

CCR Surface Impoundment Structural Stability Assessment

San Miguel Electric Cooperative, Inc.

Atascosa County, Texas

October 17, 2016

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Project No. 0303548 Atascosa County, Texas

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1.0 INTRODUCTION

San Miguel Electric Cooperative, Inc. (San Miguel) owns and operates a 440-MW mine-mouth, lignite-fired power generating plant (the San Miguel Plant) and associated lignite-mining facilities. The San Miguel Plant is located in Atascosa County 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 power and energy to the South Texas Electric Cooperative, Inc. through the year 2037.

The San Miguel Plant generates coal combustion residuals (CCR) that are regulated under Title 40, Code of Federal Regulations, §257 (40 CFR §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 REPORT PURPOSE AND OBJECTIVES

Regulations in 40 CFR §257.73, Structural Integrity Criteria for Existing CCR Surface Impoundments, require that owners and operators of existing CCR Surface Impoundments conduct initial and periodic Structural Stability Assessments of each CCR surface impoundment and post a copy of the assessment on an internet site accessible by the public.

This report summarizes documentation of the Ash Ponds and EP CCR surface impoundments structural stability at the San Miguel Plant.

1.2 REPORT ORGANIZATION

This structural stability assessment is organized into the following sections:

- introduction;
- purpose and objectives;
- report organization;
- unit descriptions;
- structural stability assessment;
- notification, recordkeeping, and internet posting; and
- professional engineer's certification.

Documentation referenced in this report is included in Appendix A.

2.0 UNIT DESCRIPTION

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).

The Ash Ponds and the EP were designed by Tippett & Gee, Inc. San Miguel constructed the Ash Ponds and the EP between July 1977 and May 1978. San Miguel initiated operation of the Ash Ponds and the EP in 1981 (NFS 1984). The locations of the Ash Ponds and the EP are shown on Figure 1.

3.0 STRUCTURAL STABILITY ASSESSMENT

The CCR surface impoundment structural stability assessment must document whether a CCR surface impoundment was designed, constructed, operated, and maintained using generally accepted good engineering practices, including the following, to the extent feasible, in accordance with 40 CFR §257.73(d)(1):

- (i) Stable foundations and abutments;
- (ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;
- (iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;
- (iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;
- (v) A single spillway or a combination of spillways configured as specified in paragraph (d)(1)(v)(A) of [40 CFR §257.73];
- (vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and
- (vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

San Miguel staff responsible for operation of the Ash Ponds and the EP reported that San Miguel inspects the Ash Ponds and the EP weekly for evidence of erosion and other structural weakness in accordance with 40 CFR §283(a). If San

Miguel observes evidence of actual or potential structural weakness or release during any weekly inspection, San Miguel will remedy the deficiency or release as soon as feasible and document the corrective measures taken in accordance with 40 CFR §283(b)(5).

Condition and documentation of consistency of components of the Ash Ponds and the EP with requirements in 40 CFR §257.73(d)(1) and 40 CFR §283(b)(5) are described in this section.

3.1 FOUNDATIONS AND ABUTMENTS

Periodic structural stability assessments are required to document whether each CCR surface impoundment was designed, constructed, operated, and maintained with "stable foundations and abutments" in accordance with 40 CFR §257.73(d)(1)(i).

San Miguel documentation describing structural stability of Ash Ponds and the EP foundations and abutments (dikes) is described in this section.

3.1.1 CY 1978 Geotechnical Engineering Report

San Miguel Plant documentation shows that the Ash Ponds and the EP CCR surface impoundments were designed in accordance with results of a geotechnical investigation and engineering recommendations prepared for San Miguel by NFS/National Soil Services, Inc. (NFS) in calendar year (CY) 1978, as referenced in related NFS correspondence (NFS 1979, 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.

3.1.2 Final Design Documents

San Miguel Plant documents include final design drawings for the Ash Ponds and EP (T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981). 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 (CDM Smith 2014). The excerpts include specifications for construction of the Ash Ponds but not for the EP.

Those drawings and technical specifications describe construction of the Ash Ponds and the EP. Construction was accomplished by stripping topsoil unsuitable for use as structural fill and select native soil excavation. Select excavated soil was used as bottom fill or dike fill as necessary. Areas that received fill were stripped of topsoil, where present, and scarified to a depth of one foot below the base of the fill. A five-foot deep inspection trench was excavated to observe the Ash Pond and the EP foundation soils (along the interior toe of dikes constructed by a combination of excavation and fill, or along the center of dikes constructed entirely of fill).

San Miguel documentation, including the final design of the Ash Ponds and the EP, describes design requirements that produced stable foundations and abutments consistent with requirements in 40 CFR §257.73(d)(1)(i).

3.1.3 CY 1987 Liner Repair

San Miguel Plant documents describe recommendations for and repair of the Ash Pond A liner in CY 1987 (NFS 1984, PSI 1985, PSI 1987a, PSI 1987b, PSI 1987c, PSI 1987d, PSI 1987e, PSI 1987f, PSI 1987g, PSI 1991). The repair was conducted in response to observation of seepage shortly after initial operation of the Ash Ponds in 1981. San Miguel Plant documents also describe compaction of the Ash Pond B liner in CY 1991. Details of the Ash Ponds liner reconstruction projects are described in the History of Construction Report, available on the San Miguel Plant publically-accessible internet site.

San Miguel documentation, including the CY 1987 liner repair, describes repair of the Ash Pond A liner that produced stable foundations and abutments consistent with requirements in 40 CFR §257.73(d)(1)(i).

3.1.4 CY 2012 Dike Stability Report

San Miguel Plant documentation includes report of a dike stability assessment prepared for San Miguel by Arias & Associates (Arias) in CY 2012 (Arias 2012) (the CY 2012 dike stability report). That report describes soil borings that were drilled and sampled by Arias 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 assessment report are generally consistent with the descriptions of the corresponding soils in the 1978 NFS geotechnical investigation report (see NFS 1979, NFS 1984, and Arias 2012).

San Miguel documentation including the CY 2012 dike stability report of the Ash Ponds and the EP describes stable foundations and abutments consistent with requirements in 40 CFR §257.73(d)(1)(i).

3.1.5 CY 2016 Inspection Report

San Miguel Plant documentation includes an inspection report for the Ash Ponds and the EP conducted during December 2015 (HDR 2016) (the CY 2016 inspection report). Two potential seep areas near the exterior toe of the Ash Ponds and the EP dikes were reported. The report recommended that San Miguel continue monitoring of each of those potential seeps during subsequent dry periods to determine whether the saturated soil in each of those areas was due to rains preceding the inspection or due to water migrating from the ponds. In the event of seepage from the impoundments, the report recommended additional investigation to determine the cause of the seepage and appropriate corrective action, if necessary, or continued monitoring of the seepage for signs of turbidity or slope distress.

