

CCR Surface Impoundment History of Construction Documentation

San Miguel Electric Cooperative, Inc.

Atascosa County, Texas

October 14, 2016

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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.

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- (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.

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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 Tippett & 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&G1987, 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.
- <u>Monitoring Instrumentation</u>: 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).
- <u>Inspection Records</u>: 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.
- <u>Maintenance and Repair</u>: 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.

2.12 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 Tippett & 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. Letter to Professional Service Industries, Inc. Re: General San Miguel 1987a 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., Tippett & 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., Tippett & Gee Inc., October 26, 1983.

ERM

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.

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

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



Environmental Resources Management

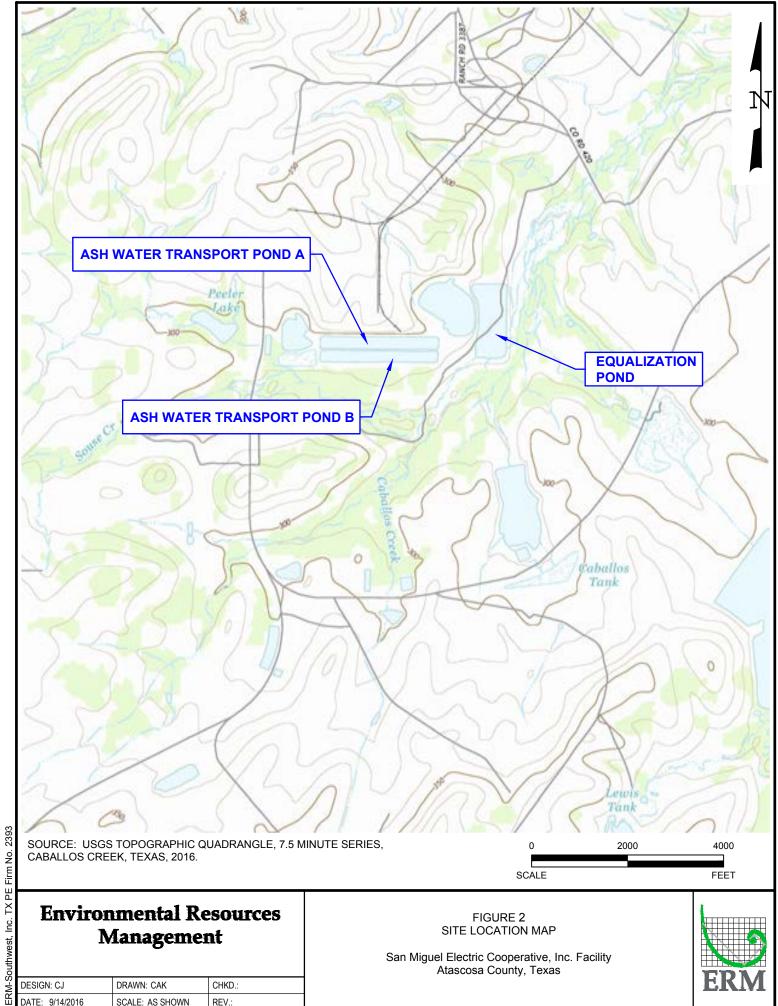
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FIGURE 1
SITE PLAN
CCR Closure and Post Closure Plan
San Miguel Electric Cooperative, Inc. Facility
Atascosa County, Texas





Environmental Resources Management

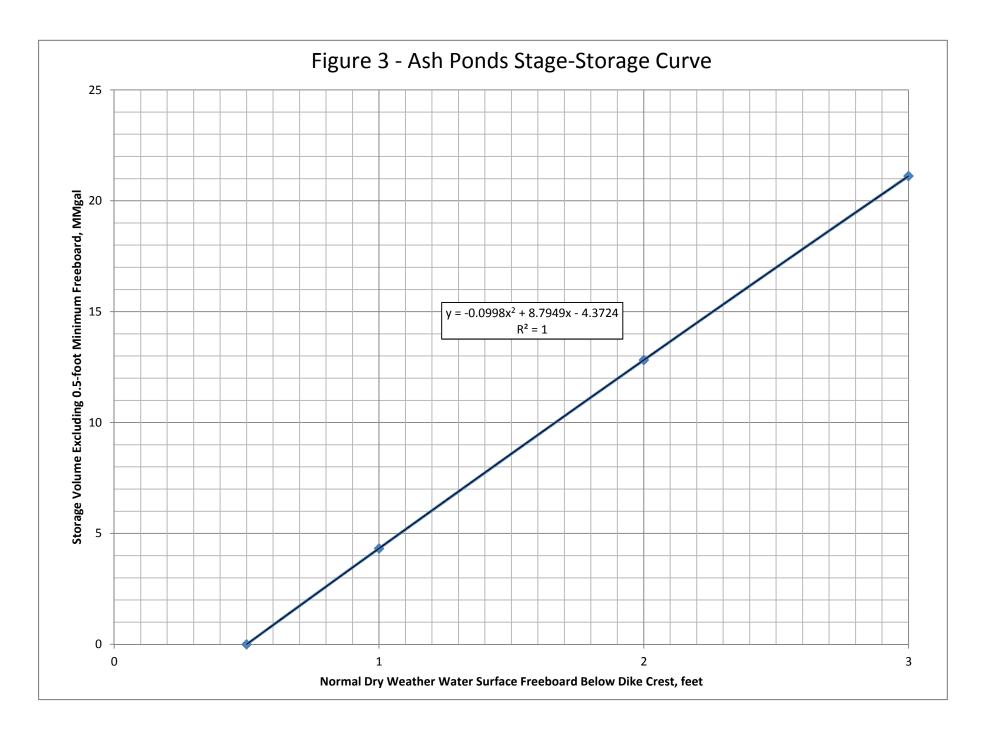
SITE LOCATION MAP

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

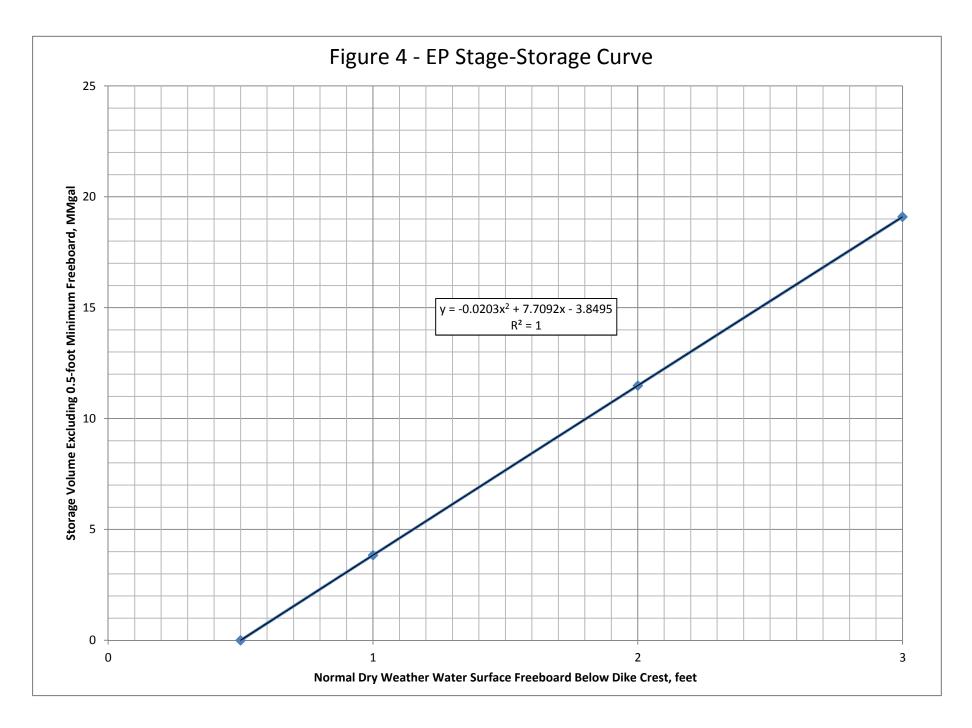
FIGURE 2



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Environmental Resources Management 0303548\A8326



Environmental Resources Management 0303548\A8326

Appendix A

October 2016 Project No. 0303548

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

SAN MIGUEL REFERENCE DOCUMENTS

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.

(변화 : 사진 전) 우리 (경기의 14표명 (1881) (1821) (G

10. CONSULTING ENGINEERS 214 JUD-9211 IF D. BOX 24598 4007 SHILLING WAY DALLAS, TEXAS 75224

> 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 Pand, Water Well Storage Pand, and Ash Disposal Pands at the 5an 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 pands 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,

NES/NATIONAL SOIL SERVICES, INC.

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

PLC/jb Encl.

Table 1

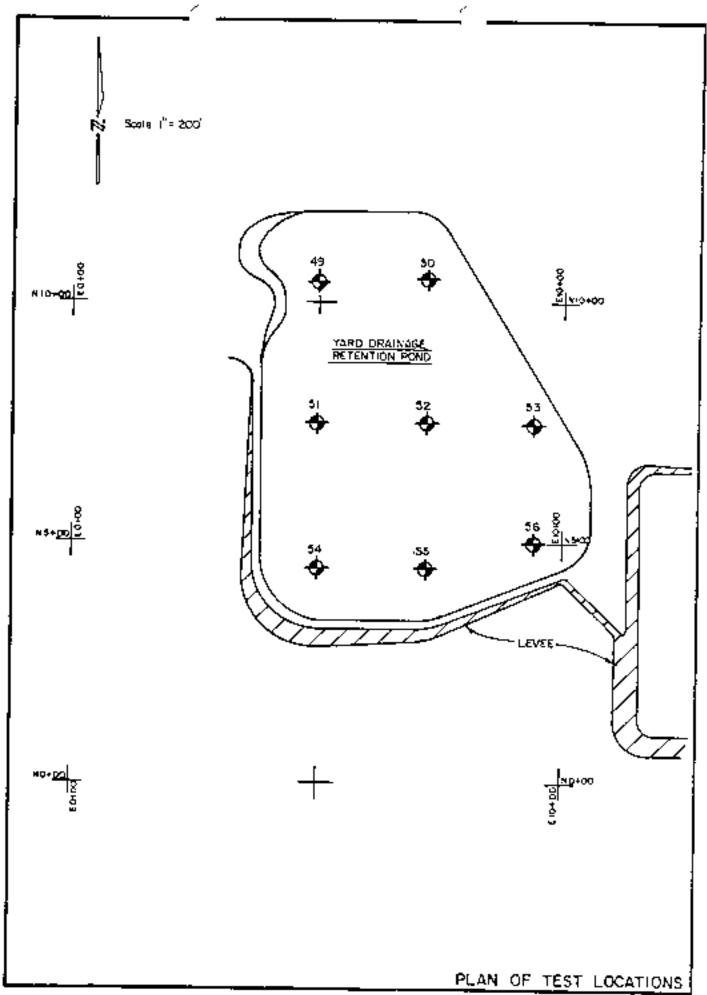
SUMMARY OF RESULTS YARD DRAINAGE REFENTION POND

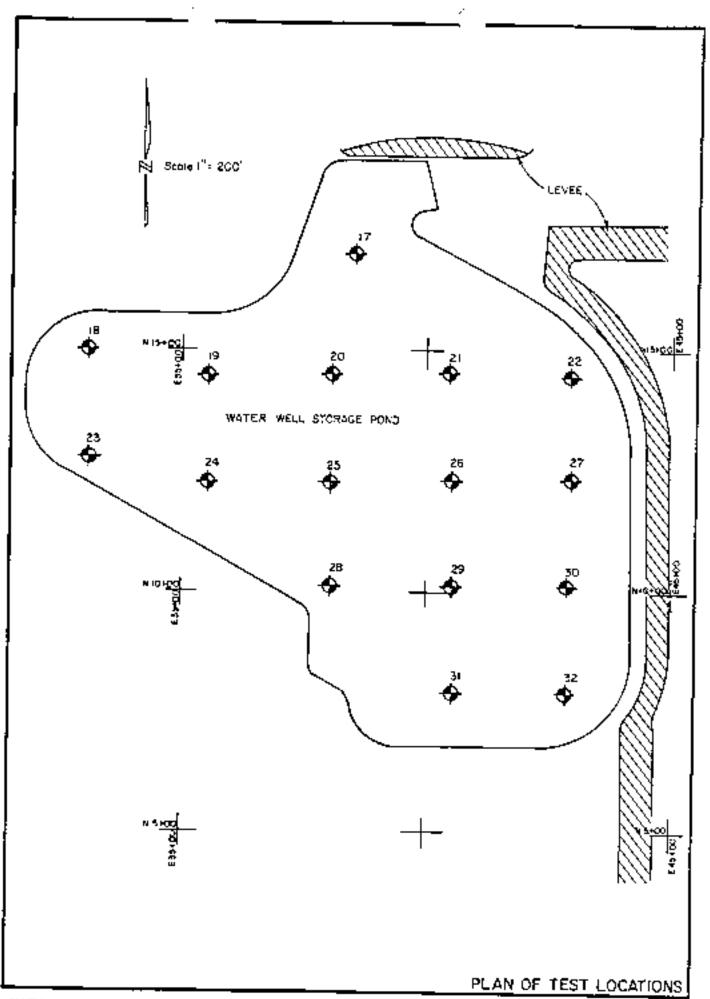
اج و	,					(
Passing No. 200 Sieve	18.9	33,5	39.7	20,8	35.8	33.6	55.3	43.2	37.9
Plasticity Index	Non-plastic	12.0	19,4	0.8 (N.P.)	6.6	25.4	27.3	35.2	21,3
Plastic Limit		25.4	18.2	27.6	25.3	15.2	22.1	18.4	21.6
<u>Liguid Limit</u>	1	37.4	37.6	28.4	31.9	40,6	49.4	53.6	42.9
Description	Gray silty sand, w/ben- tonite	Ton alayey sand, w/calcare- ous crystals and bentanite	Brown and fan clayey sand, w/calcareous crystals and bentanita	Grayish-ton silfy sond w/bentonite	Grayish-tan clayey sand, w/bentonite	Brown and Ion clayey sand, w/bentonite	Brown sandy clay, w/calcare- ous crystals and bentonite	Tan clayey sand, w/calcare- ous crystals and bentonite	Tan alayey sand, w/catare- ous crystals and bentonite
Sample Elevation	283.5 - 284.5	283.5 - 284.5	263.5 - 284.5	284.0 - 285.0	283.5 - 284,5	283.5 - 284.5	286.5 - 287.5	286,5 - 287,5	!
Field Test No.	64	e	.	_	v	v	7	æ	ro Sample 5, 6, and 8)
Test No.	92	55	54	53	52	51	50	49	Composite Sample (Nos. 3,4,5,6, and 8)

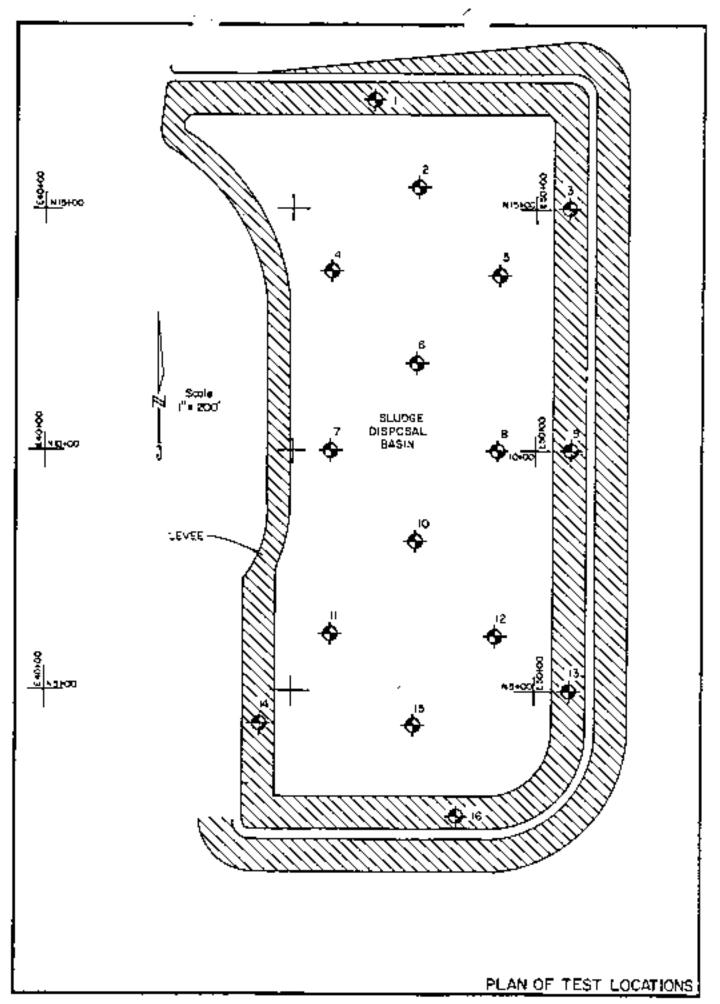
SUMMARY OF RESULTS YARD DRAINAGE REFENTION POND

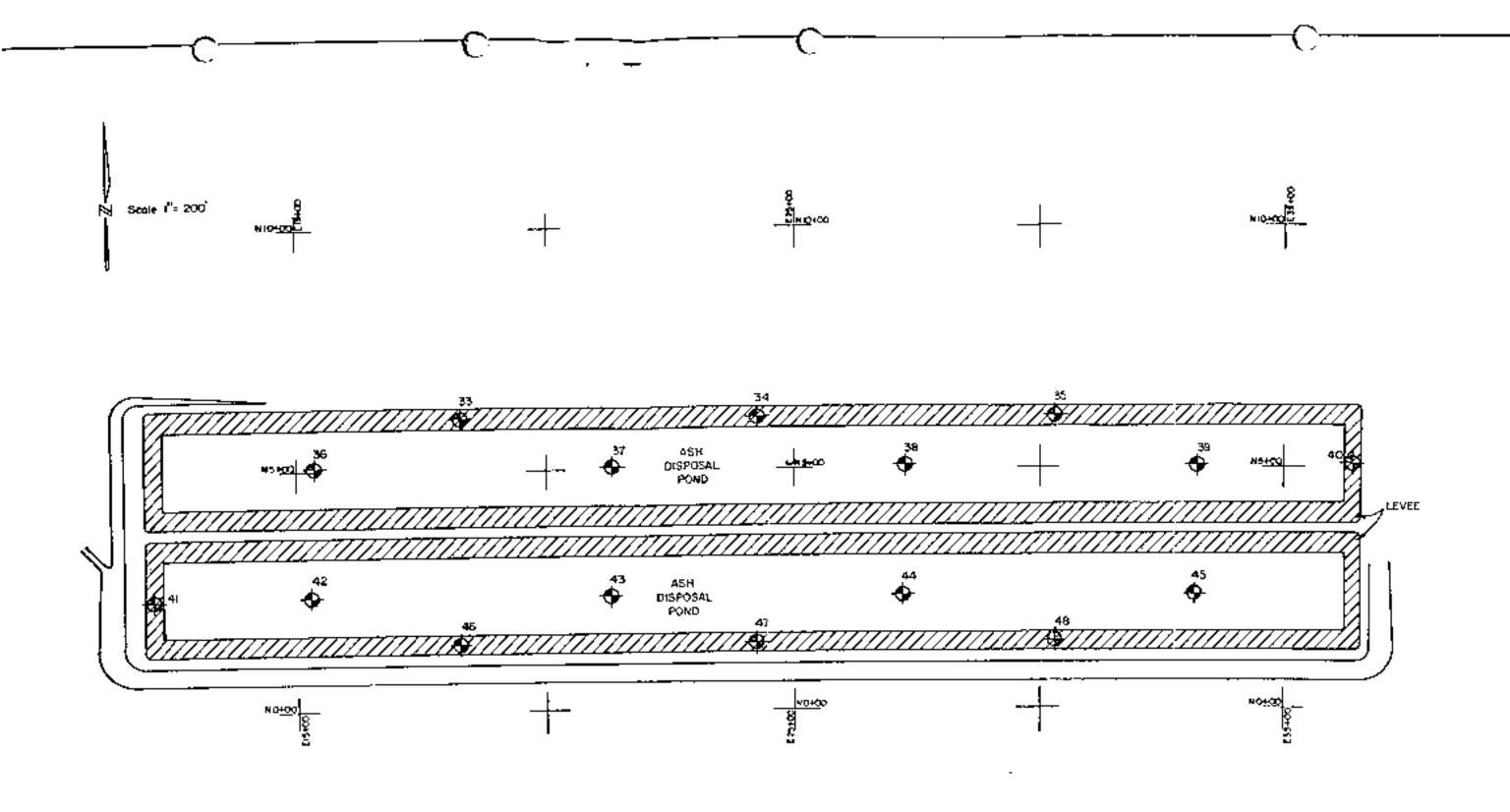
	Swell	(%)	00.0	0,00		00.00	0.00	0,0	1.63	2.72
	After	Test Moisture	21.6	27.2	22.9	22.8	22,8	23.5	29.2	27.2
	k Value	11/yr	1.78×10^{-1}	2,38	2.48×10^{-2}	4.93×10^{-1}	3.76×10^{-2}	2.02×10^{-2}	9.31×10^{-3}	4.63×10^{-3}
		fi/day	4.87 × 10 ⁻⁴	6.98×10^{-3}	6.79×10^{-5}	$1,35 \times 10^{-3}$	1.03×10^{-4}	5.54×10^{-5}	2.55×10^{-5}	$1,27\times10^{-5}$
		cuy/sec	1.72×10^{-7}	2.29×10^{-6}	2.39×10^{-8}	4.77 × 10 ⁻⁷	3.63×10^{-8}	1.95×10^{-8}	6-00 × 10-6	4.47×10^{-9}
neohiliy	Molded Density	(38)	94.3	94.3	98,3	95.3	47.6	8,89	96.2	95.3
Remold Permed	Moximum Day	Density pof	9.101	102.8	102.8	101.6	102.8	102.8	95.5	102.8
	Molifing	Moisture	20.1	19.8	20.5	21,4	20,0	20.4	23.7	1.12
	Optimum	Moisture	21.5	21.2	21.2	21.5	21.2	21,2	24.1	21.2
	Field	Iest No.	2	en	4	-	Þ	ν'n	7	eg
	Lest	۶¦	56	\$5	Ŋ	53	52	15	8	49

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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.

NAS / NATIONAL SOIL SERVICES, INC. CONSULTING ENGINEERS

CONSULTING ENGINEERS
214 330-9211
P O. 80X 24586
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. Wohlschlegel General Monager

SAN MIGUEL STEAM ELECTRIC STATION GROUNDWATER PROTECTION

Gentlemen:

In accordance with our discussion of August 29, 1978, we are submitting a ravised plan to obtain the nacessary geotechnical data for certifying the pands at the San Miquel Plant site.

HISTORY

The water well starage pand, the ash disposal pands, and the yard drainage retention pands were designed based on data abtained in our foundation investigation for the plant island. This information was contained in two valumes; 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 baring plan, tagether with the location of the facilities, is shown on Plate 1. From the baring data and results of laboratory testing, a set of generalized soils profiles was developed for these pand areas. The profiles are shown on Plates 2 through 5.

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

STATE CERTIFICATION

A post-construction investigation to verify the compliance of these pands 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 barings are shown on Plates 6 through 9. These barings were to have been five feet below the existing pand battom. Additional depth was not required due to the optimum soil conditions. Samples obtained from these barings 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, an 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 lacations comprise the southeast quadrant of the yord 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 alay blanket over the southeast quadrant of the pand. Shortly thereafter, a three-foot blanket of dark gray clay was placed in the southeast quadrant. These alays 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 pand filled, but have also resulted in significant water accomulations in the other pands. 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 pand could be dried sufficiently for access without great difficulty to complete the pand floor borings.

Accordingly, we recommend that the State be contacted concerning an alternate procedure for verification of these pands. 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 pands as shown on Plate 1. These borings, tagether with the borings proviously drilled in the area would basically agree in number with those recommended by the referenced technical guidalines. 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 possing the No. 200 sieve, and liquid and plastic limits. information from these new barings 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 pand floor barings . This conclusion is bosed on the fact that, with the exception of the yord drainage retention pand, profiles around and through the pand areas and additional barings in the plant site. have indicated satisfactory soil conditions at the remaining pands.

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

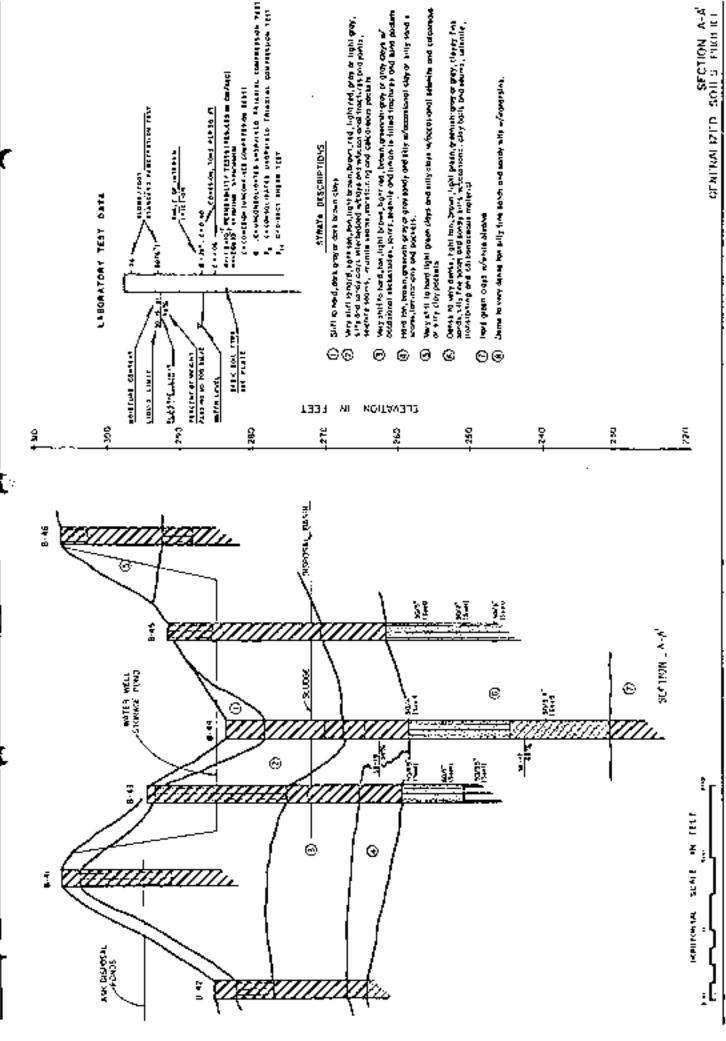
PLC/gt

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

Copies submitted: 5 ec: Mr. Ron Megel

Mr. Dub Matthews

ILLUSTRATIONS

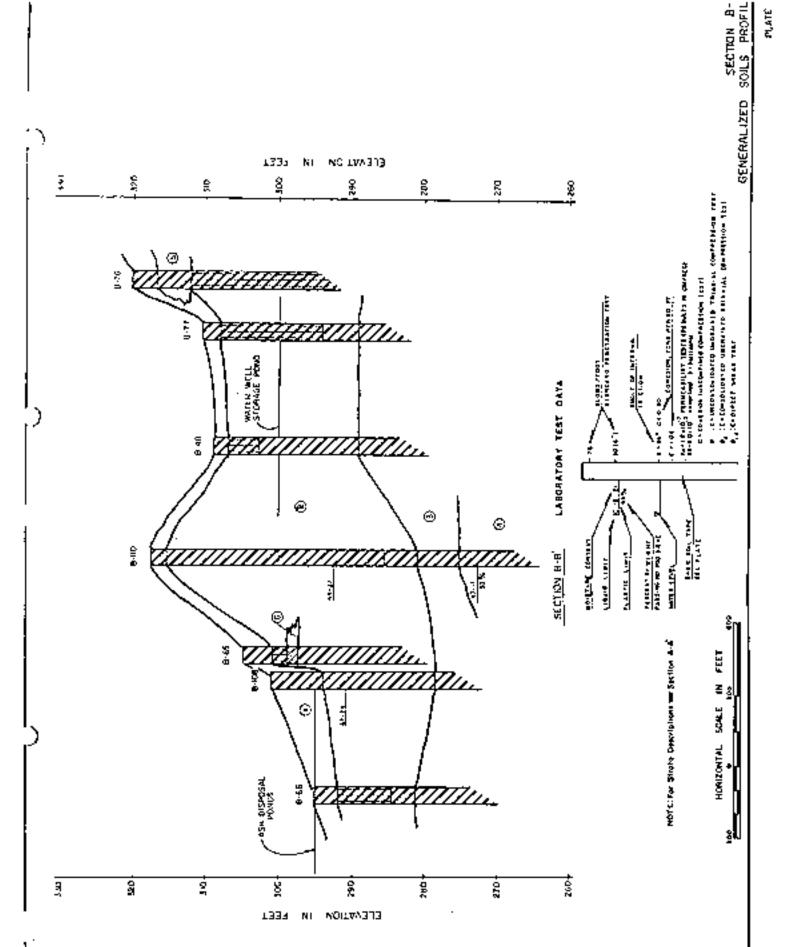


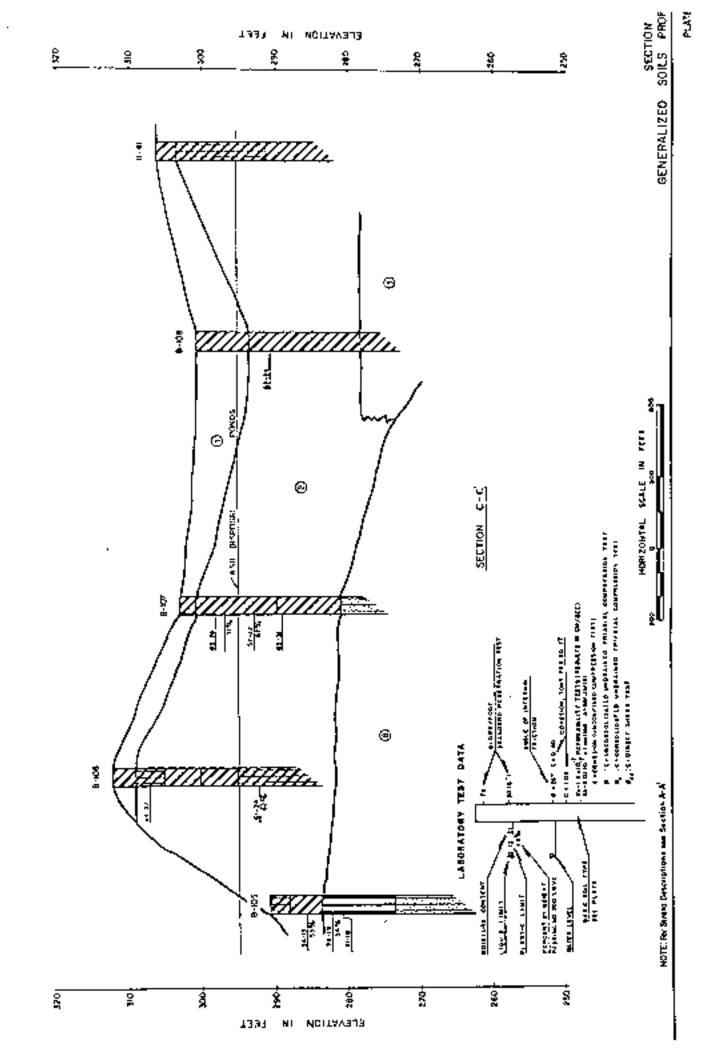
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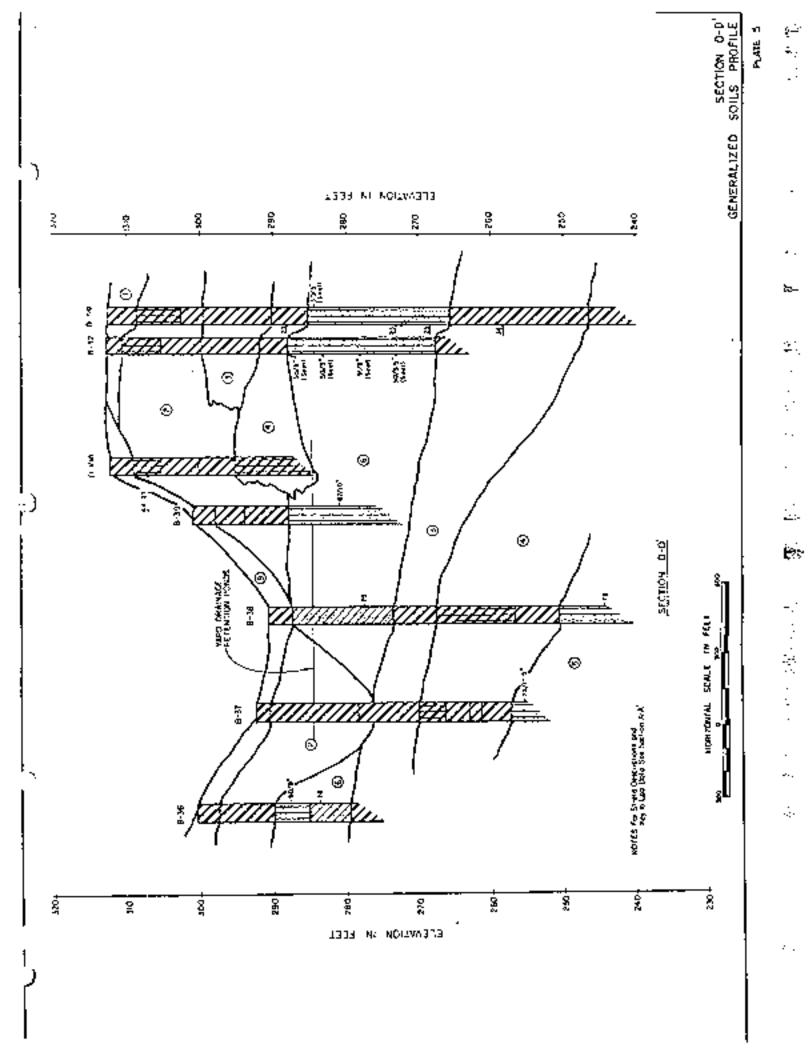
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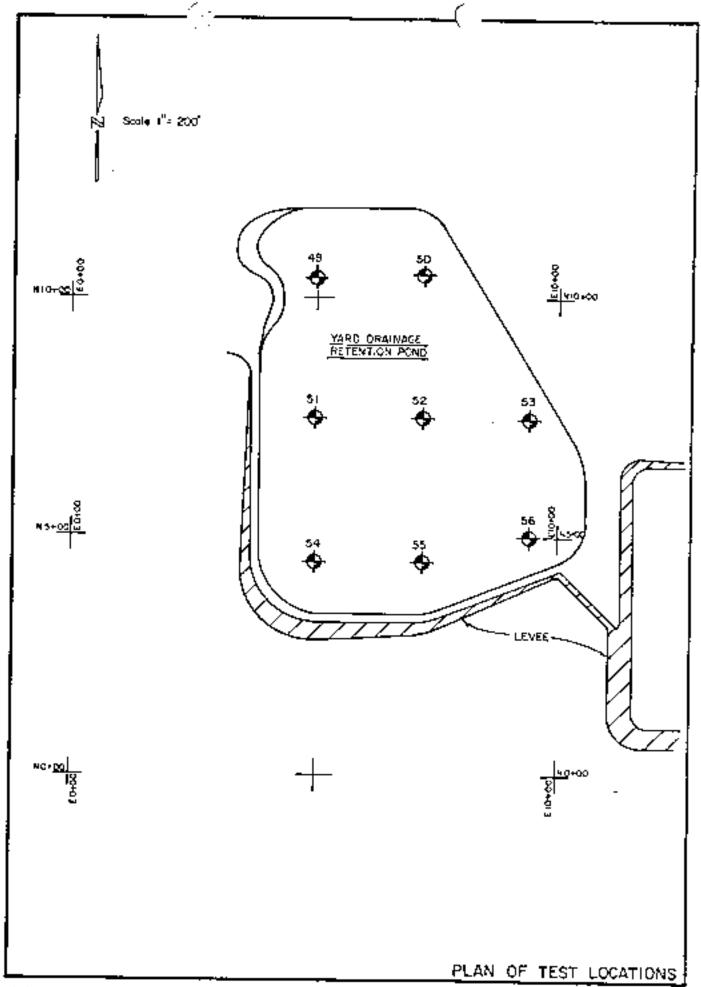


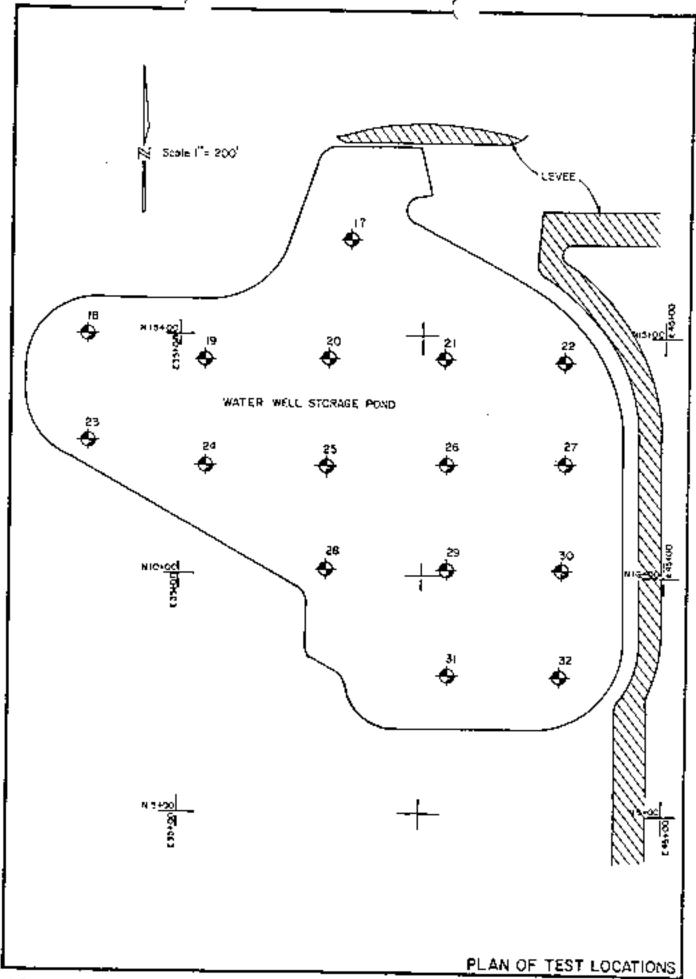


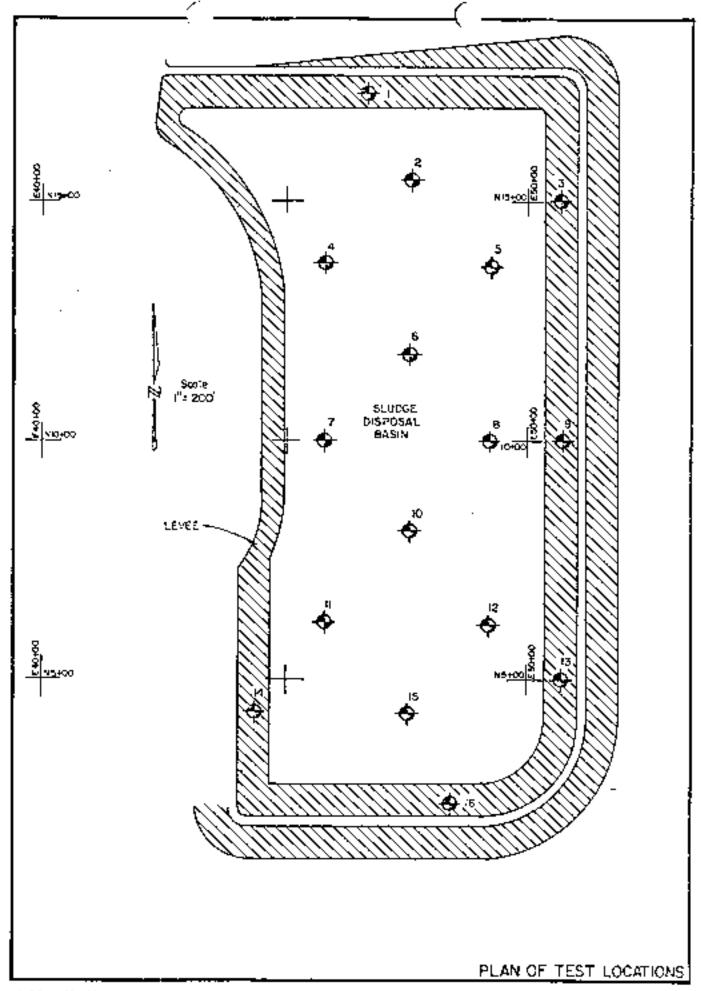
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PLAN OF TEST LOCATIONS

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Table 1

SUMMARY OF RESULTS YARD DRAINAGE REFENTION POND

Test No.	Field Test No.	Sample	Dascription	Liquid Limij	Plastic Limit	Plasticity Index	Passing No. 200 Sieve
26	2	283.5 ~ 284.5	Gray silly sand, w/ben- tonite		1	Non-plastic	18.9
55	ო	283.5 - 284.5	Ian clayay sand, w/calcare- ous crystols and bentonite	37.4	25.4	12.0	33.5
72	ঘ	283,5 - 284,5	Brown and fan clayay sand, w/calcareous crystals and bentonite	37.6	18.2	19.4	39.7
53	-	284,0 - 285,0	Grayish-ton silty sand w/bentonite	28.4	27.6	0.8 (N.P.)	20.8
52	٧	283.5 - 284.5	Grayish-tan clayey sand, w/bentonite	31.9	25.3	6,6	35.8
S	•	283.5 - 284.5	Brown and tan clayey sand, w/bantonita	40.6	15.2	25.4	33.8
50	7	286,5 - 287,5	Brown sandy clay, w/calcare- ous arysials and bentonite	49.4	22.1	27,3	55,3
49	æ	286.5 - 287,5	Ton clayey sand, w/calcare- ous crystals and bentanite	53.6	18.4	35.2	43.2
Composite Sample (Nos. 3,4,5,6, and 8)	a Sample 5,6, and 8)		Tan clayey sand, w/colcare- ous crystals and bentonite	42.9	21,6	21.3	37.9

Tunie 2

SUMMARY OF RESULTS YARD DRAINAGE RETENTION POND

:	(%)	0.00	0.00	(;	00,00	0.0	8.	1.63	2,72
	Alter Test Maisture	21.6	27.2	22.9	22.8	22.8	23.5	29.2	27,2
	ft/yr	1.78×10^{-1}	2.36	2.48×10^{-2}	4.93×10^{-1}	$3,76\times10^{-2}$	2.02×10^{-2}	9.31×10^{-3}	4.63×10^{-3}
:	k Value II/kloy	4.87×10^{-4}	6.98×10^{-3}	6.79×10^{-5}	$1,35 \times 10^{-3}$	1.03 × 10 ⁻⁴	5.54×10^{-5}	2.55×10^{-5}	1.27×10^{-5}
	cm/sec	1.72×10^{-7}	2,29 × 10 ⁻⁶	2.39×10^{-8}	4.77×10^{-7}	3.63×10^{-8}	1,95 × 10°B	9,00 × 10 ⁻⁹	4.47×10^{-9}
Remodd Permeability	Molded Density (%)	94.3	94,3	98.3	95.3	97.6	9.5.B	96.2	95.3
Remote Pe	Maximum Dry Density pof	101.6	102,8	102.8	9.101	102.8	102,8	95.5	102.8
:	Molding	20,1	19.6	20,5	21.4	20.0	20.4	23.7	21,1
:	Optimum	21.5	21.2	21.2	21.5	21.2	21.2	24.1	21,2
:	Test No.	2	e	ਢ	-	٠0	٧n	7	ස
	S 3	99	55	2	5	25	25	\$	49

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.

206 East 9th Street, Suite 1700 Austin, Texas 78701 (512) 459-4700 NES / MATIONAL SOIL SERVICES, INC. CONSULTING ENGINEERS

SAN WITHER FREE THE CONTROL OF THE C

214 330-9211 P. O. BOX 24596 4087 SHILLING WAY DALLAS, TEXAS 75224 February 9, 1979

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

Gentlement

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 pands and not recommending that the pands be certified. However, if in fact he has recommended certifying the pands, 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,

NES/NATIONAL SOIL SERVICES, INC.

TAR/lcr

cc: Mr. Pierce Chandler

RECEIVED

FEB 12 1979

S. M. E. C., INC. JULISOANTON, 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.



NFS / MATIONAL SOIL SERVICES, INC. CONSULTING ENGINEERS

CONSULTING ENGINEER

214 330-9211

P. O. BOX 24596

4087 SHILLING WAY

DALLAS, TEXAS 75224

Morch 19, 1979 Job No. 75285-13

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

Attention: Mr. Emest 1. 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. Ray 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 pand - it was noted during the original certification program that the southaust quadrant of the yord drainage retention pand contained sail 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 Sail 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 blanker, excessive rainfall resulted in approximately three feet of water over the blanker. Continued excessive amounts of rainfall throughout the summer, fall, and winter have continued. to keep the yord 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 most the permen ability requirements of 1 x 10" 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.

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 maderate to high plasticity. (Unified Soil Classification – CL and/or CH) These embankments were constructed by placing the clay materials in loosa 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 maisture content ranging from ane-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 x 10⁻⁷ cm/sac, and it can be concluded that comparable or lower permeabilities would be developed by rewarking 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,

NF\$/NATIONAL SOIL SERVICES, INC.

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

PLC/nf

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

TippeH and Gae Mr. M. L. Hughes NFS 1984 Study of Ash Pond Leakage, San Miguel Electric Station, Report No. D-75285-13A, to Tippett & Gee Inc., Gary G. LaFrance, P.E., from

Ralph F. Reuss, P.E., NFS Services, Inc., January 20, 1984.

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

Report to

TIPPETT & GEE, INC. Consulting Engineers Abilene, Texas

Βу

NFS SERVICES, INC. Consulting Engineers Dailos, Texas

January, 1984

JAN 2 5 1984

TIFICLE



P.O. 80X 24996 DALLAS, TEXAS 75424 Elet 3P 12743 WAT PAUD 9/11/07 (417) 330 9953-Fe ecolo-1

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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 Abilene, 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 abovereferenced 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 pand (pand "A") from the south pond (pand "B"). Construction of the ash disposal pands started in July, 1977, and was campleted in May, 1978.

In early June of 1978, extremely heavy rainfall associated with a tropical starm was experienced throughout South Texas. A substantial amount of water accumulated in both ash disposal pands as a result of this storm, with the pands 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 pand "A" were apparently leaking contents. TDWR requested that the reason for the pand 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 pands, 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 TOWR. Samples of surface water were analyzed for evidence of contamination with the following results:

<u>Date</u>	Sampling Point	<u>рН</u>	Specific Canductance (umhas/cm)	Sulfate (ppm)	Chloride (ppm)
10/15/83	Α	7.45	4,700	1,964	749
	8	8.3	5,400	2,357	760
	С	7.5	8,600	5,108	737
		7.4	6,800	2,750	760
	Ē	7.4	4,700	2,200	647
	0 E F	7.4	6,200	2,652	1,010
	Ğ	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
	8	8.1	1,800	668	33
	С	8.4	7,000	12,573	1,953
	D	7.5	8,000	2,947	835
	£	8.0	7,000	2,357	391
	E E	7700000	Not Tested		47.1
	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. LoFrance

San Miguel Electric Cooperative, Inc.

Mr. Robert Cmief

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 Son 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 rish disposal pands, as well as the other plant site pands. The initial certification plan for the ash disposal pands was developed in November, 1977 and was based on drilling ten barings in the pand bottom (five in each pand) to a depth of five feet below the pand bottom. In addition, eight barings were to be drilled along the embankment crest of the dikes. Samples obtained from these barings 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 TOWR recommended certification of the plant site pands, including the ash disposal pands, based on a field inspection performed by TOWR prior to January 30, 1979. Final certification of the pands, including the ash disposal pands, by TOWR was based in part on representations made by NFS as to the construction of the pands as autlined 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 pands are represented by the logs of barings 8-35, 8-39, 8-41, 8-42, 8-60, 8-65, 8-66, 8-105, 8-106, 8-107, and 8-108. Locations of the barings are shown on Plate I, with the logs of the referenced barings being presented on Plates 3 through 15. Logs of these barings are also illustrated in graphical form on Sections A-A', 8-B', C-C', and O-D' of the Generalized Soils Profiles, Plates 16 through 19.

In general, the preconstruction subsurface sail 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. Piezametric data developed during the geotechnical investigation for the plant site indicated the existence of a very deep groundwater table at about Elev 268 ar 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 law 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 law 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 slape 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 slapes 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 pand bottoms. Above-ground partions 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 pands. 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 aptimum 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 pand leakage, identified as areas "A" through "G" and shown on Plate 2, were observed by NFS personnel during the November 9, 1983 site inspection. Bosed 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 pand 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 pand "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 pands would have a permeability of less than 1 x 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 abserved 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 teakage problem essentially involves lateral movement of pond fluid through localized discontinuities.

Recommended remedial work to control the pand 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 pands. 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 pand "B". If further assessment of the "B" area during a dry period confirms the likelihood of pand 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,

NES SERVICES, INC.

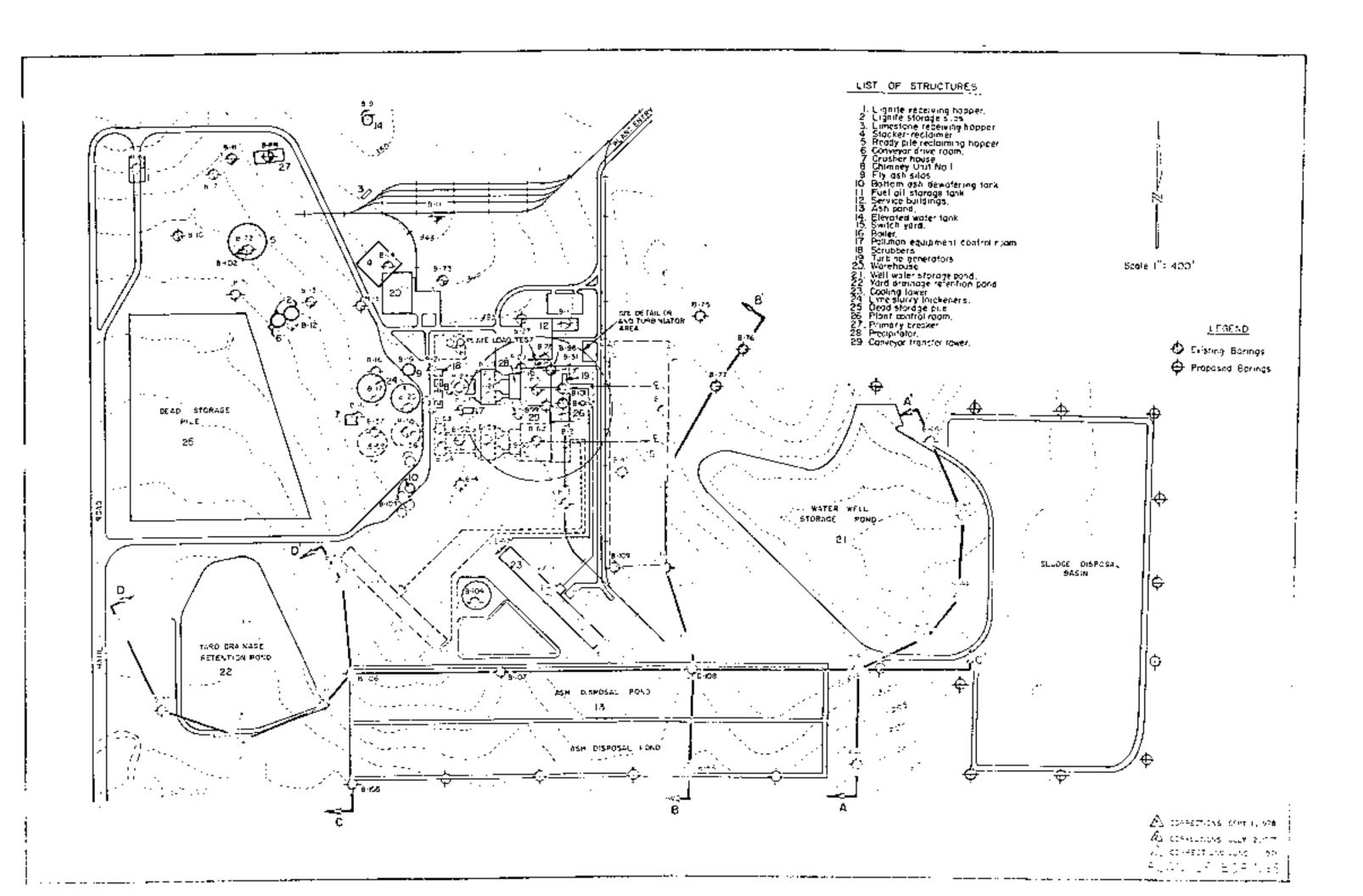
Gory G. EdFrance, P. E. Manager of Engineering

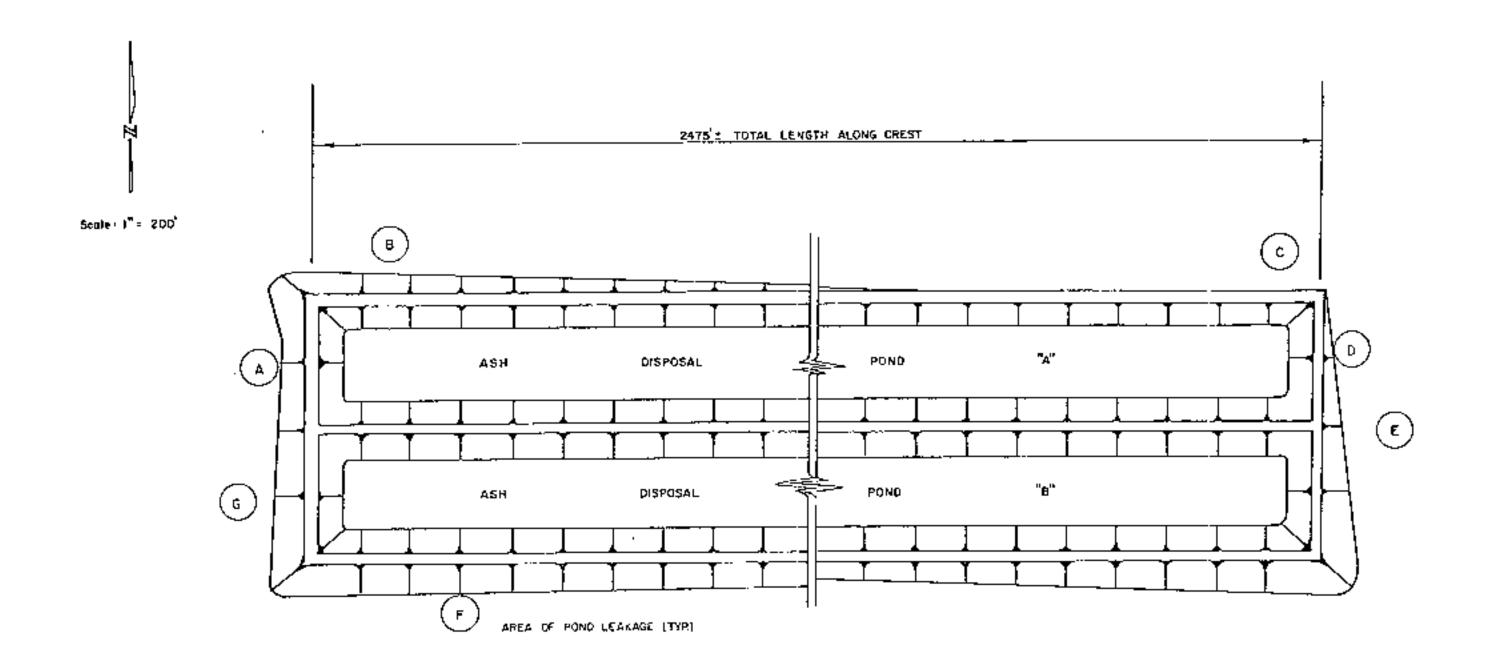
Ralph J. Reum /GC Rolph F. Reuss, P. E.

President

GGL/RFR//cri

Copies submitted: 3





LOG OF BORING NO. 8-SES-35 GAT COOPERATIVE PROJECT PLEASANTON, TEXAS TYPE SORING! Undisturbed Semole LOCATION; See Plan of Agrican SHEAR STRENGTH OEPTH, FT. SYMBOL IN TONS/SO,FT. STATE OF THE STATE SOIL GESCRIPTION BLOWS ELEVATION: 314.0 Ford prown clay (CH) Hara light ton silty clay w/coispreaus packets here serves tenetiassocies 4144441144 <u> СЦ - С</u>Н1 Hara light gray sendy clay w/isan steins 55 15 :CD hard light reddiun-prown c'ay w/occasional silty clay seams w/limanite (aminarions <u>-wifeleene oocken</u> <u>/(Ç</u>H) Hard light red and light gray citry clay which laminations, relented laming-sales w/roms sand 171|||||||| great His ICLI hard light prawnish-ton clay -/telenite seams - jaintea 111 ŞΦ :::IIII::HI ·C41 Hard fan tandy alay wykarachaceaus specks -20% ew/iron arolles 4.00 (CL) hery dense green to to how wind. **\$02**| 5° ₩01 Ti. 27 SQ 5 (Continues) Contact on a constitution of the contact of the con

	LOG OF BORING G&T COOPERAT PLEASANTOR	TIVE PROJECT
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	Tara gray sandy cray, w/4.0° silty sand ream at 64.5° ww/numeraus clay leminations (CL) hara grayinhorama gray, w/numeraus	
	iona neckets, shehaiy alice ensided (CH)	

	G &	I COOPERATIVE PROJ LEASANTON, TEXAS			<u>.</u>
SYMBOL MASSAMPLES	SOIL DESCRIPTION ELEVATION: 301,0	LOCATION: SA	MOROSSWG MOWS PER FT BLOWS PER FT	PLASTIC P	SMEAR STRENGTM AND LINE LINE LINE LINE LINE LINE LINE LINE
	Maid dark brown sandy alay Mard light brownish-ma alay, jointed	(cu			
	Nord redains-brown sandy clay, wydocasional limphite packets	. <u>IC</u> 41		<u> </u>	
	Very dense light gray and light brawn tilry fine sand, wylight brawn play seams,	œρ			
	Ciayey fine who peoms and accessional selection and accessional		e 7/* D-		
25 -					
45	TION DEPTH, 25.0° 94TE: 15/74				
Brand Jane, 40. (September 198	K* of the				PLATE 5

LOG OF BORING NO. 8-5E5-41 GAT COOPERATIVE PROJECT PLEASANTON, TEXAS TYPE BORING: Undithined Sample LOCATION: See Plan of Springs SHEAR STRENGTH ä SAMPLES SYMBOL IN TONS/SQ.FT. DEPTH, SOIL DESCRIPTION ELEVATION! 306.3 Mard dark brown clay (CP) hard redailsh-han and light gray fally city, whelevite reams and coexess itidaadra**:>1**: :CLi Mara light seddish-brown clays jointed ewziron lominations and selepite seams 1:111::1 20 hwarfly day seams at 20,01 veziron (gwing)rons (CHI 25 Theat Li Τī 30 1:11 35 TÇ. . 11. 45 ١. COMPLETION CEPTH DATE: TOWNER OF THE PROPERTY.

			641	F BORING COOPERATIV LEASANTON	re Proj	ECT	2	_				
上	YPĘ	80	RING: Undisturbed Sample	1004Tion	See Pl	lon of	Sari.	~91				
OCPTH. FT	SYMBOL	SAMPLES	SOIL DESCRIPTION ELEVATION: 285.6				SHSSM4 %		PCASTIC IMIT	MOIST JRE	SMEAR STREAM IN TONS/SOF	UNIT DRY WIT
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	<u>//</u>	J			(CH)			ł		li		!
- 5			Hard light reddisheron and light gray sitty clay, w/numerous alay laminations and seams				-			_		
\vdash	N	₩	Money Colonia	<u> </u>	:641			<u> </u>				
10		7	Hard Eight brownich-top clay, -/arlanite seamt, jointed									
- 15		Ĭ	-tutning slightly shody or 15,01/ecspianal iron ships		IÇH1							
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energy Company	Shibi, F = 6	50 446	. 31/-(t)	·			_	_				

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		(CL)			
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	Hard light red clay w/seignite seams			- -	
	-w/numerous iron famingrions	(CH)			
	Pard light gray ulty clay w/occosional clays y pockers	(ÇL)			
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	/Laleni pockets	(CHı			
	More I get trown sendy clay w/clay pociets and iron trains	· cc			
	Velvicense ugot green (inv fine sand, worde smin)	 	80/3 s		
	-w/accompred real play years/accompred what till leminations before 48'	ļ			
<u></u>			- i-L	\Box	

LOG OF BORING NO. 8-585-60 (Confid.) GAT COOPERATIVE PROJECT PLEASANTON, TEXAS SMEAR STRENGTH BLOWS PER FT SYLEON. M TONS/SQ FT COUP LASTIC DEPTH. SOIL DESCRIPTION 0.021Mand gray elay w/occosional wardy clay pockers to 63" **/occopional sand packets -slightly slickensided (CH) 204 ----iıı: 1 1 1 1 1 1 1 1 1111 Pilari'ni 95 THE 1

CCMPLETION CEPTH

CONTACTOR | MACCAS

2011 - 76 1947 - 7•31 -76

PLATE 9

LOG OF BORING NO. B-SES-65 G&T COOPERATIVE PROJECT PLEASANTON, TEXAS Undisturbed Sample TYPE COMING: LOCATION: See Plan of Borings SHEAR STREAGTH W PASSING LIQUID LIMIT DEPTH , FT. SYMBOL Sandues 3. IN TONS/90, FT. PLASTIC LIVIT HOISTURE CONTENT SOIL DESCRIPTION ELEVATION: 304.4 Hard dark brown glay (CH) Mord light red and light gray silty elay 111. [4] i [115] 5 CD tin tin tiinie. Very dense light grow clayer fine gold (\$C) Hard light reddish-brawn glay Hillia da ii 1 - i i - While clay faminations and packets - pinred ____ -w/limonite teams 111: 1111 1: 20... -relemite team. (CH) 25 20 3\$ 111 11111 45 COMPLETION DEPTH (1,5 CATE: 15,73 CONTRACT OF COMPANY

		•	G&T	BORING I COOPERATIVE LEASANTON,	NO. B-SES-6 PROJECT TEXAS	16								
77	TYPE 80RING: Undistricted Sample LOCATION: See Flan of Basings													
DEPTH, CT.	SYLBOL	SAMPLES	SOIL DESCRIPTION ELEVATION: 295.D			WANSSING HOROQ SEVE	PLASTIC FLASTIC	SHEAR STRENGTH IN TONS / SO FT. SALE						
F	7	3	Hard dark brown clay				Ť	10111111111111						
- 5		77777	More light redaith-brown sitty clay, jointed, w/numerous clay laminations and iron stairs		(Сн)	<u> </u>	-							
10	\approx	4			ICU	Ц	_ _							
			Mord Eight readish-son play, w/sithy clay tammations		(См)									
15			Mara light brownigh-tap clay, w/selemie seam, jointed estightly slickensided											
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25 -						İ								
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<u> </u>			CATE 1 15 79			•								

LOG OF BORING NO. 8-105 G & T COOPERATIVE PROJECT PLEASANTON, TEXAS

771	<u>ع</u>	<u>80</u> 5	ING: Undisturbed Sample	LOCATION: See Plan of Bo	orinș	5.			
DEPTH, FT.	SYMBOL	STIMMES	SOIL DESCRIPTION ELEVATION: 290.81		WESSING - NO ZOO SIEVE -	Ono.	PLASTIC LIMM	WOISTURE CONTENT W	SMEAR STRENGTH TANS/SQ FT. AND LINE TONS/SQ FT. AND LINE TONS/SQ FT. AND LINE TONS TONS TONS TONS TONS TONS TONS TONS
H		7	Still brown silty clay	· {CL)	Γ			-	
- 5			Tan clay, w/accesioned crystal material		55	'n	15		
			Dame los sondy silt	- /Ct)	54	29	19	l	
-10-		<u> </u>		(ML)		31	18		
20	持续制度		Dente ton sitty fine sond, iron stained						
30 .				(<u>su</u>)	-		I		
- 40-									
,45 . .50 .									
			TION DEPTH: 25.01 DATE: 7 DO 174		_J.	_1.		<u> </u>	•••••••••••••••••••••••••••••••••••••
COMP.)	1.4	- 414+ CE3 -416+3	<u> </u>					

LOG OF BORING NO. 8-106 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

_ 			See Plan of Bo	٠.	Ī	\vdash		SHEAR STRENGTH
SYMBOL SAMPLES	SOIL DESC	RIPTION		WAZOO SEVE	TIMIT	PLASTIC LIMIT	HOISTURE CONTENT. 74	IN TONS/\$Q FT.
	Very still dark brown clay			_	ļ.,	Щ		<u>, ,,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u>
	,	<u> </u>	(CHI)			!		
	Mard fan line silfy clay -iron steins				44	27		2
1221			(CI)	i			ŀ	 • • • • • • • • •
	hard lan clay, w/occasional selenite		·					
-Ю-			(СН)					
	Very stiff light brown clay, -/occesionel selenite		(C H)					
\sim	Hard Ian stiry diay,			寸	\dashv	\dashv	ᆉ	 - - -
	w/occusional calcoreous materi	<u>.</u>	rcu	62	61	24		

LOG OF BORING NO. 8-107 G & T COOPERATIVE PROJECT PLEASANTON, TEXAS

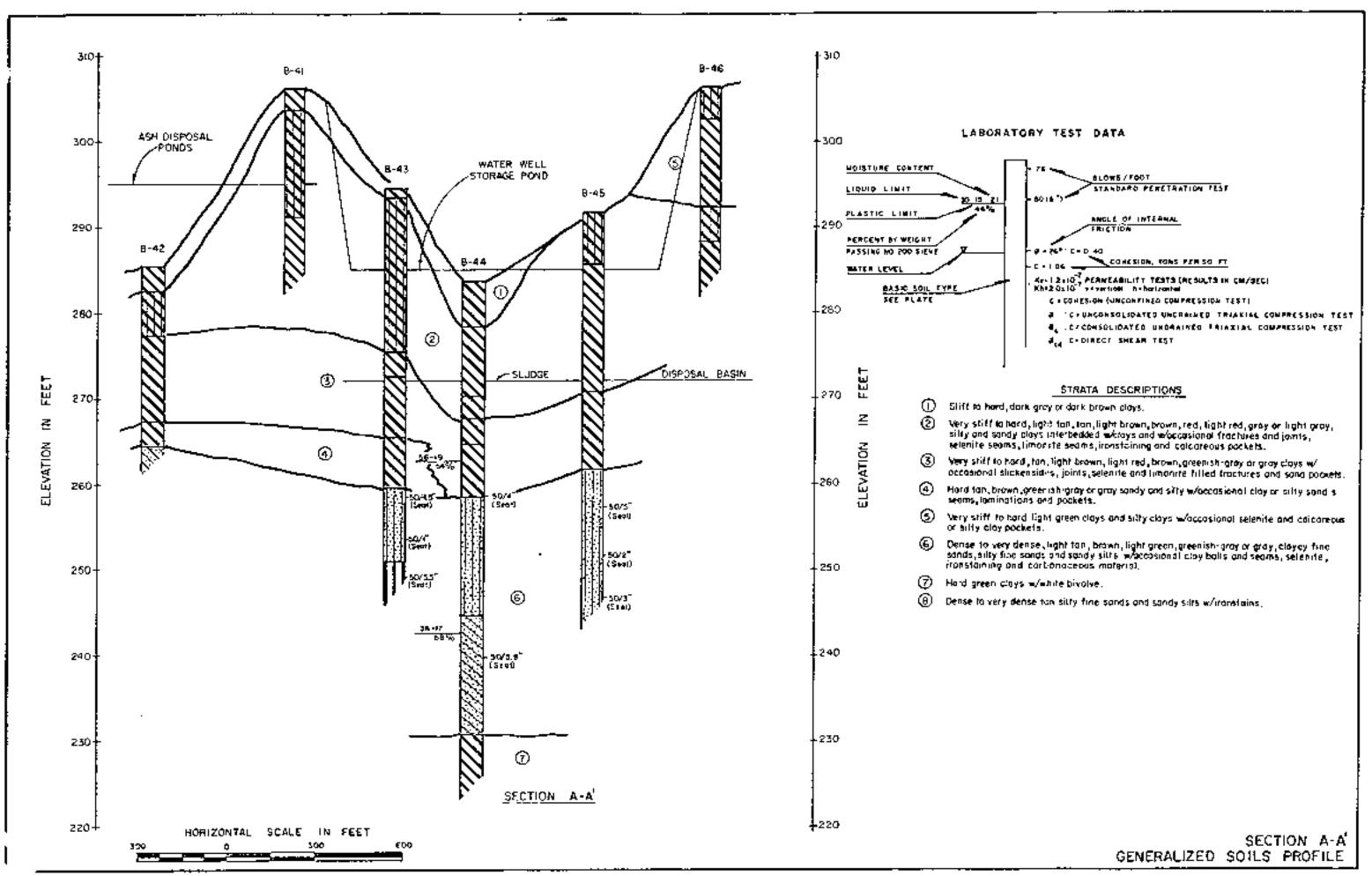
TYPE	BOR	ING: Undisturbed Sample	LOCATION (See Plan of Bo	ings				
DEPTH, FT. SYMBOL	SAUPLES	SOIL DESCRIPTION ELEVATION: 302.9"		* PASSING -	10019 10019	PLASTIC	MOISTURE CONTENT 4	SHEAR STRENGTH
	4	Srift dark brown clay		\vdash	H	\vdash	\vdash	0_51015
- (╢╴	Hora light tan clay,	(CH)	_	_		-	
	77777	w/iron stain		71	83	28		
9	,	-light brown recessional very stiff salanita	(54)	67	52	22	! !	
15		Mard ton clay	(CH)		89	31		
20			(СН)	:				
25 - (1)	-	Very dense silly (ine sond	(SM)					
30				i				
35.				i				
9						-		
45-								
	Pt_S	TION DEPTM: 25.0" DATE: 7.70/74						
		- 10-44664	· · · · ·					<u>.</u>

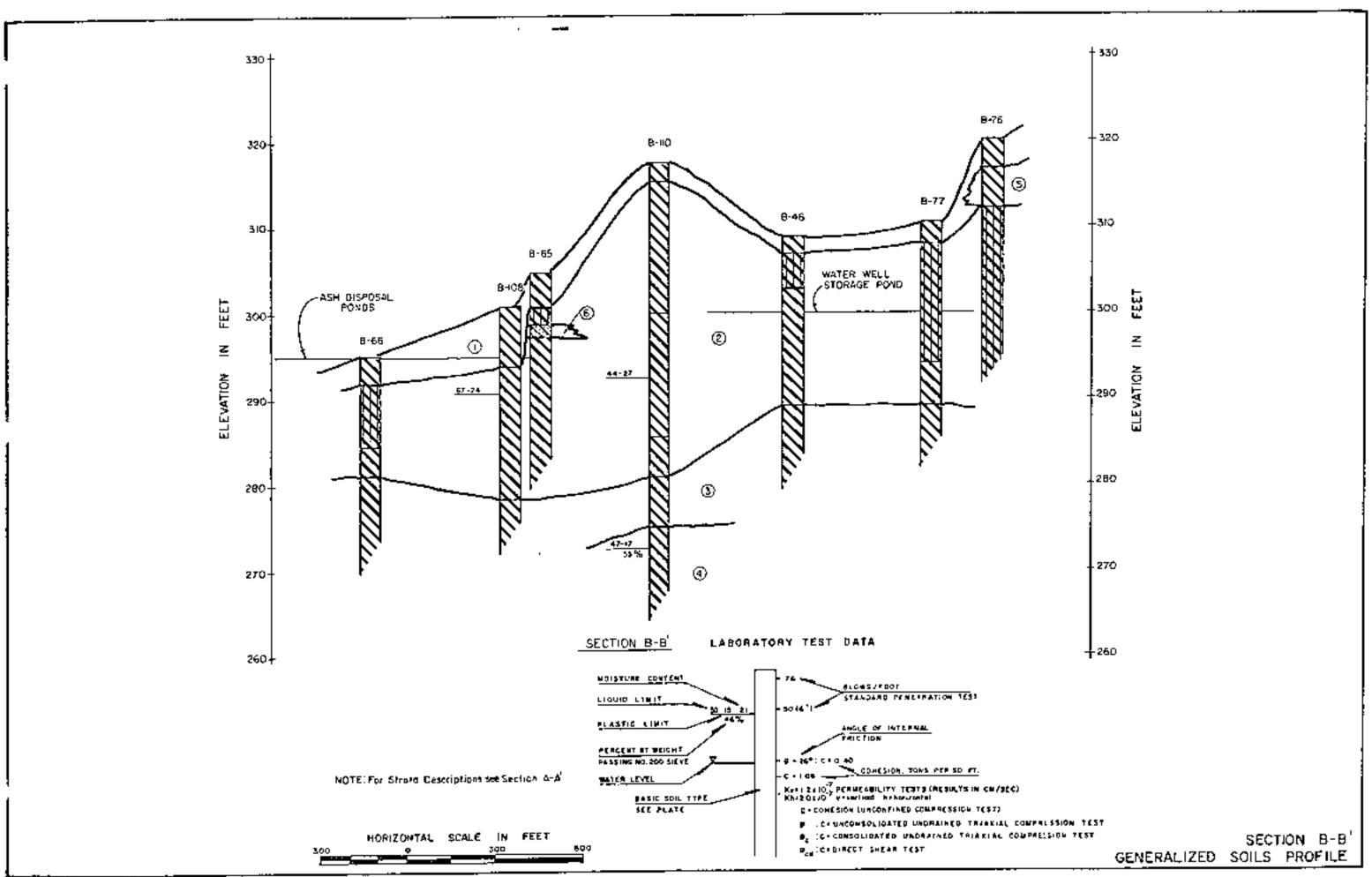
LOG OF BORING NO. B-109 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

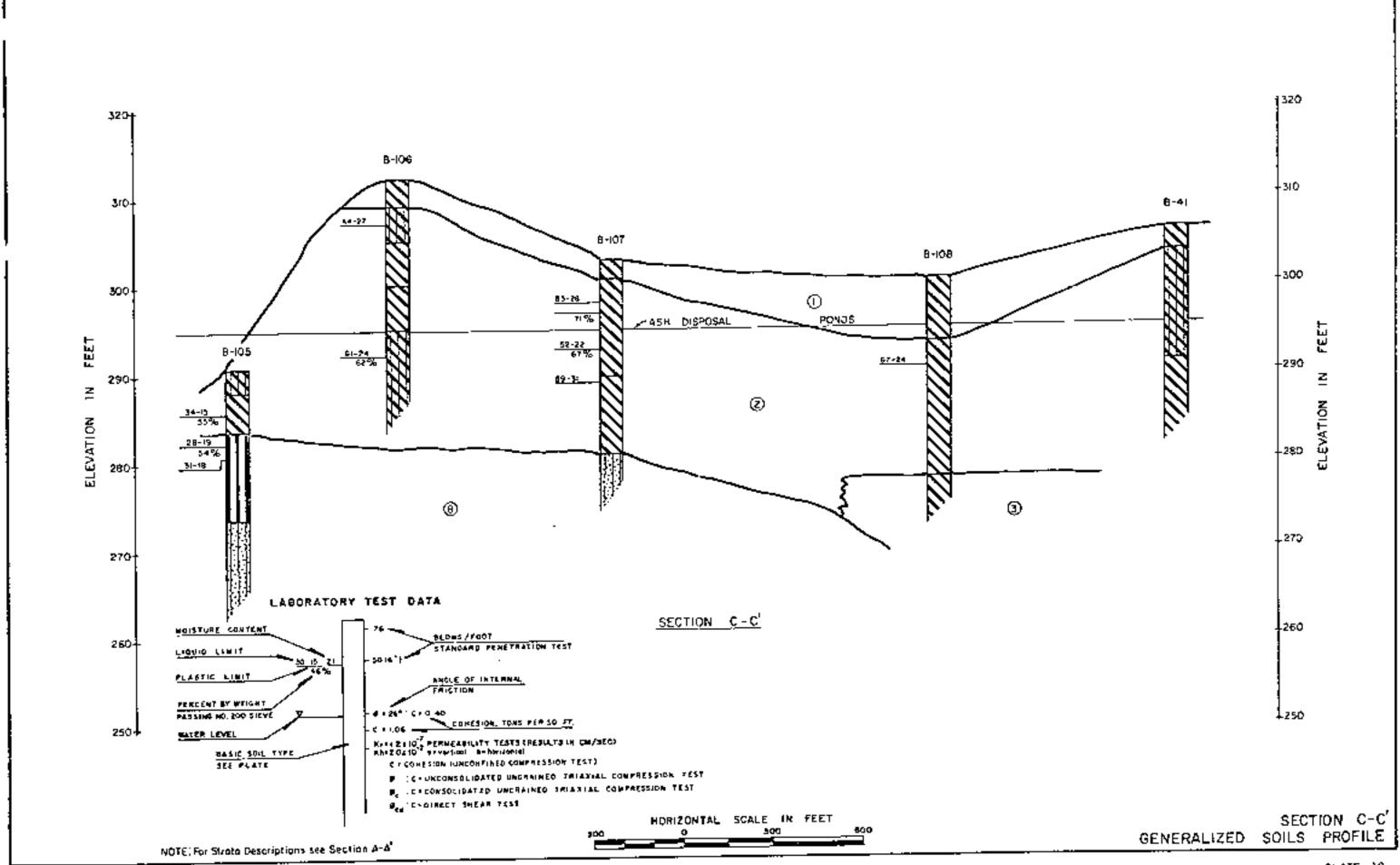
-tan -tan -	TYPE	: e	ORING : Undissurbed Somple LOCATI	ON: See Plan of Borin	ı.				
Stiff dark brown clay	- -	SYMBOL SYMBOL		وا غار	NG2DOSEVE -	TIMIT MIT	PLASTIC LIMIT	MOISTURE CONTENT, 76	IN TONS/SOLFT. AND LINE
-ton -ton -ton -ton -ton -ton -ton -ton			Stiff dars brown clay -very stiff	{CH1			•		
Mord light brown clay, iron stained (CP)	19 11 2			de la	6	57	24		
30 - 30 - 35 - 35 - 35 - 36 - 36 - 36 - 36 - 36		7	More light brown clay, iron stained		†	†	\neg		*************************************
	-30 - -35 - -40 - -50		TETION DEPTH: 25 A						
School gard, 50 d. Specifical									

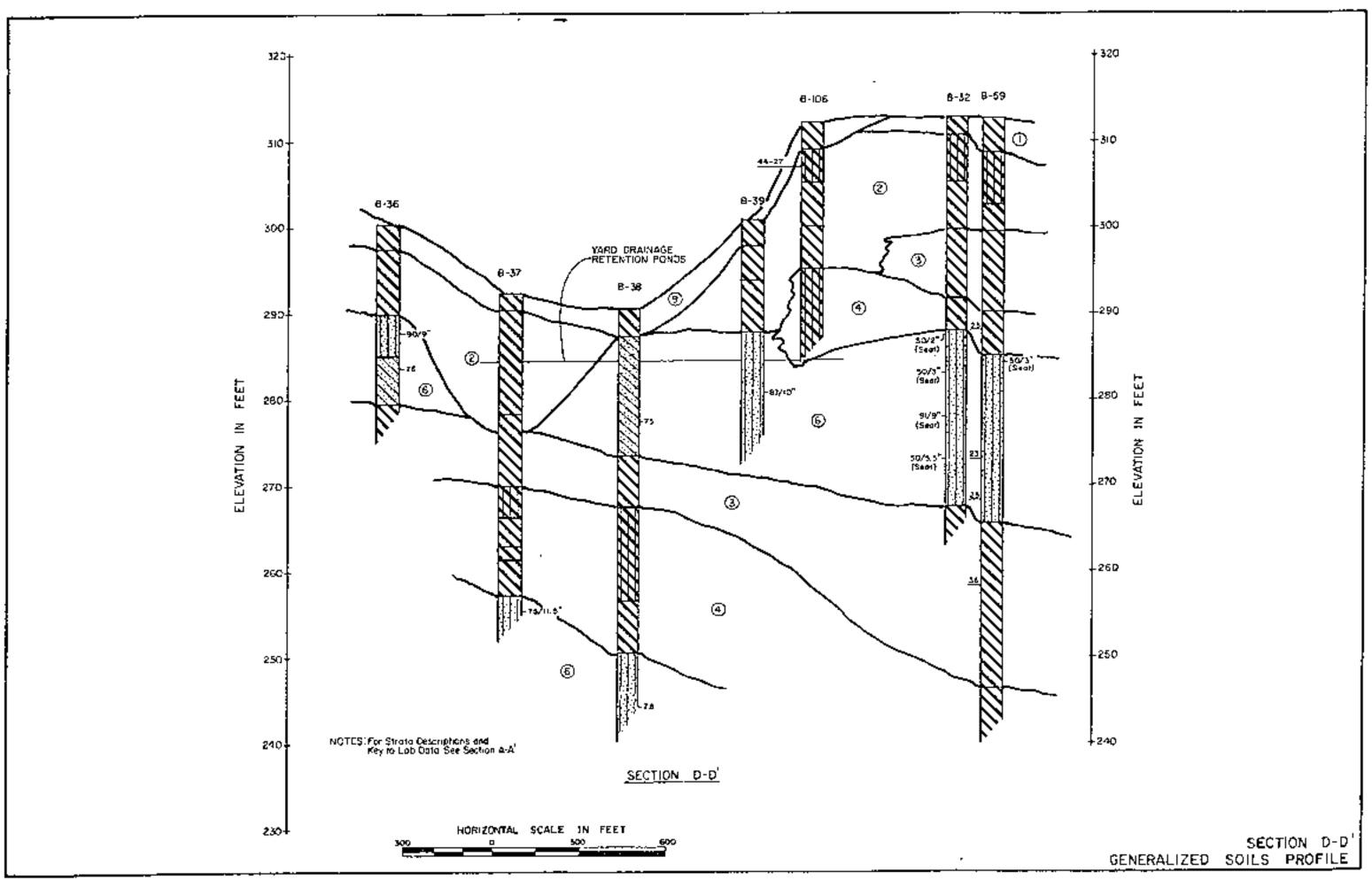
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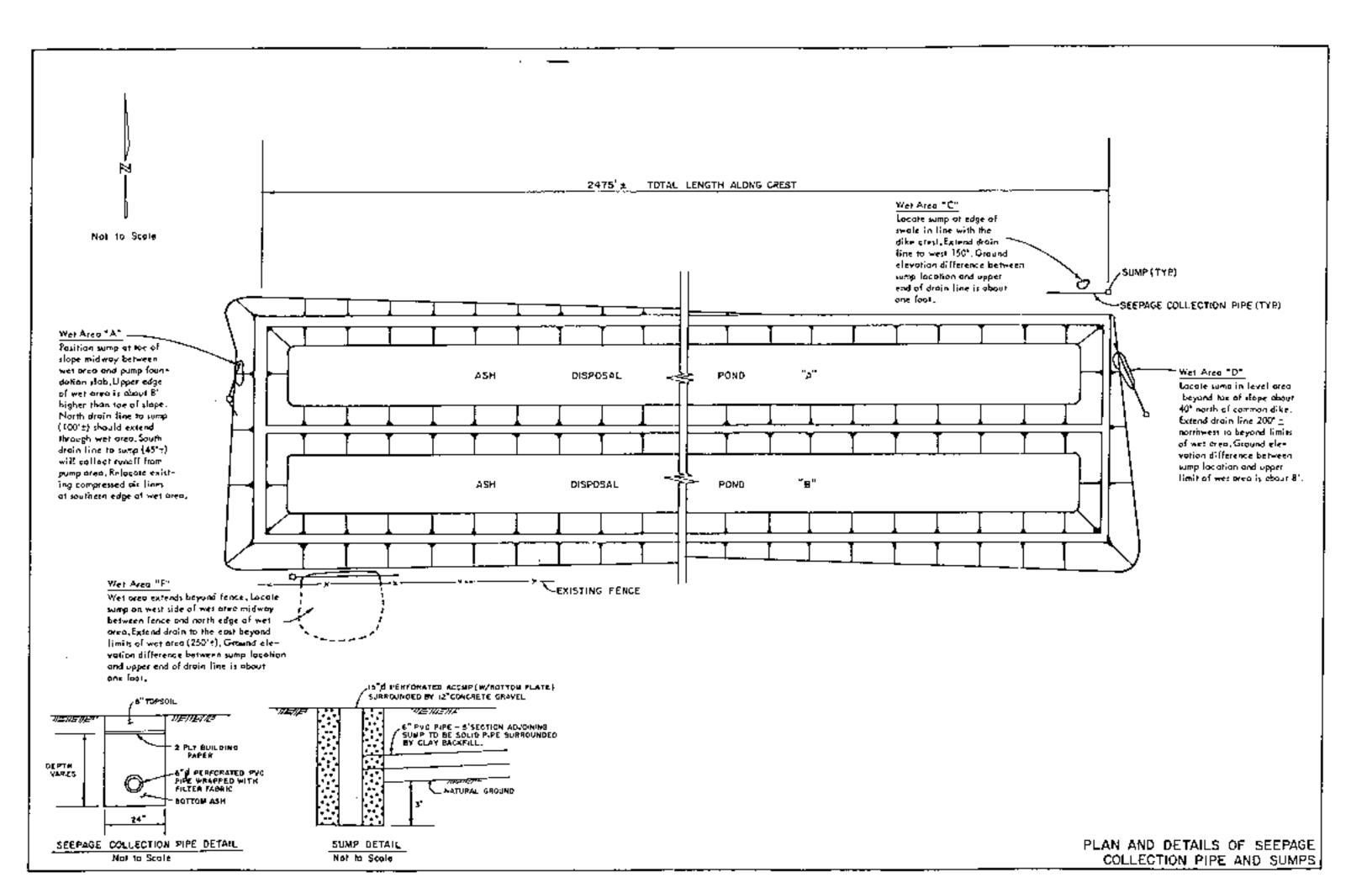
ILLUSTRATIONS











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.

