lift	5	86.8	32.5	84.5	97.3	1 - A
5	08-05-87	1st Lift	5	86.8	33.0	82.5	95.0	1 - A
6	08-05-87	1st Lift	5	86.8	34.1	82.7	95.2	1 - A

TEST LOCATION: POND FLOOR BETWEEN STATION 1700'-2000'.

1	35' West of Station 1500' and 15' North from Toe of South Slope.
2	40' West of Station 1600' and 25' North from Toe of South Slope.
3	55' West of station 1700' and 20' North from Toe of South Slope.
4	65' West of Station 1500' and 30' North from Toe of South Slope.
5	70' West of Station 1600' and 10' North from Toe of South Slope.
6	85' West of Station 1700' and 15' North from Toe of South Slope.

NOTES: DENSITIES SHOWN (pcf) are calculated.
WATER CONTENT: Per Cent Moisture weight.
PERCENT COMPACTION: Based on maximum dry density obtained on 1" mole indicated by soil number.

* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
R RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: August 5, 1987

OUR REPORT NO: 311-70065-19

Page 6 of 6

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	DEPTH	NO. OF BLOWS	PERCENT TAMPING EFFICIENCY	WATER CONTENT	WET UNIT DENSITY	PERCENT COMPACTION	GRADE/NOT
7	08-05-87	Grade	5	86.8	32.3	85.0	97.9	1 - A
8	08-05-87	Grade	5	86.8	32.5	85.3	98.2	1 - A
9	08-05-87	Grade	5	86.8	31.3	86.0	99.0	1 - A
10	08-05-87	Grade	5	86.8	32.9	85.0	97.9	1 - A
11	08-05-87	Grade	5	86.8	32.7	84.0	96.7	1 - A
12	08-05-87	Grade	5	86.8	33.3	84.0	96.7	1 - A

TEST LOCATION: POND FLOOR BETWEEN (STATION 2000'-2400'), (STATION 1600')

7	10' West of Station 2000' and 20' North from Toe of South Slope.
8	20' West of Station 2100' and 10' North from Toe of South Slope.
9	35' West of station 2200' and 5' North from Toe of South Slope.
10	15' West of Station 2300' and 5' North from Toe of South Slope.
11	35' West of station 2400' and 25' North from Toe of South Slope.
12	45' West of station 1600' and 20' North from Toe of South Slope.

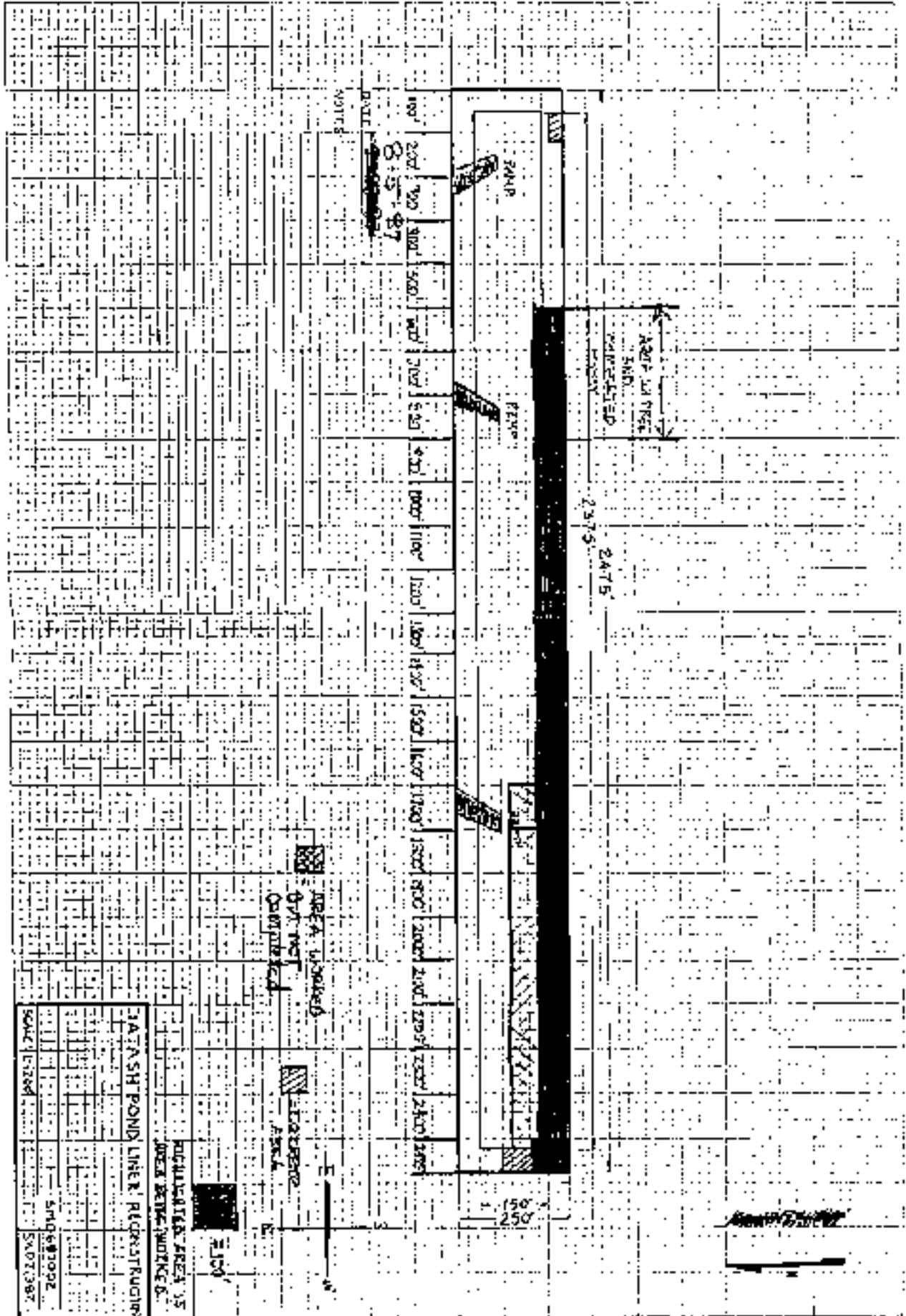
NOTES: DENSITIES SHOWN in parentheses
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on a test conducted by the contractor

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AT TERRACE COMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc



DATE: 8-5-87
 8-5-87

NOTES:

AREA WORKED
 GUT NET
 Completed

TRAVERSE
 Area

E
 N

REGULATED AREA 15
 AREA BEING MONITORED

TATASH POND LINER RESTORATION

SCALE: 1"=200'	5/10/88	5/10/88
DATE: 5/10/88	5/10/88	5/10/88
PROJECT: TATASH POND LINER RESTORATION	5/10/88	5/10/88
CLIENT: U.S. ARMY CORPS OF ENGINEERS	5/10/88	5/10/88
CONTRACT: W-33-1-1-1	5/10/88	5/10/88
DRAWN BY: J. L. ...	5/10/88	5/10/88
CHECKED BY: J. L. ...	5/10/88	5/10/88
DATE: 5/10/88	5/10/88	5/10/88
PROJECT: TATASH POND LINER RESTORATION	5/10/88	5/10/88
CLIENT: U.S. ARMY CORPS OF ENGINEERS	5/10/88	5/10/88
CONTRACT: W-33-1-1-1	5/10/88	5/10/88
DRAWN BY: J. L. ...	5/10/88	5/10/88
CHECKED BY: J. L. ...	5/10/88	5/10/88
DATE: 5/10/88	5/10/88	5/10/88



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 4, 1987

OUR REPORT NO 311-70065-18

Page 1 of 4

Weather: Sunny & Clear

Temperature Range: 85° to 90°

Inspector: G. Quintanilla

Equipment Used:

- | | |
|-----------------------|-------------------------|
| 1. (1) Liebherr Dozer | 5. (1) CAT. Spray King |
| 2. (1) D8 CAT. Dozer | 6. (1) Water Truck |
| 3. (1) D6 Dozer/Rake | 7. Discing Equipment |
| 4. (3) 637D Scrapers | 8. (1) CAT. 1206 Grader |

V.K. Knowlton completed Station 2200'-2475' and also Station 1200'. A total of 18 density tests were taken today and the results comply with the project specifications. No seepage has been encountered in any other areas besides the area between Station 900'-1100'. V.K. Knowlton has started using discing equipment on the bottom of the pond. They started working at 7:00 a.m. and stopped at 6:00 p.m.

V.K. Knowlton is starting to work a section on the bottom of the pond between Station 900'-1300'. After removing some material, a reddish, sandy clay was encountered and sampled for testing. At 3:00 p.m., it was recommended to the foreman representing V.K. Knowlton to use a sheepsfoot for compacting material on the bottom of the pond. The foreman did not agree to this method and used scrapers for compacting.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Gourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Pond Soil Testing
P.O. #26643-032108

DATE: August 4, 1987

OLH REPORT NO: 311-70065-18

Page 2 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	DEPTH	TEST NUMBER	WET UNIT WEIGHT (pcf)	WATER CONTENT (%)	MOISTURE CORRECTION (%)	PERCENT COMPACTION	COMMENTS*
1	08-04-87	Grade	5	86.8	35.5	82.3	95.0	1 - A
2	08-04-87	Grade	5	86.8	31.3	85.3	98.2	1 - A
3	08-04-87	Grade	5	86.8	32.3	84.8	97.6	1 - A
4	08-04-87	Grade	5	86.8	30.9	84.7	97.5	1 - A
5	08-04-87	1st Lift	5	86.8	31.1	83.5	96.1	1 - A
6	08-04-87	1st Lift	5	86.8	31.1	83.5	96.1	1 - A

TEST LOCATION: SOUTH SLOPE / S.W. CORNER OF SLOPE (375' Section) 2200'-2475'.

1	25' West of Station 2200' and 15' from Bottom of Slope.
2	40' West of Station 2300' and 35' from Bottom of Slope.
3	50' West of Station 2400' and 25' from Top of Slope.
4	10' North of Station 2475' and 35' from Top of Slope.
5	40' West of Station 2200' and 30' from Bottom of Slope.
6	15' West of Station 2300' and 20' from Top of Slope.

NOTE: DENSITIES SHOWN ARE PROBABLY FROM
DATA OBTAINED BY OTHER TESTS AND
FIELD COMPACTION RESULTS MAY VARY
SLIGHTLY FROM LABORATORY RESULTS.

- * 1. SUB-MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RE-COMPACTION REQUIRED
- C. TEST SAMPLE RE-COMPACTION

REMARKS:

cc: (2) Above

Respectfully submitted
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

LISTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 4, 1987

CUR REPORT NO 311-70065-18

Page 3 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	LIFT	DEPTH (IN)	WATER CONTENT (%)	WATER CONTENT (%)	IN PLACE UNIT WEIGHT (PCF)	PERCENT COMPACTION	COMMENT
7	08-04-87	1st Lift	5	86.8	31.3	84.5	97.3	1 - A
8	08-04-87	1st Lift	5	86.8	33.3	84.0	96.7	1 - A
9	08-04-87	2nd Lift	5	86.8	33.9	83.3	95.9	1 - A
10	08-04-87	2nd Lift	5	86.8	31.5	84.8	97.6	1 - A
11	08-04-87	2nd Lift	5	86.8	33.1	83.8	96.5	1 - A
12	08-04-87	2nd Lift	5	86.8	30.7	85.0	97.9	1 - A

TEST LOCATION: SOUTH SLOPE / S.W. CORNER OF SLOPE (375' Section) 2200'-2475'

7	65' West of Station 2400' and 10' from Bottom of Slope.
8	20' North of Station 2475' and 25' from Bottom of Slope.
9	60' West of Station 2200' and 30' from Top of Slope.
10	15' West of station 2300' and 40' from Top of Slope.
11	70' West of station 2400' and 20' from Bottom of Slope.
12	35' North of Station 2475' and 45' from Bottom of Slope.

NOTES: PERCENT MOISTURE: 1 lb. per cubic foot
WATER CONTENT: Per ASTM D 2230
PERCENT COMPACTION: Based on maximum dry density obtained from sample obtained by standard method

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT** 1A Ash Pond Soil Testing
Post Office Box 280
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE: August 4, 1987 OUR REPORT NO: 311-70065-18 Page 4 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	TYPE	NO. OF SAMPLES	WET UNIT WEIGHT	WATER CONTENT	MOISTURE CORRECTED DENSITY	PERCENT COMPACTION	COMMENT*
13	08-04-87	Final	5	86.8	30.9	83.3	95.9	1 - A
14	08-04-87	Final	5	86.8	31.3	83.8	96.5	1 - A
15	08-04-87	Final	5	86.8	30.7	83.8	96.5	1 - A
6	08-04-87	Final	5	86.8	32.5	83.7	96.4	1 - A
17	08-04-87	2nd Lift	5	86.8	31.7	84.3	97.1	1 - A
18	08-04-87	Final	5	86.8	34.5	83.2	95.8	1 - A

TEST LOCATION: SOUTH SLOPE / S.W. CORNER OF SLOPE (375' Section) (100' Section) 2200'-2475'

13	10' West of Station 2200' and 10' from Bottom of Slope.
14	30' West of Station 2300' and 20' from Bottom of Slope.
15	50' West of Station 2400' and 40' from Top of Slope.
16	40' North of Station 2475' and 35' from Bottom of Slope.
17	75' West of Station 1200' and 15' from Bottom of Slope.
18	65' West of Station 1200' and 30' from Bottom of Slope.

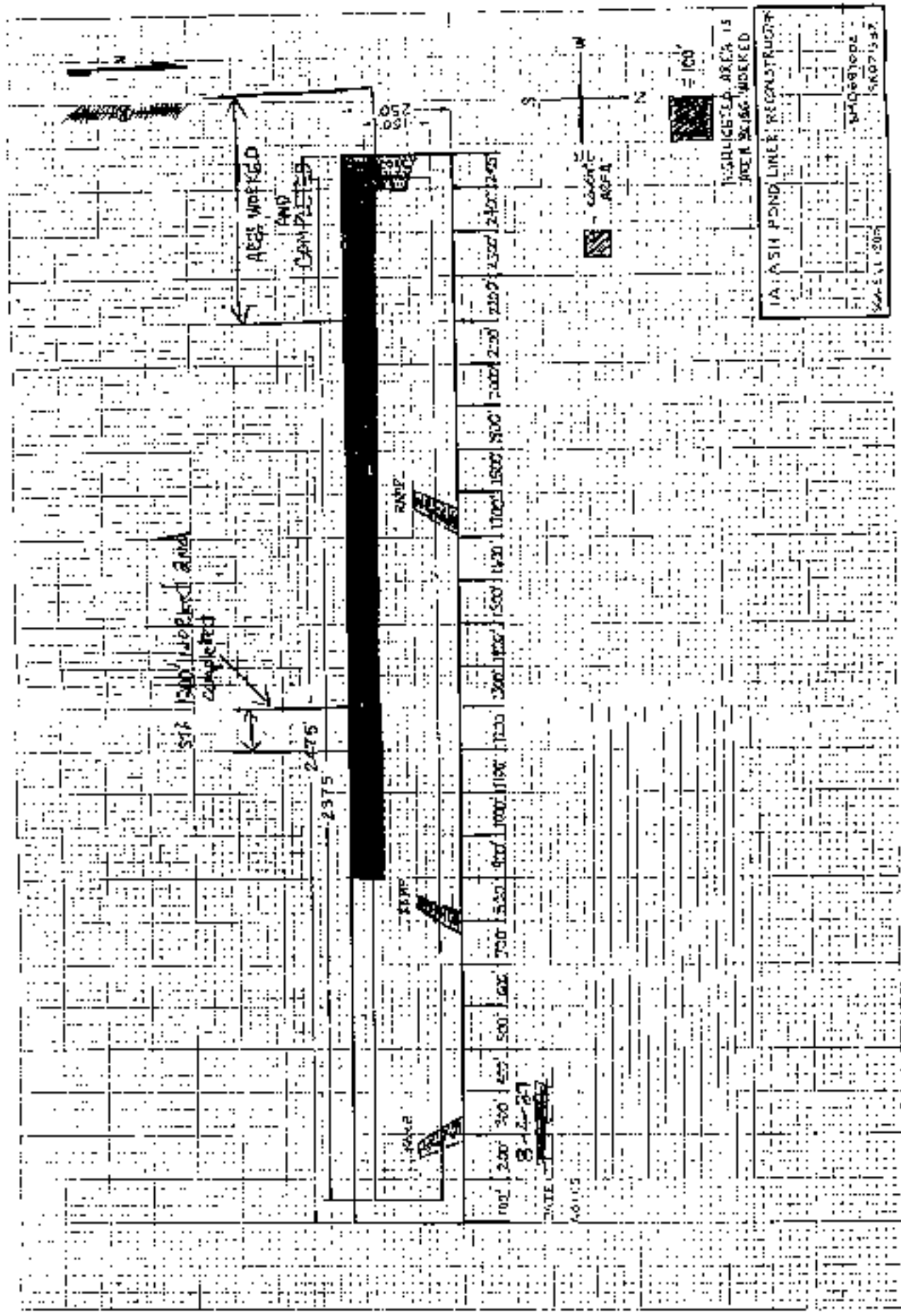
NOTES: DENSITIES SHOWN (lb./cu.ft.) are based on
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry
density obtained on sample indicated by
TEST NUMBER

- * 1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RE COMPACTION REQUIRED
C. TEST IS AFTER RE COMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc





Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A Ash Pond Soil Testing
Post Office Box 280
Jourdanton, Texas 78026 P.O. #26643-032108
ATTENTION: Mr. Clyde Price

DATE August 3, 1987 OUR REPORT NO 311-70065-17 Page 1 of 3

Weather Conditions: Sunny & Clear
Temperature Range: 85° to 90°
Inspector: G. Quintanilla

A 300' section, station 1900'-2100', on the south slope was worked and completed today. Twelve (12) density tests were taken with the results complying with the project specifications. Minimal seepage has been encountered in the area of stations 900'-1100'. The area of stations 1300'-2100' appears to be sealed. Due to a change in material, a sample for testing was collected in the area of stations 1900'-2100'.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 3, 1987

OUR REPORT NO 311-70065-17

Page 2 of 3

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	DEPTH	LIFT NUMBER	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	COMMENTS*
1	08-03-87	Grade	5	86.8	30.9	83.3	95.9	1 - A
2	08-03-87	Grade	5	86.8	30.8	86.0	99.0	1 - A
3	08-03-87	Grade	5	86.8	30.7	84.5	97.3	1 - A
4	08-03-87	1st Lift	5	86.8	30.8	84.5	97.3	1 - A
5	08-03-87	1st Lift	5	86.8	33.3	82.5	95.0	1 - A
6	08-03-87	1st Lift	5	86.8	32.9	84.3	97.1	1 - A

TEST LOCATION: SOUTH SLOPE 1900'-2100' (300' Section/Day)

1	35' West of station 1900' and 30' from Top of Slope.
2	45' West of Station 2000' and 25' from Bottom of Slope.
3	60' West of Station 2100' and 35' from Top of Slope.
4	65' West of Station 1900' and 20' from Bottom of Slope.
5	70' West of Station 2000' and 40' from Top of Slope.
6	20' West of Station 2100' and 25' from Bottom of Slope.

NOTES: DENSITIES SHOWN (dry per cu. yd.)
WATER CONTENT (Per Cent of dry weight)
PERCENT COMPACTION (Based on maximum dry density obtained in samples tested by
ID number)

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOI. CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST 5 AFTER RECOMPACTION

REMARKS:

cc: (2) Above

Respectfully submitted
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE August 3, 1987

OUR REPORT NO 311-70065-17

Page 3 of 3

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	LIFT / DEPTH	TEST NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENT
7	08-03-87	2nd Lift	5	86.8	31.1	83.5	96.1	1 - A
8	08-03-87	2nd Lift	5	86.8	30.9	85.5	98.5	1 - A
9	08-03-87	2nd Lift	5	86.8	32.7	84.0	96.7	1 - A
10	08-03-87	Final	5	86.8	30.7	86.5	99.6	1 - A
11	08-03-87	Final	5	86.8	31.7	82.8	95.3	1 - A
12	08-03-87	Final	5	86.8	30.9	83.3	95.9	1 - A

TEST LOCATION: SOUTH SLOPE 1900'-2100' (300' Section/Day)

7	20' West of Station 1900' and 35' from Top of Slope.
8	40' West of Station 2000' and 20' from Bottom of Slope.
9	50' West of Station 2100' and 40' from Top of Slope.
10	65' West of Station 1900' and 15' from Bottom of Slope.
11	15' West of Station 2000' and 30' fro Top of Slope.
12	10' West of station 2100' and 25' from Bottom of Slope.

NOTES: DENSITIES SHOWN: 100 per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on Sample #30-10-10-10 and 20-10-10-10

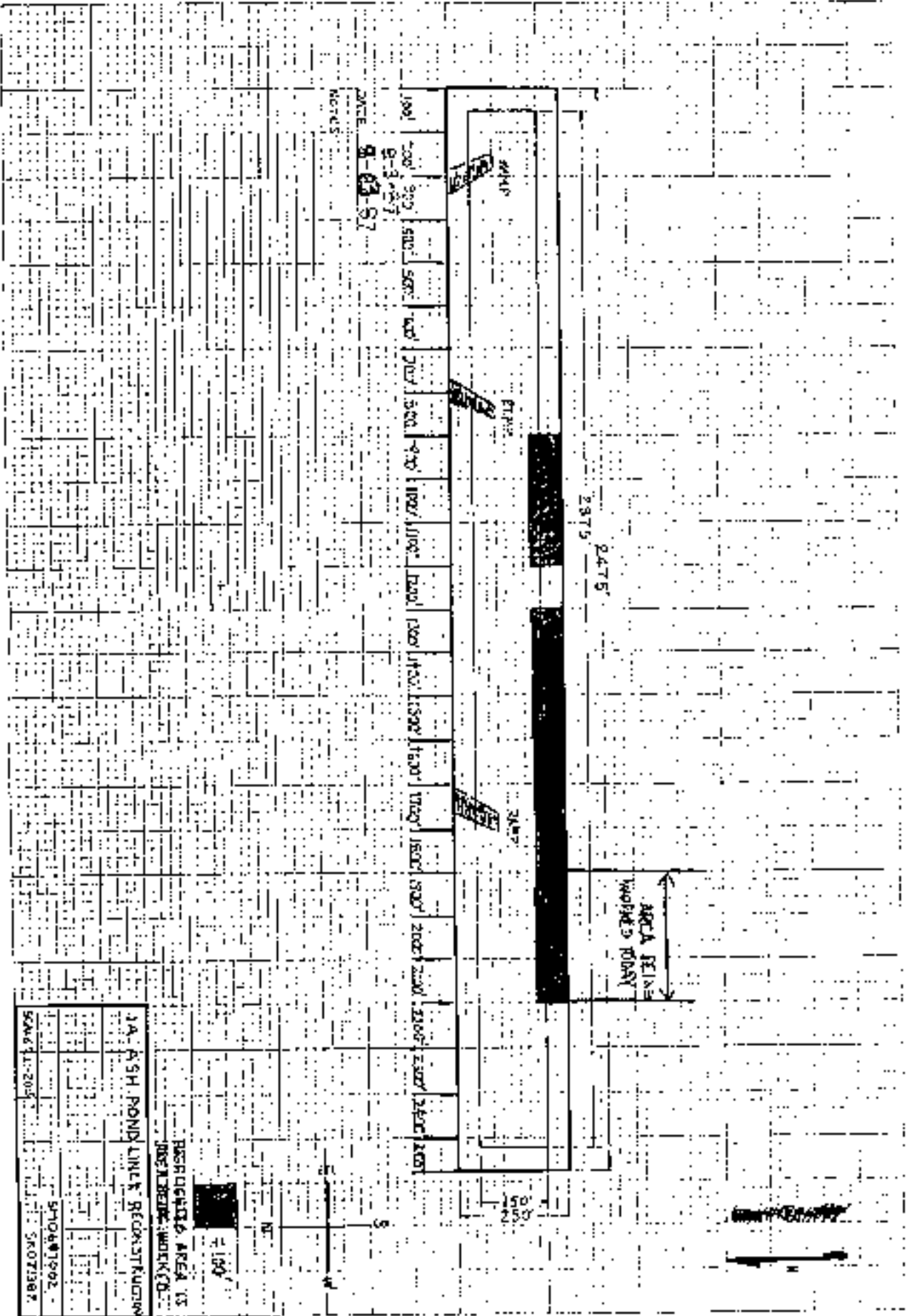
- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS

cc: (2) Above
/44

Respectfully submitted,
Professional Service Industries, Inc



506631-204	5106631902
506631-204	5073887



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, (INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 31, 1987

OUR REPORT NO 311-70065-16

Page 1 of 4

WEATHER Sunny & Clear
TEMPERATURE RANGE 90° TO 95°
INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	
<input type="checkbox"/> PLACEMENT (JOB SITE)	

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: The south slope, station 1,500'-1,800' was completed today. Seepage was encountered in a completed area on the south slope. At station 1,000' water has come through in an area approximately 15'-20' wide at the bottom of the slope. It appears to be coming through an area where the ash is concentrated past the 3' of material required to be worked. Overall, the rest of this section appears to be satisfactory. A total of 13 compaction tests were performed today.

/dd (2) Above

Respectfully submitted,
Professional Service Industries, Inc.

clj



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 31, 1987

OUR REPORT NO 311-70065-16

Page 2 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	TYPE	N. OF SAMPLES	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	PERCENT COMPACTION	REMARKS
1	07-31-87	Grade	5	86.8	30.8	86.0	99.0	1 - A
2	07-31-87	Grade	5	86.8	30.3	79.0	91.0	1 - B
3	07-31-87	Grade	5	86.8	30.6	86.8	100.0	1 - A
4	07-31-87	Grade	5	86.8	30.9	86.3	94.4	1 - A,C
5	07-31-87	1st Lift	5	86.8	32.5	85.3	98.2	1 - A
6	07-31-87	1st Lift	5	86.8	31.3	83.0	95.6	1 - A

TEST LOCATION: SOUTH SLOPE 1,600' - 1,800' (300' AREA/DAY).

1	20' West of Station 1,600' and 30' from Top of Slope.
2	35' West of Station 1,700' and 40' from Bottom of Slope.
3	45' West of Station 1,800' and 25' from Bottom of Slope.
4	Retest of Test #2.
5	35' West of Station 1,600' and 35' from Bottom of Slope.
6	40' West of Station 1,700' and 40' from Top of Slope.

NOTES: DENSITIES SHOWN IN % OF THE TEST
WATER CONTENT: For Core of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on same or similar soil by
ASTM Method

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 31, 1987

PLR REPORT NO 311-70065-16

Page 3 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	LIFT	DEPTH IN INCHES	WET DENSITY (LABORATORY DENSITY)	WATER CONTENT (%)	WET UNIT WEIGHT (PCF)	PERCENT COMPACTION (%)	COMMENT*
7	07-31-87	1st Lift	5	86.8	30.5	83.5	96.1	1 - A
8	07-31-87	2nd Lift	5	86.8	31.7	85.8	98.8	1 - A
9	07-31-87	2nd Lift	5	86.8	32.1	85.5	98.5	1 - A
10	07-31-87	2nd Lift	5	86.8	32.1	85.5	98.5	1 - A
11	07-31-87	Final	5	86.8	33.9	82.5	95.0	1 - A
12	07-31-87	Final	5	86.8	34.2	82.6	95.1	1 - A

TEST LOCATION: SOUTH SLOPE (1,600' - 1,800') 300' AREA/DAY.

7	50' West of Station 1,800' and 30' from Top of Slope.
8	65' West of Station 1,600' and 25' from Bottom of Slope.
9	70' West of Station 1,700' and 30' from Top of Slope.
10	15' West of Station 1,800' and 10' from Bottom of Slope.
11	80' West of Station 1,600' and 20' from Bottom of Slope.
12	50' West of Station 1,700' and 40' from Top of Slope.

NOTES: DENSITIES SHOWN ARE LABORATORY DENSITIES.
WATER CONTENT PERCENTAGE IS WEIGHT PERCENT.
PERCENT COMPACTION IS BASED ON PROPORTION OF
TEST MATERIAL TO THE COMPACTED MATERIAL.
* 1 - ALL MATERIAL

- 2 - BACKFILL
- 3 - BASE COURSE
- 4 - SUBBASE
- 5 - SOIL CEMENT
- 6 - OTHER

A - TEST RESULTS COMPLY WITH SPECIFICATIONS
B - NO COMPACTION REQUIRED
C - TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 31, 1987

OUR REPORT NO 311-70065-16

Page 4 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	TYPE	NO. OF TAPS	MAXIMUM DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
13	07-31-87	Final	5	86.8	33.5	82.8	95.3	1 - A

TEST LOCATION: SOUTH SLOPE (1,600'-1,800') 300' AREA/DAY.

13	35' West of Station 1,800' and 30' from Bottom of Slope.							

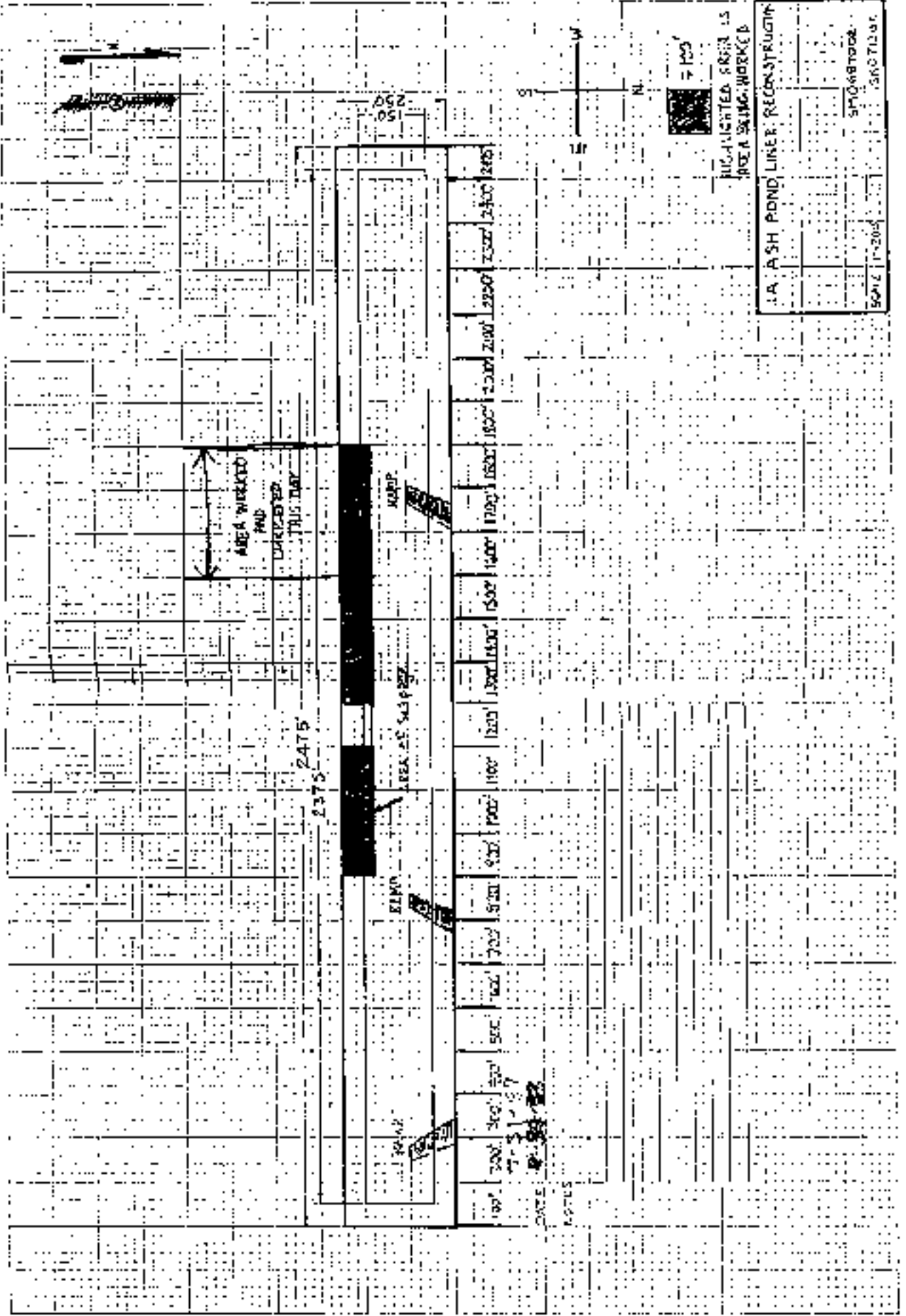
NOTES: DENSITY IS SHOWN (lbs. per cubic foot)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS

Respectfully submitted,
Professional Service Industries, Inc.



AREA TO BE RECONSTRUCTED
 AND
 DRAINAGE
 THIS DAY

2375
 2475

100'

300'

300'

500'

700'

900'

1000'

1100'

1200'

1300'

1400'

1500'

1600'

1700'

1800'

1900'

2000'

2100'

2200'

2300'

2400'

2500'

DATE: 12-15-87

SCALE:

1" = 100'

HIGHLIGHTED AREA IS
 AREA TO BE RECONSTRUCTED

ASH POND LINER RECONSTRUCTION	
DATE: 12-15-87	SCALE: 1" = 100'
PROJECT NO.:	PROJECT NO.:
DRAWN BY:	DRAWN BY:
CHECKED BY:	CHECKED BY:
APPROVED BY:	APPROVED BY:



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 30, 1987

OUR REPORT NO

311-70065-15

Page 1 of 4

WEATHER Sunny & Clear

TEMPERATURE RANGE 90° TO 95°

INSPECTOR G. Guintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Work was done on south slope approximately 1,300'-1,500' (300' section). Twelve (12) compaction tests were taken today. All tests comply with the project specifications. 300' area work of 07-29-87 appears to be holding pretty well. No apparent seepage was found. V.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m. A 400' section will be attempted tomorrow.

(2) Above

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 30, 1987

OUR REPORT NO 311-70065-15

Page 2 of 4

REMARKS:

EQUIPMENT USED:

1. 1 - D-7 Bulldozer with Rake
2. 1 - Liebherr 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - Spray King
5. 2 - 637D CAT. Scrapers

V.K. Knowlton has been using a D-7 Bulldozer with a rake attached to the blade for scarifying. This equipment appears to be breaking and scarifying the material to the 1' depth required by the project specifications. Three (3) lifts are being placed after scarifying and compacting the bottom 1'. A 300' area is being worked per day. Friday, V.K. Knowlton will try to finish a 400' section. Overlaps at the 100' mark of each section have been approximately 4'-5'.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 30, 1987

OUR REPORT NO: 311-70065-15

Page 3 of 4

TEST DATA: Optimum moisture: {5, 28.2}

TEST NO.	DATE	TYPE OF SAMPLE	NO. OF SAMPLES	WATER CONTENT (%)	IN PLACE DENSITY (PCF)	PERCENT COMPACTION	COMMENT
1	07-30-87	Grade	5	86.8	33.1	85.3	1 - A
2	07-30-87	Grade	5	86.8	31.9	86.0	1 - A
3	07-30-87	Grade	5	86.8	33.1	83.8	1 - A
4	07-30-87	1st Lift	5	86.8	33.2	85.3	1 - A
5	07-30-87	1st Lift	5	86.8	32.1	82.5	1 - A
6	07-30-87	1st Lift	5	86.8	30.4	85.5	1 - A

TEST LOCATION: SOUTH SLOPE - 1,300'-1,500' (300' AREA/DAY).

1	30' West of Station 1,300' and 30' from Bottom of Slope.
2	40' West of Station 1,400' and 45' from Bottom of Slope.
3	25' West of Station 1,500' and 20' from Bottom of Slope.
4	20' West of Station 1,300' and 15' from Bottom of Slope.
5	30' West of Station 1,400' and 30' from Bottom of Slope.
6	60' West of Station 1,500' and 30' from Top of Slope.

NOTES: 1. WATERSHOWN: (As per label)
2. WATER CONTENT: Per Gravimetric
3. PERCENT COMPACTION: Based on maximum dry density obtained in sample obtained by
4. 100% compaction

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST SATISFACTORIAL

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, [INC.] PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 30, 1987

CUR REPORT NO: 311-70065-15

Page 4 of 4

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	LIFT	NO. OF SAMPLES	WET UNIT WEIGHT (PCF)	WATER CONTENT (%)	DRY UNIT WEIGHT (PCF)	PERCENT COMPACTION	CLASSIFICATION
7	07-30-87	2nd Lift	5	86.8	30.9	85.5	98.5	4-A
8	07-30-87	2nd Lift	5	86.8	31.0	83.3	95.9	4-A
9	07-30-87	2nd Lift	5	86.8	33.1	83.8	96.5	4-A
10	07-30-87	Final	5	86.8	32.9	82.8	95.3	4-A
11	07-30-87	Final	5	86.8	33.3	82.5	95.0	4-A
12	07-30-87	Final	5	86.8	31.3	85.8	98.4	4-A

TEST LOCATION: SOUTH SLOPE (1,300'-1,500') 300' AREA/DAY.

7	15' West of Station 1,300' and 25' from Top of Slope.
8	35' West of Station 1,400' and 30' from Bottom of Slope.
9	50' West of Station 1,500' and 20' from Bottom of Slope.
10	30' West of Station 1,300' and 15' from Bottom of Slope.
11	40' West of Station 1,400' and 20' from Top of Slope.
12	60' West of Station 1,500' and 30' from Top of Slope.

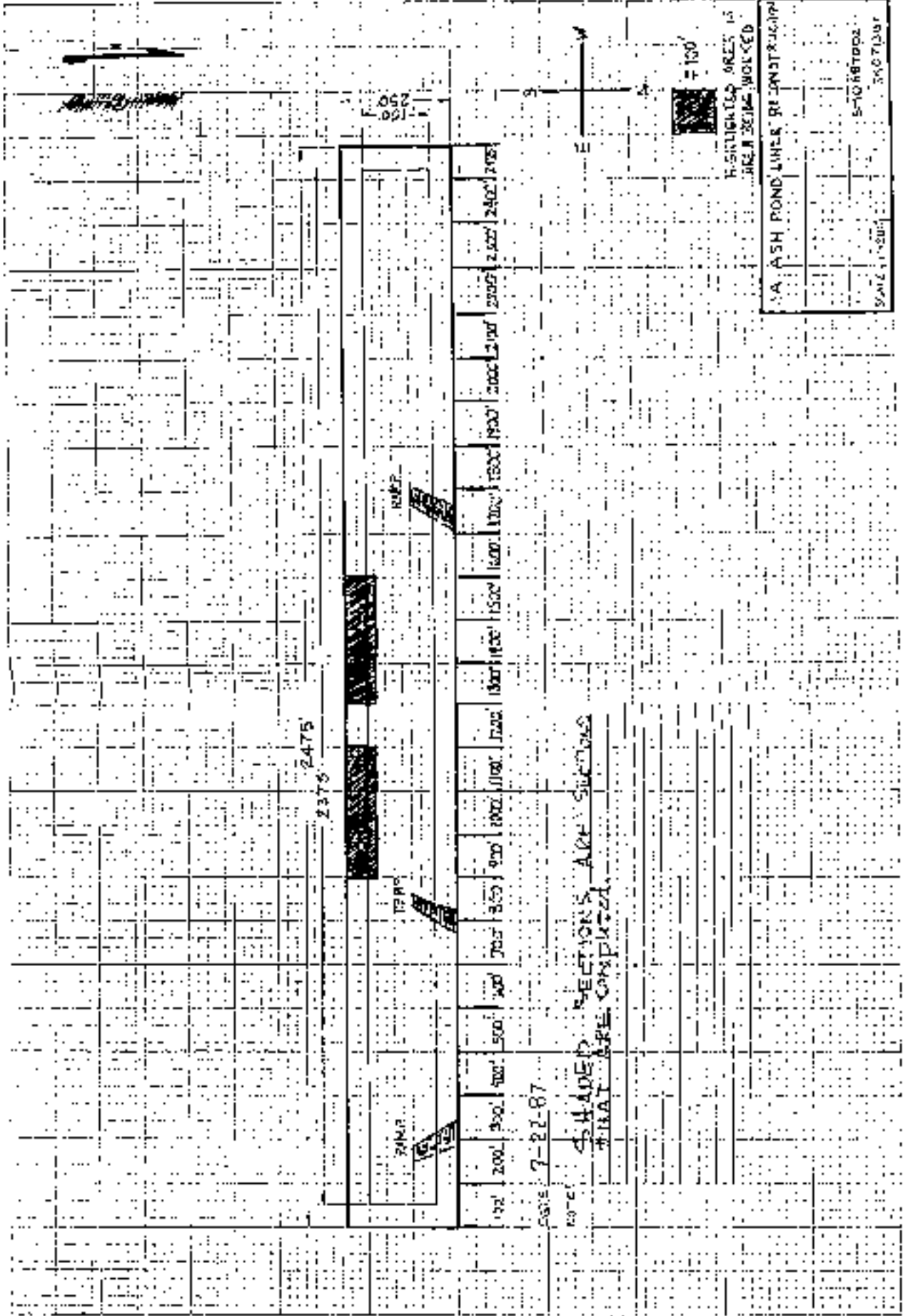
NOTES: DENSITIES SHOWN (pcf) are based on
WATER CONTENT AND GRAVITY WEIGHT
PERCENT COMPACTION Based on maximum
density obtained from Sample Proctor No.
1912 number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted
Professional Service Industries, Inc.





Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT**
 Post Office Box 286
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE July 29, 1987

OUR REPORT NO: 311-70005-14 Page 1 of 5

WEATHER Sunny & Clear
 TEMPERATURE RANGE 90° TO 95°
 INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
<input type="checkbox"/> FOUNDATIONS	<input type="checkbox"/> BATCH PLANT
<input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION)	<input type="checkbox"/> PLACEMENT (JOB SITE)
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
<input type="checkbox"/> BATCH PLANT	
<input type="checkbox"/> PLACEMENT (JOB SITE)	

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE V.K. Knowlton was able to complete a 300' section in one day. The 1st foot was scarified, compacted and tested. An additional (3) 9" lifts were added to complete liner in this area. A total of 24 compaction tests were taken today. All tests taken today met the project specifications. V.K. Knowlton commenced at 7:00 a.m. and finished at 6:00 p.m.

: (2) Above
 /dd

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 29, 1987

CUR REPORT NO: 311-70005-14

Page 2 of 5

TEST DATA: Optimum moisture: (5.28.2)

TEST NO.	DATE	LOCATION	DEPTH (IN)	WATER CONTENT (%)	WET UNIT WEIGHT (PCF)	FIELD DENSITY (PCF)	PERCENT COMPACTION	CLASSIFICATION
1	07-29-87	Grade	5	86.8	31.5	82.5	95.0	1 - A
2	07-29-87	Grade	5	86.8	32.1	82.5	95.0	1 - A
3	07-29-87	Grade	5	86.8	33.5	85.0	97.9	1 - A
4	07-29-87	Grade	5	86.8	31.9	86.0	99.0	1 - A
5	07-29-87	Grade	5	86.8	32.9	85.0	97.9	1 - A
6	07-29-87	Grade	5	86.8	33.1	85.3	98.2	1 - A

TEST LOCATION: SOUTH SLOPE - STATION 900'-1,000', 1,000'-1,100', 1,100'-1,200' (300' AREA PER DAY)

1	25' West of Station 900' and 40' from bottom of slope.
2	70' West of Station 900' and 20' from top of slope.
3	30' West of Station 1,000' and 30' from bottom of slope.
4	20' East of Station 1,100' and 20' from top of slope.
5	10' West of Station 1,100' and 10' from bottom of slope.
6	25' East of Station 1,200' and 20' from top of slope.

NOTES: 1. DISTENTION SHOWN BY PROBABLY 10%
WATER CONTENT PER CENT. (SEE NOTE 2)
PERCENT COMPACTION BASED ON STANDARD
ASTM D 1557 METHOD (SEE NOTE 3)
2. SEE REPORT

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. PERCENT COMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
ourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 29, 1987

OUR REPORT NO: 311-70065-14

Page 3 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO.	DATE	LIFT	TEST NO.	WET UNIT WEIGHT (LB/CF)	WATER CONTENT (%)	NET DRY UNIT WEIGHT (LB/CF)	PERCENT COMPACTION (%)	COMMENT
7	07-29-87	1st Lift	5	86.8	31.7	82.8	95.3	1 - A
8	07-29-87	1st Lift	5	86.8	31.9	84.5	97.3	1 - A
9	07-29-87	1st Lift	5	86.8	31.7	85.0	97.9	1 - A
10	07-29-87	1st Lift	5	86.8	34.5	84.0	96.7	1 - A
11	07-29-87	1st Lift	5	86.8	35.5	83.0	95.6	1 - A
12	07-29-87	1st Lift	5	86.8	33.9	84.0	96.7	1 - A

TEST LOCATION: SOUTH SLOPE - STATION 900'-1,200' (300' AREA/DAY)

7	30' West of Station 900' and 45' from bottom of slope.
8	20' East of station 1,000' and 20' from top of slope.
9	35' West of Station 1,000' and 15' from top of slope.
10	20' East of Station 1,100' and 20' from bottom of slope.
11	50' West of Station 1,100' and 25' from bottom of slope.
12	10' East of Station 1,200' and 30' from top of slope.

NOTES: DENSITY SHOWN - lbs. per cubic foot
WATER CONTENT - % of dry weight
PERCENT COMPACTION - Based on maximum dry density obtained in sample indicated by test number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 29, 1987

OUR REPORT NO 311-70065-14

Page 4 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	LIFT	NO. OF SAMPLES	MAXIMUM ACHIEVED DENSITY	WATER CONTENT	PERCENT COMPACTION	REMARKS*	
13	07-29-87	2nd Lift	5	86.8	31.2	84.5	97.3	1 - A
14	07-29-87	2nd Lift	5	86.8	32.5	83.8	96.6	1 - A
15	07-29-87	2nd Lift	5	86.8	33.7	83.7	96.5	1 - A
6	07-29-87	2nd Lift	5	86.8	31.2	83.7	96.5	1 - A
17	07-29-87	2nd Lift	5	86.8	32.7	83.3	95.9	1 - A
18	07-29-87	2nd Lift	5	86.8	33.1	83.6	96.4	1 - A

TEST LOCATION: SOUTH SLOPE 900'-1,200' (300' AREA/DAY)

13	25' West of Station 900' and 25' from top of slope.
14	40' East of Station 1,000' and 40' from bottom of slope.
15	45' West of Station 1,000' and 30' from top of slope.
16	40' East of Station 1,100' and 20' from bottom of slope.
17	35' West of station 1,100' and 30' from top of slope.
18	45' East of Station 1,200' and 15' from bottom of slope.

NOTES: 1. RESULTS SHOWN ARE BASED ON THE
WATER CONTENT PER UNIT OF DRY WEIGHT
PERCENT COMPACTION BASED ON MAXIMUM DRY
DENSITY OBTAINED ON SAMPLE INDICATED BY
TEST NUMBER

* 1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-03210B

DATE July 29, 1987

OUR REPORT NO 311-70065-14

Page 5 of 5

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	LIFT	NO. OF SAMPLES	MAXIMUM LABORATORY DENSITY	WATER CONTENT	FIELD DRY DENSITY	PERCENT COMPACTION	COMMENT*
19	07-29-87	Final Lift	5	86.8	33.5	85.0	97.9	1 - A
20	07-29-87	Final Lift	5	86.8	35.8	81.0	95.0	1 - A
21	07-29-87	Final Lift	5	86.8	33.5	84.3	96.0	1 - A
22	07-29-87	Final Lift	5	86.8	32.5	84.5	97.3	1 - A
23	07-29-87	Final Lift	5	86.8	31.3	83.3	95.9	1 - A
24	07-29-87	Final Lift	5	86.8	30.7	83.8	96.4	1 - A

TEST LOCATION: SOUTH SLOPE - STATION 900'-1,200' (300' AREA/DAY)

19	30' West of Station 900' and 20' from top of slope.
20	20' East of Station 1,000' and 15' from bottom of slope.
21	10' West of Station 1,000' and 20' from top of slope.
22	40' East of Station 1,100' and 25' from bottom of slope.
23	55' West of Station 1,100' and 10' from top of slope.
24	30' East of Station 1,200' and 15' from bottom of slope.

NOTES: DENSITIES SHOWN: lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test number

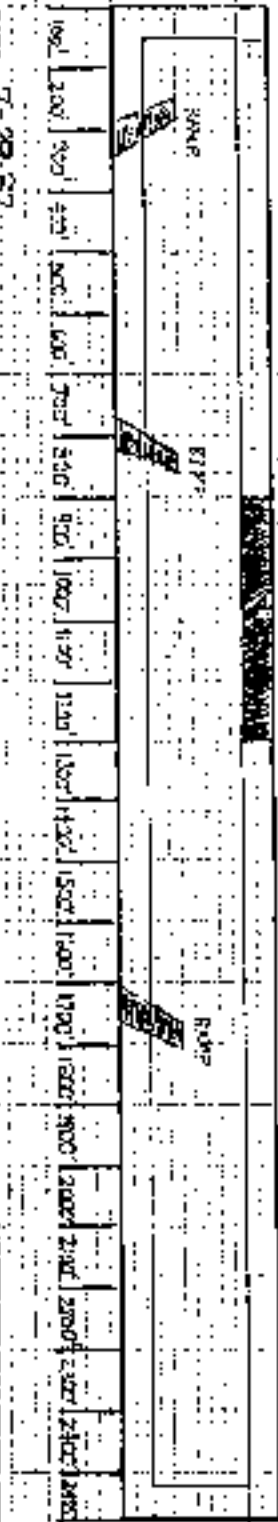
* 1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc

2375 2475



100' 200' 300' 400' 500' 600' 700' 800' 900' 1000' 1100' 1200' 1300' 1400' 1500' 1600' 1700' 1800' 1900' 2000' 2100' 2200' 2300' 2400' 2500'

DATE: 7-29-57

NOTES:
 V.K. KNOWLTON, INC. ASKED FOR CLIMATE
 A 300' SECTION TO BE LAYED AT
 ON 24th DAY OF DECEMBER NEXT SURETHER AREA

AREA COMPACTED

100'

DESIGNATED AREA IS
AREA BEING MEASURED

1A. ASH POND LINER RECORDING

Scale: 300'	SAC081002
	SAC071997



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC.**
 Post Office Box 280
 Jourdanton, Texas 78026
 Attention: Mr. Clyde Price

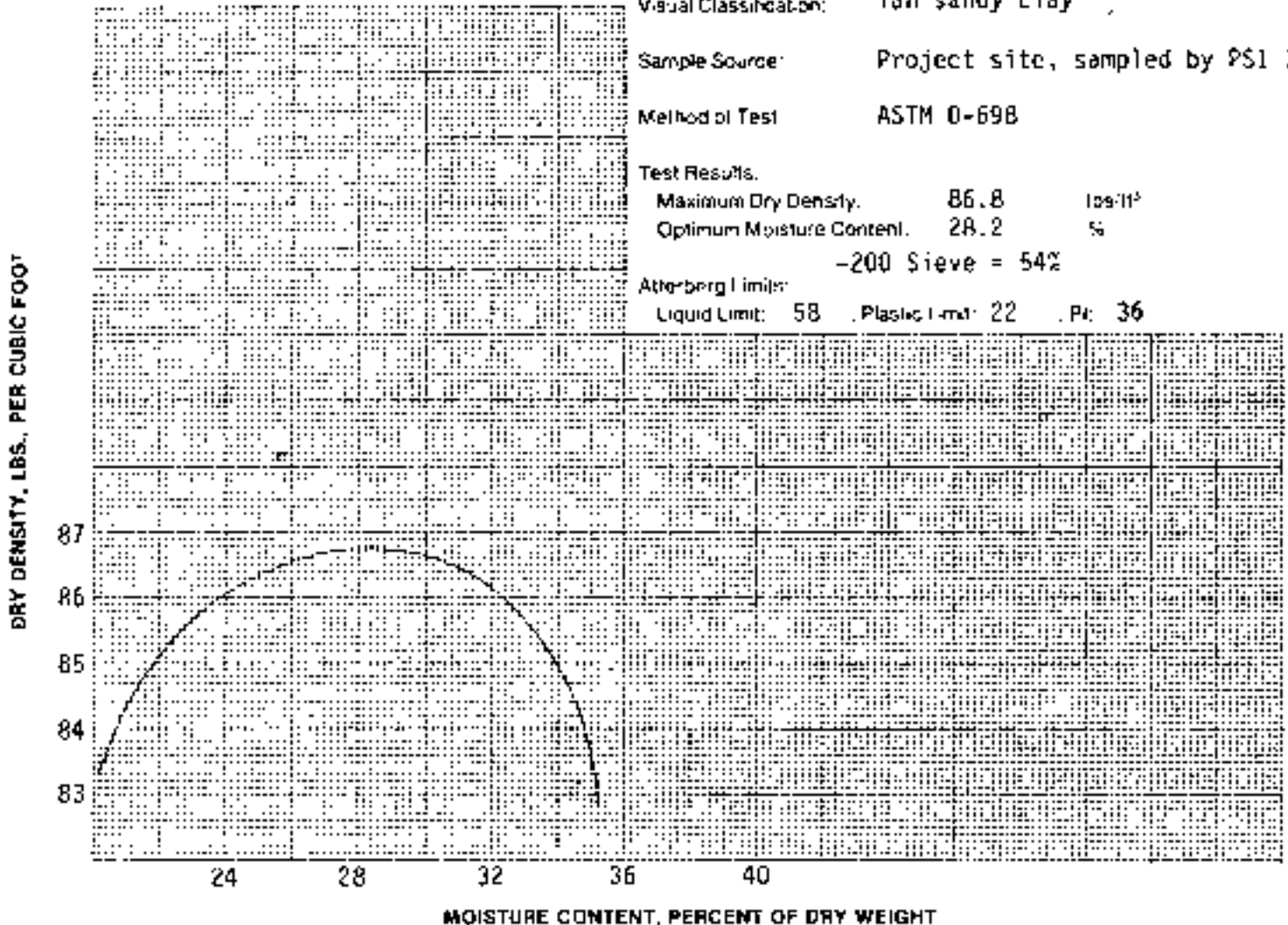
PROJECT **1A Ash Pond Soil Testing**
 P.O. #26643-032108

DATE **July 29, 1987**

QJA REPORT NO **311-70065-5**

TEST DATA

Visual Classification: **Tan sandy clay**
 Sample Source: **Project site, sampled by PSI 7-25-**
 Method of Test: **ASTM D-698**
 Test Results:
 Maximum Dry Density: **86.8** lbs./ft.³
 Optimum Moisture Content: **28.2** %
 -200 Sieve = **54%**
 Atterberg Limits:
 Liquid Limit: **58** Plastic Limit: **22** PI: **36**



cc: (2) Above
 /ps

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 28, 1987

OUR REPORT NO 311-70065-13 Page 1 of 2

WEATHER Clear

TEMPERATURE RANGE 80° TO 85°

INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Two (2) tests were taken on the south slope at station 1,300'-1,100'. V.K. Knowlton was unable to work pond due to weather conditions from previous day. The pond will need to dry out for 1 or 2 days before construction can be continued. V.K. Knowlton worked from 7:00 - 12:00.

(2) Above

Respectfully submitted,
Professional Service Industries, Inc.

GH



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #25643-032108

DATE: July 28, 1987

OUR REPORT NO: 311-70055-13

Page 2 of 2

TEST DATA: Optimum moisture: (5, 28.2)

LIFT NO.	DATE	LIFT TEST	NO. OF SAMPLES	MOISTURE (LAB TEST) (%)	WATER CONTENT (%)	IN PLACE DRY DENSITY	PERCENT COMPACTION	REMARKS
1	07-24-87	1st Lift	5	85.8	28.0	88.3	101.7	This lift will be
2	07-24-87	1st Lift	5	86.8	27.5	89.0	102.5	Reworked Due to
								Rain.

TEST LOCATION: SOUTH SLOPE

1	10' West of Station 1,000' and 15' from Top of Slope.
2	15' East of Station 1,100' and 15' from Bottom of Slope.

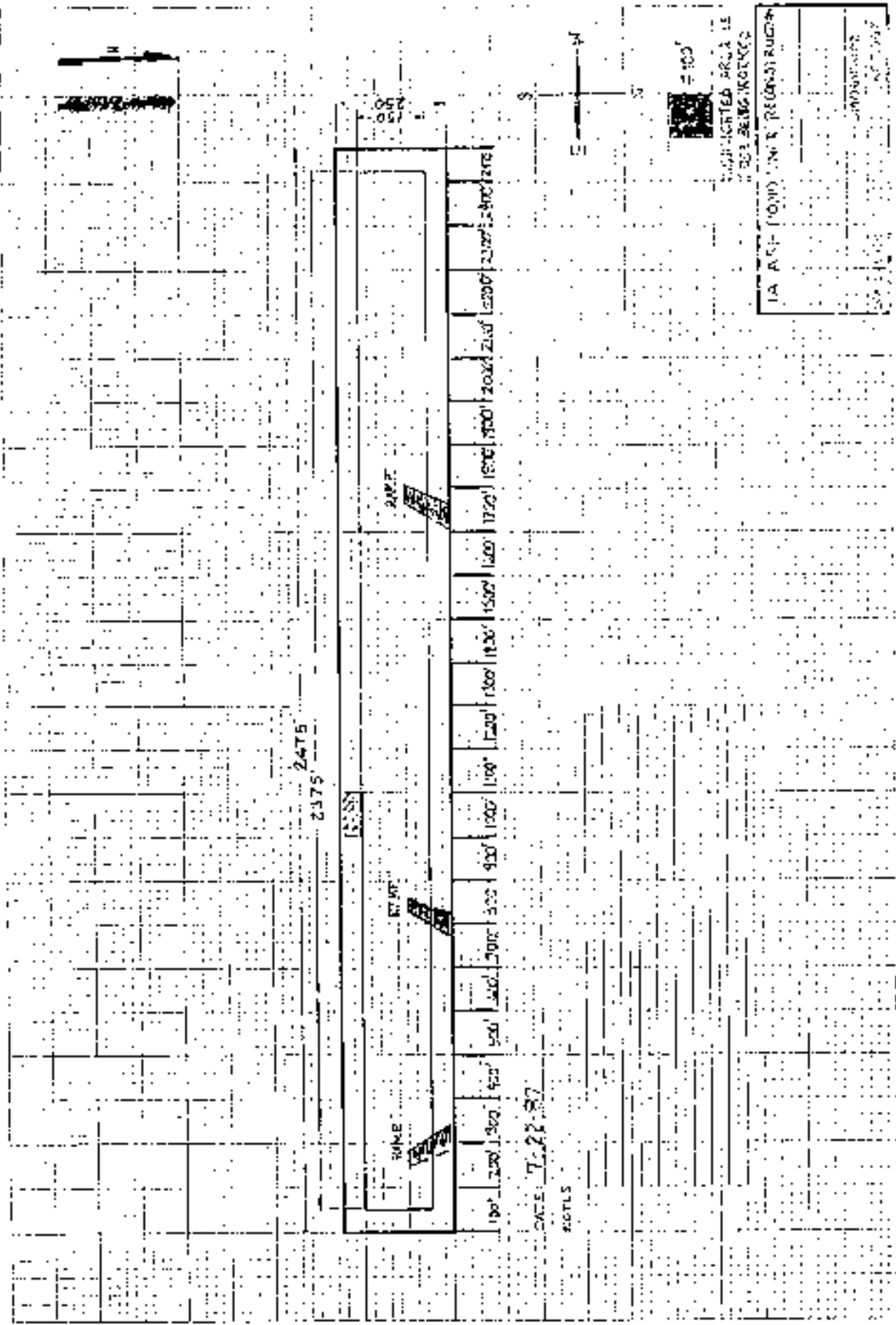
NOTES: DENSITIES SHOWN: (1) In place field
 WATER CONTENT: (2) Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry
 density obtained on samples and tested by
 standard method

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
 Professional Service Industries, Inc



2475
2375

NAME

DATE

DATE

1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600

DATE: 7.22.87

NOTES

1:100

UNLIMITED AREA IS
FOR RECONSTRUCTION

LA A-5- (O) (D) LINE RECONSTRUCTION
PROVISIONS



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT**
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-03210B

DATE July 27, 1987

OUR REPORT NO 311-70065-12

WEATHER Overcast

TEMPERATURE RANGE: 76° TO 80°

INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

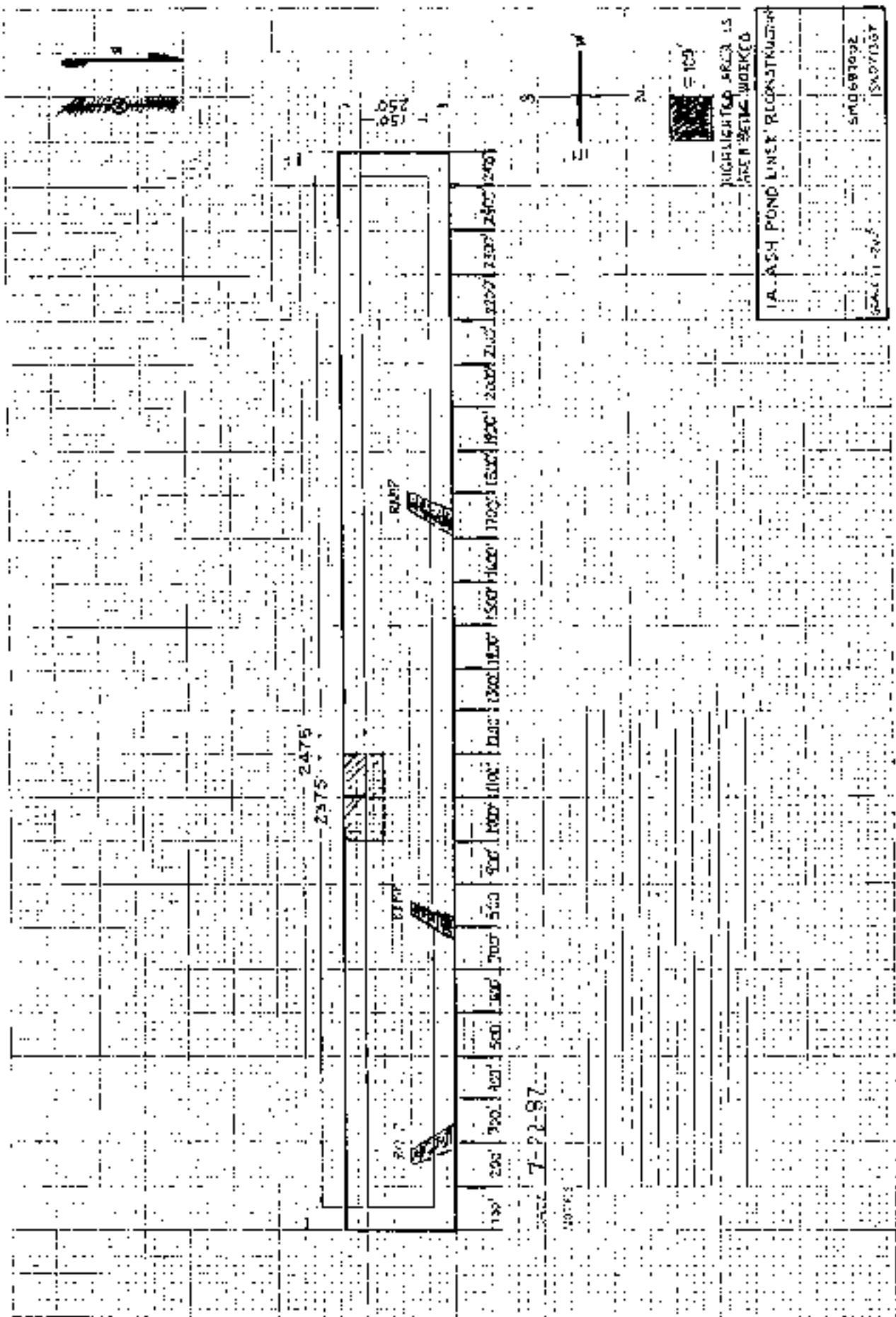
BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Due to rain over the weekend, V.K. Knowlton was unable to work the area properly. The 1st lift was removed from station 1,000'-1,100' on south slope. The 1st lift was placed once again. No tests were taken on this date. It started raining at about 11:00 a.m. and work on the slope was stopped. V.K. Knowlton worked from 7:00 to 12:00.

(2) Above

Respectfully submitted,
 Professional Service Industries, Inc.





Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT** **1A Ash Pond Soil Testing**
 Post Office Box 280 P.O. #26643-032108
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

DATE **July 24, 1987** OUR REPORT NO **311-70065-11** Page **1** of **3**

WEATHER **Overcast**
 TEMPERATURE RANGE **75°** TO **80°**
 INSPECTOR **G. Quintanilla**

TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Trouble spots in 1A Pond were discussed between PSI, SMC, and V.K. Knowlton. After careful observation of the trouble spots in 1A Pond, the decision was made to continue to remove 2' of good material and scarify the bottom 1' of the liner. The other alternative was to remove the 3' of material, work it, and replace it according to specifications. A 100' section was worked. A proctor sample was taken to the lab this date.