San Miguel confirmed that the standing water identified during December 2015 in the area of the EP was due to a low area in the flood plain of nearby Caballos Creek (San Miguel 2016b). San Miguel confirmed that water in the low area dries out during periods of extended dry weather.

San Miguel placed additional soil material in the area of the potential Ash Pond seep identified during December 2015. San Miguel reported that some seepage was still occurring (San Miguel 2016a). San Miguel reported no slope distress associated with the seeps; hence the Ash Pond foundation and abutments are currently stable. San Miguel is currently monitoring the seepage as recommended in the 2016 inspection report (San Miguel 2016c).

San Miguel documentation, including the CY 2016 inspection report of the Ash Ponds and the EP and related monitoring, describes stable condition of foundations and abutments consistent with requirements in 40 CFR §257.73(d)(1)(i).

3.2 SLOPE PROTECTION

Each CCR surface impoundment is required to exhibit "adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown" in accordance with 40 CFR §257.73(d)(1)(ii).

San Miguel Plant documentation includes drawings and technical specifications that required that the Ash Ponds and the EP dikes to be completed with 2.5 horizontal to 1 vertical (2.5 H:1V) exterior side slopes, 3H:1Vinterior side slopes, and a 20-foot wide constant-elevation crest (CDM Smith 2014, T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981). The dike crest and the exterior side slope were required to be covered with a 12-inch thick layer of topsoil and seeded with coastal bermuda grass cover vegetation to reduce the potential of dike soil erosion.

3.2.1 Surface Erosion Slope Protection

San Miguel Plant documentation shows that the Ash Pond and the EP dikes are covered by topsoil and are seeded with erosion-resistant cover vegetation (CDM Smith 2014, T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981).

San Miguel Plant documentation includes report of inspection of the Ash Ponds and the EP during December 2015 (HDR 2016). The report documented observation of potential surface erosion problems associated with vehicle ruts, woody vegetation, and soil erosion that, left uncorrected, could produce inadequate surface erosion slope protection.

- <u>Vehicle Ruts</u>: The CY 2016 inspection report described observation of minor rutting on the Ash Ponds and the EP dike crests that was apparently caused by vehicle traffic. The report recommended that the ruts be filled and graded to drain. In addition, the report recommended that vehicle traffic be discouraged on the Ash Ponds and EP dike crests after rain events. The San Miguel staff responsible for operation of the Ash Ponds and the EP reported that San Miguel is currently pursuing repair of the ruts, and that San Miguel will implement the recommended limits on vehicle traffic after rain events to maintain stability of the dike surface erosion slope protection (San Miguel 2016b).
- Woody Vegetation: The CY 2016 inspection report described observation of brush and tree saplings growth at various locations on the exposed dike interior side slope and the dike exterior side slope of the Ash Ponds and the EP. The report recommended that San Miguel remove the brush and tree saplings and repair areas disturbed during removal of the brush and tree saplings. The San Miguel staff responsible for operation of the Ash Ponds and the EP reported that San Miguel completed removal of some of the brush and tree saplings and that San Miguel plans to complete removal of the remaining brush and tree saplings in the near future to maintain stability of the dike surface erosion slope protection (San Miguel 2016a).
- <u>Dike Soil Erosion</u>: The CY 2016 inspection report described observation of gully erosion on the interior and exterior Ash Ponds and EP dike side slopes. The report recommended repair of those areas followed by revegetation or placement of riprap for erosion protection. The San Miguel staff responsible for operation of the Ash Ponds and the EP reported that San Miguel completed repair of some gully erosion and that San Miguel plans to complete repair of other areas of erosion in the near future to maintain stability of the dike surface erosion slope protection (San Miguel 2016a, San Miguel 2016b).

Therefore, San Miguel documentation shows that the Ash Pond and the EP dikes provide surface erosion slope protection is consistent with requirements in 40 CFR §257.73(d)(1)(ii).

3.2.2 Wave Action Slope Protection

Wind and wave erosion at the apparent normal water level shore lines of the Ash Ponds and EP dike interior sides slopes observed during December 2015 was reported in the CY 2016 inspection report. The report recommended that San Miguel continue to monitor dike erosion and, if necessary, install protective cover over the current dike interior side slopes if the erosion persists. The San Miguel staff responsible for operation of the Ash Ponds and the EP reported that San Miguel is planning to complete repair of wind and wave erosion at the Ash Ponds and EP dike interior side slopes in the near future. In addition, San Miguel inspects the Ash Ponds and EP weekly for evidence of continued erosion and significant change or deterioration (San Miguel 2016b).

Therefore, San Miguel documentation shows that the Ash Pond and the EP dike interior side slope are protected from wave action consistent with requirements in 40 CFR §257.73(d)(1)(ii).

3.2.3 Sudden Drawdown

As the exterior of the Ash Pond and the EP dikes are not in contact with or affected by a permanent water body on the exterior side of the dikes, sudden drawdown of a permanent water body is not a credible design consideration.

A flood condition that might cause submergence of the dike exterior side slope or foundation soils would be of such short duration (a few days at the most) that the depth of saturation of the soils and potential for excess pore pressure on decline of the very infrequent flood would pose no significant adverse effect on the dike stability. Further, as the water surface in the interior of the Ash Ponds and the EP are maintained at a relatively constant level to optimize Plant operation, rapid drawdown due to a flood condition that might adversely affect the Ash Pond and EP dike interior side slopes is not a credible design consideration.

Therefore, San Miguel documentation shows that evaluation of sudden drawdown that might affect Ash Ponds and the EP slope protection is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(ii).

3.3 DIKE STABILITY

Owners and operators of CCR surface impoundments are required to document whether a CCR surface impoundment was constructed with "(d)ikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit" in accordance with 40 CFR §257.73(d)(1)(iii).

San Miguel Plant documentation includes description of mechanical compaction and dike stability analysis of the Ash Ponds and EP dikes.

3.3.1 Dike Mechanical Compaction

San Miguel Plant documentation includes drawings and technical specifications for construction of the Ash Ponds and the EP (CDM Smith 2014, T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981). Those drawings and technical specifications specify construction of the Ash Ponds and the EP by stripping topsoil unsuitable for use as structural fill and by excavation of select native soil as dike fill, where dike fill was necessary.

The technical specifications state that the portions of the Ash Ponds and the EP perimeter dikes that consist of fill were compacted as follows:

- soil was placed in nine-inch thick loose lifts;
- the moisture content of placed soil was adjusted as necessary to one percent dry to four percent wet of the optimum moisture content; and
- loose lifts were compacted to at least 95% of the maximum dry density as determined by Texas Highway Department (now Texas Department of Transportation) Test Method Tex-113-E.

Therefore, San Miguel documentation shows that the Ash Ponds and the EP dikes were constructed using mechanical compaction consistent with requirements in 40 CFR §257.73(d)(1)(iii).