Copy - = 1506 Cinie 1



Professional Service Industries, Inc.

National Soil Sorvices Division

September 4, 1985

San Miguel Electric Cooperative Inc. P. O. Box 280 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:

Sh# 18 360

- No seepage was evident at locations "A" or "B" due to the lowered level in Pond "A".
- 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.
- 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:

- Sand filled collector trenches located along the toe of the dikes and extending through the fissured clays.
- An impervious clay liming 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 8-105, B-106, B-66, 8-41 and 8-42. 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. Sottom 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 I2 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 liming and density of the compacted clay.

Presently there are no piezometers located in the dikes for monitor purposes. In the event a compacted clay liming 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.

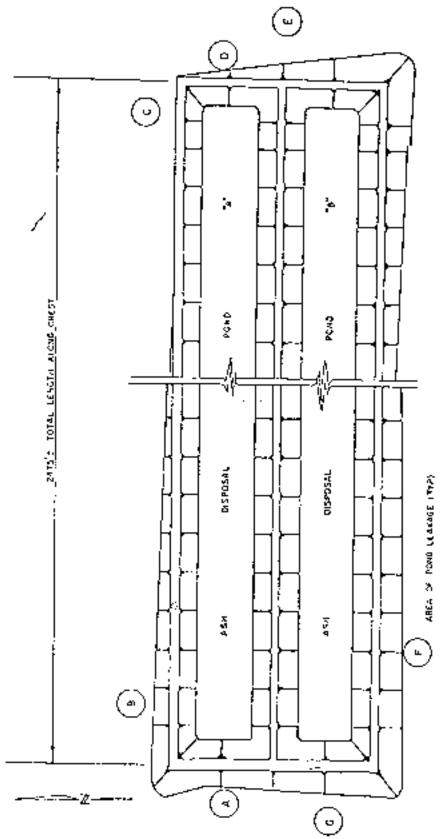
PSI/NATIONAL SOIL SERVICES DIVISION

Raych F. Lows / jll

Raiph F. Rouss, P.E.

Vice President

cc: Mr. R. Magel RFR/ds



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.



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Professional Service Industries, Inc. National Soil Services Division

January 27, 1987

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

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Attention: Mr. Clyde Price

Professional Control Tables

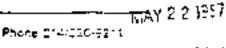
Re: Liner Construction Unit #1 Ash Pond

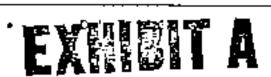
Dear Mr. Price:

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 41 ash pend. 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.

- Proposed procedure for clay liner construction.
 - (a) Remove ash and soils contaminated with ash from the bottom and sides of the ponduntil 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 0 698 (Standard Proctor). Disc

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- to a uniform smisture 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 (nch thick loose lifts, add sufficient maisture to increase maisture 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 maisture 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 perweability clay liner.

General Notes:

- 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 wanner 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. We 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.

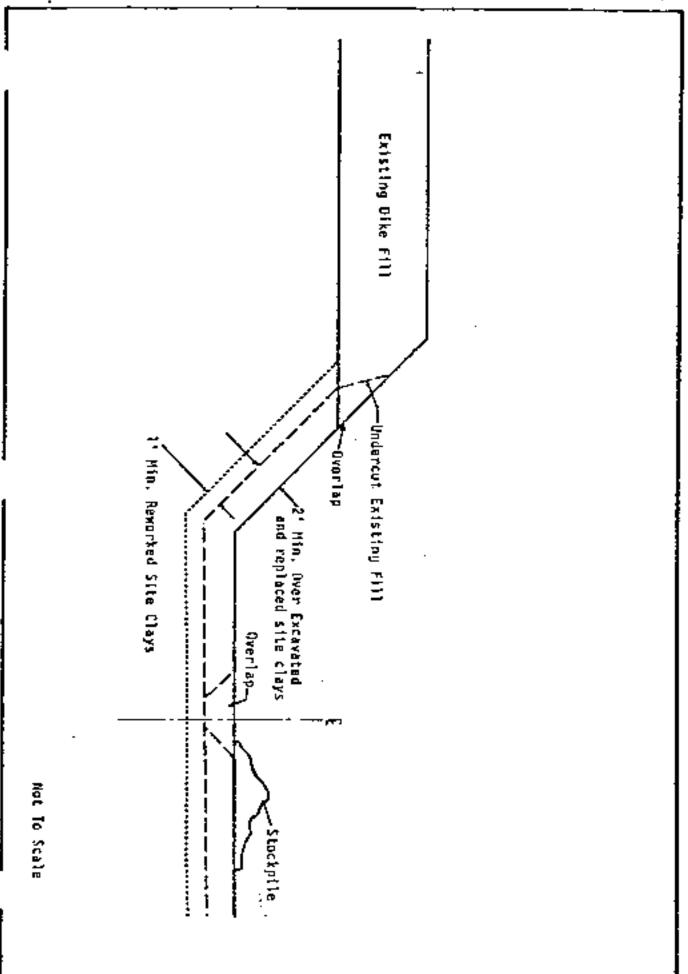
Very truly yours.

PSI/MATIONAL SOIL SERVICES DIVISION

Koi Z. Woodson Branch Manager

Ralph F. Reuss, P.E. Vice President

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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.



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

May 7, 1987

RECEIVED

\$ M.E.C., Inc.

San Miguel Electric Cooperative, Inc. Post Office Box 280 Jourdanton, Texas 78026 MAY 1 1 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.

Sample No.	Ω^{-}	PL	<u> 14</u>	Permeant	<u>Permeability</u>
1 2	5 2 52	2 0 20	32 32	Ash Nater Distilled Water	7.6 x 10 ⁻⁹ cm/sec 1.3 x 10 ⁻⁸ cm/sec



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 Rrias, P.E. Vice President

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TADLE 1

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

PLE PLASTIC LIMIT

FACE PLASTIC LIMIT

MCE MOISTURE CONFERT

. 14	13	12	11	10	9	ස	7	¢,	ហ	4	Ĺ	22	ı	Sample No.
'38' from East-end of pond low 1' ASH at 2'	1477' from East end of pond below 3'mASH at 2'	1083' from East end of pond below 3' ASH at 2'	901' from East end of pond below 2'-3' ASH at 1'	595' from East end of pond at 0.5'	, 595' from East end of pond at 2'	510' from East end of pond at 1.5'	Pond bottom 581' from East end of pond at 0'-2'	Pond bottom 218' from East end of pond at 0'-2'	 1117' from East end of pond at 1.5' 	* 617' from East end of pond at 1'	* 224' from East end of pond at $1.5'$	+ 85' from Southeast weir at 2'	* Southeast corner at 1'	Location and Depth
Oark gray silty class	Light gray silty clay with calcareous traces and sand	Dark gray silty clay	Mottled silty clay with some coarse sand and gravel	Dark gray silty clay	Greenish gray clay	Brown silty clay	Mottled silly clay	Brown silty clay with gravel traces	Light grayish tan clay with sand	Tan silty clay with some sand and gravel	Light tan silty clay	Dark gray silty clay with ferrous staining	Light tan silty clay	Soil Classification
53	\$	90	70	20	72	67	65	67	\$	60	46	03	65	ڌ
21	18	16	33	16	24	28	23	24	29	22	15	22	28	밑
స	30	<u>ب</u> چ	32	بر 4	48	2	42	43	ᅜ	38	<u> </u>	38	37	2
59	54	70	54	73	22	66	2	71	یں 60	2	6	52	69	-200
24	20	20	29	: 2	28		. 21	<u> </u>	26	26	25	2	29	<u> </u>

TABLE 1 (Continued)

18 Run	17 Borr	16 Dewa	15 1938 mídd	No.	Samo le
Run off pond borrow at 2.5'	Borrow area 0'-4'	Dewatering Sio area 0'-4'	1938' from East end at middle of pend bottom at 0'-2'	Location and Depth	
Brown sandy clay	Light grayish tan sandy clay interbedded with fine silt	Brown clay with interbedded fine ferrous stained silt	Tan fissured clay	Soil Classification	
93	51	64	98	ᆮ	
21	P3	23 41	26	겯	
35	23	4	60	ΡI	
83	45	20 24	99 30	- 200	
16	21	24	30	MC X	

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 transferrence. The hard grays of the oline -----************* ***** **************** ************************ DRY DENSITY, LBS., PER CURIC FOOT

MOISTURE CONTENT, PERCENT OF DRY WEIGHT

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.



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division - M.E.G. 400

DAILY REPORT

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FESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Jexas 78026

ATTENTION: Mr. Clyde Price

1A Ash PdHd Soff Testing 78026

P.O. #26643-032168

Contractor: V.K. Knowlton

CATE

July 17, 1987

OUR REPORT NO

311-70065-6

REMARKS:

Upon observation of IA Pond, three (3) questionable areas of concern were found. The M.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, Y.K. Knowlton encountered two (2) joints of sandy clay that is unacceptable according the 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 contamintaed clays of any kind will be removed before actual reconstruction of IA 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	SAM MIGUEL ELECTRIC COOPERATIVE, II Post Office Box 280 Jourdanton, Texas 78026 ATTENTION: Mr. Clyde Price		1A Ash Pond Soil Testing P.O. #26643-032108
DATE	September 23, 1987	OUR REPORT NO	311-70065-63
	WEATHER Partly Cloud TEMPERATURE RANGE 70° INSPECTOR R. Wehner		
	TYPE OF INSPEC	TION BEING PERFO	RMED
<u> </u>	\$QIL \$		CONCRETE
	FOUNDATIONS		BATCH PLANT
	GONTROULED FILL [COMPACTION]		PLACEMENT (JOB SITE)
	X Fracture Repair		
	ASPHALT		OTHER
	BATCH PLANT		
	PLACEMENT (JOB SITE)		
i the abo	sume of work accomplished this date: As income referenced project site to repair slurry. Repairs of the fractures an	r fractures in	the pond liner with a pumped bent-
<i>‡</i> : (2)	Above		Respectfully submitted.

Professional Service Industries, Ins

dб



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 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
- 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 besitate to contact our office at your convenience.

> Respectfully submitted. PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above

/dd



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 24, 1987

сия невонт но 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:

- Track Loader
- 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

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Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR	Post Office B Jourdanton, I		NC.PROJECT	1A Ash Pand Soil Testing P.O. #26643-032108
DATE	September 22,	1987	OUR REPORT NO	311-70065-61
		WEATHER SUMMY & Cle TEMPERATURE RANGE 70° INSPECTOR R. Wehner		
	•	TYPE OF INSPEC	TION SEING PERFO	RMED
1 ×-3	SOILS			CONCRETE
} .	FOUNDATIONS	ì		BATCH PLANT
į .	CONTROLLED	FILL (COMPACTION)		PLACEMENT (JOB SITE)
<u> </u>	X Fracture	e Repair		
1 .	ASPHALT			OTHER
	, PATCH PLANT			
	PLACEMENT IN	NOR SITE)		
to the bentoni	above referenc	ed project site to re	pair fractures	resentative of PSI, Inc. reported in the pond liner with a pumped pletion of the repairs on this date
dd	-			Respectfully submitted,

Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

DATLY 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

оия вероят ко - 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 resume' of work accomplished on this day:

Equipment Used:

(1) Liebherr Dozen

3. (1) CAT Spray King

(1) Track Loader

4. (1) 1206 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.

co

cc: (2) Above

/44



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

RESTED 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

оци невова мо 311-70065-62

Page 2 of 2

TEST DATA- Optimum moisture: (33, 23.7)

1457 #0	pare	Cresh (164	SOL OF PRIMISER	eacceante Can facy Of Notice	MATER CONTENT	év PrixCé Ditv Di mScTr	PINICINE SOMPACEON	COMMIN ^{- 1}
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
' <u>.</u>	09-22-87	final	33	88.2	28.5	86.8	98.4	1 - A
L	, , , , , , , , , , , , , , , , , , ,	<u> </u>					ļ	
]	

TEST LOCATION:

1	301	West	٥f	Station	1001	and	151	from	Top of	Slope.
2	601	West	of	Station	200'	and	10'	from	Bottom	of Slope.
3	201	West	of	Station	1001	and	251	from	Bottom	of Slope.
4	901	West	of	Station	2001	and	201	from	Top of	Slone.

NOTES OF NOTICES SHOWN Lost per cubic feet water CONTENT, her Central dry weight PERCENT COMPACTION. Based on leastment dry dry response on Simple residence by No. 10 inches.

- PROBLEMATERIAL PROBLEMAN
- 3 BASECOURSE
- 4 SURRASE
- 5 SOIL CEMENT
- € OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS HI HE COMPACTION RECUIRED.
- C. TEST IS AFTER RECOMPACTION

Respectfully submitted, Professional Service Industries, Inc.

REMARKS:

Three Burwood time

San Antonio, TX 78216

Phone: 512/342 9377



		8/1		2000	
	Acopidate 45 22 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4		250		



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR SAN	MIGUEL	ELECTRIC	COOPERATIVE,	INC.	PROJECT:
----------------	--------	----------	--------------	------	----------

Post Office Box 2BD

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

September 19, 1987 OATE

OUR REPORT NO 311-70065-59

Sunny & Clear WEATHER

TEMPERATURE RANGE 75° 80°

G. Quintanilla ■NSPECTOR

TYPE OF INSPECTION BEING PERFORMED

_X sails	CONCRETE
FQUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	Pt ACEMENT (JOB SITE)
XIn-Place Field De <u>msity</u> Tests	
ASPHALT	OTHER
BATCH PLANT	
PLACEMENT (JOB S/TE)	
<u></u>	
BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE Per request, site to perform in-place field density tests. I that no density tests would be conducted due to m	Joon arrival, the technician was notified

(2) Above cc: /dd

Three Burwood Lane

Respectfully submitted. Professional Service Industries, Inc.

San Antunco, TX 78216

People 512/342-9377



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, IMPROVECT:

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. 311-70065-60

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:

<u>Equipment Used:</u>

(1) 1205 Motor Grader

(1) Liebherr Bozer

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.

ď

cc: (2) Above

/dd



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

CUR REPORT NO.

311-70005-60

Page 2 of 2

TEST O	<u>ara: Optimum r</u>	noisture: (33,	23.7)				
11.7	((4.1)	Strong Ar Albert	(4 A7.2) Fell Cyle DT2 607 Ft	CoMIF AII WRIFH	COMPANY COMPANY	CHARACHON CHARACHON	<0меы ⁴
_1	09-21-87	Subgrade 33	88.2	27.1	88.5	100.3	1 - A
2	09-21-87	Subgrade 33	, <u>↓88.2</u>	26.6	87.3	98.9	1 - A
3	09-21-87	lst 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
		<u> </u>	' 	<u> </u>	' 	 	
		.[]			•		

TEST LOCATION	ΤĒ	51	υ¢)CA	TIC	HΝ
---------------	----	----	----	-----	-----	----

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 DENSITES SHOWN Los per order from WATER CONTENT, Pre-Contents, weight PERCONLICOMPACTION, Saved on regionation disgeneral, lubblined on sample, edit ared by

sale (Dinumber)

* I FILMATERIAL

P HACKEL. I BASE COURSE

4 SUBBASE

4 SOIL CEMENT 6 OTHER

A CHOL RESULTS COMPLY WITH SPECIFICATIONS B RECOMPACTION REQUIRED C REST IS AFTER PECOMPACTION

Respectfully submitted,

REMARKS:

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 Testina

P.O. #26643-032108

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) Liebherr Dozer (1) 1206 Motor Grader

(1) CAT Spray King (1) Track Loader

(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.

(2) Above cc:

/dd



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

OUR REPORTING

311-70065-58

Page 2 of 2

TEST D	ата: Optimum	moisture	: (3)	3, 23.7)				
ri sr Net	ÇA"I	1.15	100, 20 90 ,900 (0	(4) 50 ((4) 53 ()	mwife CONEST	25 P(ACC 1595 10 m5 0* 7	COMPACTOR COMPACTOR	eduur, ⊩1 ⁴
1	09-17-87	Final	33	88.2	28.5	B4.0	95.2	1 - A
2	09-17-87	Final	33	88.2	27.6	85.0	96.3	1 - A
·								
					1			
					ļ			
TECT	SCATION: POND	EL OOR						

TEST LOCATION: PUNU FLUUK

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

NOTES DENSITIES SHOWN Lbs. per cobid for I WATER CONTENT Per Central of, which PERCENT COMPACTION BASES on to make the

REMARKS:

- I FILL MATERIAL
- 2 DACKFILL 3 BASE COURSE
- SUBBASE
- 5 SUIL CEMENT
- 6 OTHER
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS
- R RECOMPACTION REQUIRED C TESTIS AFTER RECOMPACTION

Respectfully submitted, Professional Service Industries, Inc. 34度では実施した効果とした。

ar arbo



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTEO FOR SAN MIGUEL ELECTRIC COOPERATIVE. INC. PROJECT

Post Office Box 280

Jourdanton, Texas 78**026**.

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Test inq

P.O. #26643-032108

DATE

September 17, 1987

OUR REPORT NO

311-70063-37

REMARKS:

Weather: Sunny & Clear

90° to 95° Temperature Range:

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

(1) Liebherr Dozen

2. (1) 1200 Motor Grader

4. (1) Water Truck 5. (1) CAT Spray King

3. (1) 6370 Scraper

V.X. 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. Knowiton cannot do any work on the pand floor without damaging the floor. The pand 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 besitate to contact our office at your convenience.

> Respectfully submitted, PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above /dd

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Shilstone Engineering Testing Laboratory Division

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Nr. 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) Liebherr Dozer

(1) D6 Dozer

(1) 120G Motor Grader

4. (1) 637D Scraper

5. (1) Water Truck

6. (1) CAT Spray King

The pond floor was completed today, except for cleaning and shaping of the floor. Y.K. Knowlton worked one of the reconstructed areas that had a fracture problem. Mater is still being pumped out of the pend 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.

OF

(2) Above cc:

/dd



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

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А

restingation: POND FLOOR, STATION 2000'-2475'.

	544 (1541 - 1445 - 1444 - 1444 - 1445
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 BEASTIES SHOWN Ltb: per cubic foot WAISA CONTENT Per Central Pry weight PERCENT COMPACTION. Barea on has must dry agreedy obtained on sample indicated by sec ID compre

- * I FILMATERIAL
 - 2 BACKFILL 3 BASE COURSE

 - 4 SUBBASE 5 SOB COMENT 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C 16ST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted, 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

0676

September 16, 1987

DIJER REPORT NO

311-70065-56

Page 3 of 4

TEST D	ATA: Ορείπυπ	moisture:	(33	3, 23.7)				
irsr so	DA7F	DI BUNI FIFO	1605 D 46.4400 P	grades, or TAILIBUY DI SNALC	74144 (Chilen)	A 11,6(4 34) 18764*Y	PERIODO COMPACTION	DOMMIN- P
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
0	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
TESTIC	CATION: POND	FLOOR ST	ATION	2000'-2475'				

FUND FLUOR, 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.
	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 DENSITES SHOWN LESS per condition of WATER CONTENT Per Condition went to PERCENT COMPACTION, Based on mainting dry density returned a sample ordered by sold Occurring

* 1 FALMATERAL

2 BACKERL

H. BASE COURS!

4 SUBBASE

1 SOL COMENT 6 OTHER

A 1705T RESULTS COMPLY WITH SPECIFICATIONS 0. RECOMPACTION REQUIRED 0. TESTIC AFTER RECOMPACTION

REMARKS.

Respectfully submitted. Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

23.7)

TESTEOROR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

Optimum moisture: (33.

101.10

1A Ash Pond Soil

Testing

P.O. #26643-032108

PERMITTER

OATE

TEST DATA:

September 16, 1987

OUR REPORT NO

eya i Lei

311-70065-56

Page 4 of 4

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NO.		El San Jana	M MINI-	(A MALA	CONTRA	OLASTY	20490104	
13	09-16-87	i Final	33	88.2	27.8	85.3	96.7	1 - A
		ļ			<u> </u>			
		<u>, </u>			<u> </u>			
		<u>:</u>	ļ <u>.</u>		<u> </u>			
		1	ļļ	· · · · - ·				
- 	CATION:	↓						
13	45' West of	- —— E Station	2400'	 and 45! Som	th of the	North Slo	ne	
					<u></u>			
	i							
	-	•••			·			

NOTES DENSITES SHOWN LOW per riche fact WATER CONTENT, the Century of Avenue. FERSENT COMPACTION. Based on mismomidia. everyly solahed on sample, adjected by soli O numbira

REMARKS:

- CILL MATERIAL
- 2 MACKETT 3 BASE COURSE
- SURBASE
- SCIL CEMENT
- OTHER
- A LIEST HESULTS COMPLY WITH SPECIFICATIONS
- 8 RECOMPACTION REQUIRED C TEST S AFTER RECOMPACTION

Respectfully submitted, Professional Service Industries, Inc.

, r grue - 3 (D) Red contract sections of

: 77.1



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.

P.O. #26643-032108

OATE

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

Smief summary of work accomplished on this day:

Equipment Used:

- 1. (1) 1206 Motor Grader
- (1) Liebherr Dozer
- 3. (1) D6 Dozer
- 4, (1) 6370 Scraper

- 5. (1) Water Truck
- 6. (1) CAT Spray King
 - 7. Discing Equipment

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.

cc: (2) Above

/dd

Phone: 512/342/9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

ILSTED 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

QUB REFORT NO. 311-70065-55

Page 2 of 3

TEST DA Mar Mar	ATA: Optimum	moisture:	(33. 500-0 500 -0	, 23,7) azagya (46,0%)	walis Gorden	rumtadi ray dingery	Principal Compaction	cceutar *
1 :	09-15-87	2nd Lift	33	88.2	29.3	80.0	90.7	1 - B
Z	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: WIST SLOPE, STATION 2400'-2475' (POND FLOOR, <u>STATION 1600'-1800', NORTH SIDE)</u>

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

NOTES OFNSILES SHOWN Link per document water CONTENT. Per Cent of the weight PERCENT COMPACTION, Based on maximum day

density obtained on sample, no cyled by No. CO number

- 1 FILL WATER AL
 - 2 BACKFUL 3 BASH COURSE

 - 4 SUPBASE 5 90 CEMENT
 - B OTHER
- A LITEST RESULTS COMPLY WITH SPECIFICATIONS
- 0 DECOMPACTION REQUIRED

C. TEST IS AFTER RECOMPACTION.

REMARKS.

Respectfully submitted. 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, Jexas 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 O	ATA: Optimum	noisture	: (3.	3, 23.7)				
1) S0	PAR	8 2 2 2 2 3	50% (0) 90, 499 0,0	CARLONA CARLON	CONTEXT	A 0, 4CL 984 9850 r	PER CENT COMMODIUM	COwn hi
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
; <u>9</u>	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	U9-15-87	lst Lift	33	88.2	28,2	85.0	96.3	1 - A
12	09-15-87	lst Lift		88.2	28.8	85.7	97.1	1 - A

TEST LOCATION: POND FLOOR, <u>STATION 1600'-2200'</u>

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.
LO	20' West of Station 1900' and 30' South of North Slope.
<u>l</u> 1	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 US, per cubic field WAITH CONTENT, Residently which will also PERCENT COMPACTION Busing on maximum disdensity obtained no surger and lared by

sp. ID manber

* I FILL MATERIAL

3 HACKFILL

3. BASE COURSE 4 SUBBASE

5 SOIL CEMENT

6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS

6 RECOMPACTION REQUIRED

C. TEST IS AFTERHEDOMPACTION.

REMARKS:

Respectfully submitted, Professional Service Industries, Inc.

්රු උ residentes ක්ෂයක් ර 47.5750 -2475|| + 25000 - 1 7 22001 1 1 1 1 1 ji i 7 cod : ŀ. TA ASS POND THE 20.000; 01.00; 0 100

Total Control



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PHOLECT

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 1 of 3

REMARKS

Weather: Sunny & Clear

Temperature Hange: 90° to 95°

Inspector: G. Guintanilla

Type of inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

(1) Liebherr Oozer

(1) D6 Dozer

(i) 1206 Motor Grader

4. (1) Water Truck 5. (1) Spray King

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. Y.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.

cc: (2) Above

/dd



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

rested 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

OATE

September 14, 1987

оде вероят во 311-70065-54.

Page 2 of 3

TEST D	ата: Optimur	m moisture	: (3)	3, 23.7)				
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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 j	88,2	26.5	86.5	98.0	1 - A
	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		88.2	28.3	87.3	98.9	1 - A
TEST LO	DOATION: POND	FLOOR - St	tatio	n 1500' thru	2100'			

- 20' West of station 1500' and 20' South of North Slope.
 - 2 40' West of Staitom 1600' and 35' South of North Slope.
 - 3 65' West of Station 1700' and 10' South of North Slope.
 - 80' West of Station 1800' and 45' South of North Slope. 4
 - 10' West of Station 1906' and 15' South of North Slope.
 - 55' West of Station 2000' and 30' South of North Slope. 6

NOTES IDEASH ESPERIONN I have been contained WARSH CONTENT from Control by which is PERCENT COMPACTION, Business on disking at the

domety editional to a unspecification to see

* - Fill WATERIA.

P. BASKELL B. BASECOURSE

4 SUBBASE 5 SOLDEMENT

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

Respectfully submitted, Professional Service Industries, Inc.

REMARKS:

Three Burwood trace

San Artonio TX 78216

Phone 512/342 9377



Shilstone Engineering Testing Laboratory Division

REPORT OF F. I.D. COMPACTION TESTS

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 3 of 3

TEST DA	<mark>ата: Optimu</mark>	<u>m moisture</u>	: <u>(33</u>					
40°	6411	tions of	3 % 4 000.00	10 Miles	8450 8450	1, 11, 41,1 1, 10, 1, 10, 1, 10, 10, 11, 11, 11, 11, 11, 11, 11, 1	Property (1) (1) April 10 (4)	:1244-01
7	09-14-87	Subgrade	33	88.2	28.0	85.5	96.9	1 - A
8	09-14-87	lst Lift	33	88.2	26.7	86.0	97.5	1 - A
							<u> </u>	
							·	
		<u> </u>						
		<u> </u>			<u> </u>	2.4-		
TEST 10	CATION: NEST	SLOPE IN	<u>N.W. C</u>	ORNER - St	ation 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.

A I TEST RESULTS COMPLY WITH SPECIFICATIONS

NOTES DENSITIES SPOVALUM Densities (1997)
WATER CONFENT for Contracting winger
PERCENT COMPACTION, Blassed on materials discussed on supported called by
the US of model.

* * FILL WATCHERS

2 BACKLUT 3 BASE OCUBAS

4 SUHBASE 5 SOLESMENT 6 OTHER B RECOMPACTION REQUIRED C TEST IS ALTER DECOMPACTION

REMARKS:

Respectfully submitted.

Professional Service Industries, Inc.

26-12 (10-20) 00 (10-20) 10-20 20.00



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PACHECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond \$017

Jesting

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) 1206 Motor Grader
- 2. (1) Water Truck
- (1) Liebherr Dozen.

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, processional service implistries

PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above

/d₫



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

September 12, 1987 SASE

GUH HEPORI NO. 311-70065-53.

Page 2 of 2

TEST D	TEST DATA: Optimum moisture: (33, 23.7)												
1467 W	[1.11	SOLIT Conta	CAMP (CAMP)	1 006 (6 M)	es et alle care care alle	PLN CLAF COMPACTON	COMMINE *					
1_	09-12-87	Final	33	88.2	26,7	86,8	98.4	1 - A					
_2	09-12-87	final	33	88.2	28.9	84.5	95.8	1 - A					
_3	09-12-87	 Final	33	88.2	27.3	86.7	98.2	1 - A					
	<u> </u>		:		•		<u> </u>						
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TEST LOCATION:

r	1 -		· · · · · · · · · · · · · · · · · · ·
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 Staiton	2300' and 15'	from bottom of slope.
:			
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	i		

NOTES DENSITIES SHOWN LES DIFFICION FOR WATER CONTENT FOR CONTENT AN OPEN ACTUMENT ON BISHORD HAVE BUT OF A CONTENT OF A C ations typical and unitaring constructed by the Distance of

REMARKS:

- * TO THE MATERIAL
 - 2 BACKFU. 1 BASE COURSE
 - 4 SUBBASE
 - 5 90II CEMENT
 - 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

Respectfully submitted. Professional Service Industries, Inc.

909



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 Pand Soil Testing

P.O. #26643-032108

DATE

September 11, 1987

дия верият _{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 or this day:

Equipment Used:

1. (1) 6370 Scraper

– 4. (1) Water Truck

2. (1) Lie**ch**err Dozer

5. (1) 120G Motor Grader

(1) D6 Dozer

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



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

rested for SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Jexas 78026

ATTENTION: Mr. Clyde Price

1A Ash Yond Soil

Testing

P.O. #26643-032108

CATE

September 11, 1987

OUR REPORT NO.: 311-70065-52

Page 2 of 2

TEST D	ATA: Optimur	<u>m moisture</u>	: {3	3, 23.7)				
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1	09-11-87	lst 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	9 09-11-87	2nd Lift	33	88.2	2 <u>6.5</u>	85.8	97.2	<u>1 - A</u>
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 LC	OCATION: NOR	TH SLOPE						

NUKTH SLUPE

$\overline{}$. ————	
1 1 .	40' West of	f Station 2300'	and 20' from bottom of slope.	
:_2	_20' West or	F_Station_2000'	and 10' from top of slope.	
. 3	_ <u>15' We</u> st of	f Station 2100 <u>:</u>	and 5' from bottom of slope.	
4	55' West o	f Station 2200'	a <u>nd 1</u> 5' from bottom of slope.	. — — —
_ <u>.</u> 5	75" West o	<u>f St</u> ation 2300'	and 10' from top_of_slope	
. 6	85' West of	f Station 2000'	and 15' from top of slope.	

NOTES OF SETES SHOWN The periods that water CONTENT Period Certain we dis-FIRELYT COMPACTION, Bureau a company or density of three on single in this ball to the Clarity bas

* I I J MATERIAL

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A I TEST RESOUTS COMPLY WITH SPECIFICATIONS

8 RECOMPACTION PROVIDED OF THE SAFTER PRODUCTION

REMARKS:

Respectfully submitted Professional Service Industries, Inc.

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAM MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Nr. 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:

Sunny & Clear Weather:

Temperature Range: 90° to 95°

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

EQUIPMENT USED:

(1) Water Truck

2. (1) D6 Dozer

(1) 637D Scraper
 (1) 1206 Motor Grader

(1) Liebherr Dozer

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

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

Respectfully submitted.

PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) Above



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

September 10, 1987

COR REPORT NO. 311-70065-51

Page 2 of 2

	TEST DATA: Optimum moisture: (33, 23,7)								
	luse No	: 476	(40.0 1.10	ovi ji Noj a nejii		COMPLY:	#44 #06 1944 11 5447 #	PERMITTED ON	COMPLY- *
	j	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	.9 9.5.	<u>1</u> ~. A
ı	4	09-10-87	lst Lift	33	88.2	26.8	87.5	99,2	1 - A
ĺ	5	09-10-87	1st Lift	33	88.2	27.t	86.5	98.0	. 1 - A
ĺ	ь	09-10-87	lst Lift	33	88.2	26,7	86.0	97.5	1 - A

TEST LOCATION: NORTH SLOPE

STATIONS 2200', 2300', 1900', 2000', and 2100'.

г	т	The state of the s
L	1	30' West of Station 2200' and 25' from bottom of slope,
Ĺ	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.
	5.1	15' west of Station 2100' and 15' from top of slope.
	6	45' West of Station 2200' and 20' from bottom of slope.

NOTES OF NOTES SHOWN for our tobar had water CONTENT Pro-Great mark weaper. PERCENT COMPACHON, Based to may ball still identify block decision sample and talest by a color of calest

* 11 FILL MATERIAL

P MACHERIC 3 RASS COURSE

4 SIJBRASE

5 SOIL CLYENT 6 OTHER

A TEST PESU, TAICOMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED
C TEST SAFTER RECOMPACTION

REMARKS:

Respectfully submitted. Professional Sorvice 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

оон явгоят ко — 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

2. [1] Liebherr Dozer

(1) Water Truck
 (1) 1206 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 lA 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



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

September 9, 1987 0416

OUR REPORT NO 311-70065-50.

Page 2 of 3

TEST DA	ата: Optimum	moisture	(33	(, 23.7)				
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1	09-09-87	1st Lift	33	88.2	27.6	88.5	100.3	1 ~ A
ŝ	09-09-87	2nd Lift	33	88.2	27.2	88.0	99.7	1 - A
		i						
<u>'</u>		<u> </u>					<u> </u>	
						 _		

TEST LOCATION: NORTH SLOPE, STATION 19001

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 LESS per cable foot WATER CONTENT. Per Central des verges PERCENT COMPACTION. Based on en present des dynydy oblacowl ym Cerigor indig al sti by seci (O ngarter

REMARKS:

* 1 FILL MATERIAL

BACKFUL BASECOURSE

■ SUBBASE SCIL CEMENT

6 OTHER

A ITEST RESULTS COMPLY WITH SPECIFICATIONS BI RECOMPACTION REQUIRED CITEST IS AFTER RECOMPACTION

Respectfully submitted.

Professional Service Industries, Inc.



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

TESTEO 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

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

- Station 300'-400', 80' x 30' area cave-in, a 2' area should be reworked.
- Station 1400'-1500', 50" x 30' area fracture, a 9" lift should be reworked.
- 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 (PS1) 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.

·-·· -: . .



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Bax 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil Testing

P.O. #26643-032108

DATE

September 8, 1987

очи пероят No. 311-70065-49.

Page 1 of 2

REMARKS:

Weather: Sunny & Clear

Temporature Rango: 90° to 95°

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief summary of work accomplished on this day:

Equipment Used:

(1) 637D Scraper

(1) Water Truck

2. (1) Liebherr Dozer

4. (1) 1206 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



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

September 8, 1987 DATE

OUR REPORT NO. 311-70065-49.

Page 2 of 2

ata: Optimom	moisture	. \	3, 23.7)	t -	r	r· ··-	
241	man Ces	900 °	. All (307 E155-15	COCT 41	394 394 355537	PLACERI COMPACION	CONNECT 1
09-08-87	2nd Lift	33	88.2	28.1	84.3	95.5	1 - A
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	09-08-87	09-08-87 2nd Lift	09-08-87 2nd Lift 33	09-08-87 2nd Lift 33 88.2	09-08-87 2nd Lift 33 88.2 28.1	09-08-87 2nd Lift 33 88.2 28.1 84.3	09-08-87 2nd Lift 33 88.2 28.1 84.3 95.5

TEST LOCATION: NORTH SLOPE

1	20' west of Station 1800' and 20'	from bottom of slope.
2		from top of slope.
<u>.</u>		
		<u> </u>

NOTES DENSITES SHOWN LESS aux codic foot WAREA CONTENT Per Control of y weight PERCENS COMPACTION. Based on maximum bry. density getained on hample indicated by sult (Diminhilige

REMARKS:

- T. F. L. MATSBIAL
- 2 HACKFIL. 3 HASE COURSE
- 4 SUBBASE
- 5 SOIL CEMENT 6 OTHER
- A I TEST RESULTS COMPLY WARRED CEMATIONS
- B BECOMPACTION RET
- C. TEST IS AFTER REJUCATION TIGHT

Respectfully submitted. Professional Service Industries, Inc.



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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

restedition SAN MIGUEL ELECTRIC COOPERATIVE, INC. MADJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil

Testing

P.O. #26643-03210B

DATE

September 4, 1987

оце вероят ко 311-70065-48.

REMARKS:

Weather: Sunny & Clear

Temperature Range: 85° to 90°

[mspector: G. Quintanilla

Type of Inspection: Fill Control

Brief symmary of work accomplished on this day:

Equipment Used:

- (1) Liebherr Dozen
- (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 U9-03-87 and the weep holes still to be drilled for SMC were determined. No testing was performed today. Work will resume Juesday morning, 09-08-87.

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

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

cc: (2) /dd

-150 -



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

RESTED FOR SA	N MIGUEL	ELECTRIC	COOPERATIVE,	INC. PROJECT
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Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil Testing

P.Q. #26643-032108

	меатнея Sunny & Clear гемрекатыке камбе. 75° мерестон К. МсWillian	то 85°	
	TYPE OF INSPECT	ION BEING PERF	ORMED
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FOUNDATIONS			BATCH PLANT
CONTROLLED F	LL (COMPACTION)		PLACEMENT (JOB SITE)
X Drill We	ep Holes		
ASPHALT			OTHER
BATCH PLANT			
PLACEMENT IJO	ff 5ITE)		
FRESUME OF WORK ACCOMS orted to the above) weep holes were d	referenced project si	uested, two te to drill	(2) PSI Representatives of PSI, a number of weep holes. Sevent

Three Burwood Lane

(2) Above

San Antonio, TX 76216

Phone: 512/342-9377

Respectively submitted.

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

Testina

P.O. 926643-032108

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) Liebherr Dozen
- (1) D637 Scraper

V.K. Knowlton arrived at 7:00 a.m. Only two (2) representatives of V.K. Knowliton worked today. Y.X. Knowliton began pumping water out of the pondand cleaning the muddy areas around the pond for better manuevering 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

47.0750

200 and the contract them of



Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

ESTED FOR 5	SAN	MIGUEL	ELECTRIC	COOPERATIVE.	INC. PROJECT
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Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Sail Testing

P.O. #26643-032108

DATE	September 2,	1987 одя вероят мо 311-70065-45
		WEATHER Sunny & Clear TEMPERATURE HANGE 75° TO 85° WEATHER SUNNY & Clear TEMPERATURE HANGE 75° TO 85°
		TYPE OF INSPECTION BEING PERFORMED
X	50ILS	CONCRETE
	FOUNDATIO	MS BATCH PLANT
	X CONTROLLE	ED FILL (COMPACINON) PLACEMENT (JOH SSIF)

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.

OTHER

: (2) Above

... ASPHALT

Respectfully submitted.

Professional Service Industries, Inc.

BATCH PLANT

.___. PLACEMENT (JOB SITE)



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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

rESTED FOR SAN MIGUEL	ELECTRIC	COOPERATIVE.	INC. PROJECT
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Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil
Testing

P.O. #26543-032108

OATE September 1, 1987 OUR REPORT NO : 311-70065-44

WEATMER Sunny & Clear

TEMPERATURE HANGE 75° TO 80°

мыргатон G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

CONCRETE
BATCH PLANT
PLACEMENT (JIOB SITE)

enter Assume 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

Respectionly submitted.

Professional Service Industries, Inc.,

Sen Antonio, TX 78216 •

Prone: 512/342/9377

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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

ESTED FOR	SAN	MIGUEL	ELECTRIC	COOPERATIVE.] NC _PROSECT:
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Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. =26643-032108

DATE

August 31, 1987

CUR REPORT NO 311-70054-42

WEATHER Cloudy

темесяатыяе намяе — 65°

то 70°

inspector G. Guintanilla

TYPE OF INSPECTION BEING PERFORMED

\$Q1LS		CONCRETE
	FOUNDATIONS	BATCH PLANT
X	CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
ASPHAL	т	Опер
	SATCH Pt AN1	
	PLACEMENT (JOB SITE)	 -
		·-··- · · · · · · · · · · · · · · · · ·

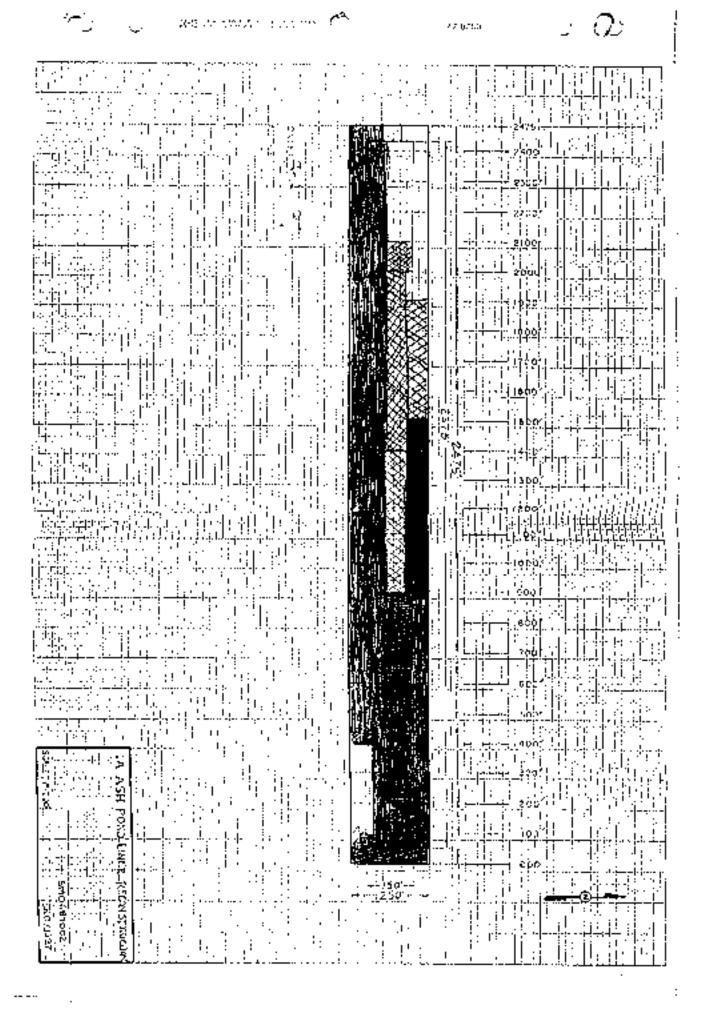
PSI. Inc. Drilling of the weep holes was attempted, but unsuccessful due to the pond condition. The drilling of the weep holes was tentatively rescheduled for 09-03-87.

(2) Above

Respectfully submitted, Professional Service Industries, In-

San Antonio TX 78216

Phone 512/342-9377





Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

Ŧ	COL	CO	COL

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 31, 1987

OUR REPORT NO

311-70065-43

WEATHER Cloudy

TEMPERATURE PANGE 60°

to 70°

INSPECTOR K. McWilliams & K. Bowen

TYPE OF INSPECTION BEING PERFORMED

X	\$Q1LS	CONCRETE
	FOUNDATIONS	SATCH PLANT
	CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
	X Drill Weep Holes	
	_ ASPMALT	ОТНЕЯ
	9ATCH PLANT	
	PLACEMENT (JOB SITE)	
_	· <u> </u>	
	ås requested	tun (2) DS1 Decresentatives reported to

engrassime 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

, od

Respectfully submitted.

Professional Service Industries, Inc.

Three Burwood Lane

San Antonio, 1X 78216

ithone:512/342 9377



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR	SAN MIGUEL ELECTRIC COOPERATI Post Office Box 280 Jourdanton, Texas 78026 ATTENTION: Mr. Clyde Price	VE, INC.PAQUEC	r.	1A Ash Pond Soil Testing P.D. #26643-032108
DATE	August 29, 1987	OUR RO	NO TRIO	311-70065-41
	WEATHER RAINY TEMPERATURE RANCE INSPECTOR G. QU		75°	
	TYPE OF	INSPECTION BEING	PERFO	RMED
x _ :	SOF 2			CONCRETE
	FOUNDATIONS			BATCH PLANT
	X CONTROLLED FILL (COMPACTION)			PLACEMENT (JOB S:TE)
 	SPHALT			QTHER
	SATCH PLANT			
	PLACEMENT (JOB SITE)			
<u> </u>	<u> </u>	<u>. </u>		
above 1		arrival, the		ssigned technician reported to the ician was notified that no work

Three Burwood Lane

SanAntonio, FX 78216

Phone . 612/342-9377

Respectfully submitted,

Respectfully summand.

Professional Service Industries, Inc.

: (2) Above



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

resmolece 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

DAYE

August 28, 1987

QUR REPORT NO 311-70065-40

Page 1 of 3

REMARKS:

Neather: 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) Liebherr Dozer

(1) 120G Grader

(1) 06 Dozer

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.

cc: (2) Above



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 2 of 3

TEST O	ата: Optimum	moisture:	(33	. 23.7)				
rt (c) NO	£7.€	(c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	200 < nayva2010	OAS OLIV AR COM OLIVETE	0000 97 0000 97	04 (0, 40) 04(4) 08 (4) (0) (4)	50/m 20 (10/m b) 4 (00/m)	(Ondex.
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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	<u>1 - A</u>
4	08-28-87	Subgrade	33	88.2	27.0	85.0	96.3	1 ~ A
55	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
TESTIC	CATION: NORTI	H SINDF S	OTT&T:	N 1500'-1900	1			

- MORTH SCOPE, 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.
б	95' West of Station 1700' and 10' from bottom of slope.

NOTES CANSITIES SHOWN Lbs. par conditions wareholder. Per Centrel are weacht. PERCENT COMPACTION, Based on missimum day.

density polaried on sample indicated by a soutDinamber.

* * FILL MATERIAL

- 2 DACKFILL 2 DASS COURSE
- 4 SU98485
- 5 SOIL CHARME
- 6 DIHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS 0. RECOMPACTION REQUIRED 0. TEST IS AFFEH HECOMPACTION

REMARKS:

Respectfully submitted. Professional Service Industrius, 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 DA	ъта: Ортіпип	moisture:	(33	, 23.7)				
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В	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
0	08-28-87	Subgrade	.33	. 88.2	27.4	85.5	96.9	1 - A
					<u> </u>			
	CATION NODIL	CLOOK ST	ATLON	19001 2900			<u> </u>	<u>.</u>

L	
7	30' West of Station 1800' and 20' from top of slope.
В	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.
<u> </u>	:
1 :	

NOTES IDENSITIES SHOWN Lbs. per code four WATER CONTENT, Per Control documents PERCENT COMPACTION, Based on recommendity

density obtained on name's indicated by soft Complex

1 FILL MATERIAL

2 BACKFUL 3 BASE COUPSE

4 SUBDASE

5 SOIL CLIMENT

A LITEST BY SULTS COMPLY WITH SPECIFICATIONS.

B PECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

REMARKS.

Respectfully somitted. Professional Service Industries, Inc.

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. ≯ROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

JA Ash Pond Soil

Testin**o**

P.O. #26643-032108

DATE

August 27, 1987

OUR REPORT NO 311-70065-39 Page 1 of 5

HEMARKS:

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) 6370 Scrapers

2. (1) 06 Oozer

(1) Liebherr Dozer 4. (1) Water Truck

5. (1) CAT. Spray King

6. (1) 120G Motor Grader

7. Discing Equipment

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 hales 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.

cc: (2) Above



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 Pand Sail

Testing

P.O. #26643-032108

DATE

August 27, 1987

оци вероят мо - 311-70065-39.

Page 2 of 5

TEST	DATA
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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,£
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'

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

NOTAS DENSITIES SHOWN Up per class from WATER CONTENT Pro Control duy weight PERCENT COMPACTION, Based on Taken on the density obtained on sample and called by 40,000 number.

- FILL MATERIAL
- 2 CACKFILE 3 GASSICOLASE
- a SUBBASE 5 SOIL CLMENT
- 6 OTHER
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS
- DI PECOMPACTION PEQUIPED CI TEST IS AFTER RECOMPACTION
- © TESTISAFTCH HECONOMIC NO.

 D Moisture in excess of specs.
- E Moisture below specs.

Respectfully submitted: Professional Service Industries, Inc.

REMARKS:



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

CSTCO FOR SAM MIGUEL ELECTRIC COOPERATIVE, [NC.FROURC

Post Office Box 280

Courdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

.....

August 27, 1987

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Page 3 of 5

TEST DA	ATA: Optimum	moisture:	(33,	, 23.7)				
40	2477	3,000	500. 1 5940.0	(AR 50 r (AR 50 r (44 % r)	781140 7811400	5 F. AGE 580 3 F. AST 7	PERFORM DOMPNOTION	cours 4° *
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
0	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 - 4,0
12	08-27-87	Subgrade		88.2	27.0	87.0	98.6	1 - A,C
TEST LO	TEST LOCATION: POND FLOOR, STATION 1600'-2000' / MORTH SLOPE, STATION 1500'-1900'							

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

NOTES GENOTIES FROM Library culto for WATER CONTENT, Per Control dry Agriph. PERCENT COMPACTION. Based on how in the day developing obtained on subject and cortest by se tiD number

- * 1 FOU MATERIAL
 - 2 BACKFILL 3 BASE COURSE
 - 4 SUBBASE
 - 5 SOIL COMENT
 - OTHER
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS.
- B. RECOMPACTION REQUIRED. C. YEST IS AFTER RECOMPACTION.

Hespecti⊎Ny submitted :

REMARKS:

Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Past Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 27, 1987

оня вераят ма 311-70065-39.

Page 4 of 5

122 22 71 Ontimum maisture:

TEST D	¥.(♥: թիքյանա	i moisture	- (.)	3 , 43,//				
11.97 H 0	PATE	Nata (Tx	SOLID NO MERCEN	049047 (49047 (20047	%A1 ₆ 1/ (ON*61/1	15 15 ACE 19 - (4 ACETY	PLAICING COAPWORDS	EGOVEST *
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	lst Lift	33	88.2	26.5	85.5	98.0	1 - A
.6	08-27-87	2nd Lift	33	88.2	27,3	84.0	95.2	1 - A
17	08-27-87	lst Lift	33 _	88.2	29.1	83.3	95.0	1 - A
18	08-27-87	lst Lift	33	88.2	30.3	84.0	95.2	1 - A

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

13	Retest of #3
14 1	Retest of #4
15	10° West of Station 1500' and 10' from bottom of slope.
15	20' West of Station 1500' and 20' from top of slope.
17	30' West of Station 1600' and 15' from bottom of slope.

45' West of Station 1700' and 30' from top of slope. 18

NOTES DENSITIES Shown libs per copic loss WATER CONTENT, Per Control de Angles PERCENT COMPACTED & Based on maximum dry gensity obtained on sample, he cathralby ser ID cumber.

THE MAY HATE 2 HACKER:

3 BASE CQURSE 4 SLEHASE

5 SOIL CEMENT A OTHER

N. N. PRESIDENCE TO VISITABLE DE B. RECOMPACIACIÓN PROCESO D C. TEST IS AFFER RECOMPACTION

REMARKS:

Respectfully submitted, Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Optimum moisture: (33, 23.7)

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 27, 1987

CUR REPORT NO 311-70065-39.

Page 5 of 5

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iusi S	n.e.s	1.17	Kuli S New an in	BANG.O LAB Ster CHOSEF	MATES COATEST	MA. ACE (CA) (C) 4617	estional (Ourwith a	(Soul 4) F
19	08-27-87	lst Lift	33	88.2	27.4	85.5	96.9	1 - A
20	08-27-87	Fina)	33	88.2	27.3	86.8	98.4	1 - A
21	08-27-87	Final	33	88.2	27.6	8 5.0	96.3	<u>1</u> - 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	08-2/-87	Final	33	88.2	27,7	85.8	97.2	1 - A
TEST LO	CATION: NORTH	SLOPE, \$1	TAT [Q]	i 1800' / POX	NO FLOOR,	STATION 9	00'-1400'.	
19	90' West o	f Station	1800	and 20' fro	om bottom	of slope.		
20	5' West of	Station 9	900' z	and 30° Souti	of North	slope.		
21	25' West o	f station	1000	and 45° Sou	ith of Nor	th slope.		
22	40' West o	f Station	1100	and 50' Soc	th of Nor	th slope.		
23	65' West o	f Station	1200	and 35' Sou	<u>ith of No</u> r	th slape.		
24	80' West o	f Station	1300	and 20' Sou	th of Nor	th slope.		

NOTES DENSITIES SHOWN CON deji bedibilloof WATER CONTENT, Per Contint are weight PERCENT COMPACTION, Savery on making and disdensity obtained in Sung emotions by

so ID ministra

1 FILL MATERIAL 2 BACKFILL 3 BASE GOURSE

4 SUBBASE

5 SOLCEMENT

6 CTHER

A ITEM PESULTS COMPLY WITH SPECIFICATIONS B RECOMPACTION REQUIRED C 15ST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted, Professional Service Industries, Inc.

 ∂

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,是是我们的特殊,就是自己的自己的自己的自己的最后,这是一个 是不是一个,我们也没有一个 的。	
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,我们就是没有我们们的时间,但是有一种的。	
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,一 是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,	Gardiandia -
"是是我们是我们们的,我们们们们们们们们们们们们们们们们们们们们们们们们们们们们们	
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.....



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

rested 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

QURIASPORTING 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:

(2) 637D Scrapers

2. (1) D6 Dozer

(1) Liebherr Dozer

\$pray King.

(1) Water Truck

(1) 1206 Motor Grader Discing Equipment

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 relested. 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 reoccuring 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 betinite 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.

(2) Above cc:

Three Bur wood Lane

740

San Antonio, TX 78216

Phone 619/342-9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTEDICA SAN MIGUEL ELECTRIC COOPERATIVE, INC. PHOJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. 426643-032108

DATE:

August 26, 1987

OUR REPORT NO 311-70065-38

Page 2 of 5

TEST D	EST DATA: Optimum moisture: (33, 23.7)										
	6.00	m vin	NAME OF NUMBER OF	e as Jense An Pros Diving 7 -	AATIN COMPEYO	Districts	PLACENT COMMODIA	Comment *			
1	08-26-87	Subgrade	_33_	88.2	19.6	92.8	105.2	1 − €			
2	08-26-87	Subgrade	33	88.2	18,4	95.0	107.7	1 - E			
3	08-26-87	Subgrade	33	88.2	19.6	89.5	101.4	1 - E			
4	08-26-87	Subgrade	33	88.2	16.3	90.3	102.3	<u>1 - E</u>			
5	08-26-87	Subgrage	33	88.2	26.7	87.0	98.6	1 - A			
6	08-26-87	lst Lift	33	88.2	28.1	87.0	98.6	1 - A			
TEST LO	rest Location: PONO FLOOR, STATION 1500'-2000' / NORTH SLOPE, STATION 1400'										

_		Total Test Test Total Total Test Test Test Test
	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 DESCRIES SHOWN Law per to a clice: WATER CONTENT Per Cool of the weight PERCENT COMPACTION (Seed on report of the density obtained on sample of lated by soil () murble.

* 1 FILLMATERA. 2 BACKEGE

3 9ASL COURSE

4 SUHSAS! 5 BG LICEMENT

я отнея

A LIFEST HERULTS COMPLY WITH SPECIFICATIONS H HECOMPACTION REDURED C TEST IS AFTER RECOMPACTION

E. Moisture below specifications

REMARKS:

Respectfully submitted, 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 Sail Testing

P.O. #26643~032108

DATE

August 26, 1987

OUR REPORT NO 311-70065-38

Page 3 of 5

TEST D	AτA: Ορτίπυπ	<u>maisture:</u>	33,	23.7)				
11 S1 360	98%	(+ * IH	eri. o ra witi ili	49 may ya 1 mil Oran 1 € No. 1 m	далын (11.56°ы)	5 5,901 597 515957	PIZ CINE COMPACTOR	conveni *
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	<u>1 - A.C</u>
้ จ	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

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

	7 100 100 100 100
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.
į 12	Retest of Test #4.

NOTES BENSILES SHOWN Cap per population WATER CONTENT Per Content to American PERCENT COMPACTION, Based on maximum by

Terrote (\$500m3 on Sample of Cases by two 60 months

* I FILL MATERIA.

9 HACKED. 9 HASE COURSE

4 SLBBASS

5 SOIL CENTENT 6 CTULK

A TENT OF BUILDINGS OF STANDARD OF STANDAR

Respectfully submitted. Professional Service Industries, Inc.

REMARKS:

San Antonio, TX 782,16

Phone: 512/342/9377



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

MA Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 26, 1987

OUR REPORT NO 311-70065-39

Page 4 of 5

TEST D	ara: Optimum	noisture:	(33	, 23.7)				
1881 MC	J#*(Mark Park	SON CO MINARED	ecknowed Last Over Of MSIFT	MARP COMMENT	Signatur 1947 Olivitar	PERCIST ECHPACHES	COMM 4: *
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
<u>.</u> .	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		88.2	28.5	84.8	96.1	1 - A
TEST LO	CATION: NORTH	SLOPE, S	TATION	1300,-1600	' / POND F	LODR, STA	LION 800,~1	500'
13	30' West o	of Station	13001	and 10' fro	om bottam	of slope.		

	Southern Section 2 and Total T
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.
i 18	40° West of Station 1100' and 15' South of North slope.

NOTES IQUISITIES SHOWN Use per cubic look WATER CONTENT. Pre-Com of dry weight PERCENT COMPACTION, Based on maximum day density oblained on sample indicated by sof 10 number

FILLMATERIAL

2 BACKTILL 3 BASL COURSE

4 SUBBASS

5 SGIL CEMENT

6 CINER

A IT STITESULTS COMPLY WITH SPECIFICATIONS BI RECOMPACTION REQUIRED C. FEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted Professional Service Industries, Inc.

Phone: 512/342-8377



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

сия ягрон: No. 311-70065+39.

Page 5 of 5

TEST D.	ата: Optimum	moisture:	{ 33	, 23.7}				
1957 1960	7471	0.00	50) (. N 4))(4	(d 457) AH 794 (A) 957)	WM14 0090151	va Princia Labor Qilinoi Ile	PriBiglish CoanseChok	COverthi =
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	<u>1 - A</u>
21	08-26-87	lst 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
<u>-</u>		<u> </u>					<u> </u>	
TESTIC	CATION: POND	FLODR ST	ATION	1200'-1600'			!	

POND FLODR, 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 DENSITIES SHOWN LEW periodition foot WATER CONTENT, Pro-Central day weight PERCENT COMPACTION, Building to reserve day. At mistly obtained (in Symply in Spatial deby-NO ID HUMBLE

- I FILL MATERIAL
 - 2 BACKFILL 3 BASE COURSE
 - 4 SUBBASE
 - 5 SOIL CEMENT G OTHER
- A ITEST RESULTS COMPLY WITH SPEC FIGATIONS BI COMPACTION REQUIRED.
- C. REST IS AFTER RECOMPACTION.

Respectfully submitted, Professional Service Industrias, Inc.

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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

QUA REPORTING 311-70065-37

And the second

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:

- (2) 6370 Scrapers
- 2. (1) Liebherr Dozer
- (1) D6 Dozer (1) Spray King.

- (1) 120G Motor Grader
- (1) Water Truck
- Discing Equipment

Areas on the morth 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.

cc: (2) Above

/dd



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. FROMECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 25, 1987

оия вероят мо — 311-70065-37.

Page 2 of 5

TEST O	ATA: Optinum	moisture	: (3)	3, 23.7)				
11.51 NO	f.all	31670	SOL RE MANAGEM	000000 000000 000000	KOWALINA WASER	0) 0, 408 984 66 N S TY	CONVAC. Od Ide Ciza	Committee
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 LO	OCATION: NORT	H SLOPE. 1	STATIO	ON 1300' - 1400)' / POND	FLOOR, ST	AT10N 6001	7001, 8001, 9001,

1000', & 1100

Retest of Test #2. PSI Report #311-70065-36, dated 08-24-87.

Retest of Test #3. PSI Report #311-70065-36, dated 08-24-87.

3 Retest of Test #4, PSI Report #311-70065-36, dated OB-24-87.

4 Retest of Test #5, P51 Report #311-70065-36, dated 08-24-87.

Retest of Test #6, PSI Report #311-70065-36, dated 08-24-87.

Retest of Test #7, PS: Report #311-70065-36, dated 08-24-87. 6

NOTES DENSITIES SHOWN Lbs per cobe foot WATER CONTENT Per Cent of dry weight PERCENT COMPACTION. Based on makinkim by (sensity obligated on sample indicated by

self: 3 number

I FULLMATERIAL

BACKFILL 3 HASS COURSE

SUBBASE SOIL CEVIENT

6 OTHER

- A ITEST RESULTS COMPLY WITH SPECIFICATIONS B. RECOMPACTION REQUIRED C. ITEST SIAFTER RECOMPACTION

REMARKS:

5

Respectfully submitted, Professional Service Industries, Inc.

Three Hurwood Lane

San Amonio, TX 78216

Phone 912/342-9377



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

DURI REPORT NO.

311-70065-37

Page 3 of 5

TEST D.	St DAYA: Optimum_moisture: (33, 23.7)											
40 33	2471		(SVIII)	140 (30) 120 (30)	604 0 W	A PLASI (804 (804/0)	01/44 () Sul 01/44 () Sul	convers: "				
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				
Ĵ	08-25-87	Grade	33	88-2	30.0	86.5	98.0	1 - Λ,C				
; 11	08-25-87	Grade	33	88.2	31.0	84.3	95.5	1 - Λ,0				
		i 										

TEST LOCATION:

7	Retest of Tes	it #8, P\$I	Report	#311-70065-36,	dated	08-24-87.

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.

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

NOTES DENSITES SHOWN (Library and the water CONTENT Pro Control dry which is PERCENT COMPACTION, Based or maximum by density data and or hangers no cutoff by: scil Directors

REMARKS:

- * OLI MATERIA:
 - 2 SACKEIU
- 3 BASE DOURSE
- 4 AUBBASE 5 SQUICEMENT
- 6 ОТИГН
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS O RECOMPACTION REQUIRED O ITLIST IS AFTER RECOMPACTION

Respectfully submitted. 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

оца явроят ча — 311-70065-37.

Page 4 of 5

TEST D	ата; Optimum	moisture	: <u> (33</u>	, 23.7}				
7647 M 0	ja iş	nata State	VN 5 VOMNTA	0A3 040 , A9 (40 0) 95 (4	7647642 CO47642	o PraCe 045 Plancio	PHOCINA COMPACTOR	ropel 41 F
1	08-25-87	6rade	33	88.2	29.2	85,8	96.9	1 - A
_2	08-25-87	Final	33		28.0	87.5	99.2	1 - A
3	08-25-87	final	33	88.2	29.A	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	lst Lift	33	88.2	26.8	88.3	100.1	1 - A
6	08-25-87	lst Lift	33 [88.2	26.7	88.7	100.5	t - A
TESTIC	DOATION: PONO	FLOOR, ST	IAT ION:	90007' 600	1'-1000'			

LOUD LEGGK' 218 (1002 5000, 200, -1000, -

1	20' West of Station 2000' and 30' South of Worth 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 DESSITIES SHOWN Low per close floor WATER CONTENT, Per Circled disclarability. PERCENT COMPACTION. Based on maximum dry density abbreved on sample, and safed by to: ID number

- * IL CILL MATERIAL
 - 2 BACKFILL J. BASE COLOSE
- 4 SUBBASE
- 5 SOIL CEMENT 6 OTHER
- A ITEST RESULTS COMPLY WITH SPECIFICATIONS B. HECOMPACTION HECUMPACTION.
 C. TEST IS AFTER RECOMPACTION.

REMARKS:

Respectfully submitted, 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

311-70065-37 OUR REPORT NO

Page 5 of 5

TEST D	TEST DATA: Optimum moisture: (33, 23.7)												
1657	9411	11 TH	Marion of the	Q21 01 0 (A)(10) (1804 14	Contact of Articles	5. (6. A/6) 384 05 N × 15	COMPACTOR SERVEN	COMPANIA					
7	08-25-87	lst Lift	33	88.2	29.8	85.5	96.9	1 - A					
8	08-25-87	lst Lift	33	88,2	27.9	86.7	98.2	1 - A					
9	08-25-87	lst Lift	33	88.2	29.0	86.8	98.4	1 - A					
0	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	lst Lift	33	88.2	30.8	86.0	97.5	1 - A					
TEST LO	DCATION: POND	FLOOR STA	ATION.	400' 500'	& 1100'-1	400' / Kos	TH SLOPE.	STATION 13001					

KOND LEGAK' 2141104 ARR, 200, 9 1100.-1400, / VOKIH 2FORE' 2141104 1300

7	45"	West	of	Station	1100'	and	25'	South	٥f	North	slope.	
⊢	⊢								_:_			

- 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 West of Station 500' and 45' South of North slope.
- 12 West of station 1300' and 10' from bottom of slope.

NOTES DEASTICS SHOWN to sign cross less WATER CONTENT For Cent of thy weight PERCENT COMPACTION, Based on mallimum dry douse, standed on sample of cases ty so IB remove

FILL MATERIAL

HACKFIL: BASE COURSE

a SUBBASE

SOIL CEMENT

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A ITEST RESULTS COVPLY WITH SPECIFICATIONS BI RECOMPACTION REQUIRED.

"EST IS AFTER RECOVERACTION

Respectfully submitted. Professional Service Industries, Inc.

ROLLANDON CONTRACTOR

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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

STAG

August 24, 1987

оия вероят но — 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:

<u>Equipment_Used:</u>

1. (1) 637 O Scraper

(1) CAT. Spray King.

5. (1) Water Truck

2. (1) Liebherr Bulldozer 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



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

*ESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Past Office Box 280

Jourdanton, Jexas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

3°AG

August 24, 1987

OUR REPORT NO 311-70065-36

Page 2 of 4

TEST DA	TEST DATA: Optimum moisture: (33, 23.7)												
1131	(847)	Table (1.14)	SOL: MARKET	ed Dos ed Dos	WATER 0040141	44 P. AÖL 1944 OLNOTE	COMP VOTON DEBICATION	COMMIN					
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					
٠ ٩	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 - 3,6,0					
3A	08-24-87	Grade	33	88.2	23.2	76.2	86.4	1 - 3,8,0					
TESTIC	CATION: NORTH	I SLOPE											

	1	Station 12 + 50, 25' from bottom of slope.
		Station 13 + 55, 30' from bottom of slope.
į		

Station 14 + 35, 20' from bottom of slope.

1A RETEST OF TEST #1 ABOVE.

2Д RETEST OF TEST #2 ABOVE.

34 REJEST OF TEST #3 ASOVE.

NOTES DENSITIES SHOWN up- per cobic fort WATER CONTENT, Per Control to A which PERCENT COMPACTION, Sweet on making in dry. egusey ablument on suingdering cuting by two ID numbers

REMARKS:

- FILL MATERIAL
- 2 HACKERS
- 3 RASS COLMSE
- 4 SUBBASE 4 SOIL CEMENT
- A TEST RESULTS COMPLY WITH SPEC HICATIONS.
- S. MEDOMPACT: ON REDI. #50
- C. TEST IS AFTER RECOMPACTION
- D Moisture in excess of specs.
- E Moisture below specs.

Respectfully submitted, 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

STAC

August 24, 1987

OUR REPORT NO 311-70065-36

Page 3 of 4

TEST DATA: Optimum moisture: (33, 23.7)												
-40	127) V	94) (45) An 244 Bi 4574	W4760 0048150	ALP, 401 2015 DONAPS	PHOISE COMPACTOR	DOMES!					
08-24-87	2nd Lift	33	88.2	20.2	85.2	96.6	1 - E					
08-24-87	2nd Lift	33	88.2	19.8	91.7	104.0	1 - E					
08-24-87	2nd Lift	33	88.2	21.7	87.5	99.2	1 - ā					
08-24-87	Grade	33	88.2	20.4	88.0	99.7	1 - E					
08-24-87	Grade	33	88,2	17.6	86.2	97.7	1 - E					
08-24-87	Grade	33	88.2	22.7	86.7	98.3	1 - ε					
	08-24-87 08-24-87 08-24-87 08-24-87 08-24-87 08-24-87	08-24-87 2nd Lift 08-24-87 2nd Lift 08-24-87 2nd Lift 08-24-87 2nd Lift 08-24-87 Grade 08-24-87 Grade	08-24-87 2nd Lift 33 08-24-87 2nd Lift 33 08-24-87 2nd Lift 33 08-24-87 2nd Lift 33 08-24-87 Grade 33 08-24-87 Grade 33 08-24-87 Grade 33	08-24-87 2nd Lift 33 88.2 08-24-87 2nd Lift 33 88.2 08-24-87 2nd Lift 33 88.2 08-24-87 Grade 33 88.2 08-24-87 Grade 33 88.2 08-24-87 Grade 33 88.2	08-24-87	Ann Table County of the property of t	18 18 18 18 18 18 18 18					

4	ļ	60,	South	οf	North	slope,	Station	6	+	00,
	┰								_	

- 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.
- 40' South of North slope, Station 11 + 15.

NOTES DEASTIES SHOWN Library conditions was the CONTENT. Per Central by weight PERCENT COMPACTION, Basic Low-making medical devisity obtained on sample including by security in contemp.

- 1 FILL MATERIAL
- BACKFILL
- 3 BASECQUASE 4 SUDBASE
- 5 SOLCEMENT
- в отнея
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACT ON REQUIRED C TEST IS AN IERRANCOMPACTION
- D Moisture in excess of specs.
- £ Moisture below specs.

REMARKS:

Hespectfully submitted. Professional Service Industries, Inc.