(2) Above

/aa

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 24, 1987

OUR REPORT NO 311-70065-11

Page 2 of 3

REMARKS:

EQUIPMENT USED:

1. 1 - Liebherr 731 Bulldozer
2. 1 - D8H CAT. Bulldozer
3. 1 - 120G CAT. Grader
4. 1 - CAT. Spray King

Due to the lack of proper equipment, V.K. Knowlton was unable to scarfy the required 1' of material after removal of the top 2'. Instead, 3' were removed in a 100' section on the south slope, approximately 1,000'-1,100' to be worked and replaced. Due to seepage in the south slope, each section worked must be completed on the same day. If 3' of clay is removed, it is to be placed in 9" lifts with 4 lifts per section. At approximately 3:00 p.m., due to rain, work in this area was incomplete. The 1st lift was sealed and work will resume on Monday (07-27-87). V.K. Knowlton started at 7:00 a.m. and finished at 5:00 p.m.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

/dd



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: July 24, 1987

OUR REPORT NO: 311-70065-11

Page 3 of 3

TEST DATA: Optimum moisture: (5, 28.2)

TEST NO	DATE	DEPTH	NO. OF SAMPLES	WATER CONTENT (%)	WATER CONTENT	15 PLACE OR DENSITY	FIELD DENSITY	COMMENT
1	07-24-87	1st Lift	5	86.8	28.2	85.8	98.8	1 - A
2	07-24-87	1st Lift	5	86.8	29.2	88.8	102.3	1 - A

TEST LOCATION: SOUTH SLOPE

1	15' West of Station 1,000' and 15' from Bottom of Slope.
2	20' East of Station 1,100' and 20' from Top of Slope.

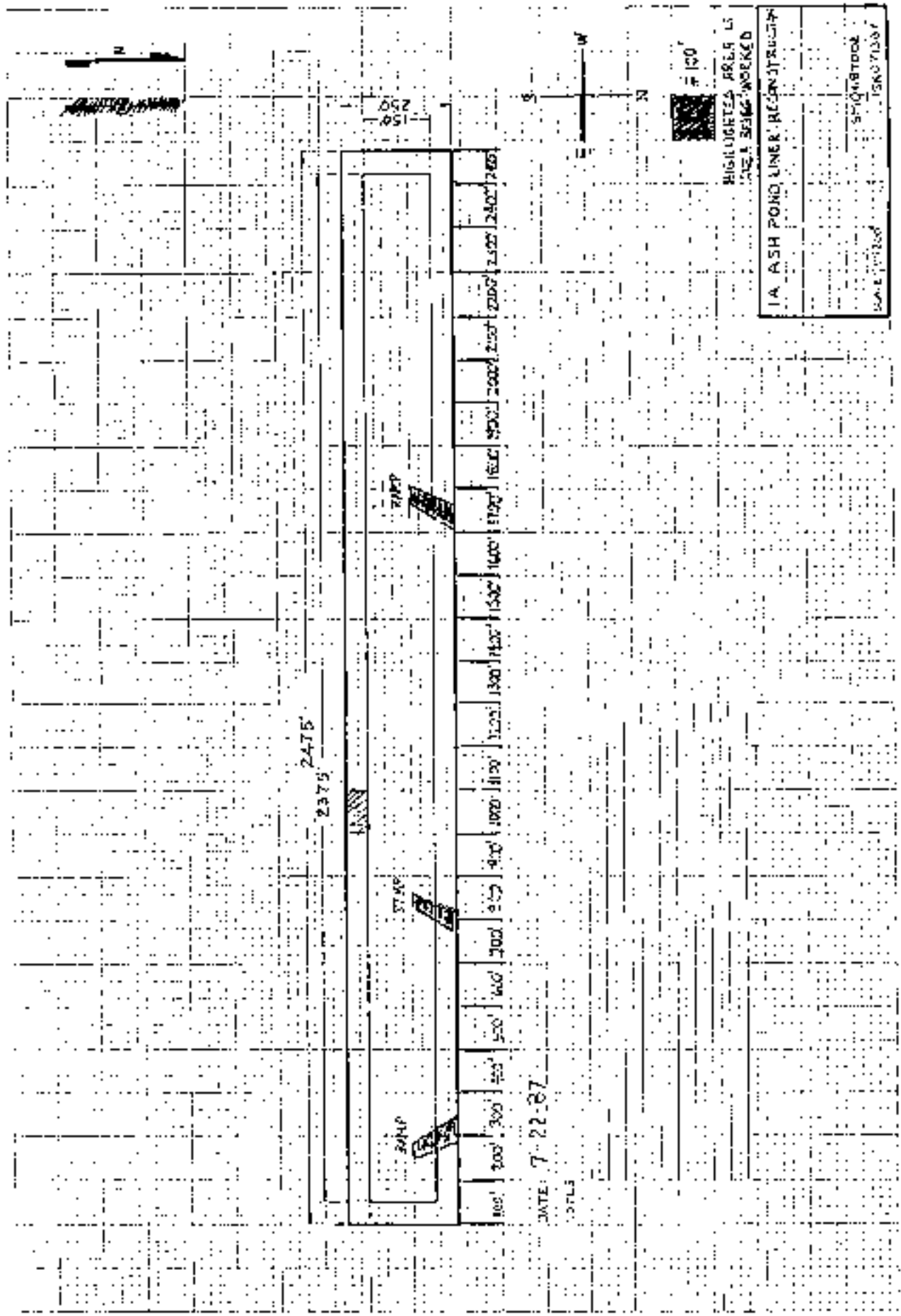
NOTES: 1. ALL TESTS WERE RUN IN ACCORDANCE WITH ASTM D 1557.
2. WATER CONTENT: For Gravimetric Method.
3. PERCENT COMPACTION: Based on maximum dry density of compacted soil as determined by ASTM D 1557.

- 1. FILL MATERIAL
- 2. BACKFILL
- 3. BASE COURSE
- 4. SUBBASE
- 5. SOIL CEMENT
- 6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted,
Professional Service Industries, Inc.





Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE July 23, 1987

OUR REPORT NO 311-70065-10

Page 1 of 3

WEATHER Sunny & Clear
 TEMPERATURE RANGE 80° TO 85°
 INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

<input checked="" type="checkbox"/> SOILS	<input type="checkbox"/> CONCRETE
FOUNDATIONS	BATCH PLANT
<input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
<input type="checkbox"/> ASPHALT	<input type="checkbox"/> OTHER
BATCH PLANT	
PLACEMENT (JOB SITE)	

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: I observed the continuing clean-up of 1A pond. No reconstruction has been done yet. I ran three (3) tests to check moisture content on the west end of pond. W.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m.

: (2) Above
 , dd

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 23, 1987

OUR REPORT NO 311-70065-10

Page 3 of 3

TEST DATA: Optimum moisture: (9, 37.7)

TEST NO.	DATE	DEPTH	TEST NUMBER	WET WEIGHT (GRAVITY)	WATER CONTENT	WET WEIGHT (GRAVITY)	PERCENT COMPACTION	COMMENTS
1	07-22-87	Grade	9	77.9	37.5	74.5	95.6	
2	07-22-87	Grade	9	77.9	29.3	80.8	100+	
3	07-22-87	Grade	9	77.9	34.5	78.8	100+	

TEST LOCATION:

1	Test taken in 1,800'-1,900' Area - 30' South of North Slope & 20' West of 1,800' Mark.
2	Test taken in 1,800'-1,900' Area - 40' South of North Slope & 30' West of 1,800' Mark.
3	Test taken in 1,800'-1,900' Area - 20' North of South Slope & 40' East of 1,900' Mark.

NOTES: DENSITIES SHOWN (GRAVITY) ARE
WATER CONTENT PER GRAVITY WEIGHT
PERCENT COMPACTION BASED ON WET GRAVITY
DENSITY (GRAVITY) AND OPTIMUM MOISTURE
(9, 37.7)

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

/dd

Respectfully submitted,
Professional Service Industries, Inc



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 23, 1987

OUR REPORT NO 311-70065-10

Page 2 of 3

REMARKS:

EQUIPMENT USED:

1. 3 - 637G CAT. Scrapers
2. 1 - Liebherr 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - 120G CAT. Grader

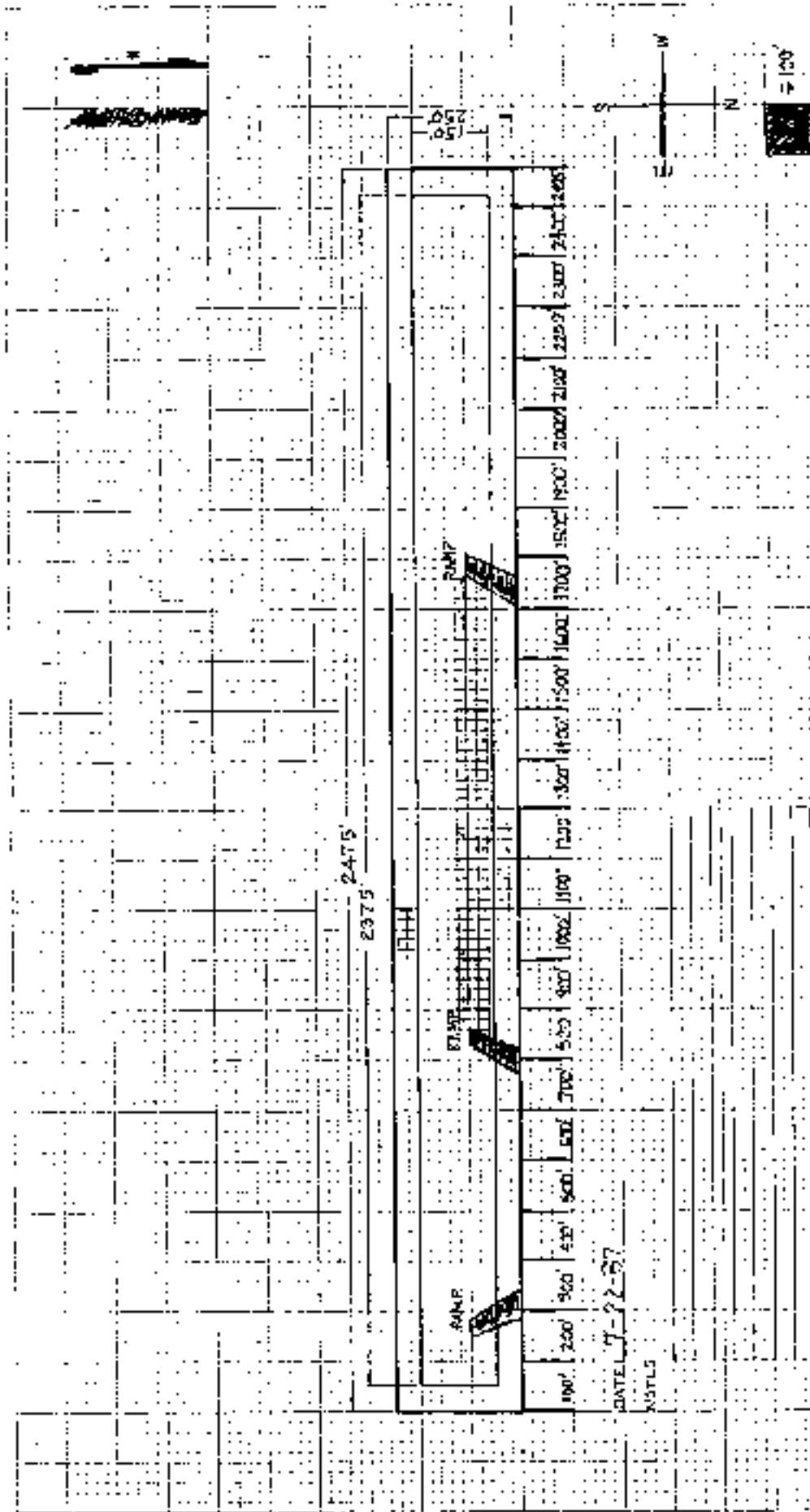
V.K. Knowlton is working the area approximately 800'-1,700' on the north side. The north slope in this area is also being cleaned. V.K. Knowlton has also begun to scrape an area on the south slope approximately 1,000'-1,100', removing 2' of material to replace in with good clay in 9" lifts. Three (3) density tests were taken on the west end between 1,800'-1,900' to check the moisture content. Moisture content ranged from 29.3% - 37.5%. A copy of the results is enclosed for your review. Due to a chance of heavy rain V.K. Knowlton will begin tomorrow putting material in the south slope, 1,000' - 1,100' area.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

/dd



HIGHLIGHTED AREA IS
AREA BEING RECONSTRUCTED

IA. ASH POND LINER RECONSTRUCTION	
SCALE: 1" = 50'	5/10/2002
DATE: 4-22-07	5/10/2002



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 ourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE July 22, 1987

OUR REPORT NO 311-70065-9

Page 1 of 5

WEATHER Sunny & Clear
 TEMPERATURE RANGE 85° TO 90°
 INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: V.K. Knowlton is continuing on the clean-up of the contaminated material on this day in the east end, approximately 300'-700' on north side and will remain in this area for the entire day. No compaction testing was done on this day.

(2) Above

/dd

Respectfully submitted,
 Professional Service Industries, Inc.

ck



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 22, 1987

OUR REPORT NO 311-70065-9 Page 2 of 5

REMARKS:

At the request of SMC, PSI is documenting the trouble spots of the pond with brief descriptions:

1. On the S.E. corner of the pond in the area approximately 0'-200' on the south side and south slope, sandy clay is saturated. Water was pumped out of the pond in this area only to find within a 12-hour period that the area refilled with water.
2. On the north side of the pond at the east end in the area approximately 400'-700', sandy pockets are encountered with heavy saturation.
3. On the south side of the pond at the east end in the area approximately 600'-800', sandy pockets are encountered with standing water. This area has also been pumped of excess water only to find that it had refilled within a 12-hour period.
4. On the south slope 800'-1,000' the walls appear to be saturated as well. The floor in this area is dry.
5. The area in the N.W. corner in the bottom of the pond, (approximately 1,800'-2,100') standing water is encountered.

In Area #1, V.K. Knowlton has excavated approximately 4' only to encounter more sandy clay. They are now working in Area #2 of this report.

EQUIPMENT USED:

1. 4 - 637D CAT. Scrapers
2. 1 - Liebherr 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - 120G CAT. Grader

Area #1 is being filled with good clay from the bottom of the pond. Results of tests performed on material sampled on 07-17-87 were verified today. The material taken from the N.W. corner (labeled as Sample #1) of the pond has a plasticity index of 67 and is classified as tan sandy benotonic clay. Highly plastic material coded (CH). The material (labeled as Sample #2) that was believed to have been unacceptable due to large deposits of



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE July 22, 1987

OUR REPORT NO

311-70065-9

Page 3 of 5

REMARKS:

sand is acceptable with the stipulation that more clayey than sandy material is used. All sandstone must be removed. This material has a plasticity index of 50 and is classified as tan sandy bentonitic clay.

Results of the tests performed on Sample #1 are enclosed for your review. If there are any questions concerning these results, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)

cc: (2) Above
/dd



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC.-PROJECT
 Post Office Box 280
 Jourdanton, Texas 78026
 ATTENTION: Mr. Clyde Price

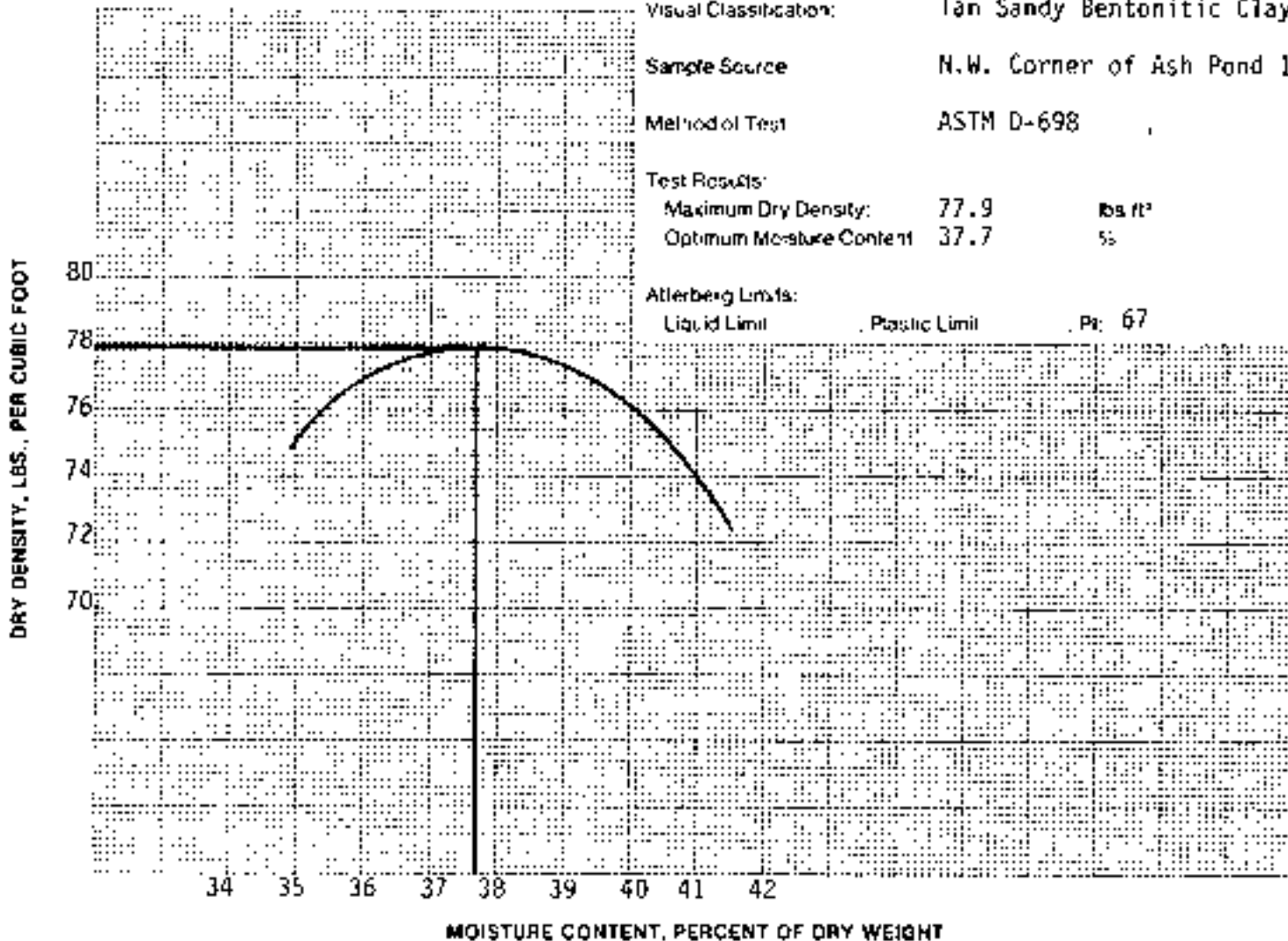
1A Ash Pond Soil Testing
 P.O. #26643-032108

DATE July 22, 1987

OUR REPORT NO 311-70065-9 Page 4 of 5

TEST DATA

Visual Classification: Tan Sandy Bentonitic Clay
 Sample Source: N.W. Corner of Ash Pond 1A
 Method of Test: ASTM D-698
 Test Results:
 Maximum Dry Density: 77.9 lbs/ft³
 Optimum Moisture Content: 37.7 %
 Atterberg Limits:
 Liquid Limit: Plastic Limit: Ps: 67



cc: (2) Above
 /dd

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
 P.O. #26643-032108

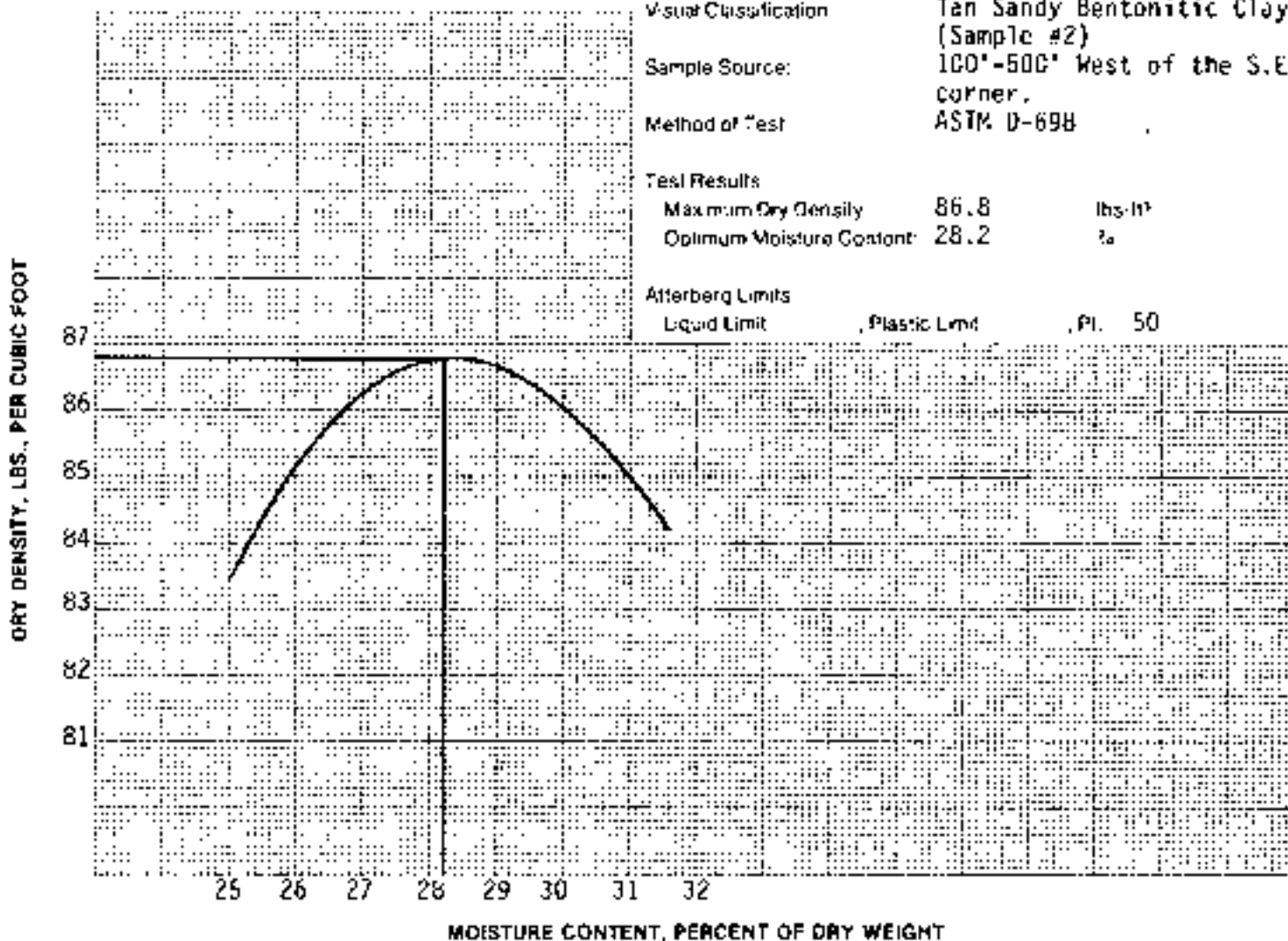
DATE July 22, 1987

OUR REPORT NO 311-70065-11

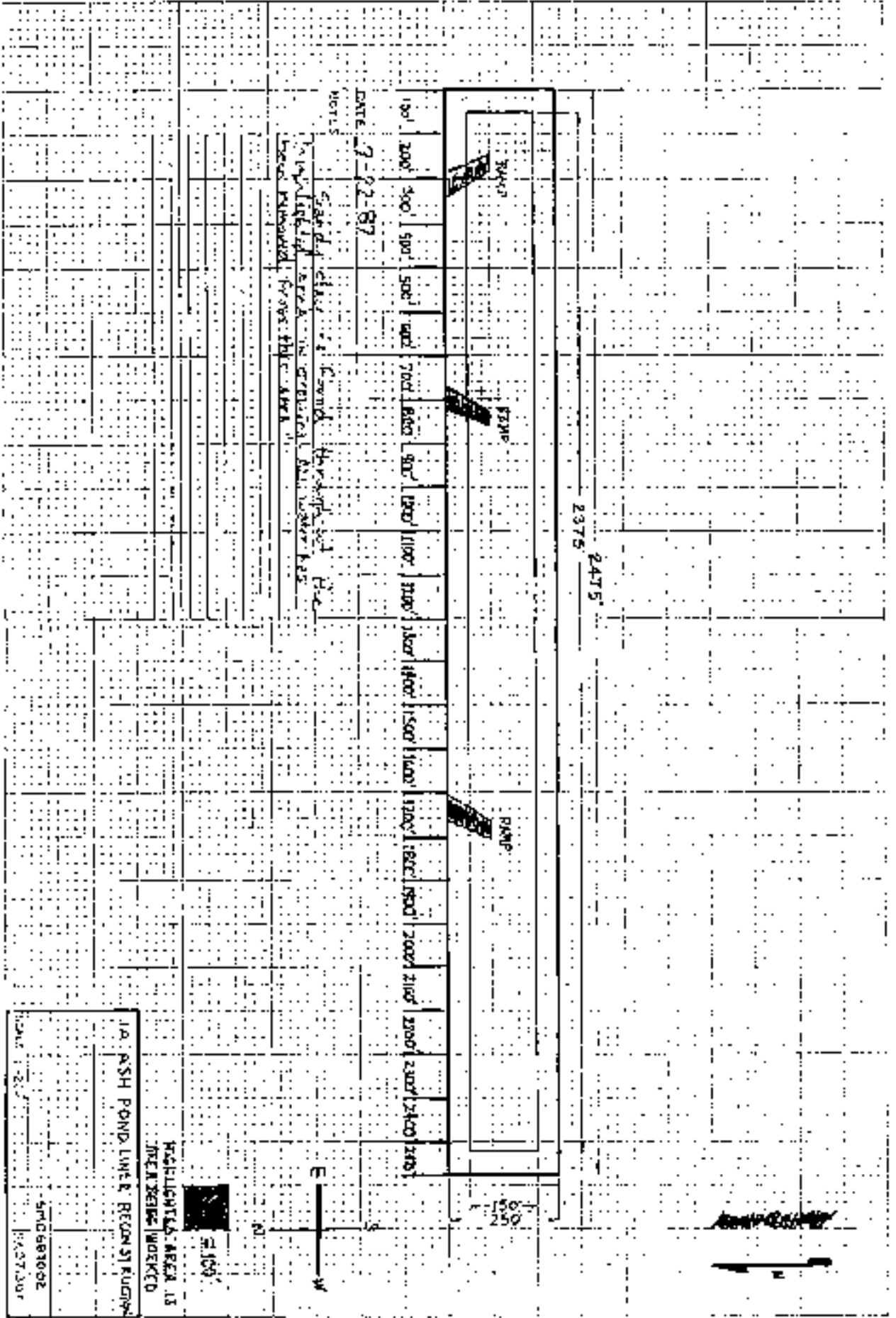
Page 5 of 5

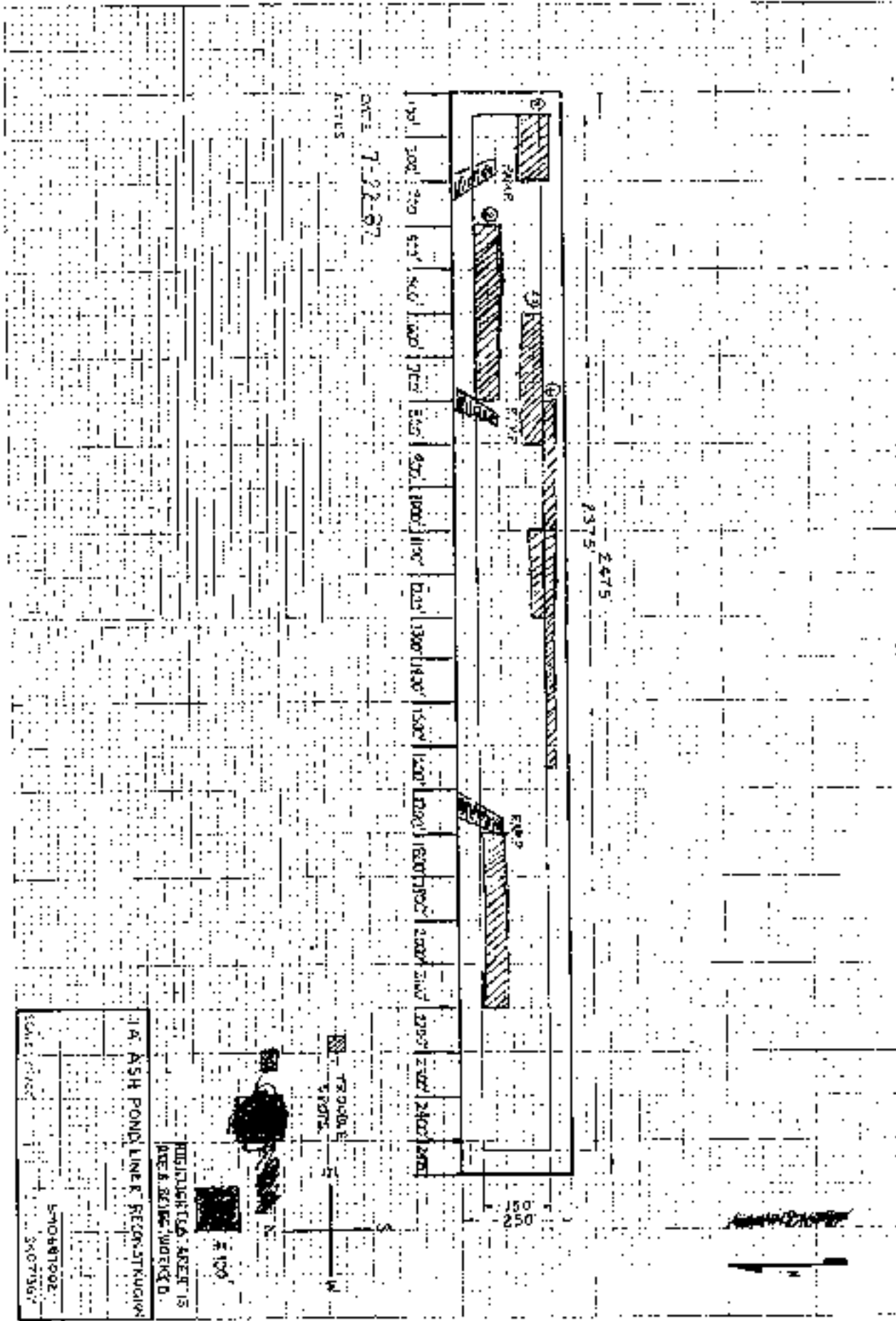
TEST DATA

Visual Classification Tan Sandy Bentonitic Clay (Sample #2)
 Sample Source: 100'-500' West of the S.E. Corner.
 Method of Test ASTM D-698
 Test Results
 Maximum Dry Density 86.8 lbs./ft.³
 Optimum Moisture Content 28.2 %
 Atterberg Limits
 Liquid Limit Plastic Limit PI 50



Respectfully submitted,
 Professional Service Industries, Inc.







Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT: 1A Ash Pond Soil Testing
Post Office Box 280 P.O. #26643-032108
Jourdanton, Texas 78026 Contractor: V.K. Knowlton
ATTENTION: Mr. Clyde Price

DATE July 21, 1987 OUR REPORT NO 311-70065-8

REMARKS:


EQUIPMENT USED:

1. 4 - 637D CAT. Scrapers
2. 1 - Liebherr 731 Bulldozer
3. 1 - 120G Grader
4. 1 - D811 CAT. Bulldozer
5. 1 - CAT Spray King

All water has been pumped out of the trouble spots. V.K. Knowlton continues to work on the east half at the bottom of the pond, approximately 100'-500' west of the S.E. corner. They are encountering more sandy clay in this area that appears to be unacceptable. This material is being placed just north of 1A Pond to dry. Some of this material may be acceptable in placement on the bottom of the pond. The grader is being used on the bottom of the pond, on the east half, approximately 100'-400' from the R.E. corner on the north half to smooth surface. Not much progress has been made this day. V.K. Knowlton remained in this area all day. No compaction tests were required on this day.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division) 

cc: (2) Above
/dd



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR **SAN MIGUEL ELECTRIC COOPERATIVE, INC.** PROJECT
 Post Office Box 280
 Jourdanon, Texas 78026
 Attention: Mr. Clyde Price

IA Ash Pond Soil Testing
 P.O. #26643-032108

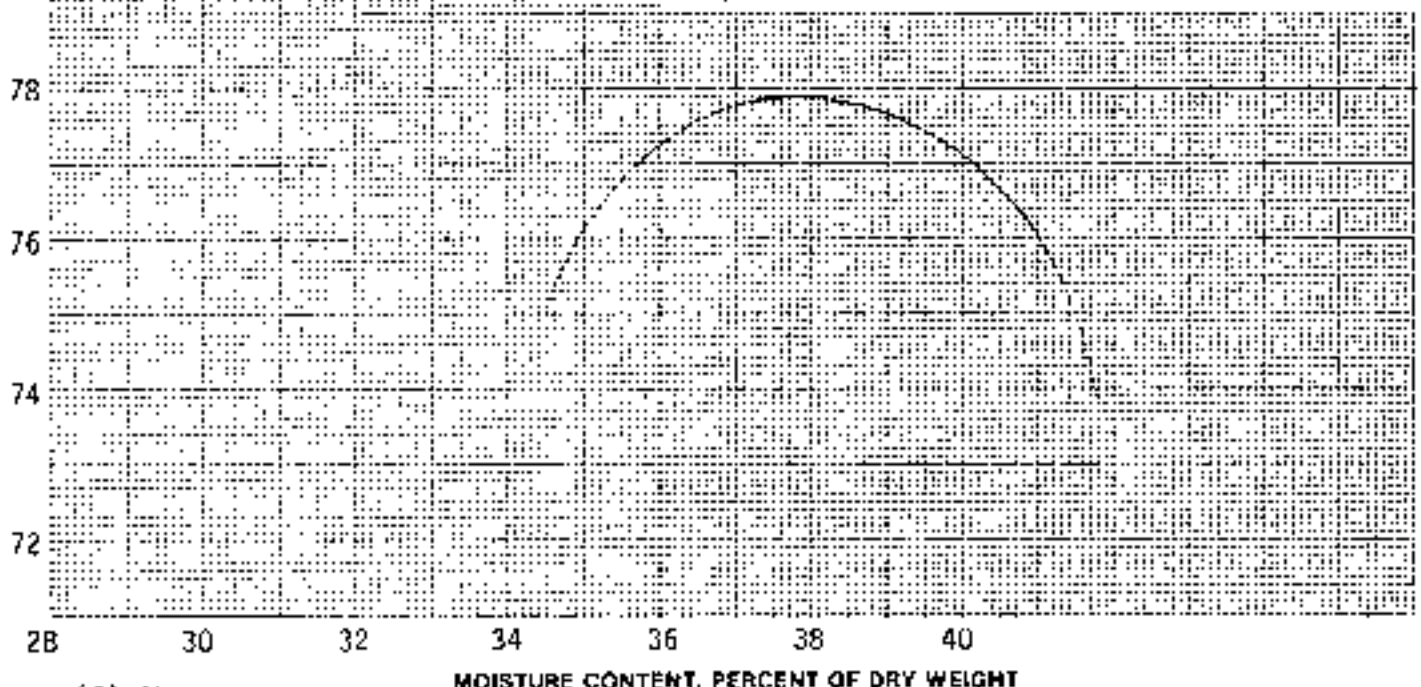
DATE **July 21, 1987**

OUR REPORT NO **311-70065-4**

TEST DATA

Visual Classification **Tan Sandy Clay**
 Sample Source **Jobsite, sampled by PSI 7-17-87**
 Method of Test **ASTM D-698**
 Test Results:
 Maximum Dry Density: **77.9** lbs-ft³
 Optimum Moisture Content **37.7** %
 Atterberg Limits:
 Liquid Limit **103** Plastic Limit **36** PI: **67**

DRY DENSITY, LBS., PER CUBIC FOOT



cc: (2) Above
 /ps

Respectfully submitted,
 Professional Service Industries, Inc.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT: IA Ash Pond Soil Testing
Post Office Box 280 P.O. #26643-032108
Jourdanton, Texas 78026 Contractor: V.K. Knowlton
ATTENTION: Mr. Clyde Price

DATE July 20, 1987 OUR REPORT NO 311-70065-7

REMARKS:

EQUIPMENT USED

1. 3 - 637D CAT. Scrapers
2. 1 - Liebherr 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - 120G CAT. Grader
5. 1 - CAT. Spray King

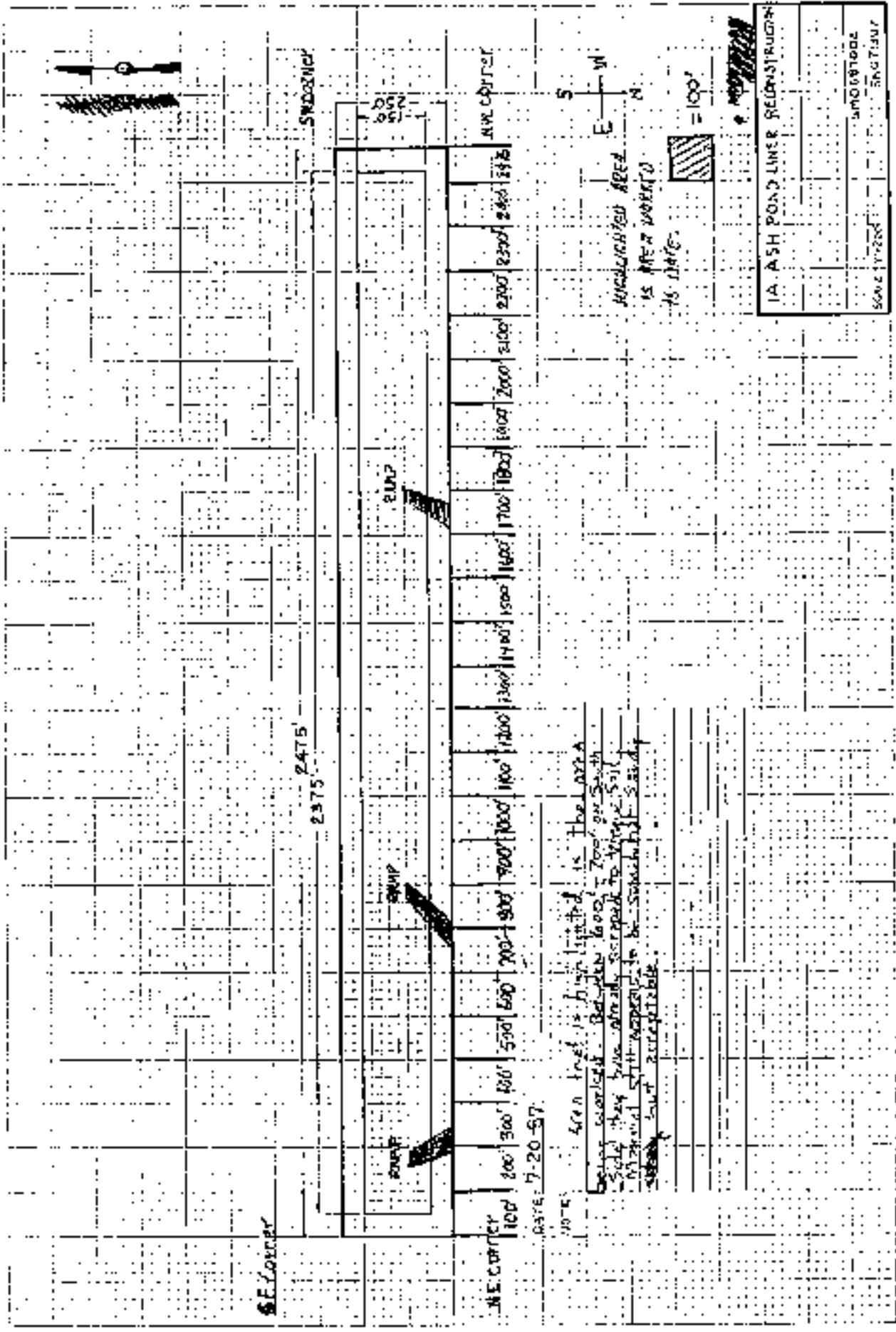
V.K. Knowlton is working the area on the bottom of IA Pond, approximately 500'-800' west of the N.E. corner running the total width of the pond. V.K. Knowlton is still encountering sandy clay that is unacceptable in this area. In the area on the bottom of the pond, approximately 600'-800' west of the N.E. corner, water is still pretty heavy. This area may require coring to further continue construction. Approximately 60% of the pond has been cleaned of vegetation and contaminated soils. No actual reconstruction of the pond was performed on this date. No compaction tests were required on this day. Road on north side of IA Pond was graded to smoother surface for better hauling. Pumps were put into the pond to remove water today.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division) *dk*

cc: (2) Above
/dd





Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

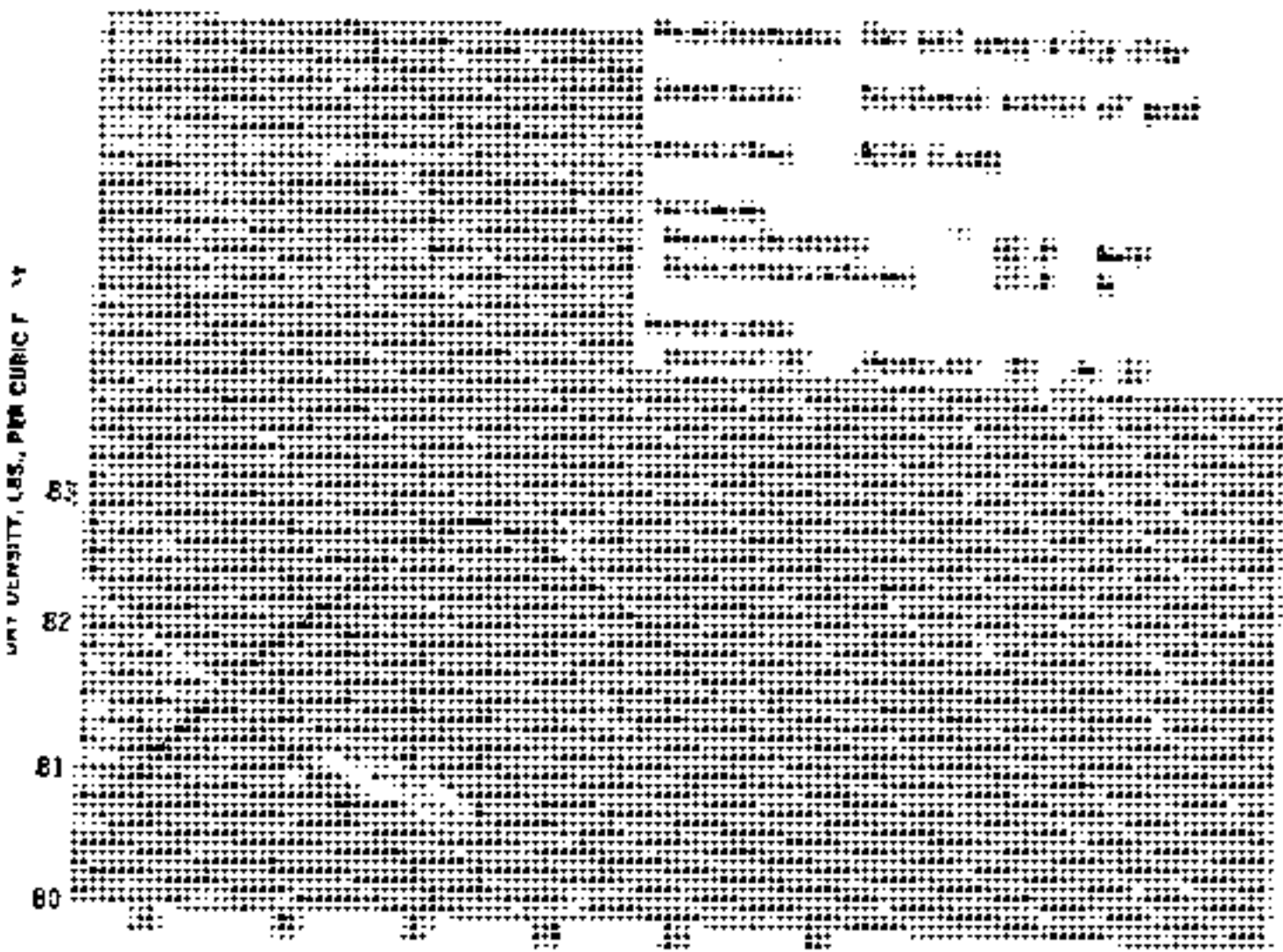
TESTED FOR: **SAN MIGUEL ELECTRIC COOP., INC.**
 Post Office Box 280
 Jourdanon, Texas 78026
 Attention: Mr. Clyde Price

PROJECT: **Pond 1A Repair Project**
 San Miguel Plant
 Jourdanon, Texas

DATE: **May 7, 1987**

OUR REPORT NO: **311-70065-1**

TEST DATA



MOISTURE CONTENT, PERCENT OF DRY WEIGHT

Respectfully submitted,
 Professional Service Industries, Inc. . .

DAILY FIELD REPORT

TESTED FOR: San Miguel Coip

PROJECT: 1A Pond

DATE 7-23-87

OUR REPORT NO.: 311 -

WEATHER: sunny & clear
TEMPERATURE RANGE: 85° TO 90°
INSPECTOR: G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: V&K Knowlton is continuing clean up of contaminated material this day in the East End approximately 300'-700' on north side and will remain in this area for the entire day. No compaction testing done today.

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: 1 A Pond

DATE: 7-23-87

OUR REPORT NO.: 311

WEATHER: SUNNY & CLEAR

TEMPERATURE RANGE: 80° TO 85°

INSPECTOR: G Quintanilla

TYPE OF INSPECTION BEING PERFORMED

X

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

X

CONTROLLED FRL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: I OBSERVED the continuing clean up of 1A Pond. No reconstruction has been done yet. I ran 3 tests to check Moisture Content on the west end of pond, we finished STARTED AT 7:00AM AND FINISHED AT 6:00PM.

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: **SAN Miguel Coop**

PROJECT: **SMC IA Pond**

DATE: **7-24-87**

OUR REPORT NO: **311-**

WEATHER: **Overcast**

TEMPERATURE RANGE: **75° TO 85°**

INSPECTOR: **G. D. [Signature]**

TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

Trouble spots in IA Pond were discussed between PSI, SMC, & V.K. Kipoulas. After careful discussion of the trouble spots in IA Pond, the decision was made to continue to remove 2' of silt from the pond and thereby the bottom of the liner. The other alternative was to remove the silt of material with it, and replace it according to specs. A low section was made for the silt to be removed.

TECH Time 7:00 a.m. - 6:00 p.m.
 Engineer - 2 HRS.

Respectfully submitted,
 Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel

PROJECT: 1A Pond

DATE 7-27-81

OUR REPORT NO. 311

WEATHER: Overcast

TEMPERATURE RANGE: _____ TO: _____

INSPECTOR: G. D. [Signature]

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

Due to rain over the weekend V.K. Knudsen was unable to work the Area properly. The 1st lift was removed from STA 1200+00 on south slope. The 1st lift was placed once again. No tests were taken this date. It started raining at 5:00 PM. About 11:30 AM, work on slope was stopped. [Signature]

Test Time 5:30 - 1:00

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Corp

PROJECT: SMC I & Bldg

DATE: 7-29-81

OUR REPORT NO. 311 -

WEATHER: Clear

TEMPERATURE RANGE: 81 TO 85

INSPECTOR: G. D. ...

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

2 test were taken on ...
1200 - 300'. ...
waste products ...
... for 1 or 2 days before any
construction ...

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: SMC LA POND

DATE: 7-29-87

OUR REPORT NO.: 311-

WEATHER: Sunny & CLEAR

TEMPERATURE RANGE: 90° TO 95°

INSPECTOR: G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: VK KNOWLTON WAS ABLE TO COMPLETE A 300' SECTION IN ONE DAY. THE 1ST FOOT WAS SCARIFIED, COMPACTED AND TESTED. AN ADDITIONAL 3 MORE LIFTS WERE ADDED FOR COMPLETE LINER IN THIS AREA. A TOTAL OF 24 COMPACTION TEST WERE TAKEN TODAY. ALL TEST MEET SPECS. VK KNOWLTON COMMENCED AT 7:00 AND FINISHED AT 6:00.

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: SMC IA POND

DATE: 7-30-87

OUR REPORT NO.: 311-

WEATHER: Sunny & CLEAR

TEMPERATURE RANGE: 90° TO 95°

INSPECTOR: G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED



SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT



CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

WORK WAS DONE ON SOUTH SIDE
 Approximately 1300' - 1500' (300' SECTION). 12 compaction test
 were taken today. ~~3 tests~~ All tests comply with specs. The
 300' AREA WORK 7-29-87 APPEARS TO BE HOLDING pretty well.
 No apparent seepage is found. VK KNOWLTON STARTED AT
 9:00 AM & FINISHED AT 6:00. A 400' SECTION WILL BE ATTEMPTED TOMORROW

Respectfully submitted,
 Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: SMC 1A Pond

DATE 7-31-87

OUR REPORT NO: 311

WEATHER: Sunny + Clear
 TEMPERATURE RANGE: 90° to 95°
 INSPECTOR: G. Quintana

TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: UK Construction worked another 300' section today. The south slope, STA. 1600'-1800' was completed today. Seepage was encountered in a completed area on south slope. In STA. 1700' water has come through approximately 15'-20' wide at bottom of slope. Saturated area starts from about the middle of slope to the bottom. It appears to be coming through an area where the ash is concentrated part the 3rd material required to be worked over all the rest of this section appears to be holding quite well. A total 13 compaction test were taken today.

Respectfully submitted,
 Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: S.M.C. D.A.P.

DATE: 8-3-77

OUR REPORT NO. 311

WEATHER: Sunny

TEMPERATURE RANGE: 85° TO 100°

INSPECTOR: G.G. [Signature]

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

[Handwritten text describing work accomplished, including details about soil testing and compaction.]

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Respectfully submitted,
Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: SAN Miguel Coop PROJECT: SMC I A BOND

DATE: 8-4-87

OUR REPORT NO. 311-

WEATHER: Sunny & Clear
 TEMPERATURE RANGE: 85° TO: 90°
 INSPECTOR: G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

SOILS

FOUNDATIONS

CONTROLLED FILL (COMPACTION)

ASPHALT

BATCH PLANT

PLACEMENT (JOB SITE)

CONCRETE

BATCH PLANT

PLACEMENT (JOB SITE)

OTHER

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: VK Knutson completed STA. 2900-2975 and also completed STA. 1200. A total of 13 densities were taken today and results comply with Specs. No seepage has been encountered in any other areas besides STA 900-1200 area. VK Knutson has started doing excavation for battery of piers. It appears to be a good job of breaking up material and spreading water uniformly through the material. VK Knutson started at 7:00-6:00 pm. Equipment used this day are as follows:

1. 1-Liebert D204 3-270 Swamps
 2. 1-Ducat Duct S. I CAT 550A
 3. 1-060222/2466, 1 water truck
- Respectfully submitted,
 Professional Service Industries, Inc.
7. Dicing equipment
 8. 1- CAT 140 GRADER

DAILY FIELD REPORT

TESTED FOR: San Miguel Coop

PROJECT: SMC I A POND

DATE: 8-5-87

OUR REPORT NO: 311-

WEATHER: Sunny & Clear
 TEMPERATURE RANGE: 20 to 25
 INSPECTOR: G. C. Cortez

TYPE OF INSPECTION BEING PERFORMED

- | | |
|--|---|
| <input checked="" type="checkbox"/> SOILS | <input type="checkbox"/> CONCRETE |
| <input type="checkbox"/> FOUNDATIONS | <input type="checkbox"/> BATCH PLANT |
| <input checked="" type="checkbox"/> CONTROLLED FILL (COMPACTION) | <input type="checkbox"/> PLACEMENT (JOB SITE) |
| <input type="checkbox"/> ASPHALT | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> BATCH PLANT | |
| <input type="checkbox"/> PLACEMENT (JOB SITE) | |

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

VK Knutson is working a 300' section of slope and a 200' section of the pond floor, they will be having 3 more machine operators come out for the duration of the job. A total of 25 compaction test were taken today. 1 failure on moisture in STA 700. A Retest was taken and test results complied with specs. VK Knutson started at 9:00-6:00. THE EQUIPMENT USED TODAY ARE AS FOLLOWS:

1. 3-637D SCISSORS
2. 1-Liebherr Bulldozer
3. 1-DS CAT Bulldozer
4. 1-DS Bulldozer w/RAKE
5. 1-CAT SPARE KING
7. Dicing equipment

Respectfully submitted,
 Professional Service Industries, Inc.

DAILY FIELD REPORT

TESTED FOR: SAN Miguel Coop

PROJECT: SMC IAPOND

DATE: 8-6-87

OUR REPORT NO.: 311-

WEATHER: Sunny + clear

TEMPERATURE RANGE: 95° TO 100°

INSPECTOR: G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

X

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

X

CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

VK Knowlton worked on SOUTH SLOPE, STA. 400'-600', Pond Floor STA. 1600'-2400', 800'. South Slope STA. 400-600' was completed and Pond Floor will be completed tomorrow. A total of 17 compaction test were taken and comply with SPECE. Equipment used today are as follows:
VK Knowlton worked from 7:00-6:30

1. 2 - G37D Scrapers
2. 1 - LIEBHERR Bulldozer
3. 1 - DB DOZER
4. 1 - D6 DOZER w/RAKE
5. 1 - Water truck
6. 1 - SPRAY KING

Respectfully submitted,
Professional Service Industries, Inc.

7. Discing Equipment

DAILY FIELD REPORT

TESTED FOR:

San Miguel Coop

PROJECT:

IA Pond

DATE: 8-7-27

OUR REPORT NO.:

311

WEATHER: Sunny Clear

TEMPERATURE RANGE: 95° TO 100°

INSPECTOR: G. D. Tait

TYPE OF INSPECTION BEING PERFORMED

X

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

X CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:

2nd floor slab 30' x 25' worked and completed. 2nd floor between 1700' - 2nd was also completed today. A total of 13 concrete tests were taken today. Everything went pretty smoothly today. No problems encountered. V.R. Kunkler worked from 7:00 -

Respectfully submitted,
Professional Service Industries, Inc.

T. I.
30 min lunch

DAILY FIELD REPORT

TESTED FOR: San Miguel

PROJECT: SMCIA Pond

DATE: 8-24-87

OUR REPORT NO :

WEATHER: Clear

TEMPERATURE RANGE: 93° TO: 98°

INSPECTOR: Keith M's Williams

TYPE OF INSPECTION BEING PERFORMED

SOILS

CONCRETE

FOUNDATIONS

BATCH PLANT

CONTROLLED FILL (COMPACTION)

PLACEMENT (JOB SITE)

In-place density tests

ASPHALT

OTHER

BATCH PLANT

PLACEMENT (JOB SITE)

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: A representative of PSI arrived on the jobsite at 2:20 pm. In-place density tests were performed on north slope and pond floor. A total of 15 tests were taken. Our representative left the jobsite at 6:10 pm.

Respectfully submitted,
Professional Service Industries, Inc.

TESTED FOR San Miguel

PROJECT SMCIA Pond

DATE 8-24-87

OUR REPORT NO

REMARKS:

Client: San Miguel Coop
Contractor: VK Knowlton
Weather: Sunny & Clear
Temp. Range: 93° to 98°
Inspector: K. M. Williams

Project: SMCIA Pond
Equipment used today:

- ① 1-637D scraper
- ② 1- Liebherr bulldozer
- ③ 1- D6 cat dozer w/rake
- ④ 1- eat. spray king
- ⑤ 1- water truck
- ⑥ 1- Discing equipment

V.K. Knowlton worked on north slope and pond floor. See F.C.T. for locations. Areas tested were too dry and will be wetted in the morning on 8-25. A total of 15 density tests were taken. V.K. Knowlton stopped at 6:00 pm.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE: 8-26-87

OUR REPORT NO: 311-70065-

Weather: Sunny & Clear
Temperature Range: 90°-95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|---------------------|------------------------|
| 1. 2 G37D SCRAPERS | 5. 1 - water truck |
| 2. 1 DG DOZER | 6. 1 120G Motor Grader |
| 3. 1 LIEBHERR DOZER | 7. Discing Equipment |
| 4. 1 - SPRAY KING | 8. |

REMARKS:

North slope - STA. 1300'-1500' was completed. Pond Floor STA. 900'-2000' was worked but not completed. There were 4 failures today due to moisture below specs. These areas were reworked and retested. The 4 retest complied with specs. A total of 22 ~~tests~~ compaction test were taken today. Upon request of SMC, I took measurements of an area where heavy saturation and standing water is ~~occurring~~ still occurring. My estimation of the measurements taken ~~was~~ from STA. 0-1000' x 20' wide. For the time ~~higher water should be fact in the~~ time

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 8-26-87

OUR REPORT NO: 311-70065-

Weather:
Temperature Range:
Inspector:
Type of Inspection:

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

REMARKS:

of seep areas. An alternative for these trouble spots is using bentonite in these AREAS. VIK Knowlton stopped at 6:00 p.m.
Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT.
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 8-27-87

OUR REPORT NO 311-70065-

Weather: Sunny + Clear
Temperature Range: 85° - 90°
Inspector: G. Quintanilla
Type of Inspection: Bill contract

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|-----------------------|------------------------|
| 1. 2 - G77D Scrapers | 5. 1 cat. SPRAY KING |
| 2. 1 - DG Dozer | 6. 1 120G Motor Grader |
| 3. 1 - LIGHBERG Dozer | 7. Discing Equipment |
| 4. 1 - water truck | 8. |

REMARKS:

Pond Floor STA 900-1400' was completed today. NORTH Slope STA 1500'-1900' worked but not completed. 4 failures due to moisture low specs. on slope. These areas were reworked and retested and passed according to specs. An area of concern on south slope was discussed with SME. Areas where fractures have occurred need to be reworked. I emphasized that weep holes should be placed in these areas to keep any more from occurring. A total of 26 densities taken today respectfully Submitted, -1-

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC.
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

PROJECT: 1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 8-28-87

OUR REPORT NO: 311-70065-

Weather: Rainy
Temperature Range: 62-70
Inspector: G. S. Quintanilla
Type of Inspection: Final Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|-----------------------|----|
| 1. 1 - LIEBHERR DOZER | 5. |
| 2. 1 - D6 DOZER | 6. |
| 3. 1 - MOG GRADER | 7. |
| 4. 1 AB370 SKIDDER | 8. |

REMARKS:

Vibration completed ^{STA} 1600-1800' on North Slope.
We've been catching rain on and off all day.
Some work was done on pond bottom, from
STA. 1600'-2000'. A total of 10 densities
taken today. Rain shut us down about 4:30 p.m.
today.

Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 8-31-87

DLR REPORT NO 311-70065-

Weather: Cloudy
Temperature Range: 65° - 70°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

REMARKS:

VK Knowlton started at 7:20 a.m. 1A Pond was too wet to work. VK Knowlton left about 8:20 a.m. I waited for techs to arrive, to commence drilling weep holes. An attempt was made but we were unable to do work due to the condition of the pond which was too wet to work. Techs left at 11:30 a.m. I reviewed and corrected reports from previous week for SMC. I left at 1:20 p.m.

6:30 - 2:00

no lunch

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-1-87

OUR REPORT NO 311-70065-

Weather: Sunny + Clear
Temperature Range: 75° - 80°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used: None

- | | |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

REMARKS:

VK Knowlton ~~did not~~ did not show up.
I arrived at 7:00 A.M. Mike from VK
Knowlton came out to check situation of
the pond. Pond is still too wet to work.
I told Mike that water should be pumped
out of pond floor. No testing done
today.

6:30 - 11:30 A.M.
5 Hrs.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-3-87

CUR REPORT NO 311-70065-

Weather: ~~SS-SS~~ Sunny + Clear
Temperature Range: 80-85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1 - Liebherr dozer 5.
2. 1 D637 Scraper 6.
3. 7.
4. 8.

REMARKS:

VK Knowlton arrived at 7:00 A.M.
only 2 of VK Knowlton's people worked
today. VK Knowlton began pumping water
out of pond today and cleaning muddy
areas around pond for better maneuvering
of heavy equipment. Keith and Kevin arrived
about 8:30 A.M. we three worked on drilling
weep holes that were staked. A total of 17
holes were drilled, we completed drilling at
2:00 p.m. They left at 2:30 p.m.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-4-87

OUR REPORT NO 311-70065-

Weather: Sunny & Clear
Temperature Range: 85° - 90°
Inspector: G. Quintanilla
Type of Inspection: Fill control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|--------------------|----|
| 1. 1 Lihberr Dozer | 5. |
| 2. 1 water truck | 6. |
| 3. | 7. |
| 4. | 8. |

REMARKS:

VK Knowlton arrived at 7:00 a.m.
They worked on more clean up around
pond. VK Knowlton is still unable
to work pond due to water.
I monitored there work for a while.
I mapped off locations of weep holes drill
and weep holes still to be drilled for
SMC. No testing done today. Work will
resume tuesday morning.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PRODUCER
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-0321GA

DATE 9-7-69

OUR REPORT NO 311-70065-

Weather: Sunny & Clear
Temperature Range: 90° to 95°
Inspector: G. G. Smith
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1 - G310 Scraper 5.
2. 1 - LIEBHERR Dozer 6.
3. 1 - Water Truck 7.
4. 1 - 1200 Wheel Grader 8.

REMARKS:

Grin 1200 on West Slope was completed today. VK Kranter has finished pumping water on East end ^{of Pond} and has placed pumps in about center of pond where more standing water is encountered. Conductivity is slow due to water in pond. A total of 2 densities taken today. VK Kranter stopped at 6:00 p.m.
Respectfully Submitted

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT:
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-9-87

OUR REPORT NO: 311-70065-

Weather: Sunny & CLEAR
Temperature Range: 90° - 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1 - G371D Scraper 5.
2. 1 - LEH BEER Dumper 6.
3. 1 - Water truck 7.
4. 1 - 120G Motor Grader 8.

REMARKS:

STA. 1900' - 2100' ON North Slope
being worked today. Water is still being
pumped from pond floor. Productivity will
slow today due to water on pond floor. A total
of 2 densities were taken today. Upon observing
South Slope of 1A Pond, a letter was submitted to
SME describing areas to be reworked due
to fractures, cave-ins, ~~and~~ weather conditions

Respectfully Submitted

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-10-87

OUR REPORT NO. 311-70065-

Weather: Sunny + Clear
Temperature Range: 90°-95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|-----------------------|--------------------------|
| 1. 1 - Water Truck | 5. 1 - 1206 Motor Grader |
| 2. 1 - D6 DOZER | 6. |
| 3. 1 - LIEBHERR DOZER | 7. |
| 4. 1 - 637D Scraper | 8. |

REMARKS:

STA. 1900' - 2300' were worked today.
STA. 1900' was completed. VK Knowlton is still pumping
water from pond floor. VK Knowlton began at 7:00
and finished at 6:00 p.m. A total of 6 densities
were taken today.

Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-11-87

OUR REPORT NO 311-70065-

Weather: Sunny & Clear
Temperature Range: 85" - 90"
Inspector: G. Quintanilla
Type of Inspection: Fill control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|-----------------------|------------------------|
| 1. 1- 637D SCRAPERS | 5. 1-120G Motor Grader |
| 2. 1- LIEBHERR Loader | 6. |
| 3. 1- D6 DOZER | 7. |
| 4. 1- WATER TRUCK | 8. |

REMARKS:

STA- 2000 - 2300 on NORTH Slope
were completed today. VK Knauff is
still pumping water from Pond Floor. Pond
Floor should be ready for working on ~~Monday~~
Monday. A total of 9 tests were taken today.
No problems were encountered today.

Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-12-87

OUR REPORT NO 311-70065-

Weather: Sunny + Clear
Temperature Range: 90°-95°
Inspector: G Quintanilla
Type of Inspection: Eill Control

Brief Resume of Work Accomplished on This Day:

Equipment Used:

- 1. 1-1206 Motor Grader
- 2. 1- water truck
- 3. 1- LIEBHERR DOZER
- 4. _____

REMARKS:

VK Knowlton worked on shaping ^{north} slope.
North slope STA. 2100-2400' was completed for final testing. 1. ~~operator~~ operator showed up with VK. Knowlton. Slopes were also watered today. 3 Density Test were taken today.

Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

PROJECT: 1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-14-87

OUR REPORT NO 311-70065-

Weather: Sunny & Clear
Temperature Range: 90°-95°
Inspector: C. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|------------------------|-------------------|
| 1. WILHELMSSON Dozer | 5. 1 SPRAY KING |
| 2. 1-D6 Dozer | 6. 1-G37D SCRAPER |
| 3. 1-1206 Motor Grader | 7. |
| 4. 1-Water truck | 8. |

REMARKS:

Work was concentrated on West Slope in N.W. corner and from STA 1500'-2000' ON pond FLOOR. Productivity seems to be picking up. A total of 8 densities were taken. vk knowlton began at 7:00 - 6:00 p.m.