3.3.2 Dike Stability Analysis

San Miguel Plant documentation includes geotechnical analysis of the Ash Ponds and EP dikes in CY 2012 (the CY 2012 dike stability analysis)(Arias 2012). The purpose of the CY 2012 dike stability analysis was to determine the ability of the Ash Ponds and EP dikes to withstand long term and short term loading conditions as well as seismic stability and liquefaction potential.

The CY 2012 dike stability analysis reported that seventeen soil borings were drilled and sampled through the Ash Ponds and the EP dike crests and at locations near the Ash ponds and EP dike exterior toe of slope. Field tests and analysis of soil samples were used to assess the condition and material properties of the dike fill and foundation soils.

Field tests performed during the drilling included:

- Standard Penetration Tests (ASTM D 1586); and
- Pocket Penetrometer tests.

The CY 2012 dike stability analysis reported that disturbed and undisturbed soil samples were collected from the soil borings. Selected samples were reported tested in the materials testing laboratory for the following parameters:

Moisture content (ASTM D 2216);

- Atterberg limits (ASTM D 4318);
- Particle size distribution (ASTM D 422);
- Particle size passing the No. 200 sieve (ASTM D 1140); and
- Consolidated-undrained triaxial compression test (ASTM D 4767).

The CY 2012 dike stability analysis reported that the Ash Ponds and EP dike stability analyses were prepared using a range of representative loads and soil properties based on the field and laboratory testing and field observations. The CY 2012 dike stability analysis report concluded that the Ash Ponds and the EP dikes and foundations had adequate strength to withstand long term and short term loading conditions as well as seismic stability and liquefaction potential.

Therefore, San Miguel documentation shows that the Ash Ponds and the EP exhibit dike stability consistent with requirements in 40 CFR §257.73(d)(1)(iii).

3.4 DIKE EROSION PROTECTION

The original rule required owners and operators of CCR surface impoundments document whether a CCR surface impoundment are operated and maintained with "(v)egetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protections" in accordance with 40 CFR §257.73(d)(1)(iv). That provision was remanded with vacatur by the D.C. Circuit, U.S. Court of Appeals in an order filed on June 14, 2016 (USCA 2016).

3.5 SPILLWAYS

Owners and operators of CCR surface impoundments are required to document whether a CCR surface impoundment was constructed with a "single spillway or a combination of spillways configured..." in accordance with 40 CFR \$257.73(d)(1)(v)(A).

San Miguel Plant documentation shows that neither the Ash Ponds nor the EP was constructed with an outfall or emergency spillway (T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981). As described by the San Miguel staff responsible for operation of the Ash Ponds and the EP, no outfall or emergency spillway is needed because San Miguel maintains the water level in the Ash Ponds and the EP in normal dry weather at levels that that allow the ponds to contain the inflow resulting from a 100-year flood in accordance with the Inflow Design Flood Control System Plan (IDFCSP) required by 40 CFR §257.82 and, consequently, preclude need for an outfall or emergency spillway (San Miguel 2016b). The initial IDFCSP, prepared by ERM and dated October, 2016 is available in the San Miguel Plant operating record and publically accessible internet site.

Therefore, San Miguel documentation shows that evaluation of outfall and emergency spillway stability at the Ash Ponds and the EP is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(v).

3.6 HYDRAULIC STRUCTURES

Owners and operators of CCR surface impoundments are required to document whether a CCR surface impoundment was constructed with "hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure" in accordance with 40 CFR §257.73(d)(1)(vi).

San Miguel Plant documentation shows the EP was not constructed with any hydraulic structures passing through the perimeter dikes. (T&G 1977a, T&G 1980b, T&G 1980d). San Miguel Plant documentation shows the Ash Ponds interior dike was constructed with a drop inlet near the eastern end of the dike and a 30 inch diameter fiberglass reinforced pipe for ash water transfer that runs from the drop inlet west to an ash water pump station (T&G 1977b, T&G 1980c, T&G 1981). The San Miguel staff responsible for operation of the Ash Ponds reported that the ash water transfer pipe is still present in the dike dividing Ash Pond A from Ash Pond B, but is no longer in use due to a sediment or other blockage somewhere upstream of the outlet outside the exterior side slope of the Ash Pond dikes (San Miguel 2016b). Recent observation confirmed that the exposed pipe exterior appears to be in good condition and that saturated soil moisture adjoining the pipe exterior at the dike side slope was not flowing (ERM 2016).

San Miguel inspects the Ash Ponds drop inlet and pipe regularly for deterioration and other deficiencies that might adversely affect operation of the hydraulic structure or stability of the Ash Ponds dikes in accordance with requirements in 40 CFR §257.73(d)(1)(vi).

Therefore, San Miguel documentation shows that evaluation of hydraulic structures in the Ash Ponds and the EP is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(vi).

3.7 INUNDATION BY ADJACENT WATER BODIES

Owners and operators of CCR surface impoundments are required to document whether a CCR surface impoundment was constructed with "CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body" in accordance with 40 CFR §257.73(d)(1)(vii).

San Miguel Plant documentation shows that neither the Ash Ponds nor the EP were constructed with dike exterior sides slopes that are in contact with any adjacent to water body, such as a river, stream or lake, except during an ephemeral flood event (FEMA 2010, T&G 1977a, T&G 1977b, T&G 1977c, T&G 1980a, T&G 1980b, T&G 1980c, T&G 1980d, T&G 1981). Further, the San Miguel drawings show that:

- the Ash Pond dike crest elevation is Elevation (El.) 315 feet (ft.);
- that Ash Pond dike toe of slope elevation ranges from El. 284 to 300 ft.;
- the EP dike crest elevation is El. 295 ft.; and
- that the EP Ash Pond dike toe of slope elevation ranges from El. 273 to 275 ft.

While the San Miguel Plant drawings do not state the datum of the elevations shown on the drawings, the elevations shown on the drawings are consistent with the elevation contours shown on the current U.S. Geological Survey (USGS) topographic map of the "Caballos Creek" quadrangle (USGS 2013). The USGS quadrangle map states that elevations shown on the USGS map are expressed in North American Vertical Datum, 1988 (NAVD 88). Consequently, elevation datum displayed on the San Miguel Plant drawings can be considered consistent with NAVD 88 datum.

The Federal Emergency Management Administration (FEMA) Flood Rate Map (FIRM) Flood Insurance Rate Maps (FIRM) and USGS topographic map show the top of bank of Caballos Creek to range from approximately El. 297 ft. to 288 ft. in the vicinity of the Ash Ponds and the EP, respectively (FEMA 2010, USGS 2013). Therefore, the Ash Ponds and EP dike crests are approximately 18 feet and 7 feet above the 100-yr flood plain, respectively.