Tongle Bur waxid Lance

Sala Antonia, TX 78216

Phone, \$12/342-8377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

CHATED 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. #26643-032109

DATE

August 24, 1987

рия янери: мр. 311-70065-36

Page 4 of 4

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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	B9.5	101.4	1 - E
12	08-24-87	Grade	33	88.2	30.8	81.7	92.6	1 - 8
				_		<u>.</u>	<u> </u>	
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TEST LOCATION:

10	401	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.
	ı			
[—			

NOTES CENSITIES SHOWN LESS per construct WATER CONTENT. Per Constitution wealth PERCENT COMPAGITION. Saided on maximum dry sensity obtained on sample violented by soil Dinumber

* : FILLMATTOIAL

2 BACKFILL

3 BASLICOURSE

SUBBOSE

9 COMER

5 SOIL CEMPN?

A TEST RESULTS COMPLY WITH THE UP TO

BI RECOMPAGNION RECUES

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O Moisture in excess of specs.

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REMARKS:

Respectfully submitted, Professional Service Industries, Inc.

; — ; · · · · · · - , · · · · · · · · · · · · · · · · · · 		
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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Past Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #25543-032108

DATE:

August 21, 1987

QUR 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:

(2) 6370 Scrapers

2. (1) Liebberr Dozer

3. (1) D-6 Dozer

(1) Water Truck

(1) CAT Spray King.

(1) 120 6 Motor Grader

Oiscing Equipment

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. Y.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 hesttate to contact our office at your convenience.

> Respectfully submitted, PROFESSIONAL SERVICE INDUSTRIES, INC.

> > 100

cc: (2) Above

/dd



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

OLGE REPORTING

311-70065-35

Page 2 of 6

TEST DATA: Optimum moisture:

9	l:#:F	100 mm	NO. 71 NOMBEL D		COPLER. Marién	# P[ACE 707 56 % 51 Y	PERICENT COMPACTION	COMMENT *
1	08-21-87	Grade	33	88.2	30.9	85.5	96.9	1 - A
5	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 - <u>A</u>
4	08-21-87	Srade	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	l - A

TEST LOCATION: NORTH SLOPE, STATION 9701-12701 / POND FLORE, 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	l0' West of Station 1000' and 10' from the top of the slope.
4	60' Nest of Station 1100' and 20' South of the North slope.
5	75' West of Station 100° and 35' South of the North slope.
б	50' West of Station 200' and 5' South of the Korth slope.

NOTES DENSITIES SHOWN Up a permal chast WATER CONTENT. Per Central by weight PERCENT COMPACTION, Based on maximum dry density obtained on sample indicated by solid Dinamber.

1 FILL WATER AS

Z BACKFUL 3 BASH COURSE

4 SUHSASI

5 SOLCEMENT

A TEST RESILUTS COMPLY WITH SPECIFICATIONS HI PECONPACTION REQUIRED OF TEST IS AFTER RECOVPACTION.

REMARKS.

Respectfully submitted. 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 D	ATA: Optimum	moisture:	(33.	23.7)				
9.51 50	OATI	01-10	SIN C NUMBER	EAR DAY LAR DAY	WATER DONOCHI	5 P. ADC 59 (50 (50 r	SOMY MOTION	Commisse. 4
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
<u> </u>	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	1A
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'

120121	Tand Tedor, Statian Coo -Coo , God -Soo
	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.
: 	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 DENSITED SHOWN the periodic lost WATER CONTENT (Per Croft of the Adjust PERCENT COMPACTION, Secretor may from the density obtained on sensor indicated by

so 110 manifes

* * FILL WATER AL

2 BACKFILL 3 BASE COURSE 4 SOBSASE

5 SOLCEMENT

6 OTHER

A FEST RESULTS COMPLY WITH SPECIFICATIONS 8 RECOMPACTION REQUIRED C TEST IS 4FTSR RECOMPACTION

Respectfully submitted. 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 Sail

Testing

P.O. #26643-032108

DATE

August 21, 1987

ON TROPER RUD

311-70065-35

Page 4 of 6

TEST O	_{ата:} Optimum	i moisture:	: (3:	3, 23.7)				
rikr MO	(#1)	111	SOLIO REMARK	044 00 (841 A- :649 'Y	WATIA CONTINC	in Fundit Herr Hung La	er filet an Communition	COMM 51 T
13	08-21-87	2nd Lift	33	88.2	29.4	87.3	98.9	1 - A
14	08-21-87	lst Lift	33	88.2	28.2	87.7	99.4	1 - A
15	08-21-87	lst Lift	33	88.2	29.6	86.0	97.5	1 - A
6	08-21-87	Sinal	33	88.2	29.0	86.8	98.4	1 - A
17_	08-21-87	2nd Life	33	88.2	30.8	86.0	97.5	<u>1 -</u> A
18	08-21-87	2nd Lift		88,2	30.9	86.3	97.8	1 - A

TESTLOCATION: NORTH SLOPE, STATION 900'-1200',

13	50' West of Station 900' and 20' South of the North slope.
1	30 Nest of Station 900 and 20 South of the Rollin Stope.
<u>l4</u>	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 DENSITES \$10WN Lbs. per cubic fool WATER CONTENT, Re- Certifolity, weight PERCENT COMPACTION. Business many many day density officered do is might actually by so- (Dinumber

I FILL MATERIAL

Z BACKFILL J BASS COURSE

SUBBASE

SOIL CEMENT

OTHER

A ITEST RESULTS COMPLY WITH SPECIFICATIONS BI RECOMPACTION REQUIRED CITEST IS AFTER RECOMPACTION

Respectfully submitted, 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

CATE

August 21, 1987

OUR REPORT NO

311-70065-35

Page 5 of 6

TEST D	Aта: Optimum	impisture	: (3.	3, 23.7)				
20	:A11	MADH 1112	50. () 514601	UAR (11) (12) (14) (2) (14)	9/4/10 0.590 91	MIPLACE DOM CEMINES	MILICIAN COMPACTION	Ecological and p
19	08-21-87	1st Lift	33	88.2	28.9	0.88	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	lst Lift	33	88.2	28.2	87.7	99.4	1 - A
' <u>2</u>	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		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 DENSITES SHOWN that per supplied WATEH CONTENT, Per Circlet division of the PERCENT COMPACTION, Business in maximum day. density obtained on sample indicated by solving number

THE WATER AL

2 BACKFILL 3 BASE COURSE

4 SUBBASE 5 SON DEMENT

6 OTHER

A TEST REGULTS COMPLY WITH SPEC AICHTIONS

B RECOMPACTION REQUIRED C TESTIS AFTER RECOMPACTION

Respectfully submitted. Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

resizores SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280 Jourdanton, Texas 78026

ATJENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 21, 1987

QUAREPORT NO 311-70065-35.

Page 6 of 6

TEST DA	ATA: Optimum	moisture:	: (33	3, 23,7)				
7157 90	0**1	24.540	POLIS MARCHINI	56 (50) 56 (50)	604-14". Wali ii	5 Pr 401 541 516 Tv	PLA ELST CDA/ACTION	EGPVEN- *
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 - Λ
TEST LC	CATION: NORT	H SLOPE S	TATIO	N 1000'-1200	ממחק / יו	FLOOR STA	ימפא אחוד.	.ann.•

-	Herrin seere of the seere of th
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 CENSITIES SHOWN LES per cobolices WATER CONTENT, Per Cent of this weight PERCENT COMPACCED'S. Based on making miles construction on sample odicated by so ID comber

1 Fill MATERIAL

 BACKERQ 3 BASE COURSE

4 SUBBASE

5 SOLCEMENT

A LITEST RESULTS COMPLY WITH SPECIFICATIONS.

B RECOMPACTION FEQUIFIED CONTRACTION

Respectfully submitted, Professional Service Industries, Inc.

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

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and 75026

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 20, 1987

сия авроят 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:

(2) 637D Scrapers

(1) Liebherr Dozer

3. (1) D-8 Dozer

(1) Water Truck

6. (1) CAT Spray King

7. (1) 120G Motor Grader

(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)

(2) Above cc: /dd



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

DA*E

August 20, 1987

OUR REPORT NO

311-70065-34

Page 2 of 5

TEST DA	<mark>aτα: Ορτίπυ</mark> π π	ioisture:	(22,	33.0)				
6.5	14.51	District Control	10% 0 8 9 00.0	generale ge 1981 (1982) 1985 (1981)	COVIRY. Whish	es PriACr BNY Of mixCy	PLACENC COMMISSION	coupl st *
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
_ 1	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
ر 6		lst Lift	l J	82.6	36.4	81.3	98.4	1 - A
TESTIC	CATION: NORTH	I SLOPE (ST	AT (O)	500°-900 <u>"</u>				

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.
<u> 4</u>	30' West of Station 800' and 30' from Top of Slope.
: . <u>5</u>	15' West of Station 600' and 5' from Bottom of Slope.
<u> 6</u>	45° West of Station 700° and 25° from Bottom of Slope.

NOTES INTERNATION LES DOCUMENTS SETON MAINEN CONTROL POR CONTROL NOTES AND INTERNATIONAL PROPERTY OF THE PROPE PERCENT COMPACTION, Based on transmit dry density obtained on Sangra instructed by

spirito carrier

" 1 FILMATERIAL

2 BACKFILL 3 BASE COURSE

4 SURBASE

5 SOIL CEMENT 0 OTHER

A TESTIRISULTS COMPLY WITH SPECIFICATIONS 8 RECOMPACTION REQUIRED C TESTIS AFTER RECOMPACTION

PEMARKS:

Respectivity submitted. Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTEDIFOR 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

CATE

August 20, 1987

OCH REPORT NO.

311-70065-34

Page 3 of 5

TEST D	ата: Орtimum	moisture:	(22,	33.0}				
FLNE MO	On It	1.17		party of party	#A16#1 (13#16#1	SEMIACE CHY CHARLE	er frig 1 sit (-(suvva) friger	COUNTY! "
7	08-20-87	lst Lift	22	82,6	35.8	82.0	99.2	1 - A,C
8	08-20-87	Grade	22	A2.6	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
<u></u>	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	L i	82.6	37.0	80.2	97.0	1 - A
TECTIO	CATION POND	ELOOR (Ո_5	.00)					

TEST LOCATION: PUNU FLDUK (U-5011')

		'
7	Retest of Test #13, PSI Report #311-70065-31, Dated 08-18-87.	
į g	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 are promoted from WATER CONTENT, Pro-Control by weight PLHCENT COMPACTION, Bosed on the sert, midry

dishrip obtained on sample, on pated by re ID'n niter

* IL FIL MATERIAL

2 RACKEIL. J HASE COLHS!

4 SUBBASE

5 SOLCEMENT 6 OTHER

- A TEST HESU, IS COMPLY WITH SPECIF CATIONS HI RECOMPACTION REQUIRED C. ITEST SIZEFIER RECOMPACTION

Respectfully submitted, Professional Service Industries Inc.

REMARKS:

Three Burwood Lane

San Antonic, TX 78216

Phone: \$12/342 9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, [MC. 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

COR REPORT NO.

311-70065-34

Page 4 of 5

	EST DATA: Optimum moisture: (22, 33.0)							
1151	':A")	Chari	20.00 5.000	04466.0 90.046 94.556	60MI V. 94II V	M PURCE 1941 1855 1 *	PERIODIA : COMPACION S	CONNEST *
13	î 08-20-87 	1st Lift	22	82.6	37.6	81.0	98.0	1 - A
14	08-20-87	2nd L1ft	22	82.6	36.5	82.0	99.2	1 - A
15	08-20-87	lst Lift	22	82.6	37.0	81.7	98.9	1 - A
6	08-20-87	lst 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	;	82.6	36 .8	80.0	96.8	1 - A
TEST LO	OCATION- NORTH	SIMPE (ST	ATION	. 600° <u>-</u> 200'}∙	POND FLOR	ου έςτατιο	N 0_300*1	

secretion, nowith Prope (2) within Phot-Book 13 bond Frank (2) with p-300.1

		٠, ١
i 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. (Pand Flaar)	
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 DENSITES SHOWN too per cuby how waten content the Central by which percent compaction. Based on my main dry density obtained an sample indicated by and its remover

* I FILL MATERIAL

P. BACKFILL 3. BASE COLFISE

4 SUBBASE

5 SOIL GEVENT 6 OTHER

A TOST RESULTS COMPLY WITH SPECIFICATIONS BECOMPACTION REQUIRED TO TEST IS AFTER RECOMPACTION.

REMARKS.

Respectfully submitted, 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. #26632-032108

DATE

August 20, 1987

сия вгроят мо - 311-70065-34.

Page 5 of 5

TEST D	ata: Optimum	moisture:	(22,	33.0)				
51 K 54 S	5411	FIEV	40% 0 40,400 9	Decor. 4 Tap Sp. 14 No. 15	62/1141 C2/1141	64 (54 (54) 10 (44) 11 (44)	120 DEN:	C. MRF 11 +
19	08-20-87	2nd Lift	22	82.6	36.1	81.5	98.6) - A
20	08-20-87	Final	22	82.6	36.7	79.0	95.6) - A
21	08-20-87	Final	22	82.6	37.2	82.2	99.5	1 - A
	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 LO	CATION: NORTH	SLOPE (SI	AT LON	700'-900'):	POND FLO	OR (STATIC	N 0-300°i	

(2) KITON 100.-300.1: NOWO LEGOK (2) WITON 0-300.1

19	İ	301	West	٥ſ	Station	8001	and	20,	from	Bottom	αf	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.

20' West of Station 0-100' and 20' South of North Slope. 22

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 (DRASH RS SHOWN The per cubic tool WATER CONTENT For Controlling weight STROUGH COMPACTION Dated on maximum into density obtained on sample in Islated by

Sot Dinamont

2 BACKETT 3 BASE COURSE TOASE A COURAST S SC . CEMENT 9 G1H5B

FIL. MATERIAL

A I TEST RESULTS COMPLY WITH SPECIFICATIONS 8 RECOMPACTION REQUIRED OF TEST IS AFTER RECOMPACTION.

D Moisture in excess of specs.

E Moisture below specs.

REMARKS:

Respectfully submitted. Professional Service Industries, Inc.

∵i, r i Jahr بأبار 7,00 ! 2475 <u>[</u>[:] Ψį 1300 : i Ī Ξ H POND LINES RECENSURATION 285,2035



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENT[ON: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

Contractor: V.K. Knowlton

DATE

July 20, 1987

QUR REPORT NO

311-70065-7

REMARKS:

EQUIPMENT USED

1. 3 - 6370 CAT. Scrapers

2. 1 - Liebherr 731 Bulldozen

1 - DSM CAI, Bulldozer

1 - 1206 CAI, Grader

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 toring 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 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)

cc: (2) Above /dd

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL SUSCIPIE 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 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:

t. (1) 6370 Scraper

2. (1) Liebherr Dozer

3. (1) 0-8 Oozer

5. (1) Water Truck

6. (1) CAT, Spray King 7. (1) 120G Motor Grader

(1) D-6 Dozen with Rake

V.X. Knowliton started work at 7:00 a.m. V.K. Knowliton 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. Y.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 hesilate to contact our office at your convenience.

> Respectfully submitted. PROFESSIONAL SERVICE INDUSTRIES, INC.

(Shilstone Engineering Testing Laboratory Division)

cc: {2} Above

/dd

Phone: 612/342 9377 San Antonio, FX 78216



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTEO FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 283

Courdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032198

DA*F

August 19, 1987

OUR REPORT NO

311-70065-32

Page 2 of 4

TEST D	ATA: Optimum	maisture:	{22,	. 33.0)				
11.51 NO	789	1.64	50.0 96 VII 0	(A) 20 c (A) 20 c (A) 4 c)	WILLIAM COMP.: NO	6, 0, 4() (#4- (5, 6),0 s	Part Class	Camping.
l	08-19-87	1st Lift	02	82.6	37.2	80.5	97.4	1 - A
2	08-19-87	lst 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
	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		82.6	35.9	82.0	99.2	1 - A

TEST LOCATION: NORTH SLOPE (STATION 400'-700')

- 35' West of station 488' 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.
 - 75' West of Station 400' and 15' from Top of Slope.
 - 45' West of Station 400' and 10' from Bottom of Slope.
 - ij 85' West of Station 500' and 20' from Bottom of Slope.

NOTES DESSITIES SHOWN (the personners of WATER CONTENT Personner of the weight PERCENT COMPACTION, Brisid an incompainting density obtained on completed and the disk. achilly mainten

- I FILL VATERIAL
- 2 BACKFIL 3 BASE COURSE
- 4 SUBBASE SCALICEMENT
- 6 GINER
- A I TEST III: SULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED C. *LIST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted. Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL SLECTRIC 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 3 of 4

-87 Final	NON D	VACOV V 1881.444 VANATA	AATER CCAREAL	PRINCE CHO DENNY C	PLP CALL Company Lynn	(Output *
l 1-87 Final	. !					
	22	82.6	36.4	79.5	96.2	1 - A
-87 lst L	ifti 22	82.6	37.9	79.8	96.6	1 - A
-87 2nd L	ift 22	82.6	38.1	80.0	96.8	1 - A
-87 Final	22	82.6	37.7	79.4	96.1	1 - A
-87 Grade	2 22	82.6	37.4	80.8	97.8	1 - A
≖87 Grade	22	82.6	36.3	80.3	97,2	1 - A
	-87 2nd L -87 Final -87 Grade	-87 2nd Lift 22 -87 Final 22 -87 Grade 22 -87 Grade 22	-87 2nd Lift 22 82.6 -87 Final 22 82.6 -87 Grade 22 82.6 -87 Grade 22 82.6	-87 2nd Lift 22 82.6 38.1	-87 2nd Lift 22 82.6 38.1 80.0	-87 2nd Lift 22 82.6 38.1 80.0 96.8

IESI L	BOATION: MOKIN SEONE (2 MITON SOR - 800.)	
7	30' West of Station 200' and 10' from Bottom of Slope.	
	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 \$lope.	
12	50' West of Station 500' and 5' from Bottom of Slope.	

NOTES DENSITES SHOWN LESS par que c'hect WATER CONTENT BAR Caret Midra Arresto PERCENT COMPACTION Barred de makenant dev denvice obtained on sample indicated by so 10 number.

- * FILL MATERIAL A TEST RESULTS COMPLY WITH SPECIFICATIONS
 2 BACKELL B RECOMPACTION REQUIRED
 3 BASE COURSE G TEST SAFT! PIPCOMPACTION
 4 SURBASE
 5 SOIL CEMENT
 5 OFFICE

REMARKS:

Respectfully submitted. 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 Pend Soil Testing

P.D. #26643-032108

DATE

August 19, 1987

QURINHPORTING.

311-70065**-**32

Page 4 of 4

TEST D.	ATA: Optimum	moisture:	(22, 3	33.C)		_		
7531 763	544	1.17	574. () 5 9 (() 0	MAY 00 10 1,84 (00) (4 9/2) 4	68.69 (08.00)	Demons Sec wild file	PERCHAS COMPRESSON	couply: *
13	08-19-87	Grade	22	82.6	38.3	78.8	95.3	1 - A
14	08-19-87	Ist 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
. <u>j</u>	08-19-87	Final	22	82.6	36.0	83.5	101.0	1 - A
17	08-19-87	lst Lift	22	82.6	38,1	80.0	96.8	1 - A
18	08-19-87	2nd Lift	· .	82.6	37.0	80.3	97.2	1 - A
TEST LO	CATION: NOR	TH SLOPE (STATION	\ 100'-303']				

:		
1. 13	20' West of Station 100' an	1 25' from Bottom of Slope.
_14	35' West of Station 100' an	1 30' from Bottom of Slope.
15	60' West of Station 100' an	i 10' from Top of Slope.
16	75' West of Station 100' an	j 15' from Top of Slope.
17	19' West of Station 200' an	1 30' from Bottom of Slope.
:_18,	25' West of Station 200' an	i 1G' from Bottom of Slope.

NOTES DENSITIES SHOWN Lost per conclusion WATER CONTENT, for Central thy weach. FERCENT COMPACTION, Based on Taxonion six sensity splayed an sample and caled by

solid) ourboil

* * FOLLMATERIAL

2 BACKFILL 3 BASE COURSE 4 SUBBASE 5 SOLCEMENT 6 OTHER

A I TES! RESILES COMPLY WITH SPECIFICATIONS

D. RECOMPACTION HEQUINED G. TEST SAFTER RECOMPACTION

REMARKS:

Respectively submitted. Professional Service Industries, Inc.

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Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Bax 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

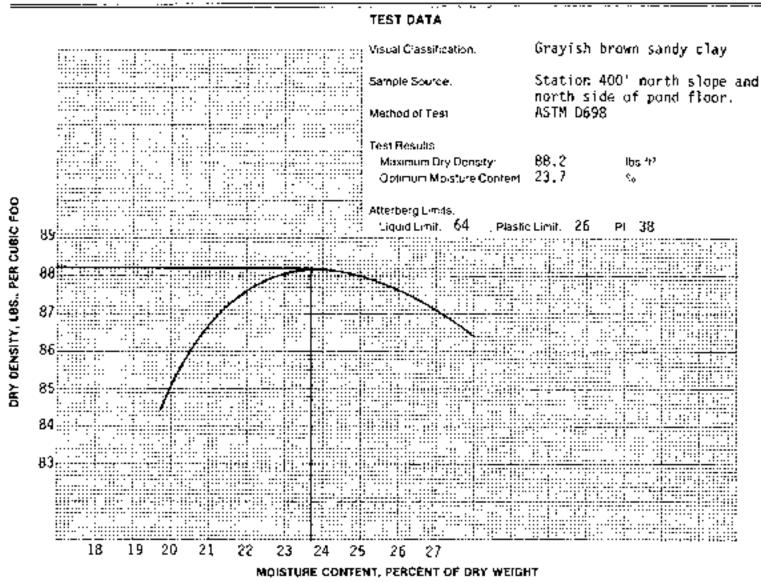
1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 18, 1987

OUR REPORT NO. 311-70065-33.



cc: (2) Above /dd



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, [NC. MAGNECT

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: 6. Quintanilla

Type of Inspection: Fill Control

Brief surmary of work accomplished today:

Equipment Used:

1. (1) 6370 Scraper

2. (1) Liebherr Dozer

3. (1) D-8 Dozer

5. (1) Water Truck

6. (1) CAT, Spray King 7. (1) 128G 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 occured due to moisture content. This area is being watered and reworked again. Y.K. Knowlton finished work at 6:00 p.m.

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

Respectfully submitted,

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

cc: (2) Above

/dd



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

FESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT.

Post Office Box 280 Courdenton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.U. #26643-032108

STAC

August 18, 1987

ODR REPORT NO

311-70065-31

Page 2 of 4

TEST Q.	ara:Optimum m	oisture: ,	<u>(22, </u>	33.0}				
Αυ 11:1	A**	50 mg	Acres of Monaged P	MACON IM CAN DAY I MACON	AATON COMPONE	M PEACE DEST DEMOLITY	PHILICIAL COMPACTOR	COMOL4- ₽
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
1	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	lst Lift	22	82.6	39.0.	78.8	95.3	1 - A
TEST LO	CATION. EAST	SLOPE (STA	TION	0-100') - NO	RTH SLOPE	(STATION	D-100 <u>"</u>)	

1	20' South of the N.E. Corner and 20' from Sottom 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 DINOTIES SOOWN LOS persone but WATER CONTENT Per Certail by weight PERCENT COMPACTION, Business maximum div activity thaned on sample indicated by the lift in laber

* : FILLMATERIAL

3 BACKHEE

3 ANSF COURSE

4 SUBHASE

5 SOLCEMENT 6 CTHER

A LIST RESULTS COMPLY WITH SPECIFICATIONS

B. RECOMPACTION HEQUIRED C. TEST IS A FER RECOMPACTION

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

PESTED 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

DUR REPORT NO. 311-70065-31

Page 3 of 4

TEST D	ата: Optimum	moisture:	(22,	33.0)		····		
1157 120	2574	1112	NON DI NUMBER	04 (30) (40 (0) (0 58 ()	MATER CIRCLES	(1/27) (2/27) (2/27)	COMMUNICACIÓN (CONNENT *
7	08-18-87	2nd Lift	22	82.6	36.8	80.7	97.6	1 - A
88	08-18-87	Final	22	82.6	36.3	82.5	99.8	2 - A
9	08-18-87	Grade	22	82.6	36.7	82.2	99.5	1 - A
<u> </u>	08-18-B7	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 LO	CATION: NORTH	SLOPE (ST	ATTON	. o-ráo, gisč	<u>)0'-500'),</u>	POND FLOO	<u> NOITATION</u>	O-600') NDRTH SIDE.
7	20' West o	f Station	0-1 <u>00</u>	' and 20' fr	om Bottom	of Slope	<u></u>	
8	40' West o	f Station	0-100	o' and 10'_fr	on Bottom	of Slope	·	
9	50' West o	f Station	2001	and 25° from	Top of S	lope		
_ 10	70' West of Station 300' and 15' from Bottom of Slope.							
11	1 15' West of station 400' and 20' from Top of Slope.							
12	30' West o	f Station	0-100)' and 20' Sc	outh of No	rth Slope	·	

NOTES DENSITES SHOWN took per clabe ford water content. Per Central Gr. An air PERCENT COMPACTION, the end on reasoning state. density of timed on simple indicated by the UD number.

REMARKS:

- * 1 FO. MATERIAL
 - Z RACKEL: 3 BASE COURSE
 - 4 SUBBASE

 - 5 NOT CLATENT
- A ITESTIR: SULTS COMPLY WITH SPECIFICATIONS BI RECOMPACTION REQUIRED CLIESTIS ASTER RECOMPACTION



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, ENC. PROJECT

Post Office Box 280 Jourdanton, Jexas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

CATE

August 18, 1987

OUR REPORT NO

311-70065-31

Page 4 of 4

TEST O	ara: Optimum m	oisture:	(22,	[33.0]				
957 *0	- 4-16	2015	1231 51 Vol.8	(15 (A) (15 (A)	98/14 (00/14)	M (1, 2, 2) (H- + 2, 1, 1)	Institute COMMITTION	COMPAN .
13	08-18-87	1st Lift	22	82.6	33.3	83.2	100.7	1 - É
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	<u>08-18-87</u>	Grade	22	82.6	37.5	80.0	96.8	1 - A
18	08-18-87	1st Lift	' - '	82.6	37.6	80.3	97.2	<u>1 - A</u>
TEST LO	CATION: PONO	E100R (STA	ารากข	ALEGALY MARI	TH SING			

TEST LOCATION: PUND FLOOR (STAILON Q-600') NORTH STUE

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 OF SCHOOL SHOWN LOW per currenced with WATER CONTENT Per Control of the wealth PERCENT COMPACTION Based on the room of a

density of tamenton sample and taken by some Dimension.

1 FILL MATERIA.

2 BACKFIL 3 BASE COURSE

4 SUDBASE 5 SOIL CEMENT 5 CTHER

- A "EST RESULTS COMPLY WITH SPEC HICARIONS OF RECOMPACTION REDUINED."

 C "LST IS AFTER RECOMPACTION."

REMARKS:

2476 1 :: : 2000 .j.j. · · | i. i :::] ! | | | 600 . . . HSA AI . . POND 10 LINER RECOVATRUCTO 2008095 3507:301 į i



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DATLY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT 1A ASh Pond Soil

Post Office Box 280

Jourdanton, Texas 78026

AJJENTION: Mr. Clyde Price

Testing

P.O. #26643-032108

DATE

August 17, 1987

оия явроят мо 311-70065-30 Page 1 of 5

REMARKS:

Neather: Sunny & Clear

Temperature Range: 95° to 100°

Inspector: G. Quintanilla

Type of Imspection: Fill Control

Brief summary of work accomplished today:

<u>Equipment</u> Used:

- 1. (1) 6370 Scraper
- 2. (1) Liebherr Dozer 3. (1) D8 Dozer
- 4. (1) D6 Dozer with Rake
- (1) 120G CAT. Grader
 (1) CAT. Spray King
 (1) Water Truck
 Biscing 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 altermative 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. Y.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 INGUSTRIES, INC. (Shilstone Engineering Jesting Laboratory Division)

cc: (2) Above /dd



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

CATE

August 17, 1987

QUAINEPORT NO. 311-70065-30.

Page 2 of 5

TEST D	ата: Optimum п	oisture:	(22,	(22, 33.0)					
1 17 N	;****	2004	nga, n agami s	operation (1991 File (1994 File	62/11/m²	MALACE Obv Ocksory	Principal Comme, NOS	COMMENT *	
1	08-17-87	lst Lift	22	82.6	36.2	80.8	97.B	1 - A	
2	08-17-87	lst Lift	22	82.6	38.3	78.8	95.3	1 - A	
3	08-17-87	lst Lift	22	82.6	37.5	80.0	96,8	1 - A	
	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	i 2nd Lift		82.6	37.2	8D.5	97.4	1 - A	
TEST LO	EST 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.

85' West of Station 1400' and 15' North of South Slope.

NOTES CENSIFES SHOWN the percure for WATER CONTENT Pro Control by weight ASSESSMEND COMPACTION, Based on makeron dry detaily obtained in sample indicates by

and to a letter

FUL MATERIAL

2 BACKFILL 3. BASE COURSE

4 SUSBASE

5 SOULDINENT 6 OTHER

- A. TS STIMESTAINS COMPLY MIT TWO ${\rm Const.}$, ${\rm Const.}$ STIMES INFOOMPACTION REGIONS OF
- C. TEST SAFTER HE COMPACTION

REMARKS.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 28D

Courdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

CATE

August 17, 1987

DUA REPORT NO.

311-70065-30

Page 3 of 5

[22, 33.0) restipata: Optimum moisture: .

rpsr 80	() () () () () () () () () ()	area a	v,om≥	00 € 100.₩ 180 64 - 180 15 -	AATH I	1, 10, 4(0) (1 for 1 € 5 (1 for	PERCENT COMPRETON	i centro e
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
. ,	08-17-87	Final	22	82.6	37.6	<u>81,1</u>	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:

- 10' West of Station 700' and 20' North of South Slope.
- 60' West of Station 300' and 10' North of South Slope. 8
- 9 25' West of Station 400' and 45' North of South Slope.
- 55' West of Station 500' and 25' North of South Slope. 10
- 65' West of station 600' and 5' North of South Slope. 11
- 12 15' West of Station 900' and 35' North of South Slope.

NOTES IDENSITES SHOWN CONCLORED IN A WATER CONTENT Per Cent of any American PERCENTICOMPACTION (Absolute for four full of) THE STATE OF

FILL MATERIAL

- 7 BACKFALL 3 BASECOURSE
- 4 SUBBASE
- 5 SOIL CEMENT
- ค กาหรด
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- B ACCOMPACTION PEQUIDED
- CITE STIS CATER PEROMPACTION.

REMARKS



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGJEL ELECTRIC COOPERATIVE, INC. PROJECT.

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

CATE

August 17, 1987

OUR REPORT NO

311-70065-30

Page 4 of 5

TEST O	ата: Optimum	moisture:	(22	, 33.0)						
10 M	,4	31-70	NOT 1 NOV 3 1	(4.55), t 63, 25; 64; 63;6	9,471 9 209-11 97	24 (% AC) (6.0) (31 (% 4.4)	COMMADION	COMPANY 15 1 TO		
13	08-17-87	Grade	22	82.6	37,4	80.7	97.6	1 - Λ		
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	lst Lift	22	82.6	36,8	80.8	97.8	1 - A		
17	08-17-87	lst Lift	22	82.6	39.4	78.5	95.0	1 - A		
18	08-17-87	lst Lift	22	82.6	36.4	80.3	97.2	1 - A		
ትፎሮት ነር	est incation. POND FLOOR (STATION O. 2001)									

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 IDD' and 20' North of South Slape.
15	45' West of Station 200' and 30' North of South Slope.
16	iO' 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 DENSITES \$40WY too per cubic fool WATER CONTENT. Her Central by we do PERCENT COMPACTION. Blood on managements Benuty obtained on sample indicated by soft Dinor ben

Fig. MaTERIAL

2 BACKFICE 3 DASSICQUASE

4 SUBANSE

5 SOIL CEMENT 6 OTHER

A I TEST RESULTS COMPLY WITH SPECIFICATIONS.

TO RECOMPACTION PECUIPED C. TEST IS AFTER RECOMPACTION

REMARKS.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

PESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280

Jourdanton, Yexas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 17, 1987

CUR REPORT NO

311-70065-30

Page 5 of 5

TEST D	ата: Optimum	moisture;	(22	33.0)				
70 to 5 0000	24*1	mary (my	SOCIO NUMBER	en conO . en Solv (Anders	CONTRA WELLS	is feach page process	0:00 (19) 0:09/45/09	DOMAN IN THE
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	2md 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
23	08-17-87 08-17-87	Final	22	82.6 82.6	38.0	80.8	97.8	1 - A

TEST LOCATION.	POND	FLOOR ((STATION	0-3001	Ì
----------------	------	---------	----------	--------	---

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 DENSITES SHOWN The per cubic tool WATER CONTENT Per Control of a wearful PERCENT COMPACTION. Resed on maximum dis-

density obtained on sample indicated by so 10 number

REMARKS:

* * FIL VATERA)

2 BACKEUL 3 BASE COURSE 4 SURBASE

5 SCI. CEMENT

A TEST RESULTS COMPLY WITH SPEC FIGATIONS B RECOMPACTION REQUIRED CONTEST IS AFTER RECOMPACTION.

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Past Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil Testing

P.O. #26643-032108

DATE

August 14, 1987

OUR REPORT NO

311-70065-29

Page 1 of 3

REMARKS:

Neather: Sunny & Clear

Temperature Range: 95° to 100°

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

 (2) 637D Scrapers 2. (1) Liebherr Bulldozer

3. (1) D8 CAT. Dozer (1) D6 CAT. Dozer with Rake (1) 120G CAT, Grader

6. (1) CAT. Spray King

7. (1) Water Truck 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. (Shilstane Engineering Testing) Laboratory Division)

cc: (2) Above

-/dd-



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 Pand Sail

Testing

P.O. #26643-032108

DATE

August 14, 1987

OUR BEPORT NO

311-70065-29

Page 2 of 3

TEST D	ATA: Optimum	moisture:	(22	33.0)				
n < -∞	*4*;	20.10	. 10 € Kr. W 10 8			017,401 ,A- ,400,41	1,61461 000-40104	i (swa-ret "
<u>t</u>	68-14-87	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
. 1	08-14-87	2nd Lift	22	82.6	36.0	82.8	100.2	1 - A
5	09-14-87	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.
	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 UPNSITIES SHOWN they generately will get water CONTENT, they consist on weight PERCENT COMPACTION Brown on making - dry density above and on sumple and called by so all numbers

* ' FILL WATER A.

2 BACKF .1

5 BASS COURSE

4 SURBASE 5 SOIL CEMENT 6 CTHER

- A TRIST RESULTS COMPLY WITH SPECIFICATIONS HI RECOMPACTION REQUIRED CITEST IS AFTER RECOMPACTION.

Respectfully submitted, Professional Service Industries, Inc.

AEMARKS:

Three Burwood Fame

San Antonio TX 78216

Pronto 512/342-9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

restorion 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

3"AC

August 14, 1987

CONTROPED RUG

311-70065-29

Page 3 of 3

....ax u

TEST D	ата: Optimum r	πoisture <u>:</u>	<u> (22, </u>	33.0}				
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	±1	E1 - 7 T	nomino en especí ()	(100) (10) (100) (10) (10) (10)	104 H 50 104 H 500	94 84 A.C. (1444 (1476) 15	5 0 0 0 0 0 0e4e71 0s	Control et .
7_	08-14-87	Grade	22	82.6	37.1	82.7	100.1	<u>1 – A</u>
8	08-14-87	lst Lift	22	82.6	38.4	82.0	99.2	1 - A
. 9	08-14-87	lst Lift	22	82.6	36.7	82.3	99.6	1 - A
	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	Fina)	22	82.6	35.9	83.0	100.4	1 - A
TCGTAG	TOATION- DONN	ELDOD JEYA	Y 1 FYRL	TARE DODE)				

rocation: NAME EFFOR (STATION 100, -800,)

7	1	201	11	-6	station	7001		201	بالمسلمان		C + b	07.444
•		20	West	or.	20001011	/100	and	211	NULLU	10	South	21006.
										-		A - A - A -

- 40' West of Station 700' and 35' North of South Slope. 8
- 9 60' West of Station 800' and 5' North of South Slope.
- 30' West of Station 700' and 15' North of South Slope. 10
 - 20' West of Station 800' and 20' North of South Slope.
- 12 76' West of Station 806' and 40' North of South Slope.

NOTES CENSITES SHOWN this per nubhritise WATER CONTENT Per Control or / weight PERCLAS COMPACTION, Based on dux our day

density obtained no variety individual by only Disamber.

FILL VATER AL

2 BACKFILL 3 BASE COURSE

4 SUBBASE

5 SQUICEMENT 6 OTHER

A I TEST RESULTS COMPLY WITH SPEC FICATIONS.

CERCUCERNOITARGNODER B *LIST IS AFTER PECOMPACTION

Respectfully submitted. Professional Service Industries, Inc.

11

REMARKS.

:: ₁₇. 168-1-8-1 2200 ::: 7. 375 Γ |• |• • |* | |- |- | 1166 . 400 i j HS. | **...** SH POND LINER RECONSTRUCTOR



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

DA Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 13, 1987

оця вероят во 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:

 (2) 6370 Scrapers 2. (1) Liebherr Bulldozer 3. (1) D8 CAT. Dozer

(1) D6 CAT. Dozer with Rake 8. Discing Equipment

5. (1) 120G CAT. Grader

6. (1) CAT. Spray King 7. (1) Water Truck

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 besitate to contact our office at your convenience.

Respectfully submitted,

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

cc: (2) Above

/dd



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

ITSTITUTOR 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

DUA REPORT NO

311-70065-28

Page 2 of 3

TEST D	ATA: Optinum m	oisture:	{22,1	33,0)				
0.5		tar demonstration	920 E K 1941 B 1933 B	034 01 0 , 40 (24) 01 97 1 =	: Caretin.	N PLACE SPECIAL SERVICE	ndwicezu ndwicezu	coord-*
1	GB-13-87	1st Lift	55	82.6	36.0	80.3	97.2	1 - A
2,	GB-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	Fanal	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
TESTLO	CATION: LAST	SLOPE, POA	ID FLI	JUR (STATIONS	400°, 10	00^{\prime} and 1	50013	

EST COCATION: ENST SCOPE, TOND FLOOR (STATETING 400", 1000", 8NO 1300"

<u> </u>	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 Slape.

NOTES DENSITES SHOWN Low control to the the WAYLE CONTENT Per Control to your got FT ROENT COMPACTION. Have the transfer to the many day. prepay obtained to sumple in toute tipy so O'merter

- " I FILL MATERIAL
- 2 BACKFILL 3 BASE COURSE 4 SUSBASE
- SOIL CEMENT
- G DIMER
- A ITEST HESTLIS COMPLY WITH SPECIFICATIONS B RECOMPACTION REQUIRED C TUST IS AFTER RECOMPACTION

Hespectfully submitted, Professional Service Industries, Inc.

REMARKS:



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-D32108

STAC

August 13, 1987

CUR DEPORT NO

311-70065-28

Page 3 of 3

TEST D	ATA: Optimum	<u>moisture:</u>	{22,	33.0)				
100°	. #15	3.15 3.200	905, 0 50,980,9	40 AU 6 60 Au 70 A	CO4.6.A. Var.6.n	N 4, 401 Wile (1986)	COMMAND NON (: General ⁴
7	08-13-87	lst Lift	22	82.6	36.3	81.8	99.0	1 - A
8	08-13-87	lst 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
.0	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	lst Lift		82.6	38,1	81.0	98.0	. 1 - A
TEST LO	ocation: POND	FLOOR (5)	TATION	√ 300'-700')	(STATION	900'}		-

(21MIJON 200 -100) (21MIJON 200)

L	7	20' West of station 300' and 20' North from Toe of South Slope.
	В	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.
1	10	30' West of station 600' and 10' North from Toe of South Slope.
<u> </u>	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 DENSITES SHOWN this per condition for WATER CONTENT ProCent (Lory weight PERCENT COMPACTION, Based to Turbur by der - Iy obtained on sample and calendar

see Din Taer

* 1 FILL MATERIAL 2 BACKT LL 3 DASE COUPSE 4 SUBBASE

5 SQUICEMENT

e often

A I TEST RESULTS COMPLY WITH SPEC FICATIONS.

U PECCUPACTION REQUIRED
C 46ST IS ALLEH PECCMPACTION

REMARKS:

9000 8-13-86 :! į ! +----2475 aleititiaan |------| |-----| 1.... TT:: 199 ÷'> ž POND LINE --- RECONSTRUCTOR 1500



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

16.7

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

OATE

August 12, 1987

OUR REPORT NO

311-70065-27

Page 1 of 2

REMARKS:

Weather: Sunny & Clear

95° to 100° Temperature Range:

> Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief summary of work accomplished today:

Equipment Used:

(2) 637D Scrapers

2. (1) Liebherr Bulldozer

3, (1) D8 CAT. Dozer

(1) D6 CAT. Dozer.

(1) 120G CAT. Grader

(1) CAT, Spray King.

(1) Water Truck 7.

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 .



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

THISTEORIGH SAN MIGUEL ELECTRIC COOPERATIVE, INC. MROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Spil Testing

P.O. #26643-032108

DATE

August 12, 1987

COLUMN TROPER HUC:

311-70065-27

Page 2 of 2

TEST D	ата: Uptimum	moisture:	(22	, 33.0)			<u> </u>	
76 K 1	.•1	10000	50041B	54 25 to 1 1 4 5 to 1	WATER ((WELM)	PATRIACE TAR- DEMONY	PERIONI COMMACCOM	COMMINT."
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
	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-B7	Grade	22	82.6	36.0	81.3	98.4	1 - A
TEST LO	DCATION: EAST	SLOPE, ST	NOTTA	0-100'; PON	D FLOOR,	STATION 30	0'-700'	

- South of the N.E. Corner in Station 0-100' and 20' from Bottom of Slope. 1
- 2 25' North of the S.E. Corner in Station 0-100' and 30' from Bottom of Slope.
- 20' West of Station 300' and 20' North from the Ide of the South Slope. 3
- Ġ 45' West of Station 400' and 25' Morth from the Joe of the South Slope.
- 5 West of Station 500' and 5' North from the Toe of the South Slope.
- 30' West of Station 600' and 10' North from the Ide of the South Slope.

NOTES I DENSITIEN SYCKNING BY CHECKED OF WATER CONTENT, Per Control by which PERCENT COMPACTION, Business of this mentions

demoty obtained proximate indicated by se 110 indet er

REMARKS-

FILL MATERIAL

P BACKFUL P BASECOUNTE 4 SUBDASE

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A LITEST PERSULTS COMPLY WITH SPECIFICATIONS

R RECOMPACTION PEQUIRED

C TEST IS AFTER RECOMPACTION

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Shilstone Engineering Testing Laboratory Division

OATLY 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 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

2. (1) Liebherr Bulldozer

3. (1) 08 CAT, Dozen

(1) D6 CAT. Dozer with Rake

5. (1) 120G CAT. Grader

δ. (1) CAT. Spray King

7. (1) Water Truck

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)

cc: (2) Above

/dd

Three Burwood Lane

San Antonio 1X 782 16

Phone: 512/342-9377

REPORT OF FIELD COMPACTION TESTS

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT

Post Office Box 280

Jourdanton, Texas 78026

AlTENIJON: 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 DA	ra: Ontimum	moisture:	(22.	33.0) 51.5/8 ,40.94 31.64	mATTA COMPLET	or 20 40 1 04 - 01 50 14	Fig. Class	I (SID) x- 1
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
					[
		<u> </u>			ļ 			
:			;		Į Į			

TEST LOCATION:

$\overline{}$					
, 1	30' West of St	tation 1000' an	nd 10 <u>' North</u>	from Toe of Sout	h Slope.
2	45' West of S	tation 1000' ar	id 20' North	from Toe of Sout	h Slope.
3 İ	55' West of S	tation 1000' ar	id 30' North	from Toe of Sout	h Slope.
		·			
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NOTES DENSITES SMOWN LES per cut il 1976 WATER CONTENT Per Gent al dig wordt PERCENT COMPACTION BASES (in mitorium des density obtained on complete doubled by sea. On the core

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2 BACKFILL

D BASE COURSE & SUBBASE & SOIL CEMENT 6 OTHER

A LIFEST RESOLDS COMPLY WITH SPECIFICATIONS

B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

REMARKS-

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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: 6. Quintanilla

Type of Enspection: 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

Phone: 512/342 9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. 2800FC1

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 10, 1987

сов вежон- № 311-70065-24

Page 2 of 3

TEST DATA:	Optimem	moisture:	(22,	33.0)

11.65 80	1	91840	ngo , ≪ Salentiri	epan register Livel GP i Selfen fin	(120 Hz)	(% (% #6*)) ((#6) ((# % % *)	Mercust Committee	C-waser*
1	08-10-87	Grade	22	82.6	36.1	83.0	100.4	t - A
2	08-10-8/	Grade	22	82.6	37.3	82.3	99.6	1 - A
3	08-10-87	Grade	22	82.6	36.9	81.8	99.0	1 - A
	08-10-87	Grade	55	82.6	36.3	83.3	100.8	1 - A
5	08-10-87	Final	2 2	82.6	36.0	82,5	99.8	t - A
. 6	08-10-87	2nd Lift	22	82.6	36,1	81.8	99.0	1 - A,C

TEST LOCATION. POND FLOOR (1200'-1600')

	1		20,	W.	est	of	Station	1200	and	10'	North	from	Toc	of	South	21ober	
- 1							Station										
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- 3 45' West of Station 1400' and 25' North from Toe of South Slope.
- 4 55' West of Station 1600' and 20' horth from Toe of South Slope.
 - 60' West of Station 1600' and 5' horth from Toe of South Slope.
- 6 Recest of Test =7 of Report 08-07-87 in Station 2200'.

NOTES INSPERSENT THE General Body weight and AMERICAN Per Central By weight PERMENT COMPACTION, Based on maximum disten ely obtained on sample indeption to

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T. F. L. MATERIAL

- Z BACKERI
- 3 SASH COURSE
- 4 SUBBASE
- SC , CEMENT
- 6 CTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS B. RECOMPACTION REQUIRED C. TEST IN ACTER RECOMPACTION

REMARKS:

5



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

RESTRUCTOR 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 D.	ATA: Opti⊓uπ	m moisture:	: (22	. 33.0)				
(V.)		iete	· :	04 (0.16) (48 (0.16) (04 (0.16)	5411 p 2041 51	r, p. 45) Obs CCNS(F)	EGMPscuG2 ninclid	CONDI 4- *
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 <u>- A</u> .
<u> </u>	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	[82.6	36.5	82.8	100.2	1 - A
TEST LO	CATION: PONO	FLOOR (STA	KOITE	2000'- 2400'	<u>) (STATION</u>	1600.)		 ~-
7	30' West of	Station 2	20001	and 20' Nor	th from To	e of Sout	h Slope.	
i_8	60' West of	Station 2	2100	and 30' Mor	th from To	e of Sout	h Slope.	
9	50' West of	station 2	2200	and 15' Nor	th from To	e of Sout	h Slope.	,
10	35° West of	Station 2	2300'_	and 10' Nor	th from To	e <u>of</u> Sout	h Sloge.	
11	10' West of	station 2	2400'	and 5' Nort	h from Toe	of South	\$lope.	
12	20' West of	Station	16001	and 10' Nor	th from To	e of Sout	h Slope.	

NOTES DENSITES SHOWN the period of his waith water CONCENT Per Consoling and the weight period of CONTROL OF SHOWN IN THE PERIOD OF SHOWING CONTROL OF SHOWING CONTRO

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* * FILL MATERIAL 2 DACKFILL 3 BASS COURSE

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- A I TEST RESULTS COMPLY WITH SPECIFICATIONS BIRD COMPACTION REQUIRED OF TEST IS AFTER RECOMPACTION.

REMARKS.

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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

August 7, 1987

CUR REPORT NO

311-70065-21

Page 1 of 4

REMARKS:

Weather: Sunny & Clear

Temperature Range: 90° to 100°

Inspector: 6. Quintanilla

Type of Inspection: Soils, Controlled Fill (Compaction)

Brief summary of work accomplisted today:

The area at Station 300° on the South Slope was worked and completed. The pond floor between Station 1/00' 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 cuestions concerning this report, please do not besitate to contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES. INC. (Shilstone Engineering Testing Laboratory Sivision)

cc: (2) Above

/dd



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

rested FOR ISAN 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

CATE

August 7, 1987

OUR REPORT NO

311-70065-21

Page 2 of 4

TEST D.	ATA- Optimum	m moisture:	(5,	28.2)				
**	9411	(100 p	100, 10 10,000,0	25.0 0 25.00 (8.00°)	\$400 to 61	A Practical Control of the Control o	HERMAN COMPACTION	rapping."
1	08-07-87	Grade	5	86.8	31.5	84.8	97.6	1A
2	08-07-87	ist 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
	<u> </u>							

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.	
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NOTES DESCRIBE MICHAEL BY PROJECTION AND IN-PERCENT COMPACTION. But set on maximum by Came by a black medium is an placer to about by the Committee.

* * 1 J. MATERIAL

7 9≙CWFILL BASE COURSE

4 SUBBASE

5 SOLOMENT 6 OTHER

A TEST RESILIES COMPLY WITH SPECIFICATIONS B HECOMPACTION REQUIRED COMPACTION.

Respectfully submitted, Professional Service Industries, Inc.

REMARKS.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

restroiron SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pand Soil Testing

Post Office Box 280

P.O. \$26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

August 7, 1987

OUR REPORT NO.

311-70065-21

Page 3 of 4

EST D	ata: Optimu	<u>m moisture</u>	; (2	2, 33.0)		 ···		
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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	ì - A
EST LO	CATION: PÛND	FLOOR STA	TION	1600"-2400"	(BOD' SEC	TION		

HOW: LOUR LEGAR 2:MITON 1000.-5400. (800. 250110V)

	1	20' West of Station 1600' and 20' North from Toe of South Slope.
į	2	30' West of Station 1700' and 15' North from Toe of South Slope.
į	3	46° West of Station 1800' and 20' North from Toe of South Slope.
		50' Vest of Station 1900' and 5' North from Too of South Slape

bu. West of Station 1900, and 5. North from loe of South Siope.

5 75° west of Station 2000' and 30' North from Toe os South Slope.

15' West of Station 2100' and 10' North from Toe of South Slope. 6

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* 1 FILL WATERIAL 2 RACKERL

1 BASI COURSE

SUBBASE

5 SOIL CLMENT

A TEST RESIDUIS COMPLY WITH SPECIFICATIONS

B DECOMPACTION DECIDER; D C TEST SAFTED DECOMPACTION

AEMARKS

Respectfully submitted. Professional Service Industries, Inc.

Three Burwood Lane

Sap Antonio, TX, 78216

Phone 912/342/9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCOMPRESENT

Past Office Bax 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 7, 1987

QUE REPORTING.

311-70065-21

Page 4 of 4

(*) (*)	- 211	160	MS. IV Antoni ii	(16) (10) (16) (10) (16) (10)	CONT. NO	54 (1,45) (44) (45) (5	PER CONT COMMACTOR	CONVI 4" *
,	08-07-87	2nd Lift	22	82.6	34.3	80.0	96.8	1 - A
3	08-07-87	2nd Lift	22	82.6	35.0	80.0	96.8	1 - A
}	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.
B ;	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.
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NOTES DESCRIPTION OF DEFINE FOR MATERICANTENT PROCESSOR WAS REPORTED. TO COMPACE ON BOSHION PROCESSOR. due sity of three total care product in the $\delta s = s(t)$. One start

Figurational

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2 SUBHASS 3 SOILCEMENT 6 DIMER

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REMARKS:

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Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT TESTED FOR

ATTENTION: Mr. Clyde Price

Post Office Box 280 Jourdanton, Texas 78026

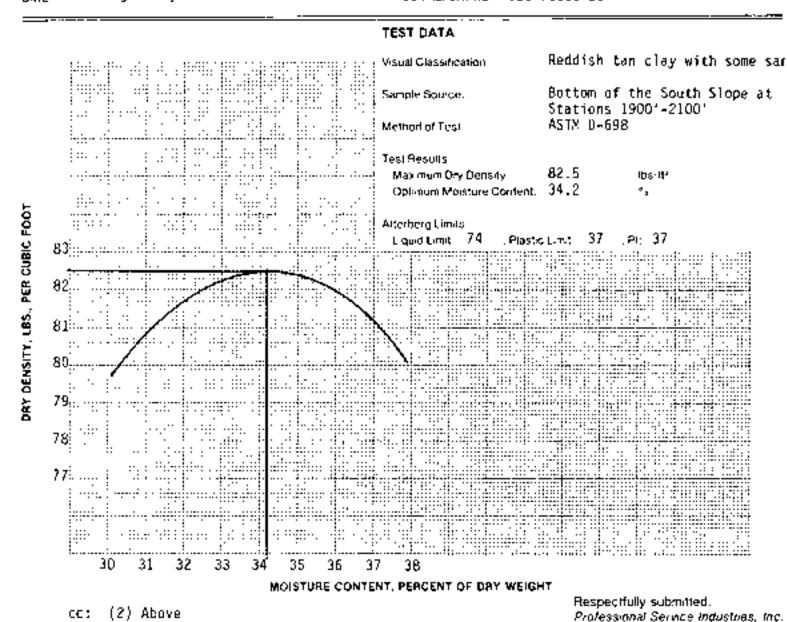
P.O. #26643-032108

1A Ash Pond Soil Yesting

DATE

August 7, 1987

OUR REPORT NO 311-70065-23



/dd



Shilstone Engineering Testing Leboretory Division

DAILY REPORT

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

DAYE

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:

(2) 6370 Scrapers

(1) Liebherr Bulldozer

D8 Dozer

(1) D6 Dozer with Rake

5. {l} Water Truck

6. (1) Spray King

7. Discing Equipment

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 INDUSRIES, INC. (Shilstone Engineering Testing Laboratory Division)

cc: (2) Above

/d**d**



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

SESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pond Soil Testing

Post Office Box 280

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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August 6, 1987

OUR REPORT NO

311-70065-20

Page 2 of 5

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2	08-06-87	Grade	5	86.8	30.6	1 84.3	97.1	1 - A
3	08-06-B7	lst Lift	5	86.8	30.7	85.7	98.7	1 - A
4	08-06-87	lst Lift	5	B6.B	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	4001	and	201	from	Bottom	of	\$lope.	
--	---	---	-----	------	----	---------	------	-----	-----	------	--------	----	---------	--

- 60' west of Station 500' and 40' from Top of Slope.
- 20' West of Station 400' and 40' from Bottom of Slope.
- 75° West of Station 500' and 30' from Bottom of Slope.
- 10' West of Station 400' and 30' from Bottom of Slope.
- 40' West of Station 500' and 15' from Bottom of Slope,

NOTES Of NSTRESSOOMN (as precious to discover the Construction Construction as security) PERCENTICOM ACTION Report on informer dis-The state of the state of the second of the state of the

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- A LIFET RESULTS COMPLY WITH SPECIFICATIONS
- 5 RECOMPACTION BY QUIRT D
- C. TEST IS AFTER RECOMPACTION.

REMARKS.



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

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE

August 6, 1987

CUP PERCATING

311-70065-20 Page 3 of 5

TEST D.	ATA: Optimum	moisture	(5,	28.2)				
(15.1 50)	: 4 %	101V	sation special	186.06 186.17	OCSULS:	94 (5.40) 249 26 (5.60)	Established Legal Edited C - Al.	COPAL 4- +
7	08-06-87	Final	5	86.8	33.1	85.3	98.2	1 - A
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A ITEST RESULTS COMPLY WITH SPECIFICATIONS & RECOMPACTION REQUIRED CITEST IS AFTER RECOMPACTION.

B OTHER

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL SLECTRIC COOPERATIVE, INC. PAGISCY.

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 4 of 5

TEST D	дта: Optimum	maisture:	(5, 2	28.2)				
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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	lst Lift	5	86,8	32.7	84.8	97.6	1 - A
5	08-06-87	lst Lift	5	86.8	31.1	85,1	98.0	1 - A
6	08-06-87	lst Lift	5	86.8	33.9	84.8	97.6	1 - A

TEST LOCATION: PUND FLOOR STATION 1700'-2400' (700' SECTION)

- 1 ' 25' West of Station 1700' and 20' North from loe 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.
- 60' West of station 2200' and 15' North from Toe of South Slope.

NOTES DONS TO SHOWN Low periods invertigation of CONTENT For Control of Lawy John PERCENT COMPACTION. Swindler maximum by details obtained a weaper included by the Contents.

- 1 F., VATERIAL 2 BACKFILL
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- A I TEST RESULTS COMPLY WITH SPECIFICATIONS
- 9 RECOMPACTION HEQUIRED C. 19 ST IS AS TOR RECOMPACTION.

Respectfully submitted.

Professional Service Industries, Inc.

REMARKS:



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

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATS

August 6, 1987

QUE REPORT NO

311-70065-20

Page 5 of 5

(E\$T D.	ATA : Optimus 	m moisture:	CON CONTRACTOR	28.2) Calcher Consti		ra Pyson CRI Olivenia	MIR CENT COMPAGION	Control of *
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9	08-06-87	lst Lift	5	86.8	32.3	85.0	97.9	_ 1 - A
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TEST LOCATION:

7	20' West of Station 2300' and 5' North from toe of South Slope.
8	40' West of Station 2400' and 16' North from Toe of South Slope.
9	50' West of Station 1600' and 25' North from Toe of South Slope.

NOTES 1/8/NS/7/ES SHOWN LON per public tool WATER CONTENT, Per Cent of the waters PERCENT COMPACTION, Based on business dry the site obtained on surepto a dealers by

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

Respectfully submitted. Professional Service Industries, Inc.

Three 8a/wood Lame

San Antonio, TX 78216

Phone: 512/342-9377

REMARKS-

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Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGGEL ELECTRIC COOPERATIVE, INC.PROJECT

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

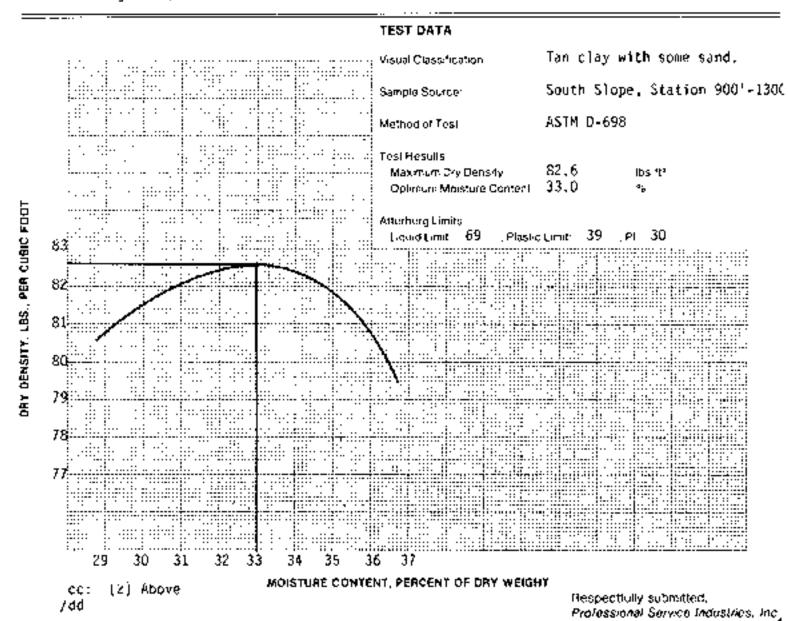
P.O. #26643-032108

DATE

August 6, 1987

OUR REPORT NO

311-70065-22





Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAJLY 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 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:

(3) 637D Scrapers

(1) Liebherr Bulldozen

(i) D8 CAT. Bulldozer

(1) D6 Bulldozer with Rake

5. (1) CAT. Spray King

6. (1) Water Truck

Discing Equipment

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 0:00 p.m. The equipment used today is listed above.

Amother small area with seepage was encountered today in Station 1500'. SMC wants Y.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 uneveness of the 1st lift. At 4:00 plm. SMC, PSI, and V.K. Knowlton discussed and resolved the problem.

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

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC. FESSIONAL SERVICE IN-Laboratory Division)



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

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August 5, 1987

OUR REPORT NO

311-70065-19

Page 2 of 6

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3	08-05-87	Grade	_ 5	86.8	31.5	84.7	97.5	1 - A
4	08-05-87	lst Lift	5	86.8	30.6	85.7	98.7	1 - A
5 .	08-05-87	lst Lift	5	66.8	31.3	84.5	97.3	1 <u>A</u>
6	08-05-87	lst Lift	5 /	86.8	31.1	84.3	97.1	1 - A
E \$7 L O	CATION: POND	FLOOR BET	WEEN S	TATION 170	0'-2000'.			

- Station 1700'.
- 2 Station 1800'.
- Station 1900'.
- Station 1700'.
- Station 1800'.
- Station 1900'.

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REMARKS:

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Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC CUOPERATIVE, INC. MOJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.D. 426643-032108

JA"E

August 5, 1987

OUR REPORT NO

311-70065-19

Page 3 of 6

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9	08-05-87	Grade	5 ;	86.8	32.3	85.0	97,9	1 - A
U	U8-05-87	Grade	5	86.8	30.5	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
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- 20' West of Station 700' and 15' from Bottom of Slope.
- 10' West of Station 860' and 45' from Bottom of Slope.
- 15' West of Station 600' and 15' from Top of Slope.
- 35' West of Station 700' and 35' from Bottom of Slope. 11
- 25' West of Station 800' and 10' from Lap of Slope.

NOTES CANSITES SHOWN can percube to HI WARTER CONTENT For Detail by weight PENDENT COMPACTION, David communicative gens by a filterned a complete parachled by

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REMARKS.

Respectfully submitted. Professional Service Industries, Inc.

Priore:512/342-9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAIN MIGUEL ELECTRIC COOPERATIVE, INCLEROJECT

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Sail Testing

P.O. #26643-032108

DATE

August 5, 1987

OUR REPORT NO

311-70065-19 Page 4 of 6

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REMARKS.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MISUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pond Soil Testing

Post Office Box 280

₽.0. ≠26643-032108

Jourdanton, Texas 78026

ATTENTION: inc. Clyde Price

August 5, 1987 OATE

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Page 5 of 6

TEST D	ATA: Optimum	moisture:	(5.	28.2)				
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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	lst Lift	5	86.8	32.5	84.5	97.3	1 - A
5	08-05-87	lst Lift	5	86.8	33.0	82.5	95.0	1 - A
6	08-05- 8 7	lst Lift		86.8	34.1	82,7	95.2	1 - A
TECTIO	SCATION DOND	ELOOD PLT	IJE C N	STATION 1700	1-2000			

TEST LOCATION: POND FLOOR BETWEEN STATTON 1700'-2000'.

- 35' West of Station 1500' and 15' North from Toe of South Slope.
 - 40' West of Station 1600' and 25' North from Toe of South Slope.
 - 55' West of station 1700' and 20' North from Toe of South Slope.
 - 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.
- 85' West of Station 1700' and 15' North from Toe of South Slope.

NOTES DENOITES SHOWN the general floor WATER CONTENT Per Control by weight FERSENT COMPACION. Hased to the training dama by contained on it. Table ordinated by: son Dicamber

FILL MATLAIAU BACKFILL

- BASE COURSE
- SUBB #5!
- SOIL CEMENT
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A TEST RESULTS COMPLY WITH SPECIFICATIONS

A RECOMPACTION RECUIRED

C. TEST IS NOTEH HECOMPACTION.

REMARKS:



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

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE

· · - - - - - -

August 5, 1987

COR REPORT NO.

311-70065-19

Page 6 of 6

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7	08-05-87	Grade	5	86.8	32.3	85.0	97,9	. <u>1 - A</u>
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
0	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
EST LC	CATION: PONE	FLOOR BE	TWEEN (STATION 20	00'-2400')	, (STATION	1600')	

- 20' West of Station 2100' and 10' North from Tow of South Slope.
 - 35' West of station 2200' and 5' North from Toe of South Slope.
- 15' West of Station 2300' and 5' North from Toe of South Slope.
- 35' West of station 2400' and 25' North from Toe of South Slope.
- 45' West of station 1600' and 20' North from Toe of South Slope. 12

NOTES DENSITIES SHOWN the period by region WATER CONTENT, Per Cented by weight PLACENT COMPACTION Broadens with in the . The constraints of the district section of the decrease of the constraints of the constraints of the (0,0)

- JIL, VATERIA. BACKING
- 3 BASE COURSE
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- A I TEST RESULTS COMPLY WITH SPECIFICATIONS
- BL RECOMPACION REQUIRED CLI STIS ATTERRECOMPACTION

REMARKS:

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC.™OJECT

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) Liehberr Dozen

2. (1) D8 CAT. Dozer

(1) D6 Dozer/Rake.

(3) 637D Scrapers

(1) CAY, Spray King

6. (1) Water Truck

Discing Equipment

(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 pand. 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



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

MASSILO COA SAN MIGUEL ELECTRIC COOPERATIVE, INCURROJECT

(5. 28.2)

Past Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

lst Lift

1A Pond Soil Testing

P.G. 926643-032108

CATE

6

August 4, 1987

TEST DATA: Optimum moisture:

08 - 04 - 87

CUH REPORT NO.

311-70065-18

96.1

Page 2 of 4

1 - A

ng n No		111	KJUIII S	APLOTON APLOTON APLOTON	oate Chattar	PM PM ACT PM ACT OF MACTS	COMPACTORY COMPACTORY	CONDIA- *
1	08-04-87	Grade	5	86.8	35.5	82.3	95.0	1 - A
2	08-04-87	Grade	5	86.B	31.3	85.3	98.2	∙1 - A
3	08-04-87	Grade	5	86.8	32.3	84,8	97.6	1 - A
	08-04-87	Grade	5	86,8	30.9	84.7	97.5	1 - A
5	08-04-87	lst Lift	5	86.8	31.1	83.5	96.1	1 - A

31. i

83.5

83.5

86.8SOUTH SLOPE / S.W. CORNER OF SLOPE (375' Section) 2200"-2475". TEST LOCATION:

- 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.
- 10' North of Station 2475' and 35' from Top of Slope. 4
- 5 40' West of Station 2200' and 33' from Bottom of Slope.
- 6 15° West of Station 2300° and 20° from Top of Slope.

NOTES DENSITY SHOWS LESS DESCRIPTION AASSA CONTINUES CHOOSE OF A CON-PLUCENT COMPASSION, Burnston, our our de-

Sensity intrane dimensionals in a little tills. or asserted

- FILL MARERIAL 840KF0
- BASE COURS!
- 4 RUBBASE
- 5 SOL COMENT
- QUALA
- A LIEST BUSILIES COMPLY WITH \$PECIFICATIONS.
- B RECOMPACTION REQUIRED C 1951 SAFTER RECOMPACTION

REMARKS:

(2) Above CC:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

HISTED 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

August 4, 1987 D4"F

CUIT ASPORT NO

311-70065-18

Page 3 of 4

AΤΑ: Ôptimum	moisture:	(5.	28.2)				
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08-04-87	2nd Lift	5	86.8	33.9	83.3	95.9	1 - A
08-04-87	2nd Lift	5	86.8	31,5	84.8	97.6	1 - A
08-04-87	2rd Lift	_5	86.8	33.1	83.8	96.5	1 - A
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EST LOCATION: 500TH SLOPE / S.W. CORNER OF SLOPE (375' Section) 2200'-2475

- 65' West of Station 2400' and 10' from Bottom of Slope.
 - 20' North of Station 2475' and 25' from Bottom of Slope.
 - 9 60' West of Station 2200' and 30' from Top of Slope.
- 15' West of station 2300' and 40' from Top of Slope.
- 11 70' West of station 2400' and 20' from Bottom of Slope.
- 35' North of Station 2475' and 45' from Bottom of Slope. 12

NOTES DENSITY RESPONSED FOR DESCRIPTION AND ADMINISTRATION OF THE PROPERTY OF PERCENT COMPACINON, Business of the number by density aptions from simple indicated by

- FRE MATERIAL
- 7 BACKER) 3 BASE COURSE
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- SOII CENIENT OTHER
- A I TEST RESULTS COMPLY WITH SPECIFICATIONS B. RECOMPACTION RECUIRED C. TEST IN AFTER RECOMPACTION

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pand Soil Testing

Post Office Box 280

P.O. +26643-032108

Jourdanton, Texas 78026

ATJENTION: Mr. Clyde Price

D∧T€

August 4, 1987

OUR REPORT NO 311-70065-18

Page 4 of 4

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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 LO	CATION: SOUT	TH SLOPE /	S.W.	CORNER OF SI	LOPE (375'	Section)	(100' Sect	ion) 2200'-2475'
12	101 11-03 -4		02001	101 6	- B-44	£ £1		

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 LES per clare for WATER CONTENT Por Control of the weight PERCENT COMPACTION Based on the text disdensity obtained on sumply adjusted by (x_1, y_1, \dots, y_n)

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2 BASE COURSE

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5 SCHICKMENT 6 OTHER

A I TESTIFICATIONS OF WATERSPECIFICATIONS

BIRLOGMPACTION REQUIRED CONTRACTION

REMARKS:

PS A 100 J

Respectfulty submitted. Professional Service Industries, Inc.

San Anion-6, FX 78216 Phone: 512/342 9377 Three Burwood Lane

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Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCOMMENT

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 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 besitate to contact our office at your convenience.

> Respectfully submitted, PROFESSIONAL SERVICE INDUSTRIES, INC. (Shilstone Engineering Testing

Laboratory Division)

cc: /dd

(2) Above

Three Bur would Lane

Sar Anlonio, FX 78216

(hone 512/342 9377)



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGJEL 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

ST D	<u>ата:</u> Optimu	ım moisture	Y T	28.2}		AL LACT	··	
\$5°		21 STF	1.0% () N. (B) (C) ()	(39 04) (500)	CCATA	0.04 00.90-04	COMPACING	C.Cleros rati
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
¢	08-03-87	lst Lift	5	86.8	30.8	84.5	97.3	1 - A
5	08-03-87	lst Lift	5	86.8	33.3	82.5	95.0	1 - A
6	08-03-87	Ast Lift	5	86.8	32.9	84.3	97.1	1 - A

ERA FOCKTION: 2001B 2FORF 1800.-5100. (200. 2600100VD9A)

	1	35' West of station 1900' and 30' from Top of Slope.
	2	45' West of Staiton 2000' and 25' from Bottom of Slope.
•		60' West of Station 2100' and 35' from Top of Slope.

65' West of Station 1900' and 20' from Bottom of Slope.

70' West of Station 2000' and 40' from Top of Slope. 5

20° West of Station 2100° and 25° from Bottom of Slope.

AOTES DENSITIES SOOMS too per up that water Content Per Center du weight. PERCENT COMPACTION (Closed on more energy) Construction of Companies Control by the order.

- Intervalence 2 BACKERT
- 31 BASE COURSE
- 4 SURBASE 5 SOLCEVENT

- 4 TEST BESULTS COMPLY WITH SPECIFICATIONS
- 8 HECOMPACTION HECURED 5 TEST SIAFTER RECOMPACTION

REMARKS:

cc: (2) Above



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 D	ata: Optimum	moisture:	(5,	28.2)				
1951		1.11	49%. () 41.9 6 070	017 0 (4 (40) 04 (1957)	WATER C. 471 51	SEMBLA SEMBLA MINERE	(-)mem(12-m (-)mem(12-m	COANLY.
7	08-03-87	2nd Lift	5	86.8	31.1	83.5	96.1	1 - A
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F	08-03-87	2nd Lift	5	86.8	32.7	84.0	96.7	1 - A
.0	08-03-87	Final	5 E	86.8	30.7	86.5	99.6	<u>1 - A</u>
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
TESTIC	TUG2 :MOLTADO	H SLOPE 19	00'-2	100' (300' 5	ection/Ba	v)		

7	20' West of Station 1900' and 35' from Top of Slope.
<u>.</u> a	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	
12	10' West of station 2100' and 25' from Bottom of Slope.

NOTES DENSITIES SHOWN Less des consistent WATER CONTENT Per Control to , weight PERCENT COMPACTION, Based on one pair, the density a standard to insurpremedic decliny. serial Dinamenters

- FILL MATERIAL BACKFILL BASE COURSE
- 4 SUHBASE
- 5 SOIL CEMENT
- A OTHER
- A TESTRESULTS COMPLY WITH SPECIFICATIONS 8 RECOMPACTION REQUIRED C. TESTIS AFTER RECOMPACTION

REMARKS

(2) Above

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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TESTED FOR	SAN	MIGUEL	ELECTRIC	COOPERATIVE,	NC. PROJECT
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Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

DATE

July 31, 1987

QUAREPORT NO

311-70065-16

Page 1 of 4

WEATHER Sunny & Clear

TEMPERATURE RANGE 90°

то 95°

INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

X	SOILS		 CONCRETE
		. FOUNDATIONS	BATCH PLANT
	_X	CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
	—-		
	ДБРИД	LT.	 OTHER
		RATCH P. ANT	
		PLAC! MENT DOBISITE	

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.

(2) Above

/da

Respectfully submitted, Professional Service Industries, Inc.

Friene: 512/342:9377



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 O	ATA: Optimum	moisture:	(5,	28.2)				
41 V.	.*1:	2.11	NA III WOOD B	- AH (1944 - OF A - 1	COMPLEX.	N PLACE SMN CHICATN	PERFORMANCE COMPAND COMPANDE COMPANDE COMPANDE COMPANDE COMPANDE COMPANDE COMPANDE C	creative"
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	lst Lift	5 !	86.8	32.5	85,3	98,2	1 - A
6	07-31-87	1st Lift		86.8	31.3	83.0	95.6	1 - A
TEST LO	DCATION: SOUT	H SLOPE 1,	. <u>60</u> 01-	17800° 7300°	AREA/DAY	γ, ΄		

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 DENSITES SHOWN LEA per misic loss WATER CONTANT, For Control drawnight, PERCENT COMPACTION, Bland on making making consider was larger and on making rightly pensity colarised on sample indicated by spill Disorber

- 1 1 FILMATERIA; BACMEUL
- J. DAGE COURSE
- SUBBRASE 5 SOIL CEMENT
- 6 OTHER
- A ITES! PESULTS COMPLY WITH SPECIFICATIONS 8 IRROMENOTION REQUIRED C ITES! IS AFTER RECOMPACTION

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAM MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pond Soil Testing

Post Office Box 280

P.O. #26643~032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE

July 31, 1987

OUR REPORT NO

311-70065-16

Page 3 of 4

TEST D.	<mark>ата: Орі</mark> тышы л	moisture:	(5,	28,2)				
9.77	1979	\$ / E	•••	017 0 (6) 40 (00) (0) 55 (4	(AA7) II (CMCI 5)	Sylvation (state (state)	4 0 0 51 COAMOT 94	COMMINI*
7	07-31-87	lst Lift	5	86.8	30.5	83.5	96,1	1 - A
8	07-31-87	2nd Lift	ō	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
· <u>១</u>	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	H6.8	34,2	82.6	95.1	1 - A
TEST LO	OCATION: SOUT	H 31OPE {I	,6001	'-1,800'} 3 0 0	' AREA/DA	Ϋ́,	•	

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.	
16	15' West of Station 1,800' and 10' from Bottom of Slope.	
<u>::</u>	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 DENSITES SHOWN concern on the firm WATER CONTENT Pro Content of An ordination of Property of Annual Content of Ann

ten in ersten tick sample obtaile bit.

4 SJB5ASI 5 SOLORMENT

* * FOLLWATER AS

A ITEST RESULTING OVER Y WITH SPECIFICATIONS IS INFOOMPROTION REQUIRED.

C. TEST IS ALTER RECOVERACTION.

A BACKING A BASE COURSE

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

SESSED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. MROJECT

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 D	ata-Optimum n	oisture:	(5, 3)	28.2)				
1:3	1-1	50000 0000	as i gas i	74 arany Fait C-1- Arang 20	WATE: (MFLK)	90 (0, 40) (1944 1950 (19	COMMELS.	Connection
13	07-31-87	Final	5	86.8	33.5	82.8	95.3	1 - A
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: TEST 16	EST LOCATION: SOUTH SLOPE (1,600'-1,800') 300' AREA/DAY.							
123110								

$\overline{}$	· · · · · · · · · · · · · · · · · · ·
13	35' West of Station 1,800' and 30' from Bottom of Slope.
Γ	!
	· · —· – · · · · – · · · · · · · · · · ·
	
	;

NOTES DENSMITS SHOWN Low per cubic bed ARTH COMPENT Mer Common of the Arryon ARTH COMPENT Mer Common on the men divi-density of COMPACTION Based on making men divi-density officered on various and called by the British miles.

* 1 FILL WATER AL

2 BACKFUL 3 BASC COURSE

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S SOLCEMENT

A ITEST RESULTS COMPLY WITH SPECIFICATIONS BIRD COMPACTION HEQUISED.

C. RESTUS AFTER RECOMPACTION.

Respectfully submitted, Professional Service Industries, Inc.

Three Burwood, area

San Astenau TX 78216

Process12/342-9377

REMARKS

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	[*** *** *** *** *** *** *** *** *** *



Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

TE	CT.	FI	٦.	F١	74

TESTED FOR SAN MIGUEL SLECTRIC COOPERATIVE, INCAROJECT

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

90° TEMPERATURE RANGE

y5°

G. Guintanilla INSPECTOR

TYPE OF INSPECTION BEING PERFORMED

X soils	CONCRETE
FOUNDATIONS	BATCH PLANT
X CONTROLLED FILE (COMPACTION)	. PLACEMENT (JOB SITE)
	
ASPHALT	
BATCH PLANT	<u> </u>
PLACEMENT (JOB SITE)	
	··-

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Nork 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 attemted tomorrow.