Respectfully Submitted
C. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-15-87

OUR REPORT NO 311-70065-

Weather: Sunny & Clear
Temperature Range: 90°-95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|--------------------------|------------------------|
| 1. 1 - 120G Motor Grader | 5. 1 - Water Truck |
| 2. 1 - LIGHTER DOZER | 6. 1 - CAT. Spray King |
| 3. 1 - DG DOZER | 7. Discing Equipment |
| 4. 1 - 637D SCRAPER | 8. |

REMARKS:

West slope sta. 2400'-2475' was completed today. About 90% of 1A Pond is completed. ~~Sta.~~ sta. 1600'-2300' on Pond Floor is yet to be completed and sta. 0-200' on South slope needs to be completed. Motor Grader is being used to ~~do~~ do final touch up work on slopes and pond floor. A total of 12 densities were taken today. Water is still being pumped from pond floor. VIK Knottun started at 7:00 and finished at 6:00 p.m. today.

Respectfully Submitted
G. Quintanilla

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT.
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-16-87

OUR REPORT NO 311-70065-

Weather: Sunny + Clear
Temperature Range: 90° - 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|-------------------------|-----------------------|
| 1. 1 - LIEBHERR Dozer | 5. 1 - Water truck |
| 2. 1 - DG Dozer | 6. 1 - CAT SPRAY KING |
| 3. 1 - 20G Motor Grader | 7. |
| 4. 1 - B370 Scraper | 8. |

REMARKS:

Pond Floor was completed today, with the exception of clean up and shape up of side. VK Krawitz worked one of the reconstructed areas that had a fracture problem. This area seems to be holding quite well. Water is still being pumped out of pond floor. VK Krawitz got one of these dozers stuck today and have spent from 11:30 - 6:00 AM trying to remove it and have ~~been~~ been unable to ~~be~~ remove it. Due to this problem, productivity for the day was very slow. A total of 13 compaction test were taken today.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-17-87

OUR REPORT NO. 311-70065-

Weather: Sunny & Clear
Temperature Range: 90° - 95°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume of Work Accomplished on This Day:

Equipment Used:

- | | |
|---------------------------|------------------------|
| 1. 1 - LIEBHERR DOZER | 5. 1 - CAT. SPRAY KING |
| 2. 1 - 120G. Motor GRADER | 6. |
| 3. 1 - 637D Scraper | 7. |
| 4. 1 - Water truck | 8. |

REMARKS:

VK Knowlton finally ^(10:00) removed dozer from a muddy area. An agreement has not yet been ~~made~~ ^{reached} on the reconstructed AREAS with fractures. VK Knowlton is waiting for front end loader ~~to~~ to arrive on the job site - for the placement of Rip-RAP on both ends of Pond. Productivity is almost at a halt at this time due to the condition of the pond floor. VK Knowlton cannot do ~~anything~~ ^{any} work on Pond floor without damaging floor. Pond floor is still being pumped of excess water. A 200' section still remains to be worked on the south slope. No competition tract taken id

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-18-81

OUR REPORT NO 311-70065-

Weather: Cloudy - overcast
Temperature Range: 75° - 80°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|------------------------|--------------------|
| 1. 1 LIEBHERR DOZER | 5. 1- TRACK LOADER |
| 2. 1 120G Motor GRADER | 6. |
| 3. 1- Water truck | 7. |
| 4. 1 - CAT SPRAY KING | 8. |

REMARKS:

Damaged AREA in Bottom of pond was repaired today. Most of the work will be concentrated on Pond Floor today. Rip RAP was placed on west slope on both sides of concreted AREA. A 200' section is yet to be completed on the south slope. Fractures were inspected today and an alternative for repairing these fractures has been ~~revised~~ decided. VK Knutson started at 7:00 A.M. and stopped at 3:30 due to Rain. A total of 2 densitometer taken...

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT.
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

IA Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-22-87

OUR REPORT NO. 311-70065-

Weather: Sunny & Clear
Temperature Range: 80° - 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1 - LIEBHERR Dozer
2. 1 - TRACK LOADER
3. 1 - CAT. SPRAY KING
4. 1 - 120G Motor Grader
- 5.
- 6.
- 7.
- 8.

REMARKS:

STA. 100' - 300'
South Slope was completed today.
U K Knowlton has begun to move out most of there equipment today. Fractures repaired will begin today. A bitinite slurry ~~will~~ will be used in fracture areas. A total of 4 densities were taken today.

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #25543-032108

DATE 9-23-87

OUR REPORT NO 311-70065-

Weather: Sunny + Clear
Temperature Range: 80-85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

- | | |
|--------------------|----|
| 1. TRACK LOADER | 5. |
| 2. CAT. SPRAY KING | 6. |
| 3. | 7. |
| 4. | 8. |

REMARKS:

Fractures were repaired today. A Betinite Slurry was injected into fractured areas. Betinite pellets were worked into weep holes. South Slope is completed for all repairs. Rich and I started at 8:00 and completed final repairs at 6:00 p.m.

7:30 - 8:00

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing
P.O. #26643-032108

DATE 9-24-87

OUR REPORT NO. 311-70066-

Weather: Sunny and Clear
Temperature Range: 80-85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. TRACK Loader 5.
2. CAT SPRAY KING 6.
3. 7.
4. 8.

REMARKS:

Final ramp was cut out today
And Rip RAP is being placed. A
Final inspection of Betonite injected
Fractures will be done tomorrow.
UK Knowlton will be pulling off jobsite
today!

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT
Post Office Box 280
Jourdanton, Texas 78026
ATTENTION: Mr. Clyde Price

LA 308 211 111 111
P.O. 6211 111 111

DATE 9-25-87

OUR REPORT NO. 311 111 111

Weather: Sunny & Clear
Temperature Range: 80 - 85°
Inspector: G. Quintanilla
Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1-Track Loader 5.
2. 1-CAT SPRAY KING 6.
3. 7.
4. 8.

REMARKS:

A final inspection was made this morning on fractured areas that were repaired with a bitumite slurry. All these areas appear to be holding quite well. SMC anticipates ~~the~~ pond to begin filling with water today. V & Knowlton's still doing some final touch up work. Rip Rap should be placed and completed today.

7-13-87. KNOWLTON is to mobilize
to float site this morning. They
are to bring contract, bond and
insurance certificate.

12:35 PM KNOWLTON ON SITE. MIKE
WILL BRING 1.2500 of survey contracts
and 1.0000 of insurance certificates.

2:30 PM - TWO CAT SCRAPER ARE ON
SITE. POWER UTILITY IS PAINTING
WATER. HAVE MAIN ARMS A 10-4 of
the following: 1. 1.1.1.1. 1.1.1.1. 1.1.1.1.
ROOM 1, 1.1.1.1. 1.1.1.1. 1.1.1.1. 1.1.1.1.
1.1.1.1. 1.1.1.1. 1.1.1.1. 1.1.1.1. 1.1.1.1.
1.1.1.1. 1.1.1.1. 1.1.1.1. 1.1.1.1. 1.1.1.1.

Now Mike is a contractor in a
professional bank firm. I am going
to the site for site inspection
to the site of the morning of 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

6:30 PM KNOWLTON UNCOVERED I&C CABLE
& CONDUIT ON N.W. SIDE OF ROAD CALLED
MAIN CONTROL ROOM FOR M.R. CRP.

7-14-87 Talked with Steve Patten concerning
the damage caused by wind located along
the north length of the 1A Pond. Ron
Muller thinks that this is due to the
wind the concrete line for the area
which is at the Island Ponds
(containing ponds)

Work plan is removing vegetation
along the A-2C road from west
to east. At 11:30 AM APPROX
1000 FT completed. Scrapers are working
the west pond floor.

Called PST. Robert Arnes will be on
site Wednesday morning for inspection.
As of today, the following equipment
is on site: 2 ea 6310 CAT scrapers
1 ea CAT 104D grader
1 ea CAT 100C

At 3:00 PM the small cat scraper was
also delivered.

Review Kocshor's report from 7-14-87
CAP

7-15-87 - N.W. Pond Floor HAS water
returning. Scrapers are working
this area. Mike will bring in a
D-9 CAT DOZER Thursday morning.
an additional D-6 CAT DOZER WAS IN
SITE TODAY plus another scraper.
Robert Aron arrived this morning.
We discussed Knudsen's work with
Mike.

Mike Wright stated that we could
not bring down any materials
anymore. Main for a day.

36 exposures of ASA 200 color film
taken of pond work.

Don to sign black lines contract
for installation.

Phil's signal equipment arrived.

Don Wright to sign. CRP

7-15-87.

John Stuart, Bob Knudsen
were on site this morning. We
discussed the work of South Site.

Don will return Friday morning
to visit with Robert CRP. Don
is back myself. A LOCATION FOR AN
APPROXIMATE CAMP WITH ROBERT CRP.

7-19-81. Work is continuing
in sand area. P&S collection
samples. Knowledge will dump
dirt in NE. Area below tank.
MANHAN is now site foreman for
KNOWLTON. P&S (GAY) is collecting
samples. MA makes arrangements
to deliver collected samples.
Raymond Gonzalez is removing the
3" nipple on VALVE AT SPILLWAY.

7-20-81. Work is continuing
in sand area. P&S collection
samples. Knowledge will dump
dirt in NE. Area below tank.
MANHAN is now site foreman for
KNOWLTON. P&S (GAY) is collecting
samples. MA makes arrangements
to deliver collected samples.
Raymond Gonzalez is removing the
3" nipple on VALVE AT SPILLWAY.
A copy of drawing No 1-M-1L showing
location of service water line in dumping
area was given to Mike with Knowlton. He stated
he was aware of location of line and there
would be no problem - Knowlton is currently
dumping dirt in 2 areas - 1 on East side
of pond the other on West side of pond - the

7-14-07

Daily Field Report

CLIENT - SMC

CONTRACTOR - VK KNOWLTON

Project - IA Pond

Upon observing IA Pond, I found 3 questionable areas of concern. The NW corner of IA Pond has water seepage. The clay in this area appears to be in good condition. Approximately 700'-800' west of S.E. corner of IA Pond, VK Knowlton encountered a joint of sand clay that is unacceptable according to Specs. A sample was taken to verify unacceptability of material. Water seepage was also encountered in this area. In the S.E. corner of IA Pond water was encountered as well. The decision has been agreed upon that all vegetation, fly ash, or contaminated clays of any kind will be removed before actual reconstruction of IA pond. A sample of good clay was taken on the west side of pond in NW corner for testing - to verify acceptability of material. The rest of IA Pond overall appears to be in good shape.

VK Knowlton

7-14-07

Daily Field Report

7-20-87 - Monday
Client - San Miguel Coop.
Project - 1A Pond

Contractor - V.K. Knowlton

Equipment used

1. 3 - 637D CAT. Scrapers
2. 1 - LIEBHERR 731 Bulldozer
3. 1 - DBH CAT. Bulldozer
4. 1 - 120G CAT. GRADER
5. 1 - CAT. SPRAY KING
- 6.

VK Knowlton is working area on bottom of 1A Pond approximately 500'-800' west of NE corner running total width of pond. VK Knowlton is still encountering sandy clay that is ~~not~~ unacceptable in this area. In the area on bottom of pond approximately 600'-800' west of NE corner water is still pretty heavy. This area may require coing to further continue construction. About 60% of Pond has been cleaned of vegetation and contaminated soils. No actual reconstruction of pond done this day. No completion test required this day. Road on North side of 1A Pond was graded to a smoother surface for better hauling. Pumps were put into pond to remove water today.

V.K. Knowlton

Daily Field Report

7-21-87 - Tuesday

Client - SMC

Contractor - VK Knutson

Project - 1A Pond

Equipment Used:

1. 4 - CAT[®] 637D Scrapers
2. 1 - LIEBHERR 731 Bulldozer
3. 1 - 120G Grader
4. 1 - D311 Cat Bulldozer
5. 1 - CAT SPRAY KING

All water has been pumped out of trouble spots. VK Knutson continues to work on East half at bottom of pond approximately 100' - 500' west of S.E. corner. They are encountering more sandy clay in this area that appears to be unacceptable. This material is being placed just north of 1A Pond to Dry. Some of this material may be acceptable in placement on bottom of pond. Grader is being used on bottom of pond on East half 100' - 400' from NE corner on North half to smooth surface. Not much progress has been made this day. VK Knutson remained in this area all day. No compaction test were required this day.

Checked by: _____

Daily Report

7-22-87

Client - SMC

Project - IA Pond

Upon request of SMC - I am documenting trouble spots in pond with brief descriptions.

1. On the SE. corner of pond in area 0-200' on south side and south slope sandy clay is saturated. water was pumped out of pond in this area only to find within a 12 hr period that ~~the~~ ^{the} area refilled with water.
2. on the north side of pond on ^{the} East end in the area approximately 400'-700'; sandy pockets are encountered ~~at~~ with heavy saturation.
3. on the south side of ^{the} pond ~~on~~ East ~~end~~ in the area approximately 600'-800'; sandy pockets are encountered with standing water. This area has also been pumped from excess water only to find that it ^{had} refilled within a 12 hr. period.
4. on the south slope. 800'-1000' the walls appear to be saturated as well. The floor in this area is dry.
5. The area in ^{the} NW corner in the bottom of the pond, ^(approximately 1000-1100') standing water is encountered.

In AREA #1 U.K. Knowlton has excavated about 4' only to encounter more sandy clay. It is my recommendation that in the sandy clay areas, they should only excavate 3' of material ^{and} replace it

with good clay according to specs. V.K. Knowlton is now working in Area #2 of this report.

Equipment used:

Contractor: V.K. Knowlton

1. 4 G37D CAT. SCRAPERS
2. 1 LIEBHERR 731 Bulldozer
3. 1 DBH CAT. Bulldozer
4. 1 T20G CAT GRADER

AREA #1 is being filled with good clay from ^{the} bottom of the pond. Results on Material Sampled ^{on 7-17-87} (labeled as sample #1) were verified today. The material taken from ^{the} n.w. corner of pond has a PI of 67 and is classified as TAN Sandy (BETINITE CLAY, Highly Plastic material) code: CH

The material that was believed to have been unacceptable due to large deposits of sand is acceptable with the stipulation that more ~~clay~~ clay than sandy material is used. All sandstone must be removed. This material has a PI of 50 and is classified as TAN Sandy SLICKACISE or Betinite Clay.

Sample #1 - Proctor Results are as follows

Maximum DRY Lab Density - 77.9

optimum moisture content - 37.7 + 3-4% = 40.7 - 41.7%

Respectfully Submitted.

PSE - TECH: G. Quintanilla

Daily Report

7-23-87 - Thursday

Client: San Miguel Coop

CONTRACTOR: VK Knowlton

Project: IA Bnd

Equipment used:

1. - 3 637D CAT Scrapers
2. 1 - LIEBHERR 931 Bulldozer
3. 1 - D8A CAT. Bulldozer
4. 1 - 120G CAT. GRADER

VK Knowlton is working AREA approximately 800'-1700' ON NORTH SIDE. NORTH SLOPE in this AREA is being cleaned ALSO. VK. Knowlton has also begun to scrape AN AREA ON the South Slope Approximately 1000'-1100' removing 2' foot of material to replace in with good clay in 9" Lifts. 3 Density Test were Taken on the NESE END between 1800'-1900' to check moisture CONTENT. Moisture Content Ranged from 29.3 - 37.5%. Due to a chance of Heavy Rain VK. Knowlton will begin tomorrow putting material in the South Slope; 1000-1100' AREA.

Respectfully Submitted
PSI - G. Quintanilla

7/24/81 Pat, Knowlton & Smeel Held Meeting to discuss reconstruction of the South side, with quantities adjustment for floor area. Knowlton stated that South side was too wide to work.

I noted that Knowlton did not work with the information on the plan submitted to the Surveyor as to the layout and configuration of the site, but did not include any of the SF. I think that the information was not available to him at that time. I am not sure if the information was provided to him or not. He may have been working on the site at that time. I am not sure if the information was provided to him or not. He may have been working on the site at that time. I am not sure if the information was provided to him or not. He may have been working on the site at that time.

7-25-81 Happy, 1" x 1" sheet. The information reported to me was that Knowlton is working on the site and that he will provide the south side that was taken. Knowlton has only 2 doors working. The other men left due to not the site. Happy, Pat, will have site. They test was in Campbell's and that was the end.

7.26.8

There was a meeting at 10.30 am
was to visit the water supply project in
mountain area and then visit the area
around P.S. 1. The meeting was held at
10.30 am and the meeting was held at
the water supply project. The ground
at the meeting was from 10.30 am to 12.00 pm.
The meeting was held at P.S. 1. The meeting
was held at P.S. 1. The meeting was held at
P.S. 1. The meeting was held at P.S. 1.

It was agreed that the meeting should
be held at the water supply project.
The meeting was held at the water supply project
and the meeting was held at the water supply project.
The meeting was held at the water supply project
and the meeting was held at the water supply project.

There was a meeting at 10.30 am
and the meeting was held at the water supply project.

1-21-56 (contd.) Afternoon visit to
Dunbar & Co.

1-21-56. Examination of the CV set. At
11:30 AM. Found the CV set in work.
A small CV set will work on any
is made of many bits, Jan 4 1956,
was not found in the CV set.
Now the CV set is not of the same type
1-21-56. Found CV set for the CV set.
Found many bits in the CV set.
The CV set is not of the same type.
The CV set is not of the same type.

Daily Report

7-30-87

CLIENT: SMC

Contractor: VK Knowlton

PROJECT: LA Pond

EQUIPMENT USED:

1. D-7 Bulldozer with RAKE
2. 1 - LIEBHERR 731 Bulldozer
3. 1 - D8H CAT. Bulldozer
4. 1 - SPRAY KING
5. 2 - G37D CAT. SCRAPERS

VK Knowlton has been using a D-7 Bulldozer with a RAKE ATTACHED TO BLADE for SCARFYING. It APPEARS to BE WORKING WELL. Material is breaking up well and ~~is getting~~ THE material is getting scarified to the required 1' according to SPECS. 3 Lifts ARE BEING placed after scarfying and compacting bottom 1'. A 300' AREA is being worked per day. Friday, VK Knowlton will try to finish a 400' section. Overlaps at the 100' mark of EACH section has been about 4'-5'.

Respectfully Submitted
PSE - G. Quintanilla

8-3-87: 7:15 Am Check 1-A pond South Slope
- The wall looked good except for a few
areas - You could see the leaked areas -
But in contrast they were small. Pictures
were taken: 8:45 am. B. Conil & J. Evans toured
the pond and observed the South Slope -
Robert Aris is suppose to be on site this
morning and we will meet with Kamulter and
discuss leaks on South Slope -
3:25 Robert Aris did not come - Plans are
to continue as plan -

Daily Field Report

B-4-87

M

CLIENT: San Miguel Coop

Contractor: VK Knowlton

Project 1A POND

VK Knowlton is starting to work a section on the bottom of the pond between STA. 900'-13. After removing some material, a reddish sandy clay was encountered and sampled for testing. At 3:00 p.m. I recommended to the foreman representing VK Knowlton to use sheeps foot for compacting material on the bottom of pond. The foreman did not agree to this method and wanted to use scrapers instead for compacting. His reasoning was for more productivity. I do not agree with his method of compacting and told the foreman that I was not in agreement with his method of compacting.

Respectfully Submitted
PSI - G. Quintanilla

8.5-87; Gary with P.S.I. came into the office and ask that I (J. Evans) go down into the pond and look at an area that was of question. Knowlton wanted the area to be tested and P.S.I. said that the area was too rough and needed to be compacted in a more uniform manner. I took pictures of the area and P.S.I., myself and a Rep of Knowlton looked at the pictures and agreed that the area was not done in a uniform manner. Mike (with Knowlton) came in later and this matter was discussed with him and He, B. Cmeal + myself went back down into the pond. By this time they had packed down the floor more and it was suitable to be tested. All agreed on what SMGC was expected. Pictures were then taken for record - P.S.I. tested the area and it passed the test.

Hand Radios will be given to Knowlton + P.S.I. so everyone will be in contact with each other when needed - Knowlton + P.S.I. will leave their Radios with the SMGC Guard every afternoon and pick up every morning. Knowlton Call No will be 26 D and P.S.I. will be 26 C.

Daily Field Report

8-5-87

CLIENT: San Miguel Coop

CONTRACTOR: V K Knowlton

Project: SMCIA Pond

Another small Area with seepage was encountered today in STA. 1500'. SMC was informed. SMC wants VK Knowlton to finish slope and then note the trouble spots for discussion at a later date. Another thing that needs to be brought to the attention of VK Knowlton is an area in STA. 1500'-1800' on the Pond Floor was worked and is being placed in a manner that does not comply with contract. Under General Notes #3 - Fill must be placed in a manner which will result in a uniform clay fill with minimum permeability. Pictures were taken in this Area to show the unevenness of 1st Lift. At 4:00 SMC, PSI, and VK Knowlton discussed and resolved the problems.

Respectfully Submitted
PSI G. Quintanilla

8-8-87 - K.V. Knowlton came out and watered down the South Slope and floor of 1-A Ash Pond. They also surveyed the toe of Slope on South Side.

8-9-87 - K.V. Knowlton came out and watered down the South Slope and floor of 1-A Ash Pond.

Daily Field Report

DATE: 8-10-87

CLIENT: San Miguel Coop

Project: SMCIA Pond

CONTRACTOR: VK Knowlton

Weather: Sunny & Clear

Temp Range: 90° to 96°

Inspector: G. Quintanilla

Type of Inspection being performed: Fill control

Work was concentrated on Pond Floor between STA. 1200' - 2400'. Trouble spots, were heavy concentration of water is encountered, are areas being worked the most today.

VK Knowlton has removed 3' of material in these areas and they are attempting to seal heavy water spots by replacing sandy material with good clay. A total of 12 Densities were taken today. VK Knowlton started at 7:00 - 6:00.

Respectfully Submitted
G. Quintanilla

Daily Field Report

DATE: 8-11-87

CLIENT: San Miguel Coop

CONTRACTOR: V.K. Knowlton

WEATHER: Sunny & CLEAR

TEMP. RANGE: 95° to 100°

INSPECTOR: G. Quintanilla

TYPE OF INSPECTION: being
PERFORMED: Fill control

Project: SMCIA POND

EQUIPMENT USED:

1. 2-6370 SCAVEXES
2. 1-LIEBHERR Bulldozer
3. 1- DB CAT. DOZER
4. 1- DB CAT. DOZER w/RAFF
5. 1- 120G CAT. GRADER
6. 1- CAT SPREAD KING
7. 1- water truck
8. Dicing Equipment

Write summary of work accomplished today:

V.K. Knowlton started at 7:00 a.m. today. STA. 1000' was worked. subgrade and 1st lift were completed in this area. V.K. Knowlton also concentrated work on trouble spots where standing water is found. Reworking of south slope from STA. 1100'-2400' at toe of slope was also done today. V.K. Knowlton is attempting to repair seepage spots and tie into to pond bottom before using alternative of weep holes. A total of 3 densities were taken today. V.K. Knowlton stopped at 6:00 p.m.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-12-87

Client: San Miguel Coop

Contractor: VK Knowlton

Weather: Sunny + Clear

Temp Range 95° to 100°

Inspector: G. Quintanilla

Type of Inspection being performed: Fill Control

Project: SMC IA Pond

Equipment used today:

1. 2-637D Scrapers
2. 1- LIEBHERR Bulldozer
3. 1- DB CAT. Dozer
4. 1- D6 CAT. Dozer
5. 1- 120G CAT. Grader
6. 1- CAT SPRAY KING
7. 1- water truck
8. Discing equipment

Brief summary of work accomplished:

VK Knowlton started at 7:00 a.m.

today STA. 1200'-1700' worked, STA. 300-700' worked, and East Slope worked today. No problems encountered today. A total of ~~10~~ ⁵ densities ~~the~~ were taken today. VK Knowlton stopped at 6:00 p.m.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-13-87

CLIENT: San Miguel Coop

CONTRACTOR: VK Knowlton

WEATHER: Sunny & CLEAR

TEMP. RANGE 95° to 100°

INSPECTOR: G. Quintanilla

TYPE OF INSPECTION

performed: Fill Control

Project: SMC IA Pond

Equipment used today:

1. 2 - G37D Scrapers
2. 1 - LIEBHERR Bulldozer
3. 1 - DG CAT Dozer
4. 1 - DG CAT DOZER w/RAKE
5. 1 - 120G CAT. GRADER
6. 1 - CAT. SPRAY KING
7. 1 - water truck
8. Discing equipment

Brief summary of work accomplished:

V.K. Knowlton started at 7:00 a.m.

VK Knowlton worked on east slope and pond floor STA. 400', 1500', 1000', 900', 300', 500-700'.

Seepage is apparent once again in the pond floor in the S.E. corner. From STA. 100'-600'. VK Knowlton will attempt seal it off again. No other problems ^{were} encountered. A total of 12 densities were taken today. VK Knowlton stopped at 6:00 p.m.

Respectfully Submitted,
G. Quintanilla

Daily Field Report

8-14-87

Client: San Miguel Coop

Contractor: V K Knowlton

Weather: Sunny + Clear

Temp Range: 95 to 100°

Inspector: G. Quintanilla

Type of Inspection

performed: Fill control

Project: SMC IAFon

Equipment used today:

1. 2 - 632D Scrapers
2. 1 - LIEBHERR Bulldozer
3. 1 - D8 CAT. Dozer
4. 1 - D6 CAT. Dozer w/PAKE
5. 1 - 120G CAT. Grader
6. 1 - CAT spray King
7. 1 - water truck
8. Discing equipment

Brief Summary of work accomplished:

V K Knowlton started at 7:00 A.M.

V K Knowlton worked on Pond floor STA 300-700, 800', 900'. Water has been removed from Pond

floor on North side between STA. 300' - 700'. This water hole will be sealed off today.

I took several test in areas where seepage has reoccurred and as a result, ^{they} have all passed compaction and moisture content with the exception of one area on the ^{south} slope.

This area will be reworked. A total of 12 Densities were taken this day. V K Knowlton stopped at 6:00 P.M.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-17-87

Client: San Miguel Coop

Contractor: V K Knowlton

Weather: Sunny & Clear

Temp Range 95° to 100°

Inspector: G. Quintanilla

Type of Inspection

performed: Fill Control

Project: SMC IA Pond

Equipment used this day

1. 1 - G37D Scraper
2. 1 - LIEBHERR dozer
3. 1 - D8 dozer
4. 1 - D6 dozer w/PAKE
5. 1 - 120G CAT Grader
6. 1 - CAT spray king
7. 1 - water truck
8. Discing Equipment

Brief summary of work accomplished:

V. K. Knowlton started at 7:00 a.m.

Areas worked today were on Pond floor
STA. 1200'-1500', 700', 300-700', 900', 0-300'.

Seepage has recurred again in SE. corner
STA. 60'-600'. Another alternative will have
to be used in this area. A change in material
was encountered on North slope and Pond Floor.

A sample was taken for testing. A total
of 24 densities taken today. V K Knowlton
stopped at 6:00 p.m.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-18-87

Client: San Miguel Coop

Contractor: V K Knowlton

Weather: Sunny & Clear

Temp. Range: 95° to 100°

Inspector: G. Quintanilla

Type of Inspection performed:

Fill Control

Project - 1A Pond

Equipment Used this day:

1. 1 - G37D Scraper
2. 1 - LIEBHERR Dozer
3. 1 - D-8 Dozer
4. 1 - D-6 Dozer w/Rake
5. 1 - Water truck
6. 1 - Cat. Spray King
7. 1 - 120G Motor Grader

Brief Summary of work accomplished:

V K Knowlton started at 7:00 AM.

Areas worked today were North Slope.

STA. 100' - 500'. Everything went pretty

smoothly today, no problems encountered.

A total of 18 Densities were taken. 4 failures

on moisture - this area is being watered

and reworked again. V K Knowlton stopped

at 6:00.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-19-87

Client: San Miguel Coop

Project 1A Pump

Contractor: V.K. Knowlton

Equipment used this day

Weather: Sunny & Clear

Temp. Range: 95° to 100°

Inspector: G. Quintanilla

Type of Inspection performed

Fill Control

1. 1- G37D Scraper
2. 1- LIEBHERR Dozer
3. 1- D-8 Dozer
4. 1- D-6 Dozer w/RAKE
5. 1- Water truck
6. 1- CAT. Spray King
7. 1- 120G Motor Grader

Brief Summary of work accomplished:

V.K. Knowlton commenced at 7:00 a.m.
V.K. Knowlton was able to work a 300' section today. The North slope. Sta. 400-700' was worked and 200' was completed. A total of 18 densities taken today. V.K. Knowlton stopped at 6:00 p.m.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-20-87

Client: San Miguel Coop

Contractor: V K Knowlton

Weather: Sunny & Clear

Temp. Range: 95° to 100°

Inspector: G. Quintanilla

Type of Inspector preferred:
Fill control

Project SMCIA Pond

Equipment Used today:

1. 2 - 637D Scrapers
2. 1 - LIEBHERR Dozer
3. 1 - D-8 Dozer
4. 1 - D-6 Dozer w/Rake
5. 1 - Water truck
6. 1 - Cat Spray King
7. 1 - 120G Motor Grader
8. Discing Equipment

Brief Summary of work accomplished:

V K Knowlton started at 9:00.

A 600' section was worked today, 300' on pond floor and 300' on slope. The 300' section on North slope was completed. No problems encountered today besides a dozer breaking down. A total of 24 densities were taken. Densities from Report # 8-18-87 which failed moisture content have passed today. V K Knowlton stopped at 6:00 p.m.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-21-87

Client: San Miguel Coop

Project: IA Ponds

Contractor: VK Knowlton

Equipment used:

Weather: Sunny & Clear

1. 2 - G37D Scrapers

Temp Range: 95 to 100°

2. 1 - LIEBHERR Dozer

Inspector: G. Quintanilla

3. 1 D-6 Dozer

Type of Inspection

4. 1 water truck

performed: Fill control

5. 1 CAT SPRAY King

6. 1 - 120 G. Motor Grader

7. Discing Equipment.

Brief Summary of Work Accomplished:

VK Knowlton worked and completed STA. 100-300' ON pond Floor and STA. 900-1200' ON NORTH slope. New proctor values were used today. Proctor came back at 88.2 Maximum Dry Density and 23.7 optimum moisture content. PI on this material is 37. This proctor is working out a lot better with material being work at this time. No problems encountered today. A total of 30 densities were taken. VK Knowlton started at 8:00 and finished at 6:00 pm.

Respectfully Submitted
G. Quintanilla

Daily Field Report

8-25-87

CLIENT: San Miguel Coop.

Contractor: V K Knowlton

Weather: Sunny + Clear

Temp Range: 90° to 95°

Inspector: G. Quintanilla/
Keith McWilliams

Type of Inspection: Fill Control

Project: 1A Pond

Equipment used:

1. J-6320 Scraper
2. 1-LIGHT BERR DOZER
3. 1-D6 DOZER
4. 1-SPRAY KING
5. 1-1200 MOTOR GRADER
6. Discing Equipment
7. 1-Water truck

Brief summary of work accomplished

North slope STA. 1300-1500', Pond Floor STA. 400-1400 were areas worked this day ~~that~~ ^{AREAS} that failed ~~in these areas~~ have been reworked and retests comply with specs. Most of the work was concentrated on Pond floor. No other problems were encountered. V.K. Knowlton worked until 6:00 p.m. A total of 23 ~~retests~~ compaction test were taken today.

Respectfully Submitted
G Quintanilla/Keith McWilliams

San Miguel Coop - LA Pond

ATTN. CLYDE PRICE

8-27-87

In observing south slope of LA Pond, once again I must emphasize that weep holes be placed in seepage areas.

There are two areas on south slope where fractures have occurred. In those areas UK Knawltan should rework material and then place weep holes to insure that seepage stays in a controlled area, and to further cause anymore fracturing of Liner.

Respectfully Submitted
P.S.I. - G. Quintanilla

9-1-87

Visited Miss ... and looked at the pond. We went to visit the ...
from place ... all sides of the pond to
prevent ... Also to visit the
walk to the ... to make up the
large loop of dirt.

V. ... work Friday Aug 28,
Sat, 29, Sun 30, Monday 31 on Tuesday Sept 1 because
of rain - the first time since ...
in place.

G. ...

...
...
... South ...
...
...
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1

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ASTM: Cyle
Date

9-9-87

Client: San Miguel Coop

Project: IA Pond

Refs of 9-9-87, Areas that need to be reworked due to fractures and weather conditions are as follows:

- 1) STA. 300'-400', 80'x30' AREA; CAVE-IN, 2' AREA should be reworked.
- 2) STA. 1400'-1500', 50'x30' AREA; FRACTURE, 2' 9" LIFT should be reworked.
- 3) STA. 2200'-2400', 175'x30' AREA; DEEP FRACTURES & CAVE-INS. A 2' AREA is advised to be reworked.

From my observations of the South Slope in IA Pond, OUR (PST) recommendations are that these areas listed above should be reworked and immediately thereafter weep holes should be placed to reduce or correct any weather problems that may be encountered on the south slope. If there are any questions concerning the south slope, please feel free to contact me (Carlo) or our office. Thank you.

Respectfully,
PST: G. O. St. ...

SEPT. 23, 1987:

P.S. 1. Rep. + Whelan are keeping
the simile picture in view that since
date of leaving V.K. Krouder left the
port since yesterday (Sept 22, 1987). On
the part V.K.K. was left to finish
up - All his stuff has been placed
the place in that it is most of
but the same time there is a
time left.



REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel Coop

PROJECT 1A Pond

DATE 7-22-87

OUR REPORT NO 311-

TEST DATA: O.M.C. 37.7

TEST NO	DATE	ELEV. / DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	W/PLAC DRY DENSITY	PER CENT COMPACTION	COMMENT
1	7-22-87	GRADE		77.9	37.5	74.5	95.6	
2	↓	↓		↓	29.3	80.8	103.7	
3	↓	↓		↓	34.5	78.8	100+	

TEST LOCATION: 1A POND

1	TEST TAKEN IN 1800' - 1900' AREA - 30' S. OF NORTH SLOPE AND 20' WEST OF 1800' MARK.							
"	" " " " " " - 40' S. OF NORTH SLOPE AND 30' WEST OF 1900' MARK.							
3	" " " " " " - 20' N. OF SOUTH SLOPE AND 40' EAST OF 1900' MARK.							
TEST TAKEN TO CHECK MOISTURE CONTENT! (NOT A RECONSTRUCTED AREA)								

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	85"	2453	0.405	102.5	2468	0.670	28.00	37.5	74.5	95.6
2		2374	0.392	104.5	2113	0.574	23.75	29.3	80.8	103.7
3	↓	2348	0.388	106.0	2406	0.653	27.25	34.5	78.8	100+

NOTES: (IF NOT SHOWN USE PER CUBIC FOOT)
WATER CONTENT: per cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 6048
- C TEST AFTER RECOMPACTION 2680
- D. Moisture in excess of specs
- E. Moisture below specs

PREPARED BY: T. G. O. 1-11



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: LA Pond

(NEW BRICK)

DATE: 7-24-87

OUR REPORT NO: 311-

TEST DATA: 37.5, 28.2

TEST NO	DATE	ELEV. DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	7-24-87	GRADE	?	22.5	28.2	87.8	99.0	1-2
2	↓	↓	↓	↓	29.2	88.8	102.5	↓

TEST LOCATION:

1	
2	

A O C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	6"	2738	1.442	107.5	2215	0.584	24.25	28.2	87.8	99.0
2	↓	2221	1.357	100.5	2350	0.625	26.00	29.2	88.8	102.5

NOTES: DENSITY SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of spec
- E. moisture below spec

COMPUTATIONS



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: 1A Pond

DATE: 7-28-87 (New Proctor)

OUR REPORT NO: 311 -

TEST DATA: 28.2

TEST NO	DATE	ELEV DEPTH	SOLID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
1	7-24-87	GRADE	1	86.6	28.0	88.3	101.7	100% L.C.
2	↓	↓	↓	↓	27.5	89.0	102.5	100% L.C.

TEST LOCATION: SOUTH SLOPE

1	1200' ± 15' from road center
2	1300' ± 15' from road center

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	6"	7241	1.251	113.0	2291	0.590	24.15	28.0	88.3	101.7
2	↓	7777	1.235	113.5	2268	0.590	24.50	27.5	89.0	102.5

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by solid number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs

DATE: 7-28-87

TEST NO: 311



REPORT OF FIELD COMPACTION TESTS

... FOR: **SAN MIGUEL COOP**

PROJECT: **S.M.C. IA POND**

DATE: **7-29-87**

NEW PROJECT OUR REPORT NO: **311**

TEST DATA:

22.2

TEST NO	DATE	ELEV DEPTH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	7-29-87	GRAPE	7	86.8	31.5	82.5	95.0	1-1
2					32.1	82.5	95.0	
3					33.5	85.0	97.9	
4					31.9	86.0	99.0	
5					32.9	85.0	97.9	
6					33.1	85.3	98.2	

TEST LOCATION: **SOUTH SLOPE STA. 900-1000, 1000-1100, 1100-1200 (300' AREA PER DAY)**

1	25' WEST OF STA. 900' AND 40' FROM BOTTOM OF SLOPE
2	70' WEST OF STA. 900' AND 20' FROM TOP OF SLOPE
3	30' WEST OF STA. 1000' AND 30' FROM BOTTOM OF SLOPE
4	20' EAST OF STA. 1100' AND 20' FROM TOP OF SLOPE
5	10' WEST OF STA. 1100' AND 10' FROM BOTTOM OF SLOPE
6	25' EAST OF STA. 1200' AND 30' FROM TOP OF SLOPE

TEST NO.	PROBE DEPTH	DENSITY COUNT	DENSITY RATIO	WET DENSITY	MOISTURE COUNT	MOISTURE RATIO	MOISTURE PCF	WATER CONTENT	DRY DENSITY	PERCENT COMPACTION
1	6"	8575	1.412	108.5	2092	0.628	26.00	31.5	82.5	95.0
2		8547	1.407	109.0	2128	0.639	26.50	32.1	82.5	95.0
3		7738	1.274	113.5	2271	0.682	28.50	33.5	85.0	97.9
4		7810	1.286	113.5	2199	0.660	27.50	31.9	86.0	99.0
5		7840	1.291	113.0	2230	0.669	28.00	32.9	85.0	97.9
6		7795	1.283	113.5	2245	0.674	28.25	33.1	85.3	98.2

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL/CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs

60.72
332.9

Computerized



REPORT OF FIELD COMPACTION TESTS

DESIGNED FOR: San Miguel Corp

PROJECT: SMC LA POND

DATE: 7-29-87

OUR REPORT NO: 311-

TEST DATA: DM-28.2

TEST NO	DATE	DEPTH	FETV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT*
7	7-29-87	1st LIFT		2	86.8	31.7	82.8	95.3	1-A
8						31.9	84.5	97.3	
9						31.7	85.0	97.9	
10						34.5	84.0	96.7	
11						35.5	83.0	95.6	
12	✓	✓	✓	✓	✓	33.9	84.0	96.7	✓

TEST LOCATION: SOUTH SLOPE STA. 900' - 1200' (300' AREA/DAY)

7	30' WEST OF STA. 900' AND 45' FROM BOTTOM OF SLOPE
8	20' EAST OF STA. 1000' AND 20' FROM TOP OF SLOPE
9	35' WEST OF STA. 1000' AND 15' FROM TOP ^{TOP} OF SLOPE
10	20' EAST OF STA. 1100' AND 20' FROM TOP ^{BOTTOM} OF SLOPE
11	50' WEST OF STA. 1100' AND 25' FROM BOTTOM OF SLOPE
12	10' EAST OF STA. 1200' AND 30' FROM TOP OF SLOPE

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Ret Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	6"	8514	1.402	109.0	2097	0.629	26.25	31.7	82.8	95.3
8		8082	1.331	111.5	2167	0.650	27.00	31.9	84.5	97.3
9		8039	1.323	112.0	2169	0.651	27.00	31.7	85.0	97.9
10		7871	1.296	113.0	2310	0.693	29.00	34.5	84.0	96.7
11		7970	1.312	112.5	2351	0.706	29.50	35.5	83.0	95.6
12	✓	7931	1.306	112.5	2265	0.680	28.50	33.9	84.0	96.7

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by test ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 6072
- C TEST IS AFTER RECOMPACTION 3329
- D. Moisture in excess of specs
- E. Moisture below specs

Calculations



REPORT OF FIELD COMPACTION TESTS

LD FOR: San Miguel Coop PROJECT: G.M.C. - 1A POND

DATE: 7-29-87 NEW PROCTOR QH REPORT NO 311-

TEST DATA: G.M.C. 28.2

TEST NO	DATE	ELY OPTM	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
13	7-29-87	2nd Lift	5	96.8	31.2	84.5	97.3	1-A
14					32.5	83.8	96.6	
15					33.7	83.7	96.5	
16					31.2	83.7	96.5	
17					32.7	83.3	95.9	
18	↓	↓	↓	↓	33.1	83.6	96.4	↓

TEST LOCATION: SOUTH SLOPE 900'-1200' (300' AREA / DAY)

13	25' WEST OF STA. 900' and 25' from Top of slope
14	40' EAST of STA. 1000' and 40' from bottom of slope
15	45' WEST OF STA. 1000' and 30' from Top of slope
16	40' EAST of STA. 1100' and 20' from bottom of slope
17	35' WEST OF STA. 1100' and 30' from Top of slope
18	45' EAST OF STA. 1200' and 15' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
13	6"	8291	1.365	110.5	2085	0.626	26.00	31.2	84.5	97.3
14		8190	1.348	111.0	2175	0.653	27.25	32.5	83.8	96.6
15		7983	1.314	112.0	2210	0.688	28.75	33.7	83.8	96.5
16		8560	1.409	109.0	2093	0.607	25.25	31.2	83.8	96.5
17		8250	1.358	110.5	2183	0.655	27.25	32.7	83.3	95.9
18	✓	8135	1.339	111.5	2205	0.662	27.75	33.1	83.8	96.4

NOTES: DENSITIES SHOWN lbs per cu ft
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 6072
- C TEST IS AFTER RECOMPACTION 3329
- D. moisture in excess of spec
- E. moisture below spec

APPROVED: TREA. A.O



REPORT OF FIELD COMPACTION TESTS

CD FOR San Miguel Coop

PROJECT SAC 1A Rnd

DATE 7-29-87

OUR REPORT NO: 311-

TEST DATA: OMC. 28.2

TEST NO	DATE	ELEV DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
19	7-29-87	Fwallia	?	86.8	33.5	85.0	97.9	1-A
20					35.8	81.0	95.0	
21					33.5	84.3	96.0	
22					32.5	84.5	97.3	
23					31.3	83.3	95.9	
24					30.7	83.8	96.4	

TEST LOCATION: SOUTH SLOPE STA. 900' - 1200' (300' AREA, DAY)

19	30' WEST of STA. 900' and 20' from top of slope
20	20' EAST of STA. 1000' and 15' from bottom of slope
21	10' WEST of STA. 1000' and 20' from top of slope
22	40' EAST of STA. 1100' and 25' from bottom of slope
23	55' WEST of STA. 1100' and 10' from top of slope
24	30' EAST of STA. 1200' and 15' from bottom of slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
19	6"	7842	1.291	113.5	2260	0.678	28.50	33.5	85.0	97.9
20		7890	1.370	110.0	2305	0.692	29.00	35.8	81.0	95.0
21		7954	1.309	112.5	2254	0.677	28.25	33.5	84.3	96.0
22		8032	1.322	112.0	2193	0.658	27.50	32.5	84.5	97.3
23		8591	1.414	108.5	2035	0.611	25.25	31.3	83.3	95.9
24		8432	1.388	109.5	2060	0.618	25.75	30.7	83.8	96.4

COMPUTER PRINT

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample incubated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
A OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED 6072
C TEST IS AFTER RECOMPACTION 3329
D. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

LD FOR **San Miguel Corp**

PROJECT: **SME 1A POND**

DATE **7-30-87**

NEW PROCTOR

CUR REPORT NO **311-**

TEST DATA:

(282)

TEST NO	DATE	DEPTH	TEST	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
1	7-30-87	GRADE	✓		86.8	33.1	85.3	98.2	1-A 1 Test/100' SECTION REQUIRED
2						31.9	86.0	99.0	
3			✓			33.1	83.8	96.5	
4		1st Lift				33.2	85.3	98.2	
5			✓			32.1	82.5	95.0	
6			✓			30.4	85.5	98.5	

TEST LOCATION: **SOUTH SLOPE - 1300' - 1500' (2nd AREA DAY)**

1	30' WEST OF STA. 1500' AND 30' FROM BOTTOM OF SLOPE
2	40' WEST OF STA. 1400' AND 45' FROM BOTTOM OF SLOPE
3	25' WEST OF STA. 1500' AND 20' FROM BOTTOM OF SLOPE
4	20' WEST OF STA. 1300' AND 15' FROM BOTTOM OF SLOPE
5	30' WEST OF STA. 1400' AND 30' FROM BOTTOM OF SLOPE
6	60' WEST OF STA. 1500' AND 30' FROM TOP OF SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	6"	7796	1.283	113.5	2248	0.675	28.25	33.1	85.3	98.2
2		7751	1.276	113.5	2190	0.659	27.50	31.9	86.0	99.0
3		8113	1.336	111.5	2222	0.667	27.75	33.1	83.8	96.5
4		7831	1.289	113.5	2242	0.673	28.25	33.2	85.3	98.2
5		8560	1.409	109.0	2130	0.636	26.50	32.1	82.5	95.0
6		8122	1.337	111.5	2084	0.626	26.00	30.4	85.5	98.5

NOTES: DENSITIES SHOWN Lbs. per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density of soil on sample indicated by soil ID number

1. FILL MATERIAL
 2. BACKFILL
 3. BASE COURSE
 4. EXPOSED
 5. SOIL CEMENT
 6. OTHER

A. TEST RESULTS COMPLY WITH SPEC. CRITERIA
 B. RECOMPACTION REQUIRED
 C. TEST IS AFTER RECOMPACTION
 D. Moisture in excess of specs
 E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: SMC - 1A Pond

DATE: 7-30-87

CUR REPORT NO. 311-

TEST DATA: 28.2

TEST NO.	DATE	DEPTH	ELEV	SOE ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
7	7-30-87	2nd Lift		7	86.8	30.9	85.5	98.5	✓
8		↓				31.0	83.3	95.9	
9		↓				33.1	83.8	96.5	
10		Final				32.1	83.3	95.3	
11		↓				32.5	83.3	95.3	
12	✓	↓		✓			85.5	98.4	✓

TEST LOCATION: SOUTH SLOPE (1300'-1500') 300' AREA / DAY

7	15' WEST OF STA. 1300' AND 25' FROM TOP OF SLOPE
8	35' WEST OF STA. 1400' AND 30' FROM BOTTOM OF SLOPE
9	50' WEST OF STA. 1500' AND 20' FROM BOTTOM OF SLOPE
10	30' WEST OF STA. 1300' AND 15' FROM BOTTOM OF SLOPE
11	40' WEST OF STA. 1400' AND 20' FROM TOP OF SLOPE
12	60' WEST OF STA. 1500' AND 30' FROM TOP OF SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Max Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	DR% Density	Percent Compact
7	6"	8063	1.327	112.0	2127	0.638	26.50	30.9	85.5	98.5
8		8467	1.394	109.0	2050	0.615	25.75	31.0	83.3	95.9
9		8130	1.338	111.5	2215	0.665	27.75	33.1	83.8	96.5
10		8221	1.328	111.0	2116	0.643	26.75	32.1	83.3	95.3
11		8221	1.328	111.0	2116	0.643	26.75	32.5	83.3	95.3
12	✓	7922	1.211	114.5	2116	0.643	26.75	85.5	85.5	98.4

NOTES: DENSITIES SHOWN (lbs per cu foot)
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 D. moisture in excess of specs
 E. moisture below specs

TECH. G. D.



REPORT OF FIELD COMPACTION TESTS

TESTED FOR *San Miguel Coop*

PROJECT *SMC IA POND*

DATE *7-31-87*

OUR REPORT NO *311-*

TEST DATA:

28.2

TEST NO	DATE	FLY DEPTH	SOIL NUMBER	METRIC LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
1	7-31-87	GRADE	C	86.8	30.2	86.0	99.0	1-A
2		↓	↓	↓	30.3	79.0	91.0	1-B
3		↓	↓	↓	30.6	86.8	100.0	1-A
4		GRADE			30.9	86.3	99.4	1-AC
5		↓	↓	↓	32.5	85.3	98.2	1-A
6		↓	↓	↓	↓	↓	↓	↓

TEST LOCATION: *SOUTH SLOPE 1600' - 1800' (30' AREA)*

1	<i>20' WEST OF STA. 1600' AND 30' FROM TOP OF SLOPE</i>
2	<i>35' WEST OF STA. 1700' AND 30' FROM BOTTOM OF SLOPE</i>
3	<i>45' WEST OF STA. 1600' AND 30' FROM BOTTOM OF SLOPE</i>
4	<i>REPEAT OF TEST # 2</i>
5	<i>30' WEST OF STA. 1600' AND 30' FROM BOTTOM OF SLOPE</i>
6	<i>40' WEST OF STA. 1700' AND 40' FROM TOP OF SLOPE</i>

A B C D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compctn
1	6"	7899	1.300	112.5	2023	0.637	26.50	30.8	86.0	99.0
2		9613	1.583	103.0	1937	0.581	24.00	30.3	79.0	91.0
3		7966	1.311	112.5	2067	0.620	25.75	30.6	86.8	100.0
4		7830	1.294	130	2149	0.625	26.75	30.9	86.3	99.4
5		7950	1.307	112.5	2183	0.635	27.25	32.5	85.3	98.2
6	√	8543	1.407	109.0	2075	0.625	26.00	31.3	83.0	95.1

CIRCUIT BOARD

NOTES: DENSITIES SHOWN lbs per cubic foot
 WATER CONTENT: Per Civil of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1. FILL MATERIAL
 2. BACKFILL
 3. BASE COURSE
 4. SUBBASE
 5. SOIL/CEMENT
 6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
 B. RE-COMPACTION REQUIRED *60%*
 C. TEST AFTER RE-COMPACTION *82%*
 D. moisture in excess of specs
 E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR **SAN Miguel Coop**

PROJECT **SMC IA POND**

DATE **7-31-87**

OUR REPORT NO **311-**

TEST DATA: **OMC - 28.2**

TEST NO	DATE	ELEV DEPTH	SOLID NUMBER	MAXIMUM LAD DRY DENSITY	WATER CONTENT	APPLD DRY DENSITY	PERCENT COMPACTION	COMMENT
7	7-31-87	1st Lift	?	86.8	30.5	83.5	96.1	1-A
8		2nd Lift			31.7	85.8	98.8	
9		↓			32.1	85.5	98.5	
10		↓			32.1	85.5	98.5	
11		Final			33.9	82.5	95.0	
12		↓			31.2	82.5	95.0	↓

TEST LOCATION: **SOUTH SLOPE (16' x 12' x 12') 1300 APPROX / DAY**

7	50' WEST OF STA 12+00 - 5' x 12' x 12' test hole
8	65' WEST OF STA 12+00 - 5' x 12' x 12' test hole
9	70' WEST OF STA 12+00 - 5' x 12' x 12' test hole
10	15' WEST OF STA 12+00 - 5' x 12' x 12' test hole
11	50' WEST OF STA 12+00 - 5' x 12' x 12' test hole
12	50' WEST OF STA 12+00 - 5' x 12' x 12' test hole

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	6'	8520	1.403	109.0	2037	0.611	25.50	30.5	83.5	96.1
8	1'	7914	1.305	113.0	2184	0.656	27.25	31.7	85.8	98.8
9	1'	7914	1.303	113.0	2190	0.657	27.50	32.1	85.5	98.5
10	1'	7890	1.299	113.0	2196	0.659	27.50	32.1	85.5	98.5
11	1'	8448	1.391	109.5	2232	0.670	28.00	33.9	82.5	95.0
12	1'	8350	1.375	109.5	2200	0.670	28.00	33.9	82.5	95.0

NOTES: DENSITIES SHOWN IN parentheses are
WATER CONTENT: Per Cent (dry weight)
PERCENT COMPACTION: Based on maximum dry
density obtained on sample indicated by
solid number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A: TEST RESULTS COMPLY WITH SPECIFICATIONS
B: RECOMPACTION REQUIRED **6012**
C: TEST IS AFTER RECOMPACTION **3329**
D: moisture in excess of specs
E: moisture below specs

Computer printout



REPORT OF FIELD COMPACTION TESTS

ED FOR *San Miguel Coop*

PROJECT *S.M.C. LA POND*

DATE *7-31-87*

OUR REPORT NO *311-*

TEST DATA: *282*

TEST NO	DATE	DEPTH	SOLID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
<i>13</i>	<i>7-31-87</i>	<i>6"</i>	<i>3</i>	<i>86.8</i>	<i>33.5</i>	<i>82.8</i>	<i>95.3</i>	<i>1-A</i>

TEST LOCATION: *S.M.C. LA POND (Location) 300 42.23. 2AV*

<i>13</i>	<i>Soil sample - S.M.C. LA POND and 2' below top of slope</i>								

A O V D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
<i>13</i>	<i>6"</i>	<i>21.75</i>	<i>1.363</i>	<i>111.5</i>	<i>2740</i>	<i> </i>	<i>21.75</i>	<i>33.5</i>	<i>86.8</i>	<i>95.3</i>

NOTES: DENSITIES SHOWN: Lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample articulated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS CONFORM WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs

APPROVED: *Tom C. C.*



REPORT OF FIELD COMPACTION TESTS

ORDERED FOR: San Miguel Coop

PROJECT: S.M.C. IA Pond

DATE: 8-3-87

OUR REPORT NO.: 311 -

TEST DATA: O.M.C. (5, 28.2)

TEST NO.	DATE	DEPTH	ELEV.	SOL. NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT *
1	8-3-87	GRADE		5	86.8	30.9	83.3	95.9	1-A
2		↓		↓	↓	30.8	86.0	99.0	↓
3		↓		↓	↓	30.7	84.5	97.3	↓
4		1st Lift		↓	↓	30.8	84.5	97.3	1-A
5		↓		↓	↓	33.3	82.5	95.0	↓
6		↓		↓	↓	32.9	84.3	97.1	↓

TEST LOCATION: ROUTE SLOPE 1900' to 2100' (370 section 11/15/87)

1	35' WEST OF STA. 1900' and 20' from top of slope
2	45' WEST OF STA. 2000' and 25' from bottom of slope
3	60' WEST OF STA. 2100' and 35' from top of slope
4	65' WEST OF STA. 1900' and 20' from bottom of slope
5	70' WEST OF STA. 2000' and 40' from top of slope
6	20' WEST OF STA. 2100' and 25' from bottom of slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	6"	8538	1.406	109.0	2067	0.620	25.75	30.9	83.3	95.9
2		7943	1.308	112.5	2118	0.636	26.50	30.8	86.0	99.0
3		8395	1.382	110.0	2038	0.612	25.50	30.7	84.5	97.3
4	8"	5279	0.869	110.5	2089	0.627	26.00	30.8	84.5	97.3
5	↓	5311	0.874	110.0	2232	0.690	27.50	33.3	82.5	95.0
6	↓	5075	0.835	111.5	2165	0.650	27.25	32.9	84.3	97.1

COMPUTED BY

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 ASPHALT

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED 6092
C TEST IS AFTER RECOMPACTION 3329
D. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA POND

DATE: 8-3-87

OUR REPORT NO: 311-

TEST DATA: OMCS, 28.2

TEST NO	DATE	ELEV DEPTH	SOLID NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-3-87	2.01 ft	5	86.8	3.1	78.0	90.0	
8		↓	↓	↓	3.1	78.0	90.0	
9		↓	↓	↓	3.1	78.0	90.0	
10		Final	↓	↓	3.1	78.0	90.0	
11		↓	↓	↓	3.1	78.0	90.0	
12		↓	↓	↓	3.1	78.0	90.0	

TEST LOCATION: 50' - 65' West of STA. 1900' and 15' from bottom of slope (see plan of LA)

7	20' west of STA. 1900' and 35' from top of slope 40' west of STA. 2000' and 20' from bottom of slope
9	50' west of STA. 2100' and 40' from top of slope
10	65' west of STA. 1900' and 15' from bottom of slope
11	15' west of STA. 2000' and 30' from top of slope
12	10' west of STA. 2100' and 25' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	5641			2080					
8		5065			2113					
9	↓	5080			2185					
10	6"									
11	↓									
12	↓									

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by solid number

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION
D. Moisture in excess of specs
E. Moisture below specs

6072
3329



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 8-4-87

OUR REPORT NO: 311-

TEST DATA: OMC 5.28.2

TEST NO.	DATE	ELLY DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	W PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
1	8-4-87	GRADE	5	86.8	35.5	82.3	95.0	1-A
2		GRADE			31.3	85.3	98.2	|
3		GRADE			32.3	84.8	97.6	|
4		GRADE			30.9	84.7	97.5	↓
5		1st Lf			31.1	83.5	96.1	1-A
6	↓	↓	↓	↓	31.1	83.5	96.1	↓

TEST LOCATION: SOUTH SIDE (S.W. CORNER of slope) (375' station) 2200' - 2300'

1	25' WEST OF STA. 2200' AND 15' FROM BOTTOM OF SLOPE
2	40' WEST OF STA. 2300' AND 35' FROM BOTTOM OF SLOPE
3	50' WEST OF STA. 2400' AND 25' FROM TOP OF SLOPE
4	10' NORTH OF STA. 2475' AND 35' FROM TOP OF SLOPE
5	40' WEST OF STA. 2200' AND 30' FROM BOTTOM OF SLOPE
6	15' WEST OF STA. 2300' AND 20' FROM TOP OF SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	2"	5135	0.845	111.5	2327	0.699	29.25	35.5	82.3	95.0
2		5035	0.837	112.0	2139	0.642	26.75	31.3	85.3	98.2
3		5086	0.837	112.0	2175	0.653	27.25	32.1	84.8	97.6
4		5170	0.851	111.0	2073	0.628	26.25	30.9	84.7	97.5
5		5347	0.880	109.5	2069	0.621	26.00	31.1	83.5	96.1
6	↓	5379	0.885	109.5	2092	0.628	26.00	31.1	83.5	96.1

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample machined by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 60%
- C TEST IS AFTER RECOMPACTION 37%
- D. Moisture in excess of specs
- E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

TEST FOR: San Miguel Coop

PROJECT SMC IA Pond

DATE 8-4-87

OUR REPORT NO. 311 -

TEST DATA: O.M.C. (5.28.2)

TEST NO	DATE	DEPTH	ELEV	SOIL NO	NOMINAL LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-4-87	15"	110'	5	86.8	31.3	84.5	97.3	1-A
8		↓				33.3	84.0	96.7	↓
9		2 NO LIFT				33.9	83.3	95.9	1-A
10		↓				31.5	84.8	97.6	↓
11		↓				33.1	83.8	96.5	↓
12	↓	↓	↓	↓	↓	30.7	85.0	97.9	↓

TEST LOCATION: SOUTH SLOPE (SW CORNER OF SLOPE) (375' NORTH) 2200' - 2475'

7	65' WEST OF STA. 2400' AND 15' FROM BOTTOM OF SLOPE
8	20' NORTH OF STA. 2475' AND 30' FROM BOTTOM OF SLOPE
9	60' WEST OF STA. 2200' AND 30' FROM TOP OF SLOPE
10	15' WEST OF STA. 2300' AND 40' FROM TOP OF SLOPE
11	70' WEST OF STA. 2400' AND 20' FROM BOTTOM OF SLOPE
12	35' NORTH OF STA. 2475' AND 45' FROM BOTTOM OF SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	8"	5147	0.847	111.0	2124	0.633	26.50	31.3	84.5	97.3
8		5085	0.837	112.0	2231	0.670	28.20	33.3	84.0	96.7
9		5132	0.845	111.5	2262	0.679	28.25	33.9	83.3	95.9
10		5120	0.843	111.5	2128	0.639	26.75	31.5	84.8	97.6
11		5092	0.838	111.5	2198	0.660	27.75	33.1	83.8	96.5
12	↓	5170	0.851	111.0	2081	0.625	26.00	30.7	85.0	97.9

NOTES: DENSITIES SHOWN lbs. per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1. ALL MATERIAL
 2. BACKFILL
 3. BASE COURSE
 4. SUBBASE
 5. SOIL CEMENT
 6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
 B. RECOMPACTION REQUIRED
 C. TEST IS AFTER RECOMPACTION
 D. moisture in excess of specs
 E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

FOR **SAN MIGUEL COOP**

PROJECT: **S.M.C. 1A ROAD**

DATE: **8-4-87**

OUR REPORT NO. **311-**

TEST DATA: **OMC (5, 28.2)**

TEST NO.	DATE	ELEV. / DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	W PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
13	8-4-87	Final	5	86.8	30.9	83.3	95.9	1-A
14					31.3	83.8	96.5	
15					30.7	83.8	96.5	
16		↓			32.5	83.7	96.4	↓
17		2nd Lf			31.7	84.3	97.1	1-A
18		Final	↓	↓				

TEST LOCATION: **202th Street, 1/2 mi. south of Sta. 1375 section 11, 100' S.E. of Sta. 2200-2475, 12**

13	15' west of STA 2200' and 5' from bottom of slope
14	30' west of STA 2300' and 25' from bottom of slope
15	50' west of STA 2400' and 40' from top of slope
16	40' north of STA 2300' and 35' from bottom of slope
17	75' west of STA 1200' and 15' from bottom of slope
18	65' west of STA 1200' and 30' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
13	6"	8550	1.408	109.0	2072	0.622	25.75	30.9	83.3	95.9
14		8358	1.376	110.0	2112	0.634	26.25	31.3	83.8	96.5
15		8485	1.397	109.5	2065	0.620	25.75	30.7	83.8	96.5
16	↓	8163	1.344	111.0	2190	0.657	27.25	32.5	83.7	96.4
17	8'	5186	0.854	111.0	2141	0.643	26.75	31.7	84.3	97.1
18	6'									

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of specs
- E moisture below specs



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: Highway

DATE: 8-5-87

OUR REPORT NO: 311

TEST DATA: Q.M.C. 5, 28.2

TEST NO	DATE	RELEV DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT *
1	8-5-87	GRADE	5	86.8	30.9	84.0	96.7	1-A
2	↓	↓	↓	↓	29.6	85.3	98.2	1-E *
3	↓	↓	↓	↓	31.5	84.7	97.5	1-A
4	↓	1st lift	↓	↓	30.6	85.7	98.7	↓
5	↓	↓	↓	↓	31.3	84.5	97.3	↓
6	↓	↓	↓	↓	31.1	84.3	97.1	↓

TEST LOCATION: SOUTH SLOPE (STA. 600'-900') 300' SECTION / DAY ON SLOPE

1	30' west of sta. 600' and 20' from bottom of slope
2	50' west of STA. 700' and 30' from bottom of slope
	70' west of STA. 800' and 30' from top of slope
4	60' west of STA. 600' and 20' from top of slope
5	80' west of STA. 700' and 35' from top of slope
6	30' west of STA. 900' and 20' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	5230	0.869	110.0	2095	0.629	26.00	30.9	84.0	96.7
2		5224	0.860	110.5	2030	0.609	25.25	29.6	85.3	98.2
3		5095	0.839	111.5	2135	0.641	26.75	31.5	84.7	97.5
4		5050	0.831	112.0	2099	0.630	26.25	30.6	85.7	98.7
5		5179	0.852	111.0	2119	0.636	26.50	31.3	84.5	97.3
6	↓	5272	0.868	110.5	2095	0.629	26.25	31.1	84.3	97.1

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

ED FOR: San Miguel Coop

PROJECT: 1A Pond

DATE: 8-5-87

OUR REPORT NO: 311

TEST DATA: O.M.C. (5, 28.2)

TEST NO	DATE	TELEV. DEPTH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
7	8-5-87	2nd Lift	5	86.8	31.9	84.5	97.3	1-A
8		↓	↓	↓	33.3	84.7	97.5	↓
9		↓	↓	↓	32.3	85.0	97.9	↓
10		Final	↓	↓	30.0	85.0	97.9	↓
11		↓	↓	↓	30.0	85.0	97.9	↓
12		↓	↓	↓	30.0	85.0	97.9	↓

TEST LOCATION: SOUTH SLOPE (STA. 600'-900') (200' SECTION / DAY)

7	85' west of STA. 600' and 40' from bottom of slope
9	20' west of STA. 700' and 15' from bottom of slope
4	10' west of STA. 800' and 45' from bottom of slope
10	15' west of STA. 600' and 15' from top of slope
11	35' west of STA. 700' and 35' from bottom of slope
12	25' west of STA. 800' and 10' from top of slope

A B C D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	8"	5160	0.849	111.5	2159	0.648	27.00	31.9	84.5	97.3
8	↓	4935	0.812	113.0	2260	0.678	28.25	33.3	84.7	97.5
9	↓	4985	0.820	112.5	2200	0.660	27.50	32.3	85.0	97.9
10	6"	8226	1.354	111.5	2159	0.648	27.00	31.9	84.5	97.3
11	↓	7900	1.30	111.5	2159	0.648	27.00	31.9	84.5	97.3
12	↓	8220	1.353	111.5	2159	0.648	27.00	31.9	84.5	97.3

NOTES: DENSITIES SHOWN Lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of specs
- E moisture below specs

Computations



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp

PROJECT: SMC TA POND

DATE: 8-5-87

OUR REPORT NO: 311-

TEST DATA: O.M.C. = (5, 28.2)

TEST NO	DATE	ELEV DEPTH	SOIL NO NUMBER	NATURAL LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	8-5-87	GRADE	5	86.8	35.7	82.5	95.0	1-A
2					32.1	85.5	98.5	
3		↓			33.5	82.7	95.2	
4		1st 1/4 ft			32.5	84.5	97.3	
5					33.0	82.5	95.0	
6		↓	↓	↓	34.1	82.7	95.2	↓

TEST LOCATION: POND FLOOR BETWEEN STA. 1700' - 2000'

1	35' west of STA. 1500' and 15' from toe of south slope.
2	40' west of STA. 1600' and 25' from toe of south slope.
3	55' west of STA. 1700' and 20' from toe of south slope.
4	65' west of STA. 1500' and 30' N. from toe of south slope.
5	70' west of STA. 1600' and 10' N. from toe of south slope.
6	85' west of STA. 1700' and 15' N. from toe of south slope.