Consequently, the Ash Ponds dike crests are sufficiently above the 100-year floodplain to prevent inflow of flood waters from the adjacent Caballos Creek in accordance with 40 CFR §257.73(d)(1)(vii).

3.7.1 Inundation During Low Pool

Recent ERM observation of water in Caballos Creek, when flowing, is normally not in contact with any dike surrounding the Ash Ponds or the EP (ERM 2016). Consequently, water flowing in the creek, when present, is in contact with neither the Ash Ponds nor the EP dike exterior side slope.

Therefore, San Miguel documentation shows that the effect of a low pool on stability of the Ash Ponds and the EP is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(vii).

3.7.2 Sudden Drawdown During Low Pool

As stated above, water flowing in the creek, when present, is in contact with neither the Ash Ponds nor the EP dike exterior side slope.

Therefore, San Miguel documentation show that effect of sudden drawdown of water in the creek during low pool on stability of the Ash Ponds and the EP is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(vii).

3.7.3 Sudden Drawdown During the 100-Year Flood

The current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 480014, Panel No. 0675C shows the extent of the base flood plain (the 100-year flood plain) adjacent to the Ash Ponds and the EP. As stated on the FIRM, no elevations were determined for the flood plain shown. The FIRM datum is stated to be NAVD 88.

Correlation of the 100-year flood plain boundary shown on the FIRM with elevation contours shown on the corresponding USGS topographic map show that the elevation of the 100-year flood plain adjoining the Ash Ponds ranges from approximately El. 289 ft. to 297 ft. Correlation of the 100-year flood plain boundary shown on the FIRM with elevation contours shown on the corresponding USGS topographic map show that the elevation of the 100-year flood plain adjoining the EP ranges from approximately El. 279 ft. to 288 ft.

The elevation of the Ash Ponds dike exterior toe of slope varies from approximately El. 290 ft. to 301 ft. in the area in the 100-year flood plain. The elevation of the EP dike exterior toe of slope varies from approximately El. 273 ft. to 285 ft. in the area in the 100-year flood plain.

Consequently, the base of the Ash Ponds dike exterior side slopes would be submerged for a short period during the 100-year flood event to a depth between 0 ft. and 7 ft. above the toe of slope. Similarly, the base of the EP dike exterior side slopes would be submerged for a short period during the 100-year flood event to a depth between 0 ft. and 15 ft. above the toe of slope. As such an infrequent flood event would be of short duration and limited depth, no significant adverse effect on dike stability due to rapid drawdown is expected.

Therefore, San Miguel documentation shows that the effect of sudden drawdown of water in the creek during the 100-year flood event on stability of the Ash Ponds and the EP is not needed to demonstrate consistency with requirements in 40 CFR §257.73(d)(1)(vii).

4.0 NOTIFICATION RECORD KEEPING AND INTERNET POSTING

San Miguel will issue notifications, implement recordkeeping, and post CCR surface impoundment structural stability assessment information to the San Miguel internet site accessible to the public in accordance with 40 CFR §257.105, 40 CFR §257.106, and 40 CFR §257.106.

4.1 NOTIFICATION

San Miguel will notify the Executive Director of the Texas Commission on Environmental Quality (TCEQ), the State Director as defined in 40 CFR §257.105(d), and in accordance with 40 CFR §257.106(f)(9), when the CCR surface impoundment structural stability assessment is available in the San Miguel operating record and on the San Miguel internet site accessible to the public.

In accordance with TCEQ instructions related to CCR units in Texas, San Miguel will send each notification to the TCEQ via internet electronic mail to:

CCRNotify@tceq.texas.gov

4.2 RECORDKEEPING

San Miguel will maintain a copy of this structural stability assessment and associated documentation in the San Miguel operating record starting no later than October 17, 2016 and for a period of five years after that date.

4.3 INTERNET POSTING

San Miguel will maintain a copy of this structural stability assessment and associated documentation and on the San Miguel internet site accessible to the public within 30 days of placement in the San Miguel operating record and for a period of five years after that date.

4.4 PERIODIC STRUCTURAL STABILITY ASSESSMENT

San Miguel will complete the next periodic CCR surface impoundment structural stability assessment of the Ash Ponds and the EP within five years of the date of this initial structural stability assessment report; i.e. on or before October 17, 2021.

5.0 PROFESSIONAL ENGINEER'S CERTIFICATION

40 CFR §257.73(d)(3) requires that this CCR Surface Impoundment Structural Stability Assessment be certified by a qualified professional engineer. That certification is provided below.

I hereby certify that I have reviewed the information documenting the initial Structural Stability Assessment for the Ash Ponds and the Equalization Pond CCR surface impoundments at the San Miguel Electric Cooperative, Inc. electric utility generation plant located in Atascosa County, Texas, and being familiar with the provisions of 40 CFR Part 257.73, attest that initial Structural Stability Assessment was prepared in accordance with the CCR Rule.

E. Doyon Main, P.E.

Printed Name of Licensed Professional Engineer

EMARD DOYON MAN 65502 SISTE

Signature of Licensed Professional Engineer

Date

6.0 REFERENCES

Information used for this CCR surface impoundment structural stability assessment for the Ash Ponds and the EP are from San Miguel and public sources listed below. San Miguel source documents are included in Appendix A.

6.1 SAN MIGUEL REPORTS AND CORRESPONDENCE

Arias 2012	Ash Water Transport Pond and Equalization Pond Stability Analysis, Job No. 2012-695, Arias & Associates, Inc., November 19, 2012.
ERM 2016	San Miguel Electric Cooperative, Inc. plant site visit conducted by Charles Johnson, Environmental Resources Management, October 4, 2016.
NFS 1978	San Miguel Steam Electric Station Groundwater Protection, San Miguel Electric Cooperative, Job No. 75285-13, NFS/National Soil Services, Inc., September 25, 1978.
NFS 1984	Study of Ash Pond Leakage, San Miguel Electric Station, Report No. D-75285-13A, 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: <i>Liner Construction Unit #1 Ash Pond</i> , 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: <i>Pond Liner Sampling and Testing, Pond 1A Repair Project,</i> 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: <i>1A Ash Pond Soil Testing</i> , Professional Services Industries, Inc., July 17 – September 23, 1987.
PSI 1987d	Letter to San Miguel Electric Cooperative, Inc. Re: <i>Pond Liner</i> , San Miguel Power Plant, Project No. 311-70065-2, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.

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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.

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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: San Miguel Steam Electric Station, Plantsite. Industrial Wastewater Inspection of May 27, 1983, from Robert Cmiel, San Miguel Electric Cooperative, Inc., March 2, 1984.

San Miguel 1987a Letter to Professional Service Industries, Inc. Re: *General Notes* for San Miguel Unit #1, 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.

San Miguel 1987b Letter to V.K. Knowlton Paving Contractor, Inc. Re: San Miguel Unit #1 General Notes for 1A Ash Pond Clay Liner Construction, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.