(2) Above



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 - U-7 Bulldozer with Rake

2. 1 - Lichherr 731 Bulldozer

3. 1 - DSH CAT. Bulldozer

1 - Spray King

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 kesitate to contact our office at your convenience.

Respectfully submitted,

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

cc: (2) Above

/da



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COMPERATIVE, INC. PAGLECT

1A Ash Pond Soil Testing

Post Office Box 280

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE:

July 30, 1987

CONTROP IN AUD

311-70065-15

Page 3 of 4

rest data: Optimum moisture: {5, 28,2}									
9.55 50	5#H	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	NO. 40 NO. 40 04 0	Mario yo Mariota Garagea	<: set Fe.,	IN P, 4() (A- (FRAT)	PIP CENT COMPACTION	caevi sr *	
1	07-30-87	Srade	5	86.8	33.1	85.3	98,2	1 - A	
2	07+30+87	Srade '	5	86.8	31.9	86.0	99,0	1 - A	
3	07-30-87	: Grade	5_	86.8	33.1	83.8	96.5	1 - A	
4	07-30-87	1st Lift	5	86.8	33,2	85.3	98.2	1 - A	
5	07-30-87	1st Lift	5	86.8	32.1	82.5	95.0	1 - A	
6	07-30-87	lst Lift	5 3001	86.8 -1 5001 /30	30.4	85.5	98.5	1 - A	

TEST LOCATION: SOUTH SLOPE - 1,300'-1,500' (300' AREA/DAY).

- 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.
- 20' West of Station 1,300' and 15' from Bottom of Slope.
 - 30' West of Station 1,400' and 30' from Bottom of Slope.
- 60' West of Station 1,500' and 30' from Top of Slope.

NOTES DENSITE SOCIAN (SK. por 1. bulleto WATTO CONTENT Per Contractive of PERCENT COMPACISON, Selection resembly des ram kny optungen na symple inaksyne by. Kut Oles sam

- * * FOLLMATERIAL
 - 2 BACKFILL
- J. BASE COLLAND 4 SUSH455
- 5 SOIL COMENT
- 6 OTHER
- A ITEST RESULTS COMPLY WITH SPECIFICATIONS BIRL CONFACTION REQUIRED C. ITEM IS AFTER RECOMPACTION.

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTECTION SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

1A Ash Pond Soil Testing

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

P.O. #28643-032108

CALL

July 30, 1987

TEST DATA: Optimum moisture:

CUR REPORT NO

311-70065-15

Page 4 of 4

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7	07-30-87	2nd Lift	5	86.8	36,9	85.5	98.5	4-A
8	07-30-87	2nd Lift	5	86-8	31.0	83.3	95.9	4-A
	07-30-87	2nd 1 if+	۲,	66.8	22 1	و د د	06 6	4-A

8	07-30-87	2nd Lift	5	86.8	31.0	83.3	95.9	4-14	
9	07-30-87	2nd Lift	5	86.8	33.1	83.8	96.5	4-A	
Ĵ	67-30-67	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	07-3 6-8 7	Final	5	86.8	31.3	85.8	98.4	4-A	

(1,300'-1,500') 300' AREA/DAY. SOUTH SILOPE

35' West of Station 1,400' and 30' from Bottom of Slope.

(5, 28.2)

- 9 50' West of Station 1,500' and 20' from Bottom of Slope.
- 30' West of Station 1,300' and 15' from Bottom of Slope. 10
- 40' West of Station 1,400' and 20' from Top of Slope. 11
- 60' West of Station 1,500' and 36' from Top of Slope. 12

NOTES OF SITES SHOWN 155 air build from WATER CONTENT Per Content of Air gift PERCENT COMPACTION (Bases on rights) of prodiging the gard of the sample indigated by the Children of the contract of the

I FILL MATERIAL BACKFILL

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

REMARKS:

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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

recten coo	SAN	M. SHEL	FLECTRIC	COOPERATIVE.	INC PROJECT
したらしたしょうしょう	⊅⊓. •	Par GOLL		- GOODEL CALL FEET	TIMES - Francisco -

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

DATE	July 29,	1987	OUA REPORT NO :	311-70005-14	Page 1 of 5
		WEATMER SURINY & Clear TEMPERATURE RANGE 90° INSPECTOR G. Quintanil	το 95°		
		TYPE OF INSPECT	ION BEING PERFOR	MED	
<u>. X</u> .	SOILS		c	ONCRETE	

anish 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

Respectfully submitted, Professional Service Industries, Inc.

San Antonio, TX 78216

Phone: 512/342-9377



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MESCEL ELECTRIC COOPERATIVE, INC. PAGE OF

1A Ash Pond Soil Testing

P.O. #26643-032108

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE

July 29, 1987

CUP PERONT NO.

311-70005-14

Page 2 of 5

TEST D	TEST DATA: Optimum moisture: (5. 28.2)									
250	nen:	100	e gregoria. Na magapa da	900 00 00 90 70 90 70	8.411.0 0.79(1.5)	6 (0, 40) (40) (40)	PLATE (N)	Cultural for T		
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		
<u> </u>	07-29-87	Grade	5	<u>8</u> 6.8	33.5	85.0	97.9	1 - A		
, 4	07-29-87	Grade		86.8	31.9	86.0	99.0	1 ~ A		
<u>.</u> 5	07-29-87	Grade	5	86,8	32.9	85.0	97.9	L - A		
. 6	07-29-87	Grade	5	86.8	33.1	85.3	98.2	1 - A		
TEST LO	CATION: SOUTH	SLOPE - :	<u>stati</u>	<u>00 900 -1,000</u>	0', 1,000'	-1,1 <u>00',</u>	1,100°-1,20	<u>10' (300' AREA PER D</u> A		

25' West of Station 900' and 40' from bottom of slope.

70' West of Station 900' and 20' from top of slope.

30' West of Station 1,000' and 30' from bottom of slope.

East of Station 1,100' and 20' from top of slope.

10' West of Station 1,100' and 10' from bottom of slope.

25' East of Station 1,200' and 20' from top of slope. 6

NOTES OFFIS DENSITY OF COMPLETE WATER CONTRACT OF COMPLETE WATER CONTRACT PERCENT COMPACTION, Bland to Inventor to denning i popularita en elempte in til afters de-en i Colouritari

FILL MATER 4.

2 SACATAL 3 BASE COURSE 4 SURBASE

S. BO. CEMENY

A I FEST RI SULTS COMPLY WITH SPECIFICATIONS B. RI COMPACTION REQUESTS C. ITESTIS AFTER RECOMPACTION

REMARKS:



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

July 29, 1987

OUR REPORT NO

311-70065-14

Page 3 of 5

TËST D	ата: Optimum	moisture:	(5, 7	28.2)				
11.55 56.	***1	(1) 70	1 971. 19 1901.0	GARCON DESCRIP	WATER CONTENT	701 (BCR) (940 (31.95-14	PERICLUT COMPACTS IN	COMMENT [®]
7	07-29-87	lst Lift	5	86.8	31.7	82.8	95.3	1 - A
្រីន	07-29-87	lst Lift	5	86.8	31.9	84.5	97.3	. 1 - A
9	07-29-87	lst Lift	5	86.8	31.7	85.0	97.9	1 <u>- A</u>
. 0	07-29-87	lst Lift	5	86.8	34.5	84.0	96.7	1 - A
11	07-29-87	lst Lift	5	86.8	35.5	83.0	95.6	1 - A
12	07-29-87	lst Lift	5	86.8	33.9	84.0	96.7	1 - A

TEST LOCATION: SOUTH SLOPE - STATION 900'-1,200' (300' AREA/DAY)

- 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 at Station 1,000' and 15' from top of slope.
- 10 20' East of Station 1,100' and 20' from bottom of siope.
- 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 IDENSITE & SHOWN LINE per currently weight WATER CONTENT From Controllery weight PODCENT COMPACTION, Business on the main time. density obtained on springer and lated by sport Outlinday.

- FILL MATERIAL
- P BACKEQ.BASS COURSE.
- 4
- SUBBASE SOIL OF MEST
- OTHER
- A TEST RESULTS COMP. Y WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED OF STILL STEEL RECOMPACTION

REMARKS-

Respectfully submitted, 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

AltENI(ON: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

July 29, 1987

CAIR REPORT NO

311-70065-14

Page 4 of 5

TEST D	<mark>ата: Dpti</mark> mum	n moisture:	{5	. 28.2)	———			
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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 L	DUATION: SOU	TH SLOPE 90	1 - 1	.200' (300' A	(REA/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 ITENSITY SHOWN the period of for AATS 9 CONTENT, Per Control by weight PERCENT COMPACTION, Harvelors Expension by contributions on sample indicated by that Oracle became in

* FILL MATERIAL C. BACKETT B. SASE COURSE 4. SUBBASE

5 SCIL CEMENT

A TRIST HESU, IS COMPLY WITH SPECIFICATIONS B. RECOMPACTION REQUIRED: C. 15 ST -S AFTER RECOMPACTION

REMARKS:

Respectfully submitted. Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC., PHOJECT

1A Ash Pond Soil Testing

Post Office Box 280

P.O. #26643-03210B

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

CATE

July 29, 1987

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Page 5 of 5

TEST O	ATA: Optimum	moisture	: (5	, 28.2)				
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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
2	07-29-87	: Final Lift	5	86.8	32.5	84.5	97.3	1 - A
23	07-29-87	. final <u>Lift</u>	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 DESCRIBE WHOM They per exclusion water CONTENT, her Control drugger out. PSROENT COMPACTION, Busin him manifold by nemydy gdd coed an compte indicated by solid Discussion

- IAIRECAM LIST
- BACKELL:
- BASE COURSE SUBBASE
- SOIL CEMENT
- OTHER.
- A I TEST RESULTS COMP. Y WITH SPECIFICATIONS B. RECOMPACTION REQUIRED.
- C. TEST IS AFTER RECOMPACTION

REMARKS:

Respectfully submitted. Professional Service Industries, Inc.

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Shilstone Engineering Testing Laboratory Division

#### REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCREMENT

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pond Spil Testing

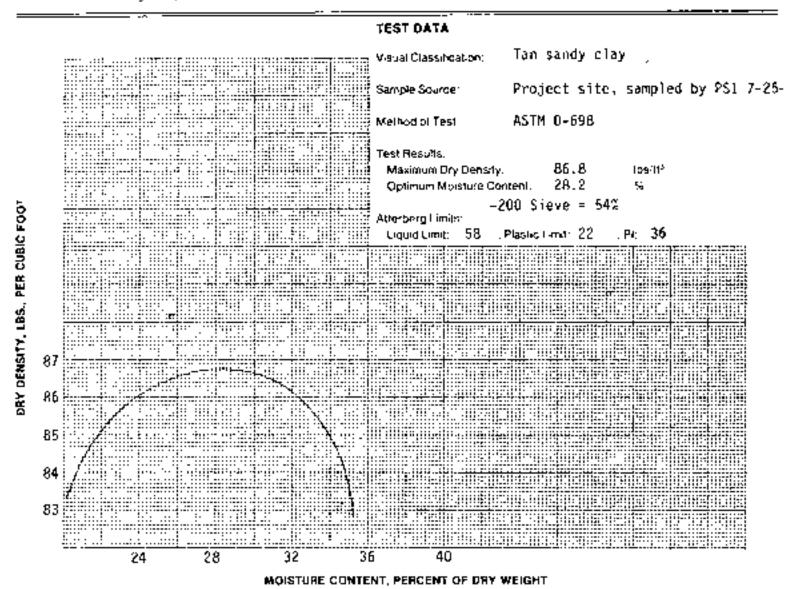
P.O. #26643-032108

SATE

duly 29, 1987

OUR REPORT NO

311-70065-5



(2) Above

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Respectively submitted.

Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

#### **DAILY FIELD REPORT**

TESTED FOR	SAN	MIGUEL	ELECTRIC	COOPERATIVE	INC. PROJECT
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Post Office Box 280 Jourdanton, Texas 78026

AJJERTION: 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°

a 85°

INSPECTOR G. Quintanilla

#### TYPE OF INSPECTION BEING PERFORMED

X . SONS	CONCRETE
FOUNDATIONS	BATCH PLANT
X CONTROCLED FILL (COMPACTION)	PLACEMENT IJOS SITEI
<del></del>	· · · · · · · · · · · · · · · · · · ·
<b>ASPHALT</b>	OTHER
BATCH PLANT	
PLACEMENT (JOB SITE)	

SPIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Two (2) tests were taken on the south slope at station 1,000'-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

Respecti©ly submitted.

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 Sail Testing

Post Office Box 280

P.O. #25643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

UGTE

July 28, 1987

OUR REPORT NO

311-70065-13

Page 2 of 2

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07-24-87	lst Lift	5	86.8	28.0	88.3	101.7	This lift will be
07-24-87	lst Lift	5	86.8	27,5	89.0	102.5	Roworked Due to
	<u> </u>	_					Rain.
	<u> </u>						
	<u> </u>					] .	
	<u> </u>			<u> </u>	<u></u>	] :	
	07-24-87 07-24-87	07-24-87   1st Lift 07-24-87   1st Lift	07-24-87	07-24-87	07-24-87	07-24-87   1st Lift   5   86.8   27.5   89.0   89.0	07-24-87   1st Lift   5   86.8   27.5   89.0   102.5

TEST LOCATION: SOUTH SLOPE

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 LESS INFO JACKS THAT WATER CONTENT PROCESS of the year of the American Content of the American Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content of the Content o PERCENT COMPACTION, Based to constant the strongly interest on Neighbord Street by so "Din more

Three Bur would Lane

FILL MIGHERIAL

BACKSOLL

3 BASE COURSE

4 SUBBASE

SQII, CEMENT CTICLA

A 17 ST RESULTS COMPEN WITH SPECIFICATIONS B RECOMPACTION REQUIRED C TESTIS AFTER RECOMPACTION

Proper512/342 9377

REMARKS:

Respectfully submitted. Professional Service Industries, Inc.

Ean Antonio, ₹X 78216

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Shi!stone 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. #26643-03210B

DATE	July 27, 1987		OUR REPORT NO	311-70065-12
	•	veathen Overcast HEMPERATURE PANGE: 76° NSPECTOR G. Quintanill	то 80° a	
		TYPE OF INSPECTIO	н авіно Реяго	RMED
x	SOILS			CONCRETE
	FOUNDATIONS			BATCH PLANT
	_X, CONTROLLED FA	LL (COMPACTION)		PLACEMENT (JOB SIVE)
		–		·
	ASPMALT			OTHER
	BATCH PLANT			
	, PLACEMENT IJO	R SITE)		<del></del>
	-			

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.



057	N. N. N. CHAIGHTEN SELA 13 IGHAIGHTEN ------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
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Shilstone Engineering Testing Laboratory Division

#### DAILY FIELD REPORT

FESTED FOR	SAN	M]GUEL	ELECTR1C	COOPERATIVE,	INC. PROJECT
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Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE	July	24,	1987
G-1-L			

OUR REPORT NO

311-70065-11

Page i of 3

WEATHER Overcast

TEMPERATURE PANGE 75

75°

80"

inspector G. Quintanilla

#### TYPE OF INSPECTION BEING PERFORMED

X SOILS	CONCRETE
FOUNDATIONS	BATCH PLANT
X _ CONTROLLED FILL (COMPACTION)	PLACEMENT IJOB SITEI
	·
_ ASPHALT	OTHER
. BATCH PLANT	<u> </u>
PLACEMENT (JOH SITE)	-··· · ·
	· · · · · · · · · · · · · · · · · · ·

EMIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Trouble spots in IA Pond were discussed between PSI, SMC, and V.K. Knowlton. After careful observation of the trouble spots in IA Pond, the decision was made to continue to remove 2' of good material and scarfy the bottom I' 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.



Shilstone Engineering Testing Laboratory Division

#### DAJLY 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 - Liebherr 731 Bulldozer

2. 1 - D8H CAT, Sulldozer

3. 1 - 120G CAT, Grader

4. 1 - CAT. Spray King

Due to the lack of proper equipment, V.K. Knowlton was unable to starfy 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 scaled 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



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

QUA PLPORT NO 311-76065-11

Page 3 of 3

TEST D	<mark>ΑτΑ:</mark> Ορείακυπ	moisture:	(5,	28.2)				
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2	07-24-87	1st Lift	5	86,8	29,2	88.8	102.3	, 1 - A
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	<u> </u>	.[			!			
TEST LO	CATION: SOU	TH 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.
<u>.                                    </u>	
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NOTES BEASINES SHOWN CENTER OF THE MA WATER CONTINUE For Continue, we can DERCENT COMPACTION. Burel to real time of

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A ITEST RESULTS COMPLY WITH SPECIFICATIONS SI RECOMPACTION REQUIRED CONTEST IS AFTUR RECOMPACTION.

Respectfully submitted. Professional Service Industries, Inc.

REMARKS:

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Shilstone Engineering Testing Laboratory Division

#### DAILY FIELD REPORT

restedings SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJ
-------------------------------------------------------

Post Office Sox 280

Jourdanton, Texas 78026

AUTENTION: Mr. Clyde Price

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

ıT€	July	23, 1987			OUR REPO	RT NO	311-70065-10	Page 1 of 3
			TEMPCRATU	Sunny & Clea REHANGE 80° G. Guintani	то	85°		
				TYPE OF INSPEC	TION BEING F	ERFO	RMED	
X	50105						CONCRETE	
	ı	OUNDATIONS					BATCH PLANT	
	Х	CONTROLLEGI	FILL (COMPAG	FION)			P. ACHMENT (JC	e şırı;
	ASPHALT				-	·	OTHER	
	. 1	ЗАТСН РЦАЧГ						
		PLACEMENT IS	O8 \$1E)					

(な) Above

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Respectfully submitted.

Professional Service Industries, Inc.

O.

reconstruction has been done yet. I ran three (3) tests to check moisture content on the

west end of pond. V.K. Knowlton started at 7:00 a.m. and finished at 6:00 p.m.



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

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1	07-22-67	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	300+	
		<u> </u>			·			
-			T . 1		<u> </u>			

TEST LOCATION:

ļ	1	Test	taken	iη	1,800'-1	,900	Area	-	30"	South	of	North	Slope	Å	201	West	of	1,800'	Mark.
Ļ	2	Test	taken	in	1,800'-1	,900'	Area	-	401	South	af	North	Slope	å	301	West	of	1,800'	Mark.
			• •		1,800'-1														

NOTES DENSITES SHOWN TON provide that wattracement the Control Per Control by weight PERCENT COMPACTON, Brand company on the

density relatived at warrate adjusted by a significant

FIGUMATERIAL

DACKER. HASE COURSE

4 SUBBASE

5 SOIL COMENT H GTHES

A LITEST BESILE IS COMPLY WITH SPECIFICATIONS

9 RECOMPACTION REQUIRED CONTRACTION

REMARKS:

/dd

Respectfully submitted,

Professional Service Industries, Inc.



# **Professional Service Industries, Inc.**Shilstone Engineering Testing Laboratory Division

#### DAILY REPORT

TESTED FOR SAN MIGLEL 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:

3 - 6370 CAT, Scrapers

2. 1 - liebherr 731 Bulldozer

3. 1 - D8H CAT. Bulldozer

1 - 120G CAT, Grader

V.K. Knowlton is working the area approximately  $800^{\circ}-1,700^{\circ}$  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  $1,000^{\circ}-1,100^{\circ}$ , removing 2° of material to replace in with good clay in 9" lifts. Three (3) density tests were taken on the west end between  $1,800^{\circ}-1,900^{\circ}$  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,  $1,000^{\circ}-1,100^{\circ}$  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)

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Shilstone Engineering Testing Laboratory Division

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#### DAILY FIELD REPORT

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TERTED FOR	SMO	MIL INCHES	PERCHANCE	LUUMEKAITYEL	TINU. PROJUCT

Post Office Box 280

Courdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

Page 1 of 5 311-70065-9 July 22, 1987 OUR REPORT NO DATE

> Sunny & Clear WEATHER

850 TEMPERATURE BANKA

ASPECTOR & Quintamilla

#### TYPE OF INSPECTION BEING PERFORMED

X _ soils	CONCRETE
FOUNDATIONS	. BATCH PLANT
X CONTROLLED FILL (COMPACTION)	PLACEMENT (JUDB SITE)
· ·	
ASPMALY	. OTHER
. HARCH PLANT	
PLACEMENT (JOH SIZE)	

V.K. Knowlton is continuing on the clean-up of the BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: 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

Respectfully submitted,

Professional Service Industries, Inc.

PreeBurwood Lane

San Antonic, TX 78216

Phono: \$12/342-9377

/da



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 pondwith brief descriptions:

- On the \$.£. corner of the pand 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.
- On the north side of the pond at the east end in the area approximately. 400'-700', sandy pockets are encountered with heavy saturation.
- On the south side of the pand 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.
- On the south slope 800'-1,000' the walls appear to be saturated as: well. The floor in this area is dry.
- 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 42 of this report.

#### EQUIPMENT USED:

- 4 6370 CAT. Scrapers
- 1 Liebherr 731 Bulldozen
- 1 D8H CAT, Bulldozer
- 1 = 120G CAT, Grader

Area al 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 benotonitic clay. Highly plastic material coded (CH). The material (labeled as Sample #2) that was believed to have been unacceptable due to large deposits of



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



Shilstone Engineering Testing Laboratory Division

#### REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, [NC.PHOSECT

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil Testing

P.D. #26643-032108

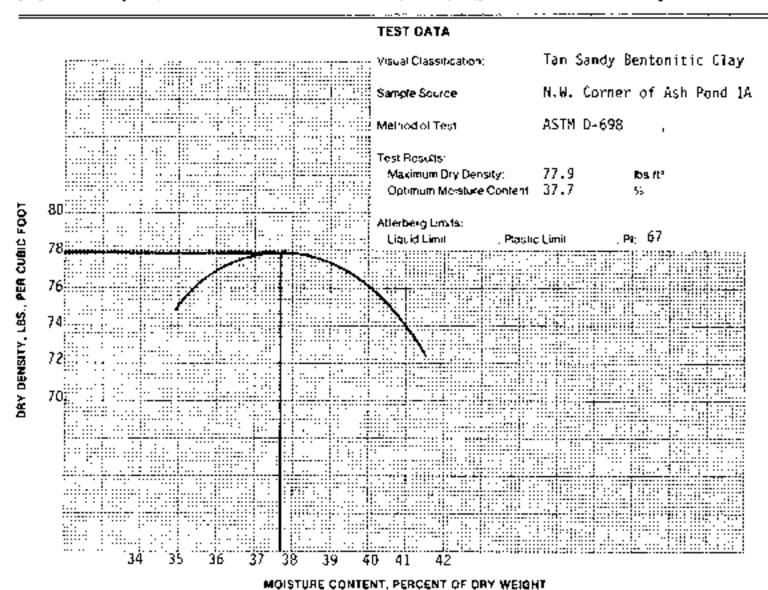
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July 22, 1987

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Page 4 of 5



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Respectfully submitted. 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

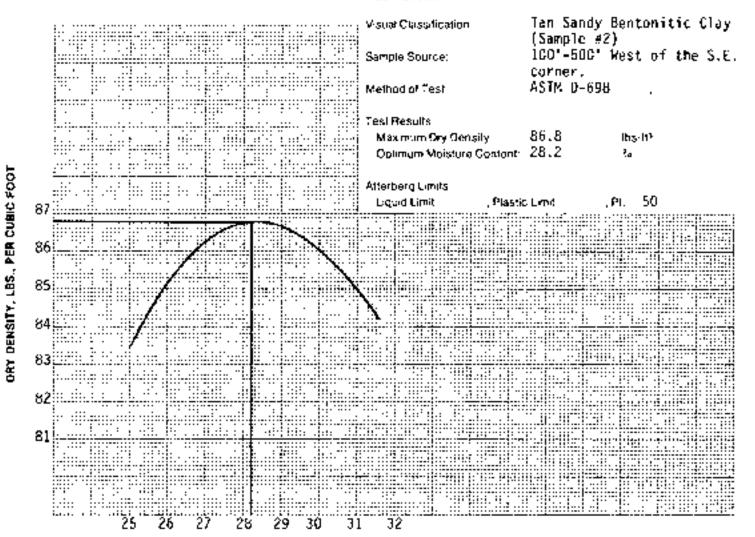
DATE

July 22, 1987

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Page 5 of 5

#### TEST DATA



MOISTURE CONTENT, PERCENT OF DRY WEIGHT

Respectfully submitted.

Professional Service Industries, Inc.

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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. 426643-032108

Contractor: V.K. Knowlton

DATE

July 21, 1987

OUR REPORT NO

311-70065-8

#### REMARKS:

#### EQUIPMENT USED:

4 - 637D CAT, Scrapers

2. 1 - Liebherr 731 Bulldozer

3. 1 - 120G Grader

4. 1 - D811 CAT. Bulldozen

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 IA 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 N.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)

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Shitstone Engineering Testing Laboratory Division

#### REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOH

SAN MIGUEL ELECTRIC COOPERATIVE, INC_{PROJECT}

Post Office Box 28D

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pond Soil Testing

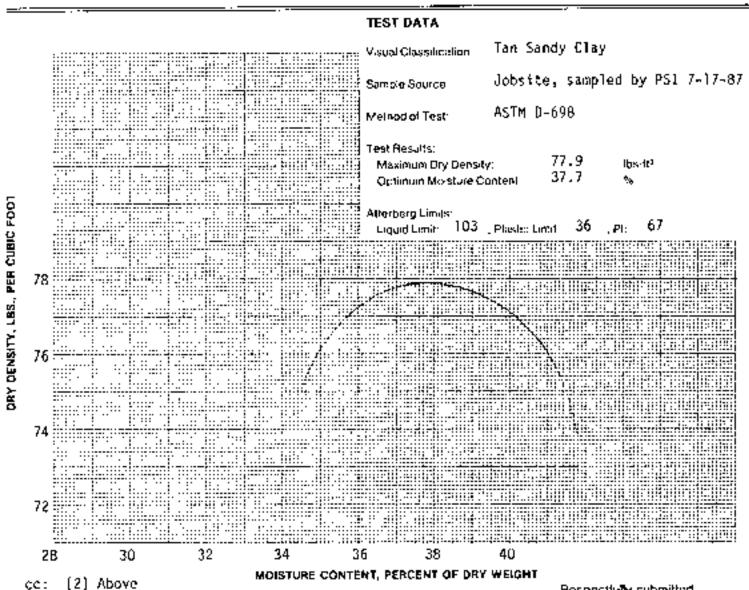
P.Q. #26643-032108

OATE

July 21, 1987

CAITRORSBIRDO

311-70065-4



/ps

Respectivity submitted, Professional Service Industries, Inc.

Three Burwood Lane

San Antonio, TX 78216

Phone 512/342/9377



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

DA 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

3 - 637D CAT, Scrapers

1 - Liebherr 731 Bulldozer.

1 - D&H CAT, Bulldozen.

1 - 120G CAT, Grader

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 coming to further continue construction. Approximately 60% of the pand 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 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)

cc: {2} Above

/dd

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# Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

# REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

PLETED FOR SAN MIGUEL ELECTRIC COOP., INC.

Post Office Box 280

Jourdanton, Texas 78026

PROJECT:

Pond 1A Repair Project

San Higuel Plant Jourdanton, Texas

Attention: Mr. Clyde Price

DATE.

May 7, 1987

OUR REPORT NO - 311-70065-1

#### TEST DATA

TEST DATA

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MOISTURE CONTENT, PERCENT OF DRY WEIGHT

Respectfully submitted, Professional Service Industries, Inc. . .

#### **CALLY FIELD REPORT**

TESTED FOR San Miguel Coop

PROJECT: IA Pand

DATE 7-23-87

OUR REPORT NO.: 3[] -

WEATHER SUMMY & CLEAR
TEMPERATURE RUNGE 85" TO. 90"
DESPECTOR G. QUINTERNILLE

(THE OF MAPEC)	ION SIGNO TOURED
\$DILS	CONCRETE
FOUNDAY ONS	BATCH PLANT
X_ CON/ROLLE D FILE (DOMPACTION)	, FLACEMENT (JOB SITE)
ASPHALY	СТИЕЯ
BATCH PLANT	· · · ————————————————————————————————
PUACEMENT (DOBISME)	
	<del></del>

of contaminated this day in the East End approximately 30-51-700' on north side and will remain in this area for the entire day. No compaction testing done today.

Respectfully submitted, Professional Service Industries,

TESTED FOR SAV	Mgod	مهم
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PROJECT: JA PONAS

DATE:	7-	2	7	_	а	7
ONIE.	,,-	•	. 3	_	$\sim$	•

OUR REPORT NO.: 31 (

WEATHER SUNNY J-CLEAR

TEMPÉRATURE RANGE: 80° TO: 85°

INSPECTOR: 6 Quintanilla

#### TYPE OF INSPECTION BEING PERFORMED

$\times$	SOILS	 CONCRETE
	FOUNDATIONS	BATCH PLANT
	CONTROLLED FRI (COMPACTION)	PLACEMENT (JOB SITE)
	ASPHALT	 OTHER
	BATCH PLANT	<del></del>
	PLACEMENT (JOB SITE)	

POND. No reconstruction has been done tot. I ran 3 Tests
To check Moisture Content on the most and of pond, 4k known strated at 6:00pm.

Respectfully submitted, Professional Service Industries, I

TESTED FOR SAN Miguel Coop MOJECT: SMC IA POILED

•	
DATE: 7-24-87	OUR REPORT NO: 311-
WEATHER: OVE C TEMPERATURE RANGE: 7	Control Control
TYPE OF INSPE	CTION BEING PERFORMS
SOILS	CONCRETE
CONTRIOLLED FILL (COMPACTION)	BATCH PLANT PLACE MENT (JOB SITE)
ASPHALT	OTHER
FLACEMENT (308 SITE)	
of the Travele again in the Poil  of the Travele again in the Poil  to remove 2' of good high.  Liner, The other a travely as a	while supto in IA fond were  ( + y.k !knowley. After corrul decrease  a ( 2 + 1 star by the lost-in 1 of the  s to remove by : 100 a print, while  s copers. A los southers in which the  bried.
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Engineer - & HRS.	•

TESTED FOR: Say Miggael	PROJECT: A Paric
DATE 7-27.21	OUR REPORT NO. 73
WEATHER, Or, 41	.८३८र
TEMPERATUSE RANGE	in the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of th
INSPECTOR (	
TYPE OF	F (MSPECTION BEING PERFORMED
soils	COHCRETE
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
AGPHALT	OTHER
BATCH PLANT	
PLACEMENT (JOB SITE)	
	<del></del>
BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:	Due to rain our the wrekens
The 1st Lift in the place of The 1st Lift in the place of The 1st Lift bear place of this dote, It storted	once Darn. No That bore theeps
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Tich Time 5.30 - 1:00

Respectively admitted, 2. Professional Service Industries, In

7-28-37	CUR REPORT NO. 12 11
WEATHER, C. C. C. C.	
YEMPERATURE RANGE:	то
MISPECTOR: (- , )	
TYPE OF INSPECT	ION BEING PERFORMED
soils	CONCRETE
FOUNDATIONS	BATCH PLANT
. X commonled fall (compaction)	PLACEMENT (JOB SITE)
ASPHALT	
BATCH PLANT	
PLACEMENT (JCB \$116)	
	<u> </u>

Respectively submitted, Forebosional Service Industries,

TESTED FOR. \$2 ~ Nigoel Case	PROJECT! SMC IA POND
•	·
DATE: 7-29-87	CUR REPORT NO.: 31 ( +
WEATHER: SUNNY &  TEMPERATURE RANGE: Go  WESPECTOR: GO  CO	10:75
,	TON BEING PERFORMED
sons	CONCRETE
CONTROLLED FILL (COMPACTION)	BATCH PLANT PLACEMENT (JCB SITE)
ASPHALT	\$THER
BATCH PLANT PLACEMENT (JOB SITE)	
A 300 Section in SME DAY, The	MOGET SPECE - VE KNOW Have Commission

Professional Service Industries.

TESTEDFOR SOON MIGHEL COOPS	DECT SMC IA PUND
•	
DATE 7-30-87 OU	A REPORT NO.: 311 -
WEATHER: SUNNY & CO	EAK .
TEMPERATURE RANGE: 470°	
INSPECTOR G. QUINTE	milla.
TYPE OF INSPECTION (	ENG PERFORMED
Soils	GONCRETE
AOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
ASPHALT	ones
BATCH PLANT	
PLACEMENT (JCB SITE)	
	عس) ۱۲ د د د مرد عمد عمد ا
Approximately 1300'-1500'(300's  Were taken doday. The ALL T  300' AREA WORK 7-29-87 More  No Apparent scapage is Fo  9:00 AND Finished M. 6:00. A	GERTION). 12 compaction tost GETS Comply with specs. The MRS TO Be Holding prolly well.
19:00 Auro Finished Mr 6:00. A	400' Station will be Attempted Tomort

Page schildly schmilled. Professional Cervice Industries,

TESTED FOR:	San	Miquel	Coop
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PROJECT: SMC 14 POND

DATE	7	- 31	-	27
	г		-	C./ F

OUR REPORT NO: 311 ~

WEATHER: SUMMY - CLEAR TEMPERATURE RANGE: "()" TO:  $\hat{A}_{ij}^{(j)}$ NEPECTOR: G. Quitarla TYPE OF INSPECTION BEING PERFORMED CONCRETE . BATCH PLANT PLACEMENT (JOB SITE) OTHEA ASPHALT BATCH PLANT PLACEMENT (JCB SITE)

UK Romallian worked Enstage BRIEF RESUME OF WORK ACCOMPLISSED THES DATE: today. The south slape, =TA. 1600-1800' was completed today. Scaper was encountered in a completed area on couth elepte Int STA, 1000 water has come through approximately 15'-20' wide at pottom of Slope. Satirated Area Starts from about the middle of slope to the bottom. It have a starts from about the middle of slope bottom . It appears to be riming through an is consented part the 3 or marry required by the formation required by the restrict

Respectfully submitted, Professional Service Industries, Inc.

TESTED FOA:	Sav	Miguel	$ C_{\infty p}$
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PROJECTS COM CONTRACTOR IN

WEATHER: Six 100 €	T. Cor
TEMPERATURE RANCE	
INSPECTOR. (C., C.,	· · · · · · · · · · · · · · · · · · ·
TYPE OF INSPEC	CTION BEING PERFGRAED
SOILS	CONCAEYE
FOUNDATIONS	BATCH PLANT
	PLACEMENT (JCB SITE)
ASPHALT	ОТНЕЯ
BATCH PLANT	
PLACEMENT (JOB \$8TE)	

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2 3. **5** .

Respectfully submitted, Professional Service Industries,

% A 300 7

•	
DATE: 8-4-87 OUR REPORT NO 311-	
WEATHER: SUNNY & CLEAPL TEMPERATURE PANGE: 85° TO: 40°	

INSPECTOR: Co Quintan 1/2

# TYPE OF INSPECTION BEING PERFORMED

TESTED FOR: SAN MICHAEL (

SOLS.	CONCRETE
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
<del></del>	• —
ASPHALT	Отнея
BATCH PLANT	-· + <del>-</del>
PLACEMENT (JOB SITE)	
	•

BATEF, RESUME OF WORK ACCOMPLISHED THIS DATE: YK KAS UPON COMPLETE STA. 2345 1-3475 120 210 completed sta. 1200. FTUTS) of 13 prostless were taken today and prostles a muly with space. No secapose the bear sometimes in any other arca: Inches statement about the arca: Inches statement and other arca: Inches statement and account for battony of sound of account for battony of sound of account for battony of paid to appears to no en and good por it of the paternal are approaching water uniturally transfer the material are known started at 7100-6-00 pm.

1-1-ticksom bedty a-6770 Clarents 1.1-08cs7 Doca 5.1 CAT 98 N. Professional Service Industries 3.1-060zakileurbii water tezek 7. Dischug equipment

S. 1 - COT ITHE GRADER

DATE: 8-5-87	OUR REPORT NO : 311
WEATHER: SUNTY (*) TEMPERATURE RANGE: RC	τ <b>ο</b> : 4.5.1
TYPE OF INSPEC	TION BZIMI PERFORMED
SOILS  FOUNDATIONS  CONTRICLLED FILL (COMPACTION)	CONCRETE  BATCH PLAN?  PLACEMENT (JOB SITE)
ASPHALT BATCH PLANT PLACEMENT (JOB SITE)	CTHER
BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: VIK KI don't is good south for the bond of doperatives come outh for the durat tost were fater to lay. I failure and tost Bosult's complete with speci	look, they will be having 3 moke much he will of 25 compaction on moisture in STA 700/A Retest was take

1. 3-6370 50322615

2.1-Liebhort Bildozer 3.1.05 CAT Bildozer 4.1-56 Bildozer Wediec

S. INDATISMAN KIND

Respectfully submitted.

Professional Service Industries, In

7. Discing 290-pmout

MA ADDO

TESTED FOR: SZN Miquel Coop

PROJECT: SMC IAPOND

DATE:	8-6	_	27
LANCE:	m - 69	_	<i>n</i> /

OUR REPORT NO.: 311-

WEATHER SURNY + CLEST

TEMPERATURE RANGE:  $45^{\circ}$  10.  $100^{\circ}$ 

MERECTOR G. Quintanilla

### TYPE OF INSPECTION BEING PERFORMED

SOILS	CONCRETE
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB S/TE)
ASPIGALT	OTHER
BATCH FLANT	
PLACEMENT (JOB SITE)	

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: VK KNOW FOR WORKED ON SOUTH SLOPE STA. 400-600, POND FLOSE STA. 1600'- 2400', 800'. South Shope of ATA. 400-600' was completed and Pono Flore will be employ to morrow. A total of 17 compaction test were taken 8nd comply with spece. Govipment used today are as follows:

We knowlton worked from 7:00-6:30

1. 2 - 6370 Berapers Z . I . LIEBHERE BAILdozes 3,1-DB DOZEL

6.1- STRAY KING

Professional Service Indu

7-27	OUR REPORT NO.: 311
WEATHER: SUPPLIED C	Lexe
TEMPSHATURE RANGE: $\mathcal{L}_{\mathcal{G}}$	් ල (5ටී.
RISPECTOR: (C.C.)	Maritia -
TYPE OF INSPECT	GN BEING PERFÖRMED
SOILS	. CONCRETE
	•
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
F	
ASPHALT	OTHER
BATCH PLANT	<del></del>
PLACEMENT (JOB SITE)	

Respectfully submitted. Fig. Professional Service Industrials, In

The park You

TESTED FOR: San Mizuel

PACUECT: SMC 1A Pond

DATE: 8-24-87	OUR REPORT NO :	
WEATHER: Clear		
TEMPERATURE RANGE: 93	TO: 98°	
INSPECTOR: Keith Ms Williams		
TYPE OF INSPECTION BEING PERFORMED		
X soils	CONCRETE	
FOUNDATIONS	BATCH PLANT	
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)	
X In-place density tests	<del></del>	
ASPHALT	фтнев	
BATCH PLANT	<del></del>	
PLACEMENT (SOB SITE)	,	
<u> </u>		
BRIEF RESUME OF WORK ACCOUPLISHED THIS DAYE a representative of PSI arrived on the fobsite 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 fobsite at 6:10 pm.		

Rospecticity submitted, Professional Service Industries, Inc. TESTED FOR SON Miguel

PROJECT SMCIA PORC

CATE 8-24-87

QUA ACPORT NO

### REMARKS:

Client: San Miguel Coop Contractor: VK Knowlton Weather: Sunny & Clear Nemp. Pange: 93° to 98° Inspector: K.MsWilliams Project: SMCIA Pond Equipment used today:

1 1-1-637 D scraper

@ 1 - Clebherr bulldozer

@ 1-06 cat dozer Wrake

@ 1- eat spray king

1 - water truck

1 - Discing equipment

V.K. Knowlen worked on worth slope and pend floor. See F.C.T. for locations. Areas tested were too dry and will be weted in the morning on 8-25. A total of 15 density tests were taken. V.K. Knowlen stopped at 6:00 pm.

## <u>DAILY REPORT</u>

YESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INCAROLECY Post Office Box 280 Jourdanton, 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 & Clar
Temperature Range: 90-95"

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. Z 6370 Scropers

5. 1- Nator bruck

2. 1 D6 DOZLE

6. 1 120G Motor Grader 7. Disking Equipment

3. I LIGHBERR DOZER

4. 1 - SPRAY KING-

### REMARKS:

North shope-STA-1300'-1500' Was completed. Pond Floor STA. 900'-2000' was work and but not completed. There were 4 Failures today due to misture below spres. There greas were knowled and retested. The 4 retest complied with specs. A total of 22 total compaction test were taken today. Upon request of SMF. I took measurements of an area where still reoccuring. My estimation of the measurements

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 8-26-37

оця вероят мр.: 311-70065-

Weather:

Temperature Range:

Inspector:

Type of Inspection:

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1.

5.

Ż.

6.

3.

7.

4.

8.

#### REMARKS:

of seep dreas. An alternative for these trouble spots is using betirite in these VIK Knowlfor stopped at 6:00p.n. Respectfully Submitted 6. Quintanilla

TESTED FOR SAN MIGUEL CLECTRIC COOPERATIVE, INC. PROJECT.

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

IA Ash Pond Soil Testing

P.O. #26643-032108

рате 8-27-<del>8</del>7

311-70065-OUR REPORT NO

Weather: Sunny + Clear Temperature Range: 95°-90°

Inspector: G. Quintanille

Type of Inspection: will contend

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

- 1. 2-6770 Scrapers
- 2. 1 D6 Dozer
- 3. ( LIGHBERR DOZAL
- 4. 1- watertruck
- 5. | Cat. SPRAY KING
- 1206 Moher Grader
- Disking Equipment

REMARKS:

Pand Floor STA 400-1400' was completed put not completed. 4 failures due to moisture low specs on slope. These areas were retrophed netested and passed according to specs. An Area meen on South slope was discussed with sme. Reworked I Emphasized that weep hokes to enymon occurring. A total of 24 De

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 8-28-817

OUR REPORT NO: 311-70065-

Weather: Karry

Temperature Range:  $\zeta \le - \gamma^{1}$ 

Inspector: Carolina Tarilla

Type of Inspection:  $\{1, 2, \dots, n\}$ 

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. Laterberg Dozas 5.

2. (- D6 Dzck 6.

3. 1- 120G GRAVER 7.

4. 1 ALBOD STRAFE B.

### REMARKS:

VKIrration Completed Stillson-1800' On North Slope.

When been catching rain on and off all day.

Some work was done on pard bottom, from

STA. 1600-2000: I total of lo dencities

taken today. Pam. shot us down about 4:30pm.

today.

Regardanta Salmatick

PSI & NOLE

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

311-70065-DUR REPORT NO

Weather: CLっぱい Temperature Range: ムケュー フラッ

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:

UK Knowlton started at 7:22A.M. IA Pend was toget to work. VK Knowlton lect about 8.000 m. I waited for techs to arrive, to connerse drilling weep hoks. An attempt was made but we were unable to do work due to the condition of the pind which was too wet to work. Techs left at 11:30 p.m. I reviewed and corrected reports from previous week for 5 mc. I Left at 1:00p.m.

6:30 - 2:00

No Luncie

IESTED FOH

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

311-70065-OUR REPORT NO

Weather: Sunny + Clear Temperature Range: 75°-20°

Inspector: G. Quintanilla

Type of Inspection: [:] | Control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:	Haze	
1.		5.
2.		6,
3,		7.
4.		8.

#### REMARKS:

VIC knowless and did not show up. I prime of 7:00 A.m. Mike from UK Knowlon came out to check situation of the pond. Pond is still too wet to work. I told theke that water should be pumped out of pond those. We testing done

6:30 - 11:30 A.M. 5 Hes.

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

9-2-87

311-70065-OUR REPORT NO

Weather: Sunny & Clear Temperature Range: 75 - 485°

Inspector: G. Quintanilla

Type of Inspection: Fill control

Brief Resume' of Work Accomplished on This Day:

Equipment Used:

5.

2. 6.

3. 7.

8.

REMARKS:

VK Knowlton reported in 2+ 7:00AM, only to find pend still too act to work with heavy equipment, VIC Knowlton Left John et 8:00 p.r. I spent the day steking of aneas where weep hokes should be drilled. I sinished at 1:30 pm.

6:30-2:00 pm

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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

GUR REPORT NO 311-70065-

Weather: 25 Sunny & Clear

Temperature Range: - 兄oーそらっ

Inspector: G. Quintanilla

Type of Inspection: Cill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. 1- Lichbert obser 5.

2. 10637 Scraper 6.

3.

4. 8.

### REMARKS:

VIC Knowlton arrived at 7:00p.m.

only 2 of VIC knowlton's people worked
boday. VIC Knowlton began pumping water
aut of pond today and cleaning moddy
areas around pond for better mancevery
of scheaus equipment. Keith and kevin arrived
obout 8:30 p.m. we three worked on drilling
usep holes that were stated. A total of M
holes were drilled, we completed drilling at
2:00p.m. They left at 2:30p.m.

SAN MIGUEL ELECTRIC COOPERATIVE, INC. PHOJECT JESTED FOR

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

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OATE 9-4-87

311-70065-OUR REPORT NO.

Weather: Sunny & Clear Temperature Range: QS = - 900

inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. I Likhberr Dozek 2. I Water truck

Э.

4. В.

#### REMARKS:

VK Knowloon arrived et 7:00 pm. They worked on more clean up around pond. UK Know Hor is still unable to water. I monitored there work for awhile. I mapped off Locations of weeptacks dull vandueep holes still to be drilled for SMC- No testing done today, work will resume treader morning.

P51A 300 1

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCARDIGE Past Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing P.O. #26643-0321GA

DATE 9-9-187

31i-70065-

Weather: ちょうかすすぐにきる人 Temperature Range: そうち 45

Inspector: 👝 🔾 👉 🐬

Type of Inspection:  $|F_1|/|Corf_{tot}|$ 

Brief Resume' of Work Accomplished on This Day:

## Rouipment Used:

1. 1-8375 Scharr

2. 1- LIEBBERR DOZER

4. 1- 1200 Work Grader

#### REMARKS:

Still Pecce on lotte Stope was corporal today. Kitrust - not Eliched pumping water about center of port where more standing Water is encontered. Trusticinity is some slow due to water in pond. A total of 2 dors, has taken today. VK Kravitin stopped at 6:000. Boyan Filly School Hall

PS/ A 300 I

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 9-9-87

OUR REPORT NO: 311-70065-

Weather: Sinny at Clear Temperature Range: 900-95°

Inspector: 6 Quintanilla

Type of Inspection: Fill Control

## Brief Resume' of Work Accomplished on This Day:

## <u> Equipment Used:</u>

- 1. 1 63712 Scraper 5.
- 2. ( LEHBERR DozeR 3. ( Water true)= 7.
- 4. 1 1206 Mobe Grader

#### REMARKS:

STA, 1900 - 2100 ON North Stope being worked today. Water is still being pumped From pond Floor. Productivity will Show today due to water on pond floor. A total of Z densities were taken today. Upon observing South Slope of IA Bad, A letter was submitted to SIME and describing areas to be rowseled due to fractures, cave-ins, and weather conditions

Respectfully Sih mitted

PSI A 300 I

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT

Pust Office Box 280

Jourdanton, Texas 78026

ATTENTION: Nr. Clyde Price

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

DATE 9-10-87

QUE REPORT NO. 311-70065-

Weather: Sunny + Clear
Temperature Range: 90-95"
inspector: G. Quintanillà

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## <u>Equipment</u> Used:

1 1- Water fruck

5. 1- 1706 Motor Greater

2. 1 - DG DOZEF 3.1 - LIGHBERR DOZER

7.

4.1- 6370 Scraper

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 tuday.

On 11 11 11 Respectfully Submitted

G. Quintanlla

SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT TESTED FOA

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

lA Ash Pond Soil Testing

P.O. #26643-032108

DATE 9-11-87

OUR REPORT NO 311-70065-

Weather: Sunny & Clear

Temperature Range: 65". 90
Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

### Equipment Used:

1. 1- 6370 SCRADERS

5. 1-1206 Major Grader

2. I-LIERHERR LUMR

1- D6 D024R

7.

4. I-Wotze truck

٥.

#### REMARKS:

STA. 2000 -2300 ON NORTH Slope were completed today. UK knowlton is Still pumping water From Pond Floor Dond Floor should be ready for working on the Monday. A total of 9 tests were taken today. No problems were encountered today. Respectfully Submitted G. Quintanilla.

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INC €NOJECT

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

9-12-87

311-70065-CUR PEPORT NO.

Weather: Sunny + Clear
Temperature Range: 90-45',

Inspector: 6 Quintanille

Type of Inspection: Cill Control

Brief Resume' of Work Accomplished on This Day:

#### Equipment Used:

1.1-1206 Notoe, GREDEN

2.1- water truck

3.1-LIENBERT DOZEF

5.

7.

REMARKS:

VK Know How worked on shaping slope.

North was completed for Fine tosting. I spenator showed up with UK. Know How. Slopes were zho watered today. 3 Denister Fist were taken today

> The poctfully Soubmitted 6 Quintanille

TESTED FOR: SAN MIGUEL ELECTRIC COOPERATIVE, INC PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Sail Testing

P.O. #26643-032108

DATE 9-14-89

311-70065-OUR REPORT NO

Weather: Sunny & Clear Temperature Range: 90-95'

Inspector: Co. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. LIERBERG DUZCE

2. 1. DG DOZER

3. 1-1206 Motor Grader

e. 1 - Water truck

5. 1 SPRAY KING

6. 1-637D SCRAPER

REMARKS:

Work was concentrated on West Slope IN N.W. CORNER and FROM STA 1500-2000' ON POUR of B densities were taken. VK Knowlfon began At 7:00 - 6:00p.m.

Respectfully Submitted

## <u>DAILY REPORT</u>

TESTER FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCARCHECT

Past Office 8ox 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

DATE 9-15-87

311-70065-OUR REPORT NO

Weather: Sunny & Clear Temperature Range: 90'-95"

Inspector: 6 Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

s. 1- Water truck 1. 1-120 G- Motor Gradu

2. I- LIEKBERR DOZIE

6. 1- CAT. Spray King. 7. Discing Equipment 3- 1- 06 DozeR

4.1 - 6370 Screper

#### REMARKS:

West slope sin 2100-2415' was completed foldy. About 90% of 14 Pord 13 completed. 15th 5th 1600-2300 on Pond Floor is yet to be completed and smo-200 on South shope needs to be completed. Maker-Grale is being used to the do final toch up work on Sopres and pond Flux. A total of 12 densities were taken today. Water is still being pumped from pand Floor. VK Knowlton started at 7:00 and Finished at 6:00 p.m. Hoday. Kerpettelly Submittelly

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 9-16-87

CUR REPORT NO 311-70065-

Weather: Sunny + Clear

Temperature Range: 40°-45°

Inspector: G. Quirtanille

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. 1-11EBHERR DOZER

s. 1 - water freek

2. 1- 126 262€

6. 1 - CAT SPRAY KING

3. IT YOU INTER GRADEF

7.

4. 1- 6370 Scrober

8.

## REMARKS:

Pond Floor was completed today with the exception or clear up and shape up of floor.

I'K Knew to winked one of the reconstructed Afres that had a feacture problem. This were seems to be holding quite well. Water is still being pumped out at pond floor. VK Knew ten got one of there divers stock today and have spent from 11:30 - 1:00, m. Irving to never it and have spented been unable to the name it. Due to this problem, productivity for the day tens was very slow. A total of 13 compaction test were taken today.

1951 A. (70)

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-0. #26643-032108

311-70065-DUH REPORT NO.

Weather: Sunny & Clear Temperature Range: QD'-95'.

Inspector: G. Quintarilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## <u>Equipment Used:</u>

1. ( · LIESHERZ DOZER S. I - CAT. SPRAY KING

2. 1-1200 Motor GRADER 6,

3. 1. 6370 Soraper 7.

4. 1. Water truck

#### REMARKS:

VK Knowlton finally removed dozen from a moddy area. An morrement has not yet been made on the veconstructed AREAS with FRActures. VK KNOWIGON is waiting for Front and Looker to Arrive on the Joh site - For the placement of Rip-RAP on both ends of Pond. Productivity is Almost At 4 half At this time due to the condition of the pord Floor. VK Knowlton cannot do transting Dany week on Bond floor without damaging Floor. Pond Floor is still being pumped of excess water. A 200' Section still remains to be worked on the south shap. No computation but taken in

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PAGUECY

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

DATE 0-18-89

ося вероят ко 311-70065-

Weather: Cloudy - orences

Temperature Range: 75°- 8່ວ

Inspector: G. Qvirtanila

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. I LIEBAER DOZER 5. 1- TRACK LOADER

2. 1 \$ 1204 Motor GRAder 6.

3. 1- water truck 7.

4. 1 - CAT SPRAY KING B.

#### REMARKS:

Damaged AREA is Bottom of pand was
repaired today Most of the work will
be concentrated on Pand Clock today. Rip RAP was
placed or west shape on Both sides of concreted AREA.
A 200' Section is yet to be completed on the south slope.
Tractures were inspected today and an alternative for
repairing those Gractures has been personal decided
UK knowlton started at Viooa.m. End stopped at 7:30 due to

SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT.

IA Ash Pond Soil Testing

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

P.O. #26643-032108

DATE 9-22-87

OUR REPORT NO .

Weather: Sunny d Clear
Temperature Range: 80 - 85°

Inspector: 6. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used.

- 1. 1- LIEBHERR DOZER
- 2. (- TRACK LOADER
- 3. 1 CAT. SPRAY KING-
- 4. 1 1206- Motor GRADER

REMARKS:

South Shope was completed today. VKK Knowlton has begun to move out most of there equipment today. Fractures repaired will begin today. A betinite slummer will be used in Fracture areas. Atold of 4 densities were taken today.

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

[™] 4-23-87

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 Tais Day:

## Equipment Used:

1. TRACK Lozder

2. CAT. SPRAY KING

¢ 8.

#### REMARKS:

Fractures were repaired today. A Betinite Slurry was injected into Fraduid Areas. Betinite pellets were worked into weep holes. South Slope is completed For All repairs- Rich and I started at 8:00 and completed finel repairs at 6:00pm.

7:30 - 8:00

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

OATE 9-24-87

QURREPORT NO. 311-70055-

Keather: Sunny and Clear Temperature Range: 80_-85° 11

Inspector: G. Quintanilla

Type of Inspection: Fill Control

Brief Resume' of Work Accomplished on This Day:

## Equipment Used:

1. TRACK Loader

2. CLT SPRAY KING

3. 7.

4. 8.

#### REMARKS:

Final RAMP was cut out today And kip RAP is being placed. A Final inspection of Betinite injected Frenctures will be done tomorrow. UK Knowlton will be pulling off jobside

## <u>DAILY REPORT</u>

TESTED FOR SAN MISCEL SISCIRIO COOPERATIVE, INC. PROJECT

Post Office Bax 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

IA Arthorn Control of P.O. 9200 11 9

9-25-87

авиняторт чен (31) 70% С-

Weather: Sunhill & CLERY

Tamperature Range: 80 -25°

Inspector: G. Quintamilia

Type of Inspection: Fill Control

Brief Resche' of Work Accomplished on This Day:

## <u>Project Useta</u>

1.1-Tenck Loader 5.

2.1-CAT SPRAY KING б.

з. 7.

٥. 8.

REMARKS:

A final inspection was made this Morning on Fractured Areas that were repaired with a betinite slowy. All these Areas Appear to be holding quite well. SMC unticipates with water today. VE Knowlfwissill doing some final touch up work. Pip Prosphould be placed and completed today.

1-13-87 KNOWLTON in to mabalage to front site this morning. They one to bring contract, bond and insurance certificate. 12:35 PM KNOWLTON ON SIXE. MIKE Will sound 1 south of there was tracked Ko. C. Jak harmon on the ly hote. 2:30 PM - TWO CAH SCRAPPER AKE OD Sittle concer With Iry is Pamiling MARLA. GADO MIKO ARIOS A JOHN & the foliowing I I Chimic Ty cases KOCKA BY CONTROL FOOKS . DON & PARK BOOKER YELLOW SAFERALS OF TO HOLY From Kor D. 10/12 SAPAR To For a comme Now make in a contract the Andrewing book forms. I complete William to Pas SOK DN SITE TO MAKE 15 10 in 4 lety Morning graging, 6:30 PM KNOWL TON unovered IFC NOTE & Conduction Now. Side of PORCE CATED Main DER Track Notice for M.R. CRP.

7-14-87 Island with Stone Between Comming I a Horney Kinking of which land boatch along the Month Length of de 1A pond. Rock mugh with that this de could be me which country line for all ma Joseph where It who stank tipe ( Section fords) Kook getter in a normal expetitions long the A-20 work for infrom the WEST TO EAST. at 11:30 AM APPROX 1000 FI completel. Scripers are working the west pont floor. CAHED PST. ROBERT AR THE MITCH her Own. ist Warmay morning for inspections. as of today the fallkning quiptomet is on site! I am 63 10 CAT scruper the fallkning quiptout I'M CAI LOAD GARAGE 18A CAI DOLOR at 3:00 PM a smile cat securpor use King Knowliting report from Trans 81

7-13-87 - N.W PONE FLOOR HAS WATER Catalaning, Scrapers are working this and. When wice bring it a D. 2 CA+ doze R Some day moderning. an oblitional. Dit CAT doise was In Elte 108AY fine muches Empare Ribert arian wind the norming. who have well knowleten I work a miner 1800 Maybe Stated diet was on the exit is all decent with applicable warment person from a direction 36 engagement of ASA 200 colon-film Taking from which Don to Sign Blacks Cine or conton for a contion. PSI's eigned our board arrival. 1 may har too digital. 7-15-87 JOHN STUART, SLOT KNOWLYON

TOUR STUART, SOTT KNOWLTON WE SELLE THOUGHT OF SOLLE CITY.

DESCRIPTION OF THE SELLE PROPERTY THE CITY.

TOUR STUDIES ROBERT CPULL PORT

TO DISTANTED THE ROBERT CPULL PORT

THE REPORT OF AND MARKET BOTH AND

MAKENARD DEAD WITH RESIDENCE.

くくく もち アルー・フ・ロテスのきはアード 7-20-81. Works is continuing Collecting SAMPLES. KNOWS TON WHILE GOLD STRT I'M ME. AREA SECTION OF THE MATICARY IS NOW 578 FOREMAN FOR ROCULYSON. POLGARY in CARLOSTY SAMPLES. M. Wills waker arrangement to where called sample. Roymond Congales is senowing the 3" nipple she VALVE At SPILLAY. a capity of drawing no 1-M-IL Showing lecation of Service water line on dumping area was given to Mike with Knowton He stated he was aware of located of line and there would be no problem - Knowlten in currently dumping dut in 2 over - 1 on East Side of pund the other on west side of pund-the 7-15-87

CLIENT - SAC

CONTRACTOR - VK KHOW (SON)

Project - 14 Roma

Upon observing LA Pand, I Found 3 questionable Areas of concern. The NW. Corner of IA Pund has water seapage. The day in this area appears to be in good condition. AppResimately 700'-800' west of S.E. corner of 14 Pous, UE Knowlton encountered & joint of sand clay that is unacceptable according to spice. A sample was taken to verify unacceptability & of material. Water scapege was also encountered in this area. In the S.E. corner of IA Bad water was encountered as mell. The decision has been agreed upon that all vegetation, fly ash, or contaminated clays of any kind will be removed before actual reconstruction of 14 ponds A sample of good day was taken on the wret side of pund in NW. corner for testing - to verify acceptability of material. The rost of 1A Pand overall appears to be in good shape.

A Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission

7-20-67 - Monday Client - San Muguel Coop-Project - IA Pand

contractor - Vt Knowlton

Equipment used

1. 3 - 637D CAT. Scrapers

2- 1- LIEBHERR 731 Buildozer

3. 1-DBH CAT. Bull beek

4 1- 120G CAT. GRADER

5. 1 - CAT, SPRAY KING-

G.

Approximately 500'-800' west of ME. corner running total with of pand. VK KNOWN! is still encountering sandy clay that is to unacceptable in this area. In the area on bottom of pand approximately 600'-800' west of ME. corner water is still pretty heavy. This area may require coving to further continue construction. About 60% of Pand has but cleaned of vigetation and contaminated soils. No actual reconstruction of pand done this day. No compaction that required this day. Road on North cide of 1A Band was graded to a smoother surface for better harling. Pumps were put into pand to remove water today.

7-21-87-tuesday Client - SMC Project - IA Pond

Contractor - VK Knullow

Equipment used:

1. 4 - 637D Scrapers

2- |- Lighter 73: Bulldozer

3- |- 120 G Grader

4. 1- DBIL Cat Bulldozer

5 |- CAT SPRAY King

All water has been founded act at tracker epots. VK Knowlfon continues to work on Each half at bottom of pand approximately 100'- 500' worst 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 10 Bind to Dry. Some of this material may be acceptable in placement on bottom of pund. Grader is being used on bottom of pund on East half 100'-qoo' from NE. corner on north half to smooth surface. Not much progress has been made this day. VK knowlfon remained in this prea All day. No compaction test were required this day.

Broken Broken & Garage

7-22-87 Client - SMC Progret - IA Baso

Upon request of SMC - I am documenting trouble sports in pond with link descriptions. 1. On the SE. corner of pend in Mex 0-200' un south side and south slope souly day is saturated. water was pumped out of pond in this pren only to find within a 12-like period that with area refulled with water. 2. On the north side of pend on East and in the MAN Aproximately 400'-700', sandy pockets are encountered as with heavy saturation. 3. On the worth side of pond on East Enter in the Area Approximately 600'- 800'; sandy pockets are encountered with stending water. This area has Also been pumped from excess water only to find that it refulled within a 12 Hr. period. 4. on the south slope. 800'-1000 the walls Appear to be saturated as well. The floor in this The area in NW Sorner in the bottom of the pord, standing water is encountered.

In AMER He I VK Knowlfor has escarated about to only to encounter more sandy clay. It is my recomendation that in the sandy clay preas, they should only escapate 3' of material the replace it

with good clay according to specs. VKHoullow is now working in Aret #2 of this report.

Equipment used:

Contractor: V.K. KNOWHON

1. 4 637D CAT. SCRAPERS

2- | LIEBHERR 731 Buildozer

3 | DBH CAT. Builduzen

4. I TOG CAT GRACER

ARCA # 1 is being filled with good clay from bottom of the pond. Results on Material Sampled probability sandet were writted today. The material token from Now-corner of pond has a pI of 67 and is classified as Tan Sandy (Betwite Clar. Highly Prestic 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 clayeythou sandy material is used. All sandstone must be removed. This material had 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
optimummoisture Content - 37-7 + 3-4% = 40.7-44.7%

Repectfully Submitted.
PSE - TECH: G. Gantanille

### Daily Roport

7-23-87-Thorsday

Ellert : San Miguel Coop

Project: 1A Bud

CONTRACTOR: VK KNOWHOW

Equipment used:

1. - 3 GJ7D CAT Scrapers

Z. 1- LIEBHERR 931 Bulldozer

3. 1 - D8 A CAT. Bulldozer

4- 1-1206 CAT. GRADER

VK KNOWITON is working ARCA Approximately 800'-1700' ON NORTH SIDE. WATH GLOPE IN this area is being clasmed also. VK KNOWITON has also begun to scrape an area on the south Slope Approximately 1000'-1100' removing 2' foot of material to Replace in with good day in "Lifts. 3 Density Test were Taken on the nest End between 1800'-1900' to check moisture Content. Hoisture Content Propel from 29.3 - 375 %. Due to a chance of Heavy Rain VK Knowlton will began tomorrow putting material in the South Slope; 1000-1100' ARA.

Respectfully Submitted

PSI - G. Quintanlla

7/24/8/ PSI, KNOWLTON & SMEC HOLD
MELTING SE DISCUSS KCCOUSTRALLYION
of de Broth Side, and GRANTITIES
ADJUSTMENT FOR Floor AROA. KNOWLTON
STATES THAT SOUTH DIKE WAS TOO WEEL
TO NORK.

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7-24-87 colors suc Paged 1A Bad

Compliant Krailia

Equipment used:

1. 1-Lieunery 731 Bullion

7. 1-DRICAT NOVA. 9

3. 1-DRICAT NOVA. 9

4. 1-CAT STOOL RG. 1.

Due to the Later proof oping in a Victoria to 600 point to 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point of 500 point o

Section is reason of the solid or the some cap. It is a sector is removed, it is to be placed in of Little with 4 Lifts part Section. At more is a graph of the to rain work in a great and work will be first many more and work will be trained on Moreous 7-2/18/1. Vicken for solid and a first at some in the solid and and grit at some.

PASS - G. Q. Smiller

9.24.8 Pare to wan sondy the the word to not to make the property that the mount in a man die wellen the comme hours Of the Gold From cal homeron to were a some In an assist on hill and Some war and the second of the property I the central war of from Emple good & Emile C. Miran , Raport of L. K. Dian . To Committee Viking and South Standard Marin Il was aggest that they come in ment the wind that is not in humber of fact of I trid the surface and Column 5 port of motors in 9" I gove texture for motorist my the The year war and the commence to well goodM-ATEST CONTAGE AFFER NOVEM KARIT SHOP.

I - W & I. KUMWATUNG PLEZ EN SIN AR 11. 93 AM. POWE NO WERE ON A. A. IS MODEL OF NOTE WIFE, John R. MINTY, MOVELLED REFERENCE TO. SHOW AND NOTE. 16. MAJE W. M. NEW G. SHOW PROVES POWE 1 48 S. S. FARLE E 15 S. FOR KNOWN 1000E FOR MAJERIC ERSINE, A FUTHINGS APPEAR FOR KNOWN SOW 10 KNOWN.

### Daily Report

7-30-87

CLIGHT: SMC

Project : LA POND

Contractor: UK KNOWHON

Equipment USED:
1! D-7 BUILDERY WITH RAKE
2.1-LIEBHERR 731 BUILDER
3.1- DBH CAT. BUILDER
4.1- SPRAY KING5. Z-637D CAT. SCRAPERS

VK Knowlton has been using a tom Bullduse with a Rake ATTACKED TO BLADE for Scarfing. It appears to be working well. Material is breaking up well and before the required to the required I according to Specs. 3 Lifts are being placed after scarfing and compacting bottom 1'. A 300' AREA is being wat per day. Friday, VK knowlton will try to finish A 400' section. Overlaps at the 100' mark of each section 1325 been about 4'.5'.

Respectfully Submitted PSI- G. Quintamlle 8-3-87: 7:15 Am Check 1-A pond South Slope

The wall hooked good years for a few areas - you coold see the leaked areas But in Contrast they were small. Pictures were taken: 9:45 am. B. Cmill a J. Evanu toured the pond and absenced the South Slope Robert aries is suppose to be an site this morning and we will meet with Knowlta and discuss leaks on South Slope -,
3:25 Robert aries did not come - Mans part to Continue as plan-

_B-4-B7

: CLIENT: San Miguel Coop

Contractor : VK Knowlf.

Project 1A POND

OK KENDULTON 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 pm. I recommended to the fare man representing VK Knowlfon to use sheeps foot for compacting material on the bottom of pond. The foremen 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 agreeones with his method. of compacting.

Respectfully Submitted PSI-G. Quintanilla

8.5-87; Hary with P.S.I. came into the office and ask that I (I turn) go down into the pond and look at an area that was of question. Knowthen wanted the area to be tested and P.S.I. Soil That the area was too rough and needed to he compacted in a more uniform manner. I took pidenes of the area and 1.5.7, negret and a Rep of Knowlter booked at the pecture and agreed that the area was inset done in a semiform manner. Mitre (aith Knowtton came in later and This matter was discusse with him and He, B. Concel + may seef went hack down into down the floor more and it was sutifle to be tisted. all agreed on what SMEC was expedied . Viden were then taken for record - P.S.I tested the area and it passed the test.

P.S.I. So weryone will be in entact with each other when needed - Knowth + P.S.I will beare their Radian with the SMEK Grand every afternoon and pick up every onoming.

Knowthen Call no with he are I and P.S.I will

Le 26 C.

8-5-*8*7

CIENT : San Miguel Coop

Project: SMCIA POND

CONTRACTOR: YK KNOWHOM

Another small Aced with seapage was crowntered .. today IN STA. 1500'. SMC was informed. SMC wants .VK knowlton to finish slope and then note the truble ... spots for discussion at a later date. Another thing that . reeds to be brought to the attention of likithoulton is an ared in STA. 1500-1800 on the Rond 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 2 manner which will result in a uniform clay Fill with minimum permeability. Richardwere taken in this Area to show the uneveness of 1st Lift. At 4:00 SMC, PSI, and VK Knowlton discussed and resolved the problem. Respectfully Substitled PSI G. Quintainlle'

8-8-87. K.V. Knowlton came out and watered down the South Slope and flow of 1-A Ash Road. They also surveyed the tree of Slope on South Side.

8-5-87 - K.V. Knowlton came out and watered down the South Slope and floor of 1-A Ash lond.

DATE: 8-10-87

CLIENT: San Miguel Coop Project: SMCIA BAND

CONTRACTOR: VK KNOW ton

Weather: Sunny & Clear

Temp. Range: 90' To 96'

Inspector: G. Quintanilla

Type of Inspection being performed: Fill control

Work was concentrated on fond Floor between STA. 1200' - 2100'. Trouble sputs, were heavy concentration of water is encountried, are areas bring worked the most today. VK Knowlton has removed 3 of notified in these areas and frey are attempting to seal heavy water spots by replacing sandy material with good clay. A total of 12. Denaties were traken lodgy. VK Knowlfor. .started at 7:00-6:00; Pasprotally Subselled

C. Quitable

DATE: 8-11-87

CLIENT: San Miguel Coop CONTRACTOR: VK KNOW HOW WEATHER: Sunny & CLEAR TEMP. Range: 95° to 100° Inspector: G. Quintanilla Type of Inspection being DERFURNED: Fill control Project: SMCIA ROND
EQUIPMENT USED:

1. 2-6370 SORA, XEL

2.1-LIEBHERK BALLINZER

3,1-08 CAT. DOZER

4. 1- DE CAT. DOZDE OF KAKE

5. 1- 1206 CAT GITAGE

6. I- CAT SMEAL KING

7. I- Water freek

B. Discing Europhicat

Bird summary of work accomplished, today:

UK knowling started at 7:00 km. today. STA. 1000 was worked. subgradic and let List were completed in this Area. VK knowless also concentrated work on trouble spots were standing water in found. Rewarking of south slape from STK. 1100-2400 at toe of slape was also done today. VK Knowless is attempted to repair seepage. Spots and the into to land between before using alternative of weep holes. A total of 3 densities were taken today. VK Knowless stopped at 6:00 pm.

Respectfully Subairted

M. Quittanilla

i:

::8-12-87

.Client: San Miguel Coop .Contractor: VK Knowlton ... Wrather: Sunny + CLear ... Temp Range 95° to 100° ... Inspector: G. Quintainlla ... Type of Inspection being performed: Fill Control Prôject: SMC IA POND Equipment used today:

1. 2-6370 Scrapers

2. I-LIEBHERR Bulldozer

3. 1 - 08 CAT. Dozer

4. 1-D6 CAt. Dozer

S. 1- 120G CAT. Grader

6. I-CAT SPRAY KING

7 1- Water truck

8. Discing evolpment

Brief summary of work accomplished:

VK KNOW ton started at 11:00 a.m.

today STA 1200'-1700' worked, STA. 300-700' worked, and East Slope worked today. No problems encountered today. A total of today the were taken today. VK knowlfor stopped at. 6:00 p.m.

Respectfully Submitted

6. Quintanilla

8-13-87

CLIENT: San Miguel Coop
CONTRACTOR: VK KNOWLON
WEATHER: Sunny & CLEAR
TEMP. Range 95° to 100°
Tuspector: G. Quintanilla
Type of Inspection
performed: Fill Control

Project: SMC IA Pond Equipment used today:

1. 2-6370 Scrapers

2. I-LIEBHERR Bulldozer

3. 1-08 Car Dozer

4. 1 - DG CAT DOZER WRAKE

5. 1-120G CAT, GRAder

6. I - CAT SPRAY KING

7. 1- water truck

8. Disking equipment

Brief summary of work accomplished:

V.K. Knowlfon started at 7:00 pm.

VK Knowlfon worked on east slope and pond

Cloor STA. 400', 1500', 1000', 900', 300', 500-700'.

Seepage is apparent once again in the pond

Choor in the S.E. corner from STA. 100'-600'. VK

Knowlfon will attempt seal it off again. No

other problems encountered. A total of 12

densities were taken today. VK Knowlfon stopped

at 6:00 p.m.

Respectfully Submitted, G. Quintanilla

8-14-87

Client: San Miguel Coop. 👉 Project : SMC TAPON contractor: VK Knowlton Equipment used today: Weather: Sunny + Clear 2 - 6320 Scrapers ٠ **ل** . 1 - LIEBHERR Bulldozer TEMP Range: 95 to 100" 2. Inspector: G. Quintandle 1 - DB CAT. Dozer з, Type of Inspection 4. 1- DG CAT. DOZEY W PAKE performed: Fill control l - 120 G CAT. Grader 5. 1- CAT Spray King 6. 1 - water truck

Brief Summary of work accomplished:

V K Knowlton Started at 7:00 Am.

V K Knowlton worked on Pord Floor STA 300-700,

800, 900. Water has been removed from End

Floor on North Side between STA. 300'- 700!

This water hole will be scaled off today.

I task several test in Areas were seepage

has reoccured and as a result, have all

passed compaction and Moisture Catent with

the exception of one area on the slope.

This area will be reworked. A total of 12

Densitius were taken this day. U K Knowlton

Stopped at 6:00p.M.

Respect 18 thy Submitted

Discing equipment

8-17-87

Client: San Miguel Coop Contractor: VK Knowlton Weather: Sunny + Chear Temp Range 95 to 100° Inspector: G. Quintanille Type of Inspection Parformed: Fill Gatal

Project: SMC IA POND . Equipment used thirds.

1. 1-4370 Scraper

Z. 1- LIEBHERF COZEY

3. 1- D8 doser

4. 1- D6 dozer with

5. 1- 120G- CAT. Grader

6. 1- CAT Spray King

7. 1 - water trock

B. Discing Eouipment

Brief sunmary of work accomplished:

V. K. Knowlfor storted at 7:00 AM.

Areas worked today were on Poul Hoor

STA. 1200'-1500', 700', 300-700', 900', 0-300'.

Seepage has reoccured again in S.E. Curner

STA. 60'-600'. Another alternative will have

to be used in this area. A change in material

was encountered on North slope and Poul Flora

A sample was taken for testing. A total

of 24 dentities 'taken today. V K. Knowlton

Stopped at Groopen.

Respectfully Submitted

8-18-87

Client: San Miguel Coop
Contractor: VK Knowlfor
Weather: Sunny + Clear
Temp. Ronge: 95° to 100°
Enspector: G. Quintanilla
Type of Inspection performed:
Fill Control

Project - IA POND Equipment Used His days

1. 1-6370 Scraper

2. 1- LIEHBERR DOKK

3. 1- D-8 Durck

4. 1- D-6 Dozek WRAKE

5. I- Water truck

6. 1- Cat. Spray King

7. 1-1206 Miller GKEDER

Brief Sunnay of work accomplished:

V K Knowlton started at 7:00 AM.

Arene worked today were North Slope.

5TA. 100'-500'. Eurything went pretty
Smoothly today, no problem's encountered.

A total of 18 Densitus were taken. 4 failures
on moisture - thic Area is being watered
and reworked again. VK Knowlfon stopped
At 6:00.

Respect Fully Submitted

Crient: San Miguel Coap Project IA Roup
Contractor: Vk Icrowlton Economent used this di
Weather: Sunny + Clear 1.1-637D Scraper
Temp. Range: 95° to 100° 2.1- Light BERR Dozer
Trapector: Co-Quintanilla 3.1-D-8 Dozer
Type of Inspection performed 4.1-D-6 Dozer wireke
Fill Control
5.1-Water truck
6.1-Cat. Spray King
7.1-1206 Motor Grader

Brief Summary of work accomplished:

VIE knowless commenced at 7:00 p.m.

VIE knowless work a 300 section

today. The North Shope Sth. 400-700 was worked

and Dow was completed. I total of 18 honsities taken

today. V.K. Knowless stopped at 6:00 p.m.

Respectfully Schmitted

G. Quitenilla

Chient: Son Miquel Coop Contractor: VK Knowlton Weather Surry & Clear Temp. Range: 95 to 100 Trapactor: G. Quintanilla Type of Inspection prisond: Eill control

PROject SMCIA Pono
Equipment Used today:

1. 2-6370 Scrapers

2. 1-LIEHZEER Dozer

3. 1-D-8 Dozer WRAKE

4. 1-D-6 Dozer WRAKE

5. 1-Water truck

6. 1-Cat Spray King

7. 1-1206, Alder Grader

8. Discing Eur pinen

Brief Enny & work orcomplished:

A GOV Section was worked today. 300'

ON PIND floor and 300' on slope. The 300'

Section on North slope was completed. No

problems encountered today brisides a dozer

breating down. I total of a densities were
taken. Desisters from Report # 8-1887 which

failed Moisture Context have passed today

VK Knowlton stopped at 6:00 p.m.