H D L D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Ret. Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	5085	0.837	112.0	2357	0.708	29.50	35.7	82.5	95.0
2		4965	0.817	113.0	2190	0.657	27.50	32.1	85.5	98.5
3		5382	0.886	110.5	2227	0.668	27.75	33.5	82.7	95.2
4		5065	0.834	112.0	2196	0.659	27.50	32.5	84.5	97.3
5		5367	0.883	109.5	2180	0.654	27.25	33.0	82.5	95.0
	↓	5254	0.865	111.0	2251	0.676	28.25	34.1	82.7	95.2

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of spec
- E moisture below spec



REPORT OF FIELD COMPACTION TESTS

FOR **San Miguel Coop**

PROJECT **IA Pond**

DATE **8-5-87**

OUR REPORT NO. **311-**

TEST DATA: **DMC (5,282)**

TEST NO.	DATE	FLY / DEPTH	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-5-87	GRADE	5	86.8	32.3	85.0	97.9	1-A
8					32.5	85.3	98.2	
9					31.3	86.0	99.0	
10					32.9	85.0	97.9	
11					32.7	84.0	96.7	
12					33.3	84.0	96.7	

TEST LOCATION: **IN D - 100' EAST OF STA. 2000-2400', STA 1600'**

7	10' WEST OF STA. 2000' and 20' N. FROM TOE OF SOUTH SLOPE
8	20' WEST OF STA. 2100' and 10' N. FROM TOE OF SOUTH SLOPE
9	35' WEST OF STA. 2200' and 5' N. FROM TOE OF SOUTH SLOPE
10	15' WEST OF STA. 2300' and 5' N. FROM TOE OF SOUTH SLOPE
11	35' WEST OF STA. 2400' and 25' N. FROM TOE OF SOUTH SLOPE
12	75' WEST OF STA. 1600' and 20' N. FROM TOE OF SOUTH SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	4995	0.820	112.5	2190	0.657	27.50	32.3	85.0	97.9
8		4935	0.812	113.0	2210	0.663	27.75	32.5	85.3	98.2
9		4951	0.815	113.0	2165	0.650	27.00	31.3	86.0	99.0
10		4970	0.818	113.0	2235	0.671	28.00	32.9	85.0	97.9
11		5121	0.843	111.5	2198	0.660	27.50	32.7	84.0	96.7
12		5065	0.834	112.0	2235	0.671	28.00	33.3	84.0	96.7

NOTES: DENSITIES SHOWN Lbs per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASH COURSE
 4 SUBBASE
 5 SOIL CEMENT
 A OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 D. moisture in excess of specs
 E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR *San Miguel Coop*

PROJECT *SMC IA POND*

DATE *8-5-81*

DLR REPORT NO *311-*

TEST DATA: *OMC 28.2*

TEST NO	DATE	ELEV DEPTH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	MOISTURE DRY DENSITY	PERCENT COMPACTION	COMMENT
<i>1</i>	<i>8-5-81</i>	<i>GRADE</i>	<i>5</i>	<i>85%</i>	<i>32.1</i>	<i>84.7</i>	<i>97.5</i>	<i>1-AC</i>

TEST LOCATION: *SOIL TO GRADE 1 STA. 622'-9"*

<i>1</i>	<i>RETEST OF TEST #1 AT DEPTH 8-5-81 IN STA. 622'</i>							

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
<i>1</i>	<i>8"</i>	<i>5031</i>	<i>0.828</i>	<i>112.0</i>	<i>2169</i>	<i>0.551</i>	<i>27.25</i>	<i>32.1</i>	<i>84.7</i>	<i>97.5</i>

NOTES: DENSITIES SHOWN Lab. by cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample modified by soil number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs

Professional Service Industries, Inc.
Shistone Engineering Testing Laboratory Division

PROBATION TESTS

PROJECT: SAC 1A POND

OUR REPORT NO.: 311-

15, 28, 2

TEST NO.	DEPTH	LIFT	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
3	GRADE	5	86.8	31.4	83.7	96.4	1-A	
	↓			30.6	84.3	97.1		
4	1ST LIFT			30.7	85.7	98.7		
	↓			32.5	83.8	96.5	↓	
5	2ND LIFT			35.1	82.5	95.0	1-A	
6	↓	↓	↓	33.5	85.0	97.9	↓	

TEST LOCATION: SOUTH SLOPE 400'-600' (200' SECTION)

1	40' WEST OF STA. 400' and 20' FROM bottom of slope.
2	60' WEST OF STA. 500' and 40' FROM top of slope.
3	20' WEST OF STA. 400' and 40' FROM bottom of slope.
4	75' WEST OF STA. 500' and 30' FROM bottom of slope.
5	10' WEST OF STA. 400' and 30' FROM bottom of slope.
6	40' WEST OF STA. 500' and 15' FROM bottom of slope.

TEST NO.	Probe Depth	Density Count	Density Ratio	Rec Density	Moisture Cont	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
3	3"	5294	0.871	110.0	2103	0.631	26.25	31.4	83.7	96.4
		5301	0.873	110.0	2061	0.619	25.75	30.6	84.3	97.1
		5052	0.832	112.0	2092	0.628	26.25	30.7	85.7	98.7
		5153	0.848	111.0	2180	0.654	27.25	32.5	83.8	96.5
		5160	0.849	111.5	2303	0.691	29.00	35.1	82.5	95.0
		5164	0.805	113.5	2265	0.680	28.50	33.5	85.0	97.9

1. lbs. per cubic foot
2. % of dry weight
3. Based on maximum dry
density on sample indicated by

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs

6.0



REPORT OF FIELD COMPACTION TESTS

LD FOR: SMC

PROJECT: IA Pond

DATE: 8-6-87

OUR REPORT NO: 311-

TEST DATA: O.M.C. (5, 28.2)

TEST NO	DATE	ELEV. / SOIL ID NUMBER	DEPTH	WET DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-6-87	Final	5	86.8	33.1	85.3	98.2	1-A
8	↓	↓	↓	↓	31.8	85.2	98.1	↓

TEST LOCATION: SOUTH SLOPE (400-600') (200' SECTION)

7	75' WEST OF STA. 400' and 15' from top of slope.
8	80' WEST OF STA. 500' and 50' from bottom of slope.

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	6"	5	1.020	86.8	33.1	85.3	33.1	33.1	85.3	98.2
8	↓	6	0.980	85.2	31.8	85.2	31.8	31.8	85.2	98.1

COMPUTATIONS

NOTES: DENSITIES SHOWN lbs. per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number.

1. FILL MATERIAL
 2. BACKFILL
 3. BASE COURSE
 4. SUBBASE
 5. SOIL/CEMENT
 6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
 B. RECOMPACTION REQUIRED
 C. TEST IS AFTER RECOMPACTION
 D. Moisture in excess of specs
 E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel Coop

PROJECT: I A Pond

DATE: 8-6-87

CUR REPORT NO. 311-

TEST DATA: OMC. + (5, 282)

TEST NO	DATE	DEPTH	REL. LIFT	CON. NO	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT *
1	8-6-87	2nd Lift	5		86.8	34.1	85.0	98.0	1-A
2						34.7	84.2	97.3	
3		↓				33.9	84.7	97.5	
4		1st Lift				32.7	84.8	97.6	
5		↓				31.1	85.1	98.0	
6	↓	↓	↓	↓	↓	33.9	84.8	97.6	↓

TEST LOCATION: Pond Floor STA. 1700' - 2400' (700' Section)

1	25' West of STA 1700' and 30' N. from toe of South Slope
2	40' West of STA. 1800' and 15' N. from toe of South Slope
3	55' West of STA. 1900' and 25' N. from toe of South Slope
4	30' West of STA. 2000' and 5' N. from toe of South Slope
5	70' West of STA. 2100' and 10' N. from toe of South Slope
6	60' West of STA. 2200' and 15' N. from toe of South Slope

A D U D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4736	0.779	114.5	2313	0.694	29.00	34.1	85.0	98.0
2		4857	0.799	113.5	2328	0.699	29.25	34.7	84.2	97.3
3		4916	0.809	113.0	2287	0.686	28.75	33.9	84.7	97.5
4		4990	0.821	112.5	2207	0.662	27.75	32.7	84.8	97.6
5		5129	0.844	111.5	2123	0.637	26.50	31.1	85.1	98.0
6	↓	4895	0.806	113.5	2296	0.689	28.75	33.9	84.8	97.6

Computations

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

ED FOR **SNC**

PROJECT **L A Pond**

DATE **8-6-87**

OUR REPORT NO. **311-**

TEST DATA: **O.M.C. (5, 28.2)**

TEST NO.	DATE	DEPTH	ELEV.	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-6-87	1ST LFT		5	86.8	30.9	85.5	98.5	1-A
8		↓				32.9	85.8	98.8	↓
9		1ST LFT				32.3	85.0	97.9	↓
10		1ST LFT							
11									
12									

TEST LOCATION: **ROAD FLOOR (STA. 1720'-2400', 8" SECTION) (STA. 1600')**

7	20' WEST OF STA. 2300' AND 5' N. FROM TOE OF SOUTH SLOPE
8	40' WEST OF STA. 2400' AND 10' N. FROM TOE OF SOUTH SLOPE
9	60' WEST OF STA. 1600' AND 25' N. FROM TOE OF SOUTH SLOPE
10	
11	
12	

TEST NO.	PROBE DEPTH	DENSITY COUNT	DENSITY RATIO	WET DENSITY	MOISTURE COUNT	MOISTURE RATIO	MOISTURE PCF	WATER CONTENT	DRY DENSITY	PERCENT COMPACTION
7	8"	4993	0.822	112.5	2128	0.639	26.50	30.9	85.5	98.5
8		4850	0.798	114.0	2248	0.675	28.25	32.9	85.8	98.8
9		4962	0.817	112.5	2195	0.659	27.50	32.3	85.0	97.9
10										
11										
12										

NOTES: DENSITIES SHOWN LB/CM³ OR CUBIC FOOT
WATER CONTENT: PER CENT OF DRY WEIGHT
PERCENT COMPACTION: BASED ON MAXIMUM DRY DENSITY OBTAINED ON SAMPLE WITH DRY SOIL NO NUMBER

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFIC CONDITIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of spec
- E. moisture below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA POND

DATE: 8-7-87

OUR REPORT NO. 311

TEST DATA: OMC (5, 28.2)

TEST NO	DATE	DEPTH	ELEV	SOIL NO	MAXIMUM LAB DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	87-87	GRADE		5	86.8	31.5	84.8	97.6	1-A
2		1ST LIF				32.3	85.0	97.9	↓
3		2nd LIF				31.3	84.5	97.3	↓
4	↓	Final		↓	↓	33.9	84.0	96.7	1-A

TEST LOCATION: SOUTH SLOPE STA 300' FROM CENTER

1	30' WEST OF STA 300' and 15' FROM BOTTOM OF SLOPE
2	15' WEST OF STA 300' and 25' FROM TOP OF SLOPE
3	75' WEST OF STA 300' and 40' FROM BOTTOM OF SLOPE
4	15' WEST OF STA 300' and 10' FROM BOTTOM OF SLOPE

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	5130	0.844	111.5	2135	0.641	26.75	31.5	84.8	97.6
2		5021	0.826	112.5	2201	0.661	27.50	32.3	85.0	97.9
3	↓	5172	0.851	111.0	2110	0.633	26.50	31.3	84.5	97.3
4	6"	7930	1.305	112.5	2257	0.677	28.50	33.9	84.0	96.7

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample and tested by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specification
- E. moisture below specification



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC EA Pond

DATE: 8-7-87 "NEW PROCTOR" OUR REPORT NO: 311-

TEST DATA: O.M.C. (9.33.0)

TEST NO.	DATE	DEPTH	SOIL NO.	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-7-87	12" (12.5")	R	82.6	36.2	79.3	96.0	1-A max. 5
2		Final			35.7	79.2	95.8	2-A
3					36.4	79.5	96.2	max. 5
4		↓			36.9	78.5	95.0	
5		2nd 12"			35.0	80.0	96.8	
6	✓	↓	↓	↓	36.8	79.3	96.0	✓

TEST LOCATION: Pond Floor STA. 1800' - 2400' (see plan)

1	20' west of STA. 1800' and 5' N. from toe of south slope
2	30' west of STA. 1800' and 15' N. from toe of south slope
3	40' west of STA. 1800' and 20' N. from toe of south slope
4	60' west of STA. 1800' and 5' N. from toe of south slope
5	75' west of STA. 2000' and 30' N. from toe of south slope
6	15' west of STA. 2400' and 10' N. from toe of south slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	5536	0.911	108.0	2285	0.686	28.75	36.2	79.3	96.0
2		5645	0.927	107.5	2260	0.678	28.25	35.7	79.2	95.8
3		5475	0.901	108.5	2301	0.691	29.00	36.4	79.5	96.2
4	↓	5631	0.927	107.5	2313	0.694	29.50	36.9	78.5	95.0
5	8"	5560	0.905	108.0	2235	0.671	28.00	35.0	80.0	96.8
6	↓	5518	0.908	108.5	2323	0.697	29.25	36.8	79.3	96.0

NOTES: DENSITIES SHOWN lbs./cu. ft. tool
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

- A. TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

ORDERED FOR Sam Miguel Coop

PROJECT SMC IA POND

DATE 8-7-87

"NEW PROCTOR" OUR REPORT NO 311-

TEST DATA: cmc 33.0

TEST NO	DATE	DEPTH	SOIL NO	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENTS
7	8-7-87	3rd LF	1?	82.6	34.3	80.0	96.8	1-E ✓
8	↓	↓	↓	↓	35.0	80.0	96.8	1-A
9	↓	↓	↓	↓	36.9	78.5	95.0	1-B

TEST LOCATION: 1/2 mi. E of Pond 31.25

1	3' west - 1st 2nd 3rd 4th from top of north slope
8	55' west - 1st 2nd 3rd 4th 10' W from top of south slope
9	85' west - 1st 2nd 3rd 4th 35' N. from top of south slope

A B C D E F G H I

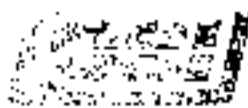
Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	5601	0.923	107.5	2199	0.660	27.50	34.3	80.0	96.8
8	↓	5528	0.910	108.0	2234	0.671	28.00	35.0	80.0	96.8
9	↓	5630	0.927	107.5	2315	0.675	29.00	36.9	78.5	95.0

NOTES: DENSITIES SHOWN (lbs per cubic foot)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D. moisture in excess of spec
E. moisture below spec

LUMBER



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 8-10-87 NEW PROCTOR

OUR REPORT NO: 311-

TEST DATA: O.M.C. (33.0)

TEST NO.	DATE	ELEV. DEPTH	LAB. NO.	MAX. WET LABORATORY DENSITY	WATER CONTENT	PERCENT DRY DENSITY	PERCENT COMPACTION	COMMENTS
1	8-10-87	GRADE	?	82.6	36.1	83.0	100.4	1-A
2					37.3	82.3	99.6	
3					36.9	81.8	99.0	
4					36.3	83.3	100.8	
5	↓	Final	↓		36.0	82.5	99.8	↓
6	↓	2nd	↓		36.1	81.8	99.0	1-A

TEST LOCATION: POND FLANK (inside berm)

1	2' west of sta. 1200' and 10' N. from top of south slope
2	3' west of sta. 1300' and 15' N. from top of south slope
3	45' west of sta. 1400' and 25' N. from top of south slope
4	65' west of sta. 1500' and 30' N. from top of south slope
5	60' west of sta. 1600' and 5' N. from top of south slope
6	Repeat of Test #7 of Report E-7-87 in sta. 2200'

Computations

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Content	Moisture Ratio	Wet Density	Dry Density	Percent Compaction
1	8"	4960	0.826	113.0	23.75	0.213	30.00	36.1	83.0
2		4932	0.812	113.0	24.41	0.213	30.75	37.3	82.3
3		5051	0.831	112.0	23.93	0.218	30.25	36.9	81.8
4		4895	0.806	113.5	23.91	0.218	30.25	36.3	83.3
5		5085	0.831	111.5	22.96	0.209	29.00	36.0	82.5
6	↓	5275	0.868	110.5	22.80	0.204	28.75	36.1	81.8

NOTES: DENSITIES SHOWN lbs per cu ft (pcf)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on 25 pcpc, modified by C.O. LL number

1. SEE MAX. WET DENSITY
2. SPEC. FULL
3. BEST DENSITY
4. SURFACE
5. FILL DENSITY
6. OTHER
A. THIS PROJECTS COMPLY WITH SPECIFICATIONS
B. FILL COMPACTION REQUIRED
C. TOLERANCE PER SPECIFICATION
D. Moisture in excess of spec
E. Moisture in below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop.

PROJECT: SMC IA Road

DATE: 8-10-87 New Proctor

CUR REPORT NO: 311-

TEST DATA: OMC (330)

TEST NO	DATE	ELEV. / DEPTH	SOL. ID. NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
7	8-10-87	Final	?	82.6	36.5	81.3	98.4	1-A
8					36.1	81.5	98.6	
9					36.4	81.0	98.0	
10					36.5	81.5	98.6	
11					37.2	80.5	97.4	
12		1st Lift			36.5	82.8	100.2	

TEST LOCATION: Road Edge (Sta. 2000' - 2100' and 150')

- 7 30' west of STA. 2000' and 20' N. from toe of south slope
- 8 60' west of STA. 2100' and 30' N. from toe of south slope
- 9 50' west of STA. 2200' and 15' N. from toe of south slope
- 10 35' west of STA. 2300' and 12' N. from toe of south slope
- 11 10' west of STA. 2400' and 5' N. from toe of south slope
- 12 20' west of STA. 1500' and 10' N. from toe of south slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PLS	Water Content	Dry Density	Percent Compaction
7	6"	8250	1.359	111.0	2365	0.710	29.75	36.5	81.3	98.4
8		8223	1.354	111.0	2338	0.702	29.50	36.1	81.5	98.6
9		8211	1.362	110.5	2345	0.704	29.50	36.4	81.0	98.0
10		8230	1.355	111.0	2351	0.706	29.75	36.5	81.5	98.6
11	✓	9250	1.352	110.5	2375	0.713	30.00	37.2	80.5	97.4
12	8"	4975	0.819	113.0	2410	0.723	30.25	36.5	82.8	100.2

Computations

NOTES: DENSITY SHOWN lbs per cubic foot
WATER CONTENT: Per Cent by weight
PERCENT COMPACTION: based on maximum dry density obtained on sample indicated by soil ID number

- 1. FILL MATERIAL
- 2. BASE
- 3. BASE COURSE
- 4. SUBGRADE
- 5. SUB-DRAIN
- 6. CURB

- A. TEST RESULT DOES NOT COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

ORDERED FOR: San Miguel Coop PROJECT: SMC IA POND
DATE: 8-11-87 NEW PROCTOR OUR REPORT NO: 311-

TEST DATA: OMC 33.0

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT*
1	8-11-87	GRADE		2	82.6	36.5	81.3	98.4	1-A
2	↓	1st LF		↓	↓	36.1	83.0	100.4	↓
3	↓	2nd LF		↓	↓	36.5	82.8	100.2	↓

TEST LOCATION: POND FLOOR AT STA 1000'

1	<u>30' west of STA 1000' and 10' N. from toe of south slope</u>
2	<u>45' west of STA 1000' and 20' N. from toe of south slope</u>
3	<u>55' west of STA 1000' and 20' N. from toe of south slope</u>

	A	B	C	D	E	F	G	H	I	
Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	5165	0.850	111.0	2355	0.707	29.75	36.5	81.3	98.4
2	↓	4905	0.807	113.0	2380	0.714	30.00	36.1	83.0	100.4
3	↓	4932	0.812	113.0	2391	0.718	30.25	36.5	82.8	100.2

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of 50%
- E. moisture below 50%

T-11-00



REPORT OF FIELD COMPACTION TESTS

ORDERED FOR *San Miguel Coop*

PROJECT: *SMCIA POND*

DATE *8-12-87*

NEW PROCTOR

OUR REPORT NO. *311-*

TEST DATA: *OM.C. 33.0*

TEST NO	DATE	ELEV DEPTH	SOLID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	<i>8-12-87</i>	<i>GRADE</i>	<i>?</i>	<i>82.6</i>	<i>36.0</i>	<i>81.8</i>	<i>99.0</i>	<i>1-A</i>
2					<i>37.2</i>	<i>79.8</i>	<i>96.6</i>	
3					<i>36.4</i>	<i>81.0</i>	<i>98.0</i>	
4					<i>36.2</i>	<i>79.3</i>	<i>96.0</i>	
5					<i>36.4</i>	<i>79.5</i>	<i>96.2</i>	
6	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>36.0</i>	<i>81.3</i>	<i>98.4</i>	<i>↓</i>

TEST LOCATION: *EAST SLOPE STA. 0-100' / Pond Floor STA. 300-700'*

1	<i>20' S. of N.E. CORNER in STA. 0-100' and 20' from bottom of slope</i>
2	<i>25' N. of SE CORNER in STA. 0-100' and 20' from bottom of slope</i>
3	<i>20' WEST of STA 300' and 20' N. from toe of south slope</i>
4	<i>45' WEST of STA 400' and 25' N. from toe of south slope</i>
5	<i>65' WEST of STA 500' and 5' N. from toe of south slope</i>
6	<i>30' WEST of STA 600' and 10' N. from toe of south slope</i>

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	<i>8"</i>	<i>5260</i>	<i>0.866</i>	<i>110.5</i>	<i>2295</i>	<i>0.689</i>	<i>28.75</i>	<i>36.0</i>	<i>81.8</i>	<i>99.0</i>
2		<i>5376</i>	<i>0.885</i>	<i>109.5</i>	<i>2360</i>	<i>0.708</i>	<i>29.75</i>	<i>37.2</i>	<i>79.8</i>	<i>96.6</i>
3		<i>5236</i>	<i>0.862</i>	<i>110.5</i>	<i>2345</i>	<i>0.704</i>	<i>29.50</i>	<i>36.4</i>	<i>81.0</i>	<i>98.0</i>
4		<i>5586</i>	<i>0.919</i>	<i>108.0</i>	<i>2283</i>	<i>0.686</i>	<i>28.75</i>	<i>36.2</i>	<i>79.3</i>	<i>96.0</i>
5		<i>5474</i>	<i>0.901</i>	<i>108.5</i>	<i>2299</i>	<i>0.690</i>	<i>29.00</i>	<i>36.4</i>	<i>79.5</i>	<i>96.2</i>
6	<i>↓</i>	<i>5265</i>	<i>0.867</i>	<i>110.5</i>	<i>2330</i>	<i>0.699</i>	<i>29.25</i>	<i>36.0</i>	<i>81.3</i>	<i>98.4</i>

NOTES: DENSITIES SHOWN (lb. per cubic foot)
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SLURRY
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTS AFTER RECOMPACTION
- D, moisture in excess of spec
- E, moisture below spec



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR **San Miguel Coop** PROJECT **SMC TA POND**

DATE **8-13-87** **NEW PROCTOR** OUR REPORT NO.

TEST DATA: **OMC 33.0**

TEST NO.	DATE	DEPTH	ELEV.	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-13-87	1ST LIFT			82.6	36.3	81.8	99.0	1-A
8						37.1	82.8	100.2	
9						37.6	80.3	97.2	
10						37.2	80.5	97.4	
11						38.2	80.3	97.2	
12		1ST LIFT				38.1	81.0	98.0	

TEST LOCATION: **POND FLOOR AT 300-700' ELEV. ADJ.**

7	20' west of STA. 300' and 20' N. from toe of south slope
8	40' west of STA. 400' and 3' N. from toe of south slope
9	60' west of STA. 500' and 35' N. from toe of south slope
10	30' west of STA. 600' and 10' N. from toe of south slope
11	20' west of STA. 900' and 15' N. from toe of south slope
12	70' west of STA. 900' and 20' N. from toe of south slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Ret. Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	5113	0.842	111.5	2530	0.699	2995	36.3	81.8	99.0
8		4897	0.806	113.5	2424	0.728	3075	37.1	82.8	100.2
9		5222	0.860	110.5	2395	0.719	30.25	37.6	80.3	97.2
10		5265	0.867	110.5	2375	0.713	30.00	37.2	80.5	97.4
11		5165	0.850	111.0	2431	0.730	30.15	38.2	80.3	97.2
12		5071	0.835	112.0	2467	0.741	30.00	38.1	81.0	98.0

NOTES: DENSITIES SHOWN Lbs. per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 D. Moisture in excess of spec.
 E. Moisture below spec.



REPORT OF FIELD COMPACTION TESTS

TESTED FOR **San Miguel Coop**

PROJECT: **S.M.C. LA POND**

DATE **8-14-87**

OUR REPORT NO **311-**

TEST DATA: **33.0**

TEST NO	DATE	ELEV. / DEPTH	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-14-87	2nd Lift	}	82.6	36.5	82.8	100.2	1-A
2					37.1	82.7	100.1	
3					37.5	82.5	99.8	
4					36.0	82.8	100.2	
5		↓			36.6	80.5	97.4	
6	↓	GRADE			37.2	79.8	96.6	↓

TEST LOCATION: **Pond Floor (Sta. 300'-700') (Sta. 900') (Sta. 800')**

1	20' west of STA 300' and 20' N. of south slope
2	35' west of STA 400' and 25' N. of south slope
3	60' west of STA 500' and 40' N. of south slope
4	80' west of STA 600' and 5' N. of south slope
5	25' west of STA 900' and 10' N. of south slope
6	35' west of STA 800' and 30' N. of south slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4917	0.809	113.0	2371	0.720	30.25	36.5	82.8	100.2
2		4865	0.801	113.5	2435	0.731	30.15	37.1	82.7	100.1
3		4890	0.805	113.5	2461	0.739	31.00	37.5	82.5	99.8
4		4981	0.820	112.5	2370	0.711	29.75	36.0	82.8	100.2
5	↓	5265	0.867	110.0	2332	0.700	29.50	36.6	80.5	97.4
6	↓	5314	0.875	109.5	2356	0.707	29.75	37.2	79.8	96.6

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
A OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
d. moisture increase of spec
e. moisture below spec

COMPUTATIONS



REPORT OF FIELD COMPACTION TESTS

FOR San Miguel Coop

PROJECT SMC IA Pond

DATE 8-14-87

NEW PROCTOR

OUR REPORT NO. 311

TEST DATA: 33.0

TEST NO.	DATE	DEPTH	ELEV.	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-14-87	GRADE			82.6	37.1	82.7	100.1	1-A
8		1st				38.4	82.0	99.2	
9		↓				36.7	82.3	99.6	
10		2nd				36.3	81.5	98.4	
11		↓				36.1	83.0	100.4	
12		Final				35.9	83.0	100.4	↓

TEST LOCATION: Pond Floor (Sta. 700-900)

7	20' west of STA. 700' and 20' N. of south slope
8	40' west of STA. 700' and 35' N. of south slope
9	60' west of STA. 800' and 5' N. of south slope
10	30' west of STA. 700' and 15' N. of south slope
11	20' west of STA. 800' and 20' N. of south slope
12	70' west of STA. 800' and 40' N. of south slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	4880	0.803	113.5	2435	0.731	30.75	37.1	82.7	100.1
8		4899	0.806	113.5	2490	0.747	31.50	38.4	82.0	99.2
9		4967	0.818	112.5	2400	0.720	30.25	36.7	82.3	99.6
10		5126	0.844	111.5	2381	0.715	30.00	36.3	81.5	98.4
11	↓	4928	0.811	113.0	2382	0.715	30.00	36.1	83.0	100.4
12	6"	7963	1.311	112.5	2335	0.701	29.50	35.9	83.0	100.4

NOTES: DENSITIES SHOWN lbs per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil no number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TESTS AFTER RECOMPACTION
 D. MATERIAL IN excess of spec
 E. Moisture below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **San Miguel Coop**

PROJECT: **SAC I A POND**

DATE: **8-17-81**

NEW PROCTOR

OUTH REPORT NO: **311**

TEST DATA: **DBLC**

TEST NO	DATE	ELEV. DEPTH	SOIL ID NUMBER	MAXIMUM LAB. DRY DENSITY	WATER CONTENT	# PLACES DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-17-81	1st lift	}	82.6	36.2	80.8	97.8	1-A
2		↓		38.3	78.8	95.3		
3		↓		37.5	80.0	96.8		
4		2nd lift		38.5	79.8	96.6		
5		↓		36.7	79.7	96.4		
6		↓		37.2	80.5	97.4		↓

TEST LOCATION: **POND FLOOR (STA. 1200'-1500')**

1	20' west of STA. 1200' and 10' N. of south slope
2	60' west of STA. 1300' and 15' N. of south slope
3	30' west of STA. 1400' and 35' N. of south slope
4	70' west of STA. 1200' and 45' N. of south slope
5	10' west of STA. 1300' and 5' N. of south slope
6	85' west of STA. 1400' and 15' N. of south slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture Pct	Water Content	Dry Density	Percent Compact
1	8"	4250	0.902	110.0	2513	0.724	29.25	36.2	80.8	97.8
2		4331	0.919	109.0	2633	0.749	30.25	38.3	78.8	95.3
3		4229	0.897	110.0	2597	0.739	30.00	37.5	80.0	96.8
4		4180	0.887	110.5	2668	0.769	30.75	38.5	79.8	96.6
5		4373	0.928	109.0	2539	0.722	29.25	36.7	79.7	96.4
6		4200	0.891	110.5	2601	0.740	30.00	37.2	80.5	97.4

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULT - COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION

4711
 3512
 C. 10/17/81
 D. 10/17/81



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT SMC IA Pond

DATE 8-17-81

NEW PROCTOR

OUR REPORT NO. 311-

TEST DATA: 33.0

TEST NO.	DATE	ELEV. / DEPTH	SOX ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-17-81	Final	(	82.6	36.9	81.8	99.0	1-A
8			)		36.5	81.3	98.4	
9			)		37.0	81.0	98.0	
10			)		37.6	81.1	98.1	
11			)		38.0	81.5	98.6	
12			)		36.0	82.0	99.2	

TEST LOCATION: Pond Floor (STA. 700, 300-700) (±2' Acc)

7	10' west of STA. 700 and 20' N. of south slope
8	60' west of STA. 300 and 10' N. of south slope
9	25' west of STA. 400 and 45' N. of south slope
10	55' west of STA. 500 and 25' N. of south slope
11	65' west of STA. 600 and 5' N. of south slope
12	15' west of STA. 900 and 35' N. of south slope

TEST NO.	PROBE DEPTH	DENSITY COUNT	DENSITY RATIO	NET DENSITY	MOISTURE COUNT	MOISTURE RATIO	MOISTURE PCF	WATER CONTENT	DRY DENSITY	PERCENT COMPACTION
7	6"	6355	1.348	112.0	2601	0.742	30.25	36.9	81.8	99.0
8		6431	1.365	111.0	2582	0.735	29.75	36.5	81.3	98.4
9		6474	1.374	111.0	2590	0.737	30.00	37.0	81.0	98.0
10		6378	1.353	111.5	2635	0.750	30.50	37.6	81.1	98.1
11		6299	1.337	112.5	2671	0.760	31.00	38.0	81.5	98.6
12		6410	1.360	111.5	2556	0.727	29.50	36.0	82.0	99.2

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by SOX ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
 - B RECOMPACTION REQUIRED 4711
 - C TEST IS AFTER RECOMPACTION 3512
- ... in case of spec. ...



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: SMC IA POND

DATE: 8-17-81

NEW PROCTOR

OUR REPORT NO. 311-

TEST DATA: 33.0

TEST NO	DATE	ELEV DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	RELATIVE DRY DENSITY	PERCENT COMPACTION	COMMENT *
13	8-17-81	GRADE	}	82.6	37.4	80.7	97.6	1-A
14		↓			38.9	80.2	97.0	
15		↓			37.0	80.3	97.3	
16		1st			36.8	80.8	97.8	
17		↓			39.4	78.5	95.0	
18		↓			36.4	80.3	97.2	↓

TEST LOCATION: Pond Embankment (STA 0-300')

13	20' west of STA 5-100' and 10' N. of south slope
14	35' west of STA 100' and 5' N. of south slope
15	45' west of STA 200' and 30' N. of 1/4' slope
16	10' west of STA 0-100' and 45' N. of south slope
17	40' west of STA 100' and 5' N. of south slope
18	15' west of STA 200' and 15' N. of south slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
13	8"	4136	0.877	111.0	2620	0.946	30.25	37.4	80.7	97.6
14		4092	0.868	111.5	2695	0.967	31.25	38.9	80.2	97.0
15		4216	0.894	110.0	2581	0.934	29.75	37.0	80.3	97.3
16		4177	0.882	110.5	2577	0.933	29.75	36.8	80.8	97.8
17		4285	0.909	109.5	2687	0.965	31.00	39.4	78.5	95.0
18	✓	4300	0.912	109.5	2534	0.921	29.25	36.4	80.3	97.2

NOTES: DENSITIES SHOWN Lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFIC REQUIREMENTS
 - B RECOMPACTION REQUIRED
 - C TEST IS AFTER RECOMPACTION
 - D TEST IS BEFORE RECOMPACTION
 - E TEST IS AT THE BOTTOM OF THE SPECIFIED DEPTH
- 411/35'2

REMARKS:



REPORT OF FIELD COMPACTION TESTS

ED FOR: San Miguel Coop

PROJECT: SMCIA POND

DATE: 8-17-87 NEW PROCTOR

OUR REPORT NO 311

TEST DATA: O.M.C 33.0

TEST NO	DATE	ELEV / SOIL NO	DEPTH	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
19	8-11-87	2nd Lift	↓	82.6	36.0	81.0	98.0	1-A
20			↓		36.3	81.1	98.1	
21			↓		38.6	78.3	95.0	
22		Final	↓		37.0	81.0	98.0	
23			↓		38.0	80.8	97.8	
24			↓		35.9	82.7	100.1	↓

TEST LOCATION: POND FLOOR STA. 0-300'

19	50' west of STA 0-100' and 19' N. of south slope
20	75' west of STA 100' and 25' N. of south slope
21	85' west of STA 200' and 30' N. of south slope
22	40' west of STA 0-100' and 40' N. of south slope
23	15' west of STA 200' and 5' N. of south slope
24	30' west of STA 200' and 45' N. of south slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
19	8"	4165	0.884	110.0	2515	0.716	29.00	36.0	81.0	98.0
20	↓	4199	0.891	110.5	2560	0.728	29.50	36.3	81.1	98.1
21	↓	4401	0.934	108.5	2622	0.746	30.25	38.6	78.3	95.0
22	6"	6421	1.362	111.0	2605	0.741	30.00	37.0	81.0	98.0
23	↓	6360	1.350	111.5	2653	0.755	30.75	38.0	80.8	97.8
24	↓	6315	1.340	112.0	2531	0.720	29.25	35.9	82.7	100.1

NOTES: DENSITIES SHOWN lbs. per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASH COURSE
 4 SUBBASE
 5 SOIL/CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 D. Moisture below 100% of spec.
 E. Moisture below 100% of spec.



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: 201 Mineral Coop

PROJECT: SMC 2A 201

DATE: 8-18-87

OUR REPORT NO: 31

TEST DATA:

TEST NO	DATE	ELEV DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1					36.0	81.5	98.6	1-A
2					36.6	80.5	97.4	
3					36.5	82.0	99.2	
4					36.1	82.3	99.6	
5					38.3	79.5	96.2	
6	✓				39.0	78.8	95.3	✓

TEST LOCATION: FA

- 1 20' south of NE corner and 30' from top of slope
- 2 30' north of E corner and 30' from top of slope
- 3 40' south of NE corner and 30' from top of slope
- 4 10' north of SE corner and 30' from top of slope
- 5 50' west of S.E. corner and 30' from top of slope
- 6 60' west of S.E. corner and 30' from top of slope

Test No	Probe Depth	Density Count	Density Ratio	Ret Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1		4156	2.892	106.5	2500	0.716	2900	36.0	81.5	98.6
2	✓	4220	2.875	110.0	2500	0.727	2950	36.6	80.5	97.4
3		6305	1.338	113.0	2500	0.737	30.00	36.5	82.0	99.2
4	✓	6290	1.335	112.5	2619	0.745	30.25	36.1	82.3	99.6
5	✓	4256	0.903	110.0	2640	0.751	30.50	38.3	79.5	96.2
6	✓	4270	0.906	109.5	2659	0.756	30.15	39.0	78.8	95.3

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST BE SOIL IS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION RECD. REU
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of specs
- E moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel Coop PROJECT: S.M.C. I.A. Pond

DATE 0-13-67 NEW P.L. 514 OUR REPORT NO 31-

TEST DATA:

TEST NO.	DATE	DEPTH	ELEV.	SOL. ID NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	1-1-67				82.6	36.8	80.7	97.6	1-A
2		5"				36.3	82.5	99.8	
3						36.7	82.2	99.5	
4						36.2	80.0	96.8	
5						38.8	78.5	95.0	
6						39.4	78.6	95.1	

TEST LOCATION:

1	20' west of STA. 0-100' and 20' from bottom of slope
2	40' west of STA. 0-100' and 5' from bottom of slope
3	50' west of STA. 200' and 3' from top of slope
4	70' west of STA. 300' and 15' from bottom of slope
5	15' west of STA. 400' and 20' from top of slope
6	30' west of STA. 0-100' and 20' south of North slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	5"	4185	0.838	110.5	2588	0.734	29.75	36.8	80.7	97.6
2	6"	4270	1.330	112.5	2599	0.740	30.00	36.3	82.5	99.8
3		4195	0.890	112.5	2619	0.745	30.25	36.7	82.2	99.5
4		4323	0.917	109.0	2503	0.712	29.00	36.2	80.0	96.8
5		4331	0.919	109.0	2644	0.752	30.50	38.8	78.5	95.0
6	V	4273	0.907	109.5	2634	0.764	31.00	39.4	78.6	95.1

Sheet 1 of 1 (continued)

NOTES: DENSITIES SHOWN Lbs. per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1. FILL MATERIAL
 2. BACKFILL
 3. BASE COURSE
 4. SURBASE
 5. SOIL CEMENT
 6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
 B. RECOMPACTION REQUIRED
 C. TEST IS AFTER RECOMPACTION
 D. Moisture in excess of specs
 E. Moisture below specs

4/11/3512



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp

PROJECT: S.H.C. I.A. ROAD

DATE: 8-18-81

OUR REPORT NO.: 7-1-

TEST DATA: 730

TEST NO.	DATE	DEPTH	ELEV.	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER EQUIV.	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
3	8-18-81	1st ft.				33.3	83.2	100.7	1-E
		2nd				32.3	84.3	102.0	
						33.1	83.7	101.3	
						33.3	84.0	101.6	↓
						37.5	80.0	96.8	1-A
		Subgrade				37.6	80.3	97.2	↓

TEST LOCATION:

	30' west of STA 200' and 15' S. of north slope *
	40' west of STA 300' and 30' S. of north slope *
	65' west of STA 300' and 20' S. of north slope *
	10' west of STA 300' and 40' S. of north slope *
	75' west of STA 400' and 50' S. of north slope
F	10' west of STA 500' and 10' S. of north slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
3	8"	4125	0.875	111.0	2399	0.683	27.75	33.3	83.2	100.7
4		4081	0.866	111.5	2364	0.673	27.25	32.3	84.3	102.0
5		4041	0.857	111.5	2410	0.686	27.75	33.1	83.7	101.3
6		4063	0.862	112.0	2437	0.693	28.00	33.3	84.0	101.6
7		4217	0.895	110.0	2598	0.739	30.00	37.5	80.0	96.8
8		4153	0.881	110.5	2620	0.746	30.25	37.6	80.3	97.2

NOTES: DENSITIES SHOWN Lbs per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RE-COMPACTION REQUIRED
 C TEST IS AFTER RE-COMPACTION
 D. moisture in excess of specs
 E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR **San Miguel Corp**

PROJECT **SMC TA POND**

DATE **8-19-81**

OUR REPORT NO **311-**

TEST DATA: **33.0**

TEST NO	DATE	DEPTH	SOIL NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-19-81	1'		82.6	37.2	80.5	97.4	1-
2		↓			36.0	82.0	99.0	
3		↓			36.9	81.8	99.0	
4		↓			36.2	80.0	96.8	✓
5		Final			36.4	80.3	97.2	1-F
6	✓	Series	✓		35.9	82.0	99.0	✓

TEST LOCATION: **North side of pond (see sketch)**

1	25' west of	57.5' east	10' from bottom of slope
2	30' west of	57.5' east	20' from bottom of slope
3	50' west of	57.5' east	10' from top of slope
4	100' west of	57.5' east	15' from top of slope
5	45' west of	57.5' east	10' from bottom of slope
6	85' west of	57.5' east	20' from bottom of slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4077	0.823	110.5	2591	0.737	30.00	37.2	80.5	97.4
2		4077	0.865	111.5	2553	0.726	29.50	36.0	82.0	99.0
3		4026	0.854	112.0	2600	0.740	30.25	36.9	81.8	99.0
4		4326	0.918	109.0	2519	0.717	29.00	36.2	80.0	96.8
5		4296	0.911	109.5	2530	0.720	29.25	36.4	80.3	97.2
6	✓	4115	0.873	111.0	2501	0.712	29.00	35.9	82.0	99.0

SOLUTIONS

NOTES: DIMENSIONS SHOWN are approximate. WATER CONTENT = Percent of weight. PERCENT COMPACTION = Effective maximum dry density of field sample indicated by soil ID number.

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL/CEMENT
6. OTHER

A. TEST RESULTS ARE REPORTED AS SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION
D. Moisture in excess of specs
E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel Corp

PROJECT: SMC IA Pond

DATE 8-19-87

OUR REPORT NO 311-

TEST DATA: O.M.C. 33.0

TEST NO	DATE	DEPTH	TEST	SOIL NO	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-19-87		Final	(	82.5	36.4	79.5	96.2	1-A
2			1st	}		37.9	79.8	96.6	
3			2nd			38.1	80.0	96.8	
4			Final			37.7	79.4	96.1	
5			SUBGRADE				37.4	80.8	97.8
6	✓	↓		✓	✓	36.3	80.3	97.2	↓

TEST LOCATION: N. SIDE SLOPE STA. 200-600'

1	30' west of STA 200' and 12' from bottom of slope
2	25' west of STA 200' and 20' from bottom of slope
3	65' west of STA 300' and 15' from top of slope
4	75' west of STA 300' and 20' from top of slope
5	10' west of STA 400' and 30' from bottom of slope
6	50' west of STA 500' and 5' from bottom of slope

A D C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Rec. Density	Moisture Count	Moisture Ratio	Moisture P.C.F.	Water Content	Dry Density	Percent Compact
1	8"	4115	0.937	108.5	2510	0.714	29.00	36.4	79.5	96.2
2	1	4200	0.891	110.0	2609	0.742	30.25	37.9	79.8	96.6
3	1	4170	0.885	110.5	2631	0.749	30.50	38.1	80.0	96.8
4	1	4263	0.904	109.5	2592	0.738	30.00	37.7	79.4	96.1
5	1	4105	0.871	111.0	2617	0.745	30.25	37.4	80.8	97.8
6	✓	4310	0.914	109.5	2528	0.719	29.25	36.3	80.3	97.2

NOTES: DENSITY SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample obtained by soil number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TESTS AFTER RECOMPACTION
D. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA POND

DATE: 8-19-87

OUR REPORT NO: 311-

TEST DATA: 33.0

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	MAXIMUM DRY DENSITY	WATER CONTENT	W PACT OR DENSITY	PERCENT COMPACTION	COMMENT
1	8-19-87	GRADE		(	62.6	38.3	78.6	95.3	1-A
		1st		(		37.8	81.3	98.4	
		2nd		(		35.9	82.5	99.8	
		Final		(		36.0	83.5	101.0	
				(		38.1	80.0	96.8	
	✓			✓		37.0	80.3	97.2	✓

TEST LOCATION: NORTH SLOPE 100' - 300'

1	20' west of STA 100' and 2' from bottom of slope
2	55' west of STA 100' and 30' from bottom of slope
3	60' west of STA 100' and 19' from top of slope
4	15' west of STA 100' and 15' from top of slope
5	10' west of STA 200' and 30' from bottom of slope
6	25' west of STA 200' and 12' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4320	0.917	109.0	2615	0.744	30.25	38.3	78.6	95.3
2		4040	0.861	112.0	2654	0.755	30.15	37.8	81.3	98.4
3	✓	4090	0.868	111.5	2716	0.715	29.00	35.9	82.5	99.8
4	6"	6135	1.302	113.5	2603	0.741	30.00	36.0	83.5	101.0
5	8"	4185	0.888	110.5	2652	0.755	30.50	38.1	80.0	96.8
6	✓	4207	0.893	110.0	2584	0.735	29.15	37.0	80.3	97.2

NOTES: DENSITIES SHOWN lbs per cu. ft. over
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTS AFTER RECOMPACTION
- D. Moisture in excess of spec
- E. Moisture below spec

Computations



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp

PROJECT: I & P RD

DATE: 8-20-87

OUR REPORT NO.: 311 -

TEST DATA: 330

TEST NO.	DATE	ELEV. / DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	8-20-87	Final	}	82.6	35.9	81.8	99.0	I-A
2		1st Lt		36.8	81.5	98.6		
3		GRADE		36.4	80.3	97.2		
4		↓		36.5	79.5	96.2		
5		2nd Lt		36.6	82.0	99.2		
6		1st Lt		36.4	81.3	98.4		

TEST LOCATION: 110 FT. E. SIDE - STA. 500 - 900'

1	20' West of STA. 500' and 10' from bottom of slope
2	20' West of STA. 600' and 20' from bottom of slope
3	65' West of STA. 700' and 15' from top of slope
4	30' West of STA. 500' and 30' from top of slope
5	15' West of STA. 600' and 5' from bottom of slope
6	45' West of STA. 700' and 25' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4121	0.874	111.0	2542	0.723	29.25	35.9	81.8	99.0
2		4088	0.861	111.5	2596	0.739	30.00	36.8	81.5	98.6
3		4310	0.914	109.5	2531	0.720	29.25	36.4	80.3	97.2
4		4375	0.928	108.5	2519	0.719	29.00	36.5	79.5	96.2
5		4039	0.857	112.0	2605	0.741	30.00	36.6	82.0	99.2
6		4120	0.874	111.0	2572	0.732	29.75	36.4	81.3	98.4

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs

Computations



REPORT OF FIELD COMPACTION TESTS

SO FOR San Miguel Coop

PROJECT: SMC IA Pond

DATE 8-20-87

OUR REPORT NO: 311-

TEST DATA: 32.0

TEST NO	DATE	DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
7	8-20-87	1st ft	}	82.6	35.8	82.0	99.2	1-AC
8		GRADE			35.7	82.3	99.6	
9			}		37.2	81.3	98.4	↓
10					37.8	80.5	97.4	
11		1st ft	}		37.6	81.0	98.0	1-A
12		1st ft			37.0	80.2	97.0	↓

TEST LOCATION:

1	Retest from Report 8-18-87 on #13	STA. 0-100'	"	"	"	"	"	"	
2	"	" #14	STA. 100'	"	"	"	"	"	
3	"	" #15	STA. 200'	"	"	"	"	"	
4	"	" #16	STA. 300'	"	"	"	"	"	
5	25' west of STA. 400' and 10' S. of North slope								
6	40' west of STA. 500' and 20' S. of North slope								

H D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	9"	4150	0.880	111.0	2519	0.716	29.00	35.8	82.0	99.2
8	1'	4105	0.871	111.5	2535	0.721	29.25	35.7	82.3	99.6
9		4066	0.863	111.5	2610	0.743	30.25	37.2	81.3	98.4
10		4091	0.868	111.0	2631	0.749	30.50	37.8	80.5	97.4
11		4102	0.870	111.5	2645	0.753	30.50	37.6	81.0	98.0
12	✓	4212	0.894	110.0	2578	0.734	29.75	37.0	80.2	97.0

COMPUTATIONS

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs

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REPORT OF FIELD COMPACTION TESTS

FOR **SMC**

PROJECT: **SMC IA Pond**

DATE **8-20-87**

OUR REPORT NO **311**

TEST DATA: **32.0**

TEST NO	DATE	DEPTH	ELEV	SOLID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
13	8-20-87	1st lift			82.6	37.6	81.0	98.0	1-A
14		2nd lift				36.5	82.0	99.2	
15		1st lift				37.0	81.7	98.9	
16		↓				36.3	81.8	99.0	
17		Final				37.1	81.0	98.0	
18	✓	2nd lift		✓		36.8	80.0	96.8	✓

TEST LOCATION: (NORTH SLOPE, STA 400) (POUND ELEV. STA. C-500) (NORTH SLOPE SCALE)

13	25' west of STA 400' and 30' from bottom of slope
14	30' west of STA. C-100' and 20's. of NORTH slope
15	50' west of STA. 100' and 25's. of north slope
16	80' west of STA. 200' and 35's. of north slope
17	20' west of STA. 600' and 12' from bottom of slope
18	45' west of STA. 700' and 25' from bottom of slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
13	8"	4066	0.863	111.5	2639	0.750	30.50	37.6	81.0	98.0
14		4009	0.850	112.0	2602	0.740	30.00	36.5	82.0	99.2
15		4035	0.856	112.0	2633	0.749	30.25	37.0	81.7	98.9
16		4071	0.864	111.5	2581	0.734	29.75	36.3	81.8	99.0
17		4110	0.872	111.0	2595	0.738	30.00	37.1	81.0	98.0
3	✓	4316	0.916	109.5	2560	0.728	29.50	36.8	80.0	96.8

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 8-20-87

OUR REPORT NO. 311-

TEST DATA: 330

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MEGUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
19	8-20-87	2nd lift			82.6	36.1	81.5	98.6	1-A
20		Final				36.7	79.0	95.6	↓
21		↓				37.2	82.2	99.5	↓
22		Final				35.1	83.2	100.7	1-E *
23		2nd lift				34.9	82.3	99.6	↓ *
24	↓	↓				36.2	80.7	97.6	1-A

TEST LOCATION: NORTH SLOPE STA. 200' AND 20' FROM BOTTOM OF SLOPE

19	30' west of STA. 200' and 20' from bottom of slope
20	6" west of STA. 200' and 15' from bottom of slope
21	45' west of STA. 200' and 10' from bottom of slope
22	20' west of STA. 200' and 20's. of north slope
23	40' west of STA. 200' and 25's. of north slope
24	10' west of STA. 200' and 5's. of north slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
19	8"	4097	0.870	110.0	2565	0.730	29.50	36.1	81.5	98.6
20	6"	6897	1.464	108.0	2513	0.715	29.00	36.7	79.0	95.6
21		6215	1.319	113.0	2655	0.755	30.75	37.2	82.2	99.5
22	↓	6212	1.318	112.5	2536	0.722	29.25	35.1	83.2	100.7
23	8"	4111	0.872	111.0	2499	0.711	28.75	34.9	82.3	99.6
	↓	4221	0.895	110.0	2530	0.720	29.25	36.2	80.7	97.6

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL CEMENT
6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION
D. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR **San Miguel Cop** PROJECT **IA Road**

DATE **8-21-87** **NEL PROCTOR** CLR REPORT NO **311-**

TEST DATA: **23.7**

TEST NO	DATE	ELEV DEPTH	SOIL NO NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	8-21-87	GRADE		88.2	30.9	85.5	96.9	1-A
2		1st LFT			32.0	84.2	95.4	
3		2nd LFT			30.2	87.5	99.2	
4		↓			31.1	85.0	96.3	
5		EMUL			29.0	86.8	98.4	
6		↓			30.0	85.8	97.2	

TEST LOCATION: **1100' - STA. 900 - 1100' on north side of road - 100-300'**

1	20' west of	STA. 900 and	1100'	20' north slope
2	30' west of	STA. 900 and	30' south of	at grade
3	10' west of	STA 1000'	10' north of	at slope
4	60' west of	STA 1100'	and	20' S. of N. slope
5	15' west of	STA. 100'	and	5' S. of north slope
6	50' west of	STA. 200'	and	5' S. of north slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4027	0.854	112.0	2316	0.659	26.50	30.9	85.5	96.9
2		4064	0.862	111.2	2343	0.667	27.00	32.0	84.2	95.4
3		3834	0.813	114.0	2301	0.655	26.50	30.2	87.5	99.2
4		4085	0.867	111.5	2319	0.660	26.50	31.1	85.0	96.3
5		4007	0.850	112.0	2207	0.628	25.25	29.0	86.8	98.4
6		4061	0.862	111.5	2244	0.638	25.75	30.0	85.8	97.2

Computations

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample prepared by soil no number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

DESIGNED FOR **San Miguel Coop**

PROJECT **IA Pond**

DATE **8-21-81**

OUR REPORT NO **311-**

TEST DATA:

23.7

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	W. PHASE DRY DENSITY	PER CENT COMPACTION	COMMENT
7	8-21-81	1st Lift			88.2	27.6	87.8	99.5	1-A
8		2nd Lift				28.9	87.3	98.9	
9						30.0	85.8	97.2	
10		Subgrade				28.3	87.2	98.8	
11						28.7	87.0	98.6	
12						30.4	85.5	96.9	

TEST LOCATION:

POUND FLOOR STA. 300'-600', 600'-900'

7	50' west of STA 300' and 5' of north slope
8	60' west of STA 400' and 4.5' of north slope
9	85' west of STA 500' and 25' S. of north slope
10	75' west of STA 600' and 35' S. of north slope
11	30' west of STA 700' and 5' S. of north slope
12	15' west of STA 800' and 15' S. of north slope

A B C D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	4007	0.850	112.0	2116	0.602	24.25	27.6	87.8	99.5
8		3965	0.841	112.5	2205	0.627	25.25	28.9	87.3	98.9
9		4060	0.861	111.5	2251	0.640	25.75	30.0	85.8	97.2
10		4041	0.857	112.0	2163	0.615	24.75	28.3	87.2	98.8
11		4028	0.855	112.0	2180	0.620	25.00	28.7	87.0	98.6
12	✓	4086	0.867	111.5	2263	0.644	26.00	30.4	85.5	96.9

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT PER Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp

PROJECT: SMC IA Pond

DATE: 8-21-87 NEW PROCTOR

OUR REPORT NO: 311-

TEST DATA: 23.7

TEST NO	DATE	DEPTH	ELFV NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
13	8-21-87	2nd Lift	}	88.2	29.4	87.3	98.9	1-A
14		1st Lift			28.2	87.7	99.4	
15		1st Lift			29.6	86.0	97.5	
16		Final			29.0	86.8	98.4	
17		2nd Lift			30.8	86.0	97.5	
18	✓	North Slope		✓	30.9	86.3	97.8	✓

TEST LOCATION: ~~North Slope Sta. 900-100~~

13	50' west of Sta. 900-100	2nd Lift	from top	North Slope
14	65' west of Sta. 900-100	1st Lift	from bottom of	North Slope
15	70' west of Sta. 900-100	2nd Lift	from top	North Slope
16	85' west of Sta. 900-100	Final	from bottom	North Slope
17	20' west of Sta. 900-100	1st Lift	from top	North Slope
18	10' west of Sta. 900-100	2nd Lift	from bottom	North Slope

Test No.	Probe Depth	Density Count	Density Ratio	Ret Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
13	1	3950	0.838	113.0	2261	0.643	25.95	29.4	87.3	98.9
14	1	3970	0.842	113.5	2172	0.618	24.75	28.2	87.7	99.4
15	1	4061	0.862	111.5	2235	0.636	25.50	29.6	86.0	97.5
16	1	4005	0.850	112.0	2218	0.631	25.25	29.0	86.8	98.4
17	1	3995	0.848	112.5	2307	0.656	26.50	30.8	86.0	97.5
18	1	3932	0.834	113.0	2333	0.664	26.75	30.9	86.3	97.8

Computations

NOTES: DENSITIES SHOWN lbs per cu ft
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
C. moisture in excess of specs
E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR

PROJECT

DATE 8-21-87

OUR REPORT NO.:

TEST DATA: 23.7

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	WET DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
19	8-21-87	8"	11.5	}	88.2	28.9	88.0	99.7	1-A
20		Final				27.5	87.0	98.6	
21		↓				28.2	87.7	99.4	
22		Final				27.0	87.0	98.6	
23		Subgrade				29.8	87.1	98.7	
24	↓	↓	↓	↓	26.4	87.0	98.6	↓	

TEST LOCATION: ROAD PAVEMENT STA 300-600, 2100, 2200

19	30' west of STA 300 and 20' S. of NORTH SLOPE
20	25' west of STA 300 and 35' S. of NORTH SLOPE
21	10' west of STA 500 and 45' S. of NORTH SLOPE
22	45' west of STA 300 and 30' S. of NORTH SLOPE
23	10' west of STA 2100 and 15' S. of NORTH SLOPE
24	7' west of STA 2200 and 5' S. of NORTH SLOPE

TEST NO	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compac
19	8"	3861	0.819	113.5	2230	0.634	25.50	28.9	88.0	99.7
20		4116	0.873	111.0	2105	0.599	24.00	27.5	87.0	98.6
21		4035	0.856	112.0	2120	0.603	24.25	28.2	87.7	99.4
22		4195	0.890	110.5	2073	0.590	23.50	27.0	87.0	98.6
23	↓	3943	0.836	113.0	2262	0.644	26.00	29.8	87.1	98.7
24	↓	4200	0.891	110.0	2009	0.572	23.00	26.4	87.0	98.6

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 8-21-87

NEW PROCTOR

OUR REPORT NO: 311-

TEST DATA: 23.7

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
25	8-21-87	Final			88.2	26.6	90.0	102.0	1-A
26		↓				26.5	90.5	102.6	
27		↓				29.6	86.8	98.4	
28		↓				29.3	87.0	98.6	
29		↓				28.7	87.0	98.6	
30		Final				26.1	90.8	102.9	↓

TEST LOCATION: NORTH SLOPE STA 1000-1200' Pond - STA. 1000-1200'

25	20' west of STA. 1000' and 20' from top of north slope
26	40' west of STA. 1100' and 10' from bottom of north slope
27	45' west of STA. 600' and 10' S. of north slope
28	75' west of STA 800' and 25' S. of north slope
29	15' west of STA. 700' and 15' S. of north slope
30	25' west of STA. 300' and 30' S. of north slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
25	6"	6040	1.282	114.0	2087	0.593	24.00	26.6	90.0	102.0
26	↓	5961	1.265	114.5	2095	0.596	24.00	26.5	90.5	102.6
27	8"	3992	0.847	112.5	2260	0.643	25.75	29.6	86.8	98.4
28	↓	3961	0.840	112.5	2222	0.632	25.50	29.3	87.0	98.6
29	↓	4005	0.850	112.0	2182	0.621	25.00	28.7	87.0	98.6
30	6"	5975	1.268	114.5	2087	0.594	23.75	26.1	90.8	102.9

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 ALL MATERIAL
- 2 BASE FILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 92%
- C TEST IS AFTER RECOMPACTION 95%
- D. Moisture in excess of specs
- E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR *San Miguel*

PROJECT *SMEIA Pond*

DATE *8-24-87*

OUR REPORT NO

TEST DATA: *OMC 23.7*

TEST NO	DATE	ELEV. / PROBE DEPTH	SOIL ID NUMBER	WET WTD. LAB DRY DENSITY	WATER CONTENT	AFFECT DRY DENSITY	PERCENT COMPACTION	COMMENT
1	<i>8-24</i>	<i>Subgrade</i>	<i>New</i>	<i>88.2</i>	<i>22.2</i>	<i>94.5</i>	<i>107.1</i>	<i>1 E</i>
2			<i>Proc.</i>		<i>20.7</i>	<i>84.5</i>	<i>95.8</i>	<i>1 BE</i>
3					<i>16.4</i>	<i>80.7</i>	<i>91.5</i>	<i>1 BE</i>
1a					<i>28.6</i>	<i>85.5</i>	<i>96.9</i>	<i>1 AC</i>
2a					<i>23.4</i>	<i>81.0</i>	<i>91.8</i>	<i>1 BEC</i>
3a					<i>23.2</i>	<i>76.2</i>	<i>86.4</i>	<i>1 BEC</i>

TEST LOCATION: *North Slope*

1	<i>North Slope ; Sta - 12+50 , 25' from bottom of slope</i>								
2	"	"	"	<i>13+55</i>	<i>30'</i>	"	"	"	"
3	"	"	"	<i>14+35</i>	<i>20'</i>	"	"	"	"
1a	"	"	"						
2a	"	"	"						
3a	"	"	"						

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	<i>8"</i>	<i>5870</i>	<i>.868</i>	<i>115.5</i>	<i>2139</i>	<i>.583</i>	<i>21.00</i>	<i>22.2</i>	<i>94.5</i>	<i>107.1</i>
2		<i>8172</i>	<i>1.208</i>	<i>102.0</i>	<i>1830</i>	<i>.499</i>	<i>17.50</i>	<i>20.7</i>	<i>84.5</i>	<i>95.8</i>
3		<i>9965</i>	<i>1.473</i>	<i>94.0</i>	<i>1427</i>	<i>.389</i>	<i>13.25</i>	<i>16.4</i>	<i>80.75</i>	<i>91.5</i>
1a		<i>6690</i>	<i>.989</i>	<i>110.0</i>	<i>2467</i>	<i>.672</i>	<i>24.50</i>	<i>28.6</i>	<i>85.5</i>	<i>96.9</i>
a		<i>8623</i>	<i>1.275</i>	<i>100.0</i>	<i>1952</i>	<i>.532</i>	<i>19.00</i>	<i>23.4</i>	<i>81.0</i>	<i>91.8</i>
3a		<i>9928</i>	<i>1.468</i>	<i>94.0</i>	<i>1849</i>	<i>.504</i>	<i>17.75</i>	<i>23.2</i>	<i>76.25</i>	<i>86.4</i>

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number
6764
3669
Granish Brown

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOLE-CEMENT
6 CURB

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RE-COMPACTION REQUIRED
C TEST IS AFTER RE-COMPACTION
D moisture in excess of specs
E moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR *San Miguel*

PROJECT *Smcia Pond*

DATE *8-24-87*

OUR REPORT NO. *6764/3669*

TEST DATA: *OMC 23.7*

TEST NO.	DATE	DEPTH	LLY	SOIL NO.	MAXIMUM LAY. THICK. (INCH)	WATER CONTENT (%)	DEPLACE. COR. DENSITY (%)	PERCENT COMPACTION (%)	COMMENT*
4	8-24-87	<i>11 1/2' to 12 1/2'</i>	<i>New</i>	<i>Proc.</i>	88.2	20.2	85.2	96.6	1 E
5						19.8	91.7	104.0	1 E
6						21.7	87.5	99.2	1 E
7		<i>Subgrade</i>				20.4	88.0	99.7	1 E
8						17.6	86.2	97.7	1 E
9						22.7	86.7	98.3	1 E

TEST LOCATION: *Pond Floor*

4	Floor, 60' south of north slope	Sta 6+00
5	" 50' from south of north slope	Sta 7+25
6	" 40' " " " "	Sta 8+15
7	" 50' " " " "	Sta 9+10
8	" 50' " " " "	Sta 10+20
9	" 40' " " " "	Sta 10+15

Test No.	Probe Depth	Density Count	Density Ratio	Ret. Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
4	8"	8049	1.190	102.5	1793	.489	17.25	20.2	85.25	96.6
5	1	6732	.995	110.0	1901	.518	18.25	19.8	91.75	104.0
6		7309	1.081	106.5	1975	.538	19.00	21.7	87.5	99.2
7		7446	1.101	106.0	1882	.513	18.00	20.4	88.0	99.7
8		8325	1.231	101.5	1627	.443	15.25	17.6	86.25	97.7
9	√	7319	1.082	106.5	2041	.556	19.75	22.7	86.75	98.3

NOTES: DENSITY IS SHOWN Lbs. per cubic foot
WATER CONTENT - Per Cent of dry weight
PERCENT COMPACTION - Based on maximum dry density obtained on sample indicated by soil # number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 ASPHALT

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel

PROJECT SMEIA Pond

DATE 8-24-87

OUR REPORT NO

TEST DATA: OMC 23.7

TEST NO	DATE	DEPTH	SOLID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	PERCENT OF DENSITY	PERCENT COMPACTION	COMMENT
10	8-24	subgrade	New	88.2	24.0	91.5	103.7	1 E
11	↓	↓	Proc.	↓	24.0	89.5	101.4	1 E
12	↓	↓	↓	↓	30.8	81.7	92.6	1 B

TEST LOCATION: Pond Floor

10	Floor, 40' south of north slope, Sta. 12+10
11	" 40' " " " " Sta. 13+00
12	" 35' " " " " Sta. 14+00

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compac
10	8"	6193	.916	113.5	2248	.613	22.00	24.0	91.5	103.7
11	↓	6558	.970	111.0	2182	.595	21.50	24.0	89.5	101.4
12	↓	7262	1.074	107.0	2549	.695	25.25	30.8	81.75	92.6

NOTES: DENSITIES SHOWN Lbs. per cubic foot

WATER CONTENT: Per Cent of dry weight

PERCENT COMPACTION: Based on maximum dry

density obtained on sample indicated by

solid number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

A: TEST RESULTS COMPLY WITH SPECIFICATIONS

B: RECOMPACTION REQUIRED

C: TEST IS AFTER RECOMPACTION

D: Moisture in excess of specs

E: Moisture below specs

6764
3469



REPORT OF FIELD COMPACTION TESTS

TESTED FOR **San Miguel Coop**

PROJECT **S.M.C.I.A. Pond**

DATE **8-25-87**

OUR REPORT NO. **311-**

TEST DATA:

TEST NO.	DATE	DEPTH	SOIL NO. NUMBER	NATURAL LAB DRY DENSITY	WATER CONTENT	PLASTICITY INDEX	PER CENT COMPACTION	COMMENTS
1	8-25-87	Subgrade	New	88.2	28.7	87.8	99.5	1-AC
2		↓	Proc		28.5	86.8	98.4	
3		2nd Lift			29.6	86.0	97.5	
4		↓			27.7	86.5	98.0	
5		↓			30.1	86.1	97.6	
6		Subgrade			30.8	86.0	97.5	↓

TEST LOCATION: **North Slope STA. 1300, 1400; Pond Floor STA. 600, 700, 800, 900, 1000, 1100**

1	Retest of test # 2 Report of 8-24-87									
2	" " " #3 " " " " "									
3	Retest of test # 4 " " " " " (Pond Floor) sta. 600'									
4	" " " " 5 " " " " " " " " 700'									
5	" " " " 6 " " " " " " " " 800'									
6	" " " " 7 " " " " " " " " 900'									

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Perce. Compac.
1	8"	3935	0.835	113.0	2200	0.626	25.25	28.7	87.8	99.5
2		4101	0.870	111.0	2173	0.618	24.75	28.5	86.8	98.4
3		4063	0.862	111.5	2228	0.634	25.50	29.6	86.0	97.5
4		4155	0.881	110.5	2096	0.596	24.00	27.7	86.5	98.0
5		4028	0.855	112.0	2276	0.648	26.00	30.1	86.1	97.6
6	↓	3946	0.841	112.5	2307	0.656	26.50	30.8	86.0	97.5

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
A OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D. moisture in excess of spec
E. Moisture below spec

6805
3682
Tech: KEITH M.