- San Miguel 1987c Contract for 1A Ash Pond Liner Reconstruction V.K. Knowlton Paving Contractor, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.
- San Miguel 1987d Contract for 1A Ash Pond Liner Reconstruction Professional Service Industries, Inc., San Miguel Electric Cooperative, Inc., July 10, 1987.
- San Miguel 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.

6.2 ASH POND AND EQUALIZATION POND 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.
- 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.

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- 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.
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No. 1-C-41, Rev 4, Tippet & Gee, Inc., April 1, 1977, revised

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No. 1-C-33, Rev. 7, Tippet & Gee, Inc., April 1, 1977, revised

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6.3 PUBLIC SOURCE DOCUMENTS

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FEMA 2010 Flood Insurance Rate Map, Atascosa County, Texas and

Incorporated Areas, Federal Emergency Management Agency,

Number 480014, Panel 0675C, November 4, 2010.

HDR 2016 CCR Impoundment Inspection Report, San Miguel Electric

Cooperative, Inc., Project No, 272108, HDR Engineering, Inc.

January 15, 2016.

USCA 2016 United States Court of Appeals, for the District of Columbia

Circuit, USCA Case No. 15-1219, Document No. 1619358, June

14, 2016.

USGS 2013 Caballos Creek Quadrangle, Texas, 7.5 Minute Series, The National

Map, U.S. Geological Survey, 2013.

Figure

October 17, 2016 Project No. 0303548

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



Environmental Resources Management

 DESIGN:
 PD/CJ
 DRAWN:
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 DATE:
 9/8/2016
 SCALE:
 AS SHOWN
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FIGURE 1
SITE PLAN
Draft CCR Surface Impoundment
Structural Stability Assessment
San Miguel Electric Cooperative, Inc. Facility
Atascosa County, Texas



Reference Documents

Appendix A

October 17, 2016 Project No. 0303548

206 East 9th Street, Suite 1700 Austin, Texas 78701 (512) 459-4700 10/12/16 Draft Privileged and Confidential Attorney Work Product

SAN MIGUEL REPORTS AND CORRESPONDENCE

Environmental Resources Management

206 East 9th Street, Suite 1700 Austin, Texas 78701 (512) 459-4700 10/12/16 Draft Privileged and Confidential Attorney Work Product

Arias 2012 Ash Water Transport Pond and Equalization Pond Stability Analysis, Job No. 2012-695, Arias & Associates, Inc., November 19, 2012.

Geotechnical Engineering Study

Ash Water Transport Pond And Equalization Pond Stability Analyses San Miguel Electric Cooperative Christine, Texas

Arias Job No. 2012-695



Prepared For San Miguel Electric Cooperative

November 19, 2012



November 19, 2012

Arias Job No. 2012-695

Mr. Joseph Eutizi San Miguel Electric Cooperative P.O. Box 280 Jourdanton, TX 78026

RE: Geotechnical Engineering Study

Ash Water Transport Ponds and Equalization Pond Stability Analyses San Miguel Electric Cooperative

Christine, Texas

Dear Mr. Eutizi:

The results of a Geotechnical Engineering Study for the existing Ash Water Transport Ponds and Equalization Pond at the San Miguel Electric Cooperative near Christine, Texas are presented in this report. This project was authorized by you on September 18, 2012 indicating acceptance of Arias Proposal No. 2012-695, dated September 10, 2012 by San Miguel Electric Cooperative Purchase Order No. 164892-151106.

The purpose of this geotechnical engineering study was to investigate the subsurface soil and groundwater conditions present at the Ash Water Transport Ponds and Equalization Pond and to perform global stability calculations to assess short-term, long-term, rapid drawdown, and seismic stability of the embankments and to assess the liquefaction potential of the underlying foundation soils.

Thank you for the opportunity to be of service to you.

Sincerely,

Arias & Associates, Inc.

TBPE Registration No: F-32

Dexter Bacon, P.E.

Senior Vice President

DEXTER BACON

54560 CENS Glen R, Andersen, Sc.D., P.E.

Consultant

REPORT FORMAT INFORMATION

To improve clarity in the intent of our geotechnical recommendations for this project, the report is organized into two separate, but equally important sections.

Section I – *Synopsis* is a summary of our geotechnical findings specific to this project.

Section II - The *Main Report* contains more detailed information about the subsurface conditions and the results of the stability calculations.

A study of both of the above referenced sections is recommended. Arias & Associates, Inc. cautions that Section I is a consolidated quick reference overview of the more detailed geotechnical findings contained in Section II and should not be utilized exclusively from the remainder of the report.

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SECTION I: SYNOPSIS

This synopsis includes a brief description of the project, subsurface findings, and calculated Factors of Safety for the stability of the embankments associated with the Ash Water Transport Ponds and the Equalization Pond.

Table 1: Project Description

Project:	Ash Water Transport Ponds and Equalization Pond		
Project Location:	San Miguel Electric Cooperative Christine, Texas		
Development:	Two Ash Water Transport Ponds (2,475 ft by 265 ft each) One Equalization Pond (approx. 1,650 ft by 800 ft)		
Dike Geometry:	Ash Water Transport Ponds 0 ft to 31 ft high 2.5H to 1V Side Slopes Equalization Basin 0 ft to 22 ft high 3.5H to 1V Side Slopes		
Pond Fill Elevation:	Ash Water Transport Ponds – El. 311 ft Equalization Pond – El. 290 ft		
Impoundment Material Used in Analysis:	Ash Water Transport Ponds – Water Equalization Pond - Water		

Table 2: Existing Conditions at Time of Geotechnical Study

Ground Cover:	Grass with a few small trees and bushes
Predominant Soil Types:	Fill/Natural Fat CLAY (CH) Fill/Natural Lean CLAY (CL) Sandy Lean CLAY (CL) Silty Fine SAND (SM)
Average Plasticity Index (PI) of Upper Clays (Natural and Fills):	41 (Range 12 - 92)
Groundwater Depth Measured:	Minimum: 1.8 ft (Toe Area) Maximum: 37.5 ft (Crest)

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Table 3: Computed Global Stability Factors of Safety

Stability	Ash Wa	h Water Transport Ponds Equalizati			ion Pond
Case	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E
Normal Operating Pool Steady State Seepage (long-term)	2.2	1.9	1.7	2.2	2.1
Maximum Surcharge Pool Undrained (short-term)	2.1	1.8	1.6	2.2	2.1
Normal Operating Pool Undrained (Seismic)	1.5	1.2	1.2	1.5	1.4

Notes

- Factor of Safety greater than 1.5 for Steady State Seepage and Undrained conditions is considered to be adequate.
- 2. Factor of Safety greater than 1.0 for Seismic conditions is considered to be adequate.
- 3. Summary of stability runs presented in Appendix F

SECTION II: MAIN REPORT

PROJECT AND SITE DESCRIPTION

The Ash Water Transport Ponds and Equalization Pond are located at the San Miguel Electric Cooperative near Christine, Texas. A Site Vicinity Map is provided in Appendix A. Representative site photographs that include each of the boring locations in this subsurface investigation are provided in Appendix B of this report.