Respectfully Schmitted

Gruntanilla

8-21-87

Client: San Myul Coap Project: IA Para CONTRACTOR: VK KNOW HOW WEATHER: SURRY & CLEAR TEMP Range: 95 to 1000 Inspectae: 6-Quintanilla Type of Inspection

performed : Fill control

Equipment used:

1. 2 - 6370 ScrapeRS

2. 1 - LIEHBERR DOZER

3. 1 D-6 Duzer

t. I water took

5, 1 CAT SPRAY KING

1 - 120 G. Moton Gradev

7. Discing Eouipment.

## Brief Summary of Work Accomplished:

U F Fronton warked and completel STA. 100-300'ON pord Floor and STA. 900-1200' ON NORTH Slope. New practor values were used today. Proctor came back 2t 88.2 Marinum Dry Deneity and 23.7 optiming 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 densitus wares baken. V.K. Knowl for stated at 16:00 and Finished at 6000 pons
Repetfully Submitted
G Chimponille

8-25-87

CLIGHT: San Miguel Cosp. Contractor: VK Knowlton

WEather: Sunny + Clear

Temp Range: 900 to 950

Inspector: G. Quintenille)

Keith McWillians 4. 1 - SPRAY KING Type of Inspection: Fill Control 5, 1-1200 mapon Crader

6. Discing Equipment

Project : 1 A Paro

Equipment used:

1. 256320 Suzper

3. 1-06 DozeR

2. |-LIGH BERRIDOZER

1- Nater track

Brief summery of work decomplished

North Slope STR. 1300-1500', Pana Floor STA. 400-14 were areas worked this day that failed hatten are have been reworked and retests comply with specs. Most of the work was concentrated on Pord FLOOR. No other problems were encountered. V.K. KNOWLOOV worked until 6:00 p.m. A total of 23 compaction test were token today. Respect fully Submitted G. Q. inton 1/2/Keith McWills San Mignel Coop - IA Pono ATTEN. CLYDE PRICE

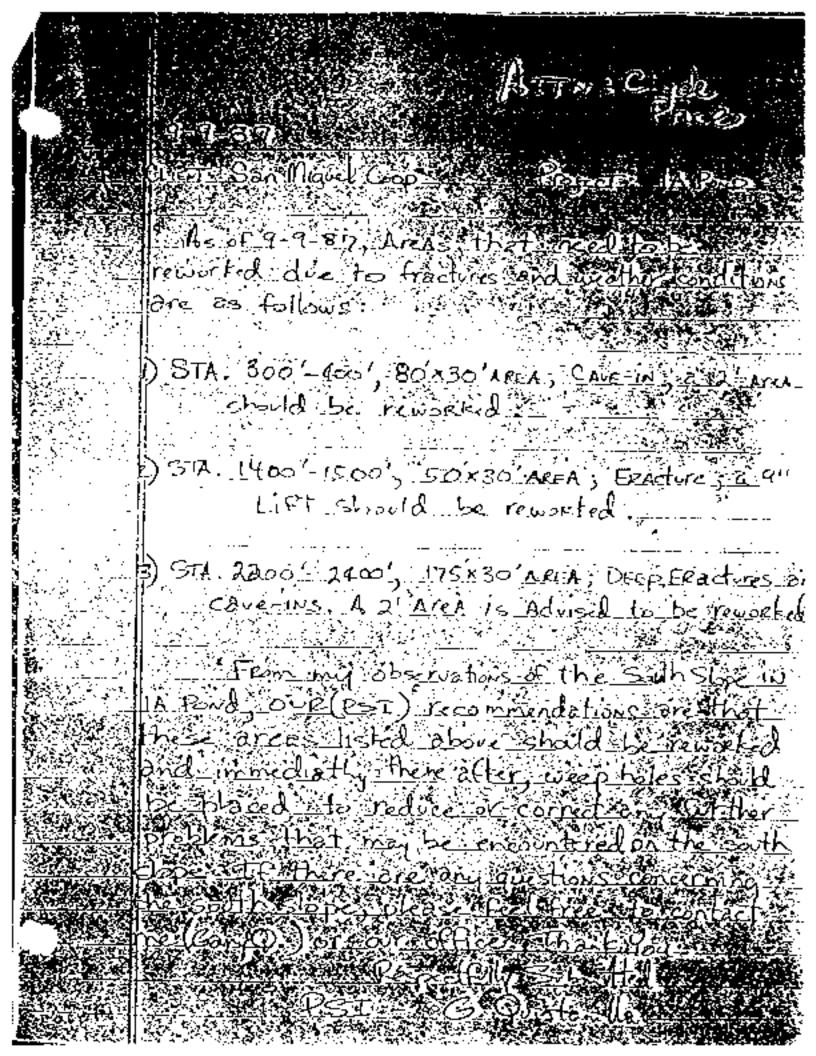
8-27-87

In observing south slope of 14 Ports, once again I must emphasize that weep holes be placed in supage areas. There are two oreas on south slope where fractures have occurred. In those areas UK Knowl top should nework motoric and then place weep holes to insine that seepage stays in a controlled ones. and to Further cause anymone fracturing of Liner.

Respectfully Submitted

9-1-87. Waters Wise and not not looked at the Post De coil to well like a could bound placed over all order of the good to ground admire also be well the the walls to be our over to broke my the large close to that. V. K. S. worth. Ash and works Trading any 28, Sol, 49, her 30, morning 31 are friendly Expell Bename of home - the first of a motion the line is J. Him. 9-5-1 (700) with the first the south they will Something of Williams enter the property of the second e at the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second 1. 24/18-

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SEPT. 23.1987:

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### Professional Service Industries, Inc.

Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

HESTLUFOR San Miguel Coop

IA Porp PROJECT:

OATE 7-23-87

CURREPORTING 311-

TEST DATA: O M.	7. 137 ty		Crown Earl exercised	MPLACI par pracing	PTRICSHT COMPACTION	Chwelet *
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2			293	80.8	103.7	
3 \		\V	345	78.8	190+	
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2		237	4 0.3	72 104	5 2	113	0.574	23.75	29.3	දිරුදු	103.7
.3	V,	234	18 0.3	88 106	0 2	406	3 وَيَهُ. ك	27.25	34.5	78.8	100+
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BASE COURSE SUBBASE SO/LICEMENT OTHER

BACKHILL

FIL MATERIAL

TEST RESELTS COMPLY WITH SPEC FICATIONS O RECOMPACTION REQUIRED GARB
C TEST SAFTER RECOMPACTION DE BO
D. MARINTHE SAFTER PROCES

E. Maishire below specia

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## Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

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1A Pord PROJECT:

7-24-87

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Yest Ma	Probe Repth	Density Count	Densi <b>t</b> y Ratio	Net Density		Moisture Ratio	Motstore PCF	Water Content		Percen Compact
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2	1/	8221	1.357	1(3.5	2350	८६२५	2600	29.0	୧୫.୧	102.3
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\$ <del>                                    </del>		<del> </del>	1	<del> </del>	<u> </u>	-	<del>  • · · · •</del>	<u> </u>		<del> </del>
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L	TEE GENER	IE 12 IZLAINIMA I I NO		1	<del> </del>	L MATERIAL	A TEST HE	STILL IS COMPLY	WILDESPEC FIG	ATIONS

NOTES CENSITIES SHOWN Lbs per clibic loot WATER CONTENT Per Cent of dry weight PERCENT COMPACTION Bases on manifrom dry arms ly obtained on Sample Maicased by saw ID number

FILL MATERIAL BACKEAU

BASE COURSE

SUBBASE 5 SOIL COMENT OTHER

B RECOMPACTION REQUIRED 624 5 O maisture in excess of specs

E. Matshire below speca

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### Professional Service Industries, Inc.

Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

San Migral Coop

DATE 7-28-87 (N/1) Proctor) OUR REPORT NO: 311-

TEST O	ATA:	28.	2					· <del></del>
#651 #40	D416	DL D.M ECEN	504.10 1 41.466A	# ******   AR 39+   DF45**	walen COntent	IN PLACE DAY DESCRIP	PER CENT COMPACTION	COMMENT*
	7-24-€	2	,,	86.6	\$3.0	8/3	101.7	Maria Light
2		$\downarrow$	1.	_ \	93 11	,	133 7	7 (1 GZ) 7 2 4 (14)
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TEST LOCATION: Cotto Brake Burkeye .

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lest <u>un</u>	Probe Denth	Count	Density _Ratio	let Density	Maisture Count	Hoisture Ratio	Moisture PCF	ผลter Content	Density	Percent Compatti
	6"	7.:41	1.251	[!ʒ.C	229}	<b>1</b> 537	24.75	28.5	663	101.7
2	V	7727	1.235	1135	27/28	0.590	24.50	27.5	<i>₹9.</i> 0	102.5
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	· · ·	<del> </del>						1.0		
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' . 	<del>                                     </del>	<del> </del>	<del></del>	<del> </del>	<del></del>	<u> </u>		<del>                                     </del>		
NO:	ES DENSIT	IES SHOWN LOS	per cubic luol		FA	LMATERIAL	A TEST NE	<b>S</b> ÚCY <u>S COMPLY</u>	WITH SPECIFIC	AT:ONS .

NUTES DENSITIES SHOWN US per place tool WATER CONTENT Per Content weight PERCENT COMPACTION Based on maximum dry Sensity of the ed on samely indicated by

FAL MAILPIAL BACKFILL

3 BASE COURSE SUBBASE 5 SOLCEMENT

B. DECOMPACTA)N REQUIRED. C. THIST IS AFTER RECOMPACTION. 0. majoture in excess of specs E. Maismit below specs

T85- 6 Ŝ.



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

--- San Miguel Coap

PROJECT. SMC IA POND

DATE 7-29-87

NEN PROCORDORADORINO 311-

TEST DA	TEST DATA: 27.2												
MG 15 21	ΔΑΠ	CALDIAN ETEA	SOC IO MUNICER	DEAZHY DESZUN	WEFER CONFERT	MALACE DRV DENSITY	PEH CENT COMPACTION	COUNTER! 4					
	7-29-67	GPAVE.	7	8.63	31.5	ខាង	95.0	-					
2			]		32.1	<u> </u>	15.0						
3					33.5	85.0	97 <u>.9</u>	<u> </u>					
4													
Ξ	32.9 85.0 97.9												
6	6 1 33.1 85.3 98.2												
TEST LC	CATION: 45014	74 SLO	PE.	61A. 900	) – 10 <i>00</i>	ا-قىدا ر	وال و النات	0 - 1200 1200 April					
. !	25"WEST 0							PERDAY					
	70' NEST	_ე — წ⊤A	. , Gai	o, gvy so	i fesh T	12 ಸಂ ಎಂಟ	°FC						
3	301 WEST	of STA.	80	ລ, 3″ ເລ 3∢	01 F20m	mosted_	of slop.	e					
4	1 20' EAST OF STA. 1100' Ann 20' Reon Top of Slope												
Ţ	I columns of size. 1100' and 10' from Retton of slope												
ζ-	· —· · • · · · · · · · · · · · · · · · ·												

			A	D	L	D	Ε	F	Ġ	Н	1
	est Ma.	Probe Penth	Density Count	Dénsity Ratio	ket Density	Moisture Count	Moisture Ratio		Water Content	Ory Density	Perceni Compacti
	[	Š	9575	1.412	1085	2092	0.628	26.00	31.5	82.5	95.C
1	2		854-7	1.407	109.0	วารธ	0.639	2650	32.1	82.5	95.0
	,3		7738	1.274	[13.5]	2271	0.682	2856	33.5	85.0	97.9
	4-		7310	1.286	113.5	2199	0.660	27.50	319	860	910
,	150		7840	1,291	113.0	2230	0.669	28.00	32.9	85.0	97.9
	ω_	V	7795	1.283	113.5	2245	0.674	28,25	33.1	85.3	98.2

NOTES DENSITIES SHOWN LIBS per cubic foor WATER CONTENT. Per Central pre weight PLINCENT COMPACTION. Based to maximum dry density obtained on sample indicated by said Direction.

3 BASE COMASE 4 SUBBASE 5 SOIL CEMENT A TEST RESULTS COMPLY WITH SPEC FICATIONS

8 RECOMPACTION REQUIRED 6071

C TEST IS AFTER RECOMPACTION 3370

C, MAINTAINE IN EXCESS OF 19863

SOIL CEMENT 6. PRINTS PARE DELEN SPACE

Compare to the contract of



#### REPORT OF FIELD COMPACTION TESTS

ILLIEDFOR Saw Miguel Cop

PROJECT. SNC 1A POND

DATE: 7-29-87

3 € ( <del>~</del> OUR REPORT NO

TEST (	ATA: OM.	28.2					<del></del>	<del></del>				<del></del>	<del></del> .=
TES ¹	<u> </u>		049124	FETV	SCAL CO MUNICIPAL S	MARSHUM USB QAY QENUSY	Walte COATE		PAPEROE ORY OR VSI IV	PER C	ENT CTaDA	COMMENS *	$\neg \neg$
7	7-27	<del>. 3</del> 7	37	LIFF	٧.	86.8	3].	7 8	32.8	95.	3 1	-1	
පී							31.	9 8	345	97.	3		
9	<u> </u>						31.	7	85.0	93.	9 1		
10					    -		34	5 .	840.	96.	<u> </u>		]
11							307		33.0	95	.6	· <b>.</b>	]
12	1 11/		V		$\bigvee$	<u>V</u>	33.		84.0	96:	J = J	<u>/</u>	
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1.1)	50'	WES!	<del>7 ع</del>	(- <,7	Α.	<u>[1351]</u>	<u> ਆਪ ਨਾ</u>	5-1 FR	<u> </u>	5 <del>5∏ 5</del>	~ o€sla	<u> </u>	
12	io¹ €	A5T	ъF	57/	4.1	20018	1~15 35	of FR.	om to	اه ط⊂	العودله		ŀ
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Test	Probe Depth	Densi Count		Densi <u>Rati</u>		Ket Density	Moisture Count	Holsto Ratio			Water Content	Dry Density	Percen Compact
7	6"	851	4	<b>!</b> 40	<u> </u>	1090	2097	0.69	19 20	6.25	31.7	92.8	95.:
8		808	32	1.33	ş	14.5	સાહ	0.65	o a	7.00	31.9	84.5	97.3
.9		80	39	. 32	13	112.0	2169	0.65	51 2	7.00	31.7	<b>୫</b> ୧.୦	97.9
10	<u> </u>	78	71	1.29	ÎG	[]30	2310	0.6	13 24	1.00	34.5	8ન્.0	967
{1		74	70	1.31	ž	112.5	2351	0.7	06/29	૧૩૦	3S.S	83.0	95.6
112	W	79	31	1.3(	ا ما(	112.5	2265	0.68	80 2	8 50	33.9	84.0	96.7
NOT	PS DENSIT	IES SHOW CONTENT	N Los	per cur-	c feet			L WATERIA EXPUL		TEST RES RECOVE	SÜLES COMPLY ACTION HEQUIF	WATH SPECIFIC SED Case	ATIONS

MATER CONTENT Per Control My weight PERCENT COMPACTION, Based on maximum dry remaily obtained on sample indicated by ead IO number

3 BASE COURSE



### REPORT OF FIELD COMPACTION TESTS

... Drog San Miguel Coop

PROJECT: SMC_ 1A POND

DATE 7-29.87

NEW PROCTOR OUR HEPORTNO 311-

TEST D.	EST DATA: O.M.C. 28.2												
iks: Ma	DATE	OLDIN ETTA	SOL O MUNITIFIE	Marantyna Lag CAY CENSTIA	#ATER CONFERT	## PLACE 04* 06%\$PY	PEP CENT COMPACTON	EGWNENT T					
13	7-29-87	2nd Lift	۲.	ପ୍ର ଓ	31.2	84.5	97.3	1-A					
14					32.5	83.8	96.6	<u> </u>					
15	<u> </u>		\		33,7	83.7	965						
طا	<u> </u>	<u>i</u>			31.2	83.7	96.5						
17													
[8]	18 V V 33.1 83.6 96.4 V												
TEST (C	CATION:	OVTH_	<u>5٤</u>	PE 900	-1200	' ( <u>3</u> 00	AZEA	IDAY )					
_	25"WEST	OF STA	. 90	o' and 2	5' FRON	ه جنآت ۲	(المدول)ع€						
100	<b>ਪ੍</b> ⊘ਿEA <del>s</del> ਾ ਪ	of Styl	. 10	22. 9MY	رويو ؟ أديا	ه۲۲هدا پر	و ۱۰ مرد	34c					
<u> </u>	451WEST	4-75 €ی	. 1	500/ gMd	301 Creat	^ T3p 3E	ડાઇફ						
صا ا	401EAST	7≥ کت	Δ.	1100 Bwg	ا دک ا	Fran b	ottam.0	المارية ع					
[7	35 WEST	- ⊝(- S-	гΑ.	1100' BM	ارج ا	ROM TS	p of S lo	PE					
ાક	18 45 EMST OF STA. 12001 and 15 From bottom of Slope												
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		А	D	ų.	<u> </u>	<u> </u>	F	G	<del>Т</del> н	1
ĭest . Mo.	Probe Depth	Density Count	Density Ratio	ket Density	Morsture Count	Hoisture Ratio		water Content		Percent Compacti
13	Ġ	ક્ષેત્રવા	1.365	110.5	2085	0.626	2600	31.2	84.5	97.3
14	-	3/90	[ 348	111.0	2175	0.653	<b>2</b> 7.25	32.5	83,8	96.6
.15		7983	1.314	112.0		0.688	28:75	33.7	83.8	965
16		8560	1.409	109.0	2023	0.607	25.25	31.2	838	965
17		8250	1358	110.5	2183	0.655	27.25	32.7	83.3	95.9
$\int_{\Omega} d\omega$	V	8135	1339	111.5		0.662		33,1	838	96.4

NOTES DENSITIES SHOWN Lbs per clinic foor WATER CONTENT Per Central dry weight PERCENT COMPACTION Based on maximum dry

density obtained on sample indicated by soil ID number

2 BACKFAL 3 BASE COURSE 4 SURBASE

A RESTRESULTS COMPLY WATER SPECIFICATIONS
B RECOMPACTION REQUIRED 6072
C LEST IS AFTER RECOMPACTION 3329

E. Meisture balow speca

TRA. A.P



#### REPORT OF FIELD COMPACTION TESTS

... coron San Miguel Coop

SAC IA POUD

7-29-87 DATE

OUR REPORT NO : 311 -

		34 5						
TEST D	ATA: ONCE	<u> 45 4 </u>						
12.31 NO	CATE	DE ITH ELEY	SOC O MJUREH	MAJOURAN TPC RAJ TPQ# 90	BAIÉM COMIÉM	M PLACE DRV DCYSITY	PER CENT COMPACTION	CD4445 41 T
( <i>-</i> )	7-29-87	FwalliA	٠.	<b>ଟ</b> େ. ଓ	33.5	<i>९५.०</i>	97.9	( - A
2.3		j			35.8	81.0	95.0	
2.1			<u> </u>		33.5	્રક્ષસ્	96.0	
Z. Z		<u> </u>			32.5	84.5	97.3	
2-3					3)3	93.3	95.9	
24	$\mid \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \;$	$\sqcup \mathbb{V}$	$ \mathcal{M} $	W	30.7	83,8		
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(5)	<u>' '</u>							
<u>ZZ.</u>	40 ¹ Eas	r 08 57	Α.	ಚರಾಗಿ ವೆಗಾ	> 25' 5	ream bu	ittor of	Eslope
Z3	55 ₩5≥	er o( •	STA	<u>, ((35/</u> 2	<u>کا ⊂یہ</u>	FROM -	130 gc	Slope
24	30' EAS	7- 26 S	τĄ.	1205' a	<u>~0 (5 </u>	FPUNA	Dotton	Not slope
	P		,	L	D	E 1	F (	3 H !

		A	D	t	D	E	F	G	Ħ [*]	I
lest No.	Probe Depth	Density Count	Censity Ratio	Wet Density	Moisture Count	Moisture Ratio	_ :	Water Content_		Percent Connacti
19	6"	7842	1291	113.5	2240	0.678	28.50	33.5	ଅଟେ ଠା	97.9
20		7890	370	110.0	2305	0.692	29.00	35.8	81.0	95.0
2		7954	[.309	112.5	ZZ54	0.677	28.25	33.5	84.3	960
โฉว		8032	1322	112.0	zl93	0.658	27.50	32.5	ଷଧ୍ <u>ୟ</u>	97.3
23	$\lceil \cdot \rceil$ .	ଞ୍ଚମ	1-414	108.5	2035	0.611	25.25	31.3	83.3	95.9
1a4	$ \mathbb{T} V $	8432	1.398	109.5	2000	0.618	as.75	30.17	838	96.4

NOTES DENSITES SHOWN LOS DE CODE TOCE WATER CONTENT Per Cent of dry words. PERCENT COMPACTION Based or maximum day diagraph occasion on Primate successed by

BEIFARDO.

FILL MATERIAL 2 BACKETLE 3 BASE COURSE

⁴ SUBBASE SCIL CEMENT

TEST RESULTS COMPLY WITH SPECIFICATIONS ... RECOMPACTION REQUESTS 6011 ... RECOMPACTION REQUIRED C TEST IS AFTER ACCOMPACTION. B. Malstore below spech



### REPORT OF FIELD COMPACTION TESTS

-DEPOR SAN MIGUEL COOP

PROJECT: SMC IA POND

DATE	7-30-81	<u> </u>	ΝĒV	y frootok	CUA REPOR	11 <b>6</b> , 041	_			
TEST O	ATA: 2	182) <u> </u>						<del></del>		==
1601 WG	DATE	SCA.W. COLA	204 (D 40Jus#EA	DAX GLAI LAR DAT PEN'UT*	MATEM CONTENT	ay Privide Ober Obersafty	P(A C(M* COMPACTION	c	DAVES F	
1	7-30-87	CRADE	8	868	33.	85.3	982	1-A 1-5	5-/190	szerigi.
2	ļ	<u></u>			31.9	860	99.0	}	KEGXT 	560
3	<u> </u>	<u> </u>	<u> </u>		33.1	838	96.5	! !		
4	<u> </u>	]s+L1[+		]	33.2	85.3	98.2	_		
5			!		32.1	825	95.0	ì	· _	
6	$\bigvee$		W	V .	304	85.5	98.5	W		
TEST L	DEATION. ST	90,40 G	DPE	<u>~ 1300'r</u>	1 <u>200, i-</u>	3.42 D.E.E.A	ŢŸŖĸŢŢ	<b>—</b>	 	
<u> </u>				د ان3 دیس <b>≙</b> ′						[
7	401 WEST	∵್ ಕ್ರ	! - ! !	لام مهل الدنب	45160	ارداء مدد	1000 66	5 300		
3	25 665	T 06.51	A. 13	<u> </u>	20 60	لمين) بهر،	10m 02	s kobe		
ц.	242" WEST	SF 511	۱. ۶	300 / 3rv	15 ' Fro	w poft	<u>2₩ 9</u>	5.000		
5	301 W 051	r of S	L. Ar	lyou and	f 30, t	eum buil	tom of	Slope.		
6	<u> </u>	το (· ·	ŞΓĄ.	1500/2	na( 30'	from t	0506	1000		
	H	Ľ	3	_	ם	Ε [	F 1	G '	Н	I

	_	r.		•	ט	E	F	G '	Н	I
lest Un	Probe Depth	Density Count	Density Ratio	Wet Density		Hoisture Ratio	Moisture PCF	Mate: Content	Dry Density	Percent Compacti
ì	$l_{\!arrho}^{\gamma^{\gamma}}$	7796	1,283	113.5	2248	0.675	28.25	33. j	85(3	98.2
ک		7751	1.276	1:35	2190	0.657	27.50	31.4	840	99.0
,3		8113	1.336	111.5	2222	0.667	27.75	33.1	838	96.5
17/		7831	1.289	1:3.5	2242	0.613	28.25	33.2	85.3	982
5		8560	1,409	109.0	2130	0.536	26.50	32.1	825	95.0
L <u>Ψ</u>	<u>V</u>	8122	1.337	111.5	2084	0.62%	2600	.1	855	985

NOTES OF CAMES SHOWN Lbs. più cube top)
WATH CONTENT Per Centrol dry weight
at ALENT COMPACTION. Board on investion dry
dentity obtained on sumple indicated by
soll Disamble.

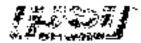
2 BACKFILL 3 BASE COURSE 4 SUBBASE 5 NOIL CEMENT A TEST RESULTS COMPLY WITH SPECT CALIDAS

B RECOMPACTION HOSQUIRED 6072

C TEST IS AFTEN HECOMPACTION 73329

D. MAINTHURE IN EXPRESS OF SPECS

TECH G.O.



## Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

2000 San Miguel Coop

TECH. 12.17

PROJECT: SMC. 1A POND

CATE 7-30-87

CUR REPORT NO. 311 -

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9.			V			33	_		5.5		
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. L <u>. ' -</u>	1.62.	AN SI	0, 21	ъ.	100	<b>2</b>	<u></u>	F F	<u>د ڏايه ۾</u>		i
Nest Ma		Count Count	y Çen Ra	sity tic	We∢ Density	Moistare Count	Ratio	Moisture PCF	Mazer Content	Oensity	Percent Compact
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ខ		840	,7 1,3	394	1090	2050	0.645	25.75	37.0	83,3	15,9
.9		813	80 h	38	1115	22.15	0.665	27.75	33.1	83.8	16.5
10		ે હેર	: / <b>   </b> .	37	·	Bills	J. 13			1	25.3
IV.			.:	3 1.		25.04	3.7		77.4 ₁	-,	970
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\D()	MAT) PERC)	FRESCHOND FRESCHON INFORMAN George Self Dinam	Per Centro CITON Hase Anglion (\$44	l (py wrug) od po make	mum dry	. 2 8A 3 6A 4 Sul 5 SC	I MATERIAL OKFUL SE COURSY BRASE A CEMENT	9 RECOM C 168TIS C, MAR	PACCA)N REGOV AFTER RECOV	isaction 33 vacces of 3	71. 29

4 SUBBASE 5 SOR CEMENT 6 OFFER



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

TESTEDFOR San Miguel Coop

PHOJECT SMC 14 POND

DATE 7-31-87

CHAREPORT NO 3((-

TEST D	ATA:	28.2						
TEST NO	E#1E	DE ILLE	SCR. () PULINER	LAN DAY DE SSITY	WATER CONTENT	en Pt AGE ORN DE NESET	CDM-FC-KIN MAICEN-	COMMINT *
	7-31-87	G?AD€	۲	86.8	30 €	84.0	99.0	1-A
2		; ;	[ ]		30.3	79.0	କ୍ରଠ	1-6
3			МТ		3¢.6	878	160 0	1-A
4		3,840,5			30.9	863	ና፣ ^ኒ	1-AC
5		5-	1	I	32.5	6೯.३	98.2	[ - <u>A</u>
S	$\rightarrow$	\7		$\perp$	3	Z	i i i i i i i i i i i i i i i i i i i	
TEST LO	CATION: SO	uth SL	.ಶಭೀರ	<u></u>	(800	33,410	7. J. J. T. Y.	
ı	Zari West of	Service Service		_ 7	ه ده ۱۹۶۰	<u> </u>		´
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3	45 W.37.7 -	5 5°4. (	ای ید	A 60 96 3	eriya b <u>o</u> ga	. <del>"</del>	್ಷ	7
+	Karast k	्ट म्ह	=	<u></u>	<del>_</del>	<del>_</del>	·	···
٦.	<b>3</b> 0 N357 -							e
6	HOTVEST	ş£ Ş⊤A.	170	012/12	i Si Basan	الم دن علما 	ofe	
			D	L	D	E	F	5 H I

			••	-		V	<b>-</b>	r	<b>Ģ</b>	rı	4
	Test No.	Probe Deuth	Density Count	Density  Ratio	Net Density		Moisture Ratio		water Content		Percën Comba <b>c</b> li
	1	6"	7899	] 300	112.5	Z\$23	0.637	્રદ <b>ક</b> 0	30.8	89.0	990
¥	-2		9613	1.5 83	103.0	1937	0.581	24.00	30.3	79.D	910
110115	,3		79 66	1.311	1125	2067	0.620	25.75	30,6	86.8	loop
ennduo	4		7830	1.274	13.0	2149	0.4-5	2475	36.9	27.3	97.L
3	5		7950	1-307	1135	2183	0,435	27,25	32.5	97.3	98.2
	_ کیا	V	8543	1.407	109.0	1 🗸 '		2600	3].3	93.0	<u> 15.½</u>
ı,	NOT	ES DINSTI	IES SHOWN IBS	green to the blood		1 100	L MA LIGIAL	A TEST OF	SECTION DESCRIPTION	WORKSHE CIE O	MIN COND

NOTES DENSITES SHOWN Lbs per clear load WATER CONTENT Per Control of the wealth

FLIRCENT COMPACTION: Base the manager dry density estated governation desired by set ID conserv. 2 BACKPU. 3 BASECOURSE

4 SOBBAS; 5 SOLCEMENT 6 OTHER A TEST OF SECTS COMPLY WITH SECUR CATIONS
B RECOVERACTION PER DIRECT A07 A
C TEST IN ASSERBEL COMPACTION 3256

D. MOISTHER WELLES OF SPECS

E. Maisture below spech



#### REPORT OF FIELD COMPACTION TESTS

TWEETON SAN Miguel Cosp

FROJECT SMC IA PONC

DATE 7-31-87

- 11 F ON TROSSERUO

7   7-31-87   5-1   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21   15-21	<del></del> -	f=		- <del> </del>		·		28.2	<u> </u>	ATA:	TEST D
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10 15 NOTE OF SEX 13 MILES 13 15 FROM BUSHOW & C. M.	.•	<u>:</u>	رکی رود	- 1.40 (12)	Z.5	jr <u>g 57.</u>	<u>ο Α.,</u>	<u> </u>	4,150	65	7
1 50 WELL OF - 1921 PROJECT FROM 18 18 - 18 18 18			<u> </u>	w b	9.00	172514	· <u></u>	<u> </u>	<u>( ) a :</u>	70	4
	-	6.47.	1130 0B	ريوا <u> ، ،</u>	<u>. 151 f</u>	3 11 20	<u>- 1   1</u>	<u> </u>	<u>v. 55</u>	15,1	: Ç
		<u> </u>	- D. AS	os lg.	200			<u> </u>	97 <u>5</u> -25	So'	.
3 50 WEST 16 91% 1700 8/2 40 1/20 for 1 3 00.		<del>.</del>	•	as For	42	17551 <u>a.</u>	6	166	<b>₩</b> 6-27	50'	3
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	le <b>st</b> Un		Density Count	Density Ratio	Wet Density		Hoisture Ratio	Moisture PCF	Nater Content	Ury Density	berden Comnact
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		ļ	79	l-305	1:3.0	2184	0.656	27.25	31.7	୧೯.୫	98.4
	711	1	7914	1.303	[(3.0	2190	0.457	27.50	32.1	୫୨.୨	୩୫.
1	]C		7890	1.299	1.13.0	2/1/2	0.659	27.50	32.1	85.5	98.
•	li.		8446	1.391	109.5	Z <b>2</b> 32.	0.670	28.00	33.9	82.5	95.0
	υŹ	V	2890	375		Sant	200	\$8.55	714 J. C.	27.0	Ĵ <b>5</b> .

NOTES DENSITES SHOWN they give uses that WATER CONTENT. For Cont (Life weigh) PERCENT COMPACT ON Based on maximum stry density until an pample indicated by soul Originals.

FILE MATERIAL 2 BACKFILL 3 BASE COURSE

4 SUBBASE S SOLICEMENT A OTHER A TEST HESULTS COMPLY WITH SPECIFICATIONS

O RECOMPACTION REQUIRE 6212

O TEST IS AFTER RECOMPACTION 3324

O, moisture in excess of specis

DCII+OVO

Z. T)



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

FDFOR San Miguel Coop

SMC IN PORD

7-31-87

ે વે ⊬ુ_ GUR REPORT NO

rest WC	E#11	OFFI	CLTA NOTES	0 LAB 001 0 CAST		A (147 41 Oc VS		CENT WCHGN	COMMECT *	
13	7-31-5	<u>⊘</u> [5]		868	<b>a</b> 335	81.	· 5 35	.3	1-4	
	<u> </u>			<del> </del>	<del></del> -	$\dashv$		<del></del>	·	
	<u> </u>	[					<del> </del>		<del></del>	
				ļ						- — ——
ST L	OCATION;	S N. 774	7 1 1 1 2 E	<u>,  </u>   Talour (8)	) (35.21	<u> </u>	AV:	J	·	
 3	3-11	<u>-</u>	574 [974	√ 8.0°	1944 - <del>1952 -</del> 1344 - 1953 - M	ادرمسين ود	··· of sla	·	—· —	
		-								
		•				_				
	L									
				- <del></del>				- · -		
				- <del></del>						
		·			······································					
	Probe IDei	A isity l	o Density	Wet	0	E Moisture	F	G	# 	I Perce
	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count		F Moisture PCF	G Water Content	H Dry Density	
<del>`                                    </del>	Depth Col	sity	Density	Wet	Morsture (	Moisture	Moisture	Mater	עיזע )	<u>රි</u> කතෘ
<del>"</del>	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count	Moisture	Moisture PCF	Mater Content	Dry Density	<u>රි</u> කතෘ
<del>^</del>	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count	Moisture	Moisture PCF	Mater Content	Dry Density	<u>රි</u> ගත පෘ
4	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count	Moisture	Moisture PCF	Mater Content	Dry Density	<u>රි</u> ගත පෘ
3 .	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count	Moisture	Moisture PCF	Water Content 33.5	Dry Density	I Perci Compa 95
<del>^- </del>	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture ( Count	Moisture	Moisture PCF	Water Content 33.5	Dry Density	රියක්පෘ

2 BACKFILL 3 BASE COUPSE 4 SUBBASE

5 SOIL CYMENT A DEUFR

D. Moisture in excess of specs

E. Maisture below speca

PESSON C. Trace 100

soliD number

density obtained on sample enfociled by



#### REPORT OF FIELD COMPACTION TESTS

... ED FOR San Miguel Coop

MADIECT SMC IA POND

DATE 8-3-87

DUR REPORT NO. 311 -

TEST O	ATA: O.M.C	(5, 28.2)	)					
FEST MO	34,1	SENTH EIEA	SON ID NUMBER	₩###### LAG GAY DLYS-FY	MAIFR COMIENT	PH PLACE QAR QENGIN	1933 A44 HQ11349403	CDANENT*
١	8-3-87	GRADG	5	ક્ષ જ	30.9	83.3	95.9	1 - <b>)</b> .
2		}	1		30.8	86.0	99.0	
3			. [[		30.7	84,5	97.3	
4		[67 L167			30.8	84.5	<u> </u>	1-A
5	İ				33.3	82.5	95.0	
6	V	$  \psi  $	$\sqrt{ }$	V ,		84.3		
TEST LO	CATION: 9(*)	777 SLC	'nΕ	<u>19</u> 09/15/2	2[0:57]	(300 sec	- 70. / D	57 )
	35 ზ,ლგ⊤ა							<i></i>
$+\eta$ .	45 ¹ 6.5%T	66 SYA.	. Z 🤊	001 amb	25 G	J. 1554	Ç1	4
12	ଓଡ଼ା ଜନ୍ୟ ନ	c (- S	Α.,	د: ۸.۵ ک۵۱ ۵	35' F	Karn For	<u>, 03 esc.</u>	P.C.
4	65 NEST	41≥ کن	-  ୧	001 Jun	ეა! £r.	77 - Buda	tu, 138.	5107C
5	70 VIEST	of Sta	. z	००५ नाप	451 600	· +0+ .	<u>۾ ۾ دانج ڪر</u>	s
عا	20 NEST	5€ ST	4. 2	1201 905	25"(	um batta	r. 04 sl	୍ନଣ

			A	Þ	L	D	E	F	G	Ħ	I
	lest Mn.		Density" Count	Density   Datio	Ret Density	Mbisture Count	Moisture Ratio		Mater Content		Dercen Comnacti
	]	6"	8538	1.406	104.0	2067	0.620	25 75	30.9	83.3	95.9
	2		7943	1.308	112-5	Z118	0.636	2650	30.8	<b>96.0</b>	99.0
5	1,33	1	8395	1.382	110.0	<b>z</b> o 38	0.612	25.50	30.7	84.5	97.3
a y Deluit	4	8"	5279	0,864	1105	2089	0.627	26.00	30.8	84.5	97.3
5	.5		530	0,874	110.0	2232	0670	27.50	33.3	82.5	95.C
	_ <u>ط</u> ا	$\bigvee_{-}$	5075	0.835	111.5		0.650	a7.25	1	84.3	97.1

NOTES DESCRIES \$10 WM Lts. per cried loct
WATER CONTENT Per Cent of dig weight
PCINCENT COMPACTION Sased on majorium dry
density abbined on sample indicated by
304 \$1 number

1 FILL WATERIAL
2 HACKELL
3 BASE COURSE
4 SUBBASE
5 SOR CEMENT
B ATMEN

A TEST RESULTS COMPLY WITH SPECIFICATIONS
B RECOMPACTION REQUIRED 6072C TEST IS AFTER RECOMPACTION 3329
D. MINISTER & LARGES OF SPECS

E. Meister & balow space

- 1. 3



### REPORT OF FIELD COMPACTION TESTS

ESTEDION San Miguel Coop

PARLIECT SMC IA POND

DATE 8-3-87

1

OUR REPORT NO : 311-

TESY O	ATA: C	28 رکن ۱۸	3. 2	<del></del>	***=					<del></del>		==
NO NO	6216		ELEY	SOL IÓ AUMURH	CE 4/9	a⊤   ~~	ATER NEE 4T	N ACA DAN DEVIS		PICENT PROTION	COPPLINE .	
7	8-3-	87 Z	.o.l.st	5	86.	8 3.		;- :	- G;	. :	Ĭ.	
8			ļ <u></u>			3.		·	·5 -	5		
G_		<u> </u>	<u> </u>			15			<u> </u>			
10		디	√a/ ;					· · · · · ·				
11		_	Ę				,	٥,				
12	$\perp \underline{\psi}$			$ \Psi $	$\perp \underline{\vee}$		, ;	<b>a</b> ':		· <u> </u>	./	
TEST L	1 .	J. \$2,677.							1 - JUA	ــــــــــــر ــــــــــــــــــــــــ		
7						5 FRes						
-	40'W	est of	STA	. <u>2.c</u>	<u>co'</u> à	nd 201	£20	<u> </u>	o Molte	Fslope		
C.	50'	West 1	7F ST	<i>A</i>	51001	and 4	o' fp	om f	op of	<u>slope</u>		
:0	65'v	inst of	STA	. [4	100' A	nd 15	162	om 1	oottom	<u>of slo</u>	೧೭	
<b>;</b> ;	15' w	PUT OF	STA.	2	000/ 2	nd 30	fee	mto	o of st	0.De_	l	
12.	101 MG	erst 06	Sti	. a	1001	and 20	51 F:	eam	botton	~ of sl	nn a .	
		A	E		<u> </u>	D	= · <u>-</u> -	E	F	G	<u> Н</u>	]
Yest No.		Density Count	(Densi		Wet Density	Motstur Count		sture tio	Moistore PCF	Content	Density	Percen Comnact
7	8"	5641			٠ .	2000	<u>. l</u>	<u> </u>	1			
3		5,0%				2113		<u>.</u>	٠, "		T	
٩	<	5089				2185	7		:		T	
10	6"	,	1						4. 11	``,	Ż,	
ΙÌ						<del>                                     </del>		<b>-</b> -		-		٠.
112	V		<del>                                     </del>	,	,		1			-	3.4	
NOTE	WATER ( PERCENT S	S SHOWN TE CONTENT POR COMPACTION Analy estates of ID number	Cent of di IN Busing of Polyshings	, weigh on make	com dry	2 3 ( 4 : 5 :	F.C.L.MAT BAG «FILI BASE GO SUBBASE SON GEN DTHEO	uASE ·	B RECTION C TEST AS C. M. PL	APACTION REGI SAFTE <mark>A RECO</mark> V	PACTION 333	<b>13</b>



#### REPORT OF FIELD COMPACTION TESTS

- DFOR SAN MIGUEL COOP

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SMC IA POND PHOUSET

8-4-87 CATE

CUR REPORT NO 3d -

TEST D	ATA: ONC	5,28.2	/						
TI SI NO	DEIÉ	ELLA	SOU TO NE-POPM	BANAGOU LAD CRIT DE PERTY	MATER CONTINE	M PTAGE DAR DENSETY	PERCENT CEMP+CTION	COMMENT *	
1	2-4-87	GKADU	1,1	୫୬୫	35.5	<b>3</b> 2.3	95.0	1 - A	
2		G841.9			31.3	85.3	५८५		
3		GRAGE.			32.3	84.8	97.6		
Ч		GRADE			30.9	847	97.5		
5		15+115-			31.!	8:5	96.1	1-A	
6	$\vee$	<b>\</b>		V		83.5			
TEST LO	CATION: 50	· T - · · ·	<u> </u>	15:0,000		37 ) [- بحدا	<u>รี โรกสาก</u>	. ) 2 20 m 2 42 5"	
- )	AS' WES	۵۳۶ کی۔	. 25	sol hours	T Fame	butter	<u>. 60 g)                                  </u>	. <u>.</u>	
~	l			itaci / A					
3	<u>৪০° ৯৫৮</u>	- 6- 5:	 _÷	24,001 <u>a</u> x	(교 <mark>왕도</mark> )	4000 f	در رز ج	spc_	
এ	I							•	
įη	40' MORTO S SIA, 2475 / And 35' From too of stope								
6	15' WEST OF STA. 2300' 2ND 20' FRUM top of Stope								
							- ,	: tr 1	

		д	o	Ļ	D	E	F	Ģ	FI .	1
lest No.	Probe Depth	Density Count	Density : Ratio	Wei Density	Moisture Count	Moisture Ratio		Nater Content		Percént Comnati
	ව"	5135	0.845	111.5	2327	0.699	29.25	35.5	82.3	95.0
Z		5°0'€5	0.837	!!à ¢	2139	0.642	2675	31.3	85.3	98.2
,3		Suga	0.837	!!2.C	2175	0.453	27.25	32.1	84.8	97.6
4		5770	0.851	1:1.0	2013	0.628	2625	30.9	84.7	97.5
5		5347	0.880	109.5	2069	0.621	76∞	31.1	835	96.1
10	V	5379	0.885	109.5	1	3.3-0	26.00	31.1	832	96.1
NOT	ES DENSITI	ES SHOWN LBS				LMATERIAL		<u>JULI'S COMPLY</u>		ATIONS

NOTES DENSITIES SHOWN Lbs per clibic fool WATER CONTENT. Per Cent of dry weight PERCENT COMPACTION Bused on marriam dry censity ablained on pample indicated by:

2 BACMF-LL 3 BASE COURSE 4 SUBBASE 5 SOIL CEMENT 6 OTHER

A TEST RESULT (SCOMPLY WITH SPECIFICATIONS B RECOMPACTION RECOMPACTION 3727 O. MULLITURE IN PLEASE OF SPECS

B. Maisture bates apecs

Tran G. O

soi ID number

BE114 OF C.



FIGURESIONAL Service Industries, Inc.
Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

EDITOR: SON Miguel

MOJECT SMC 14 POPC

DATE 8-4-87

OUR REPORT NO. 311 -

TEST D	ATA; O/A.C.	(5,26.2	<u> </u>	<del></del>			<del></del>
12 ST ND	GARF		24 Q LAT 397 06451+	Marted CCA-Mart	M PLACE DRV D(N) IV	PERIODY COMPACTION	0000441
7	8-4-87	15-16-5	5 86.8	31.3	94.5	97.3	1 -A
8	<del></del>		<u> </u>	33.3	64.0	96.7	
9		22 <b>0</b> (5	<del>                                      </del>	33.9	83.3	95.9	
<u>  10  </u>			<u> </u>	31.5	84.8	97.6	
1			<del>                                     </del>	33.1	83.8	96.5	
121	24100		$\Psi_{-}$	30.7	85.0	97.9	
7	451 030	_M <u>_SKAPE</u> TSK_STA	15M COMME 1. 2400/ 2	<u>- 0 5</u> 44	ह्राष्ट्र- स्ट्रा अस्टिर्द्धारहरू	10/25 : 44	1 8345 - 2475 -
6	20/ Nake	<u>ടെ ക്</u> തുടക	. 2475 a	~d 05	Fron 1	<u>ان ۱۳۵۳ کا</u> اد÷ئادا	<u>.51400.</u> 6 0 [300.
	<u>60 60000</u>	o€ 5-4.	<u> </u>	d 30°	Epsy +0	ء جو جو	13p2_
ا ت: ا	<u>্হ্</u> <u>৬.৪৩৮</u>	<u>ು - 4</u>	<u>- 2300/ a</u>	rid 40'	<u> </u>	<u>دا و کو م</u>	
<u> </u>	701 WSST	- و٠٠ - <u>٠</u> -	4. 2400' ;	<u> </u>	of France	10tted	of 5/308
-24	35° 0,527	<u></u>	L. 2475	35-5L 44	5" Fizux	ره ÷ادط	ر وح حالي
<del> </del>		D	·	D1	E F	G	H 1
lest	robe Densia Menth Count	y Density Ratio	Net Moi	sture Mois unt Rat	sture Mojs	ture Water	r (Ury Perc

٠.								Ľ	1-	G	Ħ	1
	Test Un	Pro Den		Density Count	Density Ratio	Wet Density	Moisture _Count	Moisture Ratio	PCF	Water Content		Percen Compact
	[-]	e	, "	5 147	0.847	111.0	2124	3.333	2650	31.3	84.5	97.3
١	ଷ		<u> </u>	5'ರಚನ	0.837	مداا	223	0.670	3800	33,3	84.0	96.7
١	jî,		<u> </u>	5132	O-845	111.5	2262	0.679	28.25	33. <del>9</del>	83.3	95,c
	Ö	<u> </u>		5120	0.843	111.5	2128	0.639	26.75	31.5	84.8	97.6
	μ			5092	0.838	111.5	2198	0.660	27.75	33.1	83,8	96.5
	7		r		9 82।	111.0	2081	0.625	26.00	30.7	85.0	97.9

NOTES DENSITIES SHOWN Lbs per class toof WATER CONTENT Per Cent of dry weight PERCENT COMPACTION Based on inclum im Gy density oblasies on Sangle indicated by sof ID number

FAL WATERIAL

BACKETL 3 BASE CONJESS.

SUBBASE SON CEMENT

A TEST HESULTS COMPLY WITH SPECIFICATIONS

8 PECOMPACTION REQUIRED

C TEST IS AFTER RECOMPACTION

a moisture in excess of specs

E. Meliture below speca



### REPORT OF FIELD COMPACTION TESTS

DED San Miguel Coop

<u>O</u>MC ( 5, 28,2

SMC 14 POND PROJECT:

OUTE 8-4-87

OUR REPORT NO. 3 [ ]

	16.57 MD	OLITE	3670	ELEV SOL		wate conte		V PER C		COMMENT *	
	13	3-4-	87 F.	5 اي	- ୫୫୫	30.	93	.3 95	9 1	-A	
	14				<u> </u>	36)	3 83	8 96.	5 1		
	15			ļ		3ō.	7 83	8 96	5		
	16		\V	/		32.5	5 83	.7 96.	4 1		
	17	<u> </u>	3 /	40-	[	36.5	7   84	3 97.		_å	]
	18	L <u>V</u>	Fil	لإللف	1 <u>V</u>		<u> </u>		<u> </u>	·	]
Ĭ		DOATION:	<u> 1567</u> 776.	Sacréfic (	<u> ( 19. 00%) -</u>	<u>2 6850</u>	<u>∞2 17375</u> - 173	<u>Sec(7502)</u>	(tob, <del>25.</del> 2	<u>} 2201-</u>	2475 / 12
ŀ	13	1			<u>ು' a ಸಿ</u> ಕ್ಕ		-				
1	14	301/11	<u> </u>	<u>ಗ್ರ. ವಿತಿಂ</u>	<u>c'</u> á'2 <u>d</u>	301 <u>55</u>	<u> </u>	<u>m of 5)</u>	<u>- 20</u>		
L	15	50'10	. یکی سیری	<u>114 . 3 -</u>	x1 201	40' 420	m+op.	6 5 logs	<u>:</u>		
	16	40' No	eth cf	55+1 7	3971a	A 371	Fair b	:./t.si.	6 <u>5</u>  00e	·.	
	17.	า <i>⊑′พ</i> เ	est of:	57A, 120	oc' and	July 40	1.00 bo	++02-09	5)070		
					300 <u>1 au</u>			1 .		 22	
_			н.	D	·	D	E	F	G	н	1
-	est i	<u>Depth</u>	Density . Count .	Density Ratio	Wet Density		Moisture Ratio	Moistore PCF	Water Content	Density	Compacti Compacti
	13	6"	8550	1.408	109.0	2072_	0.622	25 75	30.9	93.3	95.9
Į	14		3326	1.376	110.0	2112	-0.634	2625	31,3	83.8	965
,	15		8485	1.397	109.5	2045	0.620	25.75	30,7	83.8	965
	(&		<i>ह</i> । (3	[,344	111.0	2190	0.657	27.25	3 <b>2.</b> 5	83.7	96.4
; [	ל	8	5186	0.854	111.0	2]4:	0,643	26.75	31.7	84.3	97.1
_		61	· · · · ·	l	<del>                                     </del>	1.		Ţ	1	311	[

NOTES DENSTIES SHOWN LES Des CIDE 1001 WATER CONTENT PAY Centuries weight PSIGCENT COMPACTION, Based on maximum dry density obtained on sample indicated by son ID nomber

FILL MATERIAL BACKFILL BASE COURSE

8 RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACT TESCOS AFTER RECOMPACTION SUBBASE SOIL CEMENT

a mointure in excess of specs E. Meisture below specs

TEST HESULIS COMPLY WITH SPEC FIGATIONS

iai pervice industries, tūc. Shilstone Engineering Testing Laboratory Division

## REPORT OF FIELD COMPACTION (#3513)

" San Miquel Coo

TEST D	ATA: Q	$\Lambda_i \mathcal{O}_i = \mathcal{G}_i$	28.2				100	Articles	:			<u>~∓~</u> 🥞
řesr MO	QAF	DEP	TAC'	SOL ID	LAB DRY DRYSTY	#417 COA10		ACE PRIV	ACTION	_	COMMENT *	<u> </u>
[1	8-2-	87 6	rade	5	868	30.	9 84	0 96	.7	1-A		
2			1			29.	6 89	3.3 99	3.2	1-6	<u>-X</u>	
3	$\perp \perp$		V			31.6	5 84	7 97	.5	1-A	i	
[4	<u> </u>	ls	tift.			30.	<u>6 85</u>	7 99	3.7			
<	<u>l</u> I	i				31.	3 84	5 9	13			
6	$\vee$	<u>/</u>	<u>بال</u>	$ \psi $	$oxed{\Psi}$	31.		13 97	11	ΔZ	`	]
TEST L	CATION:					7-900				ν <u>"</u> "	<u>075 / _</u>	
1	30'	WEST OF	لمنهري ست	<b>.6</b> 00	and a	o'Crox	1 Botto	» 6FS	lope.	<u>.</u>		
<del>{2</del>	501	West.	of 5	<u> </u>	700/ai	<u>d304</u>	FROM K	x++~	<u>( ک^{ائ}ے ہ</u>	C40		
<u>'</u>	70'	Wast	0F <	<u> </u>	80 <u>%</u> a	<u>58 301</u>	from-	tep of <	1000 1000			
4	600	West n	£ <1A	60	20/ 20)	1201FR	run-tes	<u>را ک ان ،</u>	<u> 20 .</u> .			
5						1 3 <u>5 F</u>	٠,		1			
6	Ι.					<u>√ 201 </u>		-	- 1	  -02	•	
		A		•	Ļ	Ð	Ē	F	G		Н	I.
ĩest Ma.		Density Count	(Densi Rati		Wet Density	Moisture Count	Moisture Ratio	PCF	Nater Conte		Ory Density	Percent Compacti
	8,	52.80	0.8	69	1100	2095	0.629	2600	30.	,9	84.0	96.7
42	-	5 z z 4	0.8	٥٠	110.5	2030	0.609	25.25	29	.6	85.3	98.2
3		5095	08	39	14.5	2135	0.641	24.75	31,	5	84.7	975
. 4		5050	0.6	331	112.0	2099	0.630	26.2	30	.6	85.7	98.7

DENSITIES SHOWN LDS der como loca WATER CONTENT Per Cent of dry weight PERCENT COMPACTION Based or managem dry Consily obtained on sample indicated by see ID number

0.852

5179

FUL MATERIAL BACKFILL BASE COURSE

0.636

0.629

2119

2095

111.0

110.5

- SURBASE SOL CEMENT OTHER
- TEST RESULTS COMPLY WITH SPECE RECOMPACTION REQUIRED

84.5

TEST IS AF TER RECOMPACTION

2650



### REPORT OF FIELD COMPACTION TESTS

50 San Miguel Coop

DATE 8-5-87

QUELEPORT NO 3) /

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8						33.	3 84	7 97	5	<u> </u>	
9						32	3 88	20 91.	9	b	
10		Fir	ia (			30.	<u> </u>	2 9		<u>-</u>	
<u>. () _</u>			<u></u>		L.l.,_	80	\$ 100 m	* :			
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12	25"We	est of	STA		00/21	10	Fron-	top o	FSlo	re	
		- ж		i	L	D	E	F'	G	R	t
Test No.	Denth	Density Count	Densi Rati		Wet Density	Moisture Count	Ratio	Mossture PCF	Rater Content	Density	Compact Compact
7	8"	5160	0.8	49	ar.z	지59	0.648	27.00	31.9	84.5	973
8		4935	0.8	12	113.0	2260	0.678	2835	33.3	84.7	97.5
9		4785	0.8	20	112.5	22.00	0.660	27,50	32.3	85.0	97.9
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<b>XVOI</b>	ES: DENSITE	S SHOWN LE	S per cub	e lont			MATERIAL CNEILL	A TESTAL	SUCTION BEG	PLY WORN SPECIFIC	ADONS

WATER CONTENT PM Cent of dry weight PERCENT COMPACTION Based on manufaction dry density obtained on sample indicated by 104 KI number

Ecomputations ..

- 3 BASE COURSE SUBBASS
- SOIL CEMENT
- 8 RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION
- a moisture in excess of specs

### REPORT OF FIELD COMPACTION LESTS

DATE 8-5-87

OUR REPORT NO.: 31

TEST D	ATA:	<u>a</u> m.c.	÷١	<i>5,2</i> 8,	رد	}			•				·
TES?		D74E	DEP	ELET	50 M,	. Q +E¤		AUGAJU AB DAY RHSTY	WAPEA CONTENI	PR PLACE PRY DEASTTY	PER-CENT COMPACTION		COMMENT A
	8-1	5-87	ĞŘ	ADE	5	-	90	. 8.	35.7	82.5	95.0	1	-A ~ **
(b)	•	1							32.1	85.5	98.5		•
3			,						33.5	82.7	95.2		
4			į	r L _i ft					32.5	84.5	<i>9</i> 7,3		
5		_							33,0	82,5	95.0		. <b>.</b>
[6]	\	V	1		$\downarrow$	/		/	34.1	82.7	952	. <b>\</b>	/
TEST LO	CATIO	•: P9:	12	ELOO	Ē	<b>1</b> 25	<u> </u>	en st	P. 1700	- <u>2000</u>	,		

25 year of stallsool and \$5 From the of south slope

STA. 1600' 2nd 25 "From the of south slope

Med and 20'

1500/ and 30'N.

West of STA 1600 and 10'11 ferry too of couths West of STA. 17/0/ and 15' N. from toe

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	est Ma	Pro Des	obe oth	Density Count	Vensity Ratio	Ket Density	Moisture Count	Anișture Ratio		Water Content	Density	Percent Compacti
ļ	1	8	)d	5085	0.837	112.0	2357	0.708	29.50	35.7	825	१५.०
Ī	2			4965	0.817	1 3.0	2190	0.657	27.50	32 l	85.5	Ÿ8.5
Ī	3			5382	0.886	110.5	2227	0.668	27.75	33.5	827	95.2
	4			5065	0.834	[13.0	2196	0.659	27.50	32.5	84.5	97.3
V	5	Γ		5347	0.883	109.5	5180	0654	27.25	33,0	82.5	95.0
Ι,	· —	λ	/	5 <b>25</b> Y	0865	(1110)	225]	0.676	28.25	34.	SAT	952

ITER CONTENT Per Cont of dry weight ENTICOMPACISON BASCIS on recumient dry r oblamed on sample endellated by

- FILL MATERIA.
- BACKFILL BASE COURSE
- SUBBASE
- SOIL CEMENT
- RECOMPACTION REQUIRED 3



### REPORT OF FIELD COMPACTION TESTS

-FOR San Miguel Coop

PROJECT IA Pond

DATE 8-5-87

TEST DATA: (2MC. (5.282)

OUR REPORT NO 3 11

TEST I	DATA: [A]	<u> </u>	1 ውጭው I									
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8	<u>                                     </u>					37.	5 85	3 9	3.2			
<u> </u>				-		31.	3 86	0 9	7.0	Ш		
10			· [			32	<u>4 85</u>	0 9	1.9			
<b>                                   </b>	-	_				32.		<del></del>	<i>i</i> J		·	
1 <u>2</u>	DCATION:		Ϋ́	<u> </u>	<u> </u>	33,	· <del>-</del>	<u>  [¥</u>	2.7	<u>V</u>	} .	
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les <b>t</b> Na.	Probe Neath	Density Count	/ Densi Rati		Ret Density		Moiscure Ratio	PCF	e Nate Cont		Density	Percent Compati
7	୍ଡ -	4999	0.86	10	112.5	2.190	0.657	27.51	32	1.3	85.0	97.9
a)		4935	0.8	2	113.0	2210	0.663	27.7	5 32	.5	85.3	98.2
8	1	495	1 0.4	315	113.0	2165	0,650	27.0	7 31	.3	86.0	99.0
² 0		497	0.8	18	113.0	2235	0.671	28.00	7 3	).G	850	97.9
Ų		512	1 0.9	34 Ś	111.5	2198	0,660	27.50	932	.7	84.0	96.7
سر ا	$\bigvee$	506	50.8		1120	2235	0671	280		3.3	84.0	96.7
NOT	50 OLAGAIN	-0.0110414	cos ha ciros	6 10801		1 1 1	LAMATERIAL	A IESIF	E20012 (	<b>ታር/ዘነቦር</b> Y 1	WITH SPEC FIC	A 774/2

WATER CONTENT, Per Cent of dry weight PERCENT COMPACTION, Based on maximum dry density obtained on Sample ardicated by soil 10 number

BELLA BUC.

2 BACKFUL

3 BASH COURSE SUBBA56

SOLCEMENT

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

a mountaine in excess of specs E. Malshire being specs



### REPORT OF FIELD COMPACTION TESTS

LUI, Ø FOR	$\leq 2a$	Migoel	600
	Jan	migoca	Loop

PROJECT

SMC IA POND

8-5-87 CATE

DUR REPORT NO 3/1 -

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	, <b>l</b> i	Probe	Density Count	Densi Rati	ty I	L Net Density	D Moisture Count	E Moisture Ratio	F Moisture PCF	G Water Conte	ent	H Dry Density	Perci Comme
	, kr	Probe	Density Count	Densi Rati	ty I	L Net Density	D Moisture Count	E Moisture Ratio	F Moisture PCF	G Water Conte	ent	H Dry Density	Perci Conna 97

NOTES DENSITES SHOWN This per cribe locil
WATER CONTENT Per Control deviwerent
PERCENT COMPACTION Based on maximum dry couply obtained enjection makening of couply obtained to standly northled by scillo number

F-L MATERIAL

2 BACKFILL 3 BASE COURSE

SUBBASE SOIL CEMENT

TEST RESULTS COMPLY WITH SPEC PICARONS

B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

O. moisture in excess of specs

B. Maisture below specs

Professional Service Industries, Inc. Shiistone Engineering Testing Laboratory Division =--- P. P. NO. PESTS SAC (A POND CUR REPORT NO.: 311 — PERIODAT COMPACTION ÇAT Direstr coveter. LAB CORY CS VOIDY COMPANY 83.7 96.4 31.4 6PADE 86.8 5 30.6 84.3 30.*1* **85.**7 98.7 ISTLIFT 4 96.5 83.8 82.5 35. 95.0 EST LOCATION: 400'-600 Zee' sport STR 400 201 2N1 £ 8,55% STA. 500 and 40' feare too of 400' and 4 30/FROM BOTTOM OF Slope 'and 5*0*0 5 and 30 too 1 bottom Ð E Probe 19ensíty Misture Maisture (Maisture Water Density keç rercen Ratio Density Ratio Density Count PCF նգուր**գ** ( Content zio3 0.8715Z94 96.4 H0.0 0.631 31,4 63.7 26.25 530I 37.1 0.873 110.0 25.75 2061 0.619 84.3 30.6 2092 85.7 0,832 0.628 985 112 0 26.25 30,7 0.848 100.083.8 965 32.5 0.654 27.25 2130 Z303 0.849 115 0.691 95.C 29.00 35. **0**.8 o5 2265 1133

Although the cube tool

Pin Cent of thy weight

SION Based on maximum dry

and on hampe indicated by

- Nalmaterial
   BACKF.(1)
- 3 BASH COURSE
- 4 SHRBASE 5 SCILCEMENT 6 OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS

  B. RECOMPACTICAL RECUIRED
- B. HECOMPACTION RECUIRED
   C. TEST IS AFTER RECOMPACTION
- a maisture juracess of specs
- E. malsoure bolow exects



## PYCTESSIONAL Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

			F	EPORT OF	FIELD CON	PACTIC	ON TESTS	<b>S</b>			
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DATE	- · [—] ·   —	-e7	4 <u></u>	· <del>7</del>	OUA -	REPORT N	े 3।	ί –			<b></b>
TEST (			5,28.	E MARINETA		)	M PLACE	T			
<u>-</u>	1	OC - T	17.H	En DEMONTY		EMF	SC4SPY	CD4P	CTEN	COMMENT *	<u>-</u>
7	18.E	-87 F	<u>nai   5</u>	<u>  86.9</u>	·, ·-·-	-'	85.3	<u>,                                     </u>	3.2/ 1	<del>.</del>	ļ
<u>  8</u>	<del>  V</del>		<u> </u>	<u> </u>	31.	<u>,  </u>	85.D	ঀঀ	(1)	<u> </u>	
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1E57 L	CCATION:	J	<u>TH 51</u>		/   !400-6	<u>ا را</u> رو	1/200	SEC	7516 J	<b></b>	<u>!</u>
7	75	West	CF. STA	4. 4co'	and	151	ROM	top	of 5100	 K	_ :
હ	80	WEST	OF ST	4. 500°	and	50'	From	$\frac{1}{b}$	1-1089 2	E Slage	, T
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· · · · · ·		Ä	b	L Track	D	E	F		G	н	1
Test No.	Probe Penth	Density Count	Density Ratio	liet Density	Maisture Count	Ratio	PCF		Water Content		geword. Neuce:
7	6"	: 5	1000	٠.٠	: •	/	· .		70	s	
B	J	1.6	1. 9						9 .		_
	<b>.v</b>	<del> `</del>	ļ · ·	<u> </u>	· 			<del>- · -</del>	<del></del>	<u> </u>	
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			<del>                                     </del>	<del> </del>		<del> </del>	<del>-  </del>			<del></del>	
			<del>-</del>	<u> </u>	<del> </del> -	-			<del> </del>	<del> </del>	<u> </u>
L	S DENSITI	_ Es s⊨own te	is percubblical	<u> </u>		L MATERIA		ESTRES	ULTS COMPLY	With SPECIFIC	ALCNS
	WATER	CONTENT Per	Gent of thy weld N. Baned on mar	et Homeldy	2 BA	CKFALL SE OCUPS	8 P	ECCMP.	ACTION HEQUIP FIER REGIONAL	¹€D	_

4 SUBBASE 5 SOTICEMENT 6 OTHER

C. Moisture in excess of speci

E. Mulsture below speci-

error by collamination pomphiliprograted by see its number.

OFFICE OVER



### REPORT OF FIELD COMPACTION TESTS

EDFOR San Miguel Coop

PROJECT, I A POND

DATE: 8-6-87

CURREPOSTNO. 31 -

		•	_					_,,			
TESTO	ATA: Q	MC. +(	5, 28;	2)		·		•		<del></del>	<del>-</del> ~=
1657 40	041		ELL?	520g 10 Mainais (S		## [7		, PEK [		COMMENT*	$\neg\neg$
1	8-6	87 a	سطلنه	5	8ଟ ୫	34.	1 85	0 98	0 1	<u>-</u>	1
2				1	1	34.1	7 84	2 97	3		
3	<u> </u>		$\sqrt{}$		1	33.	9 84		i '-1		$\neg$
4_	ļ. <u>ļ</u>		at liff	$\perp$	<u> </u>	32.	7 84.	8 97	6		_
5						31.1	85	1 98.	<u>o</u>   _		
6	V		<u>v_  </u>	<u>V</u>	<u> </u>	33.	<del></del>			/	f
	CATION:		دروع F . مر	<u>(2</u> -a		<u> (7აა′ – ე</u>		730' \$≠cï			
1	_ 25.	W 67	<u> </u>	<del>A</del>		<u>10d. 30</u>		on toe		1 <u> 1 5 1 10 1</u>	
2	.40	<u>  Wast</u>	<u>of s</u>	:TA	<u>].</u> 18 <i>0</i> 0	<u>' 2 nd</u>	15 N. fz	one too	: of So	oto SLO	PE !
_ <u>3</u>	55	West	of 5	5 <i>T#</i>				flaon			
4	301.	WAST	of 5	TA.	2000	12nd	5′N,	Frans +	De 15 3	ماه دلمنس	200
5			_			and		From to			/
۵		-					15' N.	From +	We of s	outh of	200
		. — д	D		Ļ	D	E	F	G	H H	7 ]
Ma	Probe <u>Neath</u>	Density Count	Densit Ratio		Wet Consity	Moisture: Count	Moisture Ratio	Moisture PCF	Water Content	#Fy Censity	[Compac
1	8"	4736	0.77	19	114.5	13 و د	0.694	29.00	34.1	85.0	98.
2		4857	0.79	9	113.5	2328	0.699	29.25	34.7	84.2	97,3
3	1	4916	0.80	9	113,0	2267	0.686	28.75	33.9	84.7	97:5
4		4990	0,8	2/	1125	2207	0.662	27.75	32.7	84.8	97.
<i>T</i> ;-		5/2	7 0.84	14	111.5	2123	0.637	26.50	31-1	85.1	98.0
6	V	4895	0.80	6	113.5	2296	0.689	28.75	33.9	84.8	97.6
NOTE	S DEMSILE	S SHOWN (	s per cubic			' FILI	MATERIAL	A TESTAES	UCTS COMPLY	WITH SPECIFIC	

WAILE CONTENT Per Control dry would PERCENT COMPACEON, Based on massaum dry gensity oblaved on sample indicated by soil 0 wamber

BACKFAL

BASE COURSE SUBBASS

SOIL CEMENT

⁸ RECOMPACTION REQUIRED

C. TEST IS AFTER RECOMPACTION.

O. Moisture in excess of specs 6. Maisture below specs



### REPORT OF FIELD COMPACTION TESTS

LED FOR SMC

PROJECT TAPOND

OATE 8-6-87

OUR REPORT NO. 3)1-

TEST	DATA:	O.M.C. (	<u>5,</u> 28.2	. }						
3651 MG	6.7	069	E:EV SCA		, g war	t		CENT POTEN	COMMENT.	
7	8-6	<u>-87 [[5]</u>	րկգի 5	86.8	30.	9 85	55 98	.5   1	- <u>A</u>	
8	<u> </u>		<u>\</u> []		32	9 89	5.8 98	.8	<u> </u>	
9				<u> </u>	<u> </u>	3   89	0 97	9 1	V	
10			1764	┷						
11,	<u> </u>									
12	<b>⊥</b> ₩.		<u> </u>	LV		<u> </u>		1574	_	
TE51 L	OCATION:	<u> </u>	FIOOR (	574. 171	221-240	91 <b>8</b> 20	(Spetton)	( Tabo!)		
<del>-(</del>	<u>                                   </u>	: W <u>#S/</u>	<u> ۱۳۰۶ کا ۲</u> اسمین شد	4. <u>2300</u>	<u>r ana</u>	.51 <u>/V.</u>	<u> 17011</u> (	02.01.5	<u> </u>	00e
_ : 벽	<i>.</i>	) <u>(125)</u> 	براد <u>ان</u>	, 2400	<u>ana</u>	10 N.	<u> </u>	DE OF S	swin sk	02   11
<u></u>	ا بەر	MEST	.0 <u>← 5 1</u>	A. 1600	$2$ . $a_1n_2$	U d'S	N tRON	toe o	South 9	Jupe
<u>(5)</u>	· <del> </del>	·	· · · ·				<u> </u>			
<u>H</u>	<u> </u>		· ·				··	•		
12-	·l									
est	Probe	A Density	Density 1	l Wet	D Maisture	E Moisture	F [Moisture]	G Nacer	H.	I Përcën
ויח.	Centh	Count	Ratio,	Density	Count	Ratio	PÇF .	Content		Compact
7	8"	4993	0.822	1125	2128	0,639	2650	30.9	85.5	98.5
છ		4850	0.798	114.0	2248	୦.ଜୀର୍ଚ	28.25		85.8	98.8
9		4962	0.317	112.5	2195	0.459	27.50	32.3	85.0	97.9
		<del></del>	<del></del>	<del></del>	<del></del>	<del></del>		<del> </del>	· · · · · · · · · · · · · · · · · · ·	<del>,</del>

3 DENSITIES SMOWN LESS per cubic fact WATER CONTENT. Per Cent of any weight PERCENT COMPACTION. Sweet an insurance dry control, obtained an extend with yield by solifO number.

OCTAA DU C

A PILL MATERIAL

BASE COURSE

SUBBASE

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A TEST RESULTS COMPLY WITH SPECIFICATIONS .

8 RECOMPACTION RESOURCE
C TEST IS AFTER RECOMPACTION

O. moisture in excess of spect

E. Melsmire bolom species



#### REPORT OF FIELD COMPACTION TESTS

LATED FOR San Miguel Coop

PROJECT SMC IA POND

DATE 8-7-87

OUR REPORT NO. 311.

TEST O	ATA: OMC	.(5,28,2	) ້		<u></u>	<u>~</u>		<del></del>
1631 (0w	סיינ	566.14 566.14	SOU 7 MUMBER	OS CA . OS CA .	WATER THATMED	BN JYLACZ CHY DENSJEW	PERICINA COMPICION	COWNER!
<u> </u>	87- <b>6</b> 7	GRADE	5	868	21.5	84.8	97.6	
2		IST Lik-			32,3	850	97,9	
3	 	2ndt6c	†		31.3	84.5	27.3	
+	<u> </u>	Final.	V		33.9	84.0	96.7	1-A
		_ [	<u> </u>		,	, ,		· - —
TEST LO	CATION:	<u> </u>	0 <b>2</b> 5	354 300/	10000	<u>-:}</u>		
<u> </u>	30%	<u></u>	<u></u>	1000 200	<u> </u>	2006	tracot	s love
7_	<u> </u>	<u> 146</u> 7 3-	إيسيد و	<u>. 7000</u>	<u>and 2</u>	51FRO.	m Fos	\$ 10 100g
1	7-1-17		4	3096	3 p. A. A	to/ fz	De Bat	them of slow
ا	151WE	7 0- 5	72.	30,713	wd 1		<u></u>	Tran of 5/022
İ						<u></u>	<u>_</u>	
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		Д п	-	L	D .	E F	G	h I
	Probe Dens	ity Jensi		let Mass	sture MD1:	Store Mors	ture Mater	Operative Person

			^			D	. Ε	F	G	Ħ	1
	Test "!o		Density Count	Zensity <u>R</u> atio	Wet Density		Ratio	Moisture PCF	Mater Content	Ory Density	Pergen Compact
	1	8"	6130	0844	11:5	2135	0.541	24.75	31.5	8.83	97.6
	2		2071	0.804	1,3,5	2201	0.661	g1650	32.3	820	97.9
Subto	3	V	5172	0.971	14,0	2110	0,633	<u>3650</u>	313	84.5	973
subibebadwor	닉	6"	7930	1.305	112.5	2257	0.677	2850	339	84.0	96.7
د	j			1					ļ		
	i -							· · · · ·			<u> </u>

NOTES DENSITIES SHOWN LES per cube les Walter CONTENT Per Cent of dig weight PERCENT COMPACTION Exserter maker in the density obtained on sample and cared by soi ill mamber

- FILL WATEHIAL 2 BACKHILL 3 BASE COURSE
- 4 SUBPASE 5 SOLICENENT 4 ATHER
- TEST RESULTS COMPLY WITH SHECK CATIONS
- B RECOMPACTION REQUIRED C TEST & AFTER RECOMPORTION
- D. maisters in excess of spain

G. Maishire balan 20005



### REPORT OF FIELD COMPACTION TESTS

SER Miguel Coop

PROJECT: SMC TA POSID

"ATH DODOTAL" OUR OF

CATE	8-7 —:-	· 87	116	A PROC	TOK OUR	REPORT NO	34-			
	<del></del>	O.M.C.	1,35.0	<u>)                                     </u>	<del></del> -			<del></del>	<del></del> +	<del>=-</del> == :
re sr		ivie -		504 to HAB 0 148 0 0/45	(A) (A)	····   6		TELAL POLICIA	CCMMH4- *	<u> </u>
	8-7	- 27		83.6	3/2	2 79	.3 91	60 1		
2-		\	Fina!	1 !	35	.7 79	. [ -	5.6	$\int_{-\infty}^{\infty} dr f$	
3	<u> </u>	<u>                                     </u>		-	3.	7 79	5 96	.2. [ ]		100
4	<u> </u>		<u>√</u>	<del>                                     </del>	<u>  36</u>	. 7   119	(5) 95	50 17	_ <del></del> .	
5	<del> </del>		<u> 2011-6-</u>	<u> </u>	35	<u> </u>	96	8		
L G	LOCATION			$\Psi \mid \Psi$	125	_ <del></del>	<u> 1.3   96</u>	0		
[ ]	20	` <del>- ` - ` -</del>	<u>트립한당</u> 0구 57년		<del>51-245</del> rd 3:15	್ <u>. ಕಿಂಬ</u> ಚಿತ್ರ	<del></del>		- i	·
H <del>-</del> 2	30	interior	. <u></u> غەسىس سق			1		<u> </u>		
- '   る	140	سبر. سبر. حوردا	<u>ت</u> دان <u>ۍ د</u> رچه ساره			_N <u>. TK.</u> D a ^l	<u>mtog</u> Gann i	<u>∂† 5027</u> 5	21008	
	601	27 17/中・イ	<u> </u>	<u>1. 187.7</u> 1. 1805	1 2 0 1	<u>۱۳۶۰ ي. بي بي</u> دروسر	<u> </u>	<u> 28. 05.</u> 9	(20 n SI	22 ²
	T		of 51	$\frac{1}{2}$	<u>( ard</u> v/ am	1 3 2/ V 1 3 7/ V	I Form	<i>⊕e o</i> ⊤. . L .	<u> 5001 h 5</u> C - 1	[022] [1]
6	15' v			2100 0	01 1N	1 <u>-2</u> 12_13	L			
٠	<u> </u>		<u> </u>	<u>ه (و 57</u>	7 (1 10 D	[ <u>*</u> . <u>] L</u> 0]	1700 F	<u>of 5007</u>	<u>ት 510!ን</u> <b>ዘ</b>	<u>,                                    </u>
lest ‼n.	Probe Penth	Count	Density Ratio		Moisture Count	Moisture Ratio		Mater Content	Density	Percen Compact
1	g:	<b>5</b> 534	0.96		1 -	0.68%	23.77	36.2	79.3	94.0
2 إ		5645	3.927	1075	2260	0,678	38.35	35.7	79.2	9S.8
رج,	1	5475	0.90	10ê5	2301	0.69†	22,00	36.4	79.5	96.3
:)  -		563	0.92	7 107.5	23 [3	J.694	29.00	36.9	78.5	95,0
5	8"	5560	_ [ `	108.	2235	0,671	28 20	35.0	80.0	96.8
اچا ا	W	55 18	0.40	\$ 1083	2323	0.637	29.25	34.2	793	9/2 0

V 55 10 0.468 1080 3323 0.677

CENSITES SHOWN THE SPI CUBC MOIL
WATCH CONTENT POLICE COIL OF COMMENT SHOWER CONTENT POLICE COIL OF COMMENT SHOWER COMMENT SHOWER COMMENT SHOWER COMMENTS COMMENT SHOWER COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS COMMENTS C PERCENT COMPACTION Sasted on museicum Gry Genalty obtained no sumple indicated by soil IQ number

² BACKFUL 3 BASE COURSE

⁴ SUBBASE 5 SOLLCHWENT 6 DINES

A TESCRESULTS COMPLY WITH SPECIF CATIONS B RECOMPACTION RECOIPED

C THAT IS AFTER RECOMPACTION

D. Maisture in excess of specis

^{6.} Malsture being specs



### REPORT OF FIELD COMPACTION TESTS

Sam Miguel

PROJECT SMCIA POND

NEW PROCTOR" OUR REPORT NO 311-CATE

TEST D	ATA: CMICA	33.Q				· <del></del>		<del></del> -
7037 M2	34-5	SEALH SEA	SOU TO NOTIFIER	DANGUN LAB DAN OFNSET	everes CONFLAT	M PLACE ONY CENSITY	PER CENT COURSE FOR	cover.
7	8-7-87	3rdu9	<b>Q</b> ?	82 <b>6</b>	3#3	80 C	348	1-E y
[8]		<u> </u>		. <u> </u>	<b>3</b> 5.0	800	908	1-4
-1	\dagger	V	V	U	36.9	785	95.C	1-2
<u>i</u>			; ,		``			
TEST LO	CATION. Light	F 31 7 1	0.62		· · ·			

			д	D	•	D	ΕΕ	F	G	H	
	lest No.	Probe Centh	Density Count	Censity Ratio	Wet Density		Maisture Ratio	Moisture PCF	Water Conten <b>t</b>	ury Censity	Perceñi ໂວກກ <b>ລ</b> ີ (ເ
	7	8"	5601	0.422	1.75	2199	0650	27.50	34.3	80.0	968
	9		55 <b>7</b> 3	0.910	108.0	2234	0.671	28.00	35.0	80.0	96.8
	.9		5630	0.427	107.5	23 i S	D. 645	29.00	36.9	78.5	95.0
									',		
5		•									
	L -	<b> </b>		-				<del></del>	<del>-</del> -		

NOTES DENSITIES SHOWN LOS per place tool WAYER CON ENT Phy Cent of dry weight PERGENT COMPACTION, Buryant on Taxaning big directly obtained on sample additional by soil it number

- FILÉMATERIAL BACKELL
- BASECOURSE
- 5J/BBASE
- SOL CENENT
- TEST RESULTS COMPLY WITH SPECIFICATIONS RECOMPACTION REQUIRED
- TEST IS AFTER ASCOMPACHON.
- O maisture ly ruces; of speci
- E. Malana balan speech



## From Science Service, Easter Setting Teachers Shillstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION THING

STED FOR San Migrel Coop

PROJECT: SMC IA POND

DATE 8-10-87 NEW PROCTOR CHARGOST NO. 311-

TEST DATA	OM.C	- (33.0	<u> </u>	'- ··· <del>·····</del>	<del></del> :	· <del>***</del> ***		<del></del>
TÇŞI MO	D•11	GE PER ELEV	POMOTA POMOTA	P1) P1, W EAR 291 QEN2E+	WEITER CONTON	7040 M Vng 4717 ∧30	BL/ CENT COMPAGE ON	COUNTY'
<u>                                     </u>	10.67	6PADE	?	82.6	36.1	83.0	100.4	1-A
7					37.3	82.3	99.6	
3	.		į	-	36.9	81.8	99 D	1
<u>4    </u>					36.3	83.3	160.8	
<u>5    </u>	$\Psi$	Final	V		36.0	83.4	99.8	
6	<u> </u>	2.1	<u> </u>	<u> </u>	36.1	81.8	99.0	1-AC
IEST LOCA	TION: Proin	10 (17)	<u>12</u>	<u> </u>	500(L)_			

1 20' wast of sit. 12 ' And 10' in from the is so the stope

2 13 ' 1000 of sit. 130' and 15' in from the of sith stope

3 45' wast of sit. 1400' and 25 in from the of out is some

4. 55' wast of sit. 1500' and 20' in from two of south stope

5 60' wast of sit. 100' and 5' in from two of south stope

6 Romasi of Test #7 of Report 8-7-87 in sit. 2200'

			^			U	. Ł	· ·	G	44	Ĭ
	Test Pr	Probe Depth	Jensity Keuni	Censit/ ! Ratio	Density	Manstlide Japan t	("dos sides" (Matric	Para Islandi Ayılı Ç. PÇE	sia can ili. Baszent		
		ප"	4960	Ø.€ ≽ ¹	[!30	2375	0.13	30.00	36.]	83,0	100,1
	2	<u> </u>	4932	0.812	113.0	2441	ዕ'ህ33	30.75	37.3	82.3	99.6
tions	3		5051	0.831	112.0	2-393	0.7/8	30.25	36.9	81.3	99.0
e nocu	4		4895	0.806	1.3,5	2391	ું 1/8	30.25	363	83.3	100.8
ដ	15		5085	0.834	111.5	2296	0 689	29,00	56.0	87.5	19.8
	ام ا		5275	3680	11125	2280	064	28.75	36.1	81.8	99.0

ACTES DENSITES SHOWN LES per plac febt WATER CONTENT Per Consider weight PERCENT COMPACTION Bases on Density Bay

EHOSSI COMPACTON, Bases to income day density adjaced on paings; validating by sec. ID number F Siliwa yewa Makabu

3 BASTOLIMAE 4 Sucease 5 Sid Camero ATTRUM - GOTTS CONFER WITH SPECIALONS. Pure transportation accompany.

R I ROMONIY CHON RECURRED DI TODI BOMILEN RECOMFACTION

D. mantaning in excess of special to a said and a special

BEHARE



#### REPORT OF FIELD COMPACTION TESTS

San Miguel Coop. SMCIA Brd DATE **8**-10-87 CUR AFPORT NO 311-OMC 1330 TEST DATA: 머사가나그리 M PLACE .rusr ₩a SOUR MATES ECHTENE PERIODAL COMPACIACA SEACULA STRUCTURE DAY OUNSEN COMMEN: * A) MBI A 93,4 8-10 89 36.5 81.3 82.6 ከከልላ 81.5 3*6-1* 98.6 36.4 **21.** 0 9e.o lη 815 98.6 37.2 80. T 94.4 100.8 FROM 2001 5 8 30 N. FROM top of 22001 15 N. Frum toe of 500, 22001 Por Top Eam toe of enth from top of softh close J**5**⊘⊙′ หลาร<mark>ิรั</mark>นิทย์ ใช้กับรับมาย ให้อริง coกับ Probe Density est Consity Net Doots <u>Densilv</u> Densitor Ratio Count ത്രമാ cateat 98. D 8250 :358 2365 29.75 36.5 8 [.354 8 223 2338 0.702 18.6 а 98,0 10.704 . 362 29.50 92H Ò 98.6 235110.706 29,75 36.5 .355 ४२३७ m.  $\mathfrak{d}$ 2375,0.713 110.5 30.00 1130 2410 0.723 30.25 941.0040

CENSITIES SHOWN LESS personal Sent WAREN CONSENT Per Descouldly wegan PSIGNAL COMPACTION, Satisfaction may make by density obtained an sample and cated by solf Uinchber

T mily valument 2 B ChERT 3 DAGE COURSE 4 SURDAGE 5 ST CAMPAN 5 OTHER

TAST RESET DECOYPOY WITH SI RECOMPACTION FROM FROM TAST IS ARREST RECOMPACTION

0. mula large largeress of specif E. Mailined balance speech

Bertagen.