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR:

San Miguel Coop

PROJECT:

SNE IA Pond

DATE: 8-25-87

OUR REPORT NO. 311

TEST DATA:

(23.7 ± 3% - 4%)

TEST NO.	DATE	ELEV. / DEPTH	SOIL ID / NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-25-87	Subgrade	Flow	88.2	26.4	87.0	98.6	IAC
8		↓	Flow		28.0	86.3	97.8	
9		↓			29.1	86.7	98.2	
10		Subgrade			30.0	86.5	98.0	
11		↓			31.0	84.3	95.5	↓

TEST LOCATION: Pond Floor Sta 1000, 1100, 1200, 1300, 1400'

7	Request of test # 8 Report of 8-24-87 Sta. 1000' Pond Floor									
8	"	"	"	9	"	"	"	"	1100'	"
9	"	"	"	10	"	"	"	"	1200'	"
10	"	"	"	"	"	"	"	"	1300'	"
11	"	"	"	12	"	"	"	"	1400'	"

TEST NO.	PROBE DEPTH	DENSITY COUNT	DENSITY RATIO	WET DENSITY	MOISTURE COUNT	MOISTURE RATIO	MOISTURE PCF	WATER CONTENT	DRY DENSITY	PERCENT COMPACTION
7	8"	4216	0.894	110.0	2025	0.576	23.00	26.4	87.0	98.6
8	1	4176	0.886	110.5	2121	0.603	24.25	28.0	86.3	97.8
9		4050	0.859	112.0	2216	0.630	25.25	29.1	86.7	98.2
10		3988	0.846	112.5	2270	0.646	26.00	30.0	86.5	98.0
11	✓	4173	0.885	110.5	2273	0.647	26.25	31.0	84.3	95.5

Computations

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs

TECH KEITH R. SNE



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp

PROJECT: 1A Pond

DATE: 8-25-87

OUR REPORT NO: 311

TEST DATA: (23.7 + 3%)

TEST NO	DATE	DEPTH	ESTV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-25-87	Subgrade		High Pile	88.2	29.2	85.5	96.9	1-A
2		1 in				28.0	87.5	99.2	
3						29.8	85.4	96.8	
4			✓			26.7	88.8	100.6	
5		1st lift				26.8	88.3	100.1	
6	✓	✓	✓	✓	✓	26.7	88.7	100.5	✓

TEST LOCATION: Pond Floor (STA 2000) (Sta. 600) (Sta. 900)

1	20' west of STA 2000 + 30' E of North slope
2	35' west of STA 600 and 20' E of North slope
3	60' west of STA 900 and 35' S. of North slope
4	85' west of STA 800 and 40' S. of North slope
5	10' west of STA 900' and 10' S. of North slope
6	25' west of STA 1000 and 15' S. of North slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4135	0.888	110.5	2193	0.624	25.00	29.2	85.5	96.9
2		4039	0.857	112.0	2146	0.611	24.50	28.0	87.5	99.2
3		4122	0.874	111.0	2238	0.637	25.50	29.8	85.4	96.8
4		3967	0.842	112.5	2035	0.593	23.75	26.7	88.8	100.6
5		4092	0.868	111.5	2041	0.581	23.25	26.8	88.3	100.1
6	✓	3986	0.846	112.5	2089	0.594	23.75	26.7	88.7	100.5

Computations

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D. Moisture in excess of spec
E. Moisture below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Corp.

PROJECT: LA Pond

DATE: 8-25-89 NEW Proctor

OUR REPORT NO: 311

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	ELEV. / DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	8-25-89	1st Lift	1A	88.2	29.8	85.5	96.9	1A
8	↓	↓	1A	↓	27.9	86.7	98.2	↓
9	↓	↓	↓	↓	29.0	86.8	98.4	↓
10	↓	↓	↓	↓	29.3	87.0	98.6	↓
11	↓	↓	↓	↓	30.4	86.3	97.8	↓
12	↓	↓	↓	↓	30.8	86.0	97.5	↓

TEST LOCATION: Pond Floor (STA 400, 500, 1100 - 1400) NORTH SLOPE STA. 1300'

7	45' west of STA. 1100' and 25' S. of NORTH slope
8	70' west of STA. 1200' and 5' S. of NORTH slope
9	60' west of STA. 1300' and 35' S. of NORTH slope
10	80' west of STA. 1400 and 15' S. of NORTH slope
11	95' west of STA. 1500 and 45' S. of NORTH slope
12	40' west of STA. 1300 and 10' from bottom of slope

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8'	4133	0.877	111.0	2236	0.636	25.50	29.8	85.5	96.9
8	↓	4145	0.879	111.0	2126	0.605	24.25	27.9	86.7	98.2
9	↓	4031	0.855	112.0	2214	0.630	25.25	29.0	86.8	98.4
10	↓	3965	0.841	112.5	2235	0.636	25.50	29.3	87.0	98.6
11	↓	3991	0.847	112.5	2295	0.653	26.25	30.4	86.3	97.8
12	↓	4000	0.849	112.5	2321	0.660	26.50	30.8	86.0	97.5

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL/CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of spec's
- E. moisture below spec's



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: 1A Pond

DATE: 8-26-87

NEW PROCEDURE

OUR REPORT NO: 311

TEST DATA: (23.7 + 38-4%)

TEST NO	DATE	DEPTH	ELV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	8-26-87	Subgrade			83.2	19.6	92.8	105.2	1-E
2		Subgrade				18.4	95.0	107.7	1-E
3						19.5	89.5	101.4	1-E
4						16.3	90.3	102.3	1-E
5						26.0	87.0	98.6	1-A
6		1st lift							

TEST LOCATION: (Pond Floor - 1500 - 2000) (NORTH SLOPE STA. 1400)

1	20' west of STA. 1500' and 20'S. of NORTH slope
2	65' west of STA. 1600' and 5'S. of NORTH slope
3	90' west of STA. 1700' and 15'S. of NORTH slope
4	15' west of STA. 1800' and 35'S. of NORTH slope
5	40' west of STA. 1900' and 30'S. of NORTH slope
6	15' west of STA. 1400' and 10'S. of NORTH slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4148	0.880	111.0	1638	0.466	18.25	19.6	92.8	105.2
2		3996	0.843	112.5	1562	0.444	17.50	18.4	95.0	107.7
3		4568	0.969	107.0	1571	0.447	17.50	19.5	89.5	101.4
4		4819	1.022	105.0	1348	0.383	14.75	16.3	90.3	102.3
5		4296	0.911	109.5	1995	0.568	22.50	26.0	87.0	98.6
6		4085	0.867	111.5	2139	0.609	24.50	28.1	87.0	98.6

NOTES: DENSITIES SHOWN Lbs per cu ft 100r
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SURFACE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of specs
- E. Moisture below specs

SUC123100



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR

San Miguel Corp

PROJECT

LA Pond

DATE 8-26-87

OUR REPORT NO. 311-

TEST DATA:

23.7 ± 3% - 4%

TEST NO	DATE	ELEV OFFSH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
7	8-22-87	2nd Lift	New Pond	88.2	26.0	90.0	102.0	1-A
8					27.4	87.5	99.2	
9		1st Lift			27.5	87.0	98.6	1-AC
10		Subgrade			27.2	88.0	99.7	
11					28.3	86.5	98.0	
12					28.2	85.8	97.2	

TEST LOCATION: NORTH SLOPE STA. 1300' - 1500' Pond Floor STA. 1500' - 1900'

7	35' west of	STA. 1300' and	20' from bottom of slope
8	60' west of	STA. 1400' and	10' from top of slope
9	Retest of Test # 1	at STA. 1500'	
10	" " " "	2	STA. 1600'
11	" " " "	3	STA. 1700'
12	" " " "	4	STA. 1800'

A B C D E F G H I

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	4001	0.849	112.5	1998	0.568	22.50	26.0	90.0	102.0
8		4063	0.862	111.5	2109	0.600	24.00	27.4	87.5	99.2
9		4106	0.871	111.0	2108	0.600	24.00	27.5	87.0	98.6
10		4056	0.860	112.0	2097	0.597	24.00	27.2	88.0	99.7
		4110	0.872	111.0	2154	0.613	24.50	28.3	86.5	98.0
		4221	0.895	110.0	2117	0.602	24.25	28.2	85.8	97.2

5. SHOWN Lbs per cubic foot
CONTENT Per Cent of dry weight
COMPACTION Based on maximum dry
density obtained on sample indicated by

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULT IS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of spec
- E. moisture below spec

DATE 8-26-87

OUR REPORT NO 711

TEST DATA:

TEST NO	DATE	ELEV DEPTH	SOIL NO	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
13	8-26-87	GRAVEL Subgrade	}	88.2	27.2	87.3	98.9	1-A
14		↓			28.1	87.0	98.6	
15		Subgrade			26.2	84.3	95.5	
16		2nd Lift			29.2	85.5	96.9	
17		↓			27.1	86.5	98.0	
18		↓			28.5	84.8	96.1	

TEST LOCATION: STA. 1300-1600 NORTH SLOPE (Road Elevation 900'-1500')

13	30' west of STA. 1300' and 10' from bottom of slope
14	25' west of STA. 1400' and 30' from bottom of slope
15	10' west of STA. 1500 and 25' from bottom of slope
16	50' west of STA. 900' and 25' S. OF NORTH SLOPE
17	75' west of STA. 1000' and 45' S. OF NORTH SLOPE
18	40' west of STA. 1100' and 15' S. OF NORTH SLOPE

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
13	8"	4136	0.877	111.0	2079	0.591	23.75	27.2	87.3	98.9
14		4087	0.867	111.5	2136	0.608	24.50	28.1	87.0	98.6
15		4065	0.890	106.0	1906	0.542	21.75	26.2	84.3	95.5
16		4188	0.888	110.5	2180	0.620	25.00	29.2	85.5	96.9
17		4231	0.898	110.0	2059	0.586	23.50	27.1	86.5	98.0
18		4359	0.925	109.0	2122	0.604	24.25	28.5	84.8	96.1

NOTES: DENSITIES SHOWN lbs per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in excess of specs
- E. moisture below specs



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: 1A Pond

DATE: 8-26-87

OUR REPORT NO.: 311

TEST DATA: 23.7 + 3% - 4%

TEST NO.	DATE	LEV. DEPTH	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
19	8-26-87	2nd lift	}	88.2	26.1	86.5	98.0	1-A
20					28.0	84.8	96.1	
21					30.1	84.5	95.8	
22					29.1	84.8	96.1	↓

TEST LOCATION: STA. 1200' - 1600' Pond Floor

19	65' west of STA. 1200' and 25' S. of North slope
20	95' west of STA. 1300' and 5' S. of North slope
21	10' west of STA. 1400' and 45' S. of North slope
22	20' west of STA. 1400' and 30' S. of North slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
19	8"	4329	0.918	109.0	1975	0.562	22.50	26.1	86.5	98.0
20		4368	0.927	108.5	2093	0.595	23.75	28.0	84.8	96.1
21		4216	0.894	110.0	2230	0.634	25.50	30.1	84.5	95.8
22	↓	4267	0.905	109.5	2164	0.616	24.75	29.1	84.8	96.1

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST AS AFTER RECOMPACTION
- D moisture increase of spec
- E moisture below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: Subgrade

PROJECT: LA POND

DATE: 8-27-87

OUR REPORT NO: 311-

TEST DATA:

(23.7 +3% - 4%)

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	8-27-87	Subgrade		(Proc)	88.2	22.7	91.3	103.5	1-E
2						12.2	89.5	101.4	1-E
3						23.5	85.0	96.3	1-E
4						24.3	83.2	94.3	1-BE
5						28.4	84.5	95.8	1-A
6						32.3	83.5	95.0	

TEST LOCATION: NORTH SLOPE STA. 1500-1900' (POND FLOOR STA. 1400'-2000')

1	35' west of	STA. 1500' and 10' from top of slope
2	68' west of	STA. 1600' and 20' from top of slope
3	75' west of	STA. 1700' and 15' from bottom of slope
4	10' west of	STA. 1800' and 30' from bottom of slope
5	25' west of	STA. 2400' and 30' S. of North slope
6	80' west of	STA. 1500' and 20' S. of North slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4026	0.854	112.0	1832	0.521	2075	22.7	91.3	103.5
2	1	5398	1.145	100.5	1034	0.294	11.00	12.2	89.5	101.4
3		4822	1.023	105.0	1768	0.503	20.00	23.5	85.0	96.3
4		5009	1.063	103.5	1793	0.510	20.25	24.3	83.2	94.3
5		4389	0.931	108.5	2093	0.596	24.00	28.4	84.5	95.8
6		4205	0.892	110.5	2352	0.669	27.00	32.3	83.5	95.0

NOTES: DENSITIES SHOWN (lbs. per cubic foot)
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture increase of spec
- E. moisture below spec

computations



REPORT OF FIELD COMPACTION TESTS

TESTED FOR:

San Miguel Coop

PROJECT:

LA Pond

DATE

8-27-87

OUR REPORT NO.

311-

TEST DATA:

(23.7 + 3% - 4%)

TEST NO.	DATE	DEPTH	ELFV	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
7	8-27-87	1st			89.2	33.7	84.5	95.8	1-A
8						27.7	86.5	98.0	
9						27.9	86.8	98.4	
10						27.4	87.5	99.2	✓
11		Subgrade				28.0	85.5	96.9	1-AC
12						27.0	87.0	98.6	✓

TEST LOCATION: POND FLOOR (1600' - 2000') (NORTH SLOPE 1500' - 1900' Retests)

7	30' west of STA. 1600 and 5'S of North slope
8	65' west of STA. 1700 and 10'S of north slope
9	20' west of STA. 1800 and 15'S of North slope
10	80' west of STA. 1900 and 25'S of North slope
11	Retest of # 1 STA. 1500' and slope
12	Retest of # 2 STA. 1600' and slope

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	8"	3936	0.835	113.0	2473	0.704	28.50	33.7	84.5	95.8
8	1	4175	0.886	110.5	2103	0.598	24.00	27.7	86.5	98.0
9		4132	0.877	111.0	2119	0.603	24.25	27.9	86.8	98.4
10		4075	0.864	111.5	2093	0.595	24.00	27.4	87.5	99.2
11		4261	0.904	109.5	2110	0.600	24.00	28.0	85.5	96.9
12	✓	4150	0.880	110.5	2065	0.587	23.50	27.0	87.0	98.6

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOX CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTS AFTER RECOMPACTION
- D moisture increases of spec
- E moisture below spec

Computations

Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

PROJECT: 1A Pond

OUR REPORT NO. 311-

TEST DATA:

23.7 (3% - 4%)

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
13	8-27-87			NPN	88.2	27.1	86.5	98.0	1-AC
14		↓				26.7	86.8	97.5	1-A
15		1st Lift				26.5	86.5	98.0	
16		2nd Lift				27.3	84.0	95.2	
17		1st Lift				29.1	83.3	95.0	
18	✓	↓				30.3	84.0	95.2	↓

TEST LOCATION: NORTH SLOPE (STA. 1700 - 1900') (STA. 1500 - 1900')

13	Retest of #3	STA. 1700'	Slope
14	Retest of #4	STA. 1800'	Slope
15	10' west of	STA. 1500'	and 10' from bottom of slope.
16	20' west of	STA. 1500'	and 20' from top of slope.
17	30' west of	STA. 1600'	and 15' from bottom of slope.
18	45' west of	STA. 1700'	and 30' from top of slope.

A B C D E F G H I

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PFC	Water Content	Dry Density	Percent Compaction
13	8"	4216	0.894	110.0	2070	0.589	23.50	27.1	86.5	98.0
14	1	4235	0.898	110.0	2052	0.584	23.25	26.7	86.8	97.5
15		4316	0.916	109.5	2035	0.579	23.00	26.5	86.5	98.0
16		4591	0.974	107.0	2016	0.574	23.00	27.3	84.0	95.2
17		4487	0.952	107.5	2117	0.602	24.25	29.1	83.3	95.0
18	✓	4278	0.908	109.5	2216	0.630	25.50	30.3	84.0	95.2

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
A OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B HE COMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D. Moisture in excess of spec
E. Moisture below spec



Professional Service Industries, Inc.
 Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **San Miguel Coop**

PROJECT: **1A POND**

DATE: **8-27-87**

OUR REPORT NO: **311-**

TEST DATA: **23.7 + 3% - 4%**

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
19	8-27-87	1st Lift		NOV PROC.	98.2	27.4	85.5	96.9	1-A
20		Final				27.3	86.8	98.4	
21						27.6	85.0	96.3	
22						29.4	85.0	96.3	
23						27.3	86.7	98.2	
24						27.7	85.8	97.2	

TEST LOCATION: **(NORTH SLOPE STA. 1300') (STA. 900-1400' WVD ELEV.)**

19	90' west of STA. 1300' and 20' from bottom of slope
20	5' west of STA. 900 and 30'S. of north slope
21	25' west of STA. 1000 and 45' S. of north slope
22	40' west of STA. 1100 and 50'S. of north slope
23	65' west of STA. 1200 and 35'S. of north slope
24	80' west of STA. 1300' and 20'S. of north slope.

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
19	8"	4390	0.931	109.0	2065	0.587	23.50	27.4	85.5	96.9
20		4202	0.891	110.5	2091	0.595	23.75	27.3	86.8	98.4
21		4395	0.932	108.5	2071	0.589	23.50	27.6	85.0	96.3
22		4221	0.895	110.0	2178	0.620	25.00	29.4	85.0	96.3
23		4200	0.891	110.5	2080	0.592	23.75	27.3	86.8	98.2
24		4310	0.914	109.5	2077	0.591	23.75	27.7	85.8	97.2

NOTES: DENSITIES SHOWN lbs. per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 D. moisture in excess of specs
 E. moisture below specs



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: LA Road

DATE: 8-28-87

OUR REPORT NO: 311-

TEST DATA: (23.7 + 3% - 4%)

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	8-28-87	Final		110	88.2	28.5	84.8	96.1	1-A
2		2nd lift				26.9	85.5	96.9	
3						27.6	85.8	97.2	
4						27.0	85.0	96.3	
5		Final				28.9	84.5	95.8	
6						29.4	85.0	96.3	

TEST LOCATION: NORTH SLOPE STA. 1500' - 1900'

1	45' west of STA. 1500' and 5' from top of slope
2	70' west of STA. 1600' and 10' from bottom of slope
3	25' west of STA. 1700' and 15' from top of slope
4	80' west of STA. 1800' and 20' from bottom of slope
5	30' west of STA. 1600' and 25' from top of slope
6	95' west of STA. 1700' and 10' from bottom of slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4356	0.924	109.0	2130	0.606	24.25	28.5	84.8	96.1
2		4387	0.931	108.5	2020	0.575	23.00	26.9	85.5	96.9
3		4293	0.907	109.5	2077	0.591	23.75	27.6	85.8	97.2
4		4416	0.937	108.0	2029	0.577	23.00	27.0	85.0	96.3
5		4337	0.920	109.0	2151	0.612	24.50	28.9	84.5	95.8
6		4217	0.895	110.0	2191	0.625	25.00	29.4	85.0	96.3

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil no number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of specs
- E moisture below specs

COMPUTATIONS



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR:

San Miguel Corp

PROJECT:

A Pond

DATE:

8-28-87

OUR REPORT NO.:

3117

TEST DATA:

TEST NO	DATE	ELEV DEPTH	SOIL NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
7	8-28-87	1st Lift	Hand Proc	88.2	29.1	83.3	95.0	1-A
8		Subgrade			27.6	85.8	97.2	
9					28.8	85.7	97.1	
10					27.4	85.5	96.9	
A								
11								

TEST LOCATION:

NORTH SLOPE STA. 1800 - 2200

7	30' west of	STA. 1800'	and 20' from top of slope
8	21' west of	STA. 1900'	
9	70' west of	STA. 2000'	
10	60' west of	STA. 2100'	
A			
11			

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
7	8"	4488	0.952	107.5	2123	0.604	24.25	29.1	83.3	95.0
8		4293	0.911	109.5	2082	0.592	23.75	27.6	85.8	97.0
9		4166	0.884	110.5	2175	0.619	24.75	28.8	85.7	97.1
10		4333	0.919	109.0	2044	0.582	23.50	27.4	85.5	96.9

DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: LA POND

DATE: 9-8-87

OUR REPORT NO.: 311-

TEST DATA: (23.7 + 3% - 4%)

TEST NO	DATE	DEPTH	ELEV	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1		2nd Lift		2	88.2	23.1	84.3	95.5	1-A
2		Field Left				27.1	86.5	98.0	↓
3									
4									
5									
6									

TEST LOCATION: NORTH SLOPE STA. 1802-2000

1	20' west of station and 20' from bottom of slope
2	6.6' west of station and 10' from ^{TOP} of slope
3	
4	
5	
6	

Test No	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compact
1	8"	4484	0.951	108.0	2084	0.593	23.95	28.1	84.3	95.5
2		4377	0.903	110.0	2075	0.590	23.50	27.1	86.5	98.0
3										
4										
5										
6										

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number.

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture in place
- E. moisture in lab

computations



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: LA POND

DATE: 9-9-87

OUR REPORT NO: 311-

TEST DATA: (23.71 3% - 4%)

TEST NO	DATE	DEPTH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COURSE #
1	9-9-87	1-11.4	2	88.2	27.6	88.5	100.3	1-1
2		2-11.4		↓	27.5	88.0	99.1	↓

TEST LOCATION: LA POND

1	40' x 40' x 40' AREA
2	10' x 10' x 10' AREA

TEST NO	PROBE DEPTH	DENSITY COUNT	DENSITY RATIO	RET DENSITY	MOISTURE COUNT	MOISTURE RATIO	MOISTURE PCF	WATER CONTENT	DRY DENSITY	PERCENT COMPACTION
1	8"	3920	0.882	113.0	2152	0.269	24.50	27.6	88.5	100.3
2	↓	4031	0.885	112.0	2097	0.250	23.00	27.2	88.0	99.1

NOTES: DENSITIES SHOWN: lbs per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
 2 BACKFILL
 3 BASE COURSE
 4 SUBBASE
 5 SOIL CEMENT
 6 PRIME

A TEST RESULTS COMPLY WITH SPECIFICATIONS
 B RECOMPACTION REQUIRED
 C TEST IS AFTER RECOMPACTION
 C. moisture increase of spec
 B. Moisture below solid

Computer



REPORT OF FIELD COMPACTION TESTS

LD FOR: San Felipe Corp.

PROJECT: SMC LA Road

DATE: 9-10-87

CUR REPORT NO: 511

TEST DATA: 23.7, 5% 4%

TEST NO	DATE	ELEV DEPTH	SOIL NO	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	9-10-87	Top	✓	99.2	26.5	85.8	97.2	1-A
2		↓	✓		26.6	86.5	98.0	
3		Final	✓		26.0	87.8	99.5	
4		1st Lift	✓		26.8	87.5	99.2	↓
5		↓	✓		27.1	86.5	98.0	1-A
6	✓		✓		26.7	86.0	97.5	↓

TEST LOCATION: NORTH SIDE OF ROAD, STA. 2000, 2100, 2200

1. 30' west of STA. 2000' and 2' from top of slope

2. 65' west of STA. 2000' and 2' from top of slope

3. 45' west of STA. 2000' and 5' from bottom of slope

4. 90' west of STA. 2000' and 5' from top of slope

5. 15' west of STA. 2100' and 15' from top of slope

6. 45' west of STA. 2200' and 20' from bottom of slope

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1		4109	0.934	109.0	2010	0.566	22.75	26.5	85.8	97.2
2		4219	0.921	109.5	2031	0.575	23.00	26.6	86.5	98.0
3		4137	0.891	110.5	2003	0.570	22.75	26.0	87.8	99.5
4		4123	0.874	111.0	2069	0.583	23.50	26.8	87.5	99.2
5		4231	0.896	110.0	2092	0.589	23.50	27.1	86.5	98.0
6	✓	4361	0.923	109.0	2038	0.574	23.00	26.7	86.0	97.5

NOTES: DENSITIES SHOWN ARE PER CONE FOOT
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1. FILL MATERIAL
2. BACKFILL
3. BASE COURSE
4. SUBBASE
5. SOIL-CEMENT
6. OTHER

A. TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED
C. TEST IS AFTER RECOMPACTION
D. moisture in excess of spec.
E. moisture below spec.



REPORT OF FIELD COMPACTION TESTS

FOR: San Miguel Coop

PROJECT: IA Pond

DATE: 9-10-87

OUR REPORT NO: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	DEPTH	ELEV	SPT NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	9-16-87	1st Lift		2	88.2	26.1	87.3	98.9	1-A
2		2nd Lift		3		26.2	87.5	99.2	
3		2nd Lift				26.5	85.8	97.2	
4		2nd Lift				26.8	88.3	100.1	
5		2nd Lift				27.6	88.5	100.3	
6		Final				26.7	86.8	98.4	

TEST LOCATION: NORTH SLOPE

1	40' west of STA. 2300 and 20' from bottom of slope.
2	20' west of STA. 2000 and 10' from top of slope.
3	15' west of STA. 2100 and 5' from bottom of slope.
4	55' west of STA. 2200 and 15' from bottom of slope.
5	75' west of STA. 2300 and 10' from top of slope.
6	85' west of STA. 2000 and 15' from top of slope.

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4226	0.895	110.0	2028	0.571	22.75	26.1	87.3	98.9
2	↓	4160	0.881	110.5	2045	0.576	23.00	26.2	87.5	99.2
3	8"	4391	0.930	108.5	2033	0.572	22.75	26.5	85.8	97.2
4		4025	0.852	112.0	2115	0.596	23.75	26.8	88.3	100.1
5		3945	0.835	113.0	2163	0.609	24.50	27.6	88.5	100.3
6	↓	4261	0.902	110.0	2073	0.584	23.25	26.7	86.8	98.4

NOTES: DENSITIES SHOWN LBS per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by SPT NO number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of spec
- E moisture below spec

Tech G. Quintanilla

4720/134



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **San Miguel Coop**

PROJECT: **1A Pond**

DATE: **9-12-87**

OUR REPORT NO.: **311-**

TEST DATA: **23.7 + 3% - 4%**

TEST NO	DATE	DEPTH	ELEV	SOIL ID	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENTS
1	9-12-87	Final			88.2	26.7	86.8	98.4	1-A
2	↓	↓			↓	28.9	84.5	95.8	↓
3	↓	↓			↓	27.3	86.7	98.2	↓

TEST LOCATION: **NORTH SLOPE STA. 2100-2400**

1	25' west of STA. 2100 and 10' from top of slope.
2	40' west of STA. 2200 and 20' from bottom of slope.
3	65' west of STA. 2300 and 15' from bottom of slope.

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4243	0.898	110.0	2064	0.581	23.25	26.7	86.8	98.4
2	↓	4332	0.917	109.0	2176	0.613	24.50	28.9	84.5	95.8
3	↓	4185	0.886	110.5	2107	0.593	23.25	27.3	86.7	98.2

NOTES: DENSITIES SHOWN LBS per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL CEMENT
6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D moisture in excess of spec
E moisture below spec

LUMPHU 10-1-1982



REPORT OF FIELD COMPACTION TESTS

REQUIRED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-14-87

OUR REPORT NO.: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	DEPTH	RECY NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	9-14-87	Final	}	88.2	27.0	85.8	97.2	1-A
2		2nd Lift			27.1	87.0	98.6	
3					26.5	86.5	98.0	
4					26.2	86.7	98.2	
5		↓			27.9	86.0	97.5	
6		1st Lift			28.3	87.3	98.9	↓

TEST LOCATION: Pond FLOOR STA. 1500-2100'

1	20' west of	STA. 1500' and 20' S. of North slope
2	40' west of	STA. 1600' and 35' S. of North slope
3	65' west of	STA. 1700' and 10' S. of North slope
4	80' west of	STA. 1800' and 45' S. of North slope
5	10' west of	STA. 1900' and 15' S. of North slope
6	55' west of	STA. 2000' and 30' S. of North slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4362	0.923	109.0	2075	0.583	23.25	27.0	85.8	97.2
2		4302	0.890	110.5	2085	0.587	23.50	27.1	87.0	98.6
3		4333	0.918	109.5	2055	0.578	23.00	26.5	86.5	98.0
4		4315	0.914	109.5	2025	0.573	22.75	26.2	86.7	98.2
5		4259	0.902	110.0	2129	0.600	24.00	27.9	86.0	97.5
6	↓	4029	0.853	112.0	2193	0.618	24.75	28.3	87.3	98.9

NOTES: DENSITIES SHOWN Lbs per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A YES - RESULTS COMPLY WITH SPECIFICATION
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture in excess of spec
- E. Moisture below spec



REPORT OF FIELD COMPACTION TESTS

OFFICE: San Miguel Coop

PROJECT: SAC IA POND

DATE: 9-14-87

CUR REPORT NO: 311

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	LEV DEPTH	SOL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT	
7	9-14-87	Subgrade 1st lift	7	88.2	28.0	85.5	96.9	1-A	
8		1st lift				26.7	86.0	97.5	

TEST LOCATION: WEST SLOPE IN NW CORNER STA. 2400-2475'

7	20' south of N.W. CORNER of STA. 2400-2475' of west slope and 5' from bottom of slope.
8	35' south of N.W. CORNER of STA. 2400-2475' of west slope and 20' from bottom of slope.

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	MOISTURE PCF	Water Content	Dry Density	Percent Compaction
7	8"	4279	0.906	109.5	2125	0.598	24.00	28.0	85.5	96.9
8		4372	0.926	109.0	2045	0.576	23.00	26.7	86.0	97.5

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D moisture in excess of spec
- E. Moisture below spec



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-15-87

OUR REPORT NO.: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO.	DATE	ELEV. DEPTH	SOIL NO. NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	9-15-87	2nd Lift		88.2	29.3	80.0	90.7	1-B
2		2nd Lift		↓	26.3	86.2	97.7	1-AC
3		Final		↓	28.2	82.3	93.3	1-B
4		↓		↓	26.1	88.5	100.3	1-AC
5				↓	29.2	77.0	87.3	1-B
6				↓	26.3	83.5	94.6	1-B

TEST LOCATION: WEST SLOPE STA: 2400-2475' (Pond Floor North Side)

1	40' south of N.W. corner of west slope and 15' from top of slope
2	Retest of test # 1 ↓
3	15' south of N.W. corner of west slope and 20' from bottom of slope
4	Retest of test # 2 ↓
5	20' west of STA. 1600 and 20' S. of north slope
6	35' west of STA. 1800 and 5' S. of north slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCS	Water Content	Dry Density	Percent Compact
1	8"	4965	1.051	103.5	2092	0.589	23.50	29.3	80.0	90.7
2	↓	4332	0.917	109.0	2025	0.570	22.75	26.3	86.2	97.7
3		4981	1.012	105.5	2075	0.584	23.25	28.2	82.3	93.3
4		4100	0.868	111.5	2035	0.573	23.00	26.1	88.5	100.3
5		5551	1.176	99.5	1995	0.562	22.50	29.2	77.0	87.3
6	↓	4765	1.009	105.5	1965	0.553	22.00	26.3	83.5	94.6

NOTES: DENSITIES SHOWN lbs. per cubic foot
WATER CONTENT: Per Cent of dry weight
PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

1 FILL MATERIAL
2 BACKFILL
3 BASE COURSE
4 SUBBASE
5 SOIL/CEMENT MIXTURE

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS AFTER RECOMPACTION
D moisture in excess of spec.
E moisture below spec.

Computations



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-15-87

OUR REPORT NO.: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO.	DATE	ELEV. / DEPTH	SOIL NO. NUMBER	MAXIMUM LAB. DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT*
77	9-15-87	Final	}	88.2	26.7	86.8	98.4	1-AC
88					27.6	85.0	96.3	1-A
99					26.2	87.5	99.2	1-AC
100		↓			27.7	85.8	97.2	1-A
111		1st Lift			28.2	85.0	96.3	
210		1st Lift			28.8	85.7	97.1	

TEST LOCATION: Pond FLOOR STA. 1600' - 2200'

77	Retest of →	STA. 1600' from test #5 of first page of this report
88		65' west of STA. 1700' and 15' S. of north slope
99	Retest of →	STA. 1900' from test #6 of first page of this report
100		20' west of STA. 1900' and 30' S. of north slope
111		90' west of STA. 2000' and 25' S. of north slope
210		15' west of STA. 2100' and 10' S. of north slope

Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
77	8"	4219	0.893	110.0	2049	0.577	23.25	26.7	86.8	98.4
88		4431	0.938	108.5	2087	0.588	23.50	27.6	85.0	96.3
99		4193	0.888	110.5	2041	0.575	23.00	26.2	87.5	99.2
100		4266	0.903	109.5	2105	0.593	23.75	27.7	85.8	97.2
111		4361	0.923	109.0	2110	0.594	24.00	28.2	85.0	96.3
210	√	4001	0.847	112.5	2176	0.613	24.75	28.8	85.7	97.1

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL/CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TESTS AFTER RECOMPACTION
- E. moisture in excess of spec.
- F. moisture below spec.



REPORT OF FIELD COMPACTION TESTS

TESTED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-16-87

OUR REPORT NO.: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	DEPTH	ELEV	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	9-16-87	Fin ish	88.2		88.2	26.3	86.3	97.8	1-A
2		2nd Lift				26.5	88.5	100.3	
3		1st Lift				26.6	87.3	98.9	
4		Subgrade				27.9	86.8	98.4	
5		1st Lift				27.5	87.0	98.6	
6	↓	↓	↓	↓	↓	27.0	87.8	99.5	↓

TEST LOCATION: Pond FLOOR STA. 2000' - 2475'

1	35' west of	STA. 2000' and 5' S. of North slope
2	10' west of	STA. 2100' and 10' S. of North slope
3	90' west of	STA. 2200' and 15' S. of North slope
4	55' west of	STA. 2300' and 20' S. of North slope
5	70' west of	STA. 2400' and 25' S. of North slope
6	20' west of	STA. 2300' and 30' S. of North slope

Test No.	Probe Depth	Density Count	Density Ratio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
1	8"	4362	0.924	109.0	2033	0.572	22.75	26.3	86.3	97.8
2		4038	0.855	112.0	2084	0.587	23.50	26.5	88.5	100.3
3		4184	0.886	110.5	2069	0.583	23.25	26.6	87.3	98.9
4		4165	0.882	111.0	2137	0.602	24.25	27.9	86.8	98.4
5		4125	0.873	111.0	2112	0.595	24.00	27.5	87.0	98.6
6	↓	4057	0.859	111.5	2100	0.591	23.75	27.0	87.8	99.5

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. moisture increase of spec
- E. moisture below spec



REPORT OF FIELD COMPACTION TESTS

TEST FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-16-87

OUR REPORT NO.: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	ELEV DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
7	9-16-87	Finals	}	88.2	26.5	86.5	98.0	1-A
8		2nd Lift			27.8	85.3	96.7	
9		↓			26.1	86.0	97.5	
10		2nd Lift			27.5	87.0	98.6	
11		Final			27.4	86.3	97.8	
12	↓	↓			26.0	87.8	99.5	↓

TEST LOCATION: Pond FLOOR 2100'-2475'

7	30' west of	STA. 2100' and 35' S of North slope
8	20' west of	STA. 2200' and 40' S. of North slope
9	80' west of	STA. 2300' and 25' S. of North slope
10	65' west of	STA. 2400' and 20' S. of North slope.
11	60' west of	STA. 2200' and 15' S. of North slope
12	10' west of	STA. 2300' and 10' S. of North slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
7	8"	4286	0.908	109.5	2040	0.574	23.00	26.5	86.5	98.0
8		4323	0.915	109.0	2094	0.590	23.75	27.8	85.3	96.7
9		4415	0.935	108.5	2012	0.567	22.50	26.1	86.0	97.5
10		4135	0.876	111.0	2120	0.597	24.00	27.5	87.0	98.6
11		4254	0.901	110.0	2103	0.592	23.75	27.4	86.3	97.8
12	↓	4230	0.896	110.0	2134	0.601	22.25	26.0	87.8	99.5

NOTES: DENSITIES SHOWN lbs per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Moisture increase of spec
- E. Moisture below spec



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR: **San Miguel Coop**

PROJECT: **SMC IA Pond**

DATE: **9-16-87**

OUR REPORT NO.: **311-**

TEST DATA: **23.7 +3% - 4%**

TEST NO	DATE	ELEV DEPTH	SOIL NO NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
13	9-16-87	Final	Z	88.2	27.8	85.3	96.7	1A
2								
3								
4								

TEST LOCATION: **Pond FLOOR STA. 2400'**

13	45' west of STA. 2400' and 45' s. of north slope.								

	A	B	C	D	E	F	G	H	I	
Test No.	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	Percent Compaction
13	8"	4367	0.925	109.0	2111	0.594	23.75	27.8	85.3	96.7

NOTES: DENSITIES SHOWN Lbs. per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- C. moisture increase of spec.
- D. moisture below spec.



REPORT OF FIELD COMPACTION TESTS

ED FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-21-87

OUR REPORT NO: 311-

TEST DATA: 23.7 + 3% - 4%

TEST NO	DATE	ELEV. / DEPTH	SOIL ID NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PER CENT COMPACTION	COMMENT
1	9-21-87	Subgrade	2	88.2	27.1	88.5	100.3	1-A
2		↓			26.4	87.3	98.9	
3		1st lift			26.3	86.3	97.8	
4		↓			27.5	86.2	97.7	↓

TEST LOCATION: Pond FLOOR STA. 100' - 200' SOUTH SLOPE

1	40' west of STA. 100' and 25' from bottom of slope
2	70' west of STA. 200' and 10' from top of slope
3	20' west of STA. 100' and 15' from top of slope
4	50' west of STA. 200' and 10' from bottom of slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture P.C.F.	Water Content	Dry Density	Percent Compaction
1	8"	3995	0.846	112.5	2131	0.600	24.00	27.1	88.5	100.3
2		4165	0.882	110.5	2074	0.584	23.25	26.4	87.3	98.9
3		4378	0.927	109.0	2025	0.570	22.75	26.3	86.3	97.8
4		4210	0.891	110.0	2100	0.591	23.75	27.5	86.2	97.7

NOTES: DENSITIES SHOWN LBS per cubic foot
WATER CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL/CEMENT
- 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST IS FOR RECOMPACTION
D TEST IS FOR RECOMPACTION
E TEST IS FOR RECOMPACTION



REPORT OF FIELD COMPACTION TESTS

TEST FOR: San Miguel Coop

PROJECT: SMC IA Pond

DATE: 9-22-87

CUR REPORT NO.: 311-

TEST DATA: 23.7 +3% - 4%

TEST NO	DATE	DEPTH	SOIL ID NUMBER	MAXIMUM LABORATORY DENSITY	WATER CONTENT	IN PLACE DRY DENSITY	PERCENT COMPACTION	COMMENT
1	9-22-87	2nd	2	88.2	27.0	87.0	98.6	1-A
2		✓			28.0	85.5	96.9	↓
3		Final			26.7	86.0	97.5	↓
4	✓	↓	✓	✓	28.5	86.8	98.4	↓

TEST LOCATION: ~~South Slope~~ South Slope, STA. 100'-300'

1	30' west of STA. 100' and 15' from top of slope
2	60' west of STA. 200' and 10' from bottom of slope
3	20' west of STA. 100' and 25' from bottom of slope
4	90' west of STA. 200' and 20' from top of slope

Test No	Probe Depth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCS	Water Content	Dry Density	Per Cent
1	8"	4165	0.882	110.5	2089	0.588	23.50	27.0	87.0	98.6
2		4280	0.906	109.5	2135	0.601	24.00	28.0	85.5	96.9
3		4354	0.922	109.0	2035	0.573	23.00	26.7	86.0	97.5
4		4096	0.867	111.5	2196	0.618	24.75	28.5	86.8	98.4

NOTES: DENSITIES SHOWN cps per cubic foot
WATER CONTENT Per Cent of Dry Weight
PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 GRAVEL

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED 4320
- C TEST IS AFTER RECOMPACTION 3544
- D. Moisture in excess of 30%
- E. Moisture below 20%

PSI 1987d

Letter to San Miguel Electric Cooperative, Inc. Re: Pond Liner San Miguel Power Plant, Project No. 311-70065-2, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

July 21, 1987

San Miguel Electric Cooperative, Inc.
Post Office Box 280
Jourdanton, Texas 78026

Attention: Mr. Clyde Price

Re: Pond Liner
San Miguel Electric Power Plant
Jourdanton, Texas
PSI Project No.: 311-70065-2

Gentlemen:

During the course of excavation work for the subject pond liner, a sandstone layer was encountered within the bottom of the existing pond liner. The sandstone and clayey sands should be removed from the site and placed in the designated on-site disposal areas. These materials should be completely removed until suitable clays are encountered or to a minimum depth of three feet below the existing pond bottom elevation. On-site clays from the existing pond liner should then be utilized to replace and compact the required three foot clay liner.

Some discussion has also taken place about not removing and replacing the required two feet of clay liner along the south dike due to the proximity of the adjacent pond. PSI does not agree with this scenario and believes the work along this dike should be completed as initially intended. Should serious seepage problems develop during the course of this work then an alternative means of accomplishing the work will have to be developed.

Work along the toe of the dike where current seepage is apparent should also be conducted as per the contract scope of work. It is anticipated that the toe areas exhibiting seepage will have to be worked in short sections. The wet section should be dewatered by means of a sump trench and excavated to a depth of two feet below existing pond bottom. Dewatering should continue during compaction of the bottom foot or another foot or so excavated if the bottom foot of liner is too wet to be compacted. Replacement and compaction of the clay liner should then proceed preferably the same day as the excavation and during continuous dewatering.

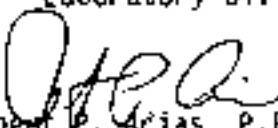
San Miguel Electric Cooperative, Inc.
July 21, 1987
Page Two

Finally, it is suggested that excavation and recompaction of the dike slopes should proceed prior to replacing the pond bottom liner along any section. This sequence will help reduce traffic and potential damage to the completed portions of the bottom liner.

We would be pleased to discuss the above comments in greater detail at your convenience.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)


Robert P. Arias, P.E.
Vice President

RPA/tt

PSI 1987e

Letter to San Miguel Electric Cooperative, Inc. Re: -200 Sieve Analysis 1A Ash Pond Soil Testing, PSI File No. 311-70065-3, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

July 21, 1987

SAN MIGUEL ELECTRIC COOPERATIVE, INC.
Post Office Box 280
Jourdanton, Texas 78026
Attention: Mr. Clyde Price

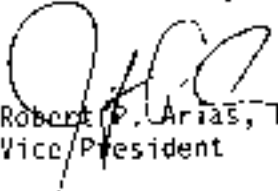
RE: -200 Sieve Analysis
1A Ash Pond Soil Testing
P.O. #26643-032108
PSI File #311-70065-3

Gentlemen:

As requested, we have conducted a -200 Sieve Analysis, equal to 44.6%, on the sample of soil obtained from the project site on July 17, 1987. The sample was taken from the center of the pond. It consisted of tan sandy clay. The liquid limit equalled 70, with a plasticity index of 50.

If there are any further questions concerning this report, please contact our office at your convenience.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)


Robert P. Arias, P.E.
Vice President

RPA:ps

cc: (2) Above



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR **SAK MIGUEL ELECTRIC COOPERATIVE, INC.**
Post Office Box 280
Jourdanton, Texas 78026
Attention: Mr. Clyde Price

PROJECT **1A Ash Pond Soil Testing**
P.O. #26643-032108

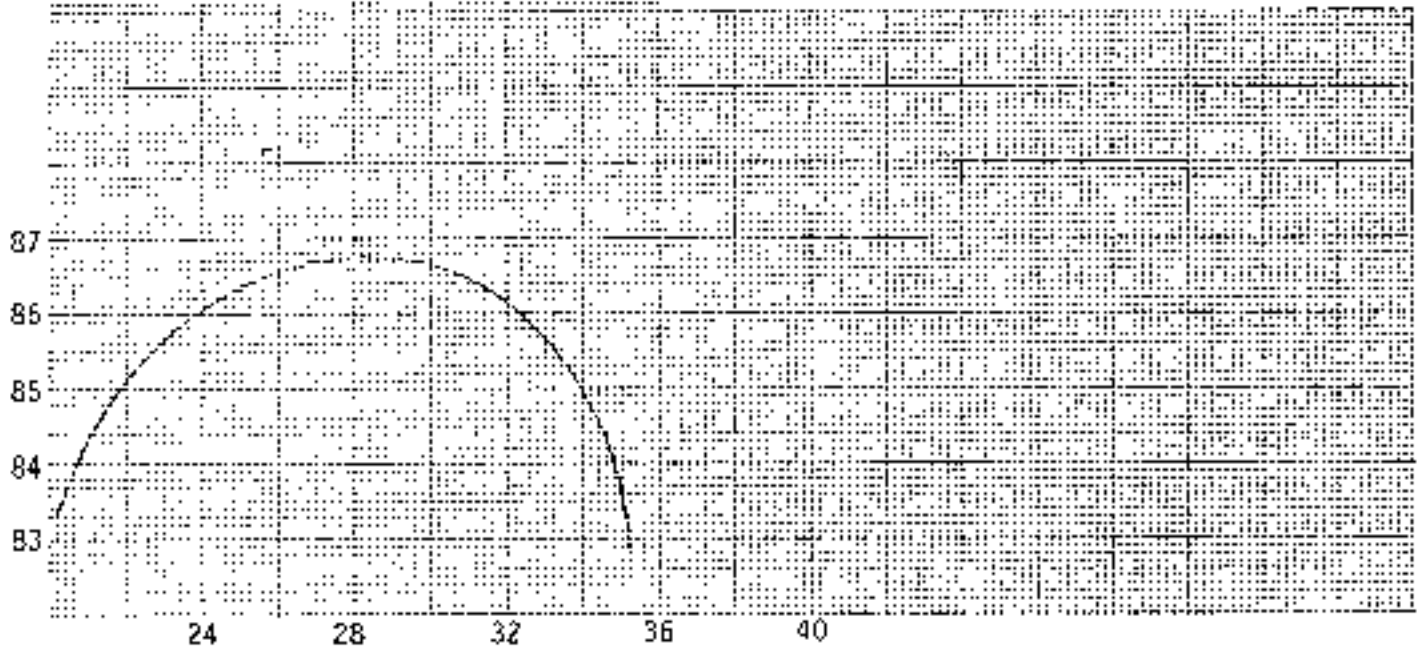
DATE **July 29, 1987**

OUR REPORT NO **311-70065-5**

TEST DATA

Visual Classification **Tan sandy clay**
Sample Source **Project site, sampled by PSI 7-25-**
Method of Test **ASTM D-698**
Test Results:
Maximum Dry Density: **86.8** lbs./ft.³
Optimum Moisture Content: **28.2** %
-200 Sieve = 54%
Atterberg Limits
Liquid Limit: **58** , Plastic Limit: **22** , P.I.: **36**

DRY DENSITY, LBS., PER CUBIC FOOT



MOISTURE CONTENT, PERCENT OF DRY WEIGHT

cc: (2) Above
/ps

Respectfully submitted,
Professional Service Industries, Inc.

PSI 1987f

Letter to San Miguel Electric Cooperative, Inc. Re: *Pond Liner Rehabilitation*, PSI Project No. 311-70065-26, from Robert P. Arias, P.E., Professional Services Industries, Inc., August 19, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

August 19, 1987

SAN MIGUEL ELECTRIC COOPERATIVE, INC.
Post Office Box 280
Jourdanon, Texas 78026
ATTENTION: Mr. Clyde Price

RE: Pond Liner Rehabilitation
San Miguel, Texas
PSI Project #311-70065-26

Gentlemen:

It is our understanding that some areas on the south side of the pond re-compacted clay liner show evidence of water seepage after clay liner re-compaction and testing. The seepage is most likely due to the high level of water pressure exerted by the adjacent pond. If these areas were properly compacted in compliance with specifications they can be considered as acceptable liner for the project.

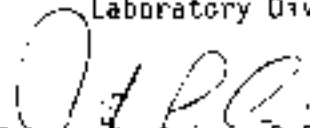
We do recommend however, that seepage areas be relieved of excess water pressure, to prevent fracturing of the re-compacted liner, by drilling small weep holes on approximate five foot centers in the area of seepage. The weep holes can be augered three feet through the clay liner and left open just prior to filling of the pond. Prior to pond filling, the auger weep holes should be filled with bentonite pellets and saturated with water in six inch depths to seal the weep holes.

Also, sandstone layers have been encountered during the excavation process. The sandstone may be mixed with the onsite clays for re-use in the liner as long as it is properly broken up and mixed with the available clay materials and that the sandstone does not constitute more than 20 to 30% of the final clay mix. Large amounts of sandstone should be removed.

If there are any questions concerning this report, please do not hesitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
(Shilstone Engineering Testing
Laboratory Division)


Robert P. Arias, P.E.
Vice President

RPA:dd

PSI 1987g

Letter to San Miguel Electric Cooperative, Inc. Re: *Summary Report Pond 1A Soil Liner Re-Construction*, PSI File No. 311-70065-66, Robert P. Arias, P.E., Professional Services Industries, Inc., October 30, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

October 30, 1987

RECEIVED
S.M.E.C., Inc

NOV 1987

SAN MIGUEL ELECTRIC CO-OPERATIVE, INC.
Post Office Box 200
Jourdanton, Texas 78026

Jourdanton, Texas 78026

Re: Summary Report
Pond 1A Soil Liner
Re-Construction
Jourdanton, Texas
PSI File No.: 311-70065-66

Gentlemen:

Re-construction of the subject pond clay liner was begun on July 13, 1987 by V.K. Knowlton Co. Re-construction of the pond was conducted in accordance with report recommendations provided by Professional Service Industries, Inc. dated January 27, 1987.

Prior to the construction operations, PSI visited the site and sampled in situ clay liner materials for testing on March 16, 1987. The results of this testing program as documented in our report dated May 7, 1987, indicated the in situ clays would be suitable for re-use for the pond liner reconstruction.

PSI began our testing and observation operations on July 20, 1987. Density tests were conducted for every 10,000 square feet of surface per lift while V.K. Knowlton prepared 300x300 foot section of clay liner. Prior to July 20, 1987, V.K. Knowlton had been stripping the pond of residual ash left over from the previous major ash removal operations.

It was apparent during the first week of clay liner re-construction that seepage along the south dike from pond 1B was going to slow liner construction in localized areas.

Accordingly, V.K. Knowlton requested that several areas along the south dike not be re-worked due to potential construction problems. PSI declined this request as noted in our correspondence dated July 21, 1987, Report No. 311-70065-2.

Clay liner re-construction commenced along the south dike slope. Liner placement and compaction was constantly monitored during the re-construction process. Areas of failed densities were re-worked until specification compliance was met. In several instances, the contractor elected to completely remove the bottom foot of in situ liner on the pond slopes as opposed to scarification and re-compaction in place.

Five (5) saturated areas along the south dike toes and south dike slope were identified and reported on July 22, 1987, in Report No. 311-70065-9. These areas were dewatered and excavated. During this process unsuitable clayey sands or sandstone layers were identified and removed from the pond.

After completion of clay liner re-construction along the south dike slope and toe, seepage reappeared in several areas. Accordingly, weepholes were recommended in these areas to relieve the seepage pressures as noted in our Report No. 311-70065-26. These weepholes were subsequently filled with bentonite just prior to re-filling of the pond. Additionally, fractured or cracked portions of the re-constructed clay liners due to seepage along the south dike slope were repaired on September 23, 1987 by injection of a bentonite slurry mix.

Final construction details such as placement of rip rap was conducted on September 24, 1987. Density testing was completed on September 22, 1987.

Pond filling began shortly after rip rap placement. On September 29, 1987 the depth of water in the pond was approximately three feet deep. It should be noted that maintenance of the clay liner in the form of moisture control has not been conducted after construction operations ceased and during pond filling. Moisture maintenance of the clay liner is necessary to prevent cracking of the clay liner due to drying or clay shrinkage. Shrinkage cracks in the liner are definite potential seepage outlets. Future provisions for clay liner re-construction of Pond 1B should include more stringent moisture maintenance requirements during and after construction prior to completion of re-filling of the pond.

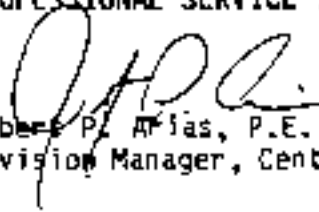
Finally, based on our experience with re-construction of the liner for Pond 1A, it is suggested that a general construction sequence guideline be incorporated into the contract documents. Also, it is suggested that a longer contractor daily or weekly working period be considered to allow for potential weather delays.

SAN MIGUEL ELECTRIC CO-OPERATIVE, INC.
October 30, 1987
Page Three

In summary, the pond 1A clay liner was re-constructed in accordance with project specifications. We enjoyed and appreciated the opportunity to provide our services to you on this project.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.


Robert P. Apías, P.E.
Division Manager, Central Texas Operations

RPA/hw

PSI 1991

Report of Inspection Services, San Miguel Electric Cooperative, Report No. 911-00155-63, Professional Services Industries, Inc., June 13, 1991.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



Professional Service Industries, Inc.

REPORT OF INSPECTION SERVICES

TESTED FOR MORRISON-KNUDSEN
P.O. Box 850
Jourdanon, Texas 78026
Attn: Mr. Dennis Price, P.E.

PROJECT Ash Pond 5 Liner
San Miguel Power Plant

DATE June 13, 1991

OUR REPORT NO: 311-00155-63

Page 1 of 3

REMARKS: Technician: J. Schlomach

SUMMARY OF INSPECTION

As requested by Mr. Dennis Price of your firm, a representative of Professional Service Industries, Inc. arrived at the above referenced project to conduct compaction testing. Test results are attached for your review. Equipment available on this date consisted of: a maintainer, a compactor, a water truck, two bulldozers, and two scrapers.

CONDITIONS REQUIRING CORRECTION - CORRECTIVE ACTION TAKEN

None. Project specifications require compaction to be a minimum of 95% at a moisture content of optimum to 4% above optimum.

cc: (2) Above

Respectfully submitted,
Professional Service Industries, Inc.



Professional Service Industries, Inc.

REPORT OF FIELD COMPACTION TESTS

TESTED FOR MORRISON-KNUDSEN
 P.O. Box 850
 Jourdanton, Texas 78026
 Attn: Mr. Dennis Price, P.E.

PROJECT Ash Pond B Liner
 San Miguel Power Plant

DATE June 13, 1991

OUR REPORT NO 311-00155-63

Page 2 of 3

TEST DATA: Optimum moisture: (34, 35.2%)

TEST NO	DATE	FILE NUMBER	SOIL NUMBER	MAXIMUM LAB DRY DENSITY	WATER CONTENT	FIELD DRY DENSITY	PER CENT COMPACTION	COMMENTS
1	06-13-91	Final	34	80.6	36.7	81.2	100.7	1-A
2	06-13-91	Final	34	80.6	36.4	81.0	100.5	1-A
3	06-13-91	Final	34	80.6	38.8	78.5	97.4	1-A
4	06-13-91	Final	34	80.6	37.3	80.5	99.9	1-A
5	06-13-91	Final	34	80.6	36.9	80.0	99.2	1-A
6	06-13-91	Final	34	80.6	37.0	81.0	100.5	1-A

TEST LOCATION:

1	Ash Pond B floor area - N 2 + 10 and E 27 + 50
2	Ash Pond B floor area - N 2 + 70 and E 23 + 00
3	Ash Pond B floor area - N 2 + 60 and E 20 + 00
4	Ash Pond B floor area - N 2 + 10 and E 17 + 50
5	Ash Pond B floor area - N 2 + 50 and E 15 + 00
6	Ash Pond B floor area - N 2 + 20 and E 13 + 50

NOTES DENSITIES SHOWN lbs. per cubic foot
 WATER CONTENT Per Cent of dry weight
 PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by soil ID number

- * 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

cc: (2) Above

Respectfully submitted,
 Professional Service Industries, Inc



Professional Service Industries, Inc.

REPORT OF FIELD COMPACTION TESTS

TESTED FOR MORRISON-KNUDSEN
 P.O. Box 850
 Jourdanon, Texas 78026
 Attn: Mr. Dennis Price, P.E.

PROJECT Ash Pond B Liner
 San Miguel Power Plant

DATE June 13, 1991

OUR REPORT NO 311-00155-63

Page 3 of 3

TEST DATA: Optimum moisture: (34, 36.2%), (2, 28.2%)

TEST NO	DATE	LIFT / TYPE	NO. OF SAMPLES	WATER CONTENT (%)	WATER CONTENT (%)	WATER CONTENT (%)	PERCENT COMPACTION	COMMENTS
7	06-13-91	Lift 24	34	80.6	38.0	79.0	98.0	1-A
8	06-13-91	Lift 26	34	80.6	38.4	79.5	98.6	1-A
9	06-13-91	Lift 28	34	80.6	38.5	78.7	97.6	1-A
10	06-13-91	Lift 30	34	80.6	38.9	79.2	98.3	1-A
11	06-13-91	Final	2	89.8	28.5	89.5	99.7	1-A
12	06-13-91	Final	2	89.8	28.5	88.7	98.8	1-A

TEST LOCATION:

7	Ash Pond B floor area - N 2 + 20 and E 12 + 10
8	Ash Pond B floor area - N 2 + 10 and E 12 + 20
9	Ash Pond B floor area - N 2 + 25 and E 12 + 25
10	Ash Pond B floor area - N 2 + 10 and E 12 + 10
11	Ash Pond B floor area - N 2 + 30 and E 12 + 25
12	Ash Pond B floor area - N 2 + 00 and E 12 + 30

NOTES: DENSITY SHOWS lbs per cubic foot
 WATER CONTENT: Per Cent of dry weight
 PERCENT COMPACTION: Based on maximum dry density obtained on sample indicated by soil ID number

- 1 FILL MATERIAL
- 2 BACKFILL
- 3 BASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- 6 OTHER

- A TEST RESULT IS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION

REMARKS:

cc: (2) Above

Respectfully submitted,
 Professional Service Industries, Inc

San Miguel 1979a Letter to National Soil Services, Inc. Re: Certification of Ponds, from Gerald V. Camber, San Miguel Electric Cooperative, Inc., February 13, 1979.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



16.21
[Handwritten signature]

SAN MIGUEL ELECTRIC COOPERATIVE, INC.

P. O. Box 280, Jourdanon, Texas 78026

ERNEST I. WOHLSCHLEGEL
General Manager

February 13, 1979

Tillman A. Riewe, P.E.
National Soil Services, Inc.
P.O. Box 24596
4987 Shilling Way
Dallas, Texas 75224

*Nat. Soils
Plant Island
MBP 2/14/79*

Dear Tillman,

This letter is in reference to your letter of February 9, 1979 concerning the clarification of the five ponds at the San Miguel Plant Site.

In his inspection of the ponds, Raymond Harris, Field Representative, Texas Department of Water Resources recommended to TDWR Office in Austin that they be certified as inspected. He was recommending certification of the ponds as they were the date of inspection and not on the alternate plan. We are hoping to have them certified without having to use the alternate plan.

If you have any questions, please call us.

Sincerely yours,

Gerald V. Conner
Environmentalist

GC/jas

cc: Ron Magel
John Cleary

San Miguel 1979b Letter to National Soil Services, Inc., Re: Authorization to Proceed,
from E.I. Wohlschlegel, San Miguel Electric Cooperative, Inc.,
February 14, 1979.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



107.21

SAN MIGUEL ELECTRIC COOPERATIVE, INC.

P. O. Box 280, Jourdanon, Texas 78026

ERNEST I. WOHLSCHEGEL
General Manager

Pond Certification

February 14, 1979

NOTED FEB 23 1979

E. J.
BOYLE

Pierce L. Chandler, Jr. P.E.
National Soil Service, Inc.
4087 Shilling Way
Dallas, Texas 75224

Dear Pierce,

We are authorizing you to proceed in providing us a report on the Compaction Tests for the five ponds at the San Miguel Plant Site. Also, you are to provide us a report on the clay soil material that was used as a three-foot clay blanket over the southeast quadrant of the yard drainage retention pond. These reports are necessary in helping us to get these five ponds certified by the Texas Department of Water Resources. The reports are to be sent to us and they in turn will be sent to the Texas Department of Water Resources Office.

The cost for services in providing us with the reports are to be added to the Geotechnical Quality Studies for Plant Island.

If you have any questions, please call us.

Sincerely,

E. I. Wohlschlegel
E. I. WOHLSCHEGEL
General Manager

GC/jas

cc: Ron Magel ✓

San Miguel 1983 Letter to Texas Department of Water Resources, Re: Industrial Wastewater Inspection of May 26, 1983, San Miguel Electric Cooperative, SMEC File No. 311.9055, from R.P. Metcalfe, P.E., San Miguel Electric Cooperative, Inc., August 19, 1983.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



SAN MIGUEL ELECTRIC COOPERATIVE, INC.

August 19, 1983

Texas Department of Water Resources
District 8
831 Center Street, Suite 1103
San Antonio, Texas 78202

Attn: Mr. Vernon R. Francis

Re: San Miguel Steam Electric Station, Jourdanton Plant Site
Industrial Wastewater Inspection of May 26, 1983
Permit No. 0261
Atascosa County
TDMR Letter Dated July 29, 1983

SMC File: 111.9035

Dear Mr. Francis:

The following is in reply to your letter, dated July 29, 1983.

- 1) "F.G.D. sludge and fly ash mixed with chrome bearing wastewater were observed in a storm water ditch on the southwest side of the plant. This material has apparently been discharged to the yard retention pond.

A. Please identify these sources."

This material came from the F.G.D. filtrate sump as a result of an accidental opening being made between the sump system and the storm drain system. This opening was located and sealed on May 29, 1983. In addition, new pumps with a higher discharge head are currently being installed to transfer this filtrate directly to the thickener tanks instead of the sump system.

B. "Eliminate this discharge immediately."

Accomplished on May 29, 1983. See above.

Attn: Mr. Vernon E. Francis

Re: Industrial Wastewater Inspection of May 27, 1983
Permit No. 0261, IDWR Letter Dated July 29, 1983

Page 2

- 2) "The west and east side outer banks of Ash Pond "A" are apparently leaking contents. The clay liner on the inner bank of Ash Pond "A" (near the inlet pipes) has begun to erode.

- A. A program to vegetate the outer banks should be looked into in order to stop erosion."

Various programs for prevention of erosion are being evaluated at this time, including rip rap, vegetation, etc.

- B. "Please identify the reason for pond leakage and your proposals for elimination."

We are currently at a loss to explain the leakage. We have contacted two (2) consulting firms that are competent to assess the problem and recommend a solution. In the meantime, we are ordering pipe in order to place the South pond in service. When the North pond is empty, we can make the necessary inspections to the inside of the dike and attempt to locate the point of seepage. During this time, we also plan to remove the ash that has built up, although the pond is far from being filled to capacity.