Portions of the ponds were constructed by cutting into existing grades while other portions were constructed with filled slopes using the existing cut materials to maximum embankment heights ranging from 22 feet (Equalization Pond) to 31 feet (Ash Water Transport Ponds).

An EPA consultant recently visited the site and requested that slope stability analyses of the existing Ash Water Transport Ponds and Equalization Pond be performed to document estimated current factors of safety against slope stability failures. We were provided with the available original geotechnical information in the pond areas and other available documentation.

It is our understanding that the Ash Water Transport Ponds experienced some seepage issues in the 1980's and were subsequently reconstructed. Since that reconstruction, these ponds have been performing adequately with only a minor seepage issue apparent near the northeast corner of Ash Water Transport Pond A. This minor seepage area was modeled as Section A-A for stability.

GEOLOGY

The earth materials underling the project site have been regionally mapped as within the undivided Manning, Wellborn and Caddell Formations (Emwc) mapped to be within the Eocene Epoch of the Tertiary Period of the Geologic Time Scale.

Locally, the materials encountered in the test borings consist primarily of man-made fill soils, natural surface and alluvial soils and the much older Eocene deposits. The man-made fill soils were encountered in all of the embankment borings and two of the toe of slope borings and varied from approximately 4 to 28 ft thick. The fill soils are comprised of clays, sandy clays, gravelly clays with some lignite material and sand pockets and are in a stiff to hard condition. The fill also contained gypsum material and had a distinct multicolored mottling.

The upper native soils consisted of approximately 3 to 18 ft of clays, sandy clays and fine sands in a stiff to hard and medium dense condition. The underlying Eocene deposits are comprised of clays, sandy clays, clayey sands, siltstones and sandstones with occasional thin seams of lignite in a very stiff to very hard or very dense condition. Due to weathering

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and lack of cementation within these materials, from a geotechnical perspective, they should be considered as having soil-like characteristics.

No faults are known to cross through the project area and, from a geologic perspective, future tectonic activity in this geographic area should pose minimal seismic risk to the disposal ponds and basin.

SOIL BORINGS AND LABORATORY TESTS

Seventeen (17) soil test borings were drilled at the approximate locations shown on the Boring Location Plan provided in Appendix C. The borings were drilled at the crest and toe of the dikes to depths of 20 to 64.3 feet. The subsurface investigation was conducted between September 19 and September 26, 2012. The boring depths were measured from below the existing ground surface elevation. Soil interpreted to be clay in the field was sampled by either pushing a thin-walled tube (ASTM D 1587) or with a split barrel sampler while performing the Standard Penetration Test (ASTM D 1586). Soil interpreted to be sand or gravel in the field was sampled with a split barrel sampler just described.

A truck-mounted drill rig using continuous flight augers together with the sampling tool noted was used to secure the subsurface soil samples. Soil classifications and borehole logging were conducted during the exploration by our Engineering Geologist under supervision of our Geotechnical Engineer. Final soil classifications, as seen on the attached boring logs (Appendix C), were determined in the laboratory based on laboratory and field test results and applicable ASTM procedures.

As a supplement to the field exploration, laboratory testing to determine soil water content, Atterberg Limits, unconfined compressive strength using a pocket penetrometer, and percent passing the US Standard No. 200 sieve, was conducted. In addition, selected samples of both the natural and compacted clays were tested for strength using a multistage triaxial compression test with isotropic consolidation and with effective consolidation pressures selected to mimic the approximate range in expected insitu stresses. The laboratory results are reported in the attached boring logs included in Appendix C. A key to the terms and symbols used on the logs is also included in Appendix D. The soil laboratory testing for this project was done in accordance applicable ASTM procedures with the specifications and definitions for these tests listed in the Appendix E.

Remaining soil samples recovered from this exploration will be routinely discarded following submittal of this report.

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SUBSURFACE CONDITIONS

Generalized stratigraphy and groundwater conditions are discussed in the following sections. The subsurface and groundwater conditions are based on conditions encountered at the boring locations to the depths explored.

Site Stratigraphy and Engineering Properties

The generalized subsurface stratigraphy encountered at this site is summarized in the table below.

Table 4: Generalized Soil Conditions

Stratum	Depth (ft)	Material Type	PI range	No. 200 Range	Pocket Pen. (tsf)	N range
ı	0 to (3-28)	FILL: Brown to Dark Brown and Gray to Dark Gray, Fat CLAY (CH), Fat CLAY (CH) with Sand, Lean CLAY (CL), Lean CLAY (CL) with Sand, Gravelly Fat CLAY (CH), stiff to hard	23 - 59	1	1.25 - 9.0	13 - 29
=	(0 - 28) to (12 - 52)	Brown to Dark Brown and Gray, Clayey SAND (SC), Fat CLAY (CH), Sandy Fat CLAY (CH), Sandy Lean CLAY (CL), Lean CLAY (CL), Lean CLAY (CL) with Sand, stiff to hard and medium dense to very dense, some of these soils are Eocene Age deposits	12 - 92	13 to 52	0.75 – 5.75	9 – 100 ⁺
Ш	Below (0-52)	Gray and Brown, Silty SAND (SM), Sandy SILT (ML), Sandy Fat CLAY (CH), Sandy Lean CLAY (CL), Clayey SAND (SC), Fat CLAY (CH), very stiff to hard and loose to very dense, some alluvial soils but mostly Eocene Age deposits	1 - 66	13 to 56	-	8 – 100 ⁺

Where: Depth - Depth from existing ground surface at the time of geotechnical study, feet

PI - Plasticity Index, %

No. 200 - Percent passing #200 sieve, %

Pocket Pen - Pocket Penetrometer reading (tons/ft²)

Standard Penetration Test (SPT) value, blows per foot

Groundwater

A dry soil sampling method was used to obtain the soil samples at the project site. Groundwater was observed within the soil borings during the soil sampling activities. Each

Arias & Associates, Inc. II-3 Arias Job No. 2012-695

boring was then left open for a minimum of 24 hrs in order to obtain a delayed groundwater reading. The delayed groundwater levels were encountered as shallow as 1.8 ft below ground surface in the location of the toe of the embankments and as deep as 37.5 ft below ground surface in the location of the crest of the embankments. Groundwater levels should be expected to change over time in response to climatic conditions and to the amount of water impounded in the Ash Water Transport Ponds and Equalization Pond.