OMPUTEITONS



### REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

PROJECT

SMC IA POND

8-11-87

NEW PROCTOR

QUAREPORT NO 311-

165r MO	DATE	CEPTH CLEV	SCN 10 NUMBER	MANUALU LAG DAY DE NAITY	PA1CR CONTENT	PH PLACE CPHY CENSURY	PER CENT COMMOTION	ECUPTAL 4
1	8-11-87	GRADE	2	82.6	36.5	813	98.4	
2	<u> </u>	1st LA			361	83.0	100.4	
3		2nd US	1		36.5	83.8	100.2	$\sqrt{}$
_			ļ	<u> </u>				
[	· 		_			! 	<u> </u>	
	CATION: Do	N) E173		AT STAL				

30' West of STA 1000' and 10'N from toe of south slope west of STA. 1000' and 20'N. FROM toe of south STA 1000' and 30'N, FROM toe of Soit

		— - <del>"</del> —-	В.		D	<u>-</u>			Н	. <u> </u>
Test No	Probe Denth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moistore PCF	Water Content	Density	Percent Compactio
<u> </u>	<i>ଞି"</i>	5165	0.850	III-o	2355	0707	29.75	36.5	81.3	98.4
2		4905	0.807	113.0	7380	0.714	30,00	36.1	83,0	100.4
3	V	493,2	0.812	113,0	2391	0.418	30.25	36.5	8,53	100.2
L					<u> </u>	<u> </u>		7		
	[	T	7				<u></u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<del>                                     </del>	<del>                                     </del>			<del> </del> -	<del> </del>	<u></u> .—	··

NOTES DENSITIES SHOWN LOS SM cubic loar WATER CONTENT Pri Cont of dry weight PERCENT COMPACTION Rased on manager day

density obtained on pamps, inclicated by sol (II) number

**MASE COURSE** SUBBASE

SCILICENSINT

TEST HESULTS COMPLY WITH SPECIFICATION'S

A RECOMPACTION REQUIRED. C TEST IS AFTER RECOVERED ON

D. MALNEWS IN ASSESS OF EQUALS

3. Motors to below apace



Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

1-110 FOR San Miguel Coop

PROJECT SMCIA POND

DATE 8-12-87

NEW PROCTOR OUR HEPORT NO. 311-

TEST D	ATA: OM.C.	33.0				•		···································
105f NO	34-1	otata srev	SALIB MUMBER	04-4450 D0 007 D0 NS/11	Watt d COATENS	MALACE OFW DENCTY	PERICENS COMPACIEN	COMMENT.
<u> </u>	8-12-87	GRADE	[ ]	82.6	36.0	818	99.0	1~ Å
1				[	37.2	79.8	96,6	
3	i				36.4	81.0	98.0	
4				$\perp$	36.2	79.3	96.0	
5_					36.4	795	96.2	
6	CATION: &	15.5 51.0		W	34.0	81.3	98.4	

TEST LOCATION: EAST SLOPE STA. 0 - 100' Tond Floor STA. 300-700'

1 20' S. OF N.E. COMPAR IN STA. O-130' 2nd 20' from bottom of Slope

- 25' N. OF SE CORPAR IN STA. O-130' 2nd 30' from bottom of Six

3 20' WIST of STA 300' and 20'N. From toe of soth slope

4 45 west of STA 400' and 25'N From the of south slope

5 65' WAST OF STA SUU' and 5'N. FROM top of South slope

6 30'West of STA 600 and 10'N. FROM too of south slope

		H	Б	L L		_ <del></del> <del></del>	<del>_ ' '</del> ~ '	. 3(/4///	1 21006	<del></del>
lest !!n		Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio		Nater Content		Percent Compattic
1	8"	5260	0.866	110.5	2295	0.689	28:15	36.0	81.8	99.0
2		5376	0.885	109.5	236i	0.708	29.75	37.2	79.8	96.6
,3		5236	0.862	110.5	2345	о.704	29.50	36,4	81.0	98.0
4		5586	0.919	0.80	2283	0,686	28.75	36.2	779.3	96.0
15		5474	0901	[08.5	2299	0.690	29.00	36.4	79.5	96.2
6	$\mathbb{V}_{\mathbb{L}}$	5265	0.867	110,5	2330	0.699	29.25	36.0	81.3	984

NOTES BENSITES SHOWN Ltd. per crobbition:
WATER CONTENT Per Control divisionship percent of COMPACTION Resent or important day sent tylenborn on a known indicated by sent to number.

- FILL MATERIAL
- 3 BASH CORRECT
  4 SUBBASE
  5 SOIL CEMENT

OTHER

- A TEST HESDITS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED C TEST-S AFTER RECOMPACTION
- D. motorner in career of agent

& Massente balan specie



Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

OFOR SAN Miguel Coop

PROJECT SMC IA POND

DATE 8-13-87 NEW PROCTOR OLD REPORT NO 311-

TEST D	ATA: OMC	33.0		- · <del></del>			—·— . <del></del>
PEST MC	MA16	ELEV S	OC. TO LAB ORY WILL H DENVITY	A7146 7031400	SHIPLACE BRY DENSITY	PERICENT COMPACION	COMMENT *
	8-13-81	Istlift	( 82.6	36.0	80.3	97.2	1-A
7		<u> </u>	)	36.1	80.5	97.5	
3		2nd Lift		31.7	79.8	96.6	[
4	<u> </u>			39.9	802	97.0	
5		Final		36.5	81.9	99.0	
6	V	<u> </u>	(	36.3	82.5	99.8	
TEST LO	CATION: EA	ST SLOPS	STF. 0-10	0/ 1/=-	4 : ¹⁴ :2인 두 <b>R</b>	my Fare	514. 1500 100V
	20'5 of	N.E. CORN	CR 2rd 20	1 Epm 1	etem o	Fslose	(EAST SLOVE)
اِ دا	20' N. of	<u>CE, CORNE</u>	F 2nd 39	1 Farm	iouttom.	of 5 1006	2 (EAST 520)
13	40' IVEST C	of sigh. 4.	o' and an	MN. From	ite o	of south	5/000
4	bo'west.	of 5th. 15	500' and 3	20' N. GX	on toe	of south	slope
5	35 West	of 51%,	1500' and	15'N. FR	an toe	of sout	a slove
6	25' Hrst	<u>र्ज झ# 1</u>	oco' and	10'N, Fe.	من لم سمر	of soit	1 5 lone
	H	ti e	· ·	D			13

		. н	þ	ų.	D	E	F	G	H	1
Test No.	Probe Neath	Density Count	Density Ratio	Ket   Density	Maisture Count	Molsture: Ratio	Moisture PÇF	Water Content	Dansity	Percent Comnætic
	8"	5438	0.845	109.0	2385	0,686	28/15	36.0	gc.3	97.2
2		53.08	0.874	1095	2299	0,690	29,00	36.1	80.5	97.5
.3		5340	0.817	109.5	2361	0.109	29.75	37.2	77.8	966
4	V	5)86	0. 854	110.5	2397	0.1120	26.00	37.7	80.2	97.0
٤	6"	8033	1.322	113 0	2398	0.720	30.25	36.9	81.8	99.0
i v	S DENIGRO	1936	1.306	112.5	2365	l	30.00	36.3	82.5	91.8
NOT	WATER	S SHOWN 155 CONTENT Per (	Devices residents	ni .		LMATERIAL " CKÉTL	A TESTINES B RECOMP	DUTS COMPLY:	wa"n Saech C. Bo Mai	AT CNS

NOTES DENSITIES SHOWN also per cook look
WATER CONTENT Per Cent of dry weight
PEHCENT COMPACION Based on internatingly
Graphy obtained on samply violetted by
soul to number

² BACKFIL 3 BASE COURSE 4 SUBHASE 5 SOIL COMENT

A TEST ACSULTS COMPLY WITH SPECIF CATIONS
B RECOMPACTION PEOLISHO (CT)
C TEST IS ACTURE COMPACTION (CT)
V. C. Methode (CARACAC CT) CACCA
B. STURE AND RECOMPACTION
B. STURE AND RESIDENT

F OTHER



Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

Migrel Coop

PROJECT. SMIC. TA POND

DATE 9-13-87

NEW PROCTOR

OUR REPORT NO .

tes: NG	DEFL	OFPTH	SOL D	LAB DEN DEWOLA	COMMENS MELEN	IN PLACE EINT EINSSETT	PERICUM COMPACTION	COuntries
<u> </u>	8-13-87	ISTLIFF		82.6	36.3	81.8	99.0	1-A
8	<u> </u>		2		37.	90.8	17, 2	
વે			) [		37.6	9 1	47,5	
1.2		<u> </u>	$\Delta$	, <u> </u>	<u> </u>	9. 1	974	
<u> </u>		G8294			38.5	$g_{ij}$	4 - 1	— ; ·——··
2		ISTLE	1	300-760	36%	8112	0.	<del>.</del>

20' West of 501. 300' And 20" 1. From top or 50 of 571. 4001 200 3 101 From the of std sour And

	<del></del>		ь	L	Ď.	E	` F	G	Ħ	<u></u>
iest Lo.	Probe Cepth	Density Count	Density Ratio	Wet Density	Maistare Count	Moisture Ratio	Moisture PCF	Water Content	Ory Censity	Percent Compatit
7	8"	5113	0.845	111.5	Z <b>5</b> 30	0.679	2995	36.3	81.8	99.0
8		4897	0.806	113.5	2424	840.0	30.75	37.1	82.8	100.2
,9		52.22.	0.860	110.5	2395	0.919	30.25	37.6	80.3	97.2
10		5265	0.847	110.5	2375	0.713	30.00	37.2	80,5	97.4
$1n_{\parallel}$		5165	0.8કર્	111.0	2431	0.730	34, 15	38.2.	&c.3	97.2
112	W.	507]	0.835	112.6	2467	0.741	3:00	38. j.	81.0	98.0

NOTES DENSITES SHOWN Les per cuardioes WATER CONTENT Per Cent of day weight PERCENT COMPACTION Based on maximum dry density obtained on sample endicated by see ID number

FILE MATERIAL BACKFILL

BASH COURSE SUBBASE

SOIL CHUENT OTHER

TEST RESULTS COMPLY WITH SPECIFICATIONS PECUMPACTION REQUIRED.

C TEST IS ASTER RECOMPACTION

D. Molecure in mass of specie

the Molinies today apara



Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

TED FOR San Migrel Coop

PROJECT: SMC IA POND

e-14-87 DATE

QUE REPORT NO 311-

No.   Depth   Count   Ratio   Density   Count   Ratio   PCF   Content   Density   Compact	F	7	2 7)		e= ,	<del></del>	· <del></del>	<u></u>			<del></del> .	· ,=
1 8-14-87 2nd Lift   82.6   36.5   82.8   100.2   1-A   2   2   2   2   2   2   2   2   2	*E31	<del></del>	آ	****		L40 0017	welf	C,   0	nv   r		CQuartery *	1
31.1 82.7 100.1  31.1 82.7 100.1  31.1 82.7 100.1  31.1 82.7 100.1  31.5 825 87.8  4 36.0 82.8 1002  5 36.6 80.5 97.4  6 37.2 79.8 96.6  1 20' West of str 300° Tw') (st.) 980') (st. 200')  2 60' West of str 400' 2nd 25'N. 0 - 50th slow:  3 60' West of str 400' 2nd 25'N. 0 - 50th slow:  4 80' West of str 600' 2nd 40' N. of 50th slow:  5 25' West of str 600' 2nd 5' N. of 50th slow:  5 25' West of str 600' 2nd 10' N. of 50th slowe  6 35' West of str 800' 2nd 10' N. of 50th slove  8 1 80' West of str 800' 2nd 10' N. of 50th slove  8 25' West of str 800' 2nd 10' N. of 50th slove  1 80' West of str 800' 2nd 10' N. of 50th slove  1 80' West of str 800' 2nd 10' N. of 50th slove  2 1 80' West of str 800' 2nd 10' N. of 50th slove  2 25' West of str 800' 2nd 10' N. of 50th slove  2 36.5 82.8 100.3  2 4917 0.809 113.0 2377 0.730 30.25 36.5 82.8 100.3  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 82.8 100.3  5 5 5265 0.867 110.0 2332 0.700 29.50 36.6 80.5 97.8	ſ	8-14	-87	and we	7	T	36.			0.2		
36.0 82.8 1002  36.6 80.5 97.4  6	2		<u>_</u>		)		- 1	————— .		101		
G			[		5	┇	37.	5 82	5 9	1.8		
6   GRADS   W 37.2 79.8 96.6   EST LOCATION: POINT FLOOR (SCA. 300-TW) (SCA. 300') (ST. SON')    1 20' WCST OF STA 302' 21 20'N FRONTE 2" SONTH STORE:  2 36' WCST OF STA SCO' 21 40'N OF SONTH STORE:  4 80' WCST OF STA 600' 21 40'N OF SONTH STORE:  5 25' WCST OF STA 600' 21 40'N OF SONTH STORE:  6 35' WCST OF STA 600' 21 40'N OF SONTH STORE:  6 35' WCST OF STA 600' 21 40'N OF SONTH STORE:  7 35' WCST OF STA 600' 21 40'N OF SONTH STORE:  8 25' WCST OF STA 800' 21 40'N OF SONTH STORE:  8 25' WCST OF STA 800' 21 40'N OF SONTH STORE:  9 25' WCST OF STA 800' 21 40'N OF SONTH STORE:  1 8" 4917 0-809 113.0 2371 0.720 30.25 36.5 82.8 100.3  2 4890 0.805 113.5 2435 0.731 30.75 37.1 82.7 100.  3 4890 0.805 113.5 2461 0.739 31.00 37.5 82.5 99.8  4 498 0.820 112.5 2370 0.711 29.75 36.0 82.8 100.3  5 5 5265 0.867 110.0 2332 0.700 29.50 36.6 80.5 97.8					/	·} <b>-</b>	36.		<del>, _ 1                                  </del>	—·· <b>-</b> —	<u> </u>	
1 20' West of strand' and 20' N. fronte of sorth slowers  35' West of strand' and 25' N. of sorth slowers  3 60' West of strand' and 25' N. of sorth slowers  4 80' West of strand' and 10' N. of sorth slover  5 25' West of strand' and 10' N. of sorth slover  6 35' West of strand' and 30' N. of sorth slover  8 Probe Density Density Net Moisture Moisture Moisture Nature Pater  1 8" 4917 0.809 113.0 2371 0.720 30.25 36.5 82.8 100.3  2 4890 0.805 113.5 2435 0.731 30.75 37.1 82.7 100.3  4990 0.805 113.5 2461 0.739 31.00 37.5 82.5 99.8  40 4981 0.820 1125 2370 0.711 29.75 36.0 82.8 100.3  5 5 5265 0.867 110.0 2332 0.700 29.50 36.6 80.5 97.8	45			_₩	4	$\perp \perp$	36.	<u>6   80</u>			<u> </u>	
1 20' West of STA 301' 21' 20' N. fronte 2+ 5. th slots  7 35' West of STA 500' 2nd 25' N. of 50th close  3 60' West of STA 500' 2nd 40' N. of 50th close  4 80' West of STA 600' 2nd 5' N. of 50th slope  5 25' West of STA 900' 2nd 10' N. of 5. th 5/20e  6 35' West of STA 800' 2nd 10' N. of 5. th 5/20e  1 8' West of STA 801' 2nd 30' N. of 50th slope  1 8" 4917 0.809 113.0 2371 0.720 30.25 36.5 82.8 100.3  2 4890 0.805 113.5 2435 0.731 30.75 37.1 82.7 100.  3 4990 0.805 113.5 2436 0.739 31.00 37.5 82.5 99.8  4 4981 0.820 1125 2370 0.711 29.75 36.0 82.8 100.5  5 5 5 5265 0.867 110.0 2332 0.700 29.50 36.6 80.5 97.8	<b>6</b>	L			4	<u>_</u> _		<del> </del>				
7 35' west of stance and 25'N. 0- south slove.  3 60' west of stance and 40' N. of south slope.  4 80' west of stance and 5' N. of south slope.  5 25' west of stance and 10' N. of south slope.  6 35' west of stance and 30' N. of south slope.  6 35' west of stance and 30' N. of south slope.  8 Probe Density Density Wet Moisture Posture Posture Nature Density Density Density Density Count Ratio PCF Content Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Density Densit	1			_			,			ī	<u> </u>	
3 60' vest of sta son' and 40' N. of south close. 4 80' vest of sta 600' and 5' N. of south slope. 5 25' vest of stagon' and 10' N. of south slope. 6 35' vest of stagon' and 30' N. of south slope.  Best Probe Density Density Net. Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moisture Moistur												– . – ¦
4 80' West of STA. 600' and 5' N. of South Slope.  5 25' West of STA. 800' and 10' N. of s. th 5/200  b 35' Nest of STA. 801' and 30' N. of s. th 5/200  Best Probe Density Density Not Moisture Moisture Moisture Nature Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF Content Density Common Nation PCF	2,										<u>° 0-≥.</u> / •	'
5 25' West of Str. 900' and 10' N. of such slove    35' West of Str. 801' and 30' N. of such slove   1											<u> </u>	
b 35' Nest of STA.801' and 30' N. of south slove    Probe   Density   Density   Wet   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Mo	5			_	•						,	
Probe   Density   Density   Wet   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture   Moisture	6	351	_						r	1 .	1	
No.   Depth   Count   Ratio   Density   Count   Ratio   PCF   Content   Density   Compact			A			<u> </u>	D	E	F	Ģ	Ĥ	I
3       4865       0.801       113.5       2435       0.731       30.75       37.1       82.7       100.         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       100.3         5       5265       0.867       110.0       2332       0.700       29.50       36.6       80.5       97.8		Depth_									-	Percén Comp <b>⊲</b> (
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 82.8 100.3 5 5 5265 0.869 110.0 2332 0.700 29.50 36.6 80.5 97.8	1	8"	4910	1 0.8	09	1(3.0	2371	0.720	30.25	36.5	82.8	100.2
3 4890 0.805 113.5 2461 0.739 31.00 37.5 82.5 99.8 4 4981 0.820 1125 2370 0.711 29.75 36.0 82.8 100.6 5 5 5265 0.869 110.0 2332 0.700 29.50 36.6 80.5 97.8	٦		486	5 0.8	01	113.5	2435	0.731	30:15	37.1	82.7	00.
5 5265 0.867 110.0 2332 0.700 29.50 36.6 80.5 97.	3				20	113.5	i	[	31.00	37,5	82.5	99,8
<u> </u>	4		498	$\beta \mid 0.8.$	20	1125	2370	0.711	29.75	36.0	87.8	100.2
	5	آ ا	520	5 0.8	67	L		0.700	29.5	36.6	80.5	97,
6 V 5314 0.875 109.5 2356 0.707 29.75 37.2 79.8 96.6	[ جؤ	V	5314	1 0.8	75	109.5	2356	0.707	29.79	37.2	79.8	96.6

NOTES DEVETES SHOWN LES per concréon WATER CONTENT Per Cors of dry weight PERCENT COMPACTION. Bised on maximum dry density obtained on sample indicated by sol II) number

FILE MATERIAL BACXFILE

3 BASE COURSE

4 SUBBASE SCILICEMENT

A TAST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED

C TESTIS AFTER RECOMPACTION it their the secret of speed the sylvationer to the part of the second

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### REPORT OF FIELD COMPACTION TESTS

OFOR Sar Miguel Coop

PROJECT. SMC IA POND

TEST DATA:

NEW PROCTOR OUR REPORT NO. 315

IE\$I	UATA:	55,0										
PEST MG	041	, CEO	E.EV	SOI: KO MUYUU,9	DS-251A FAR DIA ETTEROLE	· 1 .	WAFER DESTRICT	N 15.4 049 04.55	1 170	CENS MCT-CH	COAMENL .	$\overline{}$
7	8-14	87 G	RADE		82.6	2	7.1	82	7 10.	0.1	Î-A	
8	$\perp \downarrow$	15	1	$\Delta$		3	8,4	82	.0 9	9.2		
9	1		<u>/                                    </u>	_)		_   -	6.7	83		ـ أحل		
10	ļ		<u>, d</u>		<u> </u>		<u>6.3</u>	81.		3.4		
11	<u> </u>		2	$\perp$		3	61	83	0 100	2.4		
10	OCATION	<u> </u>	nat		W_	l	59	83	0 10	0.4	$\Psi$	]
L	<del></del>	_ Port	Frook -	(5	<u>ra. 700</u>		_	— <i>,</i>			·· . <u></u> -	
1_	20'	Wrs F	0[-	5 <u>7,4</u>	$T_0\phi^2$	ard	<u>201 ×</u>	1, of	<u>50,44</u>	5/00	€	
] 8	40'	Wrst.	<u>of</u>	574.	7001	and	35	'N. C	)f <u>5001</u>	4 5/6	pe	,
<b></b> -	40'	<u>west,</u> i	٥۴ <u>.</u>	573.	BUC!	ard.	51	N. 0	f som	ŀh ≤	lose	
10	301	V/P3+	of	STA	9001	and			of 50.			
#	<u>  20'</u>	West.	<u>o</u> F.	5 <u>17.</u>	8001	and	,		0F 5	- 1	- 11	—-j
12	701	west	<u> 6</u>	<u>51</u> /	1,9001	and		,		W.T.	Slope	
	<del></del>	. A	ь		<u> </u>	D		<u>E</u> _	F	Ğ	, н	Ţ.
iest No.		Density Count	Densit Ratio		Wet Density	Moistu Count	re Not: Rat	sture i tio	Moisture PCF	Conten	ury Density	Percent Compacti
7	8"	4880	0.80	3	113.5	243	S 0'	731	30.75	37.	1 82.7	100.
8		4899	0.80	6	113.5	249	0 0.	747 [	31.50	38.	4 820	99.2
.9		4967	0.8	8	112.5	240	0 0.	720	30.25	36.	7 823	99.6
			,									

NOTES THUSTIES SHOWN to, per cubic tool WATER CONTENT Por Cant of try weight PERCENT COMPACTION, Based on maximum Gy density obtained on Spreak managed by Sol Dimmber

0.844

0.811

FILL MATERIAL BACKFILL BASH COURSE

0.715

0.70i

**SUBBASE** SCIL CEMENT

2381

2382

11a.5

A TEST RESULTS COMPLY WITH SPECIF CATIONS

8 RECOMPACTION REQUIRED 66 12

C TEST SAFISH RECOMPACTION \$3.2 G

H. Marijana Salpo specio

36.1

30.00

30.00

10



### REPORT OF FIELD COMPACTION TESTS

.. STEO FOR SAN Myvel Coop

PROJECT: SAC IA POND

DATE 8-17-81 NEI

NEW PROCTOR

OUTH REPORT NO 311

		141	_ _	L KTICLON-		511-				
TEST D	ATA: OBLO							<del></del>		
1657 40	GA14	OKPEN ELEY	MANAGE A	EARTAJE LER (904 OERSJEY	MATEA COOFME	erinjace Ber Obespay	PERIODY COMPACTION	COMMENT.		
<u> </u>	8-11-81	10-11-1		82.4	36.2	80.8	97.8	J-A		
2	<u>                                       </u>	<u> </u>	$\mathcal{L}$		38.3	78.8	<u> 95.3</u>			
3_					37.5	890	96.8			
4	ļ <b>. ļ</b>	22/10	$\perp$		38.5	19,8	96.6			
[ ]		[			36.1	79.7	96.4			
6	W	<u> </u>		<u> </u>		80,5	97.4	V		
TEST LO				<u> </u>						
<u>                                     </u>	20' West	- of	573 J	and and	<u>f 10'N</u>	<u> چې د</u>	<u>wth 5</u>	boe		
_	60 WAST	6F :	54 <u>A</u> _	13001 2r	d 15/	N. 07 5	500th 3	s love		
3	30 WST	of s	<u> 14.1</u>	4001 21	<u> 35°</u>	<u>(v. of s</u>	south	slope		
Ψ 	1 70 West of 511: 1200' and 45'N, of south slope									
5	10' WEST	1 of	55%	1300' as	d 51	N. OF.	South_	slope		
[6]	851 WM	(al-	511.	1400 2	nd 15	N. OF	500th	slope		
	A			•	D	E 6	÷ (	3 ' fi		
iest :	Probe  Densid Depth  Count	y Densit	y [ ]	√eΣ <b>P</b> loi: Density Cou	sture Mo: int	stu <del>rie (M</del> ofis Stoji (1905	ture ka e Cont	ent Density Com		

					v	ם	£	f	G '	Ħ	1
	251; 20.	Depth	Coupt	Density Ratio	We: Density			Moistare por	waler Content	Density	Percen Compact
Į	-	$\mathcal{E}_{t_1}$	48.50	0.902	110,0	2513	o.724	29.25	36.2	80.8	97.8
	ጔ		4331	0.919	109.0	2633	0.749	30.25	38,3	18.8	95.3
Į.	3		4221	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
	$\zeta_{\underline{}}$		4373	0.928	109.0	2539	0.722	29.25	36.7	79.7	96.4
Ţ	6 NOT	ES DENSIRE	4200		110.5		0.740	30.00	37.2		97.4

NOTES OF NSTRES SHOWN LOS per page loss WATER CONTENT For Crop of dry weight

PERCENT COMPACTION (Based on inflam an day sonsily obtained on sample indicating by

P BAÇKERL B BASE COUASE N SUGBASE A 1881 RESEL SCOMPLY WITH SPECIFICATION B PECOMPACTION REQUIRED 4711 C TASTIS ASTER RECOMPACTION 3512

5 SOM TEMEN

the branchisme to say a section

Computation



## HTOTESSIONAL Service Industries, Inc.

Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

..... San Mique Coop

PROJECT SM4 IA PONC

DATE 8-17-81 NEW PROCTOR DUR REPCATING 311-

TEST D	ATA: 33.0					·, ····त-ह.		<del></del> ;		
rest NO	0411	DEULH EVEN	50% ID (MU4864)	MAXAMAM LAB CAT CENSIO	WEFEH CONFEST	DEPARTA Only Muchael	ALM CENT COMPACTION	ECONTRA		
7	8-17-87	Final		826	36.9	81.8	99.0	1-A		
8_		'	/		36.5	81.3	98.4			
9		! !		-	37.0	810	98.0			
10					37.6	81.1	98.1			
11		_ļ	2	}	38.0	91.5	98.6			
12	V	$oxed{U}_{-}$		. V	36.0	820	99.2	V		
TEST LO	CATION: $D_{i,k}$	<u>v</u>	ર /	5171.700	300 + 760	<u> </u>	20)			
7 10' west of station and 20'N. of the slave										
Q_	60' Wes	70 to	STA.	300 an	d. 10'N	· 04 -	<u> يرسم</u>	Shoe.		
La	25 1 1.150			مال ددید		, 40	سسدند. برید اسلم			

4 60' West of STA. 700 and 10'N. Of 5 5000.

4 25' West of STA. 400 and 45'N. OF 507' 51000.

10 55' West of STA. 500 and 25'N. OF 507' 51000.

11 65' West of STA. 600 and 5'N. OF 507' 51000.

12 15' West of 511.900' and 35'N. Of south slow

	_	A	b	U	D	. E	F	G	H	<u> </u>
Test Mo.	Probe Neath	Density Count	Density Natio	Wet Tensity	Moisture Count	Moisture Ratio		vater Content	Ory Bensity	Percent Compat6
7	6"	6355	1-348	112.0	260/	0.742	30.25	36.9	81.8	99.0
8		6431	1.365	{14.0	2582	0.735	29.75	36.5	81.3	98.4
9		6474	1.374	111.0	2590	0.737	30.00	37.0	810	98.0
to	<u> </u>	6378	1,353	111.5	2635	0.150	30.50	31.6	81.1	98.1
[n]		6299	1.337	1125	2671	0.160	31.00	38.0	81.5	98.6
سريا	W	64/0	1.360	111.5	2556	0.727	29.50	36.0	82.0	99.7

NOTES DENSITIES SHOWN Libs does code loss WATER CONTENT Per Cent of day weight PERCENT COMPACTION Based on materials day density estimated on sample indicates by sould matebox.

I FILL MATERIAL

2 BACKFILL 3 BASE COMBSE

SUBBASE
 SOIL CEMENT

A TEST RESULTS COMPLY WITH SPECIF CALCUS

8 RECOMPACTION REQUIRED 47/11 C. TEST IS AT THE RECOMPACTION 35/14-

in marking the success of special in the state water

Brissaue.



# Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

=0 FOR San Miguel Coop

PHOJECT: SMCIAPOND

: <b>Э :                                 </b>	ATA: 33.0	6:CV	ī ī			th PLACE	<del></del>	
<b>M</b> O	3A-C	DELLIN	NUMBER NUMBER	LABORY OCHSETY	Mare H CG~re Ma	EPY OCASITY	PEP CENT WOWTSAMOD	CÇanını kır *
3	8-17-81	GRADE	4	82.6	37.4	807	97.6	1-4
4	<u>.                                    </u>			1	38.9	<b>8</b> 0,2-	GTC	
5		$\Psi$	<u> </u>		340	80.3	939	
6		[51]	171		36.8	80.8	97.8	
$\mathcal{I}$			<u> </u>		39.4	785	35.0	_
8		$\mathbb{A}_{\mathbb{A}}$	ζ]	V	36,4	803	97.2	
1 1	CATION: PONTE	_		D = 3001	<i>)</i>		 	
	20' wrst 0							
_+	<u> 351 west</u>	·-					11.70 Sing	<i>℃</i>
<u>5  </u>	45' 11-5+	<u>' ol' _                                 </u>	1A. 2	200/ 3:	<u> </u>	<u> 20 - 08</u>	<u> 4. 7. </u>	<u>5h)2</u>
6.	<u>10' west</u>			0-1001 3				dose
7	40' West	<u> </u>	514	1001 31	<u>d 51,</u>	1 34 50	oth 5	ی خو
8	15 / Wes :	t of	514	2001 2	rd 15	N. of	50012	Slappe
	Ą	۵			D 1	E 1	G	

	15t 1n_	Probe Denth		Censity Ratio	Wet _Density		Ratio	Moisture PCF	water Content	Ury Density	Percent Compacti
L	13	8"	4136	0.877	111.0	2620	0.44%	30.25	37.4	80.7	97.6
	14		4092	0.୫୯୫	101.5	2695	0.767	31.25	389	80.2	97.0
	5		4216	0.894	110.0	2 <b>5</b> 81	0.134	29.75	37.0	80.3	97.2
. [	16		4177	0.886	110.5	2577	0.733	29.75	36.8	80.8	978
ļ	17_		4285	0.909	109.5	2687	0.765	31.00	39.4	78.5	95.0
L	16	W.	4300	0.912	1095	2534	0.721	29.25	36.4	80.3	97.0

NOTES DENGITES SHOWN LDS OF CLIDE FOOL WATER CONTENT PO CAN old dry which PERCENT COMPACTORY BASES ON FRANCHING DRY density oblighed on sample indicated by sol (Dinumber

BEHABUP.

C. T. WINTER IN PREMER OF SPECS B. W. Alfrice Ballon William

FILL MATERIAL Z BACKFUL

A 1987 RESOLUTE COMPLY WITH SPECT CA 2008 "
B RECOMPACTION REQUIRED 4711 35 2

³ BASE COURSE 4 SUBBASE 5 SOLCEMENT



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

FOR San Miguel Coop

PROJECT: SMCIA POND

OATE 8-17-87

NEW OPOCTUR

CUR REPORT NO 3/1/

TEST D	ATA: O.M.C.	330				· · <del>=</del>	<del></del> -	·· ——— ·—
1151 MI	ONIE	CABIH	SON, ID HOUSER	MANAGA LAB DA* DEYGE r	COMSER! WATER	M PLACE GMY DC YSITY	PEPICTOR EQUIPACTOR	COWMENT *
11	8-11-81	22/	[7]	82.6	36.0	81.0	98.0	1-A
20	[		1	-	36.3	81.1	98.1	
21	}		}		38.b	78.3	95.0	
22		Fina (			37.0	81.0	980	
23		[	5		38 U	80,8	97.8	
<u>4</u>		_ //	?	V	359	82.7	wil	<del></del>
TESTLO	CATION:	YOUD FL	<u>00</u> ₹	1557.0-	300/)			· <u>×</u>

19 50' west of 511 0-100' 2nd 17' 100' 2000 1000 15' west of 511 200' and 30'N of suth slove 27' 40' west of 511 200' and 30'N of suth slove.

23 15' west of 511 200' and 5'N, of suth slove.

24 30' west of 511 200' and 5'N, of suth slove.

			μ 		Q	E	F	G	H	1
Test Mo.		Density Count	Density Ratio	Wet Density		Moisture Ratio		water Content	Density	Percent Compacti
19	8"	4165	0.884	110.0	2515	0.7%	29.00	36.0	81.0	98.0
$ \mathcal{Q}_{\mathcal{D}} $		4199	0.841	110.5	2560	0.728	29,50	36.3	81.1	98.1
$\mathcal{A}($		440	0.934	1085	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
1	V_	6315	1.340	112.0	2531	0.720	29.25	35.9	82.7	[00]

NOTES DENSITIES SHOWN Los per cube loot water CONTENT Per Cent of dry weight PERCENT COMPACTION Baser on common dry density obtained on simple indicates by said in number.

DESSAU DO C.

FALMATERIAL 2 BACHFAL 3 BASH COURSE

BASH COURSE C SUBBASE SOUCEMENT C-

A TEST RESULTS COMPLY WITH SPECIFICATIONS B PECOMPACTION REQUIRED

C TESTIS AFTCHRESOMPACTION

OF THE MEDICAL CLASSICAL CONTRACTOR

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#### REPORT OF FIELD COMPACTION TESTS

Lar Warel Coop

PROJECT CAP & TAPANE

DATE 8-18 87

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165r 90 :	ONFF	SEP*H C.EV	500 / 0 MJ <b>AN</b> AFR	AMERICA LAB DAY DENSITY	(CAISH)	DE 62114 DAA MANTECE	PERICENT COMPACTION	COMMEN- +
		7 :		-	36€	81.5	98.6	1-4
<u>`</u>		\			30.6	305	97,4	
· .		= .			135.5	800	922	<u> </u>
					$[\beta_{r_{\sigma}}, T]$	32.3	99.4	. 1
	:				383	1105	92.2	
<u> </u>	\\	1 .			370	118.8	153	

ROUSE OF NE CURPOR FULLED FROM 8-100 81 C 201

		_	4	Þ	L L	D	E	F	Ġ	R	I
!	Test No	Probe Death	Density Count	Density Natio	Ket Density	Maisture Count	Moisture Ratio	Moisture PCF	Water Content	Dry Density	⁰ ਦੇ ਜਟੇਦਾ ਹਿਤਜ਼ਹਕਟ
	-	, , , , , , , , , , , , , , , , , , ,	4156	2,837	اري دي	ر در	0.74	7.70 7.70	3 <b>6</b> .0	કી/દ	98.6
,	2_	1,	122	0.345	110.0	25.,	3.777	2950	36.6	80.5	97.4
tīons	,3		6305	1.338	1:3.0	2/5/1	0.737	30.00	36.5	<i>8</i> 2 0	99.3
Computa	1-1-		6290	1.335	1125	2617	0.745	34.25	36.7	823	77.4
ន	5	Ü	4256	0.903	110.0	2640	0.751	30.50	39.3	79.5	96.
:	<u>, 7</u>		7270	J. 906	109.5	2659	0.756		39.0	78.8	15.

NOTES OFNSHIES SHOWN Eth per cabo foot WATER CONTENT Per Cent of the weight PERCENT COMPACTION. Based on Hamman dry gensity obtained on Schole endicated by sul (Dinamber

FAL MATERIAL

BACKFILL BASE COURSE

SUGBASE SOIL CEMENT

TEST HE SQUITS COMPLY WITH SPECIFICATIONS HECCMPACTION REGI, RED

TEST IS AFTER RECOMPACTION O. MAISTURE IN BACKES OF TROCKS C. TRAISTANC Delow spech

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Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

Sar Migori Coop

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CONTRACTOR OUR REPORT NO 31-

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DA15 .	Sinin Ers.	SD. 10 N.:UNITA	LAB DAN DANGEY	COATENT COATENT	M PLACE DAY DENGITY	PEH CENT COMPACION	COMMENT.
1: 51			82.6	36.8	80.7	91.6	
_·	<u>ج</u> .			36,3	87.5	99.8	1
	*			360	82.7	99.5	
		[		36.2	80.0	96.8	
<u> </u>	_!		_	38.8	18.5	95.0	
$-\sqrt{2}$		· ]		39.4	78.6	95.1	V
	DATE:	DATE DEPTH	DATE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE 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20'west of 5th. O-100' and 20' from bitton of slove 40' West of STA. 0-150' AND 50 fr. of the town of show 50' west of STA. 200' and 3' Greatup of store To writ of STA. 300' And 15' From button of store 15' west of STA. 4001 and 201 From top of stope 30' west of STA U-100' and 20' Goth of North slove

			<u></u>	Đ	ر 	D	ε	F	G	H	
	lest in	Probe Benth	Density Count	Density Ratio	Wet Density	Moisture Count	Monsture Ratio		Water Content	Density	Vercen Compe <b>c</b> t
	1/	€	4185	0.838	119.5	2588	0,134	29.75	360	80.7	97.6
	۶	G''	3270	1.330	1132	259J	0.740	30.00	36.3	82.5	99.8
	.इ. <u>.</u> '	~	4195	0.890	153.2	2619	0.745	30.25	36.7	82.2	99,
1		ĺ	4323	0.917	1090	2503	0.712	29.00	36.2	80.0	94.8
>	_	}	7331	0.919	1090	2644	0.152	30.50	38.8	785	95.C
١		V	4273	0.907	1055	2634	0.164	31.00	39.4	78.6	95.1

NOTES DENSITES SHOWN Lbs per cubic soil WATER CONTENT Per Central by weight PERCENT COMPACTION. Based on maximum dry density obtained on sample indicates by sal (Dinumber

- FILL MATERIA. BACKFILL
- BASS COURSE SURBASE
- SOIL CEMENT
- B RECOMPACTION REQUIRED C 16 ST IS AFTER RECOMPACTION
- a. moisture in excess of specs
- E. Meisture balow specs



REPORT OF FIELD COMPACTION TESTS

TESSED FOR San Miguy) Coup

PROJECT SMC IF ROND

OATE 8-16-87

CUP REPORT NO.: 🔝 🕒 -

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TEST D	ата: 73 €							
rest Ho	OA:T	DESEM PTA	SCH NO . NEXMB(A)	Manneyer LAB CHY Ce 45/17	CCA1FMs AVIGN	N MUACE GARY GENGLY	PER CENT COMPACINON	COMMENT.
	8-18-87	12:1	<u>.</u>	ā	33.3	83.2	100.7	]-E
·		C-83	\		32.3	84.3	1000	
				—- <b>-</b>	33.1	63.ባ	101.3	
. ;	<u> </u>		ļ. <u>.</u>		33.3	84.0	(01.6	<u> </u>
•		$\sim$	``		37.5	800	96.8	1-A
	10	Sloval	1	-	37.6	80.3	97.2	$\checkmark$
TEST LO	CATION:	1		-				· <del></del> · ·

Ho' West of STA God and Go's of worth slope +

10' west of STA God and 40's of worth slope +

15' west of STA God and 50's of worth slope +

15' west of STA God and 50's of worth slope +

15' west of STA God and 50's of worth slope

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lest . Mn.	Probe Repth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio		Water Content	Density	Percent Compacti
:3	<del>,</del> ان	4125	0.875	Ma.c	2399	0.683	27,75	33 3	932-	100.7
· ::		4081	0.866	111.5	2364	0.673	27.25	32.3	84.3	02 €
· ·		4041	0.857	1/15	2410	0.686	2275	33.1	83.7	[c].3
1 :		4063	0.862	120	2437	0.693	38.00	33.5	84.0	101.6
7		4217	0.895	1/00	2598	0.739	30.00	34.5	80.0	96.8
િક	V	4153	0.88	110.5	2620	0.746	30.25	37.6	80.3	97.2

NOTES DENSITIES SHOWN Lbs* per runk; loss yyater content. Per Cent of dry weight PERCENT COMPACTION Based on maximum dry gensity obtained on sample edicated by sold to mirrory.

- FILL MATERIAL
- Z BACKAILL 3 BASECQUESE
- 4 SUBBASE
- 5 SOIL CEMENT
- TEST RESULTS COMPLY WITH SPECIFICATIONS.
- B ASCOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- a moisture in excess of specs

E. Maisher balou apecs

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Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

IENTEDFOR SER Mighel Comp

PROJECT SINC TA POND

DAR 9-19-97

OUR REPORT NO 3 1 -

7E57 I	DATA:	33.0		<del></del> :- <del>//=</del>	<del></del> <del></del>			· · · · · · · · · · · · · · · · · · ·	<del></del>	<del>-</del>
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1	3-1	<u>9-8</u> 1 /		82 (	(31) ي	2 33	.5 4:	:	<u>-</u> .	
2	ļ <u>.</u>		$V \square$	- ]	36.	୍ । ୧୯	3.5	2		
13.	.			1	3,5	3 <u>3 -</u>	<u> </u>			
4	<u> </u>	2%	<u> </u>	1	<u>  72                                  </u>	<u>. 30</u>		<u>-   \i</u>	<u>/</u>	
-5	ļ <u> </u>	<u> </u>	<u>64</u> 1. (		<u> </u>	<u> </u>	<u> 3   99</u>	<u> </u>	- <del>[:</del> :	
<u>6</u>	OCATION	1/ 6/		J. W.		<u>ાં  </u> કર્	y. 99.	<u> </u>	<u> </u>	
1 1	-:-	<u>ে স্টেচ</u>	<u> </u>	31 <b>7</b> 11	7 <u>6</u>	<del>-</del>	r Fred	<u>i</u>	. 6 7	
<u> </u>								<u>- 150 (24)</u> - 15 24	- 57 270	î.
<del>~</del>	<u></u>		·	57 57		· ·	20', FR. 10' Froi	<del></del>	<u></u>	1.2 <u>6</u>
i.		- <del> </del>		. <u>3 /</u>	_ <del></del>	<del></del>			<u> </u>	<i>):</i>
3	45	'west	- پر کر	Э. <u></u> Ста	- 122 - 1377 - 3	an (	<u>51, ERON</u> 13' Gas		<u>v</u> (1)	<u> </u>
16	8,9	5 unes	+ 01-	 (3.5)	5201	· • -	23/ fx		<u></u>	· · · · ·
			0		Ð	Ξ ξ	F		11	<u></u>
iest !in	Probe <u>Nepth</u>	Density Count	Density Ratio	Net Roosity	Count_	Ratio	2013 to 1 4 2017	Water Content	Ory Density	Perc Compa
١	i No	- 30	558.0	110.5	3591	ว.ๆรา	30.00	37.2	30.5	99
2)	-	4.77	0.865	1115	2553	0.725	29.50	36.0	82.0	39
		400	0.854	112.0	2600	0.740	30 2.T	36.9	81-8	99
Y.		4322	818-0	109.0	2519	0/1/1	23.00	36.2	80.0	9%
5		42%	1 /	109.5	25 30	0.120	29.25	36.4	30.2	37.
$+\overline{G}$	V.	4/15 #5 \$40% 4 Co	10000	1:1.0	2501	0.7:2	29.00	(	820	99,

NOTES DEVICES SHOW I Use per crisic tide.

WATER CONTENT See Central or warps

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#### REPORT OF FIELD COMPACTION TESTS

San Mignel Comp

PROJECT SMC IAtond

CATE 8-19-87

CURREPORT KO 311 -

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	TEST	PATA- (	7WT 3	33.0	<b></b>	NA) U.O	<u> </u>			_· - · <del></del>		
	HO .	34	Oct.		224 0 6.00003 6.00003	440.000	, Average COALE		lT   1 1 1 1 1	GENT WEFICH	соны <u>, ч</u> - *	
	_!_	3.0	9-87 F	inal	(	୫ଧି :	36	4 79	.5 G	22	-A	
	z	<u> </u>	19	<u>;+  </u>	_/_	1	<u> </u>	9 79	. 8 96	6		
	3		2	rd			38.	1 80	0.0 96			
	1			ril	)		37.	7 79		I		
	4		536	RADE	Τ		374	1 80	.8 97	1.8		·-· ·-
	6	Ϊ		J	7		363	:		12/1	 1	
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	1	30	<u></u>	ΔĒ	-	571 <u>2</u>	318	í .	•	<u>68705</u> 7	afrelia e	
	<u>ج</u>	25	1 4 88 I	- <u>, ;</u>		51 <u>%</u> , 200		'r	_	1. in		- 1
	3	65	. <u>wrs</u> t	- 05	<	Ta. Be	<u>.' ~ ~ ~</u>			403 OF	٠.	
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	6									botte,		
		,	Α	 D			D	<u>∞</u> <del></del> ε	F	Ġ	<u> </u>	I
] ۔	est Mn.		Count Count	Densii Ratio		Wet Density		Moisture Patio	Moistore Per	Water Content	Density	Percen Compact
[	1	Ŝ.	-4-12		-γ		i	<del></del>	<del></del>	36.4	<del>-</del>	96.2
ĺ	2	1	4200	0.80	ii	ાડા	2607	0,142	30,25	31.9	19.8	96.6
	,3		4170	0.88	32	110.5	2631	J. 149	30,50	38.1	80.0	96:8
	4		4263	0.90	i li	1095	2592	0.738	30.00	37.7	79.4	96.1
•	5		4105	0,8	$\eta$	111.0	2617	0.745	30.25	37.4	80.8	97.8
1	6	V	4310	0.91	• •	1095	2528	0.719	29.25	36.3	86.3	97.2
ľ	поп	5 DENSIT	FSISHOWN TE CONTENT Per	Com Cabic Com el das	feet weight	•		MATERIA. CKEST.	A RESTAC	ŠŪCISICOMPUY ACCIXON REGIJA	ATH SPECIFIC	ALICNS

WATER CONTENT Por Control or weight RERCENT COMPACTION Brands on transmission by density obtained on rample legicitied by set (Cinamon)

- BACKES I.
- 3 BASE COURSE
- SUBBASE
- SOIL CEMENT OTHER
- B RECOMPACTION REQUIRED C FEST IS AFTER RECOMPACTION
- 0. mointure in excess of speed

E. Misture balou upeca

BEHARDE



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

TEDFOR San Miguel Coop

PROJECT SMC IA POND

CATE 8-19-87

OUR REPORT NO 3( -

<u>ST D</u>	ATA: 33.()		,					
rcsr No	34-1	DE SUN.	SOL ID ALMUEH	04.0.00 TPC (A: 41.2010	C-Systems martin	M PEACE OFF CENSITY	PFACTY* CDVP+CFQH	COver for "
/	8-19-27	GRADE	(	62.6	38.3	78.8	953	<u></u> _  A
.		115+		i	37.8	81.3	98.4	-· <u> </u>
-	<u> </u>	2r2			35.9	82.5	33,5	
		500	\		3/2,0	83.5	101.0	 
<u> </u>		10-		j	38.1	୧୬୦	96.8	· — · –
.	. V		) ]	V	37.0	803	97.0	- <del> </del>
IT LO	CATION: N	ORTH 5	A)-7-	log" -	300'			

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	est in	Probe Neath	Density Count	Density     Ratio	Net Density		Hoiscure Ratio	M012007.2 PCF	Dater Content	Ury Density	Percen Compact
	f	$g^{i}$	4320	0.917	109.01	2615	3.744	30,25	38.3	119.8	95.1
	2		4040	2 757	1,20	2454	5.75T	30.175	37.8	81,3	୩୫.4
111005	.3	V	4090	0.866	17.5	2516	0.715	2400	35.9	82.5	99.8
COMPACE	4	611	6135	1.302	1:3:5	2603	0 1년!	3000	36.0	83.5	lol.t
ដ	5	8"	4185	0.୫୫୭	110.5	2652	0.755	30.50	38.1	80.0	96.5
	<u>.</u>	V	4207	0.843	110.0	2584	2.735	24.45	37.0	80.3	97.2

NOTES TRASITES SHOWN Los per cure los: WATCH CONTENT Per Good of dry weight PEPCENT COMPACTION Based on majoritor lay density obtained on sample indicated by

density obtained on sample indicated by specific number

FILL MATERIA.

2 BACKOL.

3 BASE CONFISS 4 SUBBASE

5 SOIL CEMENT

A TEST DE JULIS COMPLY WITH SPECIFICATIONS

B RECOMPACTION SECTION PER 41 / TELES

O. Moleture in excess of specs

E. Meisture below trees

_computations



#### REPORT OF FIELD COMPACTION TESTS

EDFOR Sar Miguel Coup

I & PORD

DATE 8- 20-87

CUR REPORT NO. 311 -

Da16 .	Main FIEA	SON D MUMBER	CAR DAY	MATER CONTENT	M MINES ONV M MINES	COMPACTOR	CÓMME 41 T
९-७७-७	Final	)	82.6	35.9	81.8	99.0	J-A
	ls-Lot			36.8	81.5	98.6	
	GRADE :			36.4	80.3	97.2	
		1		36.5	19.5	96.2	
	20416			36.6	0.58	99.2	
V	1517.44	(	$\lambda V$	36.4	81,3	98,4	
		9-70-6 Final Is-LET \$8408 20016 V 15416	9-70-6 Final )   Is-LET (   SPADE     2nd LET (   IstLET (	2-70-e Final ) 82.6 Is-LET ( 284)8 V 1stlet ( )	9-70-8 Final ) 82.6 35.9 15-15 ( 36.8 36.4 36.5 2016 ( 36.6 V 1516 ( ) 36.4	9-70-8 Final ) 82.6 35.9 81.8 1 15-1 cm   36.8 81.5 36.4 80.3 36.6 82.0 V 151.4   W 36.4 81.3	9-70-8 Final ) 82.6 35.9 81.8 99.0 1-5-1 ct ( 36.8 81.5 98.6 36.4 80.3 97.2 36.5 19.5 96.2 20016   36.6 82.0 99.2 V 15124   W 36.4 81.3 98.4

TEST L	OCATION: INCINTIA SIL	<u> </u>
1	raydest of	sie you and to Fear botton of slope
v	20' Kest of	STE-GOO and 20 from bottom of slope
13	65 West of	STA 700 2 Ard 15 From top of slope
나	1 . ,	STA 500' and 30' From top of slove
15.	15' west of	574 400 and 5 From bottom of slope
6	45' West of	STR. 100 and 25' From bottom of slove
	41 11	

٠.							v	Ł	r	G	H	1
	lest No	Proj Den		Density Count	Tensity Ratio	Wet Density	Polsture Count	Moisture Ratio		Nater Conten <b>t</b>	Dry Density	Percen Onoact
		8	3"	4121	0874	111.0	2540	0.723	29.25	35.4	81.8	99.1
	2		_	4088	0.851	111.5	2516	0.139	30,00	36.8	815	98.6
,	.3			4310	0.414	109.5	2531	0.720	29,25	36.4	80.3	977
1	4			4375	0.928	1085	2519	0,711	29.00	36.5	19.5	96
j Šķ	5	\		4039	0.854	112.0	2605	0.741	30.00	36.4	82.0	99.2
1	"مريخ «محقاقت		<u> </u>	4120	0-874	111.0	2572	0.732	29.75	36.4	81.3	୩୫,୮

DENSITIES SHOWN LOS per (now lead WATER CONTENT Per Cent of day weight PERCENT COMPACTION Bused on manuscrip dry density absend on Simply war, and by soi () number

- FILL MATERIAL
- 2 BACKFAL 3 BASE COURSE 4 SL/BBASE
- 5 SOIL CEMENT
- TEST RESULTS COMPLY WITH SPECIFICATIONS
- B. RECOMPACTION REQUIRED
- C. TEST IS AFTER RECOMPACTION
- D. moisture in excess of spees
- 6. Meistire balou areca



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

EDFOR SAN Miguel Coop

PERCENT COMPACTION Based on maximum dry density obtained on sample indicates by soil ID number

PROJECT: SMCIA POND

8-20-87

DUA REPORT NO : 311-

TEST 0	ATA: 3	2.0					<u></u>	- 1 - 1,	<del></del>	
58.54 040	1740	_	ELTY SON C		water confer		- PER C	ENT CTION	CCMME41 *	
[7]	8-20	87 lst	1,64 (	826	35.	8 82	.0 99.	2 1	-AC	
		CR	40E >		35	1 82	.3 99,	6	<u> </u>	
.3					31,	2 81	3 9 <b>8</b>	.4		
<u>  [::</u>	<u> </u>	\\	<u> </u>		37.	8 gd.	5 97	.4	<u> </u>	
		[5]	<u>년원)</u>		34.	·	بمتنستها ربواء وماريحوا	.0 !	<u> </u>	
12	V	14/10	<u>*15,</u>	Y	37.	0 80	7 97	0   0	/	
TEST	OCATION:		<del>-                                    </del>	<u> </u>	<u>!</u>					
12.	Katrot 1   8-18	180m Rep. 1871, ON 3	# <u>.13</u> \$1	A. <u>0-10</u> c	<i>t.</i>	11 1 1	n h	11		
·-	**	r / / / / / ≠ Z,	<i>∄14</i> , Ş1	1. 1001	$b = \mu$	n = n	h	<u> ;                                     </u>		
L±.	- <u>- L.C.</u>	0 0		11.200		$\pi = P$	fi ·	′)		
			#16 5			n = q	n /	· · - <u></u>		
17	25-1	1			,		, of Not	eth slo	ر ج(1)	
1.2	I .		_				of Not		ine.	
	L	н.	8	L	D	E	F	G	H	1
Test Mr_		lensi <b>ty</b> Javn <b>t</b>	Density Ratio	Wet Density		Hoisture Ratio	Moisture PCF	Water Content_	Ory Density	Percen Compact
7	9	4150	0.830	111.0	2519	3.716	29,00	35.8	82.0	99.2
13.	<u> </u>	4102	0.811	17.5	2535	0.7a i	29.25	35.7	82.3	99,6
3		4066	0.863	131.2	2610	0.143	30.25	37.2	81,3	98.4
10		4091	0.868	141.0	2631	0.749	30.50	37.8	80.5	97,4
		4102	0.870	111.5	2645	0,753	30,50	37.6	81.0	98.0
ليا		4212	0.894	110.0	2578	0.734	29.75	37.0	go.Z	97.0
NOTI	WATER C PERCENT de	ONTENT PARK COMPACTION	per cubic faoi ont of dry went i Basen on max on sample wides	ത്വത ർഴ	2 SA( 3 SAS	MATERIAL SEFILE SECOURSE 1845E	В РЕССМР	SULTS DOMPLY ACTION REQUIR FTERRECOMPA	ED +¨	

0. majeture in excess of specs

E. Maisture balow apecs

4 SUBBASE 5 SON CEMENT



#### REPORT OF FIELD COMPACTION TESTS

SMO J **FO**∏

SMCIA BinD

DATE 8-20-87

TEST DATA:

CUR REPORT NO 311

ſ	IEST MO	DATE	. 01410	FLEV SOL X	CF-21A CVI SHIA	WETER COMPEN	## ## ## ## ## ## ## ## ## ## ## ## ##	A 04404C		COMMENT *	
ŀ	13	6.70	·57 /5	191	82.6	37.0	81.	0 93.	0 1-	A	
	jψ		2nd	1164		365	82	0 99.	<u> </u>		
	[5]		lsłl	14 \		37.0	81	7 98.	9 1		
	12				<u> </u>	36.3	3 <b>8</b> 1.	8 99.			
ĺ	11		Fin	)   [		37.	<u>81.</u>	0 98.	0		
	19.	1	7 1	ri <del>ci</del>	$\bigvee$	36.6			$g = \sqrt{3}$	1	
֓֞֞֞֜֝֟֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֟	(E57 LC	CATION:	1 NOSTE	<u> </u>	<u>j C =                                  </u>	<u>no Militoni</u>	<u>) FJ.vC</u>	-STA. C.	<u>- arc. 1</u> f	honin <b>B</b> ol	<u>2€ 57</u> 4 <b>€</b>
	<u>/3</u>	25 !	<u> </u>	<u> ፍተ</u> և	<u>_ <b>৫</b>১০ (</u> ৪	35	2 / Fran-	<u> </u>	<u>اے عہر د</u>	اعجير ل∠ح	- (', <u>v</u> -)
ļ	i#_	ريا <u>اي 3</u>	30.400	<u>ς.τΔ. τ</u>	<u>3 -1351 g</u>	<u>ادے کی '</u>	5. 0° N	ort <u>u S</u>	_عود	Real C	<u>'</u>
L	ا بي	501 W	0 e. H 0	€ <u>sata.</u>	<u>  155′ ′</u>	and 2	<u>5</u> '≤. ο		الم جاعه ح		
	1/2	801	:205 H	35 STA		1 and	35′5	. of No	neth slop	<u>e /                                   </u>	• • •
	[7]	201 h	, + of				رين <b>۽</b> آج	. 6.316	12 Ac = 1	نےور	
	19	F	mest of				15 Cr	in bot		Eslope	2
•		t 1 <del>-</del> -	A	<u></u>	L	D	Ε	F	G	н ′	Ĭ
f	est Ma		Count	Density Ratio	Wet Density		Moisture Ratio	Moisture PCF	Water Content	Ory Density	Compact:
Į	13	ခွ"	40%	0.863	1155	2437	0:J20	30.50	37.6	છા.0	98.0
	14		14.007	0.850	112.0	2603	0.140	30.00	36.5	82.0	99.2
•	15	· · · · · · · · · · · · · · · · · · ·	4635	0.84	1120	2633	0.749	3025	37.0	જાત	98.9
	1 .		4071	0.864	<del></del>	2581	0.134	29,75	36.3	81.8	99.0
ر ا	17		1-115	0.872	111.0	2595	0.738	30.00	37.1	81.0	98.0
Ş	3	V	4316	0.916	109.5	2560	8.cr.0	29.50	36.8	80.8	96.8
Ì.	NOI	ES DENSITY	ES SIMOWN 10%	per conceilout		2 BAX	MATERIAL CREMI	A TEST HEY	OUTS COMPLY	WITH SPECIFIC NED	AIRUNS .

WATER CONSENT. Per Central dry weight PERCENT COMPACTION Based on manner by decising appared to sample indicated by soil ID miniber.

2 BACKFUL 3 BASE COURSE SUPBASE

SOIL CEMENT

B RECOMPACTION REQUIRED C 16ST IS AFTER RECOMPACTION

O, moisture in excess of specs

E. Maisture below specs



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

For San Miquel Coop

SMC IA BUD

8-20-87

OUR REPORT NO . 311-

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	ATA: 33	يح ك			Y	<del></del>					
N3 11.2.	0.11	C4 0-1	677	SOM #7 HUTUNÇÊN	DEA214	CO415.		7 777	CIM"	COMPENT .	
19.	8-20	-87 2.	li _e r	)	82.6	36.	1 81.	5 98.	.b 1	^Ä	
20		<u>. F.</u>	nal			36	79	0 95	5-6		
21				$\perp$	!	311	.2 82	2 99	1.5 1	<u>/</u>	
22		Fu	rá!	2	: 	_ 35	.  83	.2 10	0.7	モ >	←
23	ļ <u>ļ</u> .	12.	456			34.	9 93	3 99	16 V	/ <del>→</del>	<del>-</del>
۲.۲	$\bigvee$		<u> </u>	}		136	્રે∟ કહ	7 97	6 1-	-A	
TEST LO	CCATION:	NOBAH	<u>امیاک</u>	2G.,	STA	1. 16.80	CLUVE.	5-2 -	304		
19	30	Went-	ot	5	5+A B.).	1 13.10	<u>( 3</u> 2	Fx 4	2. 7.	46 5 by	<u></u>
30	Con	13.62	70	( 9	5+4 00.	<u>' är{</u>	15 6	2 <u>0</u> 25 €	10 a1 s	-loge	
11	45	west	05		206 (k)	J and	<u> 154 (</u>	Reports	1100 C	f 5)000	<u>~</u>
22	30	1 6000	10	<u> </u>	CT/ 0	$\gamma \in \mathbb{C}^{M \times K}$	1rd 20	o's, of	13th	slope	
23	40	" W=	<u> 10</u>	<del>-</del>	511.	$\log^L A_i$	1 25	15.0	F North	slope	
24	10	Wes-	<u>t of</u>	<u>-</u>	STA.	2001	ard .	515.0	f North	1 slope	·
		А	, B		Ļ	Ď	Ę	F	Ğ	H [*]	1
Test No.		Density Count	Densi Ratio	ty	ket Density	Moisture Count	Moisture Ratio	PCF	Nater Content	Density	Percent Compactit
19	8*	4097	0.8	10	1 50	2565	0.730	29.50	36.1	81.5	98.6
20	6''	6397	[, 4,	64	1080	2513	0.115	29.00	36.7	79.0	956
21		6215	1.3	9	113.0	2655	อ.ารร	30.75	37.2	82.2	99.5
22	$\checkmark$	6212	1.3	8	112.5	2536	a 722	29.05	35.1	832	100,7
23	8"	4111	0.6	72	14.0	2479	0.711	28.75	34.9	87.3	99.6
	V	4221	0.8	95°	1/0.0	2530		29.25		80.7	97.6
, NOTE	*> PENDING	S SHOWN THE	. p ← cut-c	Hoot		· Fiii	MATERIAL	A TEST HE	SULTS COMPLY	WILLIAM SAFETIMES	- 1 - TA

WATER CONTENT For Control dry weight PERCENT COMPACTON Based on marriage dry Gens ty obtained on sample indicated by suf-ID number

3 BASS COURSE 4 SUBBASE

SOIL CEMENT

A TEST HESULTS COMPLY WITH SE B. RECOMPACTION RECOMPACTION C. TEST IN AFTER RECOMPACTION

a. moisture in excess of specs E. WINISTER BALOW SPECS



REPORT OF FIELD COMPACTION TESTS San Mighel g-21-87 PROCE REPORT NO TEST DATA: MARIOLO LABORA ELEV TESE 504 10 **4558 MED CENT DATE COMMINE DO r DINATA e de la co CONFERE CCAPACTAD 1 **DEMOST** 882 8-21-87 વડડ 30.9 94.2 99, 30-J 7, Gb. 3 TEST LOCATION.  $\mathcal{J}I$ W4.5 Ĵ. 5 (21)% D я ſest Probe Moisture Moisture Moisture Nater Consity Percen Density Ոբոլի Ratio Rensity Count Censity ර්යක්කදේ ( Count Ratio Cantent g''96. 112.02316 0.659 25.50 85.5 чогт 30.9 954 a 4064 111.2 23⁹3 84,2 0.862 0.667 27.00 32.0 Computations 3 26.50 3834 87.5 ひのりろ 0.656 230 J 30.2 96.3 4085 0.861 Ŋζ 2319 26.50 0,660

DENSITIES SHOWN Lbs per cubic loci WATER CONTENT Per Cent of dry weight PERCENT COMPACTION Based on maximum cry density obtained on shook: mocalled by sul 2) number

106

0.862

BACKELL BASE COURSE SURBASE

FILE MAPERIAL

0.ଜ୍ୟେଟ

TEST HESULTS COMPLY WITH SPECIFICATIONS SECOMPACTION RECOIPED. TEST IS AFTER DECOMPACTION

868

D. Moleture in excess of specs B. Malinus below green

24.0

30.0

SOL CEMENT

2207

بهرزانا

111.5



#### REPORT OF FIELD COMPACTION TESTS

11-21 ED FOH SAN Miguel Coops

PROJECT IA BND

DATE 8-21-61

OUR REPORT NO 3([-

TEST O	PATA:	_23.7	_							
165r HO	DeT	06.51	E169 304 10	MAXAGE LAG CD r CCYS/CY	ekarri Odorka		P P P		COMMENT T	
7	8-3	I-g1 🚒	<b>₽</b> ₹1 >	88.2	- 27.	6 87	8 99	5 1-	- <b>ļ</b>	
8		2 nd	(((+	<u> </u>	28	9 87	.3 98	9 1		
ন	ļ ļ		2 ایک	\- <del></del>	30,	0 35	8 97	<u>.2   1</u>		
1.1.2	ļ	<u> </u>  5~4	9500 V	ļ [	2ରୀ	3 97.	7 98	8		
1,	1				28.	$1 \mid 29$	0 98	.le   1		
15	$\bigvee$				30.	<u> </u>	5 96			
TEST L	OCATION:	<u> </u>	F C	<u> 574. 300</u>	<u>'- 600',</u>	<u> </u>	<u>''Q',</u>			
1	3.1	No 2+		S ( A 3,	<u> </u>		<u>, cf Not</u>		<u>∵ε</u>	
1.0	60	1495	t or	571, 4	<u> </u>	<u> 145.</u>	<u>5 52 %</u>	<u> </u>	15124	
19	્	51 WY		STA 5	w' dr	<u> 1,251</u>	<u>S. 2-1</u>	<u> </u>	<u>5/v)e</u>	
17	<u> 25</u>	<u>' WCS</u>	t of	STA 100	10' Br.	<u> 1351</u>	<u>J. 01</u>	NORTI	h 5/012	<
11	<u> 3</u> シ	1 <u>West</u>	<u> </u>	STA. 70	<u>10 (</u>	d 5/3	Sicof N	<u>CR.H. S</u>	<u> 160el -</u>	
12.	[15	Wes	<u>st ot</u>	511 90	<u>v                                    </u>	<u>(</u> , /5 '	<u>s.</u> of	North	5/006	2
		н	b	L	D	Ε Ε	F	Ģ	н '	ĭ
Test	Probe Denth	Density : Count	Density Ratio	Het Density	Maisture Count	Moisture Ratio	Moisture PCF	Nater Content	Density	Perceni Compatti
7	8"	4007	0.85 g	1/2.0	2116	0.602	24.25	27.6	31.8	99.5
8		3965	0.841	1125	2205	0.627	25,25	289	87.3	98.9
q		4060	0.86	111,5	2251	0.640	25.75	30.0	85.8	97.2
10		4041	0.857	112.0	2163	0.415	24.75	28.3	87.2	988
³ [1]		4028	0.855	112.0	2/80	0.620	25.∞	28.7	87.0	92.6
تيا	V	n ₃ 86	0.867	111.5	3263	0.644	2600	30,4	85.5	96.9
NOI	MAJEN ES. DENSII	ES SHOWN LAS CONTENT PHIL	Cent allow wea	he	1 F.U	MATÉRIAL SKE CI	A TESTAR:	SULTS COMPLY ACTION HEQUIP	WITH SPECIFIC IED	ATIONS

NOTES: DENSITIES SHOWN the per checilcol WATER CONTENT PH Cent of any weight PERCENT COMPACTION Based on maximum dry density obtained on sample indicated by sol IO number

BEHARDER.

FUL MATERIAL 2 BACKFIL 3 BASE COURSE

C. TEST IS AFTER RECOVERAGION a, moisture in excess of specs SUB**B**ASE

H RECOMPACTION HE CUIRED

SOIL CEMENT

S. Winistere balan speci



#### REPORT OF FIELD COMPACTION TESTS

16STEDFOR SON Mighel Coap

PROJECT: SUCIA POND

DATE 8-21-27 NEW PROCTUR OUR REPORT NO 311-

TEST O	ATA:	3.7									
3631 MO	0411	06914		SOR ID NJANJER	LAG	.มกุน สหรั (214)	W411 11 COW15 41	in in ACE Diff DEAST*	COMPAC COA		COLUMN .
13	8-21-	37 2-1	>LÆ	$\supset$	88	3.2	29.4	813	98.9	+	<u>-</u> A
14		lsh	Lee				28.7	<i>81.</i> 7	97.5		
15		15	$L_{\mathcal{F}}$	$\sum_{i}$			29.0	\$ ' J	6 . Z		
16.		i Fin					29,0	86.8	୧୫ 🛈	į	
[l]		200		21		;	30.8	86.0	975		
18	$ \vee$			à	<u> </u>	<u>,                                     </u>	36.9	36.3	92.8	V	<i>i</i>

13 50 Least of STELL A 1 Jan 100 Last Store
15 72 west of STELL A 3 2 STELL A 1 Jan 100 Last Store
15 72 west of STELL A 3 2 STELL A 1 Jan 100 Last Store
16 35 Least of STELL A 3 2 STELL A 1 Jan 100 Last Store
17 20 west of STELL A 3 2 STELL A 1 Jan 100 Last Store
18 12 west of STELL A 3 2 STELL A 1 Jan 100 Last Store
18 12 west of STELL A 3 2 STELL A 1 Jan 100 Last Store

			A	D	. <b>L</b>	D	E	F	Ğ	K	Ţ
	lest Mn	Probe Benth	Density Caunt	Density Ratio	Ret Density	Maisture Count	Moisture Ratio		Nater Content_	Density	Communicati
	13	12	3950	0.838	130	2261	0,643	25.75	Z-9.4	<i>9</i> 7,3	<u> </u> ୧୫.ବ
	ĮŸ.		3470	0.841	1.2.5	2172	0.618	24.75	28.2	877	99.4
	15		4061	0.862	17.5	2235	0.636	2550	29.6	86.0	97.5
ell pura	ĮĠ		4005	0.850	112.0	22/8	0,631	25.25	29.0	86.8	984
3	h-7		3995	0.848	112.5	2307	0.656	25.50	30.8	86.0	97.5
	<u> 12</u>	W	3932	O. 834	1/3.0	2333	0.664	2675	30.9	86.7	97.8

NOTES DEVOTES SNOWN Los products foot WASHE CONTENT Per Central dry weight PSACENT COMPACTION BAsed on maximum dry Censily obtained on Salesty indicated by Sol ID number

Computations

T FILL MATHAL Z BACKFILC

³ BASE COURSE 4 SUBBASE

⁵ SCIL CHIENT

A TEST RESULTS COMPLY WITH SPEC FICATIONS

B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

C. moleture in excess of specs

E. Maisture balan spec



sol ID rumber

# Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

HISTED FOR

PROJECT.