- 3) "Ash Pond "A" had only six inches (6) of freeboard. This pond is also approaching sludge capacity."

See above. Presently the pond level has been lowered and we are operating with freeboard of 12" - 18". Further studies will be made of the ash water suction piping to see if it is possible to eliminate vortexing. If this study results in vortex elimination, the pond level can be reduced further.

- 4) "Back-up pump at the bottom ash hopper was not working."

The electrical problem that occurred during the day of the inspection has been located and corrected. However, one of the pumps will be removed and replaced with another Calliger pump as soon as possible. The Clow pump has not proved to be satisfactory in this type service.

- 5) "Head tanks for the ash water booster pumps have overflowed and discharged their contents towards Souse Creek."

It is impossible to explain how or why this could have happened at that time. The suction piping extends from the intake structure near the East end of both ponds and then into the two head tanks. If we had experienced a total power outage, and all pumps were on and running at

Attn: Mr. Vernon E. Francis

Re: Industrial Wastewater Inspection of May 27, 1983
Permit No. 0261, TDM Letter Dated July 29, 1983

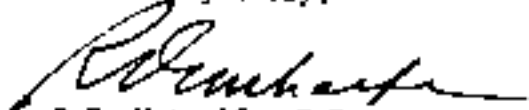
Page 3

- 5) capacity, the inertia of the flowing water could possibly cause the tanks to overflow. However, on the day of the inspection, and the days before, there had been no power outages and the plant had operated normally.
- 6) "Seals on ash-water pond pumps are leaking to an overflow gutter which discharges to Souse Creek."

Plans are underway to curb around this pump area and to collect pump seal leakage. This leakage will be pumped back into the ash pond or into the pumps suction system.

I hope that we have answered your questions in a satisfactory manner. It is our intention to operate in compliance with all available regulations. If you have any further questions or want to discuss the previous points in more detail, please let me know.

Yours very truly,



R.P. Metcalfe, P.E.
Chief Engineer

RPM:mle

cc: R. Giel
E. Lange
R. Magel
R. McCaskill
File

San Miguel 1984 Letter to Texas Department of Water Resources Re: TDWR Letter dated July 29, 1983, from Robert Cmiel, San Miguel Electric Cooperative, Inc., March 2, 1984.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

**SAN MIGUEL ELECTRIC COOPERATIVE, INC.**

March 2, 1984

Texas Department of Water Resources
District 8
321 Center Street, Suite 1103
San Antonio, Texas 78202
Attn: Mr. Vernon R. Francis

Subject: San Miguel Steam Electric Station, Plantsite.
Industrial Wastewater Inspection of May 27, 1983,
Permit Number 0261, Atascosa County. TDWR Letter
dated July 29, 1983.

Dear Mr. Francis:

This letter is written to further detail our plans to eliminate problems with the apparent ash pond leakage. These plans are based on your July 29, 1983 letter, Comment 2.B., "Please identify the reason for pond leakage and your proposals for elimination."

We have contacted NFS Services., and they have investigated the problem. Their response is attached. Our proposal for corrective action is as follows: Please refer to the attached Figure 1 while reviewing our proposal.

A. WET AREA "A".

Install concrete pad around pumps and piping. This pad will collect any pond leakage and/or pump seal water and drain it to the yard retention pond. Here it can be pumped into the ash pond.

B. WET AREA "B".

Install cooling tower splash guards. This will prevent water from splashing out of the cooling tower.

C. WET AREA "C".

Install collection trench and sump with pump. Any water collected will be pumped into ash pond.

D. WET AREA "D".

Same as "C".

March 2, 1984

Texas Department of Water Resources
San Antonio, Texas

Subject: San Miguel Steam Electric Station, Plantsite.
Industrial Wastewater Inspection of May 27, 1983.
Permit Number 0261, Atascosa County. TDWR Letter
dated July 29, 1983.

E. WET AREA "E".

Corrective Action in "C" and "D" above will eliminate
ash pond water in this area.

F. WET AREA "F".


Same as "C".

G. WET AREA "G".

Corrective action in "A" and "B" above will eliminate ash
pond water and cooling tower water in this area.

Upon receipt of your approval, SMEC will proceed with the cor-
rective action outlined above.

Yours truly,



Robert Crael
Power Engineer

RC/jas

Encls: (2)

STUDY OF ASH POND LEAKAGE
SAN MIGUEL STEAM ELECTRIC STATION
JOURDANTON, TEXAS

Report to
TIPPETT & GEE, INC.
Consulting Engineers
Abilene, Texas

By
NFS SERVICES, INC.
Consulting Engineers
Dallas, Texas

January, 1984

JAN 25 1984

TIPPETT & GEE

SOLID ENGINEERING REPORT

STUDY OF ASH POND LEAKAGE
SAN MIGUEL STEAM ELECTRIC STATION
JOURDANTON, TEXAS

January 20, 1984
Report No. D-75285-13A

Tippett & Gee, Inc.
Consulting Engineers
502 North Willis Street
Abitene, Texas 79603

Attention: Mr. M. L. Hughes, P. E.

Gentlemen:

Submitted here is our report of our study of the ash pond leakage at the above-referenced facility. This study was requested by your letter of October 21, 1983.

DISCUSSION OF LEAKAGE PROBLEM

The San Miguel Steam Electric Station has two ash disposal ponds, identified as ponds "A" and "B," which are located south of the plant power block as shown on the Plan of Borings, Plate I, in the illustrations section of the report. Both of these ash disposal ponds are rectangular impoundments, 2,475 feet long by 265 feet wide (measured along center line of embankment crest) with a common dike separating the north pond (pond "A") from the south pond (pond "B"). Construction of the ash disposal ponds started in July, 1977, and was completed in May, 1978.

In early June of 1978, extremely heavy rainfall associated with a tropical storm was experienced throughout South Texas. A substantial amount of water accumulated in both ash disposal ponds as a result of this storm, with the ponds remaining partially filled with

surface water for a long period thereafter. Pond "A" was placed into service in 1981 and has been full of liquid ash waste for approximately two years. Pond "B" has not had significant use to date and contains only a few feet of liquid ash waste.

In July, 1983, San Miguel Electric Cooperative, Inc., was notified by the Texas Department of Water Resources (TDWR) that, as a result of a routine industrial wastewater inspection made on May 26, 1983 by a TDWR representative, the west and east side outer banks of ash pond "A" were apparently leaking contents. TDWR requested that the reason for the pond leakage be identified and proposals made for correction of the problem. A copy of the TDWR correspondence, together with copies of all other correspondence related to the ash ponds, are included in the appendix to this report.

Subsequent inspections and tests made by San Miguel plant personnel revealed seven suspected leakage areas around the ash ponds. The areas are designated as areas "A" through "G" and are shown on Plate 2. Areas "A," "C," and "D" correspond to the locations of leakage cited by TDWR. Samples of surface water were analyzed for evidence of contamination with the following results:

<u>Date</u>	<u>Sampling Point</u>	<u>pH</u>	<u>Specific Conductance (umhos/cm)</u>	<u>Sulfate (ppm)</u>	<u>Chloride (ppm)</u>	
10/15/83	A	7.45	4,700	1,964	749	
	B	8.3	5,400	2,357	760	
	C	7.5	8,600	5,108	737	
	D	7.4	6,800	2,750	760	
	E	7.4	4,700	2,200	647	
	F	7.4	6,200	2,652	1,010	
	G	7.95	4,500	2,122	318	
	Ash Pond "A"	7.8	8,100	3,929	964	
	Ash Pond "B"	8.3	7,900	4,518	783	
10/30/83	A	7.2	4,300	2,161	629	
	B	8.1	1,800	668	33	
	C	8.4	7,000	12,573	1,953	
	D	7.5	8,000	2,947	835	
	E	8.0	7,000	2,357	391	
	F		-----Not Tested-----			
	G	7.9	7,000	1,650	532	
	Ash Pond "A"	7.2	7,000	4,479	1,020	
	Ash Pond "B"	8.4	7,000	4,322	781	

Comparison of the parameters defining the surface water quality with those characterizing the quality of the wastewater in the ponds indicates the probability of contamination of the surface water at the seven sampling points.

A site meeting was held on November 9, 1983 to permit assessment of the pond leakage by representatives of NFS Services, Inc. Those in attendance were:

NFS Services, Inc.	Mr. R. F. Reuss Mr. W. C. Worley Mr. G. G. LaFrance
San Miguel Electric Cooperative, Inc.	Mr. Robert Cmiel
Tippett & Gee, Inc.	Mr. E. G. Peveler

A second site inspection was made on January 9, 1984, to determine locations of proposed seepage collection lines and sumps. Messrs. Robert Cmiel and Wade Sebby of the San Miguel Station and G. G. LaFrance of NFS participated in this latter inspection.

PREVIOUS INVESTIGATIONS

Geotechnical parameters relating to design and construction of the ash disposal ponds are presented in Volume I, Foundation Design Analysis and Recommendations for the Plant Island, and Volume II, Field and Laboratory Data for the Plant Island, of NFS Report No. 75285, dated May 14, 1978. Records of field inspections and tests performed by NFS Services, Inc., during construction of the ash disposal ponds are summarized in NFS Inspection Report Nos. 194 (dated July 28, 1977) through 361 (dated June 8, 1978).

Additional geotechnical studies were performed by NFS Services, Inc., relative to certification of the ash disposal ponds, as well as the other plant site ponds. The initial certification plan for the ash disposal ponds was developed in November, 1977 and was based on drilling ten borings in the pond bottom (five in each pond) to a depth of five feet below the pond bottom. In addition, eight borings were to be drilled along the embankment crest of the dikes. Samples obtained from these borings were to be used for the determination of

dry unit weight, grain-size distribution, coefficient of permeability, and liquid and plastic limits for each of the soil types encountered. In addition, the information from this investigation was to be correlated with the previously developed soils data.

Due to the prolonged wet conditions in the ash disposal ponds, as well as the other plant site ponds, an alternate certification plan was proposed by NFS Services, Inc., based on drilling borings on the down dip side and partial perimeter of the various ponds shown on Plate I of the illustrations for this report. Both the initial certification plan and the revised certification plan are explained in detail in the NFS correspondence dated September 25, 1978, a copy of which is included in the appendix.

Subsequently, a field representative for TDWR recommended certification of the plant site ponds, including the ash disposal ponds, based on a field inspection performed by TDWR prior to January 30, 1979. Final certification of the ponds, including the ash disposal ponds, by TDWR was based in part on representations made by NFS as to the construction of the ponds as outlined in the NFS letter dated March 19, 1979 (refer to the appendix for a copy of this letter) in lieu of implementation of either the original or the revised certification programs.

SUBSURFACE CONDITIONS AND POND CONSTRUCTION

Preconstruction subsurface conditions in the vicinity of the ash disposal ponds are represented by the logs of borings B-35, B-39, B-41, B-42, B-60, B-65, B-66, B-105, B-106, B-107, and B-108. Locations of the borings are shown on Plate I, with the logs of the referenced borings being presented on Plates 3 through 15. Logs of these borings are also illustrated in graphical form on Sections A-A', B-B', C-C', and D-D' of the Generalized Soils Profiles, Plates 16 through 19.

In general, the preconstruction subsurface soil formations consisted of an upper clay stratum underlain by a sand stratum. The upper clay stratum was comprised of hard, medium to high-plasticity clays, sandy clays, and silty clays having some evidence of jointing

and slickensides. Results of six falling-head permeability tests performed on undisturbed clay specimens situated within the uppermost 15 feet below the original ground surface showed coefficient of permeability values ranging from 6.30×10^{-7} cm/sec to 4.29×10^{-9} cm/sec. The lower sand stratum consists of very dense, green to light brown and light gray, silty fine sand. Based on the boring data, the upper clay stratum extends to at or below Elev 288, or at least seven feet below the bottom of the ash ponds. Piezometric data developed during the geotechnical investigation for the plant site indicated the existence of a very deep groundwater table at about Elev 268 or approximately 27 feet below the bottom of the ash ponds.

Original ground surface elevations in the vicinity of the ash disposal ponds varied from a high of about Elev 316 at the middle of the north dike of pond "A" to a low of about Elev 292 at the southwestern corner of pond "B." The top of dike elevation is 315, with the bottom of the ponds being at Elev 295. Except for previously noted areas of high and low original ground elevations, the dikes of ponds "A" and "B" are comprised of a lower section of in-situ clay and an upper section of compacted clay. A five-foot-deep inspection trench was opened and backfilled with compacted clay along the toe of the interior slope except in areas where the dike is composed entirely of compacted clay embankment, in which case the inspection trench was positioned beneath the embankment crest. Interior and exterior slopes of the dikes are 2.5 H:1 V.

Field inspection records verify that no pervious soil strata were encountered in either the inspection trenches or the pond bottoms. Above-ground portions of the dikes consist of compacted medium to high-plasticity clays, sandy clays, and silty clays obtained from excavations made in the interior of the ash ponds. The clay fill was placed in maximum nine-inch loose lifts and compacted at a moisture content ranging from minus one to plus four percentage points above the optimum moisture content to at least 95 percent of the maximum dry density determined by THD Method TEX 113-E.

ANALYSES AND RECOMMENDATIONS

Areas of suspected pond leakage, identified as areas "A" through "G" and shown on Plate 2, were observed by NFS personnel during the November 9, 1983 site inspection. Based on the visual observations made at that time and also during the January 9, 1984 inspection, it is very probable that, with the exception of areas "B" and "G", the identified wet areas do result from pond leakage. In the case of suspected leakage area "B", the absence of seepage emerging from the outer dike slope at this location makes it less clear as to the probable source of the contaminated surface water sampled from the deep swale near the northwest corner of pond "A". With respect to suspected leakage area "G", this wet area appears to result from surface water being discharged from the nearby culvert. Both areas "B" and "G" should be assessed further during a dry period when the effects of surface water are absent.

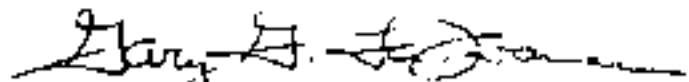
The geotechnical parameters recommended by this firm for use in designing the ash ponds were based on the assumption the medium to high-plasticity clays comprising the dikes and bottom of the ponds would have a permeability of less than 1×10^{-7} cm/sec when wetted. For the most part, field performance of the ash ponds has verified the initial design assumption. At the locations of the suspected leakage areas, subsurface conditions are different than previously assumed due to localized variations in soil types or structure, such as the presence of continuous joints. Based on the observed pattern of lateral movement of fluid from the ponds at several locations of leakage, it is likely that jointing of the in-situ clays at certain locations has provided a continuous flow path instead of a discontinuous flow path. The presence of massive clay formations beneath the bottom of the ponds and decreased jointing with depth warrant the conclusion that downward migration is negligible. Consequently, the leakage problem essentially involves lateral movement of pond fluid through localized discontinuities.

Recommended remedial work to control the pond leakage and to eliminate the possibility of contaminating surface water consists of installing seepage collection pipes, channeling the seepage to sumps, and pumping the accumulated seepage back into the ponds. A suggested plan and details for the collection system are shown on Plate 20. This recommended collection system, however, will not alleviate the leakage, if any, at area "B" inasmuch as any seepage emerging from or at the toe of slope would immediately enter the culvert and be discharged to the area west of ash disposal pond "B". If further assessment of the "B" area during a dry period confirms the likelihood of pond leakage at this location, a pipe toe drain and sump, constituting a closed system in order to separate seepage from the surface water runoff in the swale, will be required at this location. If required, typical design details will be furnished at a later date.

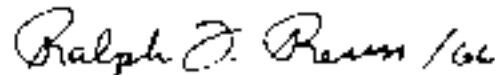
We trust that the information presented in this report satisfies the recent inquiries made about the ash pond leakage and provides a reasonable solution for correcting the problem. Please call us if there are any questions or if we may be of additional assistance.

Very truly yours,

NFS SERVICES, INC.



Gary G. EdFrance, P. E.
Manager of Engineering



Ralph F. Reuss, P. E.
President

GGL/RFR/lcr

Copies submitted: 3

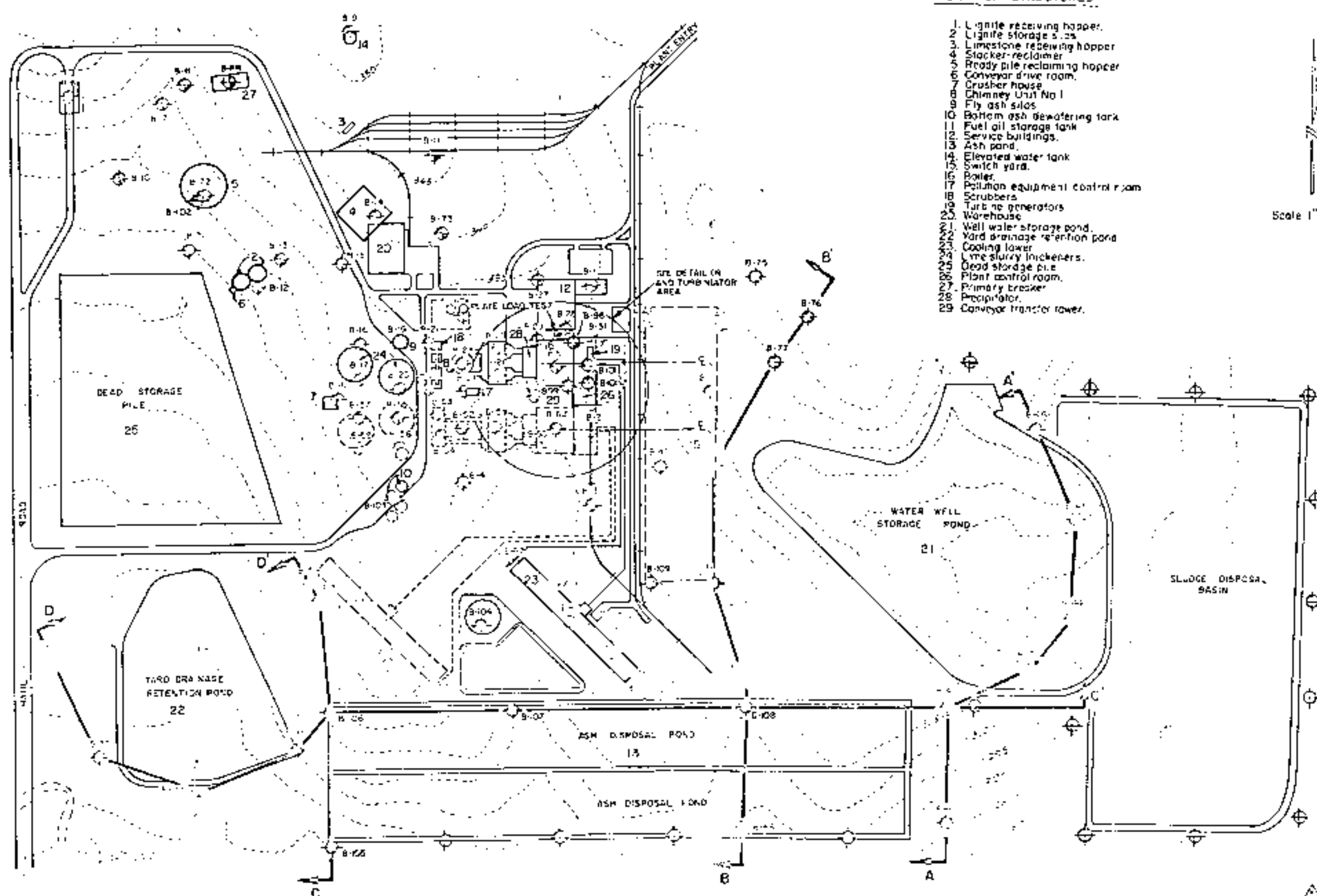
LIST OF STRUCTURES

1. Lignite receiving hopper.
2. Lignite storage silos.
3. Limestone receiving hopper.
4. Stacker-reclaimer.
5. Ready pile reclaiming hopper.
6. Conveyor drive room.
7. Crusher house.
8. Chimney Unit No 1.
9. Fly ash silos.
10. Bottom ash dewatering tank.
11. Fuel oil storage tank.
12. Service buildings.
13. Ash pond.
14. Elevated water tank.
15. Switch yard.
16. Boiler.
17. Pollution equipment control room.
18. Scrubbers.
19. Turbine generators.
20. Warehouse.
21. Well water storage pond.
22. Yard drainage retention pond.
23. Cooling tower.
24. Lime slurry thickeners.
25. Dead storage pile.
26. Plant control room.
27. Primary breaker.
28. Precipitator.
29. Conveyor transfer tower.

Scale 1" = 400'

LEGEND

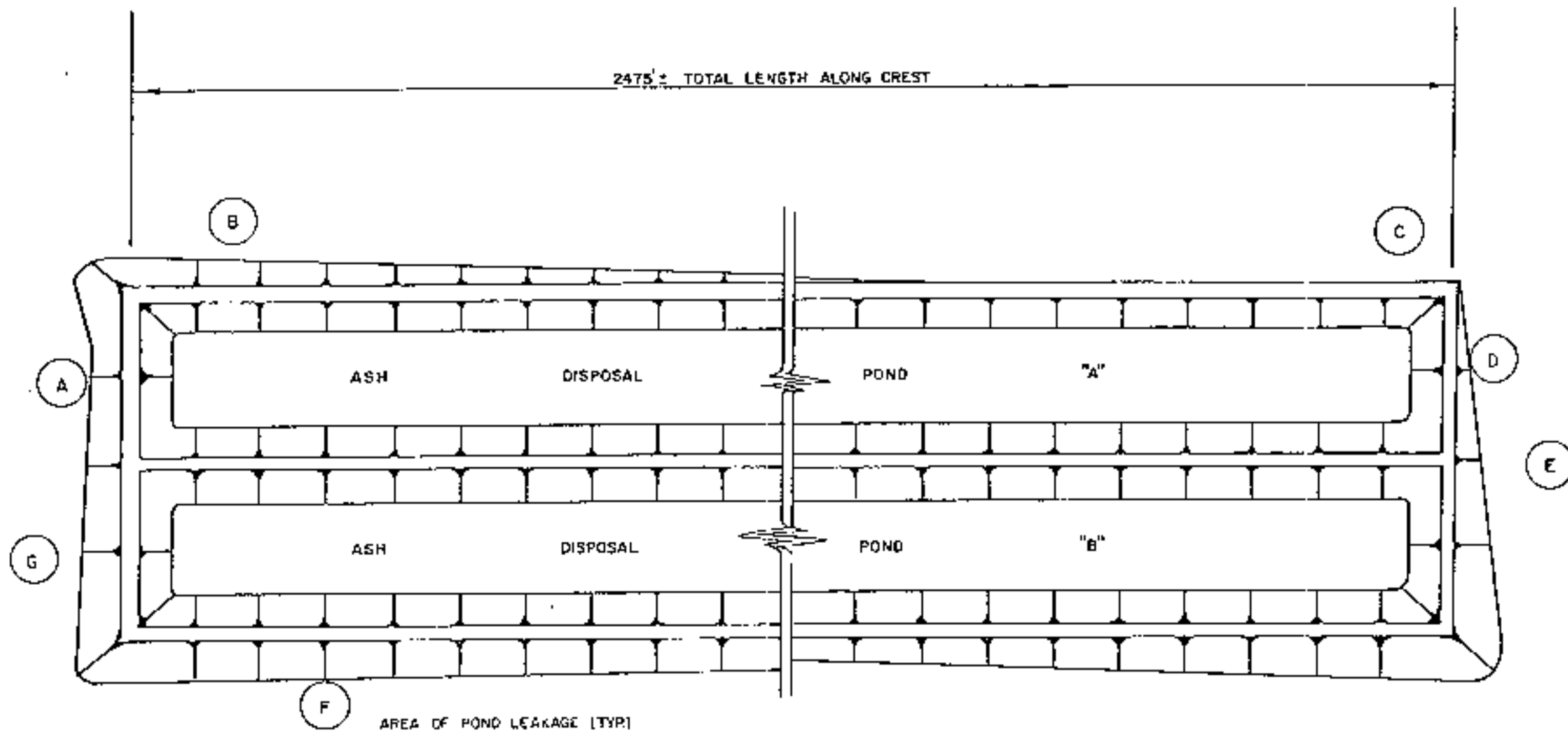
- ⊕ Existing Borings
- ⊕ Proposed Borings



△ CORRECTIONS APRIL 1, 1978
 ⊕ CORRECTIONS JULY 2, 1977
 ⊕ CORRECTIONS JANUARY 1977
 ⊕ CORRECTIONS SEPTEMBER 1976



Scale: 1" = 200'



LOCATION OF LEAKAGE AREAS

LOG OF BORING NO. B-SES-35
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 S.S.	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU FT.
								0.5	1.0	1.5	
		ELEVATION: 314.0									
		Hard brown clay									
		(CH)									
5		Hard light tan silty clay w/calcareous pebbles									
		w/occasional coarse sand									
		(CL - CH)									
10		Hard light gray sandy clay w/iron stains									
15					55	15					
		(CL)									
20		Hard light reddish-brown clay w/occasional silty clay seams w/limonite laminations									
		w/telenite pebbles									
		(CH)									
25		Hard light red and light gray silty clay w/iron laminations, telenite laminations w/some sand									
		(CL)									
30		Hard light brownish-tan clay w/telenite seams									
		- jointed									
35											
		(CH)									
40		Hard tan sandy clay w/calcareous pebbles w/iron stains									
		(CL)									
45		Very dense green to tan fine sand	502	5"							
			180								
50			27	5"							
			180								

(Continued)

PROVISIONAL SOIL SYMBOLS
CONSULT THE STANDARD

LOG OF BORING NO. B-565-35 (Cont'd.)
 G&T COOPERATIVE PROJECT
 PLEASANTON, TEXAS

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	PASSING NO. 200 SIEVE %	BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. 195./CU FT.
								0.5	1.0	1.5	
55		w/occasional clayey sand pockets		50/2	5"						
60				50/2	5"						
65		Hard gray sandy clay, w/4.0" silty sand seam at 64.5' w/numerous clay laminations									
70		Hard grayish brown clay, w/numerous sand pockets, slightly slickensided									
75											
80											
85											
90											
95											
100											

COMPLETION DEPTH: 100'
 DATE: 1-29-76

INTERNATIONAL SOIL SERVICES
 CONSULTING ENGINEERS

LOG OF BORING NO B-5E5-39
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Boring

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	NO. TESTS NO. 200 SIEVE BLOWS PER FT.	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT	SHEAR STRENGTH IN TONS/50 FT			UNIT OR. WT. LB5 /CU FT.
							0.5	1.0	1.5	
		ELEVATION: 301.0								
		Hard dark brown sandy clay (CL)								
5		Hard light brownish-red clay, jointed w/ calcareous seams and limonite pockets (CH)								
10		Hard reddish-brown sandy clay, w/ occasional limonite pockets (CL)								
15		Very dense light gray and light brown silty fine sand, w/ light brown clay seams, clayey fine sand seams and occasional calcareous seams (SM)	87.0							
20										
25										
30										
35										
40										
45										

COMPLETION DEPTH: 25.0'
DATE: 1/5/72

LOG OF BORING NO. B-SES-41
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CON'T. %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 306.2								
		Hard dark brown clay :CP)								
5		hard reddish-brown and light gray silty clay, w/ selenite seams and cockles								
10										
15		Hard light reddish-brown clay, jointed w/ iron laminations and selenite seams :CL)								
20		wirly clay seams at 20.0' w/ iron laminations :CH)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 71.3'
DATE: 1-14-76

STANDARD SPEC. NO. 1-1963
CONTRACT NO. 1-1-76

LOG OF BORING NO. B-555-42
 G&T COOPERATIVE PROJECT
 PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Springs

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/50 FT			UNIT DRY WT LBS./CU FT.
							0.5	1.0	1.5	
		ELEVATION: 285.4								
		Hard dark brown clay								
		(CH)								
5		Hard light reddish-brown and light gray silty clay, w/numerous clay laminations and seams								
		(CL)								
10		Hard light brownish-tan clay, w/selenite seams, jointed								
		(CH)								
15		-turning slightly sandy at 15.0' -w/occasional iron stains								
		(CH)								
20		Hard brown sandy clay								
		(CL)								
25		Very dense gray clayey fine sand, w/occasional dark gray clay balls								
		(SC)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 21.3'
 DATE: 1-15-76

APPENDIX 30-1, 30-2, 30-3, 30-4, 30-5, 30-6, 30-7, 30-8, 30-9, 30-10, 30-11, 30-12, 30-13, 30-14, 30-15, 30-16, 30-17, 30-18, 30-19, 30-20, 30-21, 30-22, 30-23, 30-24, 30-25, 30-26, 30-27, 30-28, 30-29, 30-30, 30-31, 30-32, 30-33, 30-34, 30-35, 30-36, 30-37, 30-38, 30-39, 30-40, 30-41, 30-42, 30-43, 30-44, 30-45, 30-46, 30-47, 30-48, 30-49, 30-50, 30-51, 30-52, 30-53, 30-54, 30-55, 30-56, 30-57, 30-58, 30-59, 30-60, 30-61, 30-62, 30-63, 30-64, 30-65, 30-66, 30-67, 30-68, 30-69, 30-70, 30-71, 30-72, 30-73, 30-74, 30-75, 30-76, 30-77, 30-78, 30-79, 30-80, 30-81, 30-82, 30-83, 30-84, 30-85, 30-86, 30-87, 30-88, 30-89, 30-90, 30-91, 30-92, 30-93, 30-94, 30-95, 30-96, 30-97, 30-98, 30-99, 30-100

LOG OF BORING NO. 8-565-60
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Unrigged Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL	SAMPLES	SOIL DESCRIPTION	% PASSING #200 SIEVE	BLOWS PER FT	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/60 FT			UNIT DRY WT LBS/CU FT
									0.5	1.0	1.5	
			ELEVATION: 319.2									
5			Hard brown sandy clay ICL									
10			Hard light gray silty clay w/numerous selenite pockets ICL									
15			Hard light red clay w/selenite seams -w/numerous iron laminations ICM									
20			Hard light gray silty clay w/occasional clayey pockets ICL									
25			Hard light brownish-tan clay w/iron stains, jointed -w/selenite pockets ICM									
30			Hard light brown sandy clay w/clay pockets and iron stains ICM									
35			Very dense light green silty fine sand, w/iron stains IC									
40					50% 5" head							
45			-w/occasional red clay seams									
50			-w/occasional sandy silt laminations below 48'									

LOG OF BORING NO. B-SES-65
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL - SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	WEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT LBS./CU. FT.
							0.5	10	15	
		ELEVATION: 704.3								
		Hard dark brown clay								
		(CH)								
5		Hard light red and light gray silty clay								
		(CL)								
		Very dense light gray clayey fine sand								
		(SC)								
10		Hard light reddish-brown clay								
		-w/silty clay laminae and pockets								
		-jointed								
		-w/limonite stains								
15										
20		-selenite stains								
		(CH)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 51.5'
DATE: 11-15-73

APPROVED BY: [Signature]
CORPORATE ENGINEER

LOG OF BORING NO. B-SES-66
G&T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	PASSING NO. 200 SEIVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/50 FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 295.0								
		Hard dark brown clay (CH)								
5		Hard light reddish-brown silty clay, jointed, w/numerous clay laminations and iron stains (CL)								
10		Hard light reddish-brown clay, w/silty clay laminations (CH)								
15		Hard light brownish-tan clay, w/selenite seams, jointed w/slightly slickensided (CH)								
20		w/sandy clay laminations and pockets below 20.8'								
25										
30										
35										
40										
45										

COMPLETION DEPTH: 41.5'
DATE: 1-18-74

LOG OF BORING NO. B-105
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ FT.			UNIT DRY WT. LBS./CU FT.
							0.5	1.0	1.5	
		ELEVATION: 290.8'								
		Stiff brown silty clay								
		(CL)								
5		Tan clay, w/occasional crystal material	55	34	15					
		(CL)								
10		Dense tan sandy silt -iron stained	54	29	19					
		(ML)		31	18					
20		Dense tan silty fine sand, iron stained								
25		(SM)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7-30-76

LOG OF BORING NO. B-106
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 322.2'								
		Very stiff dark brown clay								
		(CH)								
5		Hard tan fine silty clay -iron stains	44	27						
		(CL)								
10		hard tan clay, w/occasional selenite								
		(CH)								
15		Very stiff light brown clay, w/occasional selenite								
		(CH)								
20		Hard tan silty clay, w/occasional calcareous material	62	61	24					
		(CL)								
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7 20 76

LOG OF BORING NO. B-107
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

LOCATION: See Plan of Borings

DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 302.9'								
		Stiff dark brown clay (CH)								
5		Hard light tan clay, w/iron stain -light brown -occasional very stiff selenite (CH)	71	83	28					
10		Hard tan clay -occasional crystal material (CH)								
15		Very dense silty fine sand (SM)								
20										
25										
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7/20/76

LOG OF BORING NO. B-108
G & T COOPERATIVE PROJECT
PLEASANTON, TEXAS

TYPE BORING: Undisturbed Sample

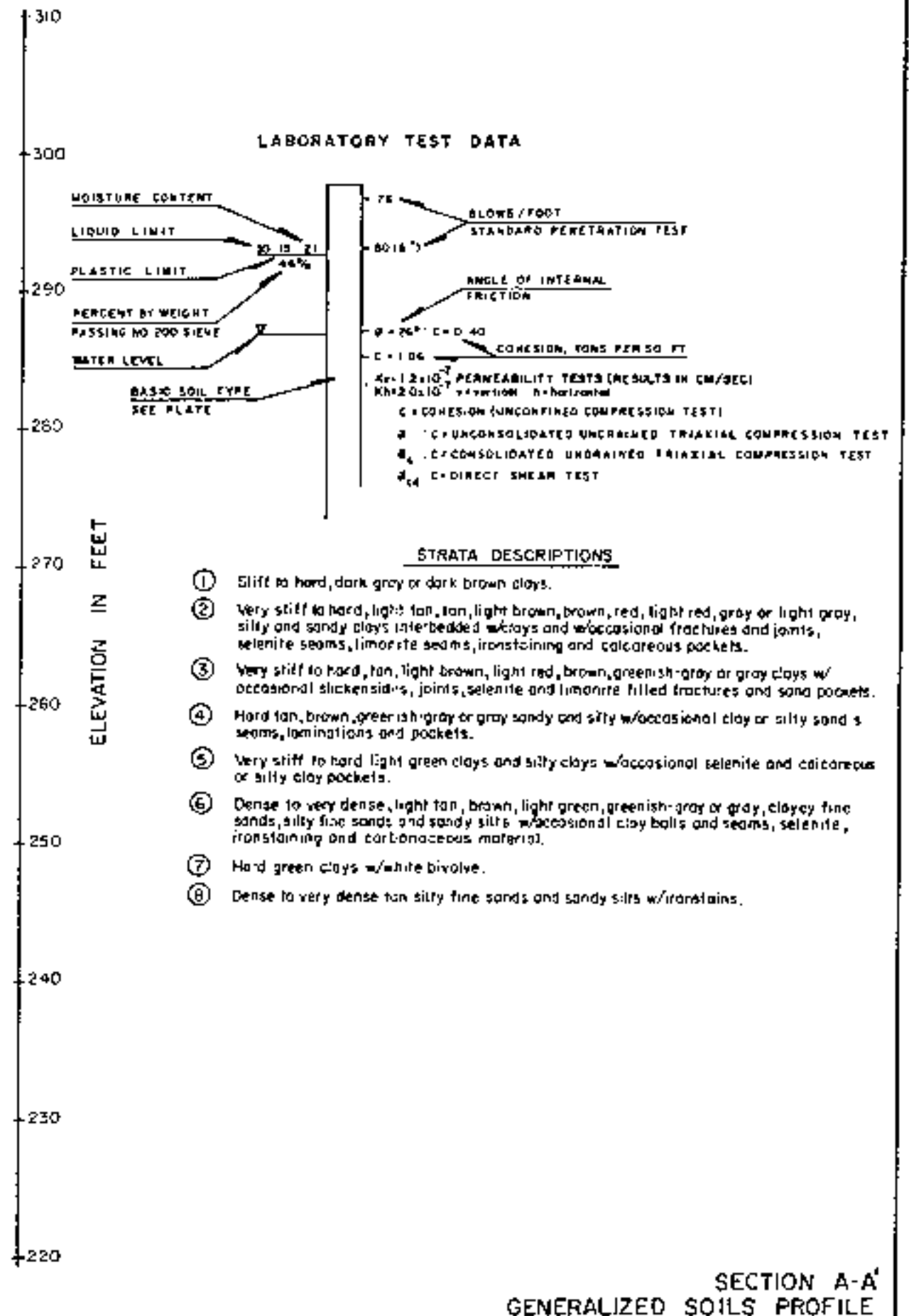
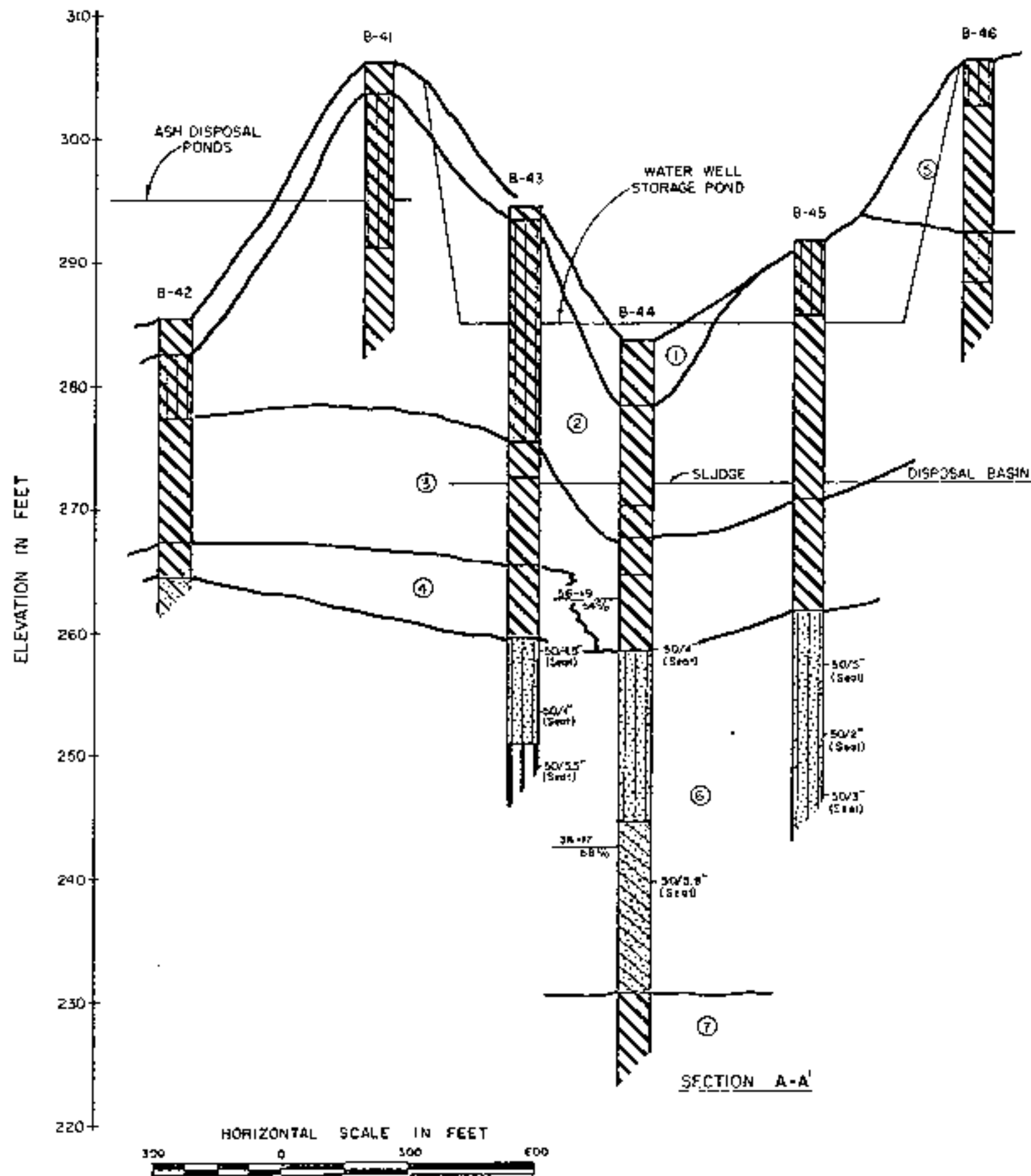
LOCATION: See Plan of Borings

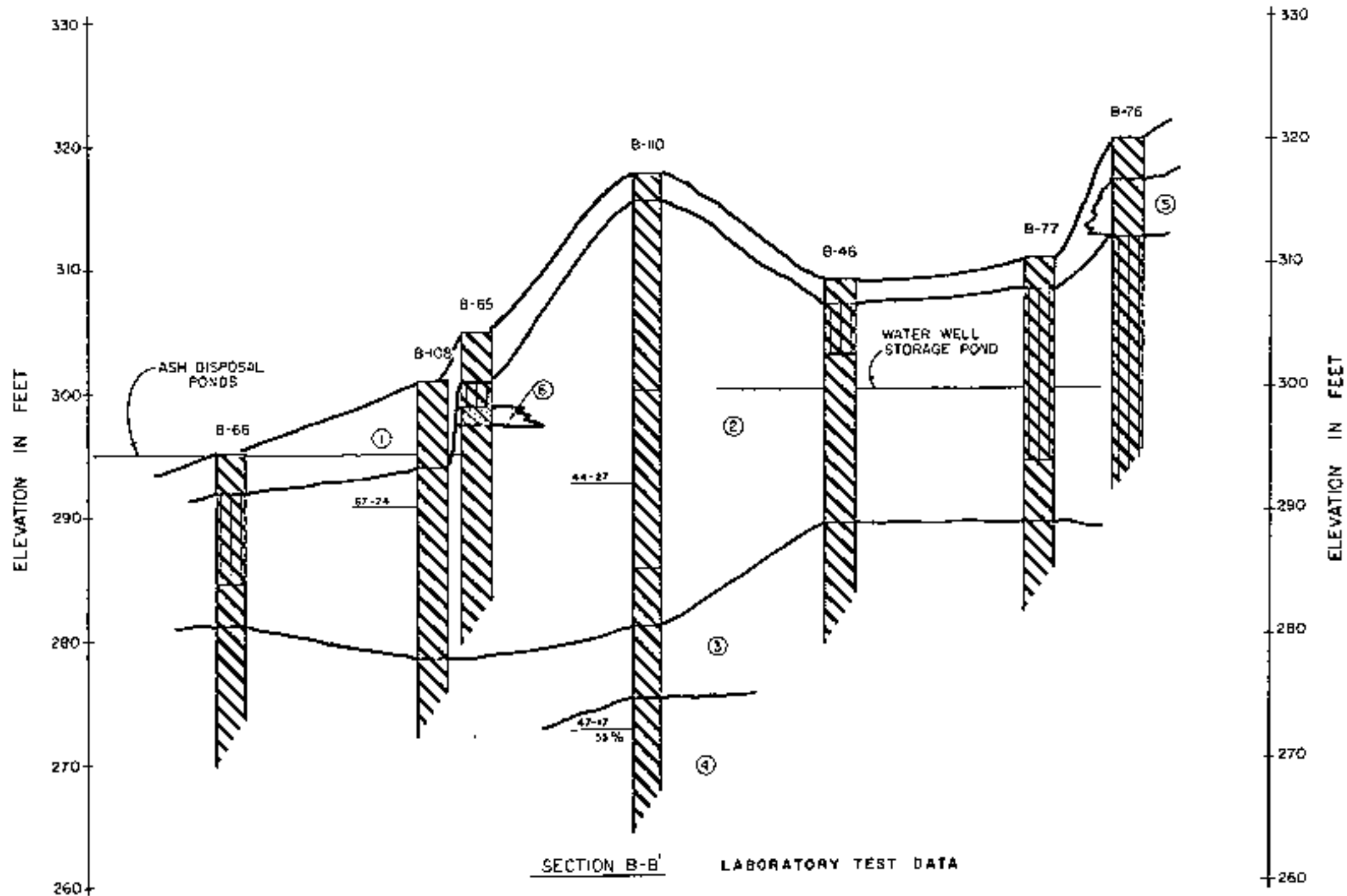
DEPTH, FT.	SYMBOL SAMPLES	SOIL DESCRIPTION	% PASSING NO. 200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT, %	SHEAR STRENGTH IN TONS/SQ. FT.			UNIT DRY WT. LBS./CU. FT.
							0.5	1.0	1.5	
		ELEVATION: 300.9'								
		Stiff dark brown clay								
		-very stiff								
5		(CH)								
		Very stiff brown clay, iron stained								
10				67	24					
		-tan								
15										
20										
		Hard light brown clay, iron stained								
25		(CH)								
30										
35										
40										
45										
50										

COMPLETION DEPTH: 25.0'
DATE: 7-17-76

████████████████████
-

ILLUSTRATIONS

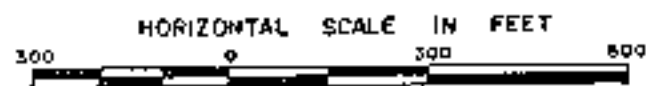




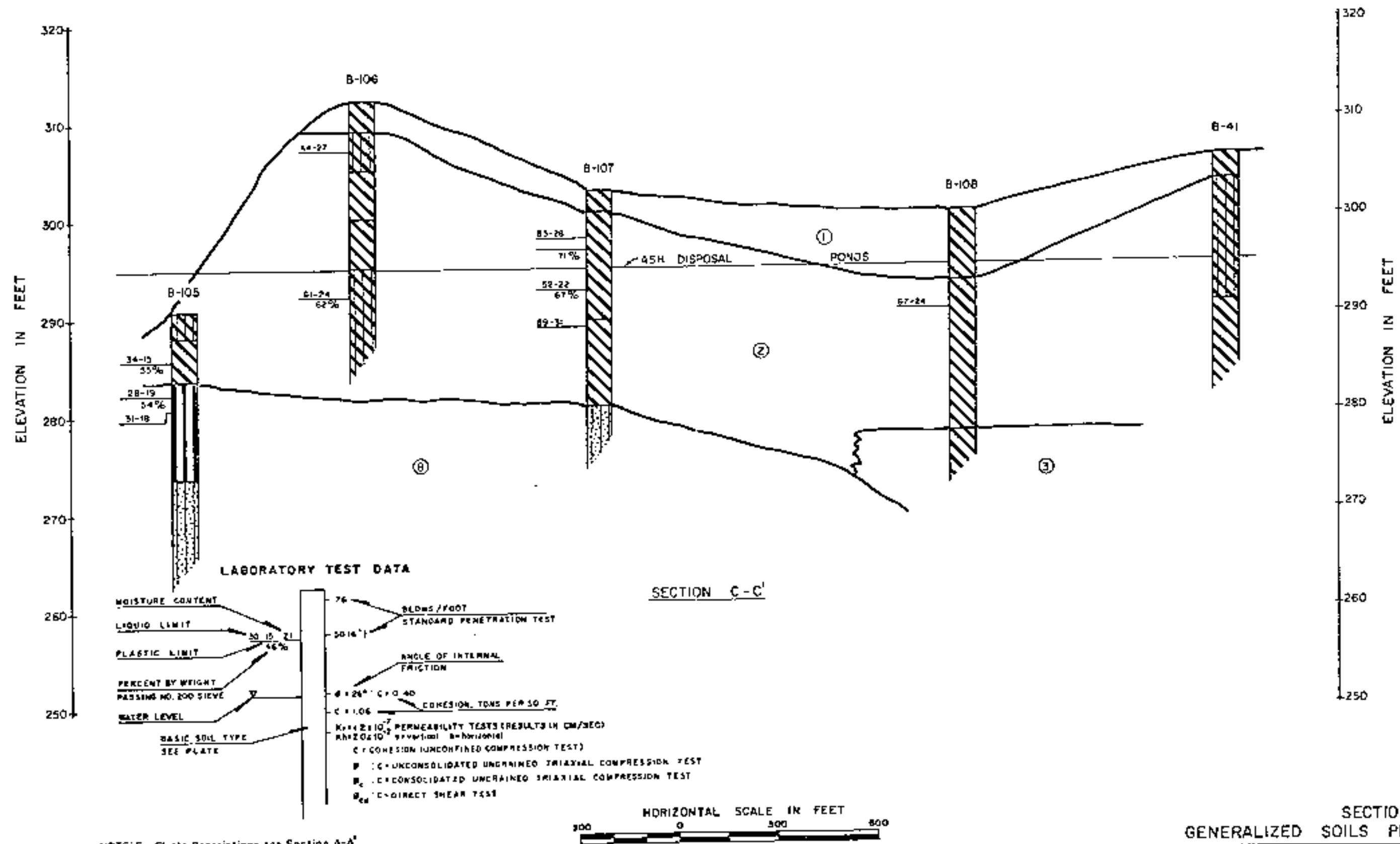
SECTION B-B' LABORATORY TEST DATA

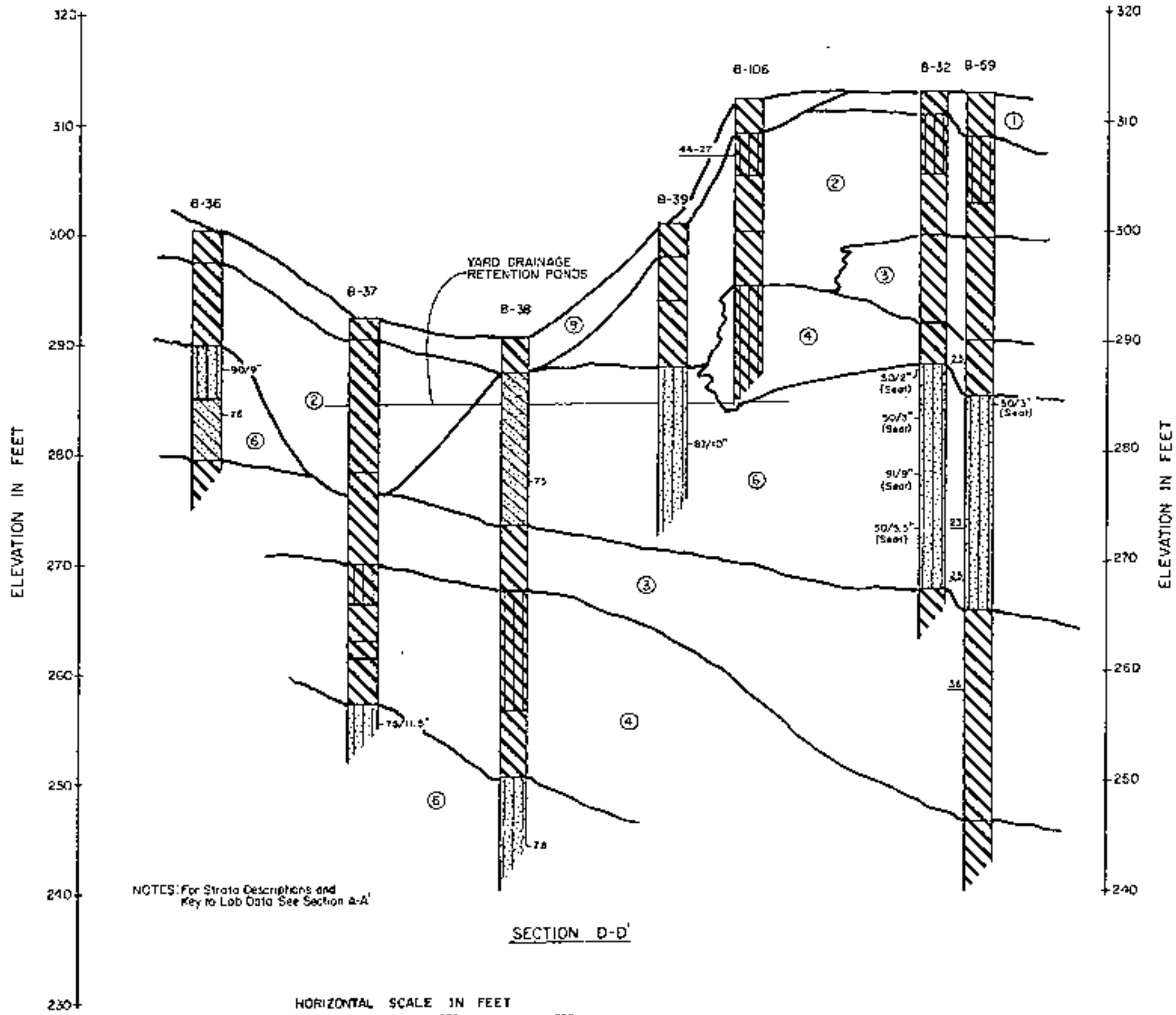
MOISTURE CONTENT	76	76	BLDG./FOOT
LIQUID LIMIT	50	50	STANDARD PENETRATION TEST
PLASTIC LIMIT	21	46%	ANGLE OF INTERNAL FRICTION
PERCENT BY WEIGHT PASSING NO. 200 SIEVE			$\phi = 26^\circ; c = 0.40$
WATER LEVEL			$c = 1.08$ COHESION, TONS PER SQ. FT.
BASIC SOIL TYPE			$K_v = 2 \times 10^{-7}$ PERMEABILITY TESTS (RESULTS IN CM/SEC)
SEE PLATE			$K_h = 2.0 \times 10^{-7}$ v. method horizontal
			$q =$ COHESION UNCONFINED COMPRESSION TEST
			$p_u =$ UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
			$p_c =$ CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
			$\sigma_{1c} =$ DIRECT SHEAR TEST

NOTE: For Strata Descriptions see Section A-A'



SECTION B-B'
GENERALIZED SOILS PROFILE





NOTES: For Strata Descriptions and Key to Lab Data See Section A-A'

SECTION D-D'
GENERALIZED SOILS PROFILE



Not to Scale

2475' ± TOTAL LENGTH ALONG CREST

Wet Area "C"

Locate sump at edge of swale in line with the dike crest. Extend drain line to west 150'. Ground elevation difference between sump location and upper end of drain line is about one foot.

SUMP (TYP)

SEEPAGE COLLECTION PIPE (TYP)

Wet Area "A"

Position sump at toe of slope midway between wet area and pump foundation slab. Upper edge of wet area is about 8' higher than toe of slope. North drain line to sump (100') should extend through wet area. South drain line to sump (45') will collect runoff from pump area. Relocate existing compressed air lines at southern edge of wet area.

Wet Area "D"

Locate sump in level area beyond toe of slope about 40' north of common dike. Extend drain line 200' ± northwest to beyond limits of wet area. Ground elevation difference between sump location and upper limit of wet area is about 8'.

ASH

DISPOSAL

POND

"A"

ASH

DISPOSAL

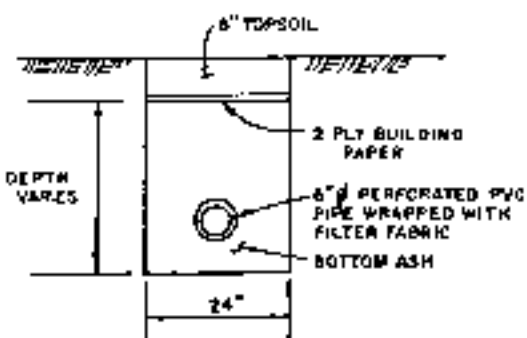
POND

"B"

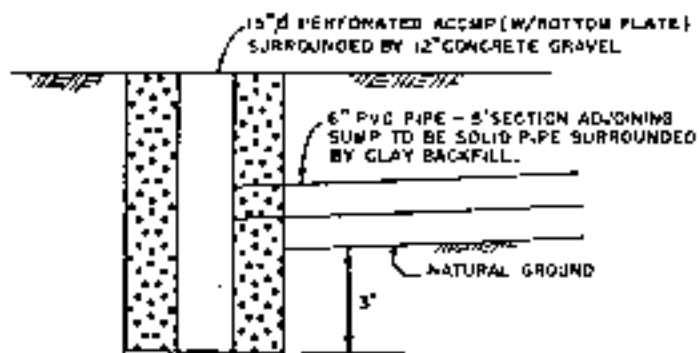
Wet Area "E"

Wet area extends beyond fence. Locate sump on west side of wet area midway between fence and north edge of wet area. Extend drain to the east beyond limits of wet area (250'). Ground elevation difference between sump location and upper end of drain line is about one foot.

EXISTING FENCE



SEEPAGE COLLECTION PIPE DETAIL
Not to Scale



SUMP DETAIL
Not to Scale

San Miguel 1987a Letter to Professional Service Industries, Inc. Re: General Notes for San Miguel Unit #1, 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



SAN MIGUEL ELECTRIC COOPERATIVE, INC.

May 8, 1987

Professional Service Industries, Inc.
Mr. Gary Davis
Three Burwood Lane
San Antonio, Texas 78216

Re: General Notes for San Miguel Unit #1, 1A Ash Pond Clay Liner
Construction
(SMEC File: 311.8400)

Dear Mr. Davis:

San Miguel Electric Cooperative wishes to commence work on 1A Ash Pond starting on Monday, June 1, 1987. The earthwork contractor should begin mobilization prior to this date.

The employees of San Miguel normally work from 7:00 AM until 3:30 PM, Monday thru Friday. The earthwork contractor and your firm shall be expected to perform your respective work during the hours of 7:00 AM thru 6:00 PM, Monday thru Friday. Since coordination among the three companies and work phases will be necessary to prevent conflicts, delays, etc., this working time frame should prove advantageous to all concerned.

Contractors are expected to comply with normal safety requirements of the areas within which they are working. SAFETY GLASSES AND HARD HATS WILL BE WORN AT ALL TIMES WHILE ON THE PLANT SITE, EXCEPT WHILE INSIDE OFFICE BUILDINGS. Contractor(s) are expected to practice good daily housekeeping and final clean-up of the job site. Please refer to the attached "General Safety Instructions" for all visitors and contractors.

The 1A Ash Pond involves the four inner bank walls and the pond bottom. Your soil testing company shall test clays to meet the following specifications.

1. Liquid limit greater than 30
2. Plasticity index greater than 15
3. Permeability less than 1×10^{-7} cm/sec
4. Compaction tests shall be based on 95% density at moisture content three to four percent above optimum as determined by ASTM D 698, Standard Proctor.

EXHIBIT E

Professional Service Industries, Inc.
Mr. Gary Davis
Page 2

Please instruct your field technician to provide me with a daily list of

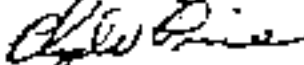
1. Employees
2. Field tests/progress reports
3. Time charges
4. Any additional equipment charges above base contract

Prior to your mobilization, please provide SMEC with a copy of "Proof of Insurance." This document should be sent to:

Mrs. Doris Park
Administrative Assistant
San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

If you should have any questions or need information on motels, housing or etc., please feel free to give me a call.

Yours truly,


Clyde Price
Project Engineer

CRP/bn

San Miguel 1987b Letter to V.K. Knowlton Paving Contractor, Inc. Re: San Miguel Unit #1 General Notes for 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



SAN MIGUEL ELECTRIC COOPERATIVE, INC.

May 8, 1987

V.K. Knowlton Paving Contractor, Inc.
Mr. John Stuart
Rt. 3, Box 2096K
San Antonio, Texas 78218

Re: San Miguel Unit #1 General Notes for 1A Ash Pond Clay Liner
Construction
(SMEC File: 311.8400)

Dear Mr. Stuart:

San Miguel Electric Cooperative wishes to commence work on 1A Ash Pond, starting on Monday, June 1, 1987. Mobilization should start prior to this date.

The 1A Ash Pond involves the four inner bank walls and the pond bottom. Our soil testing company will test clays to meet the following specifications:

1. Liquid limit greater than 30
2. Plasticity index greater than 15
3. Permeability less than 1×10^{-7} cm/sec
4. Compaction tests shall be based on 95% density at moisture content three to four percent above optimum as determined by ASTM D 698, Standard Proctor.

Should any of the tests fail to meet the specifications, the Project Engineer in charge shall be notified for corrective action.

The employees of San Miguel normally work from 7:00 AM until 3:30 PM, Monday thru Friday. Per our discussion on Thursday, May 7, 1987, the soil testing company and your firm shall be expected to perform your respective work during the hours 7:00 AM thru 5:00 PM, Monday thru Friday. Since coordination among the three companies and work phases will be necessary to prevent conflicts, delays, etc., this working time frame should prove advantageous to all concerned.

RECEIVED

EXHIBIT B

MAY 22 1987

KENDRICK & FURMAN

Also during our meeting Thursday, we agreed to the following items.

1. Schedule starting date is June 1, 1987. Estimated completion date is July 31, 1987.
2. Knowlton Co. shall provide insurance certificates to:
Mrs. Doris Park
Administrative Assistant
San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026
3. Knowlton shall provide SMEC with performance bond. Subject to San Miguel Corporate legal counsel approval.
4. SMEC shall pump existing water from the 1A Ash Pond prior to contractors arrival. Knowlton shall furnish additional pumps for the duration of the project.
5. Knowlton's Job Foreman to provide weekly time sheets, man power list, and job progress reports.
6. Billing and drawing schedule shall be once per month.
7. SMEC shall not be charged for "rain outs."
8. SMEC shall be responsible for pond fill and irrigation of the banks upon Knowlton's completion of the clay pond liner.
9. Contractors are expected to comply with normal plant safety requirements of the areas within which they are working. SAFETY GLASSES AND HARD HATS WILL BE WORN AT ALL TIMES WHILE ON THE PLANT SITE, EXCEPT WHILE INSIDE OFFICE BUILDINGS. Contractor(s) are expected to practice good daily housekeeping and final clean-up of the job site. Please refer to the attached "General Safety Instructions" for all visitors and contractors.

I look forward to working with you and your firm on this project. If you should have any questions or need information on motels, housing etc., please feel free to give me a call.

Yours truly,



Clyde Price
Project Engineer

Attachment

CRP/bn

San Miguel 1987c *Contract for 1A Ash Pond Liner Reconstruction – V.K. Knowlton Paving Contractor, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.*

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

CONTRACT FOR 1A ASH POND LINER RECONSTRUCTION

DATE: July 10, 1987

OWNER: San Miguel Electric Cooperative, Inc.

CONTRACTOR: V. K. KNOWLTON PAVING CONTRACTOR, INC.

PLANT LOCATION: Atascosa County, Texas

1. V. K. Knowlton Paving Contractor, Inc. (hereinafter called "Contractor") hereby agrees to complete all earth work necessary for the 1A Ash Pond Liner Reconstruction in accordance with Professional Service Industries, Inc.'s ("PSI") letter dated January 27, 1987, San Miguel Electric Cooperative, Inc.'s (hereinafter called "Owner") letters of General Notes for 1A Ash Pond Clay Liner Construction dated May 8, 1987, respectively attached hereto and incorporated herein as Exhibits "A", "B" and "E" and PSI's letter dated May 7, 1987 attached hereto and incorporated herein as Exhibit "F" ("the Contract Documents"). Contractor further agrees that after each area of the 1A Ash Pond Liner is completed by Contractor and determined by PSI to meet the requirements set forth in the Contract Documents, the Contractor shall thereafter maintain such completed area at a level equal to or exceeding placement moisture content until Contractor's total performance of the Contract is accepted by Owner in accordance with paragraph 7 hereof.

2. Owner shall pay Contractor a total of \$166,001.93 for the work.

3. Progress Payments - The Owner shall make monthly installment payments on account of the contract price on the tenth day of each month beginning on the tenth day of the month following the first full month of work. Such payment shall be in an amount equal to ninety (90%) percent of the value of the labor and materials incorporated in the work and of materials suitably stored at the work site up to and including the final day of the previous month, as determined by the certificate of the Contractor and in accordance with the established contract price, less the total amount of previous payments as to work approved by Owner. At the time a request for payment is made, Contractor shall provide Owner with copies of all invoices, work orders, manpower list, weekly time sheets, job progress reports, statements, bills, etc. supporting the work for which Contractor requests payment. The last installment payment to be made after all work has been

completed shall be in an amount equal to ninety percent (90%) of the contract price, less the total amount of previous payments.

Progress payments may be withheld if:

- (a) Work is found defective and not remedied;
- (b) The Contractor does not make prompt and proper payments to any subcontractors;
- (c) The Contractor does not make prompt and proper payment for labor, materials, or equipment furnished it; or
- (d) Claims or liens are filed on the job.

The Owner shall make final payment to the Contractor after thirty (30) days but before thirty-five (35) days after the work is approved by PSI and the Owner, if the contract is at that time fully performed and subject to the condition that final payment shall not be due until the Contractor has delivered to the Owner upon its request, a complete release of all liens arising out of the contract herein, or receipts in full covering all labor, materials, and equipment for which a lien could be filed, or in the alternative, a bond satisfactory to the Owner indemnifying it against such liens.

The Contractor, by accepting final payment, waives all claims for further payment, except those which it has previously made in writing and which remain unsettled at the time of acceptance.

4. Time for Performance - The work shall commence no earlier than June 23, 1987, nor later than July 13, 1987 and shall be completed by 4:00 p.m., September 13, 1987 or sixty (60) calendar days after work commences, whichever date is earlier. The work shall be performed by Contractor between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday of each work week.