For the purpose of the stability calculations performed herein, the groundwater has been assumed to be at ground surface near the toe of the embankments. The normal operating pool elevations in the Ash Water Transport Ponds and Equalization Pond have been assumed to be 311 ft and 290 ft, respectively. The maximum surcharge pool elevations in the Ash Water Transport Ponds and Equalization Pond have been assumed to be 314.5 ft. and 293.5 ft. respectively. The phreatic surface in the embankment sections B-B, C-C, D-D, and E-E were estimated using SEEP/W version 7.17, by GeoSlope using the boundary conditions just described and estimated soil permeabilities based upon experience with similar soils. In each case, these estimated phreatic surface elevations were higher in elevation than those measured by the delayed water level readings in the borings. As such, the phreatic surfaces in these analyses are considered to represent worst case conditions for the Ash Water Transport Ponds and Equalization Pond. The phreatic surface in the embankment section A-A was taken directly from the observed groundwater levels in the corresponding borings and modified in accordance with the direct observation of seepage emerging at the toe of the upper slope.

After obtaining samples and final groundwater measurements, the bore holes were backfilled with a mixture of cement grout and bentonite pellets sealed with a cement cap at the surface.

IBC Site Classification and Seismic Design Coefficients

Section 1613 of the International Building Code (2009) requires that every structure be designed and constructed to resist the effects of earthquake motions, with the seismic design category to be determined in accordance with Section 1613 or ASCE 7. Site classification according to the International Building Code (2009) is based on the soil profile encountered to 100-foot depth. The stratigraphy at the site location was explored to a maximum 64.3-foot depth.

Clayey and Sandy soils and Eocene aged deposits having similar consistency were extrapolated to be present between 64.3 and 100-foot depths. On the basis of the site class definitions included in Table 1613.5.2 and 1613.5.5 of the 2009 Code and the encountered generalized stratigraphy, we characterize the site as Site Class C.

Seismic design coefficients were determined using the on-line software, Seismic Hazard Curves and Uniform Response Spectra, version 5.1.0, dated February 10, 2011 accessed at (http://earthquake.usgs.gov/hazards/designmaps/javacalc.php). Analyses were performed

considering the 2009 International Building Code. Input included zip code 78012 and Site Class C. Seismic design parameters for the site are summarized in the following table.

Table 5: Seismic Design Parameters

Site Classification	F_{a}	F_v	S _s	S ₁
С	1.2	1.7	0.130g	0.026g

Where: Fa = Site coefficient Fv = Site coefficient

Ss = Mapped spectral response acceleration for short periods
S1 = Mapped spectral response acceleration for a 1-second period

SLOPE STABILITY CALCULATIONS

Slope stability calculations were performed considering the interpreted stratigraphy at the explored boring locations for each of the five cross sections analyzed. These cross sections are shown in the Boring Location Plan in the Appendix C. Cross sections A-A, B-B and C-C were cut through the southernmost Ash Water Transport Pond and cross sections D-D and E-E were cut through the Equalization Pond. Strength parameters for the compacted clay soils in Strata I and the natural clay soils in Strata II were selected as the average strength from the three multistage consolidated undrained triaxial compression tests previously described. The other soil strengths used in these analyses were determined from the results of the Standard Penetration Tests, pocket penetrometer results and experience with similar soils. In each case, these estimated strengths are considered to be conservative.

The embankment cross sections analyzed were provided by the San Miguel Electric Cooperative based upon ground surveys and bathymetric measurements performed specifically for this project. The surveys indicate that the current geometry is similar to the original design geometry. These slope stability analyses were performed by Mr. Glen Andersen, Sc.D., P.E., acting as a subcontract employee to ARIAS.

Arias & Associates, Inc. II-5 Arias Job No. 2012-695

Table 6: Properties and Strength Parameters for Global Stability Analyses

Stratum	Soil Profile Zone	Material	Unit Weight	Strength Function
-	All Fill Soils Above Natural Grade	Fat CLAY (CH), Lean CLAY (CL)	112 pcf	Total Stress $c_u = 216 \text{ psf}$ $\phi = 17.2^{\circ}$ Effective Stress $c = 288 \text{ psf}$ $\phi = 20.3^{\circ}$
lla	Natural Soils Above Silty Sands	Fat CLAY (CH), Lean CLAY (CL)	112 pcf	Total Stress $c_u = 216 \text{ psf}$ $\phi = 17.2^{\circ}$ Effective Stress $c_{\cdot} = 288 \text{ psf}$ $\phi = 20.3^{\circ}$
II _b	Natural Soils Above Silty Sands	Sandy Lean CLAY (CL), Clayey SAND (SC)	120 pcf	Total Stress $c_u = 1000 \text{ psf, } \phi = 0^{\circ}$ Effective Stress $c = 200 \text{ psf, } \phi = 24^{\circ}$
III	Silty Sands	Silty SAND (SM), Sandy SILT (ML)	120 pcf	Model Only With Effective Stress $c = 0 \text{ psf}, \phi = 30^{\circ}$

Note:

1. No soils below the Strata III Silty Sands were modeled in these seepage and stability analyses

Table 7: Stability Analyses Results

Stability Criteria	Pool Elevation (ft)	Section Analyzed	Computed Factor of Safety	Minimum Factor of Safety	Comments
Normal Operating Pool		A-A	2.2		Both Circular and Noncircular
Steady State	311	B-B	1.9		Searches
Seepage		C-C	1.7	1.5	Optimized Using
Long-Term (Drained)	200	D-D	2.2		Built-In Slope/W Optimization Routine
(Draineu)	290	E-E	2.1		
	314.5	A-A	2.1	1.5	Both Circular and Noncircular Searches Optimized Using Built-In Slope/W Optimization Routine
Maximum Surcharge Pool Short-Term (Undrained)		B-B	1.8		
		C-C	1.6		
	293.5	D-D	2.2		
		E-E	2.1		
		A-A	1.5		Both Circular and
Normal Operating Pool Seismic	311	B-B	1.2	1.0	Noncircular Searches Optimized Using Built-In Slope/W Optimization
		C-C	1.2		
(Undrained)	000	D-D	1.5		
	290	E-E	1.4		Routine

All controlling Slope/W and Seep/W runs are summarized in the Appendix.

Rapid Drawdown Failure

The analysis for a rapid drawdown failure is necessary only in circumstances where there is the potential for a rapid lowering of the impoundment that would potentially destabilize the embankment and trigger a rapid and uncontrolled release of the impoundment. For embankments such as the ones associated with this project, such a rapid release could only be caused by human failure or mechanical failure of an outfall structure. However, for each of these ponds, there is no outfall structure. The only way for water to be released from them is through evaporation or physical pumping. Under such circumstances, it is not possible to trigger a rapid lowering of the reservoir except for the case of a global failure of the embankments. If the embankments experience a global failure, a failure associated with the

attending rapid drawdown would be considered a secondary failure and hence is not considered in these stability calculations.