DATE 8-2-1-87

**CUR REPCAT NO.:** 

		70.00							···	-,
TEST O	ATA:	<u> </u>		<del></del>						
1851 20	B#10	200	ELEV SOA I	DEMONAL A	CONTRA		PEILO		C04-VE'-T *	
19	8-21	<u>-2</u> 2 😽	141)	88;	2 28.	9 88	0 99	7	-A	
20		Fi	hal (		27.	5 81	0 99	.6		
3		<u> </u>	<u> </u>	.	28.	2 31	7 99.	4 [		
13	<u> </u>		7	}	27.	0   27	0 98	6		
(3)		5-5	grade \		29.	8 87	-1 98	$A \mid A$		<u>_</u>
<u> </u>		· . i	ļ′   '	$\perp \mathbb{V}$	26.	4 89	.0 98	6		
TEST L	CATION:	Pana	1-2016	<u>&lt;+6.13</u>	<u> 20,76</u> 0	્રાહ્યાં	0,2200			
; 5	<u>، ' دڌ ا</u>	ant se	57%	الأي ناج.		<u>: 36 j.</u>	•	Shore		
)(	25"	600 \$ 3	C 53	i, 4	ැිිිිිිිිිි දී	د's.၁	C NOPT	j. SLa⊬	 5	
ادٍ	10'1	, الحرابين	رة ک _ر ڪو		1	د′5.5	C WORT	- 4 <b>S</b> LOP	 }{E-	
22	$[a \in c]$		S+#	300 à	ind 3	⊌′\$. ⊃	- Nort	- 1		
23	1-5'0		S 51%	2400	a. A. 1	ς′s. j		27h 56	ملك	1
74	7:10	· د. آک ^{ین}	C 51/	1 Hace	 పింది	575.	SEN JS	· <del></del>	<del></del>	
		н	٥ .	Ü	D	E	F	G '	H	<u> </u>
lest No.		Density Count	Density Ratio	Het Density		Moisture Ratio	Moisture PCF	dater Content	Density	реждег Сопраст
19	8"	386	0.819	113.5	2230	0.634	25.50	28.9	0.88	99.
20		4/16	0.873	[:1.0	2105	0.599	24.00	27.5	87.0	98.4
21		4035	0.85%	112.0	<del> </del>	0.603	24.25	28.2	87.7	99:
21 22		4195	0,840	110,5	2073	0.590	23.50	27.0	87.0	98.1
73		3943	0.836	113.0	2262	0.644	26.00	29.8	87.(	98,1
124	V	4200	0,841		2009	0.572		24.4	87.0	98.4
_voi	MATER On Onco	ES SHOWN ESS CONTENT Per I OF COMPACTION deadily obtained	Селчогогу жед ИВАМИЗ (пл. та):	zkuren qr∼ Jut	2 HA: 2 HA:	MATERIA CKELL SECDURSE BBASE	A TEST HES	SUCTS COMPLY ACTION REQUIR IFTER RECOVE	160	.ALTONIS

3 BASE COURSE 4 SURBASE

5 SOUGHMENT

D. Maisture in excess of speed

E. Maisture balou speed

REPORT OF FIELD COMPACTION TESTS

PROJECT SMC IA POND

DATE 8-21-87 NEWPROCIOR OUR REPORT NO : 311-

Mar No	CATE.	DESTA	SOR TO .	LAB ONY DENSITY	eates CATest	PAPLAČE GRV DENGRV	PER CENT COMPRESSOR	CONNEUT *
25	8-21-61	Final	C	88.2	26.6	90.0	102.0	1-A
26		\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\			26.5	90.5	102.6	1
		15-195-			29.6	868	98.4	
18		1	/		29.3	87.0	98.6	
Ÿ		₩.	__		28.7	870	98.6	
ر ا تر	$-\Psi$	Final		$\Lambda$	26.1	90.8	1029	
5T LQ	CATION: N	<u>0870 5</u>	LAPR	Sett. 180	3-180	1 800	F=	<u>578. (7.3.)</u>

20 West of STA. 1000 and 20 from top of worth dope 40' wast of STA. 1100' and 10' Fram botton of wirth slope 45' west of STA GOC' and 10'S, of MORTH stope of STB Bu' and 25'S of NORTH slave

West of STA. 700' and 15's. of North Style

West of STA. Zou' and

		Α	в		Ð	E	F	G	Н	1
Test	Probe Depth	Count Count	Density !Ratio	Let Density	Count	Acisture Ratio	Monstore PCF	Water Content	ਹਵਤ Density	Perceni Compati
25	6"	6040	1.283	114.0	208T	0.593	24.00	26.6	90,0	102.0
26	V	5961	1.265	1145	2095	0.596	2400	265	90.5	102.6
27	8"	3992	0.847	JJ2.5	2260	0.643	25.75	296	86.8	984
28		3961	0.840	112.5	2222	0.632	25.50	29.3	87.0	98.6
29	1	4005	0.850	ספוו	2182	0.621	25.00	28.7	87.0	986
0 کے ایٹ	6"	5975	1.268	114.5	2087	0.594	23.75	26.1	<i>ବି</i> ର୍ଥ	1029



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

restrorce San Miguel

MOJECI SMCIA Pond

DATE 8-24-87

CUR REPORT NO

TEST D	ATA: OMC S	3.7	_					
963 1631	DTLI	SELLIN ETEA	SCH IO HILMRI P	CAU DHY DEN'-15	COMIEN.	A PLACE 501 54 A STA	PERIONAL COMPACTION	< Street in the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the street of the
1	8-24	Substant	العرفة لم	88.2.	22.2	94.\$	[.50]	1 E
<u>_a</u>			Proc.		20.7	<b>१</b> ५.ऽ	95.8	1 BE
3	<u> </u>	L	<u>                                     </u>		16.4	80.7	91.5	1 6E
ار		ļ <u>.</u>			28.4	85.5	96.9	1 AC
24		<u></u>			23.4	81.0	91.8	1 BEC
3~	CATION: 41		<u> </u>	_ ↓_	232	762	86.4	1 BEC

1 North Slope; Sta - 12+50, 25 from bottom of slope

2 " 13+55, 30" "

1 " 14+35, 20" "

2 " "

					Þ	<b>L</b> .	D	É	F	Ģ	H	1
	est No.	Pro Der		Density Count	Dénsity Ratio	Wet Density	Moisture Count	Moisture Ratio		Nater Content	Dry Density	Percer Compact
	.1	8	7"	5870	,868	115.5	2139	.583	21.00	22.2	94.5	ולטן.
	<u>a</u>			8172	1.208	102.0	1830	.499	17.50	20.7	84.5	95.8
	<u>. 3</u>			9965	1.473	94.0	1427	.389	13.25	16.4	8075	91.5
	ام	_		6690	,989	110-0	2467	.672	24.50	28.6	85.5	96.9
۱ ۱	&			8623	1.ฉาุธ	100.0	1952	.532	19.00	23.4	81.0	91.8
	3.			9928	1.468	94.0	1849	.504	17.75	23.2	76.25	86.4

NOTES CENSITIES SHOWN Els aer cuta: foot

WATER CONTEST Per Control by whight
PERCENT COMPACTION Based on marmin day 6764
demay obtained an simple indicated by
sold Discrete Gyran & Blocks. 3669

64 3 BACKFILL 3 BASE GOURSI 69 4 SUBBASE 69 5 SOR CHMENT A TEST RESULTS COMPLY WITH SPECIFICATIONS
B. RECOMPACTION REQUIRED

G IEST IS AFTER RECOMPACTION

a. moisture in excess of specis



#### REPORT OF FIELD COMPACTION TESTS

TESTED FOR San Miguel

Moseci Smcia Pond

DATE	8-24.	87			OUH	HEFORI NO	(Manualla)	arbyrata		
TEST (	DATA: (	3mc 23.7	<del></del>	<del></del>	· /.·	× · · <u>-</u>	<del></del>			_
90	1	34-15	111.7 400		W11		· OFF	DENT NOTICE:	SCOVERS! *	
4	8-2	14-87 W	A SAMPLEY	<del>+ 34.</del>	2 20.	<u> 32</u>	2 96	1 ما.	E	
5	<u> </u>		ffce		19.5	ર વા	7 104	0 1	ε	
<u>(</u>	<u>;</u>	ļ <u> </u>	1	<u>.</u>	217	87.	5 99	2 1	 _E	
7	<u> </u>	1	275,551	<u> </u>	20.	ય ફ 8.8.	o ¦ 99	7 1	Ē	
<u>_\$</u> -		- 5x1	1000		_ 17.6	86:	2 <del>9</del> 7	7 1	E	
TEST	, OCATION	Pand Fl	4 7	.	22.7	7 84:	1	3 1 1	E	
4	$\Box$		_		<del>_</del> ··-					
+	L ⊱ቦ ፟		<u>" sout</u>				6+00			
; -	<u> </u>		ALEN 50	<u>۴۱۸ مرا ۸</u>	1017h Slup.	e. <del>Sl</del> av.	<u> 2125</u>	<u></u>		İ
<u> (</u>	<u> </u>	<u> 40′</u>	1	<u> </u>	<u> </u>	_56_	8 + 18			
<u> </u>	: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	≤o′,	· 	b <u>15 _ '</u>	·	<u> </u>	9.+10_			
8	L.	<u> _ 50</u>	· ···-	'Y		_ Ste_ 1	0+20			
1_9_	<u> </u>	<u>40′</u>		- · ·· · · <u>-</u> -		<u>401</u>	115			
<del></del>		A	t ₂	ų ·	D	<u>E</u>	F	G	н	1
Test No.	Probe Depth	Density Count	Density Ratio	Ret Density	Maisture Count	Moisture Ratio	Moisture PCF	Nater Content	ury Density	rercen Comnact
4	8"	8049	i.190	103.5	1793	.489	17,25	20.2	<b>8</b> 5.⊋5	966
5		6732	.995	[10-0	1901	<u>.</u> 518	18.25	19.8	91.75	1046
.6		7309	1.081	106.5	1975	, 5 38	19.00	21.7	87 <u>.5</u>	992
7		7446	1.401	106.0	1885	.513	18.00	20.4	88.0	99.7
۱ -		8325	1.231	101.5	1627	, 443	15.25	17.6	86.25	97.7
9	1	7319	1.082	106.5	2041	.556	19.75	22.7	86.75 SZ	98.3
NCTE	WATER PERCE	15 SHOWN The CONFENT PARCHON COMPACTION WITH A COMPACTION WITH A COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE COMPACTION OF THE C	ient of dry weig! Haved on make on sample indica	mion dry 6/ Jeoby 30	64 2 BAS 3 BAS 4 SUE	SE COURSE BBASE L'OFMEN*	A TESTRES  R RECOMP  C TESTERA  O. MOINT	ULTSCOVEY ACTION REQUIR FTER RECOMPA No. 12 AM No. 12 Below	WIYJI SHEÇIFYCI FO ICTION Leess of so	



#### REPORT OF FIELD COMPACTION TESTS

TLATED FOR SON MiguE

PADJECT SMC IA POINT

DATE 9-34-97

	DATE	<b>%</b> -24-5	87			ÇUR F	IEPORT NO				•
	TEST (	DATA:	OMC	<del>2</del> 3.7	e <del>n perio</del> r i respectivo	···-					
	1951	241	11 061.0	1417	0 149 004 0 149 004	76.415 CUA1:		· Prac		COMMENT *	
	<u>lo</u>	8-5	ا <u>يري</u> ا 4 <u>د</u>	stracke Ne	88.6	2 24.	0 913	5 103	7 (	 LE	
•	M.	↓	İ	ly bor	1	24.	0 89.	5 101.	4 1	E	
فهمة	12	1	`	1 1		30.1	8 81	7 92	6 1	В	
	<b>(5</b>	<del> </del>			ļ <u>.</u>	<u> </u>		-, .			
	6	:									
	TESY	OCATION:	0 5		.L						]
	lo	Floo	Penal Flo		P. North		 • <b>*</b> 1	.10	–		— -· ·
	. 11	1 11	40'	1) 1		1 /	эвж. 1 <b>ө</b> г 54 <i>с.</i> , 13 -			- · · ·	
	12		<b>3</b> S′	1, 1	. n		جائز ۱۲۰ جائز ۱۲۰			· ·	
	ps.	T			- ——	,					
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	qg'	<u></u>									
	c <del></del>	· ·	A	D	ų ·	D	£	F	G	н	1
	lest Ng.	Probe Depth	Density Count	Density Patio	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	water Content	Density	Comnac
	10	8″	6193	.916	1132	2248	.613	22.00	24.0	91.5	103
	ıı.	1	6558	,970	111.0	2182	. 595	2150	24.0	89.5	1014
temputations.	دا.	1	7262	1,074	107.0	2549	.695	35.35	308	81.75	926
שטוטו				İ				-	.,	Ţ	
100	<del>                                     </del>	<del>                                     </del>			<del></del>			ļ. — · · · · · · · ·		1	$\vdash$
	, —		<del>}</del>		<del> </del>	<del>f</del>	<u> </u>	<del> </del>	<u> </u>	<del> -                                    </del>	<del>                                     </del>
	NOTI		ES SHOWN LES				L MATERIA.			with SPECIFIC	AFIONS
		PERCEN	CONTENT Per 6 at COMPACTION density obtained:	Based on the	иотио сму 🕼 🗸	<b>₩</b> 3 84	CKFILL SECONIESE BBASE	C TEST SA	ACTION HEDUI FIERRECOMP Kwee (2014)		oes s
	****		saliDinumber Viv. il	R 5.	34	(A) 1 5 50	a Cement or o	e. Mais	ture bala	w 20453	ı,



#### REPORT OF FIELD COMPACTION TESTS

TESTEOFOR 340 Miguel Coup

PROJECT SMC1A Pont

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DUR REPORT NO 31( -

	TEST D			<del></del>	···- ·-						<u></u>
	1651 HO	EA14	oleti	A COLOR		74.44 COV.11				COMPLY"	_ ;_
		8-25	5-87 <b>E</b>	N. M.	88.2	28.	7 87.	8 99.5	5 1-	-AC	
	2			Pyric		28.	5 86.	8 98.	4 [		
	3	<u> </u>	2m	<u>{L</u> (+		29.	<u> </u>	0 97.	5		
	4	<u> </u>			$\sqcup \bot$	27.	·	1 10-	<u>o.  </u>		
	5	<u> </u>	-\-\-\-\-\-\\	Z		30,	<del></del>	·	6	<u> </u>	
	6 Test u	OCATION:	Alombik S	rate 1	[ V	30%	T -		5 \	<u>V</u>	]
	1	Refre		5.1.pe 5 05f #2		25 8-24		511. 600,	100,800,0	190,1000,	1000
		- : : <u>-</u>		#3	/	4 0 0 0					$\neg$
	3	Retest	t at too	+ #4	11 11	11/17	· (POND	Flace),	11.600'		
	¥	. //	11 11	1,5	2) 3	.p 4 7 _	h	11 11	7001		
	5	11	11 0	116	11 h	4 8 11		1 0	8001		
	6	L 11		<u>" 7</u>		10 11	$\eta = 0$		9001	<del></del> -	
F	est	Probe	A Density	Density (	net -	D Moisture	E Monsture	F Motstore (	G Water	א ריטריט	T Perce
ŀ		<u>Denth</u>	Count	Ratio	Density	Count	Ratio		Content	Density	Соппрес
1		8"	3935	0.835	113.0	2200	0.626	25.25	28.7	87.8	99.5
	2		4101	0.870	10.0	2173	0.418	24.75	28.5	86.8	98.4
combosco.	,3		4063	0.862	111.5	2228	0.634	25.5 D	29.6	86.0	975
2	4		4155	୦.୬୫୮	110.5	2096	0.596	24,00	21.7	84.5	98.
5	5		4028	0.855	112.0	2276	ଓ. 64ୟ	26.00	30.1	86.1	971
5.	6		3946	0.841	112.5	2307	0.656	26.50	30.8	86.0	97.5
	NOTE	WATER O	U CDMPAC7€)≱ <b>K</b> esily oblaned	ser cube feel Cent of thy weigh 1 Based on man on sample indica 304 / KBrT	mum diy 68	ア 5 3 BAS 3 BAS 4 SUI より 5 SO	MATERIAC OKRAL SE COURSE BOASH L CEMENT	B RECOMPA C PESTIS A D. VM 0101	DUTS COMPLY ACTION ACQUE FOR RECOMPL THE FE (A EA THE E BELL	rack of 24 racks red	



REPORT OF FIELD COMPACTION TESTS

SNE IA POND

DATE 8-25-85

OUR REPORT NO . 3//

ST DA	ATA: (23	5.7 £ 37	304 10 11 WOLK	945, ULW 448,091 01/6977	WATER CONFERT	N PLACE CAY DENSITY	PENCENT COMPACION	Colvetor "
7	8-75-87	Schopelle	μω	\$2.2	26.4	87.0	986	1-AC
8			7/56.	<del>_</del>	28.0	863	97.8	
9		V.			29.1	86.7	98.2	
0		Sherale			30.0	86.5	98,0	:
]		1			31.0	<b>4</b> 4,3	95.5	
	V			V				<del></del>

201 - 8000<u>, 1150 , 1207 , 1000 , 1400 .</u> Pand Floor Ropurt of 8-24-87 Srd. 1000 ( 1100' 1) 12001 11 ...... 10 わりりか 13001 14001 25 77 11 11 11 11 17 J,

		A	D	Ų.	D	E	F	G	Н	I
Test Un-	Probe Depti		Density Ratio	WE <b>t</b> Density	Moisture Count	Moisture Ratio	Möisture PCF	Water Content	Density	Percen Compact
7	9"	4214	0.894	110.0	2025	0.576	23,00	26.4	87.0	986
8	1.	41.76	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	867	98.2
10		3988	0.846	112.5	2270	0.646	26.00	30.0	865	98.0
$\{ i_j \}$		4173	0.885	110.5	2273	0.647	26.25	3(.0	84 ,3	95.5
1	( <u>*</u> :									

NOTES DENSITES SHOWN LOS DE CHOC ING! WATER CONTENT PEr Cont of dry wenger PERCENT COMPACTION Based on maximum dry

Temputations ....

density obligated on sample indicated by solid number

**रोहर असे दि**चे यह BACKFILL

BASE COURSE SUBBASE SOIL CEMENT

TESTS 250L15 COMPLY WITH SPEC≭ICATIONS

RECOMPACTION REQUIRED TEST IS AFTER RECOMPACTION

D. Pr. produce in dates of specy

B. Walston balow 20023



#### REPORT OF FIELD COMPACTION TESTS

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31**-**-OUR REPORT NO

TEST D	<u> </u>	1 1 2 4	о v—					
TESP MO	DA'E	DE LLH ETLA	57% 13 H178869	EXCEPTION LAN DRY DENGIT	WATER CONTENT	GENZY,A DHA MANITOS	PERCENT COMPACTION	COMMENT *
1_	8-25-87	5 $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	(1979) Vitera	88.2	292	85.5	96.9	1-A
2	}	ri			28.0	875	99.2	
3					<b>2</b> 9.8	85.4	96.8	
4		<u>V</u>			26.7	88.8	100.6	
5		lst lift		_,	26.8	88.3	100-1	
(		$\mid \; \downarrow \; \; ,$	$\Psi$	$\mathbb{V}$	26,7	88.7	100.5	
TEST LO	CATION: Pan	is Flore	(	STA 2.000	$\int (s_{i} c_{i} c_{i})$	<u> </u>	)(ap::-1	
	_		`~	-20 + 30	<u>(Bù</u> ⊙f	WOETH	 .\$4≈ <u>1<del>2</del>8</u>	
2	35 west	<u> </u>	TA.	60 and	2018	of No	2th 5/20	
7	601 Wes	tor s	Τ <u>Α</u>	7000 and	35'5	. of No	eth slop	e
14	85 wes	<u>t of</u> ,	ST#.	800 AN	d 4013	5. o(- N	weth s	lope
[5]	101 west				- 4			
[6]				1000 du				J - 1
	Э, н		•	L	n :	F I	- G	N T

	<del></del>	<del></del>						<del> '</del>	<u>.                                    </u>		
	iest Mo	Probe Depth	Density Coupt	Density ( Ratio	Wet Density		Moisture Ratio	Moisture PCF	Gater Content		Perceni Compe <b>ct</b> i
		8"	4185	0.988	110.5	2193	0.624	25.00	29.2	<b>8</b> 5.5	96.9
	2		4239	0.857	112,0	2146	0.611	24,50	28.0	8ገ.ና	99.2
tions	3		4122_	0.874	111.0	2238	0.631	25,50	29.8	85.4	968
Computa	4		3967	0.842	112.5	2035	0.593	23.75	26.7	88.8	100.6
ř	5		4092	୦. ୫୯ ଣ୍	111.5	2041	0.581	23.25	24.8	88.3	100.
V	WOT.	L. V	3986	0.846	112.5	2089	0.594	23,75	26.7	ଝ୫଼ୀ	1005

DENSITIES SHOWN LESS per choic scal WATER CONTENT PER Cent of Gry weight PERCENT COMPACTION Bases on massimum dry density obtained on sample inscaled by sed to number

- BACKFAL BASE COURSE SUBBASE SOIL CEMENT DITHER
- TEST HESULTSCOMPLY WITH SPECIFICATIONS RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Minjerjuge in packing of



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

TESTED FOR SEN MIGHEL Coop

IA POND PROJECT:

OUR REPORT NO : 31 1

TEST O	<u> ДЗ.</u>	7 <u>+ 3%·</u>	<u>-42</u>	,					
TFST MQ	DATE	CESIM	SCH, di Maassi A	LAG DAY DENSITY	MAJEK COMIEKT	IN P.ASĘ DA: DRASIFY	PLP CANT COMPACTION	оомы в чт	
7	ชีวิริชา	14 Lift	Na.	88,2	29.8	85.5	96.9	[-A	
83	1		\\\\\	Ì	27.9	86.7	98.2	1	
9	$\bigvee$	W.			29.0	86.8	98.4		
10					<u> </u>	87.0	98.6		
1]		<b>.</b>	1		304	86.5	97.8		
SI	5.		V	$\sim V$	30.8	86.0	97.5	$\forall$	
TEST LO	رود CATION: ا	D FLD	R [	STA 400, 4	30 . Ho	ත −( <b>#</b> ට්ට්	)North	SLOPE STA. 130	90'

45 ust of STA. 1/00' and 25'S of NORTH Slope

3 Mo west of STA 1200' and 5's of worth slope

STA 1300 and 35'S, of NORTH Slope 60 west of

BO! WEST OF STA. 1400 and 15'S.

95' west of STA 1500 and 45'S. of NORTH Close 12 STA. 1300 and 10' From bottom of close

		A	ь	L	ס	E	F	G	Ħ	1
Test Un.	Probe Denth		Density Ratio	Met Density	Moisture Count	Moiszure Ratio	PCF	Wacer Content		Percent Comnatti
7	8,	4133	0.877	0.11	2236	0.636	25.50	29.8	85.5	96.9
8		4145	0.879	111,0	2126	0.605	24.25	27.9	867	98.2
,5	$\Psi$	4031	0.855	עבוו	2214	0.630	25.25	29.0	84.8	98.4
ţo,		3965	0.84/	112.5	2235	0.636	2550	29.3	87.0	98.6
	N.	3991	0.847	112.5	2295	0.653	26.25	30.4	86.3	97.8
		4000		112.5	2321	0.660	2650	30.8	860	975

CINTENT Per Certi of dry wordhi RPACTION Based on management dry Total Processed by

BACKITEL BASE COURSE

ISST RESULTS COMPLY WITH SPECIFICATION RECOMPACTION REQUIRED

TEST IS AFTER RECOMPACTION

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#### REPORT OF FIELD COMPACTION TESTS

	TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TESTER TE	FOR		an Mi	il.	۔ دم	P	PROJE		Pord			23-40
1900 5	DATE C	3-2	۔ م	<b>9</b> 7			v Proc⊳i	<b>≥</b> 0∪8 £	KEPÓRT NO	3 H —			
	TEST	ATA:	- (	23.7	+ 38	-42	<u> </u>		<del></del>	rank share to a reads			
	11 S1 MG	<u> </u>	041		1117	SCAL III HETHREE	DEPORTY	WATE COVID		v   P(4)	CENT CENT	, COUNCY!	
	1	8-	Z£ -	87 2	-	12	පියි.2	- 19	6 92	.8 105	2 1	-E	
	2	╽		50	reite	$\rightarrow$		18	··· <del> </del>	70 107	7 1.	<u> E</u>	
	3	Ļ	1		- J			19.	5   89.	<u>5 101</u>	4 1-	Œ	
	4	_	1			1	L	163	3 90	3_ 109	.3   -	E	
	5	<u> </u>	$\perp$	-	1	2		24	0 87	0 98	6 1	<u>-A</u>	
,	(G	OCATI		Poro Flo	1.64	1	<u>V</u>	Norre	1	- C-4/1 101	ـــــــــــــــــــــــــــــــــــ		
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ŀ	5	<u> </u>	O	البوج		>€		100' Ar	<del>- N</del>	5. JF N	; ,	book	
	6	R	<u>-</u>	1 wes	+	o f			£1	S. of 1	Jorth.	Slope	
<u>ا</u> .				A		3	Ĺ.	D	. Ę	F	G	Ĥ	1
	Mg_1			Density Count	Censi Rati		Wei Rensity		Moisture Ratio	Moisture PCF	Water Contont	Ory Density	Percen Comnacti
>	.(	8	ľ	4448	0.ସ	क	111.0	1838	0.466	18.25	19.6	92.8	1052
1	2	*		3976	0.8	43	112.5	1562	0.444	17.50	18.4	95.0	107.7
AUTESTIONS	.3			पट्ट	0.90	q	107.0	1571	0447	17.50	19.5	89.5	101:4
Milia	4			4819	1,02	2	050	1348	0.383	14.75	16.3	90.3	02.3
	5		4.	4196	0.91	( ]	109.5	1995	<del></del>	22.50	26.0	87.0	98.6

NOTES DENSITIES SHOWN LOS ON CLOCK FOR WATER CONTENT For Cont of dry werels PERCENT COMPACTION Based on maximum day ay density obtained on samply indicated by ...

sol O number

0.86

FA ( MATERIAL HACKELL BASE COURSE SURBASE SON CEMENT OTHER

RECOMPACTION HECUIRED G TEST IS AFTER RECOVERCTION O materiage in excess of specs

TEST RESULTS COMPLY WITH SPECIFICATIONS ...

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# REPORT OF FIELD COMPACTION TESTS

PALA USD JAMES

QUE REPORT NO. 31(-

TEST D	ATA: 2	3.7 + 3°	76-476				<del>=====================================</del>
.fésr ⊷0	<b>0</b> +1E	CERTA TANAL P	SOU ID LAB DAY AAAREA DEWS/TY	WATEA TWTTWCCO	M PLACE CHY DENSITY	PERICENT COMPACTION	COmmant *
7	8-21-87		160 88.7	26.0	90,0	102,0	1-A
િ	<u> </u>		( )	274	87.5	99.2	1
3		# st (.E.	)	27.5	97,0	98.6	1-AC
10		Subdradle		27.2	80.0	99,7	· · · · · · · · · · · · · · · · · · ·
11				28.3	865	98.0	
12	$\downarrow$	$L \sqrt{L}$	<b>∛</b>	28.2	85.8	97.2	1
YESY LO	CATION: N	PILLS HE	E STA. 1300	!- 15 05	1. B-0 12	<u> </u>	1500-1900'
7	35 W	st of	<u> </u>	sol dno	۸١.		Subtam of close
<u>, 3</u>	601 w	<u>est</u> p	E STAIL	400' dr			top of slope
9	Retest of	1 _{ES} t∙#	1 8 STA.	<u>15 ao '</u>			
10	<u> </u>	_ `` _%_			<u></u>		
£)	1 L	u ,	3 stg.	17001			
12	٧٠ ور		f sta.	1800'			
	4		<u> </u>	D	E F		H 7

				<b>-</b>	D	. E	F	G	Ħ	I
Test Un	Probe Denth	Density Coupt	Density Ratio	Wet Density		Moisture Ratio	Moisture PCF	Nater Content	Density	Percent Compacti
7	8"	4001	0.849	1125	1998	0.568	<b>22</b> .50	24.0	900	102.0
8	1	4063	0.862	111.5	2109	0.600	24,00	27.4	87.5	99.2
9		4106	0.871	0.)]1	2108	0.600	24.00	27.5	87.0	98.6
مِن		4056	0.860	112.0	2097	0.597	24.00	27.2	880	99.7
	14	4110	0.872		2154		2450	28.3	86.5	980
	17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	11221	0.895	110.0	2117	0.602	2425	282	85.8	97.2

Lbs per cubic lour TENT Per Ceral of the weight TION Based on maximum dry g on sample mixcaled by

- FILL MATERIAL **S**ACKFUL
- BASE GOURSE 4 SUBBASE SCII CEMENT
- A TEST ACSULTS COMPLY WITH SPECE ICATIONS

  B. RECOMPACTION HEOUNED
- TEST IS AN FER RECOMPACTION
- a mothers in access of spec
- E. Probleme halow areca

DATE OF OIL OF

" ООЧ НЕРОЯТ NO 📑 1 / 🚈

TEST D	ATA:						<del></del>	<del>.</del>	
TEST HD		) <b>4</b> 7€	CEPTA	SQL ¢3 Napam@€Pi	BRIXEOUS LAB 39Y DLASTY	WATER CONTENT	PH PLACE DAY DENSITY	PEH CEHT COMPACTION	CONTROL T
13	8-3	W-87	SAME IN	$\geq$	88.2	27.2	<b>9</b> 1.3	98.9	1-A
14	<u>  .                                    </u>		V			281	ଷ୍ଟୀ.ଧ	98.6	
15			Substale	$\sum_{i}$		26.2	84.3	95.5	
16			2nd Lift			29.2	85,5	969	
17			] ,	$\geq$		27.1	86,5	98.0	
18	-		$oxed{oxed}$	4	\(/ \	28.5	94.8	96.	V ,
TEST LO	CATION	i <u> </u>	5τ <b>Α</b> . 13¢	0-1	600 NOE	CH SLOPE	ا دیہ ہے اُ ا	1000 90	101-15001
13	301	west				л	•		of slape
<b>₩</b> 14	25	W45				-			m of slope
15	lot	<u> جسما</u>	4 of:	STA	1500	and 3	L51 FROX	- <del>14 acy</del>	om of slope
المر[					400' D				
17									th slope
18					- 1100 / 2				
<del>0</del>		~~-A Wasaai	L	ı		D . I	E F	Ġ	H I

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les Un		Pra Dep		Dens Cour	sity nt	Mensity Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Hater Content_	Ory Density	Percent Compacti
Į.	3	8	77	41	36	0.877	111.0	2017	0.591	23,75	27.2	87.3	98.9
14	<u> </u>			40	987	0.867	111.5	2136	0.608	24.50	182	81.0	98.6
人	<b>—</b> 1	:		4	<b>165</b>	0,890	1060	1906	0.542	21.75	26.2	84.3	95.5
	b,	3	·	Ч	(පිහි	0.888	110.5	2180	0.620	25.00	29.2	85.5	96.9
	7	3		4	23[	0.898	1100	2059	0.586	23.50	27.1	86.5	980
	2		/越	<u>.</u>	359	0.925	109.0	2122-	0.604		285	84,8	96,1

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PERCENT COMPACTION Based on maximum dry
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Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

OUR REPORT NO. 3 / (

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1200 - 1600 Pond Stook TEST LOCATION; 5TA-12007 and of North slope سلاح 13001 and 21 72

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lest . No.	Probe <u>Penth</u>	Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio		Water Content	ury Density	Percent Compacti(
19	<b>୫</b> ୩	4329	0.918	109.0	1975	0.562	22.50	26.)	86.5	980
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	$\bigvee$	14267	0.905	109.5	2164	0.616	24.75	29.1	84.8	96.)
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942	100 mg			<u> </u>					·	

NOTES. DENSITIES SHOWN LOS per cubic hour ... WATER CONTENT Per Cent of the world PERCENT COMPACTION Basel on maintain dry density obtained on sample indicated by вой 10 потреч

- FILL MATERIAL BACKFILL
- BASE COURSE
- SUBBASE SCIL CEMENT
- TEST RESULTS COMPLY WITH SPECIFICATIONS
- B RECOMPACTION REQUIRED
- C TEST S AFTER RECOMPACTION
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Professional Service Industries, Inc. hilstone Engineering Testing Laboratory Division REPORT OF FIELD COMPACTION TESTS 8-27-87 OUR REPORT NO : 23.7 TEST DATA: MATERIAL IN NALASE JEST NO SON TO NOTE HER WELFER CONTRACT PEP CENT DIFFE CE 45 TY LAR DRY DENSILT COUNTY COMPACTION (Proc) 8-27-87 5-bgrade 22/1 FB 2 03.5 Z. 101.4 ፕ **3**5.0 4 943 5 6 95.0 TEST LOCATION STA 1500-57/ 1400 - 2000 from top of slope STA. 17001 StA, 18007 or StA. 1400 ( STA. 1500' MORTH est Probe oisture Moisture Moisture Water Wet Density Censity ercen Count Content Ma Depth PCF Density (Compact Ratio Density Ratio 4026 103.5 1832 2075 O.854 0.5ス) いつり 2 1,145 7),*o*o 101.4 398 0. 294 1034 12 100.5 Sporta LTONS 3 23.5 **4**<.0 3ده. 768 2*0* 00 ιος.ο 0,503 **8**3.7 -063 103.5 793 0.510 20.25 24.3 0.**5**96 03.5 **10**93 24.00 DENSITIES SHOWN Lbs per cubic foot FEST RESULTS COMPLY WITH SPECIFICATIONS Fall Martingal WATER CONTENT Per Cent of dry wanght 2 BACKFILL 3 BASE COURSE RECOMPACTION REQUIRED PERCENT COMPACTION BASES OF MAKENION BY TEST IS AFTER RECOMPACTION of densey oblighed on pamply indicated by SUBBASE a moloture in secret of speci SCR CHMENT B. Malsoure below space

REPORT OF FIELD COMPACTION TESTS

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mpùta	ю		4075		<del></del>	2093	0.595	24.00	27.4	87.5	99.2
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DENSITIES SHOWN LOS per cube foor WATER CONTENT Per Cent of pry weight PERCENT COMPACTION Cased on man mum dry density obtained on sample injectated by

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TEST RESULTS COMPLY WITH SPECIFICATIONS PECOMPACTION RECOMPACTION
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Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division REPORT OF FIELD COMPACTION TESTS ld Pard PHOJECT: оия вероят No. 3)( — TEST DATA: h y i Tri Can en Punc.E SOM D MUMBER WATER PER CENT DENSITY ORT DENSUTY COMPLEME! COMPEME ECMPASTICA Jen 3 G8.2 17.36 4 a Cal 15 86 Ц เธ TEST LOCATION; NORTH SLOPE. STA. 1700 STA. 1700 of ۱5 (ဝ 500 Ö weg 30 ঠা from top of wec Đ E Noisture Hoisture Moisture Nater Test Probe Censity Fet <u>'ercent</u> Density Density Ratio FCF Content Commetti Denti Density Count Ratio |0.0|98.0 14 0.<del>9</del>8 26.1 86.8 110.0 98.0 5 23.00 **3**3,00 0.602 NOTES DENSITIES SMOWN LES per clibic fool TEST RESULTS COMPLY WITH SPECIFICATIONS FIL MATERIAL WATER CONTENT Per Cem of the weight BACKFILL HE COMPACTION ME QUIPEO PERCENT COMPACTION Based on maximum dry BASE COURSE TEST IS AFTER RECOMPACTION cidensity obtained on sample indicated by the maintaine in access of speed BUEBASE

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#### REPORT OF FIELD COMPACTION TESTS

8-27-87

OUR REPORT NO: 2 () -

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iest No_		Density Count	Density Ratio	Density	Count	Ratio		Content		Commect
19	8"	4390	0.931	0.90	2065	0.587	23.50	<u> </u>	85.5	96.0
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#### vice Industries, Inc.

Shilstone Engineering T aboratory Division:

## REPORT OF FIELD COMPACTION TESTS

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3			27.6	<b>8</b> 5.8	97.2	
4	Sale Park	<u> </u>	27.0	85.0	96.3	
5	_ Froat	( )	28.9	84,5	95.8	
<u> </u>	$\perp \downarrow \downarrow \perp$	<u>₹</u> <u>V</u>	29.4	85,0	963	

1500'- 1900' 5' from top of slope Sus and

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From D .Ę Н Moisture Water PCF Content Density Density Wet oisture doisture ercer Count Ratio Density Count Ratio Compact Density

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4416 0.937 108.0 0.577 270 94.3 85.0

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DETASTIES SHOWN LOS per Cabe foci WATER CONTENT For Cent of day weight PERCENT COMPACTION Based on missingen dry density obtained on sample indicated by

ach an prompter

FILL MATERIAL

BACKFILL BASH COURSE

SUMBASE

SOIL CEMENT

TEST RESULTS COMPLY WITH SPECIFICATIONS

RECOMPACTION REQUIRED TEST IS AFTER RECOMPAÇITION

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esting haboratory Division 8-28-87 OUR REPORT NO .: TEST DATA: 1631 50#. ID DATE CAB DITO NeO. Çekv DENGULY Veu USRE R COA IZHI 8-28-87 882 ╎╽╲┰┖╻ぽ┪ የሙ Selegade 10 TEST LOCATION; SLOPE, <u>বি৯০ – ৯ টাত</u> 8 10 D .E F Ğ Н est Probe Density Wet pisture Moisture Moisture Density ercea Hq Denth Ratio Ratio PCF Density Count Compact Content Density В 0.619 0.5% 96.9 TEST RESULTS COMPLY WITH SPECIFICATIONS
RECOMPACTION REQUIRED
TEST AS AFTER RECOMPACTION S CONTIES SHOWN LOS OF EVER ICOL FILL MATERIAL BACKFILL ASSECTION - в MATER CONTENT Per Cent of dry worth RECOMPACTION REQUIRED TEST AS AFTER RECOMPACTOR S ž BCENT COMPACINON Based on maximum day . € density observed on sample indicated by -5U8845E



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TEST D	ATA:	23.7 +	3%-4%	<u> </u>	-					
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REPORT OF FIELD COMPACTION TESTS

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PROJECT:

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DATE 9-9-87

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NOTES DENSITIES SHOWN Lbs per cubic fool WATER CONTENT Per Cent of thy weight PERCENT COMPACTION Based to transmit the dentity obtained on sample indicated by soil to number

FILL MATERIAL

BACKFILL

BASE COURSE SUBBASE

SOIL CHMENT

TEST RESULTS COMPLY WITH SPECY ICATION

RECOMPACTION REQUIRED

TEST IS AFTER RECOMPACTION.

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Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

San Nogel Con Since IA Poul PROJECT.

9-10-87

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,	1	4317	0.914	109.5	2.351	J \$1/8	23.55	274 h	SUS	98.€
.3		¥737	0-891	110.5	9.503	0.570	22.75	26.0	87.B	99.5
4		4128	0.874	1110	2069	0.583	23,50	268	87.5	993
5		4231	0.896	110.0	2092	0.589	23.50	27.1	865	98 <b>%</b>
L			0.923	109.0	2038	0. 574	23.00	26.7	860	9735

ICO145 DENOTALS SHOWN LESS OF CONCINCT WATER CONCENT ON CONTAIN WATER CONTENT ON CONTAIN WATER CONTENT ON CONTAIN TO SERVICE OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT OF THE CONTENT O PERCENT COMPACTION Distriction management day density obtained on sample indicated by sof ID number

- TILL MATERIAL
- BACKFILL BASE COURSE
- SUDBASC
- SCHLICEMENT
- A TEST RESULTS COMMENT WITH SPECIFICATIONS OF RELOWING THE RECOMPACTION

  C. TEST IS ARY UNITED COMPACTION

- D. M. eleture in exercis of spe



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

Miguel Coop

9-10-87

OUR REPORT NO

TEST D	ATA: 23.7	土3%-42	<u>~</u>					
1217, 04	5416	DEUSH EIEA	50% 10 MJ24669	OEMPLA THE CALA THE BEALTH	WETER CONTENT	ORV DEVSTY	PERICENT COMPAGISON	COMMENT *
7	9-11-87	stuff	>	88.2	26.	89.3	98.9	1-A
2		2 LIFT	3	]	262	87.5	99.2	
3		22114			26.5	85.8	97.2	
4		Lung			26.8	88.3	100.1	
5	} .	444	1		a¶.6	88.5	190.3	
6		<u>r</u> .√\$(			26.7	86.8	98.4	V

TEST LOCATION: いったては シェッアも

STA, 2300. 2nd 201 From botbom

		A	ь		D	E	F	ß	K	1
est	Probe Depth	Density Count	Density    Ratio	Wet Density	Moisture Count	Marsture Ratio		Mater Content	Density	Percent Compactit
	8"	1	0.895	10.0	2028	0.571	22.75	26.	873	98.9
2-	V	4160	0.881	1105	2045	0.516	2300	262	875	99.2
3	8"	4341	0.930	108.5	2033	o.57a	22.15	265	85.8	97.3
4		4025	0,852	112.0	2115	0.596	23.15	26.8	88.3	100
5		3945	0.835	113.0	2163	0.609	24.50	27.4	88.5	100/3
- سا	11/	4261	0.902	110.0	2073	0.584	23.25	26.7	86.8	98.4

NOTES DEASITED SHOWN EDS per capic less WATER CONTEXT. Per Cent of dry weight PERCENT COMPACTION Bayof on maintaining day dossify obtained on sample indicated by \$36 to highber

Tecn G. Quintainle

FILL MATERIAL

BACKFOL BASE COURSE

SUBRASA SOLL CEMERIT OTHER

FEST RESULTS COMPLY WITH SPECIFICATIONS RECOMPACTION REQUIRED

TEST IS AFTER RECOMPACTION C. moisture furantiese of spec

C. Maished below 25423



# Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

an Miguel Coop

OUA REPORT NO...

311-

TEST O	ATA: 23-7	+ 32-4	<i>76</i>					
.TE.97 (34)	DATE.	OF PTH CLEY	SOL O ALMOL ⁴	LAS DAY CENSITY	MATER CONTENT	M POUCE (MY GENSI:T	EGMENTION BEDICENS	¢∩norpw- *
1	9-11-87	Final	<b>)</b> [8	8.2	26.7	୫୯୫	984	1 - A
<b>3</b>					28.9	84.5	95.8	
3	V	$\mathbf{V}$	7	V	27.3	867	98.2	<u> </u>
j							i	
			Z L					
			7		, ,			

TEST LOCATION:

10' FRUM TOD OF Slove 2100 2nd 20' FROM butt 57A 2200∂nd <u>57A-2300 ard</u>

. L												L
				н.	þ	L	D	E	F	G	H	I
	st Ic	은 단 단 단		Density Count	Density Ratio	Wet Density	Moisture Count	Moistura Ratio		Water Content	Density	Perceni Compa <b>c</b> ti
[	Ţ	8	}"	4-243	0.898	110.0	Z064	0.581	23.25	26.7	86.8	98.4
	9		<u>.</u>	4332	0.917	109.0	2176	0.613	24.50	28.9	84.5	95,8
	<u>3</u>		1	4185	0.886	110.5	2107	0.543	23.75	21.3	867	98.2
		7				<u> </u>				7.7		4
۶							1	1		<del> -</del>	•	1
	-	┖		<del> </del> -	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del></del>	<del>                                     </del>	<del>                                     </del>	76

DENSITES SHOWN LOS per close fool WATER CONTENT. Per Cent of dry weight PEACENT COMPACTION Based on maximum dry

dentally oblianed on sample indicated by SON CO COUNTRY

- AL MATERIAL
- BACKFILL BASE COURSE
- SUBBASE
- SOIL CEMENT
- TEST PESULAS COMPLY WITH SPECIFICAT
- RECOMPACTION REQUIRED
- TEST IS AFTER RECOMPACTION D. Moisture in excess

COMPUTATIONS



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

Miguel Coop

PROJECT:

SMC IA Pond

DATE 9-14-87

DUA REPORT NO .: 3([ ~

3 26.5 86.5 98.0   4   26.2 86.7 98.2	FEST D	ATA:	23	7 + 3%	<u>5</u> - L	1%			<del></del>	
2 2nd Lift 2 27.1 87.0 98.6 26.5 98.0 26.2 86.7 98.2	.FES1 NO		a-€ 			LAN CRY		DICY		COMMENT*
3 26.5 86.5 98.0   4   26.2 86.7 98.2	t	9-1	4-87	Final	2	88.2	21.0	<b>8</b> 5.8	97.2	1-A
4 26.2 86.7 98.2	2				$\square$		27.1	<b>8</b> 7.0	98.6	
	3						26.5	865	98.0	
	4	<u> </u>			15.		26.2	86.7	98.2	
5   V   S   279   86,0   47,5	5				15	, , ,	279	86,0	97.5	<u> </u>
6 V 151114 2 V 28.3 87.3 98.9 V	6	\	Z			$\vee$	28.3	87.3	98.9	V

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 1900' and 10'S of North slope
4 80' west of STA 1900' 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

		н	В	. <b>.</b>	Ď	<u>. E</u>	F	G	. н	_ I
lest Nn	Probe Depth	Density Count	Density Ratio	Wet Density		Moisture Ratio		Water Content	Dry Density	Till Strong
	€"	4362	0,9,23	109.0	200	0.583	23.25	27.0	858	97,2
2		4302	୦.୫୩୯	10.5	2085	ዕነሪዓብ	<b>23</b> .50	27.1	87.0	986
٤,		4333	୦.୧:୫	109.5	205\$	0.578	2300	26.5	845	98 P
4		4315	0,914	109,5	2025	0.573	22.75	<i>غ</i> 4.2	86.7	98/2
5		4259	0.902	цо.0	2199	0.600	2400	27.9	860	9715
ب ا	$\mathbb{W}$	4039	C. <del>C</del> 63	112.0	2193	0.618	24.75	28.3	87.3	9819

NOTES DENSITIES SHOWN Libs per congression
Water Content Per Cont of dry weight
PERCENT COMPACTION Based on maximum dry
density obtained on sample indicated by

DE HARVE

sof 40 number 5 SDII, CEMENT

FILL MATERIAL BACKFILL BASE COURSE SLIBBASE

A TEST RESULTS COMPLY WITH SPECIFICAT CHR.
B RECOMPACTION REQUIRED
C YESY'S AFTER RECOMPACTION

C. Maisture in Recurs of spe B. Maisture bolom weed



Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

OFOR SanMight Coop

PROJECT: SMC IA POND

CUR REPORT NO : 311

τεετ ο	ATA: 2307	<u> +3%-4%</u>					<del></del>	
SEST MO	DATE	CEPIH 1.1V	SOL 10 Mundisa	PAN CUA PAN CUA PAN CUA	\$24,6ML \$24,6M	Den Den Den	PERFORM COMPACTOR	COMMENT.
7	9-14-87	Surge	7	88.2	780	85.5	96.9	-A
8	•	Ist GFT	7		26.7	86.0	91.5	
i			( کرا					
			ζ,					
			3/					<del></del> - <del></del>
			3					
EST LO	CATION: "NES"	5,09e	10	IW. CORNER	5TA 24	W 2475	<i>-</i>	

20' south of N.W. CORNER of STA 2400-2475 of west slove and s' South of N.W. corner of STA. 2400-2475 of west dope and 20' ARON

L v		A	b		D	. <b>E</b>	F	Ģ	ĸ	1
lest No	Probe Depth	Count	Censity Ratio	i W∈t   Density:	Moisture Count	MBISCure Ratio		Macer Content	Density	Dercent Compati
7	8"	4219	0.906	109.5	2125	0.598	24.00	28.0	85,5.	96.9
80		4372	0.926	[09.0	2045	0,576	23,00	26.7	86.0	97.5
·										$-\overline{I}$
L				}				<del></del>		Nicon
$\prod_{i=1}^{n}$									•	41
ì ⁻	_	<del></del> -	_	1	<del></del>	<u> </u>	<u> </u>	<del>                                     </del>		k i

NOTES, DENSITE'S SHOWN LOS per cione boll WATER CONTENT Per Cars of dry weight PERCENT COMPACTION Bused on Transform Bry emonly obtained on symple indicated by

sod ID Number

SUBBASE SOL CHIERT

TO CHELL

**E**ASE COURSE

C TEST IS AFTER HECOMPACTION

RECOMPACTION RECUIRED.

a majornia in cacasa of

the ministered total more thanks



# Professional Service Inclustries, Inc. Shilstone Engineering Testing Laboratory Division

### REPORT OF FIELD COMPACTION TESTS

mention San Miguel Coop

PROJEÇT.

SMC IA POND

DATE 9-15-87

OUR REPORT NO.: 311 -

DATE T	- 13	· .	<b></b>				3 11			
TEST DATA	. <del></del>	23.7 t	3%-4	%		· — · — ·	·		<del></del>	
If 65°	¢a P	26/14	ELEV SOL A		CCH-ret CCH-ret		PERC	EAF CNG4	COLDIENT "	
1 9	-15	ජි7 <u>ධ</u>	d Lift	88.2	2 29.	3 80	0 90	7 1.	- B	
2			<del>\$</del> ft4 \ \ \		26.	3 86	2 97.	7	AC	
3	$\perp$	Fu	<u> al 5</u>		28	2   82	.3 93.	3   -	B	<u>.</u>
4		ļ			26.	88	<u>.5   100</u>	<u>ر- ۱   3.</u>	AC	
5			15		29.	2   <i>77.</i>	0 87	.3   1-	<u>B</u>	
6			<u>                                     </u>	<u>IV</u>	26:				B. 12.1.	
TEST LOCA		<u>WF51</u>				A .	( POND (		0814 21DE	<u>: ! </u>
<u> </u>	<u>୍ଷ</u>	outh of	N.M. CORP	IR of Was	tslipe i	2nd 15'	trom top	<u>orsh</u> p	<u>e</u>	
		<del></del>	<u>0&lt;† #  </u>	<u> 7</u>				<del>.</del>		
<u>_3</u> _!	5,2	n to attoor	.N.Correr	of mest s	bpe and	8 20'F	com but	ton of	sbpe	
41	2 <u>e-(</u> -	<del>-</del> 51 0€ 1		<u>2</u>					· 	- <b>-</b> -
5 :	201	W951	t or	STA.	do an	d 20'	5. of 1	weth s	love	
6	35	W.	st of	STA. 18	00 an	£ 51	5. of	worth	51006	2
<del></del>		4	D		D	. Ľ	F	G	H. I	ZII o
	obe oth	Dénsity   Count	Density ( <u>Ratio</u>	Wet Density	Moisture Count	Ratio		witer Content	Density	Comi Lieu
1 6	g''	4965	1.051	103.5	2092	0.589	23,50	293	80.0	90
2	/	4332	0.917	109.0	2025	0,570	22.75	26.3	86.2	9
.3		4981	1.012	105.5	2D 75	0.584	23.25	28.2	82.3	93
4		4100	0.868	1115	2035	0.573	23.00	26.	885	100
5	,	5551	1.176	995	1995	0.562	<i>a</i> a.50	29.2	77.0	8'
<u>[6]</u>	<del>/                                      </del>	4765	1.00%	1055	1945	0.553	22.00	26.3	835	94
NOTES	DENSITA WATER	S SHOWN LESS CONTENT PER C	per curie laws Choi of dry welst	hr	7 P.C. 2 P.C.	LMATEHIAL CSEUJ		UCTS COMPLY ACTION RECUP FICE RECOMP		A HUN

WATER CONTENT Per Cent of dry weight PENGENT COMPACTION Based on maximum dry Districtly abidding on sample indicated by sof (O number

OF CREUI. **PASE COURSE**  C TEST IS AFTER RECOMPACTION C. majorure in excess of



## Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

SMC IA Pond

OATC: 9-15-87

OUR REPORT NO.: 3 [ ] ~

TEST D	ATA: 23.	7 +3%	, <del>-</del> 4	%		<del></del>		,,,,
JEST MO	gai{	OF NUM	104.10 MJ286A	LAB COY CENSORY	WATER CONTENT	BY PLACE DPY DENSITY	PERICENT COMPACTION	COUPERT *
1	9-15-87	Final	2	88.2	26.7	86.8	984	1-AC
g <b>g</b>			$\geq$		27.6	85.0	96.3	1-#
99			$\supseteq$		26.2	87.5	99.2	1-AC
0 <b>M</b> 0		$\mathbf{V}$	$\sum$	<u> </u>	277	85.8	97.2	1-A
H##		St Lift	<u> [</u>		28.2	85.0	96.3	
116	$\perp$ $\vee$ $\perp$	1st Lift	<b>\{</b>	₩	28.8	85.1	97.1	
EST LO	ICATION: PO	ادر 14 ادم	?	\$7A   1600'-	22001			—— <b></b>

STA 1600' from test # 5 of first page of this report 1015

	<del></del>	_	<del>v.</del>	THE BELLOW	1747 - 34	<del></del>	1001.1	$a \rightarrow a + a + a$	/	
			Đ	L	D	Ε	F	G '	К	I
lest !!o	Probe Depth	Density Count	Censity Ratio	Wer Density		Moisture Ratio	Motstofe PCF	witer Content	Bry Beasity	Percent Compacti:
77	ક"	4219	0.893	110.0	2049	0.577	23.25	26.7	86.8	98.4
8		4431	0.938	08.5	2087	0.588	23.50	27.6	<b>8</b> 5,0	96.3
9		4193	0.888	110.5	2041	0.575	23.00	26.2	87.5	99,0
100		4266	0.903	109.5	2105	0.593	23,75	<u>ұ</u> Л.7	85.8	972
W		4361	0.923	109.0	2110	0,594	24.00	28.2	85.0	963
Lip	ES DE VEID	4001	0.847	112.5	2176	0.613	24.75	28.8	85.7	921

ENSITIES SHOWN LDS per Good foor WATER CONJENT Per Cers of thy weight PERCENT COMPACTION Bused on his arrain try density collaboration sample uniticated by ≨o⊌ 40 number

FAL MATERIAL BACKFILE **PASE COURSE** SUBBASE

SOLCSMENT

TEST AESULTS COMPLY WITH SPECIFIC RECOMPACTION RECUIRED



## Professional Service Inclustries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

SMC IA Pond PROJECT:

DATE: 9-16-87

CUR REPORT NO .: 3(1-

TEST D	ATA: 23	7 +3%	- 4			4.50.155		
TES!	9A7I /	DECTH FIEL	504.10 HU328ER	DERVITA Pyteria Pyteria	WATER CONTENT	OFFICE OFFI OFFICE OFFI OFFI OFFI OFFI OFFI OFFI OFFI OFF	PERICENT COMPACTION	COMMENT "
1	9-16-87 FIR	1000	[2]	88.2	26.3	86.3	97.8	1-A
2	Į	2nd Lift	$\mathbb{Z}$		26.5	88.5	100.3	1
3		1st Lift		1	26.6	87.3	489	
4		Subgrade	[5]		27.9	୧୫.୫	98.4	
5		list Lift	[5]		27.5	87.0	98.6	
6			>		27.0	87.8	99.5	$\sqrt{}$

fond Floor STA. 2000' - 2475' TEST LOCATION:

		<del> </del>
	35' west of	STA 2000' and 5's of Morth slope
	10' west of	STA 2100' and 10'S of North slope
3	go west of	STA 2200' and 15'S of North Slope
4	55' west of	STA. 2300' and 20'S. of North Slope
5	10' west of	571 2400' and 25' S. OF NORTH Slope
6	20' west of	STA 2300' and 30' S. of NORTH Stope

		A	В	Ų	Ð	E	ŗ	e _,	Ħ	. I
Test No.	Probe Depth	Density Count	Density Ratio	Ket Density	Moisture Count	Maisture Ratio		uster Content	Dry Demsity	Percent Compactio
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		माडप	0.886	[10.5	2069	0.583	23. <b>3</b> 5	26.6	81.3	98.ମ
4		4165	0.882	111.0	2137	0.602	24.25	27.9	86,8	98#
5		4125	0.873	111.0	2112	0.595	2400	27.5	87.0	98,6
6	W	4057	0.859	111.5	٥٥ لک	0.591	23.75		87.8	995

NOTES, DENSITES SHOWN LES per cube loof WATER CONTENT Per Cent of the weight PERCENT COMPACTION Based on maximum By density obtained on sample indicated by sof ID rumber

- 1 FILL MATERIAL Z BAÇKELL
- 3 BASE COURSE SUGBACE
- 5 SOIL CEMENT
- TEST RESULTS COMPLY WITH SPECIFIC B RECOMPACTION RECUIRED
- C. MARKETHER LARRESTE OF

لار ١٩١٨ عاميدو المحلب وبعدة



# Profe≋sional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

DELCOFOR San Migrel Coop

PROJECT:

SMC IA Pond

OATE: 9-16-87

CUR REPORT NO : 3 ( ] -

ST D		<i>.</i>	7 +3%	SOT NO MARKET	UD DAY DESIGN	WATER CONTENT	er Pluvilli DRY DRASIEY	PERGENT COMPAGESH	COMPAT *
7	9-1	<b>⊾</b> -87	Finals	7	88.2	26.5	86.5	98.0	1-1
8			andliff	$\overline{\sim}$		27.8€	<b>\$</b> 5.3	96.7	
ç						26.1	86.0	97.5	
0			an#Lift			27.5	61.0	98.6	-
11			Final	5		27,41	863	91.8	
12	V	,	<b>V</b>	\$	V	26.0	81.8	99.5	1//

7	301 west of	STA 2100' and 35'S of North slope
_ما,	20' West of	5TA. 2200' and 40' S. of North Slope
4	80' West of	STA. 2300' and 25'S. of North slope
10	us' west of	STA 2400' and 20' 5 of NORth slope
11	60 west of	STA 2200' 2nd 15' 5 of North slope
12	10' wist of	STA. 2300' 2nd 10' 5. of North slope

		<del></del>				ر ۱ ۱۹۹۱ حی	<u> </u>	7.167	· · · · · · · · · · · · · · · · · · ·	MOK-111	2000	
٠.				Α	b		Ð	£	F	G	Ħ	I
Ţ	lest .llo	Pro		Densi <b>ty</b> Count	Censity Ratio	Wet Density		Moisture Matio	_	Ma¢er Content	Density	Dercent Comnac((≀
1	7	8	"	4286	0.408	109.5	20 <b>40</b>	0.574	33¢c	76.5	86.5	98.0
	8			4323	0.915	0.90	2094	0.590	23.75	27.8	<b>95.</b> 3	967
:	9	'		4415	0.935	108.5	2012	0.567	22.50	26.1	860	91/2
	10			4135	0.816	0.10	2130	0.597	24.00	27.5	87.0	98%
;	្រ _. .	<u> </u> i		4254	0-901	110.0	2103	0.592	23:75	27.4	86.3	৭র ১
	رق. <u>انتنا</u>		/	4230		110.0.	'	0,601	2225	2610	87.8	9915

WATER CONTENT POT COOL OF MY WEAPOR PERCENT COMPACTION Based on transmiss dry density oblained on sample indicated by sol ID number

FILL MATERIAL EACKFILL

³ BASS COUMSE 4 SUBBASE

TEST RESULTS COMPLY WITH SPECIFIC O RECOMPACTION REQUIRED

R. Majorana instructs of



### Profe≝sional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

rester for San Miguel Coop

PROJECT: SMC IA Pond

DATE 9-16-87

OUR REPORT NO.: 3()~

PEST MO	0A1F	DE SELEN	SÓA EJ MUMBER	E-EXACION LAB DOY DE-EX-TY	WAJER CONFERT	M PLACE OAT DENSITY	PERICENT COMPACTION	COMME
13	9-16-87	Fina	2	88.2	21.8	85.3	96.7	14
2								_
0			$\Box$					_
9								
			ĪSĪ					
i —			[ ]	V				<del></del>

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## Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

mamoron San Miguel Coop

PROJECT SMC IA Pond

DATE: 9-17-87

CUT REPORT NO: 3(1 ~

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## Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

FOR San Miguel Coop

SMC IA Pond

DATE: 9-21-87

OUR REPORT NO: 3 ( ] 🖴

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# Professional Service Inclustries, Inc. Shilstone Engineering Testing Laboratory Division

#### REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

SMC IA Pond PHOJECT:

9-22- 87

CUR REPORT NO.: 3(1)-

TEST DATA: 23.7 + 3% - 4%								
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7			4280	3090	109.5	2135	0.601	24.00	28.0	85.5	96.9
3			4354	0.922	109.0	2035	0573	23,00	26.7	86.0	97,5
4	L.,		4096	0.867	10.5	2196	0.618	24.75	28.5	84,8	99.4
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NOTES DENSITIES SHOWN COS per cubic foor WATER CONTENT Per Cent of My Arright PERCENT COMPACTION, Based on manymen day density obtained on sample indicated by so i ID number

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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.



Shilstone Engineering Testing Laboratory Division

July 21, 1987

and the first field

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Jan 19 19 Track 1800

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

#### Gentlement

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, f 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.



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. ≠26643-03210B PST 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 pand. It consisted of tan sandy clay. The liquid limit equalled 70, with a plasticity index of 50.

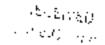
If there are any further questions concerning this report, please contact our office at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC. (Shilstone Engineering Jesting laboratory Division)

RPA: ps

cc: (2) Above



Phone: 512/342-9377



## Professional Service Industries, Inc.

Shitstone Engineering Testing Laboratory Division: 10 Kas 18029

#### REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

TESTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCAMOURCE

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pand Soil Testing

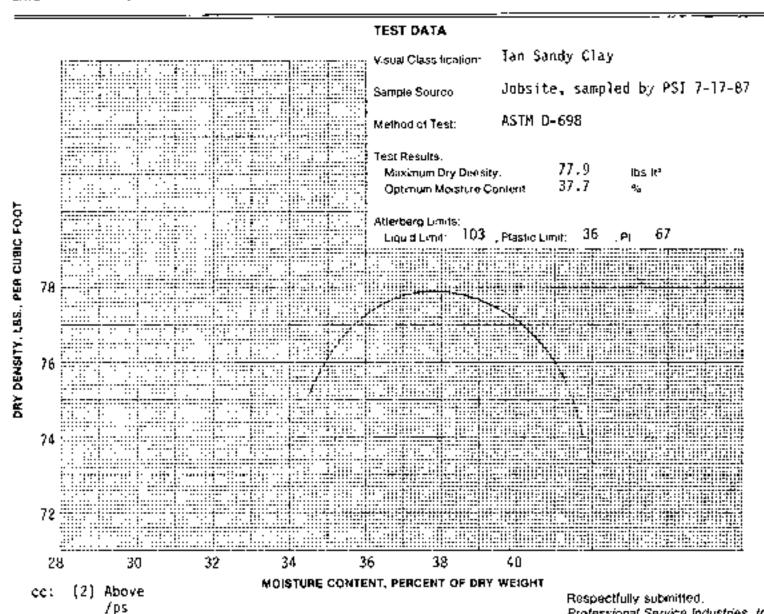
P.O. #26643-032108

DATE:

July 21, 1987

OUR REPORT NO.

311-70065-4





Shilstone Engineering Testing Laboratory Division

#### REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

POR CETEM

SAN MIGUEL ELECTRIC COOPERATIVE, INGROJECT

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pand Soil Testing

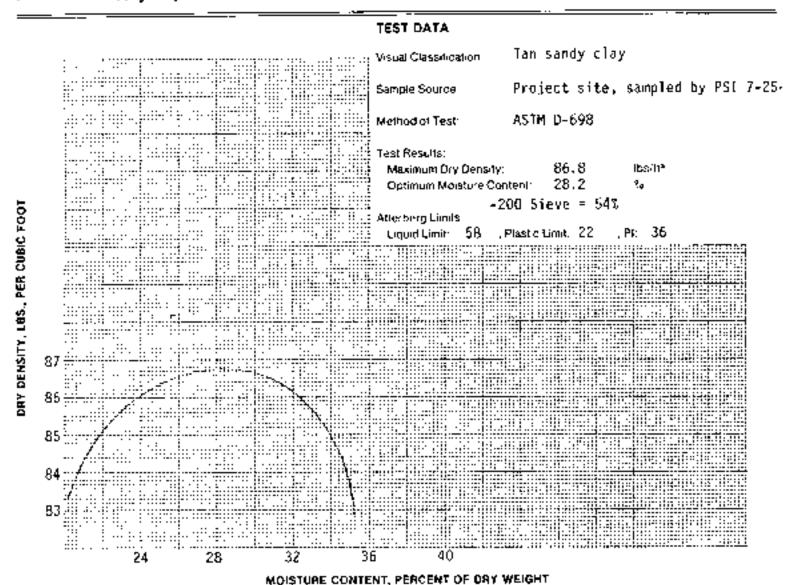
P.O. #26643-032108

DATE

July 29, 1987

OUR REPORT NO

311-70065-5



cc: (2) Above /ps Respectfully submitted.

Professional Service Industries, Inc.

____

Three Burwood Lane

Şan Antonio, TX 78216

Phone: 512/342 9377

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.



## **Professional Service Industries, Inc.**Shilstone Engineering Testing Laboratory Division

August 19, 1987

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

> RE: Pond Liner Rehabilitation San Miguel, Texas PSI Project #311-70065-26

#### Sentlemen:

It is our understanding that some areas on the south side of the pond recompacted clay liner show evidence of water seepage after clay liner recompaction 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 feet 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 encounterd 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 besitate to contact our office at your convenience.

Respectfully submitted.

PROFESSIONAL SERVICE INDUSTRIES, INC. (Shillstone Engineering Testing

Laboratory Oavision)

Robert P. Arius, 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.



Shilstone Engineering Testing Laboratory Division

October 30, 1987

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

K37 ≥ 19**97** 

SAN MIGUEL ELECTRIC CO-OPERATIVE, INC. Post Office Box 200 Jourdanton, Texas 78026

Jourdanion, Texas 78025

Re: Summary Report

Pond 1A Soil Liner Re-Construction Jourdanton, Texas

PSI File No.: 311-70065-66

#### Gentlemen:

Re-construction of the subject pend clay liner was begun on July 13, 1987 by V.K. Knowlton Co. Re-construction of the pend was conducted in accordance with report recommendations provided by Professional Service Inquistries, Inc. dated January 27, 1987.

Prior to the construction operations, 251 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 18 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.

SAN MIGUEL ELECTRIC CO-OPERATIVE, INC. October 30, 1987 Page Two

.7.

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 apposed 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 clayer 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 previsions for clay liner re-construction of Pond 18 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

٠:,

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. Arias, 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.



#### REPORT OF INSPECTION SERVICES

TESTEO FOR MORRESON-KNUDSEN

P.O. Box 850

Jourdanton, Texas 78026

Attr: Mr. Dennis Price, P.E.

PAQUEST

Ash Pond & Liner

San Miguel Power Plant

DATE.

June 13, 1991

DUR 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.

Three Burwood Lane

San Antonio, TX 78216-7071

Phone: 512/342-9377



## REPORT OF FIELD COMPACTION TESTS

TESTED FOR

MORRISON-KNUDSEN

P.O. Box 850

Jourdanton, Texas 78026

Attn: Mr. Dennis Price, P.S.

PROJECT

Ash Pond B Liner

San Miguel Power Plant

DATE

June 13, 1991

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311-00155-63

Page 2 of 3

TEST DATA: Optim	um <u>moisture</u>	: {34.	35.2%)		· ——- ·—		
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<u>6-13-91</u>	<u>Fina</u> ]	34	80.6	37.3	80.5	99.9	1-A
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sectific number

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P BACKFILL BASE COURSE

3 BANELOURNE 4 SUBBASE 5 SOL CEMENT 6 DIHER

A TEST RESULTS COMPLY WITH SPECIF CATIONS B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION

REMARKS.

cc: (2) Above

Respectfully submitted. Protessional Service Industries, Inc.



#### REPORT OF FIELD COMPACTION TESTS

TERMED FOR

MORRESON-KNUDSEN

PROJECT

Ash Pond B Liner

P.O. Box 850

Jourdanton, Texas 78026

San Miguel Power Plant

Attn: Mr. Dennis Price, P.E.

DATE

June 13, 1991

CUA REPORT NO

311-00155-63

Page 3 of 3

TEST D	ATA: Optimu	n moisture	; (34	, 36.2%), (2	28.27)		:	
91.57 900	24.1	150 m	(475-1) 95 <b>99</b> 10	. AB 544 50 1/4 14	WRITH CONSLHE	DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE VENTS DE Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De Vents De	PERCINT COMPACTOR	coupry"
. 7	06-13-91	Lift 24	34	80.6	38.0	79.0	98.0	i-A
88	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	A-1
_12 _	06-13-91	Finel	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 + 2	:0
! .	B Ash	Pund B floor area - N 2 + 10 and E 12 + 2	?0
	Asl	Pond B floor area - N 2 + 25 and 2 12 + 2	?à
_10	) Ash	Pond B floor area - N 2 + 10 and E 12 + 1	C
	L Ash	Pond B floor area - N 2 + 30 and E 12 + 2	:5
. 12	Ash	Pond B floor area - N 2 + 00 and E 12 + 3	

NOTES BENSITES SHOWN Los per dual feet WATER CONTENT Feet Cool of dry, weight PERCENT COMPACTION Based on maximum dry Bensity oblaned on sample indicated by

* I FILL MATERIAL 7 BACKFILL

3 BASE COURSE 4 SUBBASE

5 SOIL CLMENT 6 OTHER

A TEST RESULTS COMPLY WITH SPECIFICATIONS.

B. RECOMPACTION REQUIRED

C PEST IS AFTER RECOMPACTION.

REMARKS:

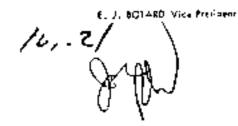
cc: (2) Above

Respectfully submitted. Professional Service Industries, Inc.

south number

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.





Nat. Soils Plant Island Plant 414/19

### SAN MIGUEL ELECTRIC COOPERATIVE, INC.

— P. O. Box 280, Jourdanton, 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 Dellas. Texas 75224

Dear Tillman,

This letter is in reference to your letter of February 9. 1979 concerning the clarification of the five ponds at the Sun Migue! Plant Site.

In his inspection of the ponds, Raymond Marris, field Representative, Toxas Department of Water Resources recommended to TDWR Office in Austin that they be certified as inspected. We 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. Cam≧cr Znvironmentalist

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.



107.21

Poud Certification

HOTER FED 231979

### SAN MIGUEL ELECTRIC COOPERATIVE, INC.

— Р. О. Вох 280, Jourdonton, Texas 78026 -

ERNEST I, WOHLSCHLEGEL
General Manager

February 14, 1979

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 Toxas 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. WORLSCHLEGEL

General Manager

GC/jas

co: 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** 



## 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

TOWN Letter Deted July 29, 1983

Dear Mr. Francia:

The following is in reply to your letter, dated July 29, 1983.

- *P.G.D. sludge and fly ask 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."

This material came from the F.C.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 scaled 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.

Per Industrial Westewater Inspection of May 27, 1983 Permit No. 0261, TDWR Letter Dated July 29, 1983

Page 2

- 2) "The west and east wide 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) bas begun to stode.
  - 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 pend in service. When the North pend 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 pend is far from being filled to capacity.

3) "Ash Fond "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 Galliger pump as soon as possible. The Clow pump has not proved to be satisfactory in this type service.

5) "Head tanks for the mah water booster pumps have overflowed and discharged their contents towards fouse 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 and of both ponds and them into the two hand tanks. If we had experienced a total power outage, and all pumps were on and running at

#### Attn: Ar. Vernon I. Francis

Ma: Industrial Westeveter Inspection of May 27, 1983 Permit No. 0261, TOWN 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."

Pleas 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 yery truly,

R.P. Hetcalfe, P.E.

Chief Engineer

RPM:mle

cc: R. Cmiel

E. Lange

R. Magel

R. McCaskill

File

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 ELECTRIC COOPERATIVE, INC.

March 2, 1984

Texas Department of Water Resources District 8 321 Center Street, Suite 1103 San Antonio, Texas 78202 Attn: Mr. Vergon 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. <u>WET AREA "B"</u>.

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. TDWX 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 corrective action outlined above.

Yours truly,

Robert Caiel 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

Βу

NFS SERVICES, INC. Consulting Engineers Dailos, Texas

January, 1984

JAN 2 5 1984

TIFICLE



P.O. 80X 24996 DALLAS, TEXAS 75424 Elet 3P 12743 WAT PAUD 9/11/07 (417) 330 5955-Fercess-1

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#### 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 Abilene, 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 abovereferenced 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 pand (pand "A") from the south pond (pand "B"). Construction of the ash disposal pands started in July, 1977, and was campleted in May, 1978.

In early June of 1978, extremely heavy rainfall associated with a tropical starm was experienced throughout South Texas. A substantial amount of water accumulated in both ash disposal pands as a result of this storm, with the pands 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 pand "A" were apparently leaking contents. TDWR requested that the reason for the pand 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 pands, 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 TOWR. Samples of surface water were analyzed for evidence of contamination with the following results:

<u>Date</u>	Sampling Point	<u>рН</u>	Specific Canductance (umhas/cm)	Sulfate (ppm)	Chloride (ppm)
10/15/83	Α	7.45	4,700	1,964	749
	8	8.3	5,400	2,357	760
	С	7.5	8,600	5,108	737
		7.4	6,800	2,750	760
	0 E F	7.4	4,700	2,200	647
	F	7.4	6,200	2,652	1,010
	Ğ	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
	8	8.1	1,800	668	33
	С	8.4	7,000	12,573	1,953
	D	7.5	8,000	2,947	835
	£	8.0	7,000	2,357	391
	E E	7700704-	Not Tested		471
	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. LoFrance

San Miguel Electric Cooperative, Inc.

Mr. Robert Cmief

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 Son 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 rish disposal pands, as well as the other plant site pands. The initial certification plan for the ash disposal pands was developed in November, 1977 and was based on drilling ten barings in the pand bottom (five in each pand) to a depth of five feet below the pand bottom. In addition, eight barings were to be drilled along the embankment crest of the dikes. Samples obtained from these barings 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 TOWR recommended certification of the plant site pands, including the ash disposal pands, based on a field inspection performed by TOWR prior to January 30, 1979. Final certification of the pands, including the ash disposal pands, by TOWR was based in part on representations made by NFS as to the construction of the pands as autlined 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 pands are represented by the logs of barings 8-35, 8-39, 8-41, 8-42, 8-60, 8-65, 8-66, 8-105, 8-106, 8-107, and 8-108. Locations of the barings are shown on Plate I, with the logs of the referenced barings being presented on Plates 3 through 15. Logs of these barings are also illustrated in graphical form on Sections A-A', 8-B', C-C', and O-D' of the Generalized Soils Profiles, Plates 16 through 19.

In general, the preconstruction subsurface sail 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  $6.30 \times 10^{-7}$  cm/sec to  $4.29 \times 10^{-9}$  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. Piezametric data developed during the geotechnical investigation for the plant site indicated the existence of a very deep groundwater table at about Elev 268 ar 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 law 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 law 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 slape 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 slapes 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 pand bottoms. Above-ground partions 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 pands. 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 aptimum 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 pand leakage, identified as areas "A" through "G" and shown on Plate 2, were observed by NFS personnel during the November 9, 1983 site inspection. Bosed 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 pand 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 pand "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 pands would have a permeability of less than 1 x 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 abserved 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 teakage problem essentially involves lateral movement of pond fluid through localized discontinuities.

Recommended remedial work to control the pand 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 pands. 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 pand "B". If further assessment of the "B" area during a dry period confirms the likelihood of pand 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,

NES SERVICES, INC.