5. Force-Majeure - The time of performance shall be extended for the period of any reasonable delay due exclusively to causes beyond the control and without fault of the Contractor, including Acts of God, fires, strikes, floods, inability to obtain materials, changes in the specifications as herein provided and acts or omissions of the Owner with respect to matters for which the Owner is solely responsible. Provided, however, that no such extension of time for completion shall be granted the Contractor unless within three (3) days after the happening of any event relied upon by the Contractor for such an extension of time, the Contractor shall have made a request therefor in writing to the Owner and, provided further, that no delay in such time of completion or in the progress of the work which results from any of the above causes

except acts or omissions of the Owner, shall result in any liability on the part of the Owner.

6. Inspection and Testing - During construction and upon completion, the Contractor's performance will be inspected by PSI which shall test the clay to insure that it meets the following specifications:

- a. Liquid limit greater than 30,
- b. Plasticity index greater than 15,
- c. Permeability less than 1×10^{-7} cm/sec,
- d. Compaction tests shall be based on 95% density at moisture content three to four percent above optimum as determined by ASTM D 698, Standard Proctor.

All deficiencies discovered by PSI shall be noted in a written report made by PSI to the Owner. If it is determined by PSI that any such deficiency was caused by the Contractor's failure to perform the work in accordance with the requirements set forth in the Contract Documents, then Contractor shall take all steps necessary to correct any such deficiency, at no cost to Owner. Provided, however, if it is determined by PSI that any such deficiency was caused by the characteristics of the clay material provided by the Owner or pre-existing in the LA Ash Pond, then Contractor hereby agrees to perform all work necessary to correct any such deficiency and it shall be paid by the Owner for such extra work in accordance with the unit prices described in Exhibit "G", attached hereto and incorporated herein for all purposes.

7. The Owner shall have the option of refusing to accept the Contractor's performance until such time as the items listed in PSI's report have been satisfactorily corrected or, in the alternative, it may accept the Contractor's performance in its then present condition; said acceptance being expressly conditioned upon the Contractor's written assurance that the corrections can be satisfactorily made within thirty (30) days at Contractor's expense. Said assurance shall be in addition to the Contractor's responsibilities relative to any and all warranties set forth herein and/or implied by law.

Failure of the Owner to discover and/or report any defects in the Contractor's performance will not constitute a waiver of or in any way alleviate the Contractor's responsibilities as set forth herein.

8. Performance Bond - The Contractor shall furnish the Owner with a performance bond in the amount of \$166,001.93 upon execution of this Contract. The Owner desires the maximum financial protection possible. The performance bond shall be in effect one

protection possible. The performance bond shall be in effect one day after signing of this Contract and shall continue thereafter during all terms of the Contract and any extensions thereafter entered into by and between the Owner and the Contractor.

The performance bond shall be duly and properly executed by the Contractor as principal and by a corporate surety company, rated at least A+10 and authorized to do business in the State of Texas, with a resident agent in Atascosa County, as Surety. A Power of Attorney shall be attached to the Bond by any Attorney-in-Fact executing such Bond for either the Contractor or Surety.

9. Indemnification - The Contractor warrants that the Owner will not be legally responsible for liabilities resulting from or relating to activities by the Contractor and/or Contractor's employees/subcontractors. In this regard, the Contractor agrees to indemnify, save harmless, and defend, the Owner, its officers, directors, agents, employees, attorneys, consultants, and engineers (hereinafter "Indemnitees") from and against any and all claims, suits, damages, and expenses of every kind, including attorney's fees, asserted against, incurred by and/or recovered from Indemnitees for injury to or death of any person or persons and for damages to or loss of property, arising out of or attributed, directly or indirectly, from the activities performed by the Contractor's employees/subcontractors, to include, but not limited to, the preparation, performance, and/or inspection of the work and/or services to be provided in accordance with this Contract. This indemnity expressly includes all claims or demands arising both from alleged negligent conduct and/or claims and demands based upon a theory of product liability or strict liability in tort.

If Indemnitees, in the proper enforcement of this Indemnity Agreement, shall incur reasonable and necessary expenses, or become obligated to pay attorney's fees or court costs, Contractor agrees to reimburse Indemnitees for such expenses, attorney's fees and costs within thirty (30) days after receipt of written notice from Indemnitees of the incurrence of such expenses, costs, or obligations.

10. Insurance - Contractor and its subcontractors shall provide proof of and maintain until completion of the above described work at Owner's plant, the insurance coverage described in Exhibit "C", which is attached hereto and incorporated herein for all purposes.

11. Safety Policies - Contractor, its employees, supervisors, and subcontractors, shall adhere to all applicable federal, state, and local laws, all OSHA standards, and Owner's safety policies and standards (Exhibit "D").

12. Default - If default shall be made by the Contractor in the performance of any of the terms of this Contract, the Owner,

without in any manner limiting its legal and equitable remedies in the circumstances, may serve upon the Contractor and/or the Surety upon the Contractor's Performance Bond, a written notice requiring the Contractor to cause such default to be corrected forthwith. Unless within ten (10) calendar days after the service of such notice upon the Contractor, such default shall be corrected or arrangements for the corrections thereof satisfactory to the Owner shall be made by the Contractor or its Surety, the Owner may terminate this Contract and the Contractor and its Surety shall be liable to the Owner for any cost or expense in excess of the Contract price occasioned by the Owner's reletting the Contract to a different Contractor.

13. Construction of Documents - This Contract shall be governed by the laws of the State of Texas.

14. Severability - In the event that any provision or portion thereof of any Contract Documents shall be found to be invalid or unenforceable, then such provision or portion thereof shall be reformed in accordance with the applicable laws. The invalidity or unenforceability of any provision or portion of any Contract Documents shall not affect the validity or enforceability of any other provision or portion of the Contract Documents.

15. Modification - The Owner shall have the right to request modifications to the Contractor's performance, subject to Contractor's approval as to the feasibility of such modifications, and the agreement between the Owner and Contractor as to the additional cost thereof.

16. Nondiscrimination - Contractor warrants that it will not engage in employment practices which have the effect of discriminating against employees or prospective employees because of race, color, sex, creed, age, handicap, or national origin and will submit such reports as the Owner may hereafter require to assure compliance.

17. Unauthorized Publications - Except for the prior written consent of the Owner, the Contractor shall not release, publish, or cause to be published or communicated to others, any information or data with the respect to this purchase, or use the Owner's name in conjunction therewith.

18. Headings - The headings in this Contract are inserted for convenience and identification only and are not intended to describe, interpret, define, or limit the scope, extent, or intent of this Contract or any provision hereof.

19. Originals - This Contract may be executed in several copies all of which together shall constitute but one agreement binding on all parties hereto, each fully executed copy which shall be deemed an original.

20. Venue - Venue for any dispute hereunder shall lie in Atascosa County, Texas.

21. Parole Evidence Rule - The Contract Documents supersede any and all other agreements, either oral or written, between the parties hereto with respect to the subject matter hereof and contain all of the covenants and agreements between the parties with respect to said matters. Each party to this Contract acknowledges that no representations, inducements, promises, or other agreements, orally or otherwise, have been made by any party or anyone acting on behalf of any party, which are not embodied in the Contract Documents, and that no other agreement, statement, or promise not contained in the Contract Documents shall be valid or binding.

22. Notices - Any notice given under this Contract shall be sufficient, if in writing and mailed by either registered or certified mail, return receipt requested, postage prepaid, as follows:

Owner: San Miguel Electric Cooperative, Inc.
Attention Clyde Price
P.O. Box 280
Jourdanton, Texas 78026

Contractor: V. K. Knowlton Paving Contractor, Inc.
Rt. 3, Box 209GK
San Antonio, Texas 78218

23. Waiver - The waiver by any party hereto of a breach of any provision of the Contract Documents shall not operate or be construed as a waiver of any subsequent breach by any party and may not be changed except by written agreement duly executed by the parties hereto.

24. Additional Documentation - In connection with this Contract, as well as all transactions related to this Contract, the parties hereto agree to execute and deliver such additional documents and instruments and to perform such additional acts as may be necessary and appropriate to effectuate and perform all of the terms, provisions, and conditions of this Contract and all other transactions associated therewith.

25. Award of Attorney's Fees - Any party to this Contract who is the prevailing party in any legal proceeding against the other party brought under or with relation to this Contract or

transaction shall be additionally entitled to recover court costs and reasonable attorney's fees from the non-prevailing party.

26. Formation of Contract - This proposal shall become a contract between the Contractor and the Owner when accepted by the Contractor and approved in writing by an officer of the Owner and when so accepted and approved it shall be binding upon the parties hereto and upon their respective heirs, executors, successors and assigns.

27. Amendments - No amendments to this Contract shall be valid unless prepared in writing and executed by each of the parties hereto.

Executed this 10th day of July, 1987.

SAN MIGUEL ELECTRIC
COOPERATIVE, INC.

V. K. KNOWLTON PAVING CONTRACTOR,
INC.

By Ronald L. Magel

By [Signature]

Title Plant Mgr.
Attest _____

Title General Manager
Attest _____

San Miguel 1987d *Contract for 1A Ash Pond Liner Reconstruction – Professional Service Industries, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.*

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

CONTRACT FOR 1A ASH POND LINER RECONSTRUCTION

DATE: July 10, 1987

OWNER: San Miguel Electric Cooperative, Inc.

CONTRACTOR: Professional Service Industries, Inc.

PLANT LOCATION: Atascosa County, Texas

1. Professional Service Industries, Inc. (hereinafter called "Contractor") hereby agrees to complete the soil testing necessary for the 1A Ash Pond Liner Reconstruction in accordance with Professional Service Industries, Inc.'s ("PSI") letter dated January 27, 1987, and San Miguel Electric Cooperative, Inc.'s (hereinafter called "Owner") letters of General Notes for 1A Ash Pond Clay Liner Construction dated May 8, 1987, respectively attached hereto and incorporated herein as Exhibits "A", "B" and "E" ("the Contract Documents"). Contractor acknowledges Owner is relying on the accuracy of Contractor's test results and other information contained in PSI's letter dated May 7, 1987 which is attached hereto and incorporated herein as Exhibit "F".

2. Owner shall pay Contractor for services as outlined in PSI's proposal dated February 5, 1987 which is attached hereto and incorporated herein as Exhibit "G". In the event of a conflict between this contract and Exhibit "G", this contract shall prevail. Owner is to be billed for actual days utilized by PSI on this project.

3. Progress Payments - The Owner shall make monthly installment payments on account of the contract price on the tenth day of each month beginning on the tenth day of the month following the first full month of work. Such payment shall be in an amount equal to one hundred (100%) percent of the contract prices described in Exhibit "G" for the value of the labor performed and the rental value of the equipment used by the Contractor at the work site up to and including the final day of the previous month, as determined by the certificate of the Contractor. At the time a request for payment is made, Contractor shall provide Owner with copies of all invoices, work orders, manpower lists, weekly time sheets, job progress reports, equipment logs, statements, bills, etc. supporting the work and/or equipment for which Contractor requests payment.

Progress payments may be withheld if:

- (a) Work is found defective and not remedied;
- (b) The Contractor does not make prompt and proper payments to any subcontractors;
- (c) The Contractor does not make prompt and proper payment for labor, materials, or equipment furnished it; or
- (d) Claims or liens are filed on the job.

The Owner shall make final payment to the Contractor for work performed and/or equipment used by the Contractor during the last month of work after thirty (30) days but before thirty-five (35) days after the Contractor's performance is accepted by the Owner in accordance with paragraph 7 hereof; provided, however, such final payment shall further be conditioned upon the Contractor's delivery to the Owner of a complete release of all liens arising out of the contract herein, or receipts in full covering all labor, materials, and equipment for which a lien could be filed, or in the alternative, a bond satisfactory to the Owner indemnifying it against such liens.

The Contractor, by accepting final payment, waives all claims for further payment, except those which it has previously made in writing and which remain unsettled at the time of acceptance.

4. Time for Performance - The Contractor shall commence work within twenty-four (24) hours after it receives written notice from the Owner to commence work. Contractor further agrees to complete the work within seven (7) calendar days after V. K. Knowlton Paving Contractor, Inc.'s performance is accepted by Owner. The work shall be performed by Contractor between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday of each work week.

5. Force-Majeure - The time of performance shall be extended for the period of any reasonable delay due exclusively to causes beyond the control and without fault of the Contractor, including Acts of God, fires, strikes, floods, inability to obtain materials, changes in the specifications as herein provided and acts or omissions of the Owner with respect to matters for which the Owner is solely responsible. Provided, however, that no such extension of time for completion shall be granted the Contractor unless within three (3) days after the happening of any event relied upon by the Contractor for such an extension of time, the Contractor shall have made a request therefor in writing to the Owner and, provided further, that no delay in such time of completion or in the progress of the work which results from any of the above causes

except acts or omissions of the Owner, shall result in any liability on the part of the Owner.

6. Inspection and Testing - During construction and upon completion, PSI shall test the clay to insure that it meets the following specifications:

- a. Liquid limit greater than 30,
- b. Plasticity index greater than 15,
- c. Permeability less than 1×10^{-7} cm/sec,
- d. Compaction tests shall be based on 95% density at moisture content three to four percent above optimum as determined by ASTM D 698, Standard Proctor.

The results of the above tests shall be noted in a written report made by PSI to the Owner.

7. Upon completion of performance, the Owner shall inspect the Contractor's performance and shall prepare a written report noting any deficiencies with respect to the Contractor's performance. The Owner shall have the option of refusing to accept the Contractor's performance until such time as the items listed in the Owner's report have been satisfactorily corrected or, in the alternative, it may accept the Contractor's performance in its then present condition; said acceptance being expressly conditioned upon the Contractor's written assurance that the corrections can be satisfactorily made within thirty (30) days at Contractor's expense. Said assurance shall be in addition to the Contractor's responsibilities relative to any and all warranties set forth herein and/or implied by law.

Failure of the Owner to discover and/or report any defects in the Contractor's performance will not constitute a waiver of or in any way alleviate the Contractor's responsibilities as set forth herein.

8. Indemnification - The Contractor warrants that the Owner will not be legally responsible for liabilities resulting from or relating to activities by the Contractor and/or Contractor's employees/subcontractors. In this regard, the Contractor agrees to indemnify, save harmless, and defend, the Owner, its officers, directors, agents, employees, attorneys, consultants, and engineers (hereinafter "Indemnitees") from and against any and all claims, suits, damages, and expenses of every kind, including attorney's fees, asserted against, incurred by and/or recovered from Indemnitees for injury to or death of any person or persons and for damages to or loss of property, arising out of or attributed, directly or indirectly, from the activities performed by the Contractor's employees/subcontractors, to include, but not limited

to, the preparation, performance, and/or inspection of the work and/or services to be provided in accordance with this Contract. This indemnity expressly includes all claims or demands arising both from alleged negligent conduct and/or claims and demands based upon a theory of product liability or strict liability in tort.

If Indemnitees, in the proper enforcement of this Indemnity Agreement, shall incur reasonable and necessary expenses, or become obligated to pay attorney's fees or court costs, Contractor agrees to reimburse Indemnitees for such expenses, attorney's fees and costs within thirty (30) days after receipt of written notice from Indemnitees of the incurrence of such expenses, costs, or obligations.

9. Insurance - Contractor and its subcontractors shall provide proof of and maintain until completion of the above described work at Owner's plant, the insurance coverage described in Exhibit "C", which is attached hereto and incorporated herein for all purposes.

10. Safety Policies - Contractor, its employees, supervisors, and subcontractors, shall adhere to all applicable federal, state, and local laws, all OSHA standards, and Owner's safety policies and standards (Exhibit "D").

11. Default - If default shall be made by the Contractor in the performance of any of the terms of this Contract, the Owner, without in any manner limiting its legal and equitable remedies in the circumstances, may serve upon the Contractor a written notice requiring the Contractor to cause such default to be corrected forthwith. Unless within three (3) calendar days after the service of such notice upon the Contractor, such default shall be corrected or arrangements for the corrections thereof satisfactory to the Owner shall be made by the Contractor, the Owner may terminate this Contract and the Contractor shall be liable to the Owner for any cost or expense in excess of the Contract price occasioned by the Owner's reletting the Contract to a different Contractor.

12. Construction of Documents - This Contract shall be governed by the laws of the State of Texas.

13. Severability - In the event that any provision or portion thereof of any Contract Documents shall be found to be invalid or unenforceable, then such provision or portion thereof shall be reformed in accordance with the applicable laws. The invalidity or unenforceability of any provision or portion of any Contract Documents shall not affect the validity or enforceability of any other provision or portion of the Contract Documents.

14. Modification - The Owner shall have the right to request modifications to the Contractor's performance, subject to Contractor's approval as to the feasibility of such modifications, and the agreement between the Owner and Contractor as to the additional cost thereof.

15. Nondiscrimination - Contractor warrants that it will not engage in employment practices which have the effect of discriminating against employees or prospective employees because of race, color, sex, creed, age, handicap, or national origin and will submit such reports as the Owner may hereafter require to assure compliance.

16. Unauthorized Publications - Except for the prior written consent of the Owner, the Contractor shall not release, publish, or cause to be published or communicated to others, any information or data with the respect to this purchase, or use the Owner's name in conjunction therewith.

17. Headings - The headings in this Contract are inserted for convenience and identification only and are not intended to describe, interpret, define, or limit the scope, extent, or intent of this Contract or any provision hereof.

18. Originals - This Contract may be executed in several copies all of which together shall constitute but one agreement binding on all parties hereto, each fully executed copy which shall be deemed an original.

19. Venue - Venue for any dispute hereunder shall lie in Atascosa County, Texas.

20. Parole Evidence Rule - The Contract Documents supersede any and all other agreements, either oral or written, between the parties hereto with respect to the subject matter hereof and contain all of the covenants and agreements between the parties with respect to said matters. Each party to this Contract acknowledges that no representations, inducements, promises, or other agreements, orally or otherwise, have been made by any party or anyone acting on behalf of any party, which are not embodied in the Contract Documents, and that no other agreement, statement, or promise not contained in the Contract Documents shall be valid or binding.

21. Notices - Any notice given under this Contract shall be sufficient, if in writing and mailed by either registered or certified mail, return receipt requested, postage prepaid, as follows:

Owner: San Miguel Electric Cooperative, Inc.
Attention Clyde Price
P.O. Box 280
Jourdanton, Texas 78026

Contractor: Professional Service Industries, Inc.
Three Burwood Lane
San Antonio, Texas 78216

22. Waiver - The waiver by any party hereto of a breach of any provision of the Contract Documents shall not operate or be construed as a waiver of any subsequent breach by any party and may not be changed except by written agreement duly executed by the parties hereto.

23. Additional Documentation - In connection with this Contract, as well as all transactions related to this Contract, the parties hereto agree to execute and deliver such additional documents and instruments and to perform such additional acts as may be necessary and appropriate to effectuate and perform all of the terms, provisions, and conditions of this Contract and all other transactions associated therewith.

24. Award of Attorney's Fees - Any party to this Contract who is the prevailing party in any legal proceeding against the other party brought under or with relation to this Contract or transaction shall be additionally entitled to recover court costs and reasonable attorney's fees from the non-prevailing party.

25. Formation of Contract - This proposal shall become a contract between the Contractor and the Owner when accepted by the Contractor and approved in writing by an officer of the Owner and when so accepted and approved it shall be binding upon the parties hereto and upon their respective heirs, executors, successors and assigns.

26. Amendments - No amendments to this Contract shall be valid unless prepared in writing and executed by each of the parties hereto.

Executed this 10th day of July, 1987.

SAN MIGUEL ELECTRIC
COOPERATIVE, INC.

PROFESSIONAL SERVICE INDUSTRIES,
INC.

By Russell L. Magel
Title Plt. Mgr.
Attest _____

By J. D. O. , P.E.
Title Vice President
Attest Russell L. Magel

T&G 1983a

Letter to NFS Re: San Miguel Plant, Unit No. 1, Ash Pond Leakage,
SMEC Texas 155 San Miguel, from M.L. Hughes, P.E., Tippet &
Gee Inc., October 21, 1983.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

Tippett & Gee

Consulting Engineers

502 NORTH WILLOW STREET ARLING, TEXAS 79003 PHONE 817-8701 AREA CODE 817
TELEX 739457 TIPPETT AM

October 21, 1983

Mr. Clayton Worley, General Manager
NFS Services, Inc.
Consulting Engineers
4087 Shilling Way
P. O. Box 24596
Dallas, Texas 75224

Re: San Miguel Plant
Unit No. 1
Ash Pond Leakage
SMEC
Texas 155 San Miguel

Dear Mr. Worley:

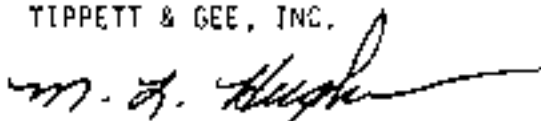
The ash ponds constructed at the San Miguel Plant to retain bottom ash are apparently leaking. This leakage problem is described in the attached San Miguel Electric Cooperative letter dated October 14, 1983. A drawing attached to the San Miguel letter shows the three areas of the pond that are leaking.

NFS Services, Inc. performed the geotechnical studies for the San Miguel Plant. Additionally, they performed quality control testing for all geotechnical construction work. Due to your involvement in this project, we would appreciate your comments and suggestions as to the necessary steps that should be taken to resolve this problem.

Your prompt response would be appreciated.

Yours truly,

TIPPETT & GEE, INC.



M. L. Hughes, P.E.

MLH:bf

Attachments

cc: Mr. Richard McCaskill, SMEC
Mr. Robert Griel, SMEC



SAN MIGUEL ELECTRIC COOPERATIVE, INC.

RECEIVED

October 14, 1983

OCT 17 1983

M.L. Hughes
Tippett & Gee Engineering
502 North Willis Street
Abilene, Texas 79603

TIPPETT & GEE

Subject: Ash Pond Area Water Analysis.

Dear Mr. Hughes:

San Miguel is now experiencing ash pond problems. Water is apparently leaking from the ponds. The areas of most concern are those marked "A", "C", and "D" on the attached sheets.

San Miguel has been cited by the Texas Department of Water Resources due to these waters being discharged offsite from points A, C, and D.

An analysis by San Miguel of the waters is also attached. We include a marked-up copy of Drawing C-6.

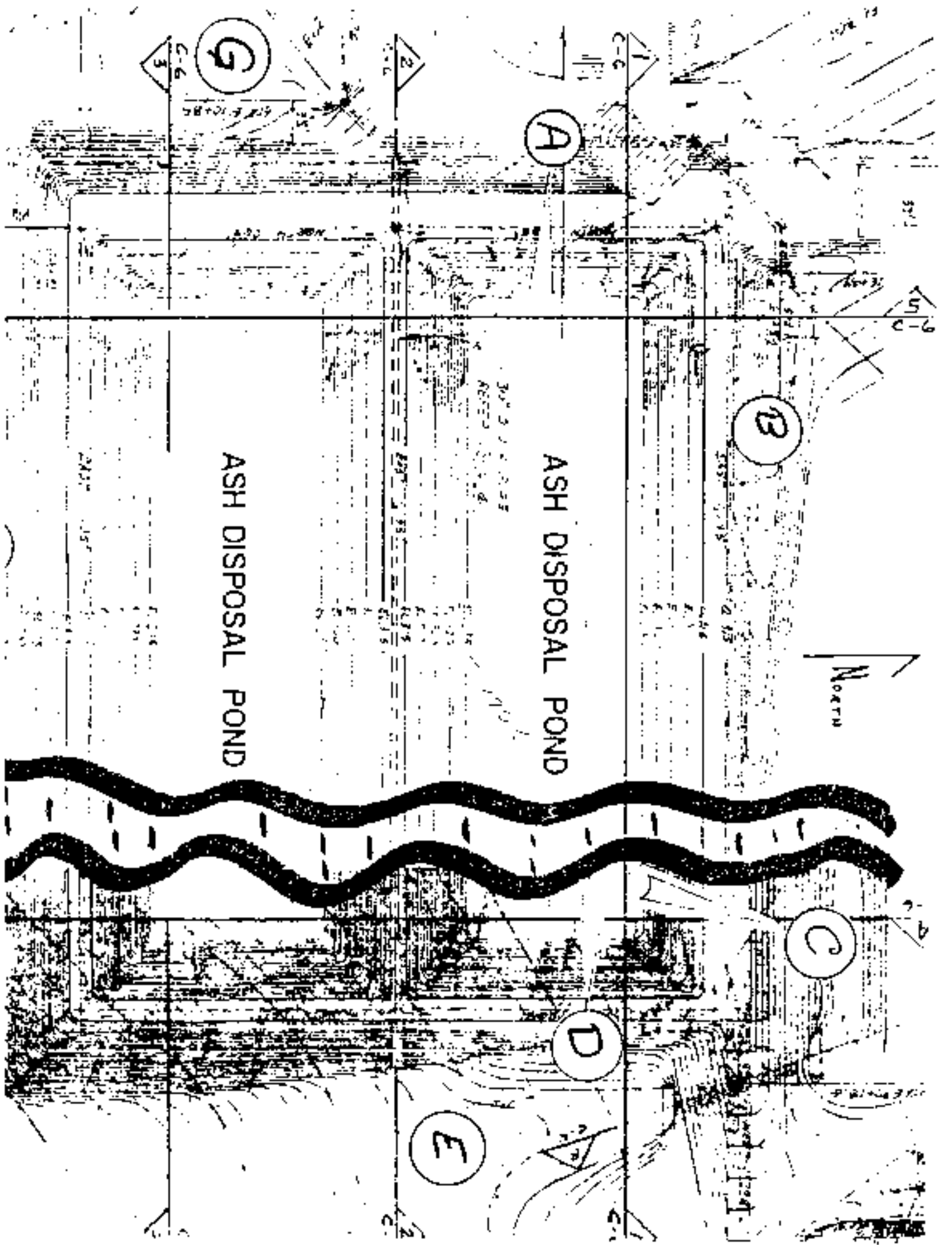
This problem must be resolved. Your assistance in finding a permanent solution would be appreciated.

Yours truly,

Robert Chiel
Power Engineer

RU/jas

cc: R. McCaskill
R. Magei
R.P. Metcalfe



A

B

C

D

E

G

ASH DISPOSAL POND

ASH DISPOSAL POND

NORTH

C-G

3

2

1

9

8

7

T&G 1983b

Transmittal of Drawings, San Miguel Plant, Unit No. 1, Ash Pond Leakage, San Miguel Electric Cooperative, from Kevin Lacey, P.E., Tippett & Gee Inc., October 26, 1983.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

Tippett & Gee

Consulting Engineers

502 NORTH WILLIS STREET ABILENE, TEXAS 79603 PHONE 673-8701 AREA CODE 915
TELEFAX 230-157 TIPPETT & GEE AB1

October 26, 1983

Mr. Ralph Reuss
NFS Services, Inc.
4087 Shilling Way
P.O. Box 24596
Dallas, TX 75224

Re: San Miguel Plant
Unit No. 1
Ash Pond Leakage
SMEC
Texas 155 San Miguel

Dear Mr. Reuss:

Per your telephone conversation with Mr. Levene Hughes, I am sending you one copy of Drawings C-3, C-4 and C-6, which show the plans and elevations of the Ash Ponds at San Miguel.

Yours truly,

TIPPETT & GEE, INC.

Kevin Lacey, P.E.

KJL/cc
Encl.

T&G 1987

Letter to San Miguel Electric Cooperative, Inc. Re: Ash Water Pre-Settle Pond Study, SM4 Texas 155 San Miguel, from L. L. Hughes, P.E., Tippett & Gee Inc., January 9, 1987.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

Tippett & Gee

Consulting Engineers

100 NORTH WELLS STREET ABILENE, TEXAS 79605 PHONE (817) 691-1111 AREA CODE 817
LULU ZIMMER CIRCLE AR

January 9, 1987

TIPPETT & GEE TELECOPY

DATE: 1-9-87

TIME: 3:15

TO: Clyde Price

FROM: Andrew Hughes

NO. OF PAGES: 3

DATE MAILED: 1-9-87

Mr. Clyde Price
San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

Re: San Miguel Plant
Unit No. 1
Ash Water Pre-Settle Pond Study, SMA
Texas 155 San Miguel
SMEC

Dear Mr. Price:

In accordance with our telephone conversation this date, we submit the following for your information and use.

1. Texas Highway Department Testing Standard No. 113E is close to the requirements of ASTM 298, Standard Proctor for most soils.
2. Compaction should be based on 95% density at optimum moisture content. (-2 to +4% is acceptable range for variation)
3. Testing is required for each lift. First approach should be to sample two per width of bottom and 70-100 ft. intervals longitudinally. (5000 to 7000 sq. ft. each) If failure to meet design criteria occurs, intervals should be decreased until satisfactory compliance is established.
4. Time Estimate:
 - a. Strip 2' of bottom soil and windrow 30-40 c.y./hr.
 - b. Scarify and compact bottom 12" deep 225-250 s.y./hr.
 - c. Replace and compact 2' depth (3 lifts) 250 s.y./hr. each lift

These times should be increased approximately 50% for sloped dike surfaces.

For an independent testing laboratory to certify construction, a technician would be required at the site during progress.

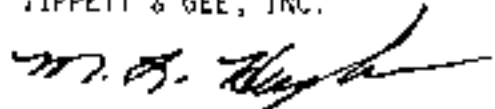
If specified density and optimum moisture content data are established by a testing laboratory, the tester you have available could probably be used when properly calibrated.

Letter to Mr. Clyde Price, SMEC
Re: Ash Water Pre-Settle Pond Study, SMA
January 9, 1987
Page 2

The permeability of the existing soil should be checked to assure that it meets permeability coefficient of less than 1.0×10^{-7} cm/sec. Any soils not meeting this criteria should be replaced.

Yours truly,

TIPPETT & GEE, INC.



M. L. Hughes, P.E.

MLH:bf

TDWR 1979

Letter to San Miguel Electric Cooperative, Inc., Re: Permit No. 02043 and SWR No. 31434, from C.R. Miertschan, P.E., Texas Department of Water Resources, March 29, 1979.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue
Austin, Texas



Harvey Davis
Executive Director

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Glen E. Roney
W. O. Hankston

TEXAS WATER COMMISSION

Felix McDonald, Chairman
Dorsey B. Hardeman
Joe R. Carroll

March 29, 1979

Mr. Ron Magel
Plant Manager
San Miguel Electric Cooperative, Inc.
P. O. Box 280
Jourdanton, Texas 78026

SAN MIGUEL ELECTRIC
COOP. ROUTING

PLANT MGR. RM
MAINT. SUPV. _____
TECH. SUPPORT SUPV. _____
LINES ENG. _____
OPER. SUPV. _____
SAFETY SPEC. _____
ENVIR. SPEC. _____

Filt - Perm.

Dear Mr. Magel:

Re: San Miguel Electric Cooperative, Inc., Permit No. 02043 and
Solid Waste Registration No. 31434

This is in response to your letter of March 19, 1979 transmitting detailed soil and permeability tests and requesting our approval of the completed waste retention ponds at the San Miguel power plant site. Waste Control Permit No. 02043 requires that all wastewater retention ponds be lined with a synthetic liner or with three feet of clay rich soil in order to achieve a permeability of 1×10^{-7} cm/sec or less. The soils permeability field testing reports and the certification letter from your soil consulting engineer, Mr. Pierce L. Chandler Jr., P.E., of March 19, 1979, concluded that the permit requirements for pond lining have been achieved on both ash ponds, the storm water runoff pond, and also on the sludge storage basin to be used for storage of SO₂ scrubber waste material in emergency situations.

Accordingly, please be informed that we consider the permit provisions concerning pond lining requirements as having been accomplished. If you have any questions concerning this matter, please call me or Mr. George E. Green, P.E., Chief, Field Support Section, Enforcement and Field Operations Division at a.c. 512/475-5633.

Sincerely,

C. R. Hiertschman, P.E.
Director
Enforcement and Field Operations Division

BAB/nw

ccs: Mr. Pierce Chandler, NFS/NSS, Inc.
Texas Department of Water Resources District 8 Office

RECEIVED

MAR 30 1979

S. M. E. C., INC.
JOURDANTON, TEXAS 78026

TDWR 1983

Industrial Wastewater Inspection of May 26, 1983, San Miguel Electric Cooperative, by Vernon R. Francis, Supervisor, Texas Department of Water Resources, July 29, 1983.

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue
Austin, Texas

QUALITY LARGE

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W. O. Hankston
Lennie A. "Bo" Pilgrim
Louie Welch



Charles E. Nemir
Executive Director

TEXAS WATER COMMISSION

Lee B. M. Biggart, Chairman
Felix McDonald
John D. Stever

July 29, 1983

Richard McCaskill, General Manager
San Miguel Electric Cooperative
P.O. Box 280
Jourdanton, Texas 78026

*REPLY BY
20 AUG 83!*

Dear Mr. McCaskill:

Re: San Miguel Steam Electric Station, Jourdanton Plant Site
Industrial Wastewater Inspection of May 26, 1983
Permit No. 02601
Atascosa County

A routine industrial wastewater inspection of the San Miguel Steam Electric station was conducted by Augustine T. De La Cruz on May 26, 1983. During this inspection, the following problems were noted:

1. F.G.O. sludge and fly ash mixed with chromate bearing wastewater were observed in a storm water ditch on the southwest side of the plant. This material has apparently been discharged to the yard retention pond.
 - A. Please identify these sources.
 - B. Eliminate this discharge immediately.
2. The west and east side outer banks of Ash Pond "A" are apparently leaking contents. The clay liner on the inner bank of Ash Pond "A" (near the inlet pipes) has begun to erode.
 - A. A program to vegetate the outer banks should be looked into in order to stop erodin.
 - B. Please identify the reason for pond leakage and your proposals for elimination.
3. Ash Pond "A" had only six inches (6 ") of freeboard. This pond is also approaching sludge capacity.
4. Back-up pump at the bottom ash hopper was not working.
5. Head tanks for the ash water booster pumps have overflowed and discharged their contents towards Souse Creek.

RECEIVED

S. D. I. C., INC.

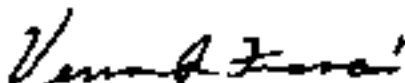
Richard McCaskill, General Manager
San Miguel Electric Cooperative
Page 2
July 29, 1983

6. Seals on ash-water pond pumps are leaking to an overflow gutter which discharges to Souse Creek.

Please respond within 20 days with your plans, time schedules and proposals for eliminating the above mentioned problems.

If you have any questions feel free to contact myself, or Augustine T. DeLa Cruz at this San Antonio district office.

Sincerely,


Vernon R. Francis,
Supervisor

VRF-ADLC/pg

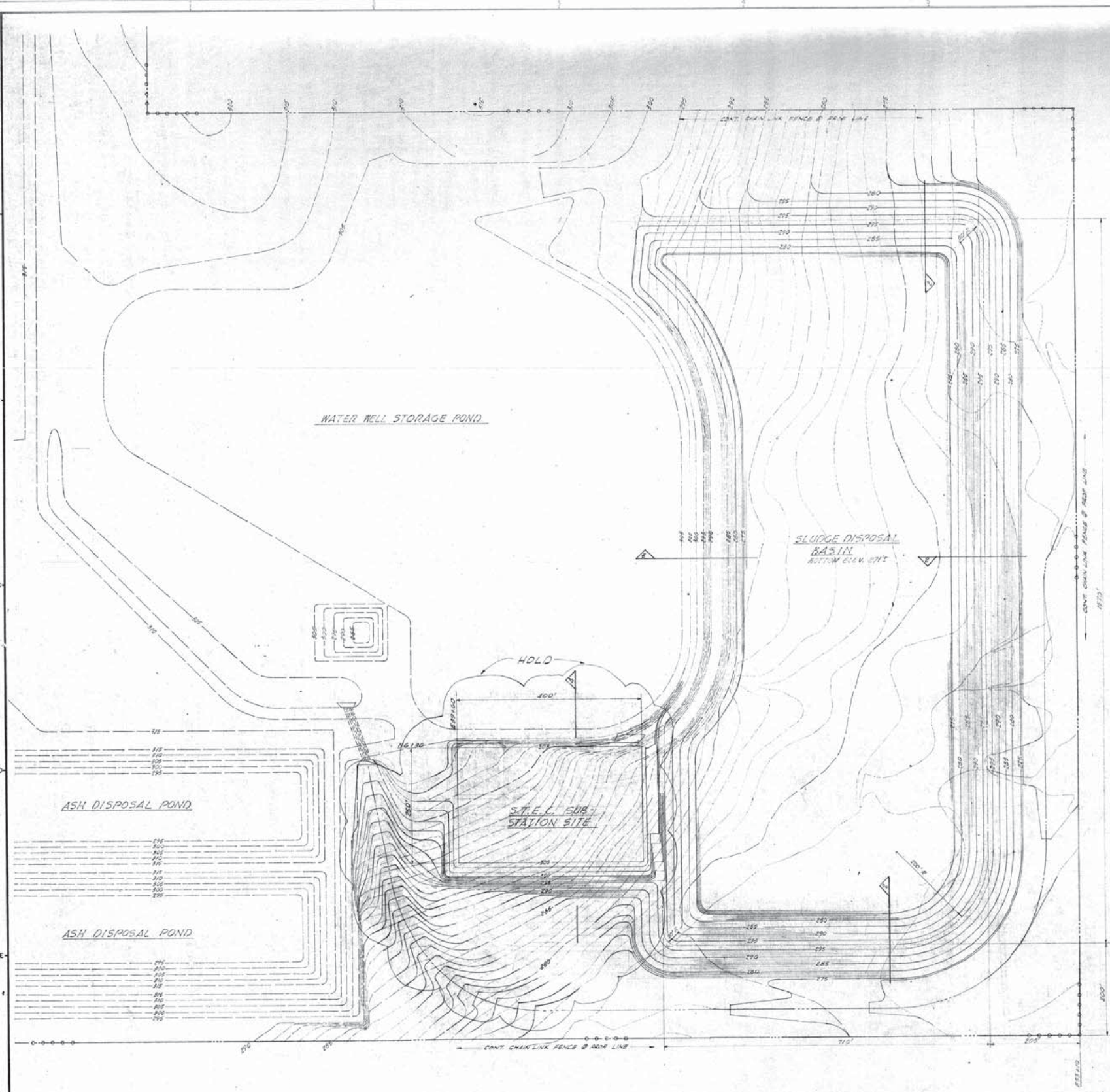
SAN MIGUEL DRAWINGS

Environmental Resources Management
206 East 9th Street, Suite 1700
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(512) 459-4700

T&G 1977a

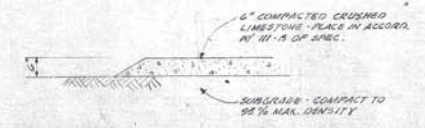
Sludge Disposal Basin, 69 kV Substation & Temp. Parking Area, San Miguel Plant Unit No. 1, Drawing No. C-12, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised April 5, 1977.

Environmental Resources Management
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Austin, Texas 78701
(512) 459-4700

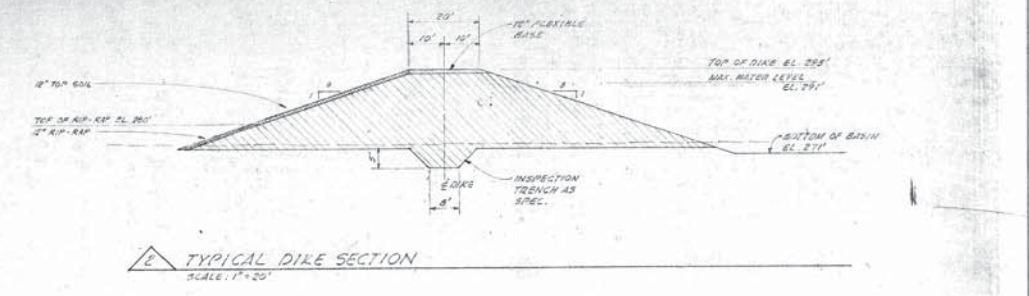


1 PLAN - SLUDGE DISPOSAL BASIN & SUBSTATION SITE
SCALE: 1" = 100'

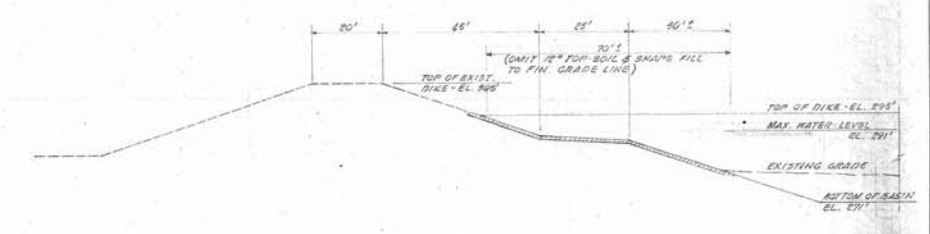
--- EXIST. CONTOURS PER CONTRACT DWG. C-4, REV. 8
--- REVISED CONTOURS



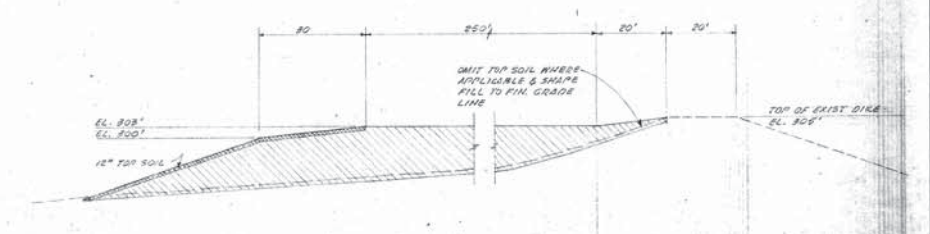
6 TYP. SECTION - PARKING AREA



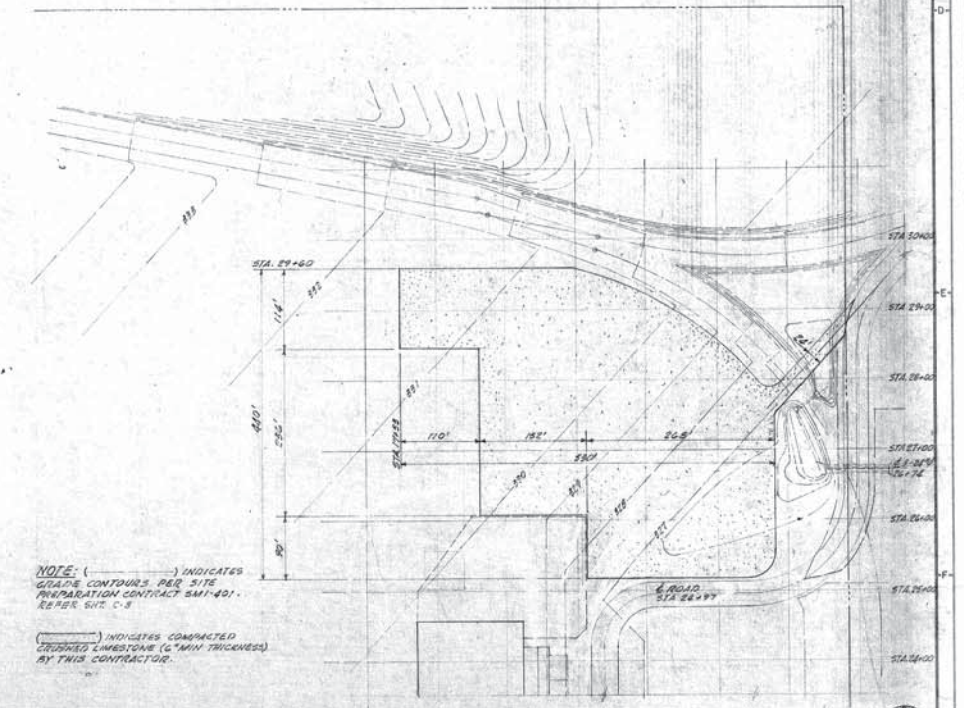
2 TYPICAL DIKE SECTION
SCALE: 1" = 20'



3 TYPICAL DIKE SECTION (EXIST. @ WATER WELL STG. POND)
SCALE: 1" = 20'



4 TYPICAL SECTION - SUBSTATION SITE
SCALE: 1" = 20'



5 PLAN - CONSTRUCTION WORKERS' PARKING
SCALE: 1" = 20'

NOTE: (---) INDICATES GRADE CONTOURS PER SITE PREPARATION CONTRACT SM1-401. RE PER Dwg. C-8
(---) INDICATES COMPACTED CRUSHED LIMESTONE (6" MIN THICKNESS) BY THIS CONTRACTOR.

NOTES:
1. ALL FILL INDICATED SHALL BE AS SPECIFIED FOR CONTROLLED COMPACTED FILL.

REV.	DATE	BY	DESCRIPTION
0	12/14	P.R.K.	ADD 1/2\"/>

SCALE	AS NOTED
DRAWN	P.R.K.
DATE	1.8.77
CHECKED	C.H.G.
APPROVED	M.L.H.



TIPPETT & GEE, INC.
CONSULTING ENGINEERS
ABILENE TEXAS

SAN MIGUEL PLANT
UNIT NO. 1
B.E.P.C. S.T.E.C.

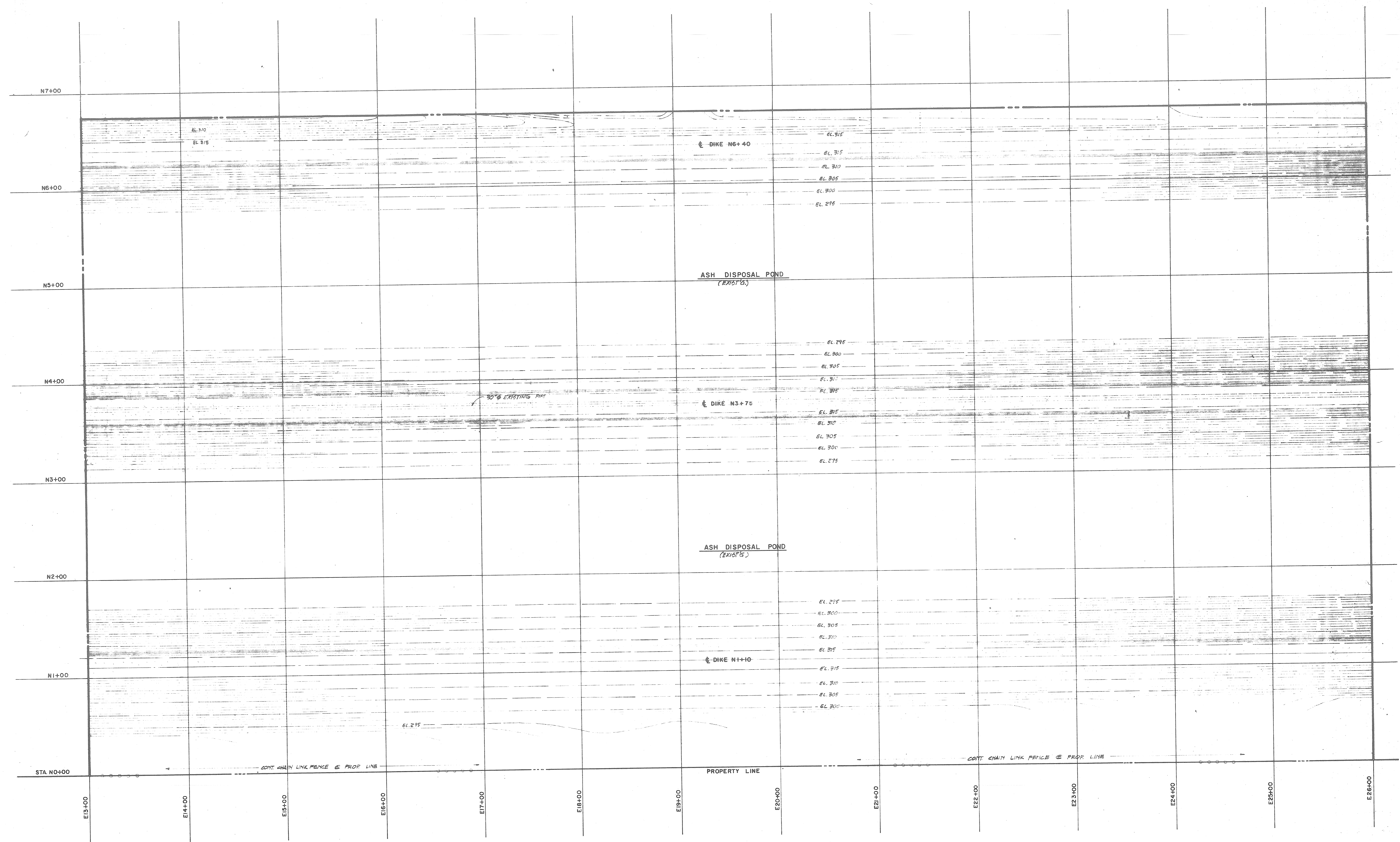
SLUDGE DISPOSAL BASIN,
69 KV SUBSTATION &
TEMP. PARKING AREA

JOB NO.	SMI-401
REV.	0
DRAWING NUMBER	C-12

T&G 1977b

Site Plan Section No. 8, San Miguel Plant Unit No. 1, Drawing No. 1-C-37, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised August 18, 1977.

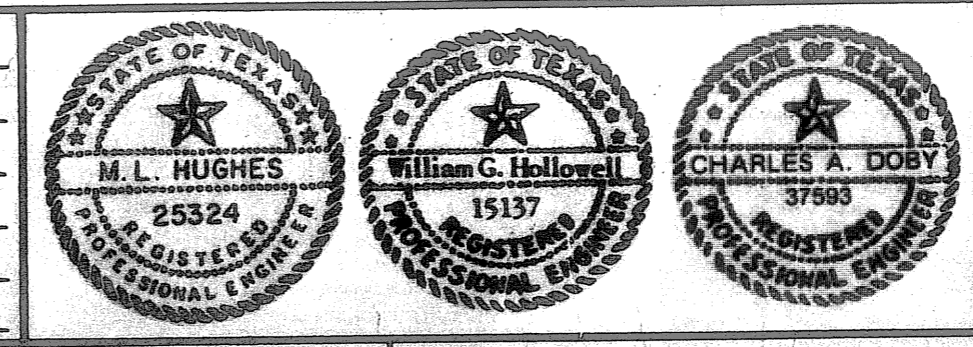
Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



NOTES

REV	DATE	BY	DESCRIPTION
A	5-18-77	PGM	REVISED PER ADDENDUM NO. 1
C	8-27-77	CAD	FINAL BID SET

SCALE: 1"=40'
 DRAWN: PGM
 DATE: 4-1-77
 CHECKED: CAD
 APPROVED: M.L.H., W.G.H.



TIPPETT & GEE, INC.
 CONSULTING ENGINEERS
 ABILENE TEXAS

SAN MIGUEL PLANT
 UNIT NO. 1
 B.E.P.C. S.T.E.C.

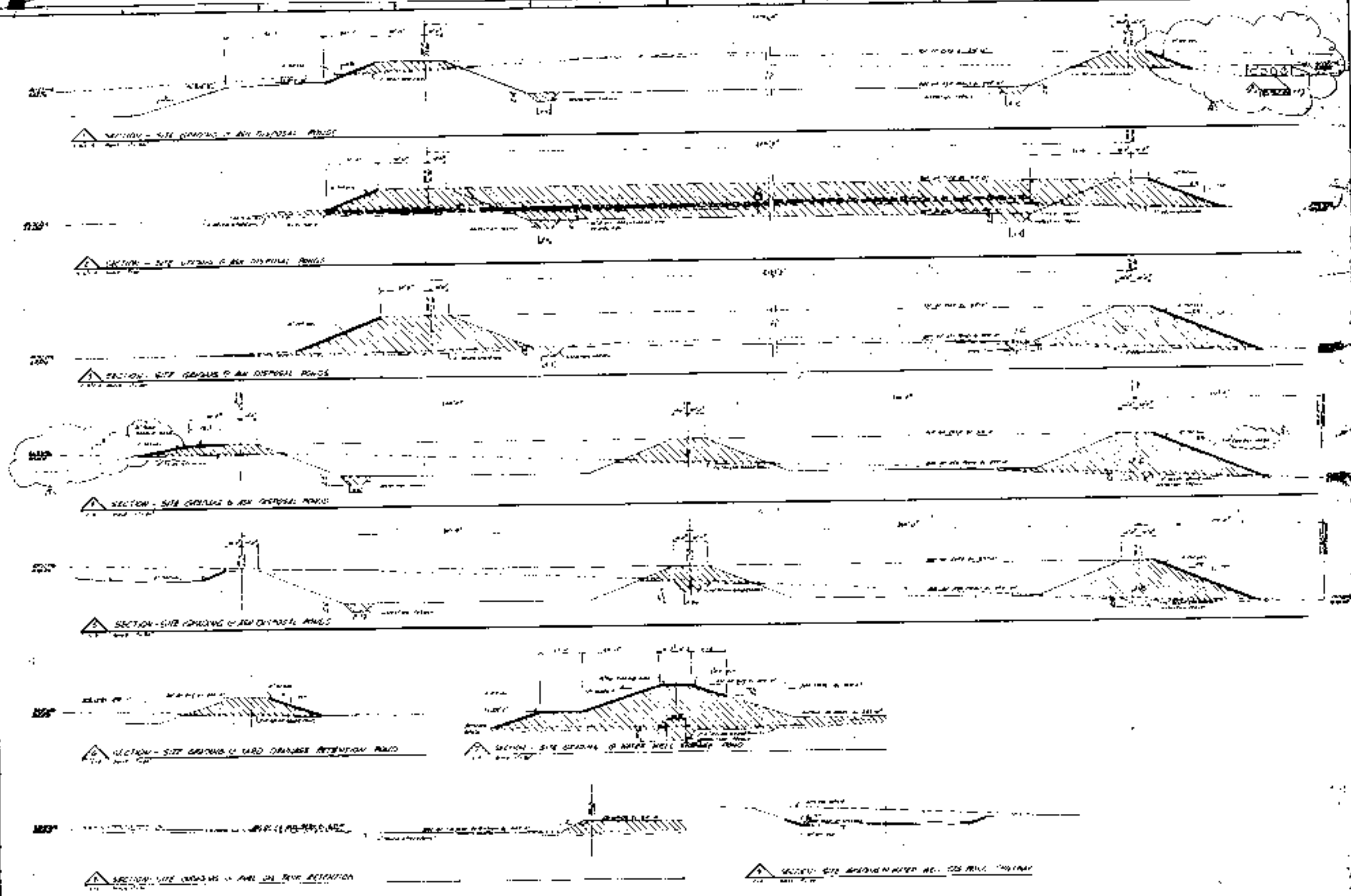
SITE PLAN
SECTION NO. 8

JOB NO.	REV.
SMI-406	0
DRAWING NUMBER	
I-C-37	

T&G 1977c

*Site Preparation Sections & Details, San Miguel Plant Unit No. 1,
Drawing No. C-2 Rev. 2, Tippet & Gee, Inc., 1977.*

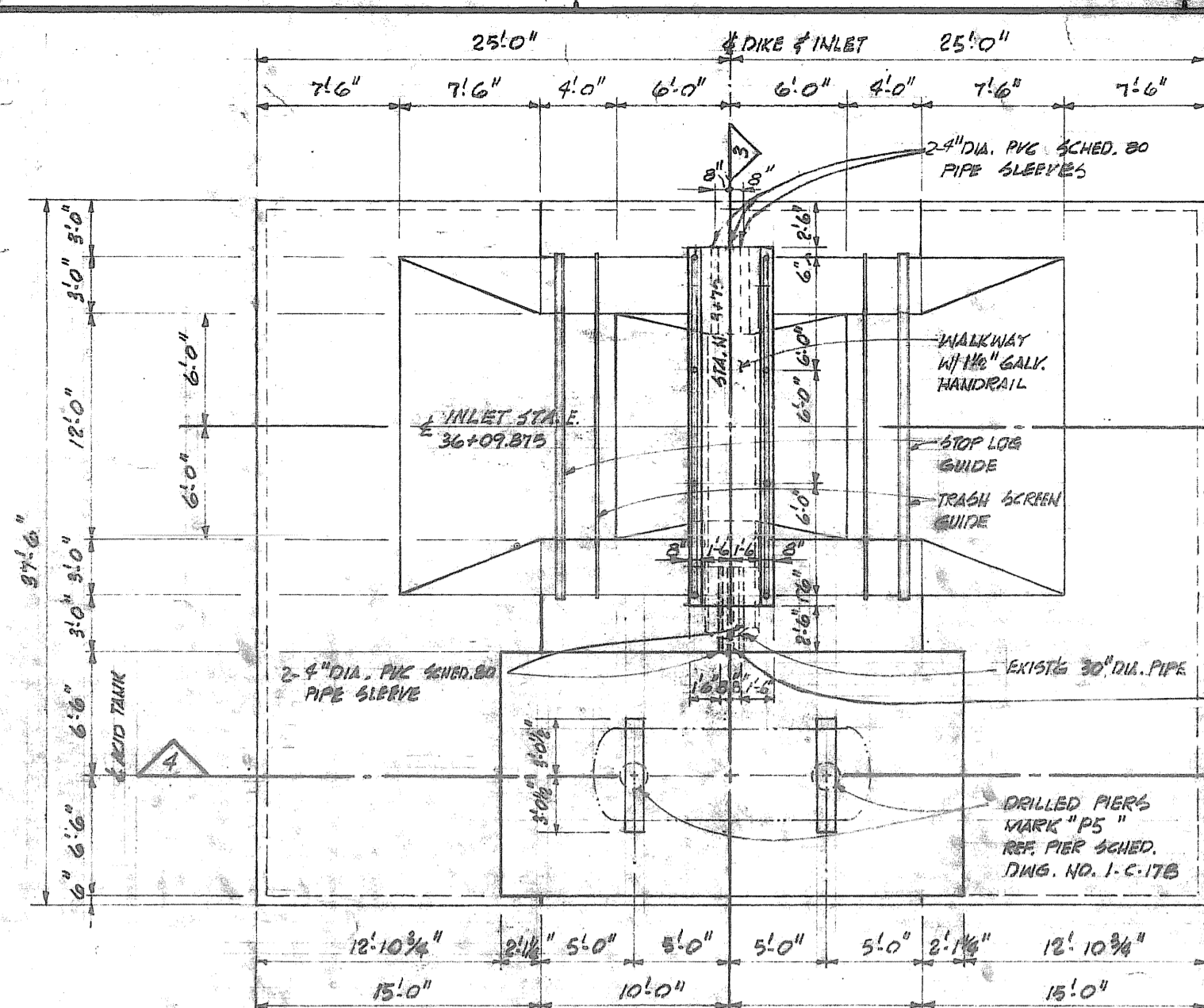
Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