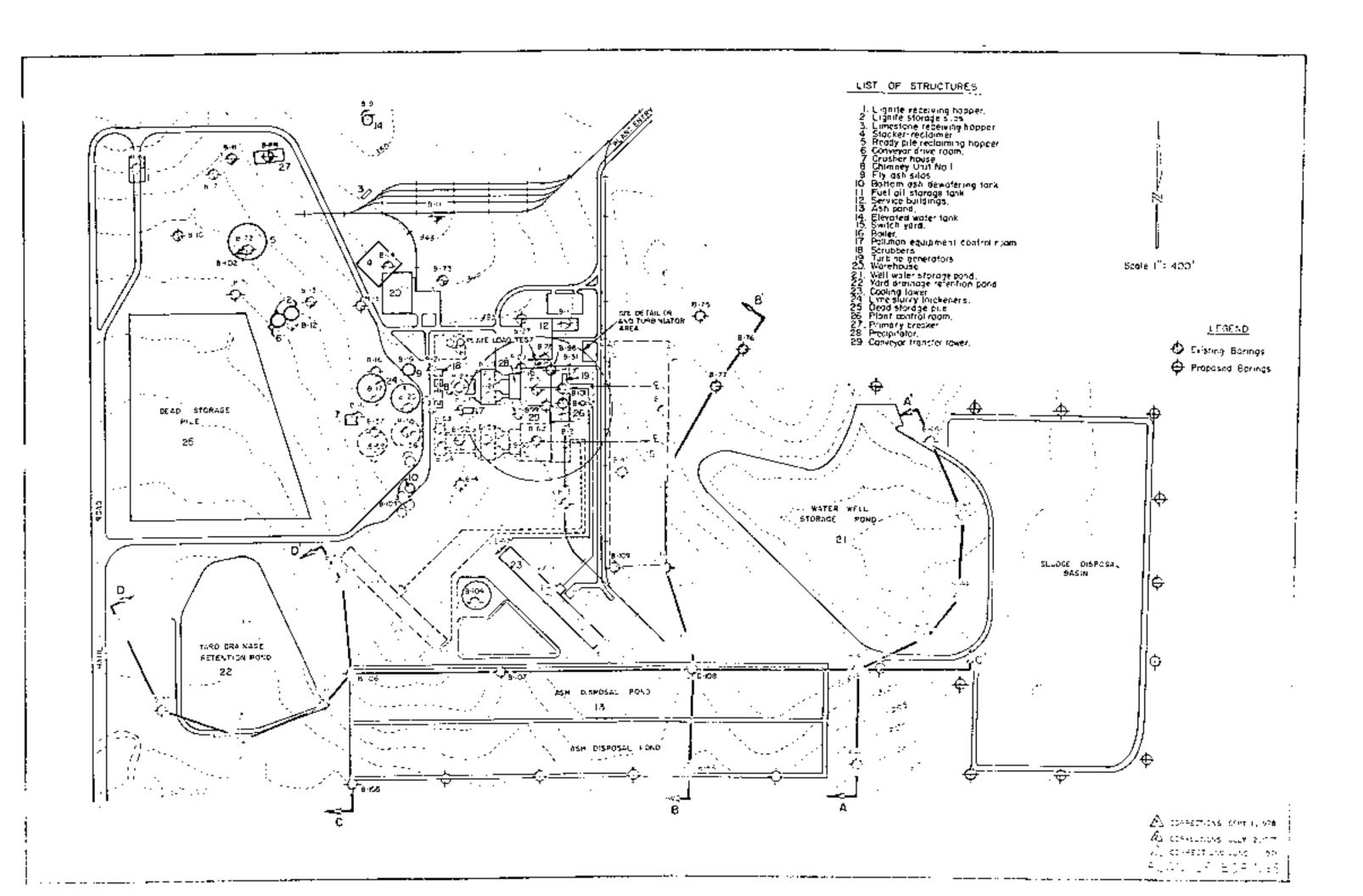
Gory G. EdFrance, P. E. Manager of Engineering

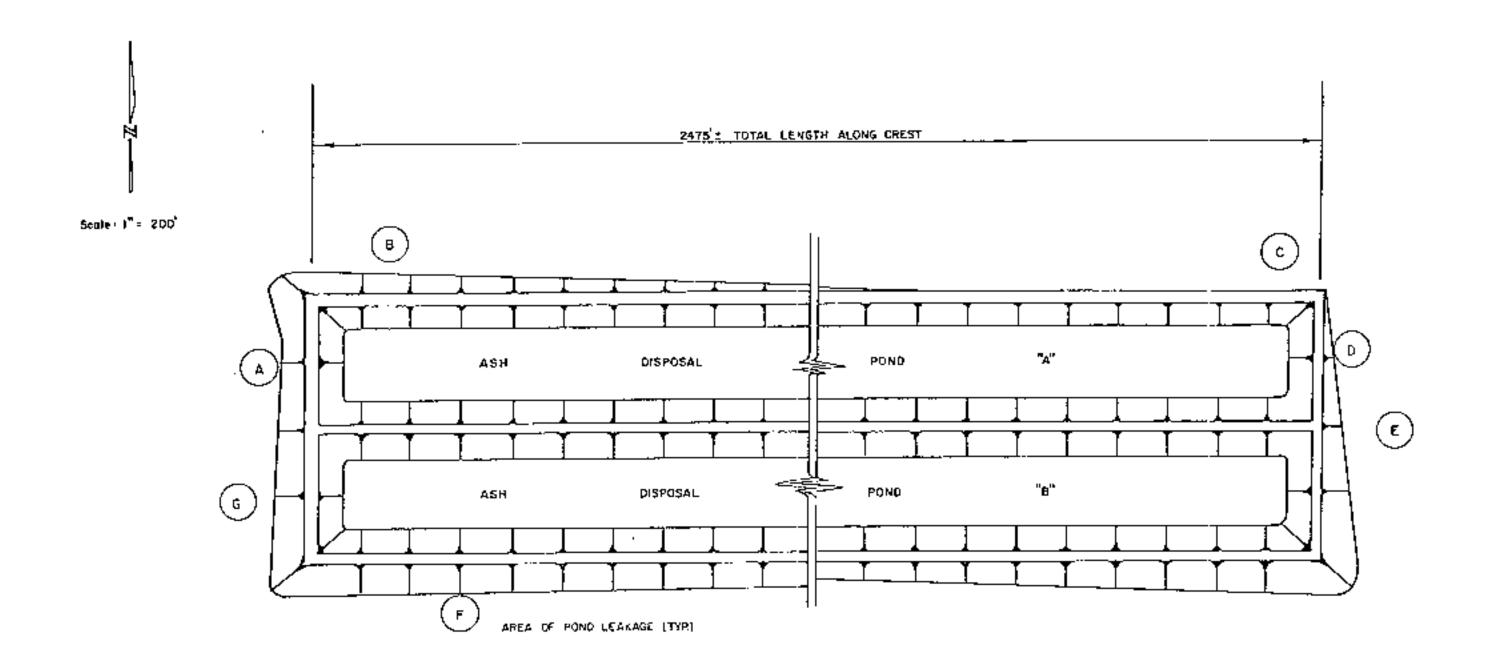
Ralph J. Reum /GC Rolph F. Reuss, P. E.

President

GGL/RFR//cri

Copies submitted: 3





#### LOG OF BORING NO. 8-SES-35 GAT COOPERATIVE PROJECT PLEASANTON, TEXAS TYPE SORING! Undisturbed Semole LOCATION; See Plan of Agrican SHEAR STRENGTH OEPTH, FT. SYMBOL IN TONS/SO,FT. STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE SOIL GESCRIPTION BLOWS ELEVATION: 314.0 Ford prown clay (CH) Hara light ton silty clay w/coispreaus packets Ü re ii le Hii: here serves tenetiassocies 414444114 <u> СЦ - С</u>Н1 Hara light gray sendy clay w/isan steins 55 15 :CD hard light reddiun-prown c'ay w/occasional silty clay seams w/limanite (aminarions <u>-wifeleene oocken</u> <u>/(Ç</u>H) Hard light red and light gray citry clay which laminations, relenite laming-ions w/roms sand 1<del>77||1||</del> great His ICLI hard light prawnish-ton clay -/telenite seams - jaintea 111 ŞΦ :::IIII o H o : ·C41 Hard fan tandy alay wykarachaceaus specks -20% ew/iron arolles 4.00 (CL) hery dense green to to how wind. **\$02**| 5° ₩01 Ti. 27 SQ 5 (Continues) Contact on a constitution of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the contact of the con

	LOG OF BORING G&T COOPERAT PLEASANTOR	TIVE PROJECT
SAUPLES	SQIL DESCRIPTION	SHEAR STRENGTH IN TONS/SQ FT. MAN SONO SONO SONO SONO SONO SONO SONO SO
55	-w/occasional clayey sand pockets	50/5, 5=
	Tara gray sandy cray, w/4.0° silty sand ream at 64.5° ww/numeraus clay leminations (CL) hara grayinhorama gray, w/numeraus	
	iona neckets, shehaiy alice ensided (CH)	

LOG OF BORING NO 8-5ES-39 GAT COOPERATIVE PROJECT FLEASANTON, TEXAS								
SYMBOL MASSAMPLES	SOIL DESCRIPTION  ELEVATION: 301,0	LOCATION: SA	MONOS PER FT	PLASTIC P	SMEAR STRENGTM AND LINE LINE LINE LINE LINE LINE LINE LINE			
	Maid dark brown sandy alay  Mard light brownish-ma alay, jointed	(cu						
	Nord redains-brown sandy clay, wydocasional limphite packets	. <u>IC</u> 41		<u> </u>				
	Very dense light gray and light brawn tilry fine sand, wylight brawn play seams,	œр						
	Ciayey fine who peoms and accessional selection and accessional		e 7/* D-					
25 -								
45	TION DEPTH. 25.0'							
DATE: 1977								

### LOG OF BORING NO. 8-5E5-41 GAT COOPERATIVE PROJECT PLEASANTON, TEXAS TYPE BORING: Undithined Sample LOCATION: See Plan of Springs SHEAR STRENGTH ä SAMPLES SYMBOL IN TONS/SQ.FT. DEPTH, SOIL DESCRIPTION ELEVATION! 306.3 Mard dark brown clay (CP) hard redailsh-han and light gray fally city, whelevite reams and coexess itidaadra**:\1** :CLi Mara light seddish-brown clays jointed ewziron lominations and selepite seams 1:111::1 20 hwarfly day seams at 20,01 veziron (gwing)rons (CHI 25 Theat Li Τī 30 1:11 35 TÇ. . 11. 45 ١. COMPLETION CEPTH DATE: TOWNER OF THE PROPERTY.

			641	F BORING COOPERATIV LEASANTON	re Proj	ECT	<b>2</b>	_				
上	YPĘ	80	RING: Undisturbed Sample	1004Tion	See Pl	lon of	Sari.	~91				
OCPTH. FT	SYMBOL	SAMPLES	SOIL DESCRIPTION  ELEVATION: 285.6				SHSSM4 %		PCASTIC IMIT	MOIST JRE	SMEAR STREAM IN TONS/SOF	UNIT DRY WIT
F	7	ý	Hard dark arown clay	··			╄.	⊢	H	╌	05 10 15 1100 1100 1100 1100	:
	<u>//</u>	J			(CH)			ł		li		<del>!    </del>
- 5			Hard light reddisheron and light gray sitty clay, w/numerous alay laminations and seams				-			_		
$\vdash$	N	₩	Money Colonia	<u> </u>	:641			<u> </u>				<del></del>
10		7	Hard Eight brownich-top clay, -/arlanite seamt, jointed									
- 15		Ĭ	-tutning slightly shody or 15,01/ecspianal iron ships		IÇH1							
20			Hard brown sandy city		œυ					7		
- 25 - 30 - 35 - 40	CMP		Very dense groy crayey fine sand,  =/accasiano/ park may cray salls		<u>(\$C)</u>							
			TION DEPTH: 41.5 DATE: 1:15/7e						_			<del>-</del>
energy Company	947-360, 30-, 317-359 Photos 5 146-353											

	LOS OF BO GATCOC PLEAS	DRING NO. 8 PERATIVE PROJE ANTON, TEXAS	-\$65-60 ECT		
TYPE 8	ORING: Ungighterated Schoole LOC	ATION: Se	≠ F°an e¹ (	·	
SYMBOL			%P25576 B2305 95VE.	CHOULD LAMT PLASFIC MAN	SHEAR STRENGTH IN TOWS/60 FT
-0	Mard brown sangy clay		· · ·	<del>-</del>	
		(CL)			
	Hard fight gray silty clay w/numerous selective packets	/ <b>C</b> D	iΠ	<u> </u>	
	Hard light red clay w/seignite seams			<del>-</del>	
	-w/numerous iron famingrions	(CH)			
	Pard light gray ulty clay w/occosional clays y pockers	<b>(ÇL)</b>			
	Hard light brownish-tan clay wytron stains, jointed		-	7	
	/Laleni pockets	(CHı			
	More I get trown sendy clay w/clay pociets and iron trains	· cc			
	Velvicense ugot green (inv fine sand, worde smin)	   	80/3 s		
	-w/accompred real play years/accompred what till leminations before 48'	ļ			
<u></u>			- i-L	$\Box$	

# LOG OF BORING NO. 8-585-60 (Confid.) GAT COOPERATIVE PROJECT PLEASANTON, TEXAS SMEAR STRENGTH BLOWS PER FT SYLEON. M TONS/SQ FT COUP LASTIC DEPTH. SOIL DESCRIPTION 0.021Mand gray elay w/occosional wardy clay pockers to 63" **/occopional sand packets -slightly slickensided (CH) 204 ----iıı: 1 1 1 1 1 1 1 1 1111 Pilari'ni 95 THE 1

CCMPLETION CEPTH

CONTACTOR | MACCAS

2011 - 76 1947 - 7•31 -76

PLATE 9

#### LOG OF BORING NO. B-SES-65 G&T COOPERATIVE PROJECT PLEASANTON, TEXAS Undisturbed Sample TYPE COMING: LOCATION: See Plan of Borings SHEAR STREAGTH W PASSING LIQUID LIMIT DEPTH , FT. SYMBOL Sandues 3. IN TONS/90, FT. PLASTIC LIVIT HOISTURE CONTENT SOIL DESCRIPTION ELEVATION: 304.4 Hard dark brown glay (CH) Mord light red and light gray silty elay 111. [4] i [115] 5 CD tin tin tiinie. Very dense light grow clayer fine gold (\$C) Hard light reddish-brawn glay Hillia da ii 1 - i i - While clay faminations and packets - pinred ____ -w/limonite teams 111: 1111 1: 20... -relemite team. (CH) 25 20 3\$ 111 ... 11111 45 COMPLETION DEPTH (1,5 CATE: 15,73 CONTRACT OF COMPANY

		•	G&T	BORING I COOPERATIVE LEASANTON,	NO. B-SES-6 PROJECT TEXAS	16		
77	PE	804	RING: Undishorbed Sample	LOCATION:	See Flan of	Baris	ngs	i
DEPTH, CT.	SYLBOL	SAMPLES	SOIL DESCRIPTION  ELEVATION: 295.D			WANSSING HOROQ SEVE	PLASTIC FLASTIC	SHEAR STRENGTH IN TONS / SO FT. SALE
F	7	3	Hard dark brown clay				Ť	05 13 13
- 5		77777	More light redaith-brown sitty clay, jointed, w/numerous clay laminations and iron stairs		(CH)	<u> </u>	-	
10	$\approx$	4			ICU	Ц	_ _	
			Mord Eight readish-son play, w/sithy clay tammations		(См)			
15			Mara light brownigh-tap clay, w/selemie seam, jointed estightly slickensided					
20-		<b>]</b> 	-w/mmay aloy laminations and packets below 20.8*		(Сн)	_	1	
25 -						İ		
30								
- 35 •		-						
45		İ			į			
- I		Pu	STION DEPTM: 41.3					
<u> </u>	COMPLETION DEPTH: 2-13  DATE: 1 15 753							

# LOG OF BORING NO. 8-105 G & T COOPERATIVE PROJECT PLEASANTON, TEXAS

771	<u>ع</u>	<u>80</u> 5	ING: Undisturbed Sample	LOCATION: See Plan of Bo	orinș	5.			
DEPTH, FT.	SYMBOL	STIMMES	SOIL DESCRIPTION  ELEVATION: 290.81		WESSING - NO ZOO SIEVE -	Ono.	PLASTIC LIMM	WOISTURE CONTENT W	SMEAR STRENGTH TANS/SQ FT. AND LINE TONS/SQ FT. AND LINE TONS/SQ FT. AND LINE TONS TONS TONS TONS TONS TONS TONS TONS
H		7	Still brown silty clay	· {CL)	Γ			-	
- 5			Tan clay, w/accesioned crystal material		55	'n	15		
			Dame los sondy silt	- /Ct)	54	29	19	l	
-10-		<u> </u>		(ML)		31	18		
20	<b>持续制度</b>		Dente ton sitty fine sond, iron stained						
30 .				( <u>su</u> )	-		I		
- 40-									
,45 . .50 .									
	COMPLETION DEPTH: 25.0*								
COMP.	MALTONIL 30 - NEATCES  COMMANDE APPRICAS								

#### LOG OF BORING NO. 8-106 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

_ <b>                                    </b>			See Plan of Bo	٠.	Ī	$\vdash$		SHEAR STRENGTH
SYMBOL SAMPLES	SOIL DESC	RIPTION		WAZOO SEVE	TIMIT	PLASTIC LIMIT	HOISTURE CONTENT. 74	IN TONS/\$Q FT.
	Very still dark brown clay			_	ļ.,	Щ		<u>, ,,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u>
	,	<u> </u>	(CHI)			!		
	Mard fan line silfy clay -iron steins				44	27		2
_1221_			(CI)	i			ŀ	<del>      •   •     •   •     •   •     •   •     •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •   •  </del>
	hard lan clay, w/occasional selenite		·					
-Ю-			(СН)					
	Very stiff light brown clay, w/occesionel selenite		(C H)					
$\sim$	Hard Ian stiry diay,			寸	$\dashv$	$\dashv$	ᆉ	<del>  -  - - -</del>
	w/occusional calcoreous materi	<u>.</u>	rcu	62	61	24		

# LOG OF BORING NO. 8-107 G & T COOPERATIVE PROJECT PLEASANTON, TEXAS

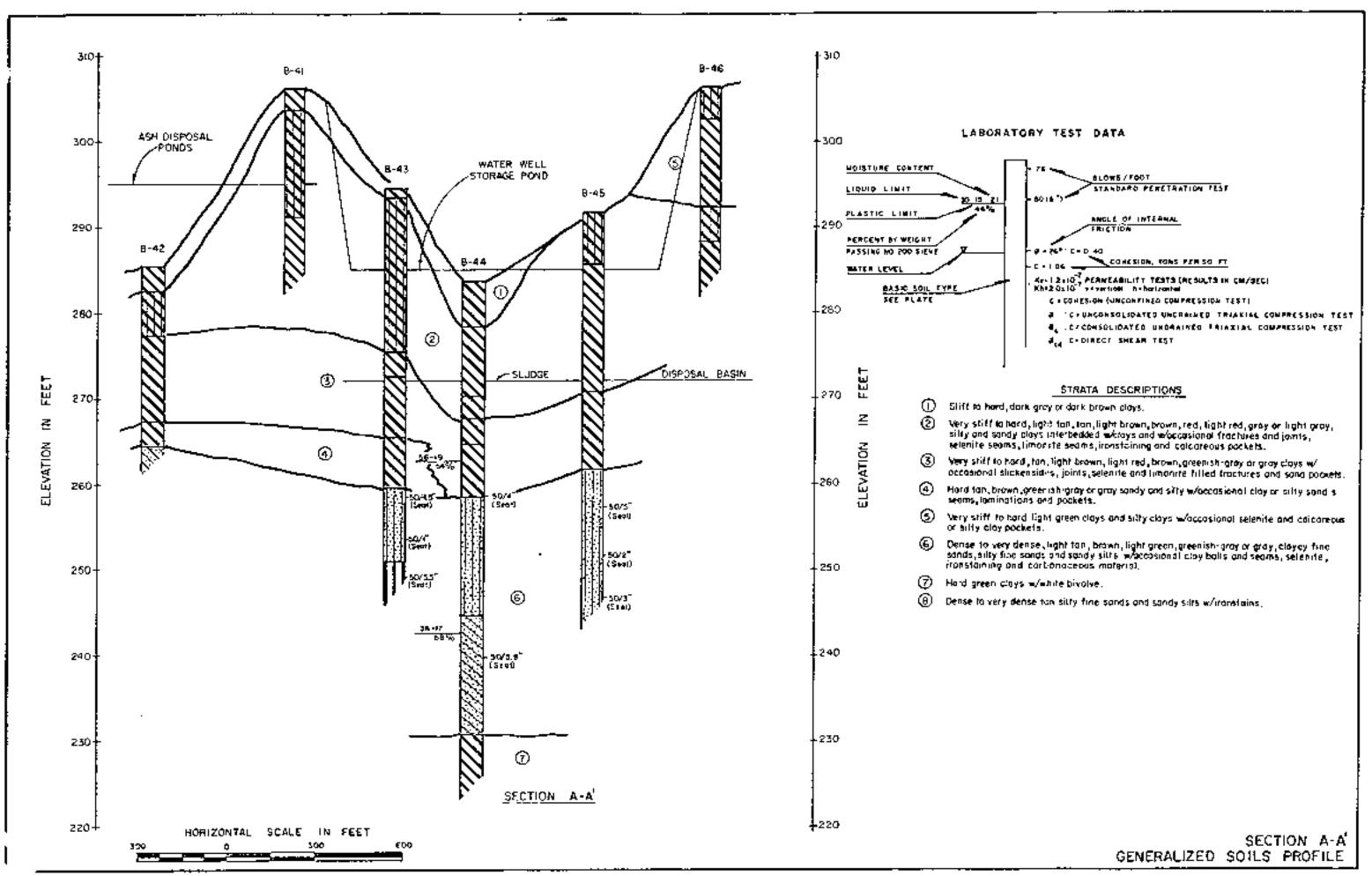
DEPTH , FT.	SYMBOL	SAMPLES	SOIL DESCRIPTION		NO 200 SIEVE	Liberio	PLASTIC	MOISTURE CONTENT Y	SHEAR STRENGTH
냣	4	4	ECEVATION: 302.9" Stiff dark brown clay	<del>.</del>	$\vdash$	<u> </u>	<u> </u>	$\square$	<u>  05  0  5  </u> 
$\Box$	$\langle \rangle$	-		(CH)		_	_		<del>                                      </del>
			Horai light tan clay, w/iron stain		71	83	28		
			-light brown -eccational very stiff salanita		67	52	22		
	7	-	Mard tan clay	(CH)		89	31		
	7://			(СН)					
- 1 - 1 5 - 1		_	Very dense silly fine sond	(SM)					
					i				
- <b> </b>				i	ĺ				
							-		

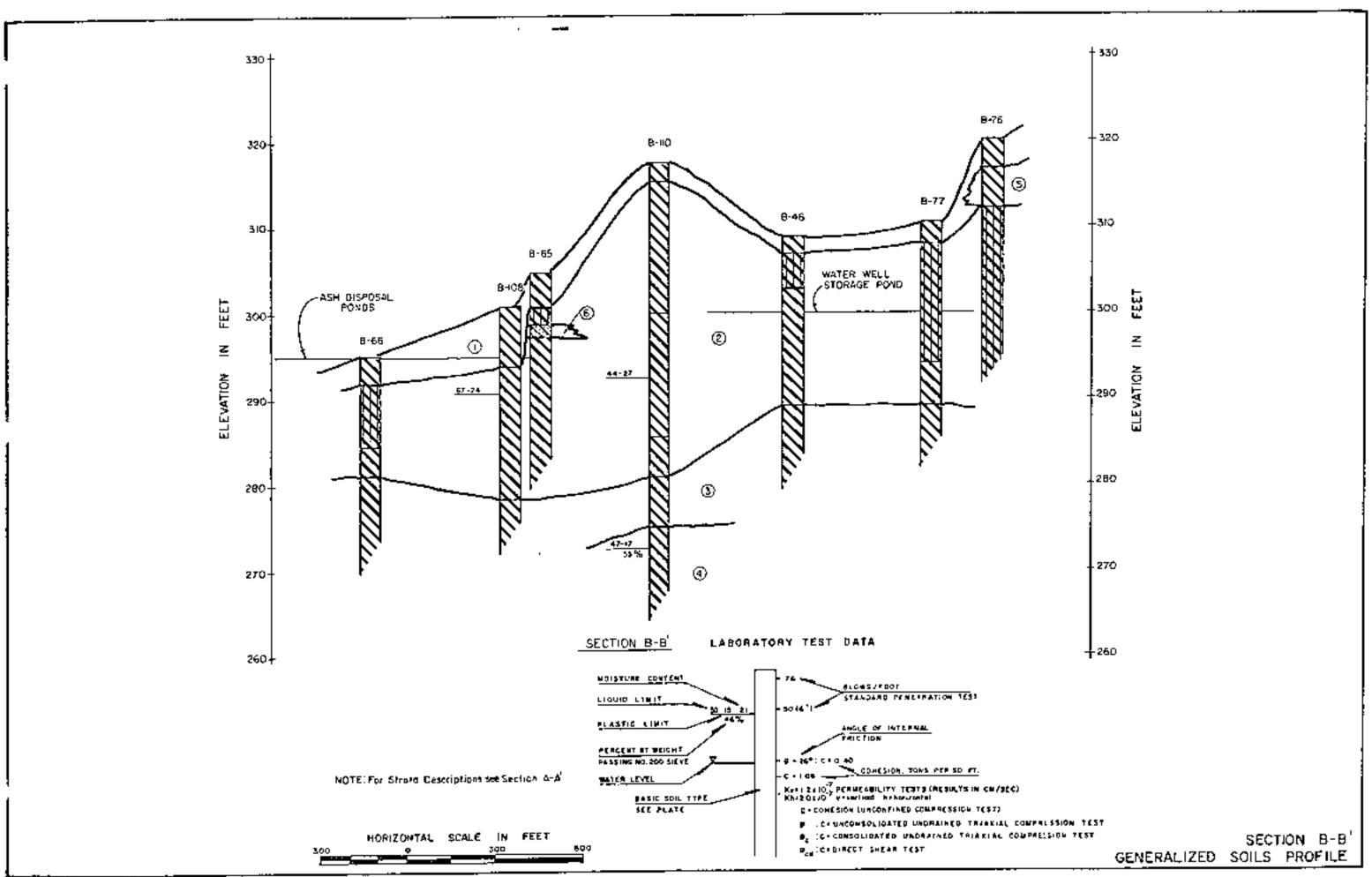
# LOG OF BORING NO. B-109 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

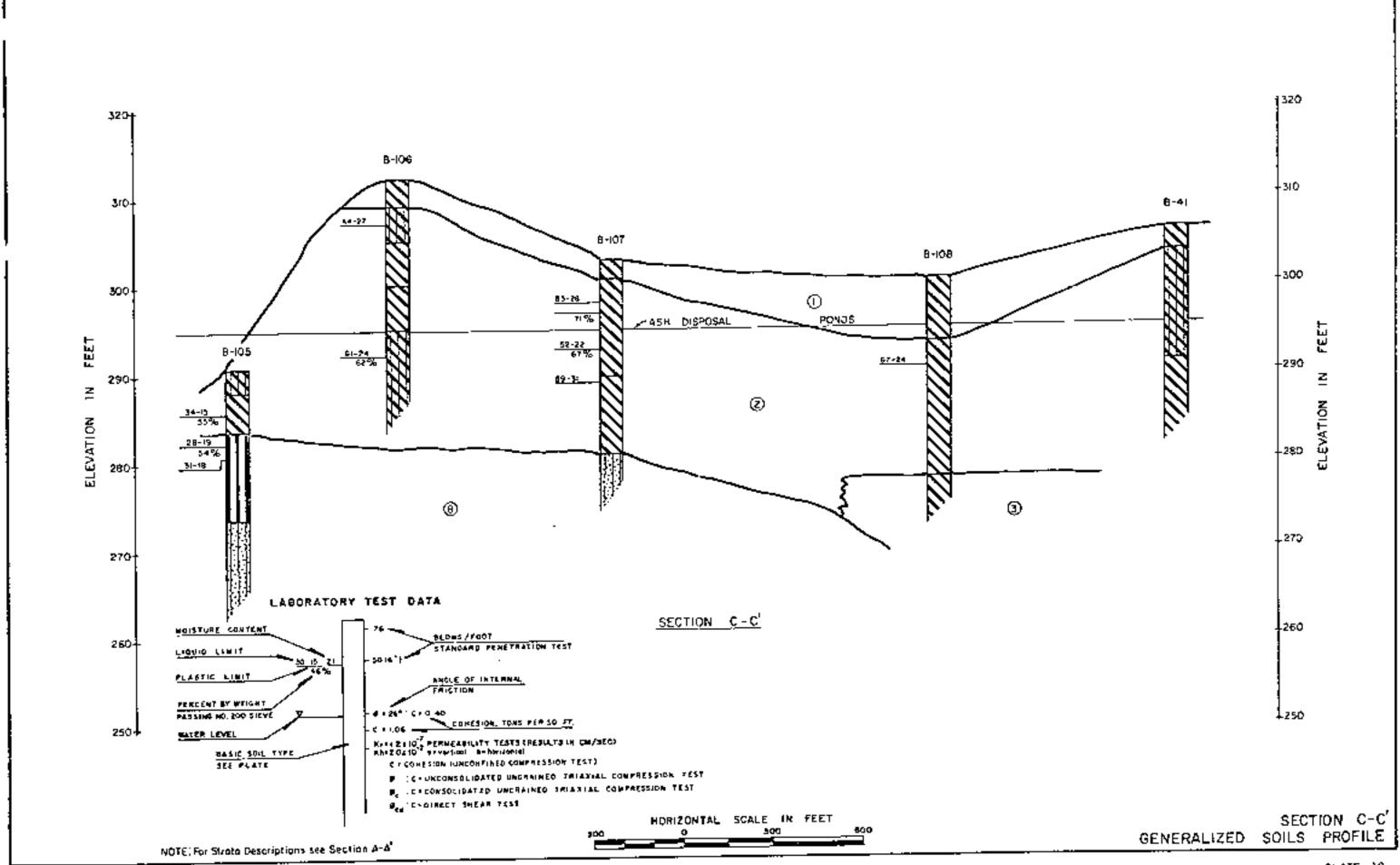
-tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan  -tan -	TYPE	: e	ORING : Undissurbed Somple LOCATI	ON: See Plan of Borin	ı.				
Stiff dark brown clay	-  -	SYMBOL SYMBOL		وا غار	NG2DOSEVE -	TIMIT MIT	PLASTIC LIMIT	MOISTURE CONTENT, 76	IN TONS/SOLFT. AND LINE
-ton -ton -ton -ton -ton -ton -ton -ton			Stiff dars brown clay -very stiff	{CH1			•		
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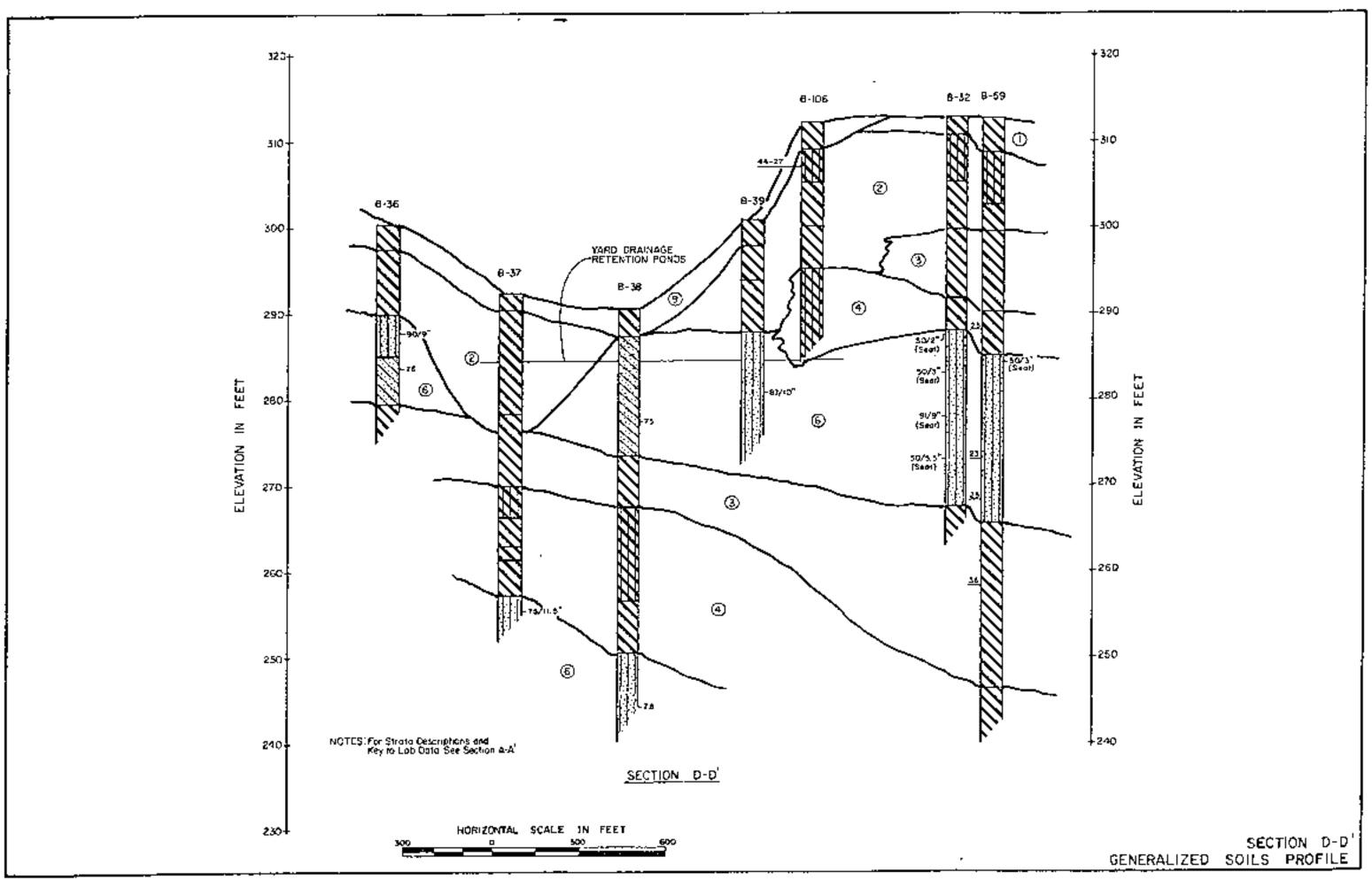
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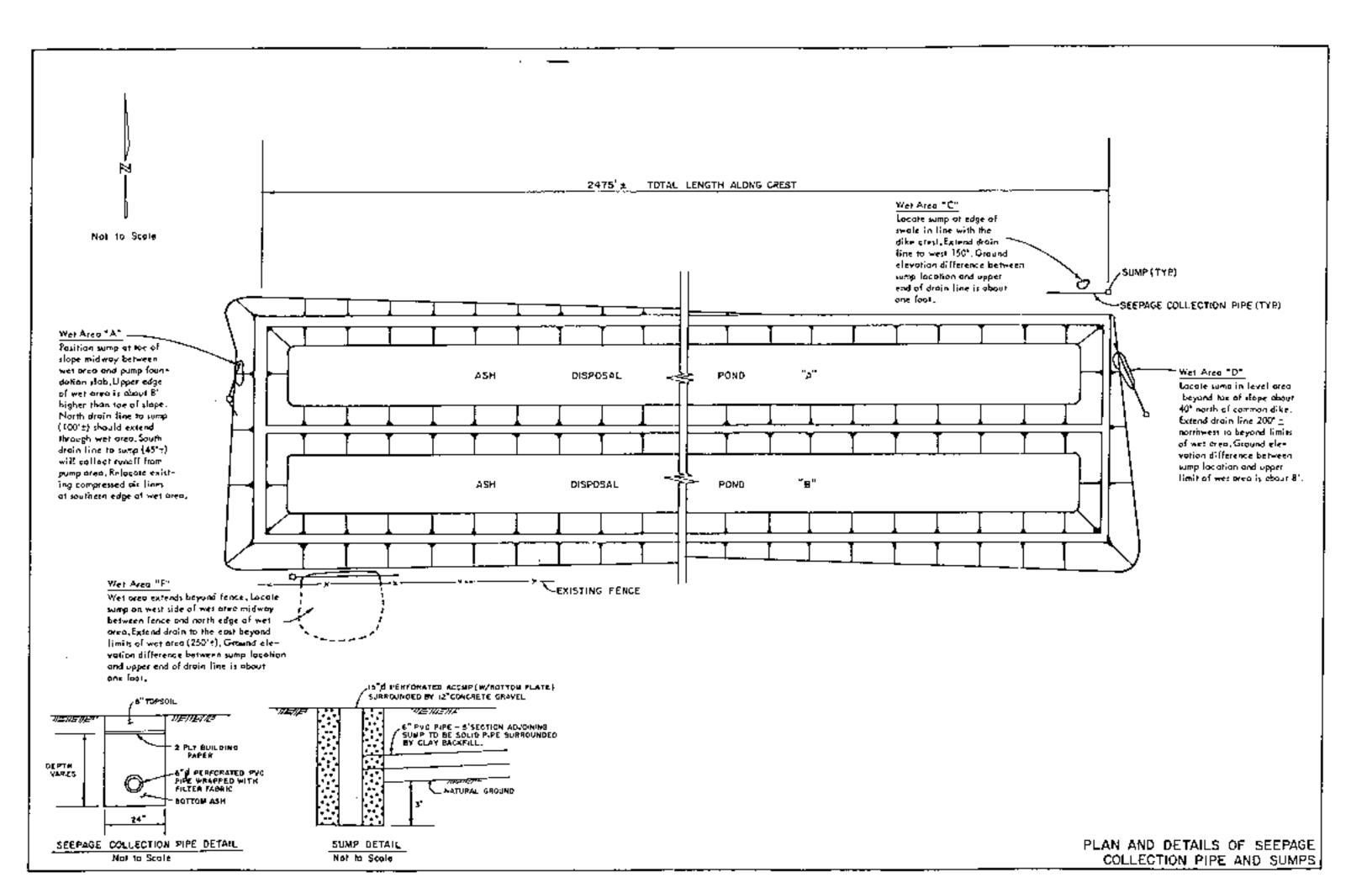
ILLUSTRATIONS











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 ELECTRIC COOPERATIVE, INC.

Way 8, 1987

Professional Service Industries, Inc. Mr. Eary Davis Three Burwood Lane San Antonio, Texas 78216

'Re: -General Wotes for San Miguel Unit \$1, 3A Ash Pond Clay Liner.

Construction

(SPEC 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.

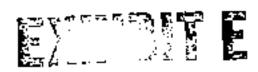
The 1A Ash Pond involves the four inner bank walls and the pond bottom. Your soil testing company shall test clays to meet the following specifications.

Liquid limit greater than 30

Plasticity index greater than 15

Permeability less than 1 x 10-7 cm/sec

 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.



Professional Service Industries, Inc. For, Gary Davis Page 2

Please instruct your field technician to provide me with a daily list of

Employees

2. Field lests/progress reports

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:

Ars. 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.

TOURS ETTING

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.



### SAN MIGUEL ELECTRIC COOPERATIVE, INC.

Hay 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

*Eonstruction

(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 IA Ash Pond involves the four inner bank walls and the pond bottom. Our soil testing company will test clays to meet the following specifications:

Liquid limit greater than 30

2. Plasticity index greater than 15

Permeability less than 1 x 10-7 cm/sec.

 Compaction tests shall be based on 95% density at moisture content three Lo 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 Thrusday, Kay 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

MAY 2 2 1987

KENDRICK & FURKIN



Also during our meeting Thursday, we agreed to the following items.

 Schedule starting date is June 1, 1987. Estimated completion date: is July 31, 1987.

Xnowlton Co. shall provide insurance certificates to:

Mrs. Doris Park

Administrative Assistant

"San Miguel Electric Cooperative, Inc.

. P. O. Box 280

Jourdanton, Texas 78026

 Knowlton shall provide SMEC with performance bond. Subject to San Miguel Corporate legal counsel approval.

 SMEC shall pump existing water from the IA Ash Pond prior to contractors arrival. Knowlton shall furnish additional pumps for the duration of the project.

 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.

SAEC shall not be charged for "rain outs."

B. 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

Clade 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.

# 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.
- 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 minety 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

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except acts or omissions of the Owner, shall result in any liability on the part of the Owner.

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- 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:
  - Liquid limit greater than 30,
  - b. Plasticity index greater than 15,
  - Permeability less than 1 x 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 a)! 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 1A 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.

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 barmless, 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 fecs, 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 OSRA 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.

- 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.

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- 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

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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.

Title P/Zet Magel

Attest

San Miguel 1987d Contract for 1A Ash Pond Liner Reconstruction – Professional Service Industries, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.

### 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 cextificate 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 detective 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

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 Cwner 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. Porce-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 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 within three (3) days after the happening of any event relied upon shall have made a request therefor in writing to the Contractor 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:
  - Liquid limit greater than 30,
  - Plasticity index greater than 15,
  - c. Permeability less than 1 x 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 Cwner'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 Cwner 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

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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 of 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").
- ll. 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

- 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 ing sub equent breach by any gifty and may not be changed except by written agreement duly executed by the parties bereto.
- 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 accuments and instruments and to perform such additional acts as may be necessary and appropriate to effectuate and perform all to the terms, provisions, and conditions of this Co. act | al other transactions associated therewith.
- 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 beirs, 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_

Title

Attest

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., Tippett & Gee Inc., October 21, 1983.

Consulting Engineers -

SCY NORTH WILL'S TIRLET LABILENE, TEXAS ZOUGS PHONE (ZOUBPO) LARRA CODE OS TELEN ZOUGF TIPACCE AN 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.

RFS 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.

m. J. Hugh

M. L. Rughes, P.E.

MLH:bf Attachments

co: Mr. Richard McCaskill, SMEC

Mr. Robert Chiel, SMEC



# SAN MIGUEL ELECTRIC COOPERATIVE, INC.

RECEIVED

October 14, 1983

OCT 1 7 1983

M.L. Hughes Tippett & Gee Engineering 502 North Willis Street Abilene, Texas 79663

TIPPETT & GFE

Subject: Ash Pond Area Water Analysis.

Dear Mr. Bughes;

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

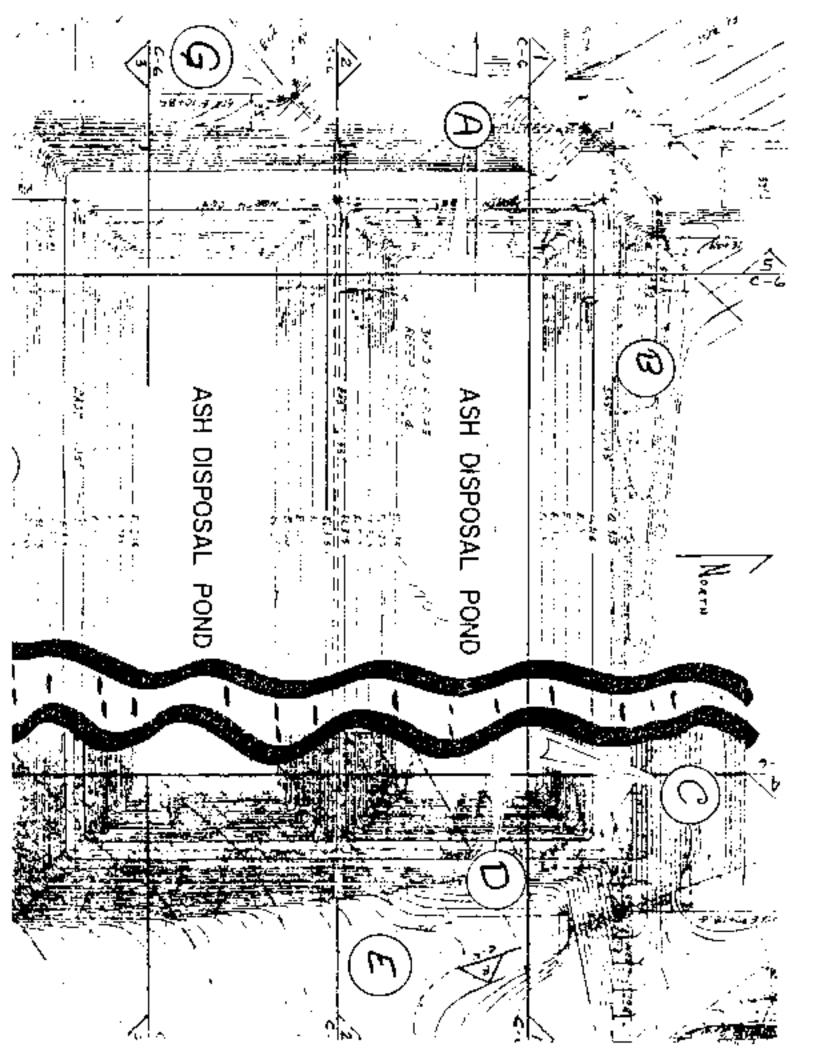
Power Engineer

RC/jas

co: R. McCaskill

R. Magel

R.P. Metcalfe



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.

Consulting Engineers —

DOS NORTH WILLIS STREET HABILENT TEXÁS 79603 PRONE 673-APO. I AREA COUL DIS TELEX 730457 PIPECKS ABI

October 26, 1983

Mr. Ralph Reuss NFS Services, inc. 4087 Shilling Way P.O. Box 24596 Dallas, TX 75224

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/dc 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. ippett & Gee

Consulting Engineers -----

GO ENORTH WILLIS STREET. AMERIC, MIXAS 70003. PRIONE 67,08091. AREA CODE OF LLLX 2 90452 Offection 38.

January 9, 1987

TIPPETT & GEE TELECOPY

J-4-87 DATE:_

TIME:_

FROM: <u>ZILLIKAL</u> 4+UG NO. OF PAGES::

1-9-87 DATE MAILED:

Mr. Clyde Price San Miguel Electric Cooperative, Inc. P. O. Box 280 Jourdanton, Texas 78926

Re: San Miguel Plant

Unit No. 1

Ash Water Pre-Settle Pond Study, SM4

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.

- Texas Righway Department Testing Standard No. 113E is close to the requirements of ASTM 298. Standard Proctor for most soils.
- Compaction should be based on 95% density at optimum moisture content. (-2 to +4% is acceptable range for variation)
- 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) [f failure to meet design criteria occurs, intervals should be decreased until satisfactory compliance is established.

#### 4. Time Estimate:

Strip 2' of bottom soil and windrew

30-40 c.y./hm.

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, SM4 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 x  $10^7$  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.

### TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congrete Avenue

Auton, Teast

#### TEXAS WATER DEVELOPMENT BOARD

A. L. Black, Channan
John H. Garrett, Vice Chairman
Milron T. Porte
George W. McCleckey
Glen E. Roney
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TEXAS WATER COMMISSION
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Free ones Orector

SAN MIGUEL ELECTRIC COOP. ROBTING

March 29, 1979

PLANT MOR. /C P-1
MAINT. SUPV.
TECH, SUPPORT SUPV.
TUFIS ENG.
DIFER, SUPV.

Mr. Ron Magel Plant Manager San Minuel Elec

San Miguel Electric Conperative, Inc.

P, O. Box 280

Jourdanton, Texas 78026

ZALLEY SPLC.

Filt - Porm.

Dear Mr. Magel:

Re: San Miguel Electric Cooperative, Inc., Pormit 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 pends at the San Miguel power plant site. Waste Control Permit No. 02043 requires that all wastewater retention pends be lined with a synthetic liner or with three feet of clay rich soil in order to achieve a permeability of 1 x 10°/ 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 pend lining have been achieved on both ash pends, the storm water runoff pend. 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 pand 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,

Director

Enforcement and Field Operations Division

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MAR 3 0 1979

BAB/mw

S. M. E. C., INC.

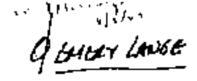
ccs: Mr. Pierce Chandler, NFS/NSS, Inc.

JOURDANTON, TEXAS 78026
Texas Department of Water Resources District 8 Office

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.

# TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue Austin, Teast



#### TEXAS WATER DEVILOPMENT BOARD

Louis A. Beccheel, Jr., Chairman George W. McCleskey, Vice Chairman Glen E. Roney W. O. Hankston Louise A. "Bo" Pilgrim Louise Welch



Charles E. Nemir Escanin Director

July 29, 1983

TEXAS WATER COMMISSION fee B. M. Biggais, Chateman

Felia McDonald John D. Stover

REPLY BY 20 AVG 83 !

Richard McCaskill, General Manager San Miguel Electric Cooperative P.O. Box 280 Jourdanton, Texas 78026

Dear Mr. McCaskill:

Re: San Higuel Steam Electric Station, Jourdanton Plant Site Industrial Wastewater Inspection of May 26, 1983 Permit Mo. 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. Buring this inspection, the following problems were noted:

- F.G.D. 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.
- 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 cipes) has begun to erode.
  - A. A program to vegetate the outer banks should be looked into in order to stop erosin.
  - B. Please identify the reason for pond leakage and your proposals for elimination.
- 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.

RECEIVED

 Head tanks for the ash water booster pumps have overflowed and discharged ed their contents towards Souse Creek.

S. (3.1), C., InC.

Richard McCaskill, General Manager San Miguel Electric Cooperative Page 2 July 29, 1983

> 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

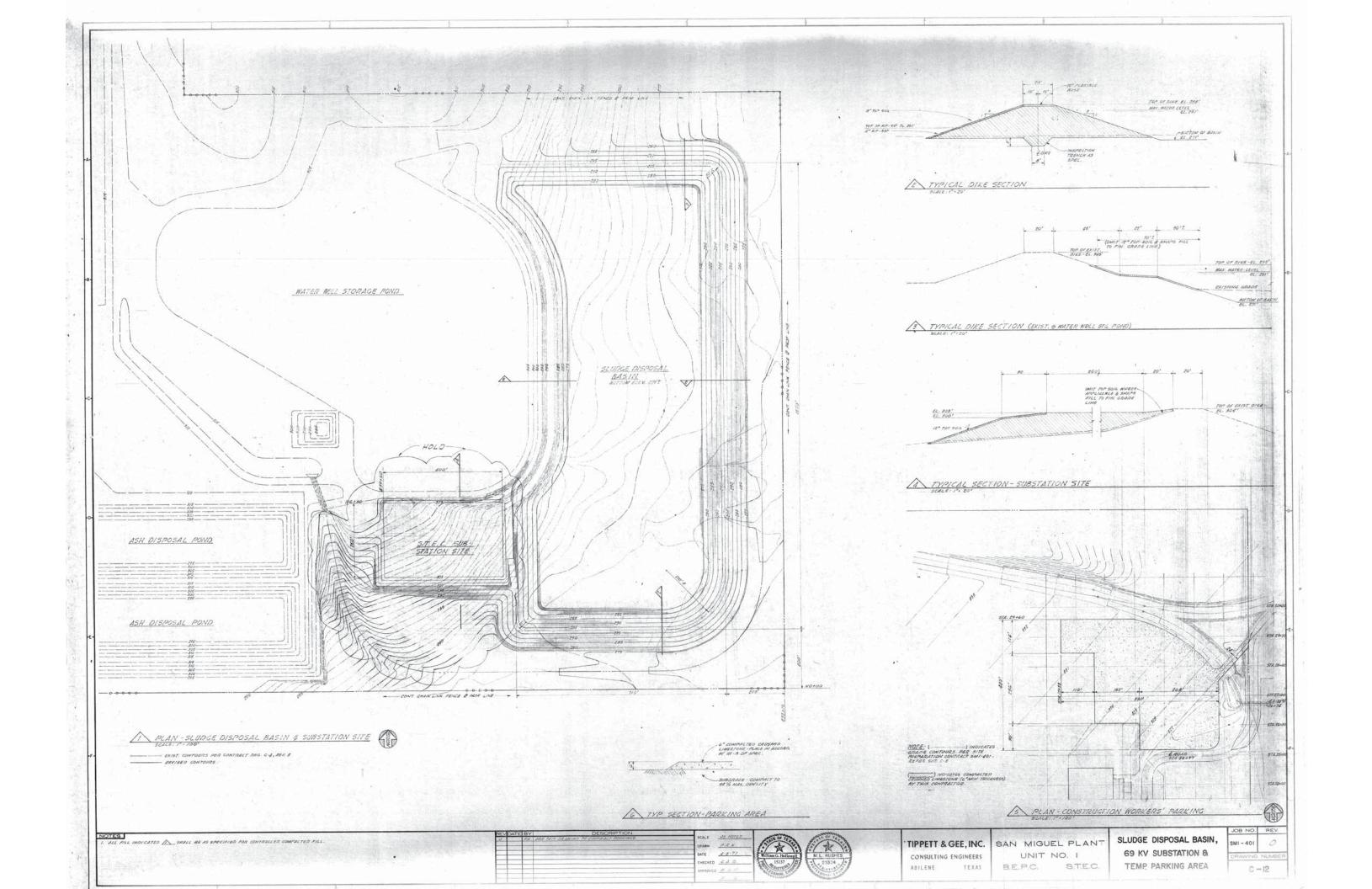
VRF-ADLC/pg

### SAN MIGUEL DRAWINGS

T&G 1977a

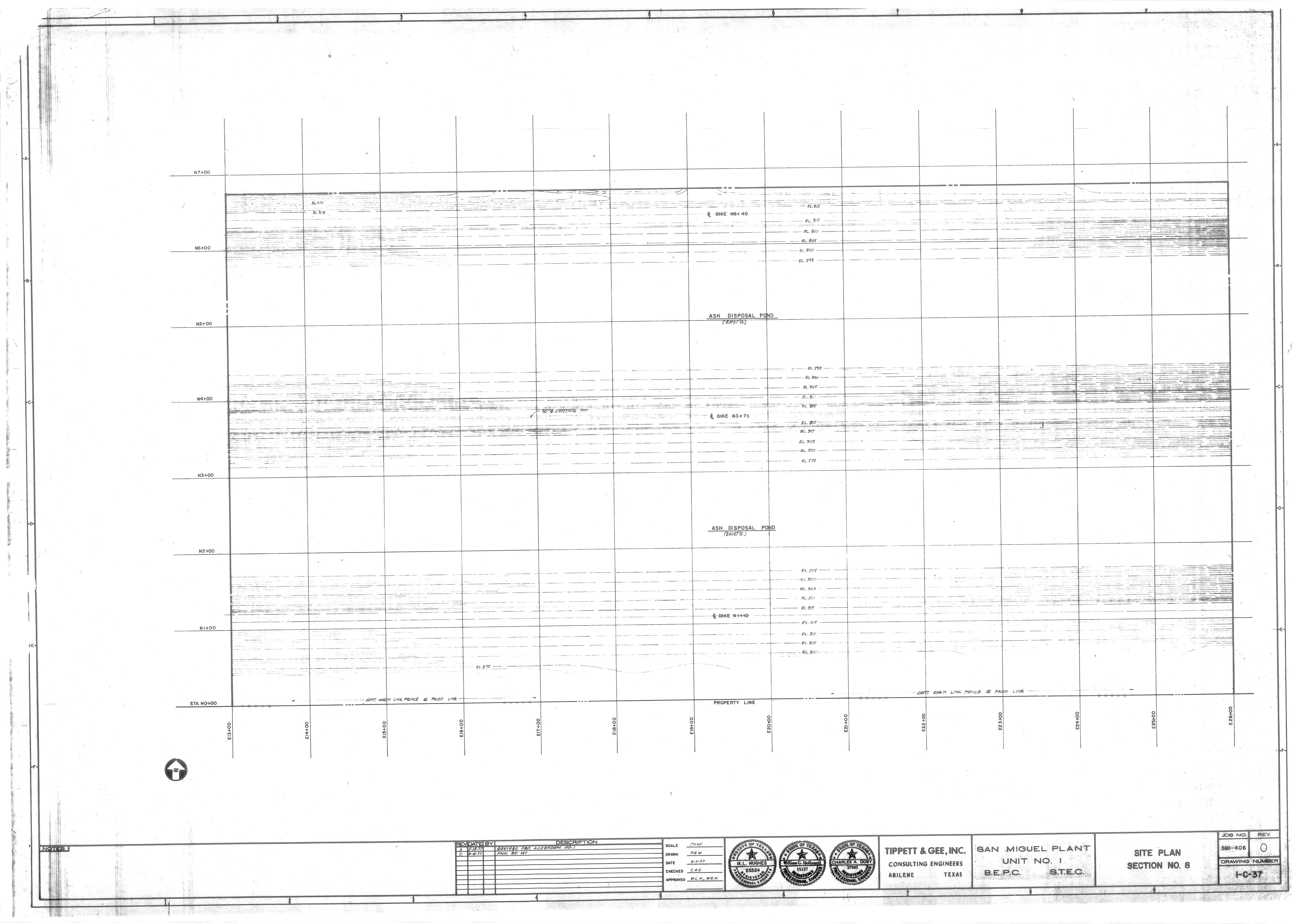
Sludge Disposal Basin, 69 kV Substation & Temp. Parking Area, San Miguel Plant Unit No. 1, Drawing No. C-12, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised April 5, 1977.

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

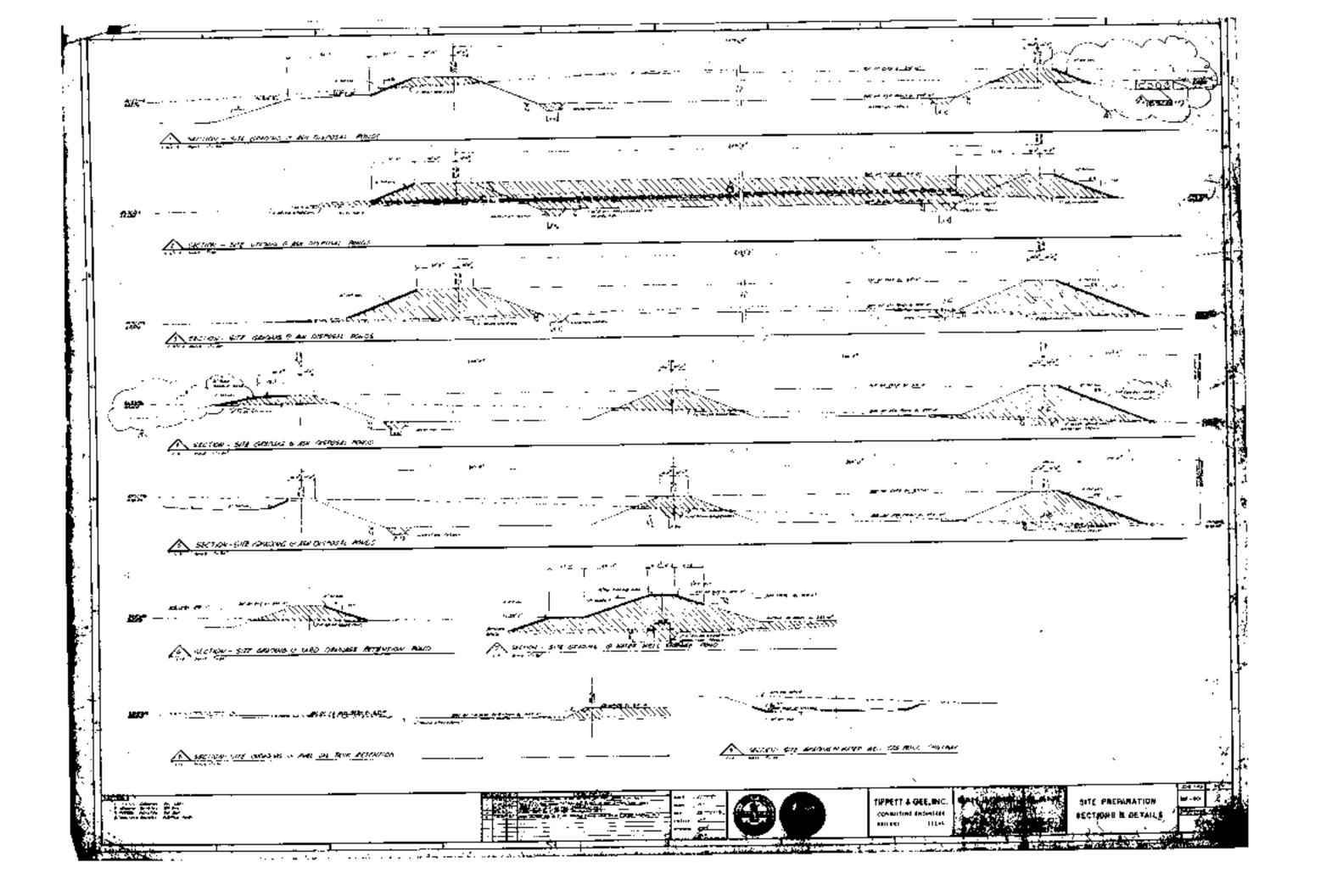


T&G 1977b

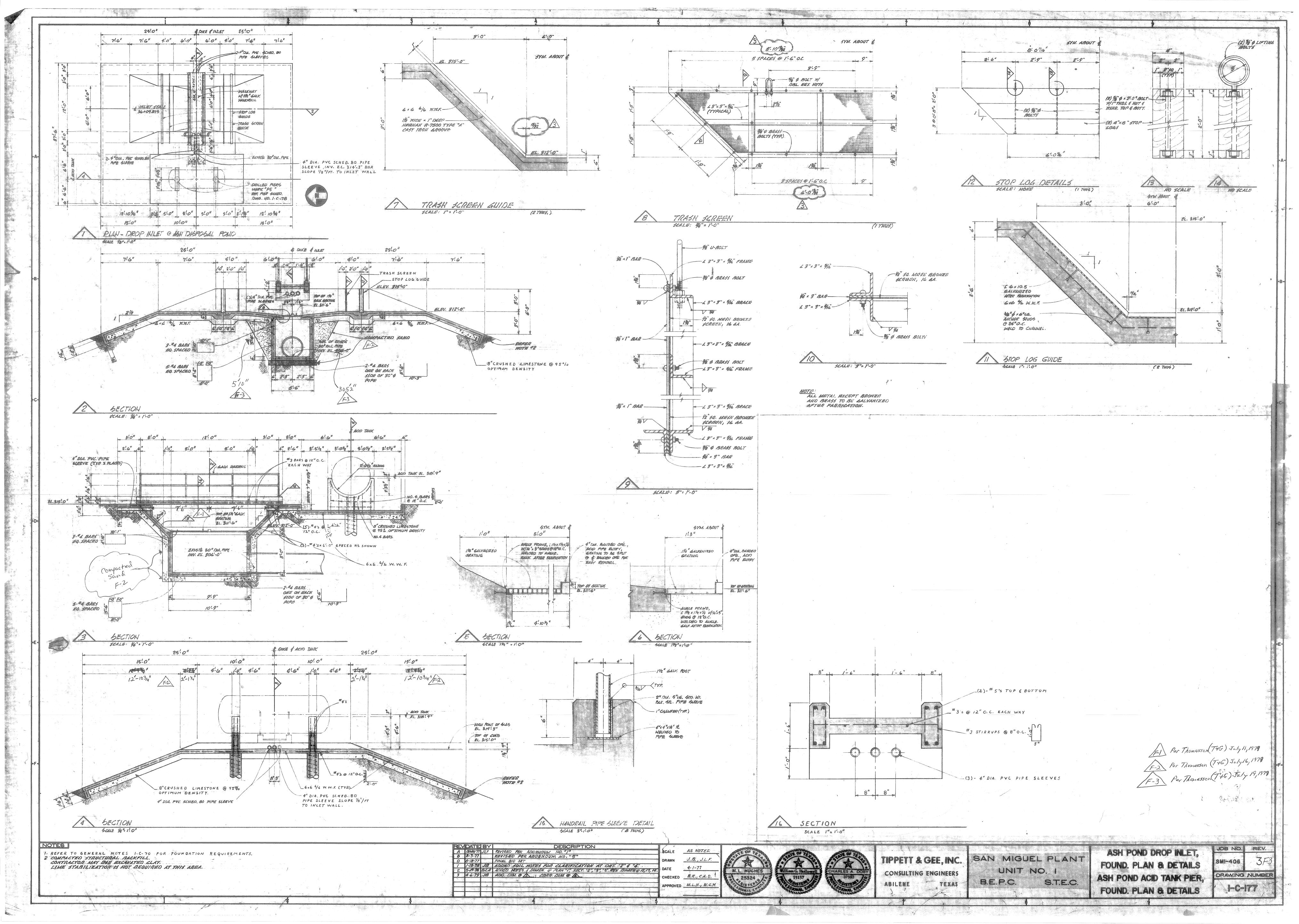
Site Plan Section No. 8, San Miguel Plant Unit No. 1, Drawing No. 1-C-37, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised August 18, 1977.



T&G 1977c Site Preparation Sections & Details, San Miguel Plant Unit No. 1, Drawing No. C-2 Rev. 2, Tippet & Gee, Inc., 1977.

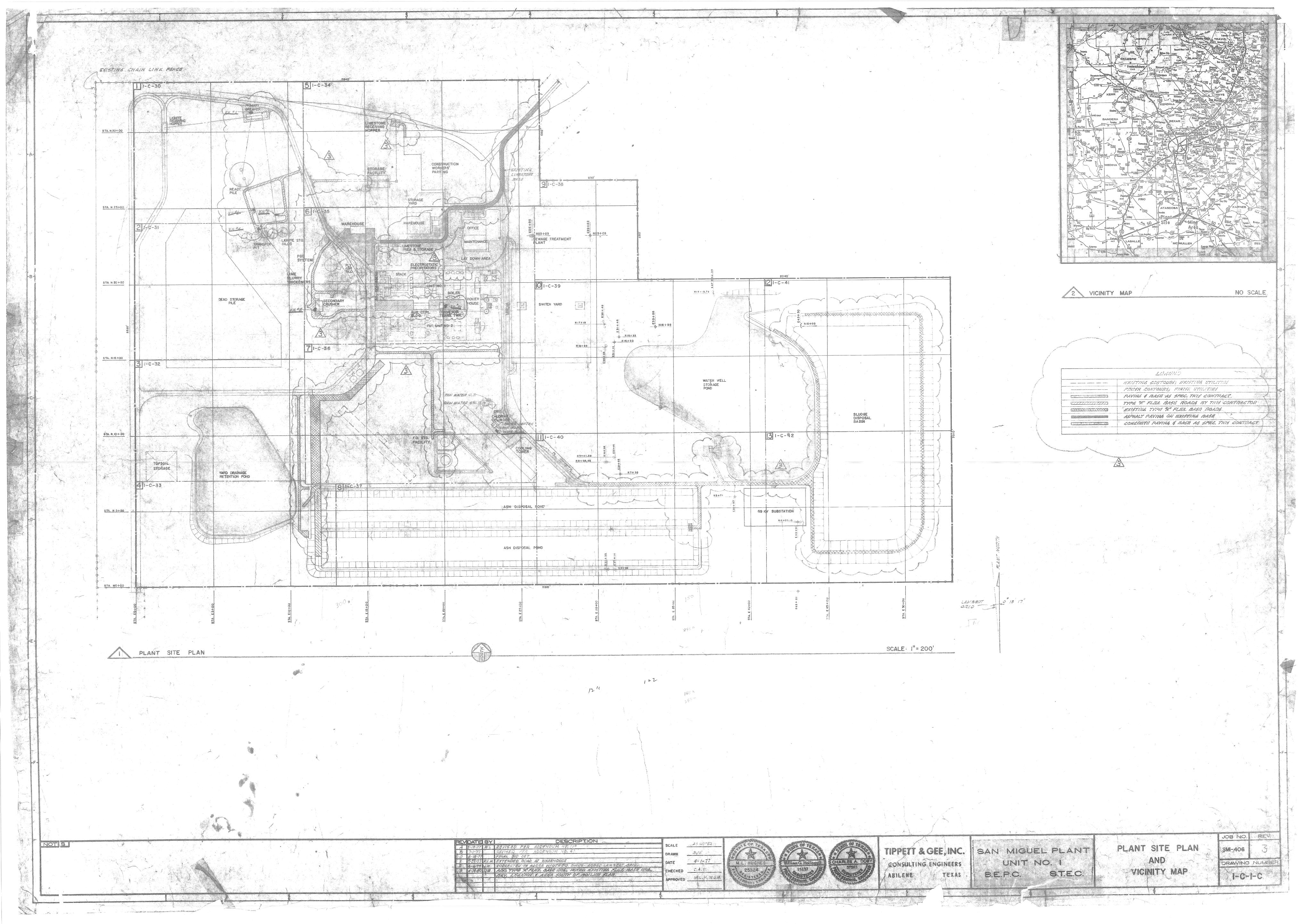


T&G 1979 Ash Pond Drop Inlet, Found. Plan & Details Ash Pond Acid Tank Pier, Found. Plan & Details, Drawing No. 1-C-177, Rev. 3F3. Tippet & Gee, Inc., April 1, 1977, revised April 6, 1979.



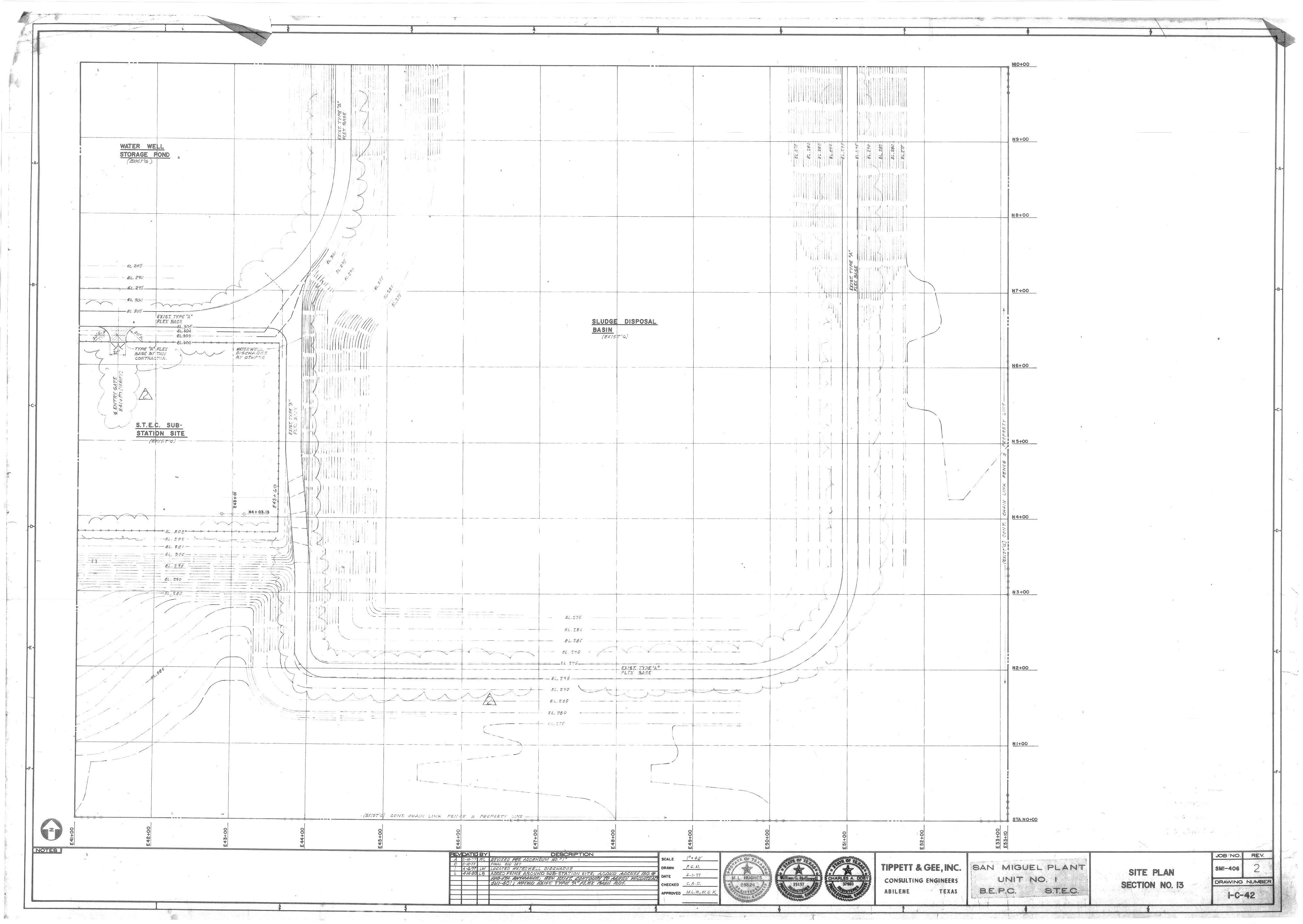
T&G 1980a

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.

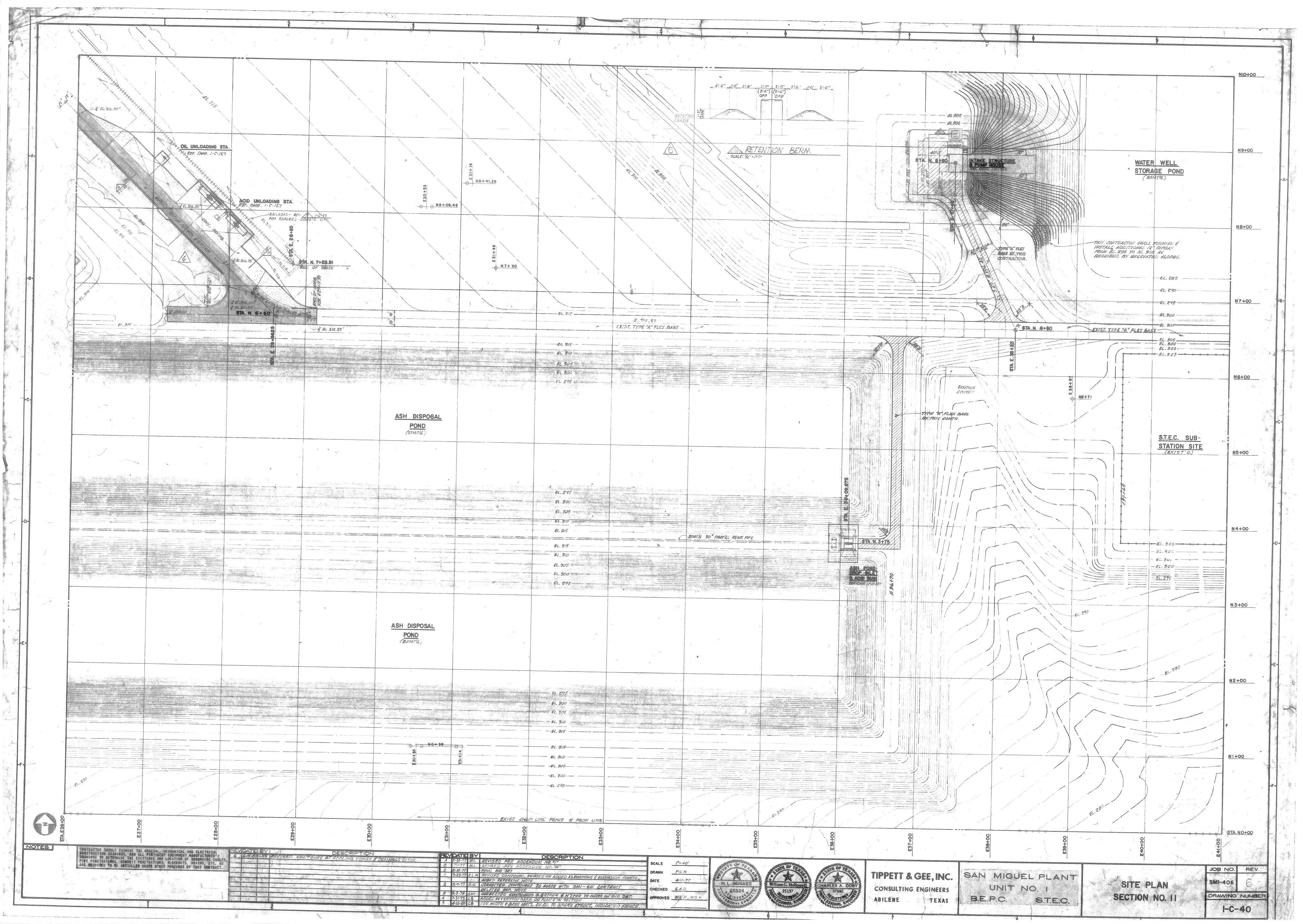


T&G 1980b

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.

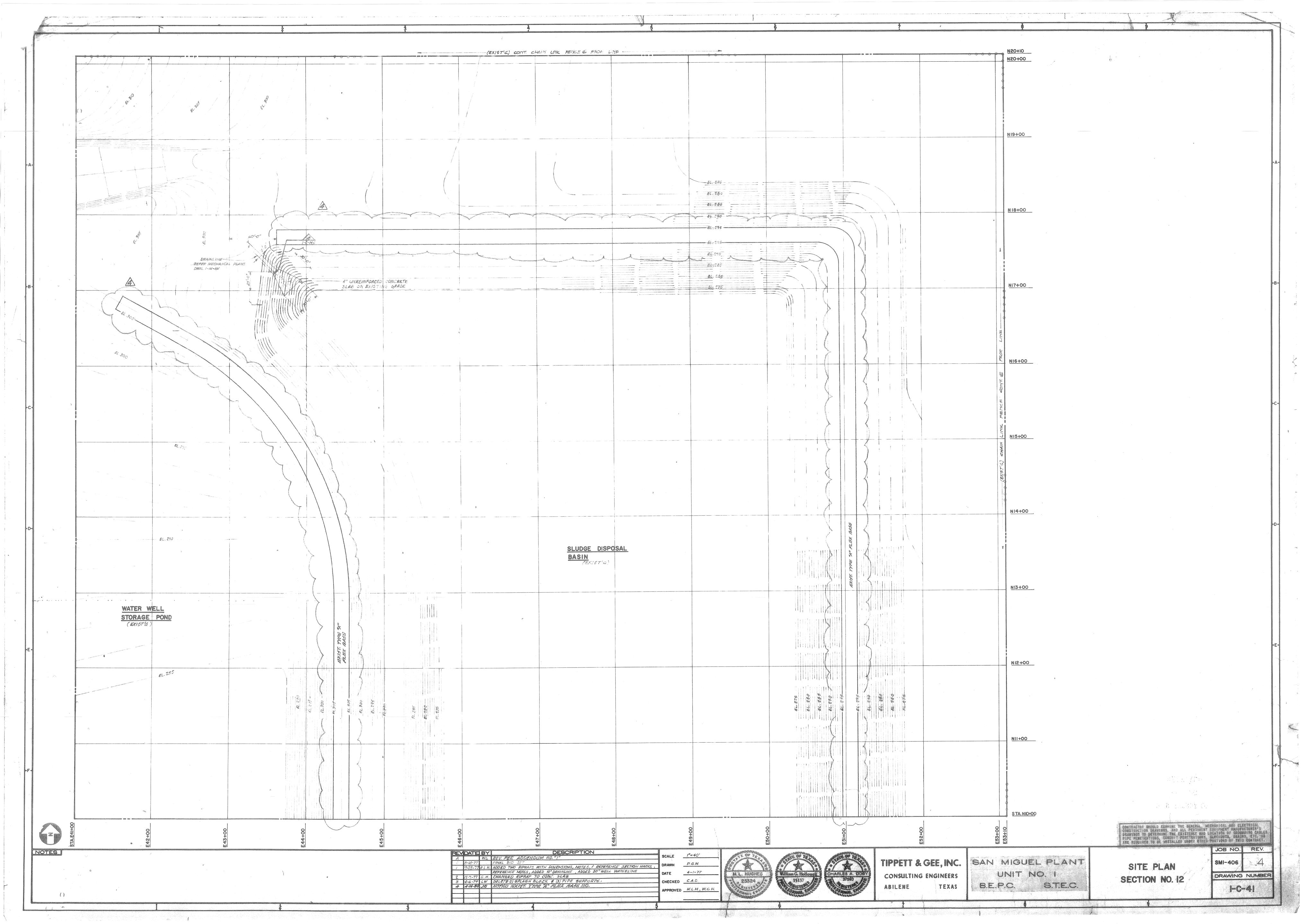


T&G 1980c Site Plan Section No. 11, San Miguel Plant Unit No. 1, Drawing No. 1-C-40, Rev. 6, Tippet & Gee, Inc., April 1, 1977, revised June 13, 1980.



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.