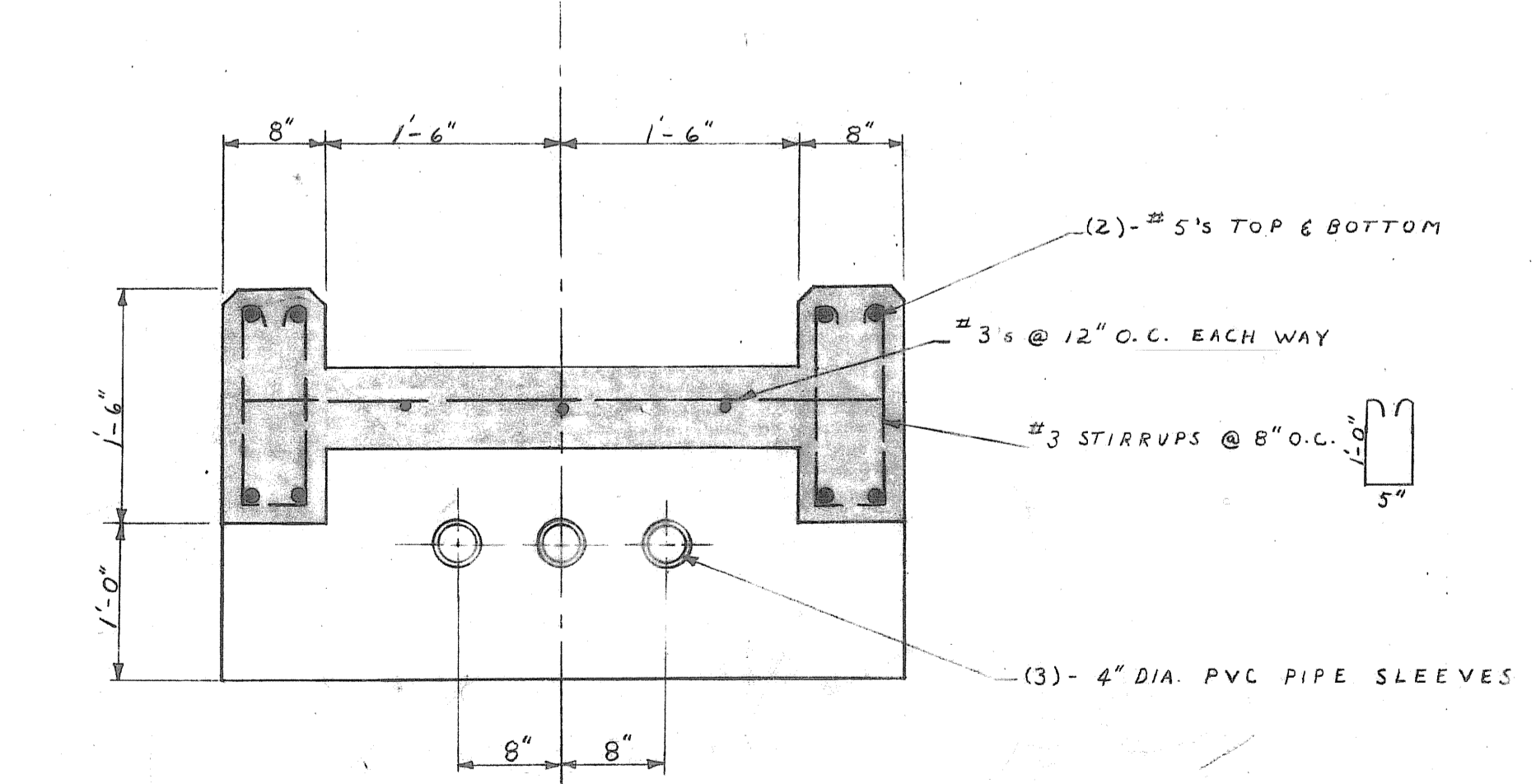
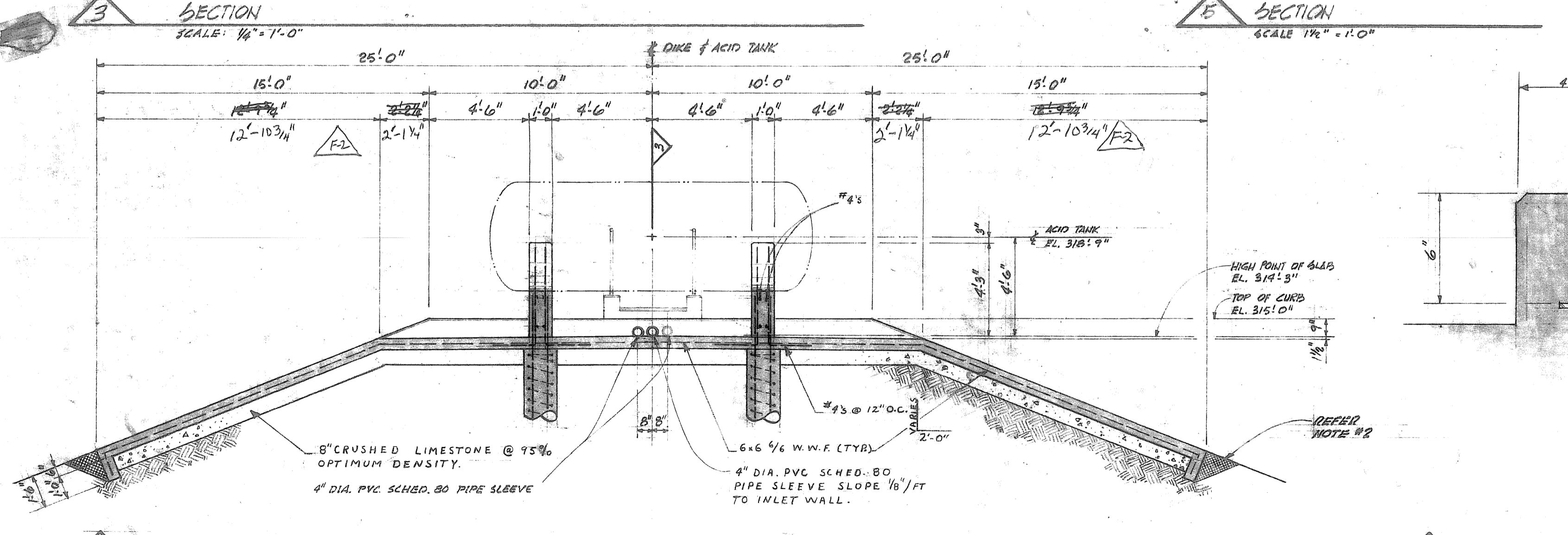
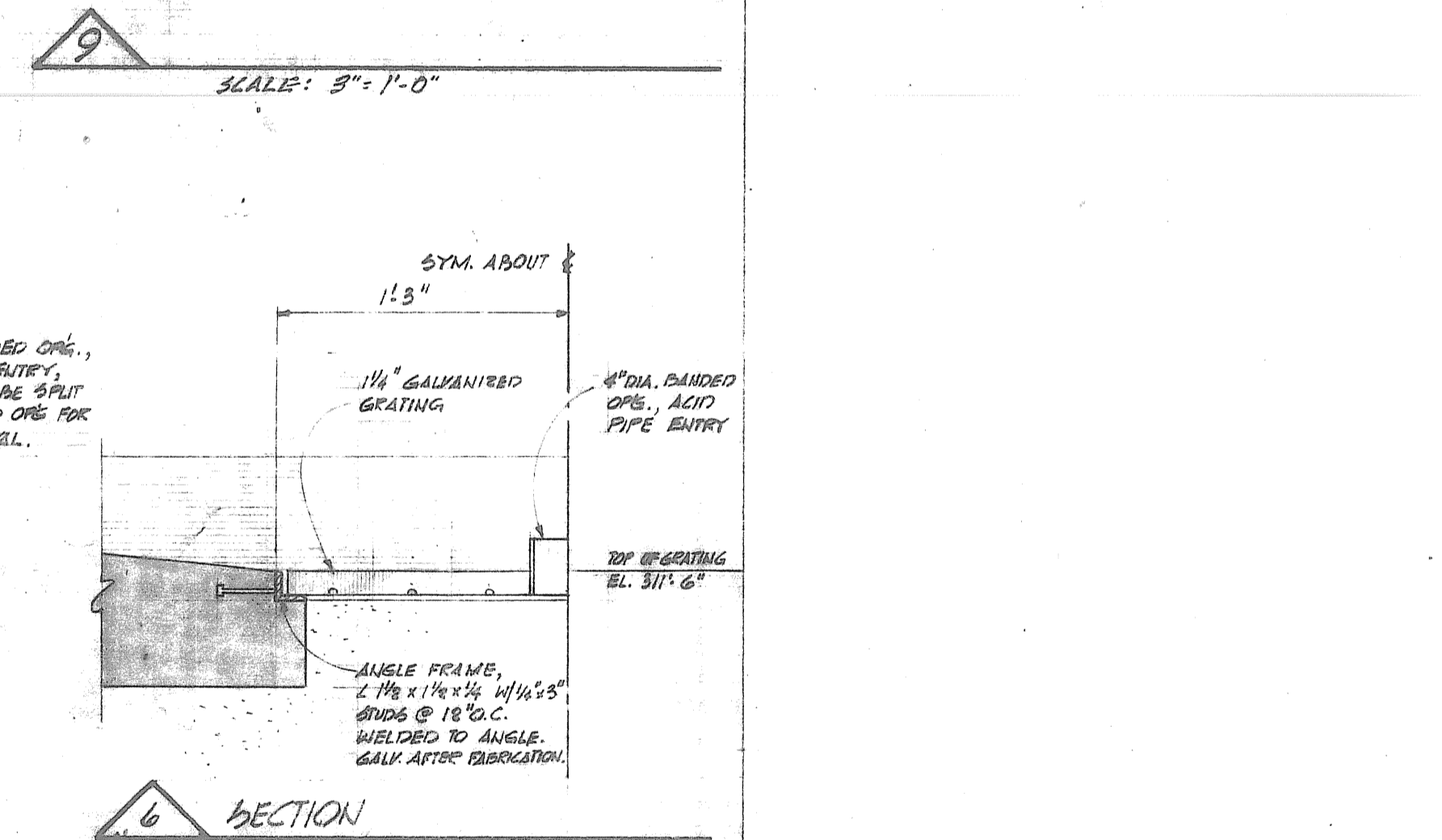
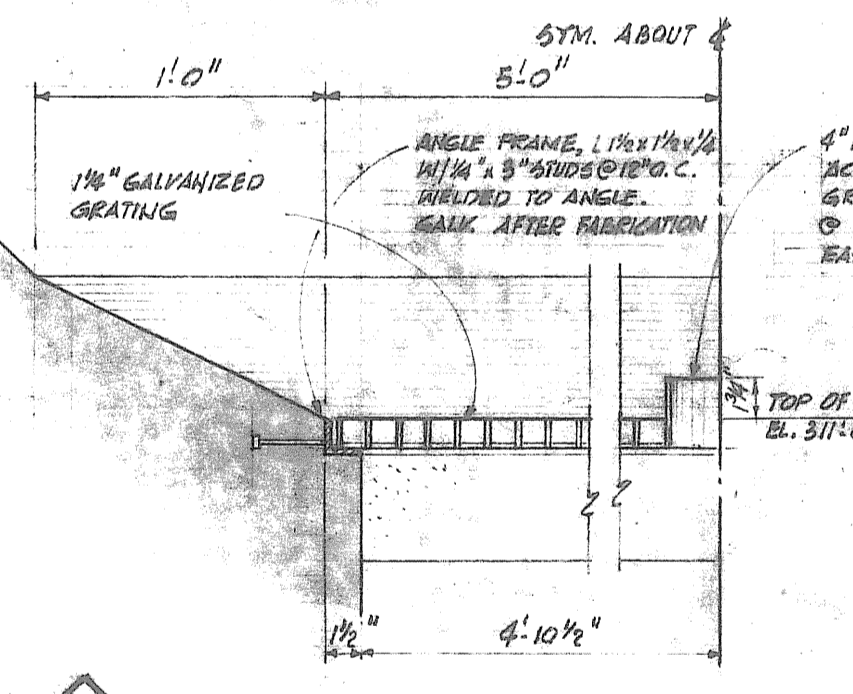
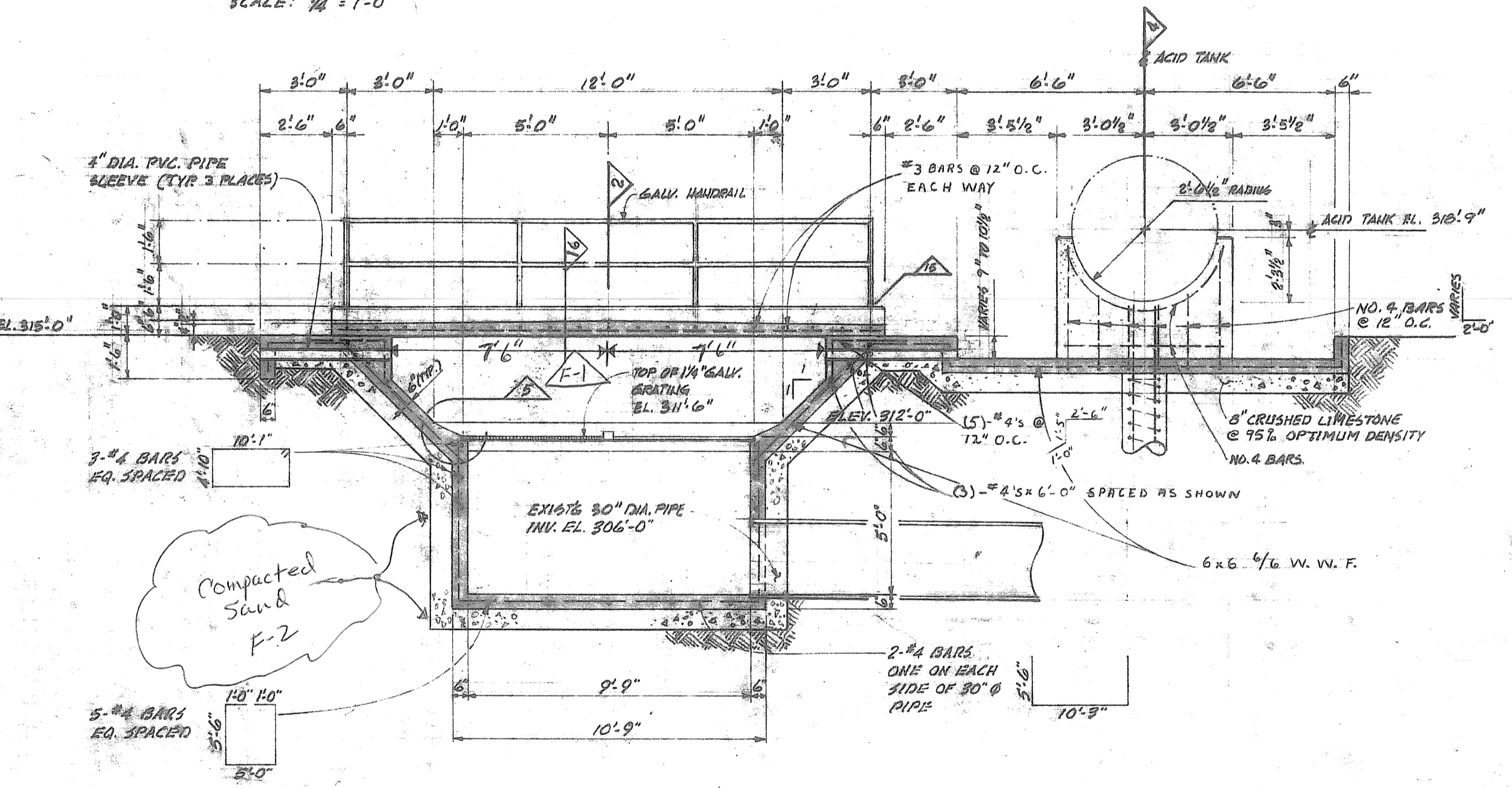
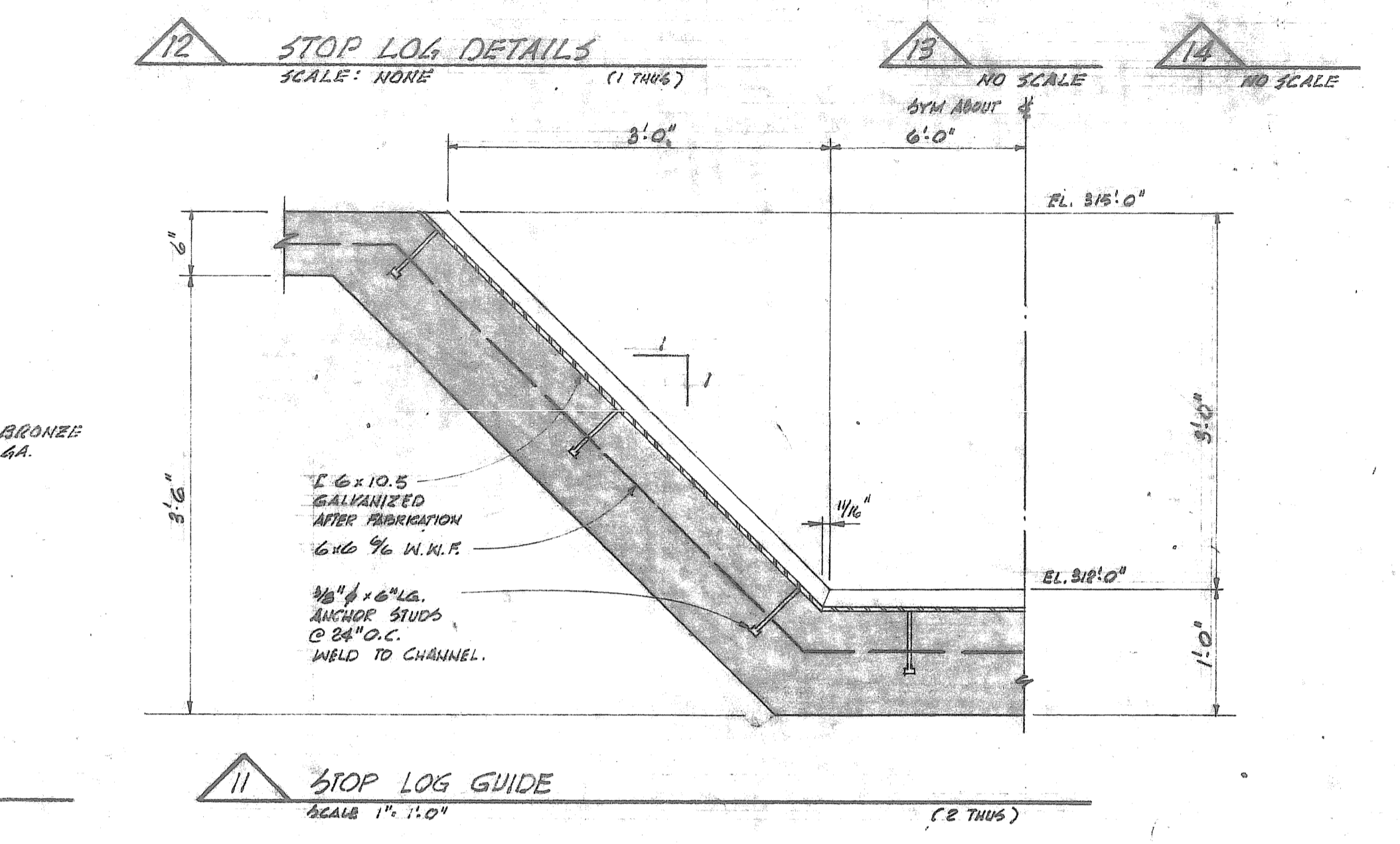
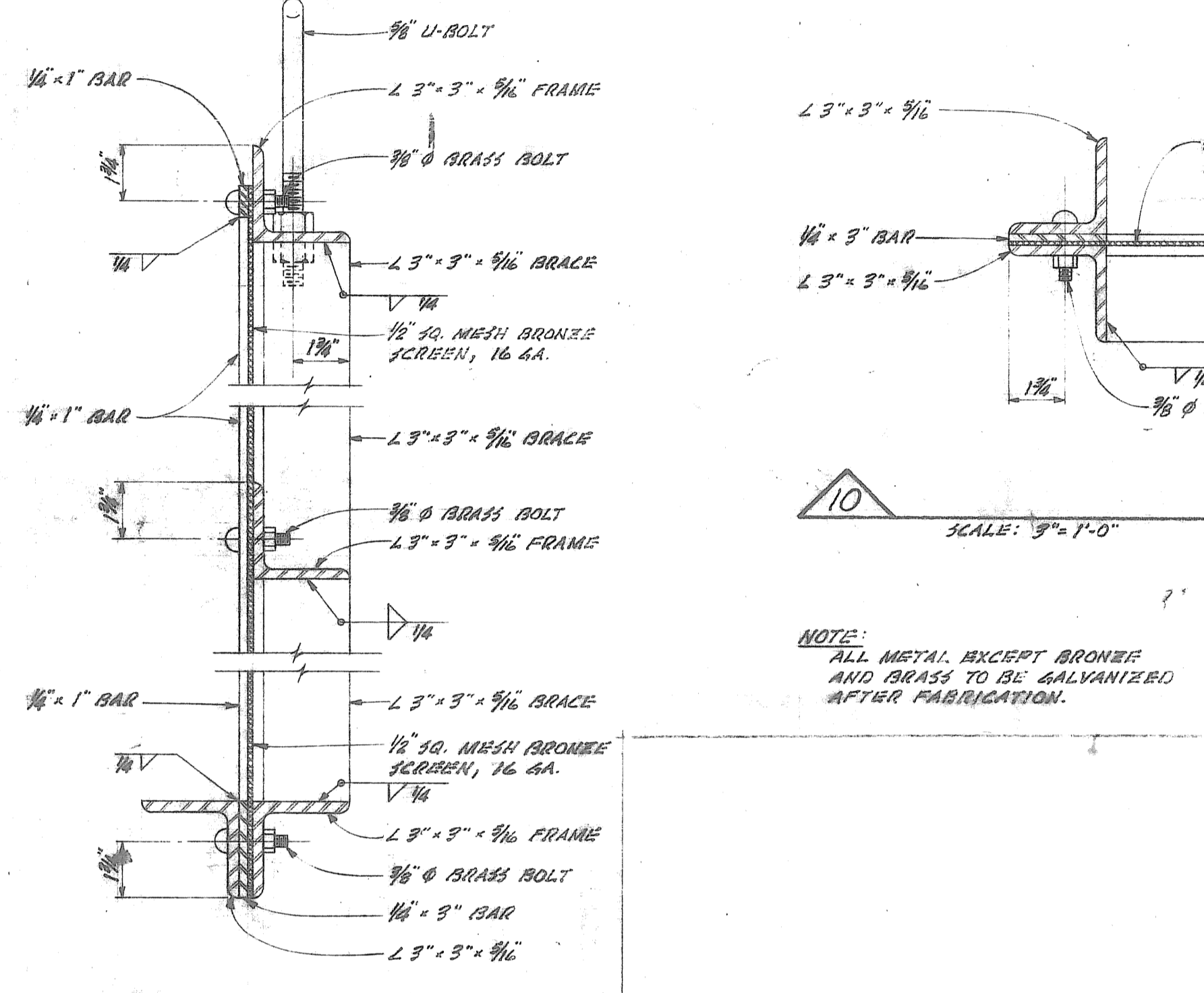
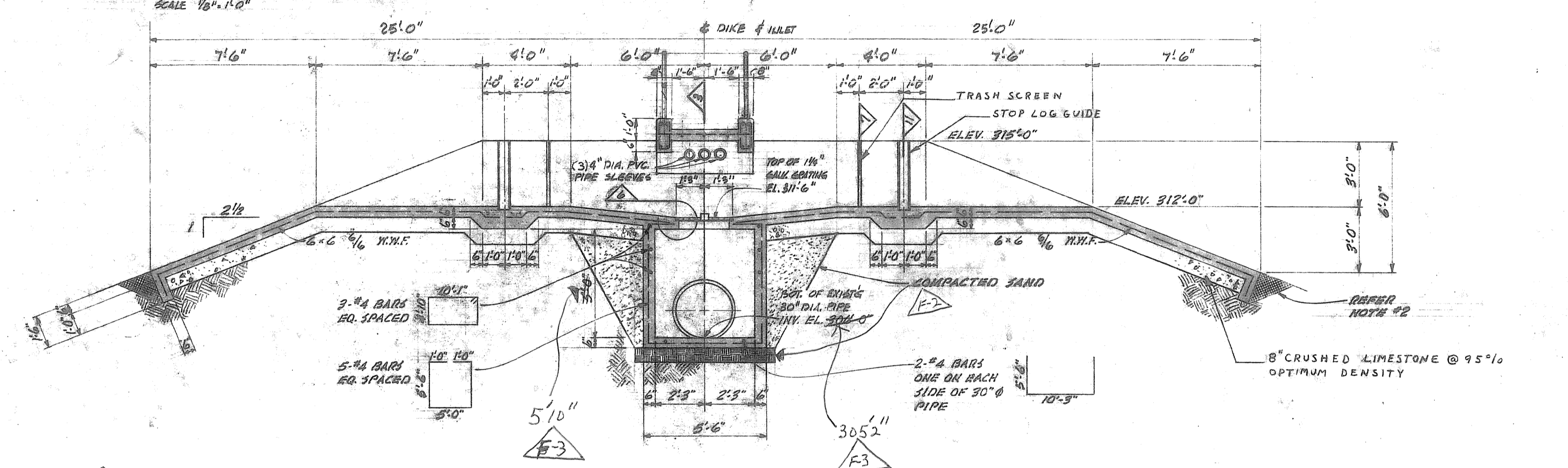
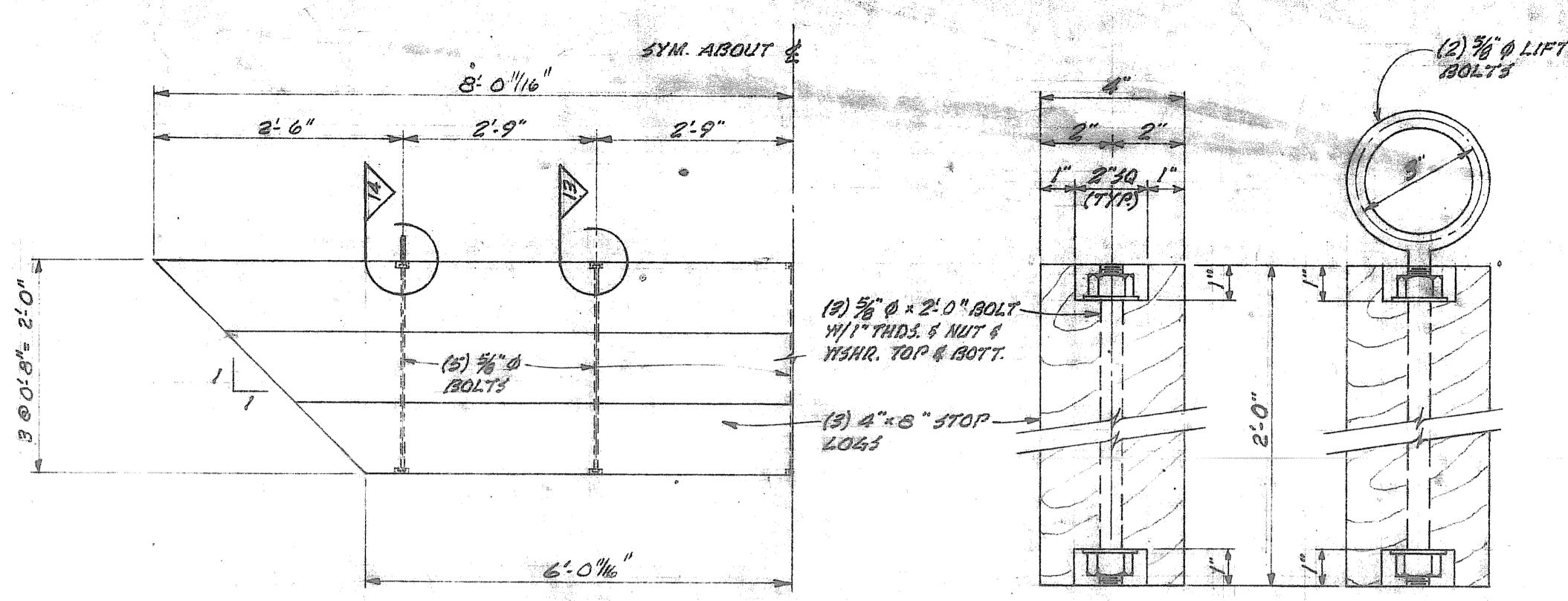
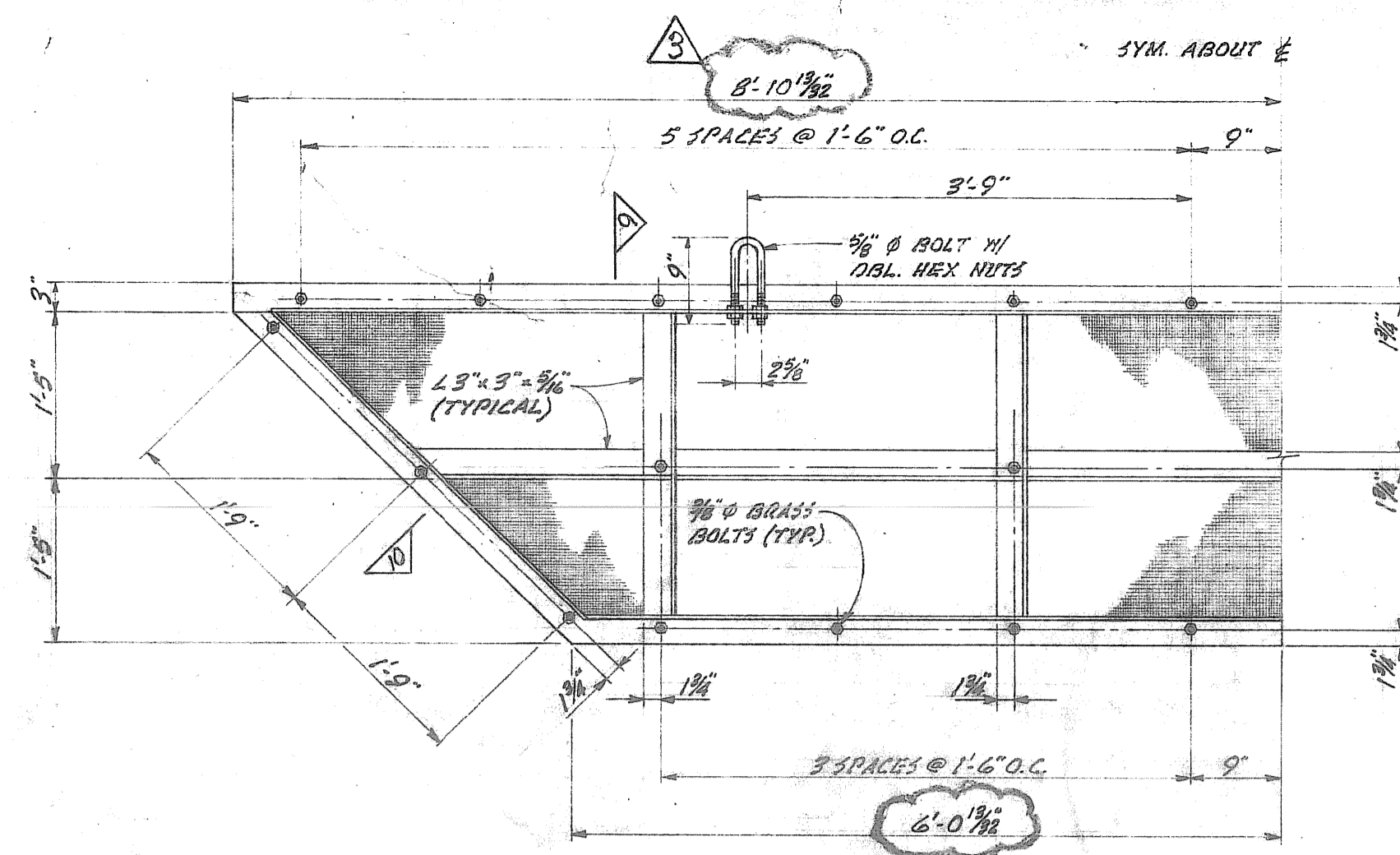
T&G 1979

*Ash Pond Drop Inlet, Found. Plan & Details Ash Pond Acid Tank Pier,
Found. Plan & Details, Drawing No. 1-C-177, Rev. 3F3. Tippet &
Gee, Inc., April 1, 1977, revised April 6, 1979.*

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7 TRASH SCREEN GUIDE
SCALE: 1" = 1'-0" (2 THUS.)



F-1 Per Thomassen (T&G) July 11, 1978
F-2 Per Thomassen (T&G) July 16, 1978
F-3 Per Thomassen (T&G) July 19, 1978

NOTES
1. REFER TO GENERAL NOTES I.C.70 FOR FOUNDATION REQUIREMENTS.
2. COMPACTED STRUCTURAL BACKFILL.
CONTRACTOR MAY USE BAGGATED CLAY.
LIME STABILIZATION IS NOT REQUIRED AT THIS AREA.

REV	DATE	BY	DESCRIPTION
A	10/27/77	J.L.F.	REVISED PER ADDENDUM NO. 1
B	2-3-77	J.L.F.	REVISED PER ADDENDUM NO. 2
C	6-8-77	J.L.F.	FINAL BID SET
1	7-17-78	J.L.F.	ADDED SOIL NOTES FOR CLARIFICATION AT DET. 'E' & 'F'
2	5-29-78	J.L.F.	ADDED NOTES TO DIMEN. @ PLAN 'F' SECT. 'E', 'F', 'G' REV. DIMEN. @ 18 1/2" DIA.
3	4-2-79	J.L.F.	ADD. DIM. @ 'E', CORR. DIM. @ 'F'

SCALE: AS NOTED
DRAWN: J.L.F.
DATE: 4-1-77
CHECKED: B.R., C.A.D.
APPROVED: M.L.H., W.G.H.

STATE OF TEXAS
M.L. HUGHES
25324
REGISTERED PROFESSIONAL ENGINEER

STATE OF TEXAS
WILLIAM G. HOLLOWAY
15137
REGISTERED PROFESSIONAL ENGINEER

STATE OF TEXAS
CHARLES A. DORR
37593
REGISTERED PROFESSIONAL ENGINEER

TIPPETT & GEE, INC.
CONSULTING ENGINEERS
ABILENE TEXAS

SAN MIGUEL PLANT
UNIT NO. 1
B.E.P.C. S.T.E.C.

ASH POND DROP INLET, FOUND. PLAN & DETAILS
ASH POND ACID TANK PIER, FOUND. PLAN & DETAILS

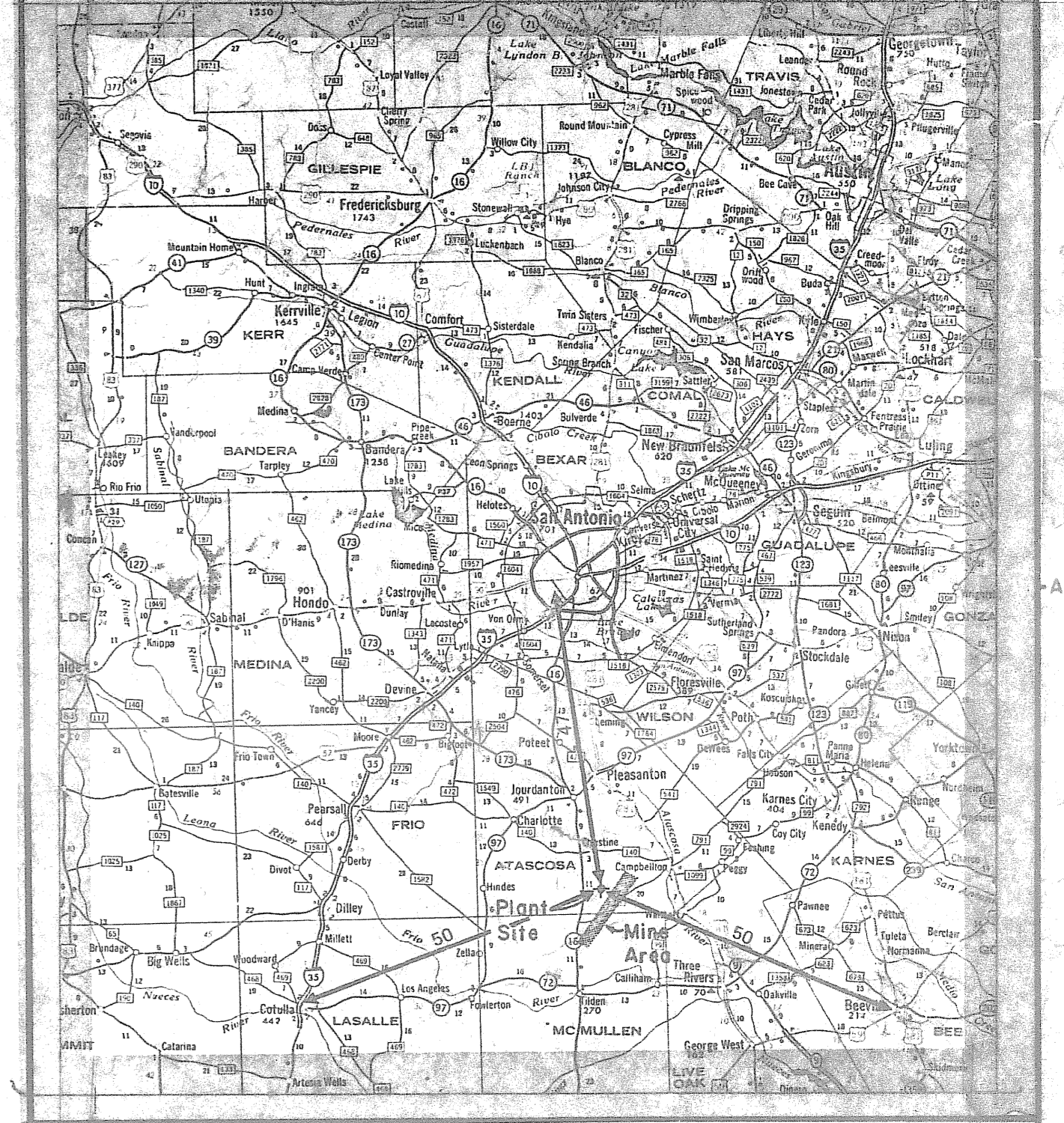
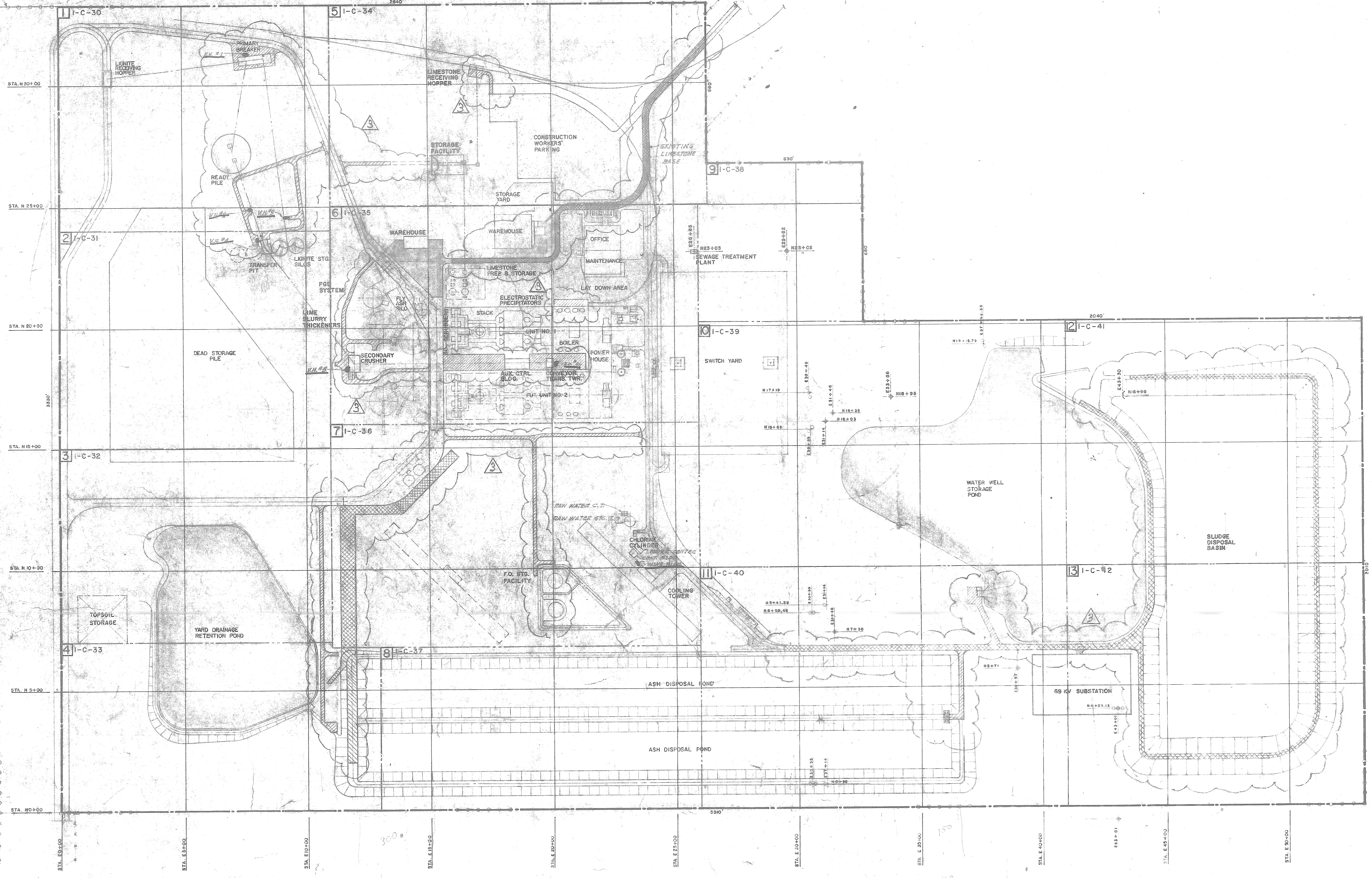
JOB NO.: SMI-406
REV.: 3/3
DRAWING NUMBER: I-C-177

T&G 1980a

*Plant Site Plan and Vicinity Map, San Miguel Plant Unit No. 1,
Drawing No, 1-C-1C Rev 3, Tippet & Gee, Inc., April 1, 1977,
revised April 14, 1980.*

Environmental Resources Management
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(512) 459-4700

EXISTING CHAIN LINK FENCE



2 VICINITY MAP NO SCALE

LEGEND

	EXISTING CONTOURS, EXISTING UTILITIES
	FINISH CONTOURS, FINISH UTILITIES
	PAVING & BASE AS SPEC. THIS CONTRACT
	TYPE 'A' FLEX. BASE ROADS BY THIS CONTRACTOR
	EXISTING TYPE 'A' FLEX. BASE ROADS
	EXISTING TYPE 'A' FLEX. BASE ROADS
	ASPHALT PAVING ON EXISTING BASE
	CONCRETE PAVING & BASE AS SPEC. THIS CONTRACT

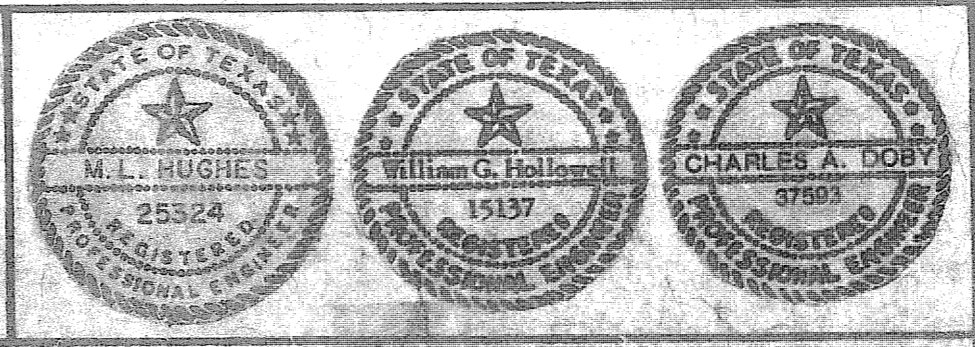
1 PLANT SITE PLAN

SCALE: 1" = 200'

NOTES

REV	DATE	BY	DESCRIPTION
1	8-27-77	N.L.H.	REVISION PER APPENDIX 'B' 41
2	8-27-77	N.L.H.	FINAL BID SET
3	8-27-77	N.L.H.	EXTENDED ROAD AT WAREHOUSE
4	8-27-77	N.L.H.	CONNECTED TO BASE WITH 20' DRAIN ADDED LAMBERT AVE.
5	4-13-78	N.L.H.	ADDED TYPE 'A' FLEX. BASE ROAD, NOTED EXISTING FLEX. BASE ROAD, EXISTING ASH ROAD SOUTH OF BOILER HOUSE

SCALE: AS NOTED
 DRAWN: J.W.H.
 DATE: 4-1-77
 CHECKED: C.A.H.
 APPROVED: M.L.P.W.G.H.



TIPPETT & GEE, INC.
 CONSULTING ENGINEERS
 ABILENE TEXAS

SAN MIGUEL PLANT
 UNIT NO. 1
 B.E.F.C. STEC

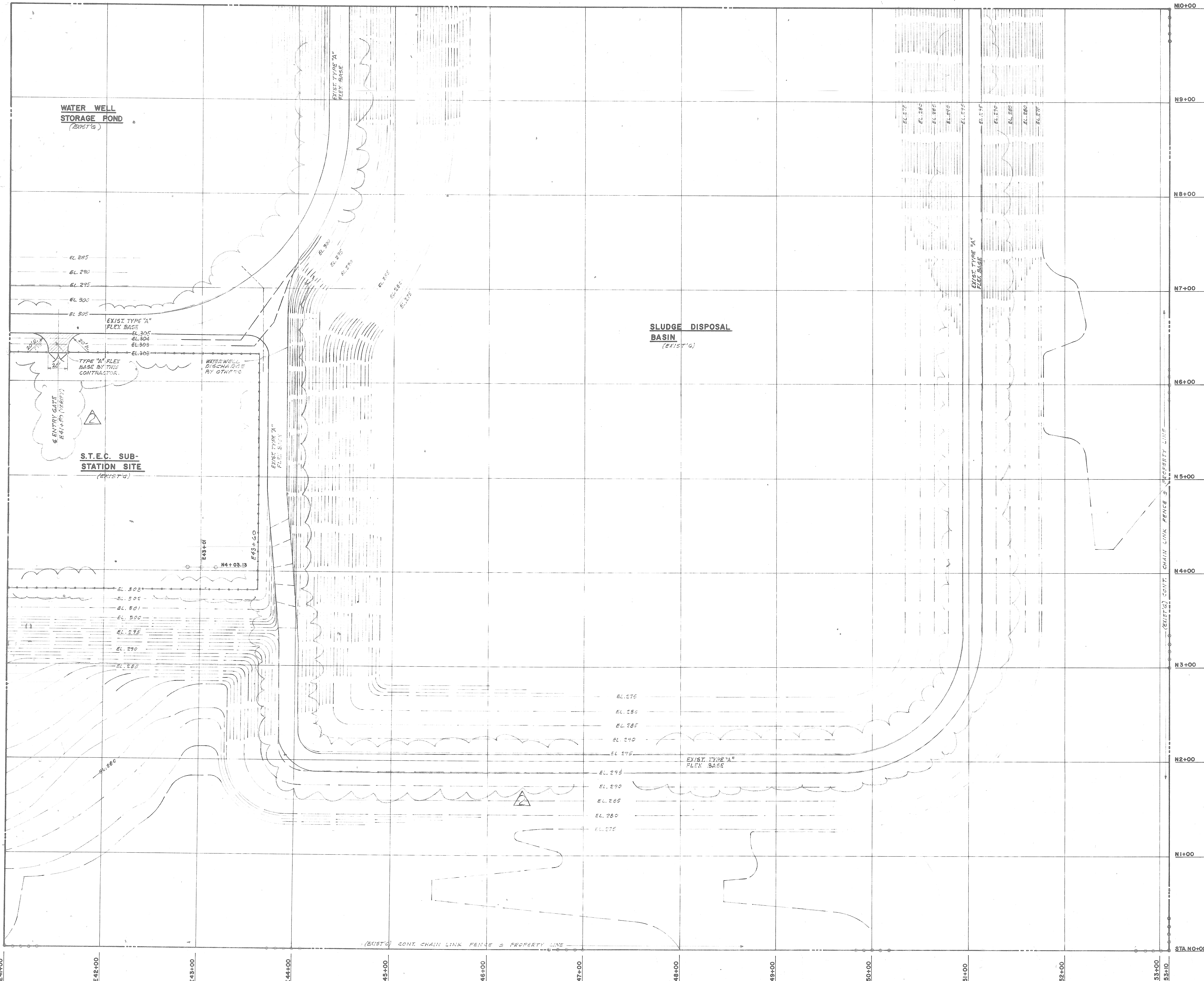
PLANT SITE PLAN
 AND
 VICINITY MAP

JOB NO.	REV.
SM-406	3
DRAWING NUMBER	
1-C-1-C	

T&G 1980b

Site Plan Section No. 13, San Miguel Plant Unit No. 1, Drawing No. 1-C-42, Rev. 2, Tippet & Gee, Inc., April 1, 1977, revised April 14, 1980.

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NOTES

REVISED BY	DESCRIPTION
A	REVISED PER ADDENDUM NO. 1
G	FINAL BID SET
H	LOCATED WATERWELL DISCHARGE
I	ADDED FENCE AROUND SUB-STATION SITE, ADDED ACCESS TO @
J	SUB-STATION ENTRANCE, NEW EXIST. CONTOUR TO MATCH W/CONTIGUOUS
K	(SMI-001), ADDED EXIST. TYPE "A" FLEX BASE RDS.

SCALE	1" = 40'
DRAWN	P.C.M.
DATE	4-1-77
CHECKED	C.A.G.
APPROVED	M.L.H., W.G.H.



TIPPETT & GEE, INC.
CONSULTING ENGINEERS
ABILENE TEXAS

SAN MIGUEL PLANT
UNIT NO. 1
B.E.P.C. S.T.E.C.

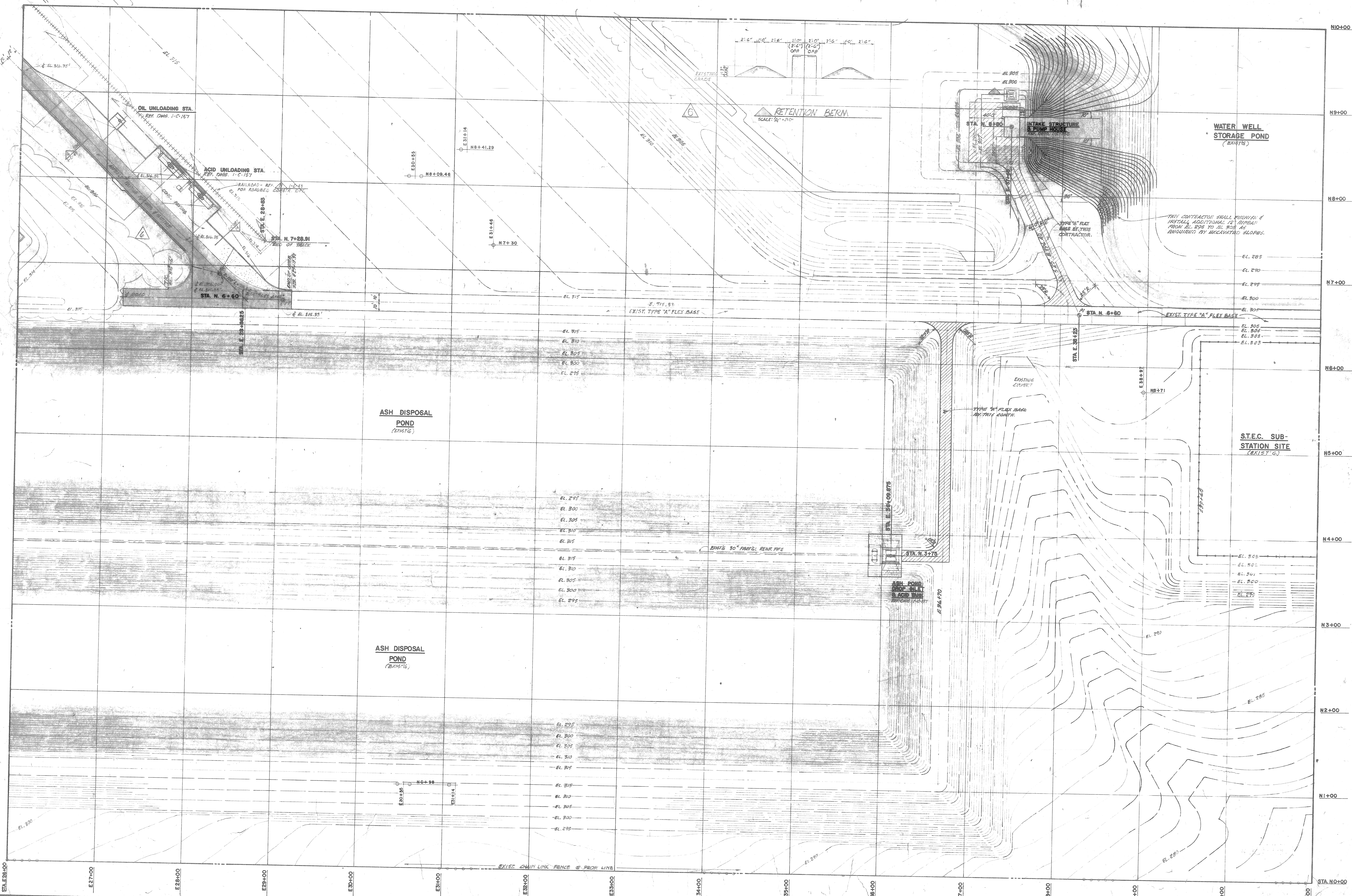
SITE PLAN
SECTION NO. 13

JOB NO.	SMI-406
REV.	2
DRAWING NUMBER	I-C-42

T&G 1980c

Site Plan Section No. 11, San Miguel Plant Unit No. 1, Drawing No. 1-C-40, Rev. 6, Tippet & Gee, Inc., April 1, 1977, revised June 13, 1980.

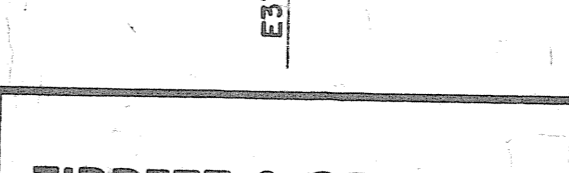
Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700



NOTES
 CONTRACTOR SHOULD EXAMINE THE GENERAL, MECHANICAL AND ELECTRICAL CONSTRUCTION DRAWINGS AND ALL PERTINENT EQUIPMENT MANUFACTURER'S TYPE SPECIFICATIONS, CANNOT PENETRATIONS, BLOCKOUTS, DRAINS, ETC. AS ARE REQUIRED TO BE INSTALLED UNDER OTHER ORDERS OF THIS CONTRACT.

REV	DATE	BY	DESCRIPTION
1	1-17-77	W.L.	REVISED PER ADDENDUM NO. 11
2	2-18-77	W.L.	REVISED PER ADDENDUM NO. 12
3	3-18-77	W.L.	REVISED PER ADDENDUM NO. 13
4	4-18-77	W.L.	REVISED PER ADDENDUM NO. 14
5	5-18-77	W.L.	REVISED PER ADDENDUM NO. 15

SCALE	DRAWN	DATE	CHECKED	APPROVED
1"=40'	P.G.H.	4-1-77	E.G.D.	M.L.H., W.B.H.



TIPPETT & GEE, INC.
 CONSULTING ENGINEERS
 ABILENE TEXAS

**SAN MIGUEL PLANT
 UNIT NO. 1
 B.E.P.C. S.T.E.C.**

**SITE PLAN
 SECTION NO. 11**

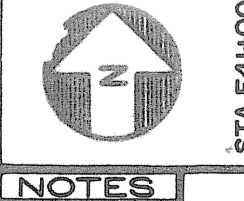
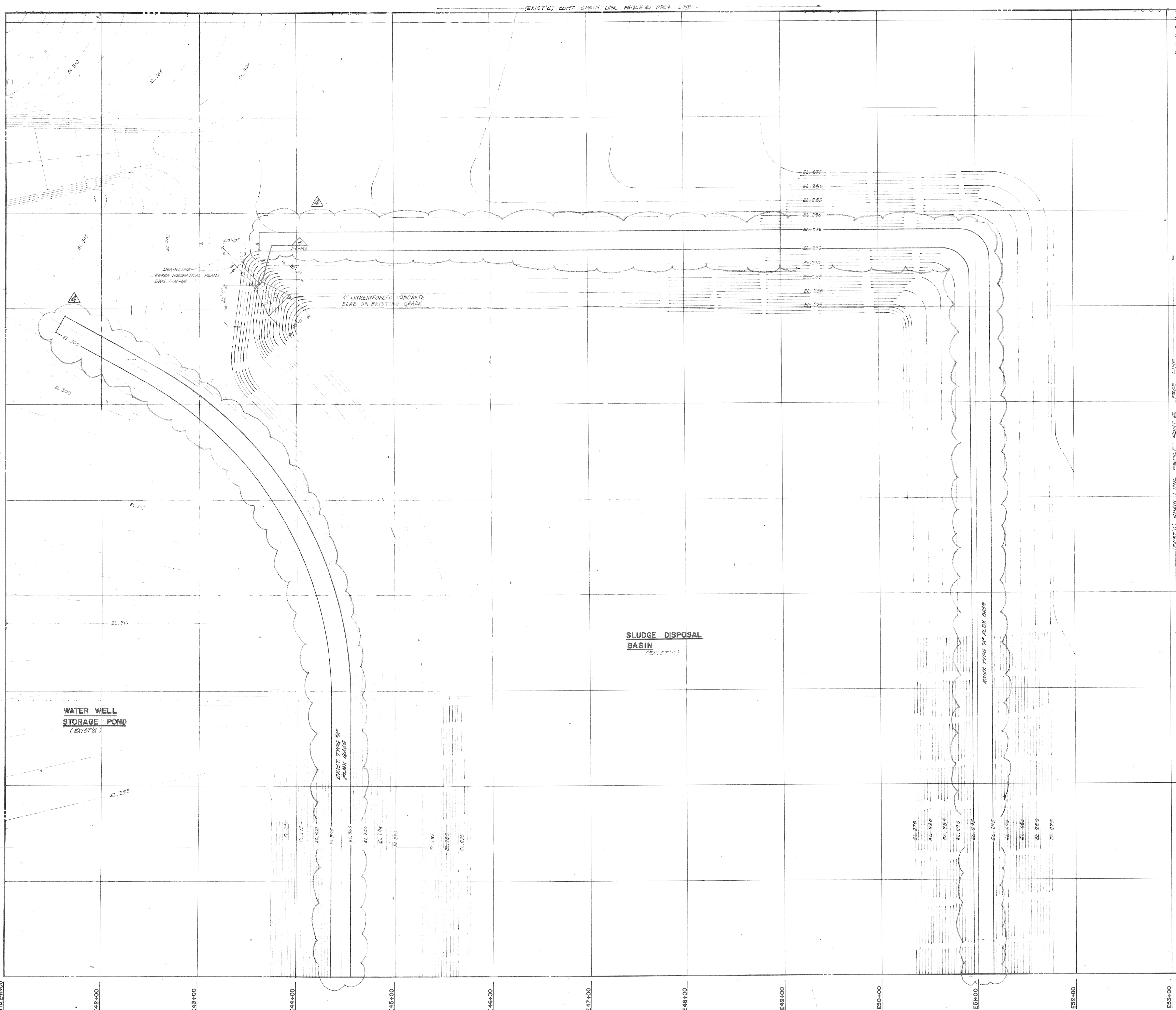
JOB NO.	REV.
SMI-406	6

DRAWING NUMBER
I-C-40

T&G 1980d

Site Plan Section No. 12, San Miguel Plant Unit No. 1, Drawing No. 1-C-41, Rev 4, Tippet & Gee, Inc., April 1, 1977, revised August 6, 1980.

Environmental Resources Management
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Austin, Texas 78701
(512) 459-4700



NOTES

STATIONING: E42+00, E43+00, E44+00, E45+00, E46+00, E47+00, E48+00, E49+00, E50+00, E51+00, E52+00, E53+00
 N11+00, N12+00, N13+00, N14+00, N15+00, N16+00, N17+00, N18+00, N19+00, N20+00

REV	DATE	BY	DESCRIPTION
1	3-15-77	M.L.H.	REV. PER ADDENDUM NO. 1
2	3-15-77	M.L.H.	FINAL BID
3	3-28-77	M.L.H.	ADDED TWO BIRDS WITH DIMENSIONS, NOTES, & REFERENCE SECTION MARKS. REFERENCE NOTES, ADDED TO DRAINLINE, ADDED TO WELL WATERLINE.
4	12-1-77	D.H.	CHANGED RIPRAP TO CONC. SLAB
5	12-1-77	C.W.	CHANGED TO BRUSH BLOCK #1 (1) PIPE SUPPORTS
6	1-10-78	J.B.	ADDED SIXTEEN 12\"/>

SCALE: 1"=40'
 DRAWN: P.G.M.
 DATE: 4-1-77
 CHECKED: C.A.D.
 APPROVED: M.L.H., W.C.H.



TIPPETT & GEE, INC.
 CONSULTING ENGINEERS
 ABILENE TEXAS

SAN MIGUEL PLANT
 UNIT NO. 1
 B.E.P.C. S.T.E.C.

SITE PLAN
 SECTION NO. 12

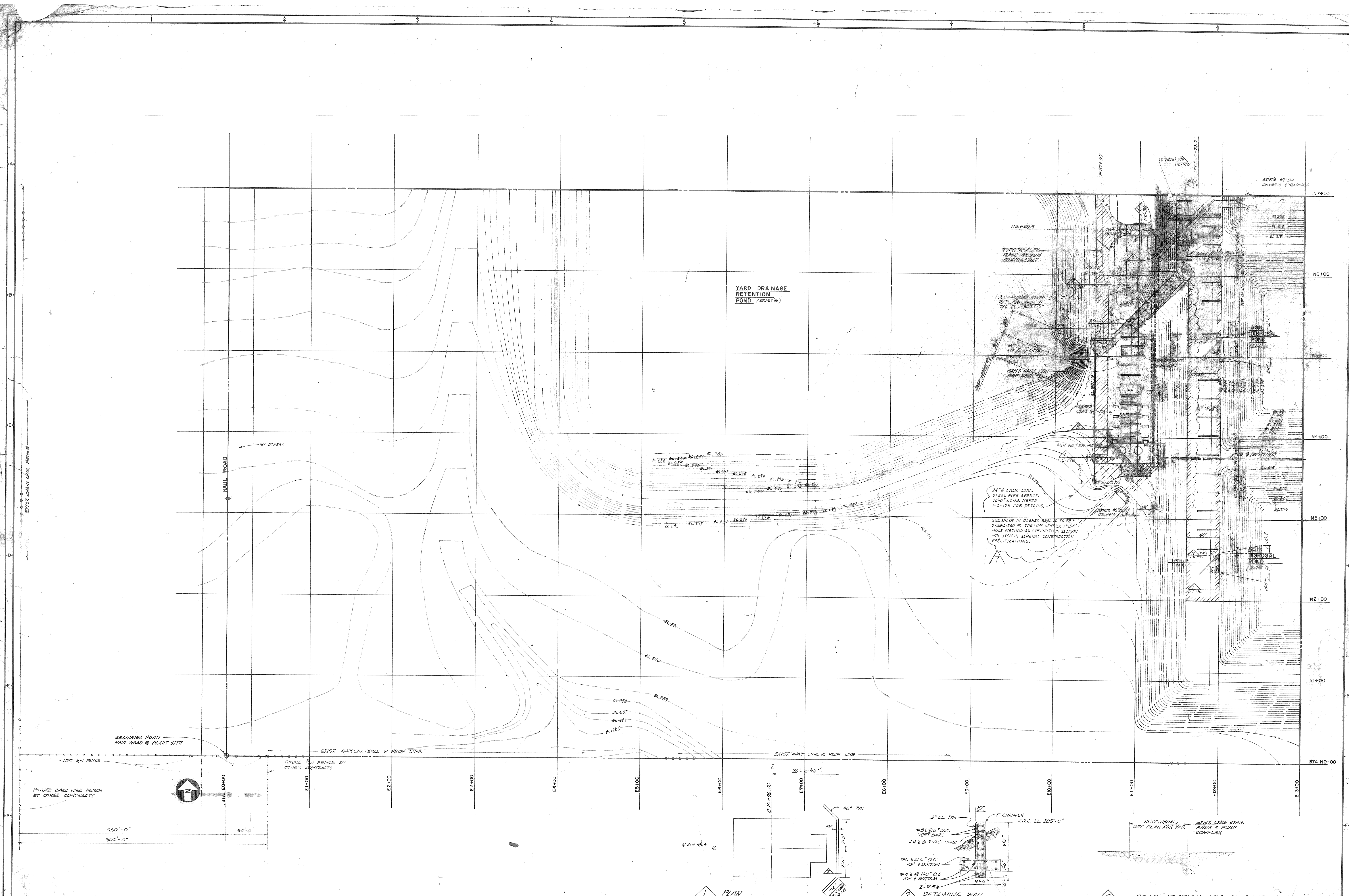
JOB NO.	REV.
SMI-406	4
DRAWING NUMBER	
I-C-41	

CONTRACTOR SHOULD OBTAIN THE GENERAL MECHANICAL AND ELECTRICAL CONSTRUCTION DRAWINGS AND ALL PERTINENT EQUIPMENT MANUFACTURER'S DRAWINGS TO DETERMINE THE EXISTENCE AND LOCATION OF EXISTING CHABLES, PIPE, PIPERUNING, CONDUIT, PENETRATIONS, BLOCKHOLETS, DRAINS, ETC. AS ARE REQUIRED TO BE INSTALLED UNDER OTHER PORTIONS OF THIS CONTRACT.

T&G 1981

Site Plan Section No. 4, San Miguel Plant Unit No. 1, Drawing No. 1-C-33, Rev. 7, Tippet & Gee, Inc., April 1, 1977, revised May 13, 1981.

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Austin, Texas 78701
(512) 459-4700



NOTES

1. THIS CONTRACTOR TO FURNISH & INSTALL 12" DIPSAP ALONG SLOPE AROUND CONC. PUMP SUPPORT STRUCT. AS SHOWN. RIPRAP SHALL EXTEND FULL HT. OF SLOPE ELEV. 300' TO ELEV. 300'.
2. EXISTING CONC. FOUNDATION TO BE REMOVED TO TOP OF PIERS, ELEV. 299'0"

REV.	DATE	BY	DESCRIPTION	REV.	DATE	BY	DESCRIPTION
1	10-18-77	JLE	REVISED PER ADDENDUM NO. 1	1	10-18-77	JLE	REVISED PER ADDENDUM NO. 1
2	12-15-77	JLE	REVISED PER ADDENDUM NO. 2	2	12-15-77	JLE	REVISED PER ADDENDUM NO. 2
3	1-16-78	JLE	REVISED PER ADDENDUM NO. 3	3	1-16-78	JLE	REVISED PER ADDENDUM NO. 3
4	2-15-78	JLE	REVISED PER ADDENDUM NO. 4	4	2-15-78	JLE	REVISED PER ADDENDUM NO. 4
5	3-15-78	JLE	REVISED PER ADDENDUM NO. 5	5	3-15-78	JLE	REVISED PER ADDENDUM NO. 5
6	4-15-78	JLE	REVISED PER ADDENDUM NO. 6	6	4-15-78	JLE	REVISED PER ADDENDUM NO. 6
7	5-15-78	JLE	REVISED PER ADDENDUM NO. 7	7	5-15-78	JLE	REVISED PER ADDENDUM NO. 7
8	6-15-78	JLE	REVISED PER ADDENDUM NO. 8	8	6-15-78	JLE	REVISED PER ADDENDUM NO. 8
9	7-15-78	JLE	REVISED PER ADDENDUM NO. 9	9	7-15-78	JLE	REVISED PER ADDENDUM NO. 9
10	8-15-78	JLE	REVISED PER ADDENDUM NO. 10	10	8-15-78	JLE	REVISED PER ADDENDUM NO. 10
11	9-15-78	JLE	REVISED PER ADDENDUM NO. 11	11	9-15-78	JLE	REVISED PER ADDENDUM NO. 11
12	10-15-78	JLE	REVISED PER ADDENDUM NO. 12	12	10-15-78	JLE	REVISED PER ADDENDUM NO. 12
13	11-15-78	JLE	REVISED PER ADDENDUM NO. 13	13	11-15-78	JLE	REVISED PER ADDENDUM NO. 13
14	12-15-78	JLE	REVISED PER ADDENDUM NO. 14	14	12-15-78	JLE	REVISED PER ADDENDUM NO. 14
15	1-15-79	JLE	REVISED PER ADDENDUM NO. 15	15	1-15-79	JLE	REVISED PER ADDENDUM NO. 15
16	2-15-79	JLE	REVISED PER ADDENDUM NO. 16	16	2-15-79	JLE	REVISED PER ADDENDUM NO. 16
17	3-15-79	JLE	REVISED PER ADDENDUM NO. 17	17	3-15-79	JLE	REVISED PER ADDENDUM NO. 17
18	4-15-79	JLE	REVISED PER ADDENDUM NO. 18	18	4-15-79	JLE	REVISED PER ADDENDUM NO. 18
19	5-15-79	JLE	REVISED PER ADDENDUM NO. 19	19	5-15-79	JLE	REVISED PER ADDENDUM NO. 19
20	6-15-79	JLE	REVISED PER ADDENDUM NO. 20	20	6-15-79	JLE	REVISED PER ADDENDUM NO. 20
21	7-15-79	JLE	REVISED PER ADDENDUM NO. 21	21	7-15-79	JLE	REVISED PER ADDENDUM NO. 21
22	8-15-79	JLE	REVISED PER ADDENDUM NO. 22	22	8-15-79	JLE	REVISED PER ADDENDUM NO. 22
23	9-15-79	JLE	REVISED PER ADDENDUM NO. 23	23	9-15-79	JLE	REVISED PER ADDENDUM NO. 23
24	10-15-79	JLE	REVISED PER ADDENDUM NO. 24	24	10-15-79	JLE	REVISED PER ADDENDUM NO. 24
25	11-15-79	JLE	REVISED PER ADDENDUM NO. 25	25	11-15-79	JLE	REVISED PER ADDENDUM NO. 25
26	12-15-79	JLE	REVISED PER ADDENDUM NO. 26	26	12-15-79	JLE	REVISED PER ADDENDUM NO. 26
27	1-15-80	JLE	REVISED PER ADDENDUM NO. 27	27	1-15-80	JLE	REVISED PER ADDENDUM NO. 27
28	2-15-80	JLE	REVISED PER ADDENDUM NO. 28	28	2-15-80	JLE	REVISED PER ADDENDUM NO. 28
29	3-15-80	JLE	REVISED PER ADDENDUM NO. 29	29	3-15-80	JLE	REVISED PER ADDENDUM NO. 29
30	4-15-80	JLE	REVISED PER ADDENDUM NO. 30	30	4-15-80	JLE	REVISED PER ADDENDUM NO. 30

SCALE: 1" = 40'

DATE: 6-1-77

CHECKED: C.A.D.

APPROVED: M.L.H.G.H.

M.L. HUGHES
25524

WILLIAM G. HOLLOWAY
15137

CHARLES A. DOBY
37993

TIPPETT & GEE, INC.
CONSULTING ENGINEERS
ABILENE TEXAS

SAN MIGUEL PLANT
UNIT NO. 1
B.E.P.C. S.T.E.C.

SITE PLAN
SECTION NO. 4

JOB NO. SMI-406
REV. 7
DRAWING NUMBER I-C-33