Seismic Loading

According to EPA requirements published in the Federal Register Vol. 75, No. 118, pages 35200 and 35201, only structures located in a seismic impact zone require seismic considerations. The EPA identifies a seismic zone where the probability of an earthquake creating a peak ground acceleration of greater than 0.1g is greater than 10% over a 250 year period. Based upon earthquake probability maps computed from the United States Geological Survey Report OFT 08-1128, and a rough correspondence between a M = 5.0 earthquake and a peak ground acceleration of 0.09g, the probability of the peak ground acceleration equal to or greater than 0.1g at the project site is less than 6% over a 250 year period. Hence, the project site is not located in an EPA defined seismic impact zone.

However, seismic stability calculations were performed for each of these cross sections using a lateral earthquake coefficient of 0.13g corresponding to the short period mapped spectral response acceleration provided earlier in this report. Such an approach is considered to be conservative. These calculations indicate that the existing embankment slopes have a suitable Factor of Safety for seismic conditions.

Liquefaction Potential

Given that these impoundments are not located in an EPA defined seismic impact zone, no specific analyses are required for seismically induced liquefaction. However, a review of the boring logs developed for this project indicates that there is only one location (Boring B-4) at the toe of Cross Section B-B where loose sands or silts were encountered. In all other locations, the uncorrected SPT blow counts were 65 or greater in the sands and silts. In addition, these loose sands are encountered above the water table. Also, there is less than a 6% chance of a magnitude 5.0 or greater earthquake in 250 years. In order to have a liquefaction event, three conditions must be met. First, granular soils must be present at a sufficiently low density. Second, these low density granular soils must be encountered below the groundwater table. Third, seismic shaking must be sufficiently strong to induce a collapse of the soil skeleton at the insitu density.

Based upon the actual conditions at the project site, liquefaction is considered to be very unlikely according to the criteria established by Seed and Idriss (1971) in their paper "Simplified Procedure for Evaluating Soil Liquefaction Potential". Hence, slope stability evaluations accounting for potential liquefaction are not necessary for this site.

GENERAL COMMENTS

The scope of this study is to conduct seepage and associated slope stability evaluations of the embankments of the Ash Water Transport Ponds and Equalization Pond. Environmental

Arias & Associates, Inc. II-8 Arias Job No. 2012-695

studies of any kind were not a part of our scope of work or services even though we are capable of providing such services.

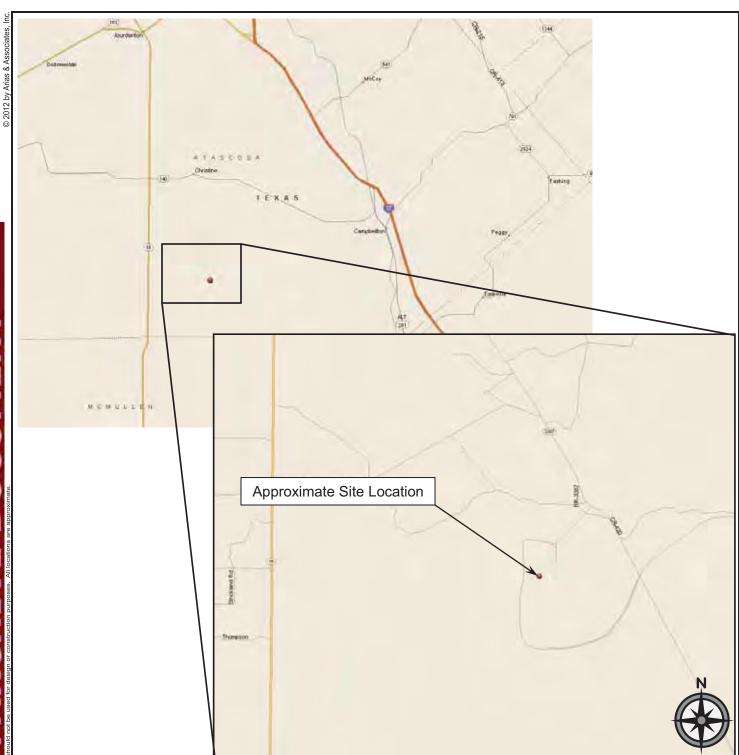
This report was prepared for this project exclusively for the use of San Miguel Electric Cooperative. Arias and Associates is not responsible for the interpretations of our conclusions by a third party. If any of the assumptions presented herein change or if conditions observed during our site visits change, we should be informed and retained to ascertain the impact of these changes on our recommendations. We cannot be responsible for the potential impact of these changes if we are not informed.

The soils to be penetrated by the borings conducted for this subsurface investigation may vary significantly across the site. Our soil classifications and strength determinations are based solely on the materials encountered in widely spaced exploratory test borings and our review of previously conducted borings. Conditions may occur between these borings that are not representative of the subsurface conditions modeled in these analyses

This report has been prepared in accordance with ordinary degree of skill and care that would be used by other reasonably competent geotechnical engineers under similar circumstances, taking into consideration the contemporary state of the art and geographic idiosyncrasies.

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APPENDIX A: SITE VICINITY MAP AND GEOLOGIC MAP





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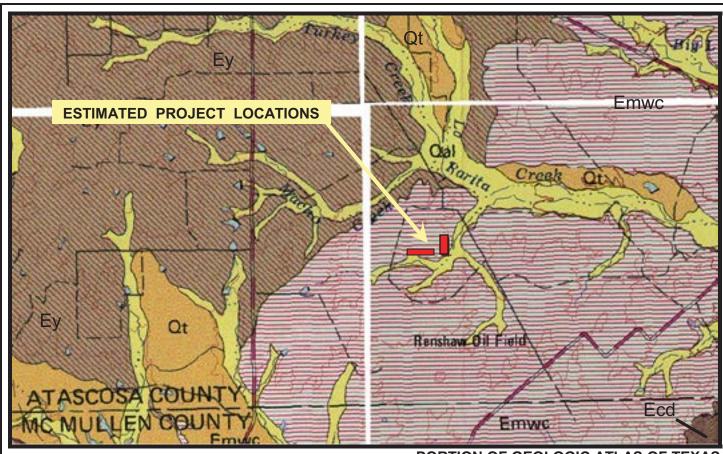
142 Chula Vista San Antonio, Texas 78232 Office: (210) 308-5884 Fax: (210) 308-5886

Date: October 22, 2012	Job No.: 2012-695
Drawn By: TAS	Checked By: GRA
Approved By: DB	Scale: N.T.S.

VICINITY MAP

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

Appendix A



PORTION OF GEOLOGIC ATLAS OF TEXAS

LEGEND

<u>Symbol</u>	<u>Name</u>	Age	*
Qal	Active Alluvial Deposits	Quaternary Period / Holocene Epoch	
Qt	Alluvial Terrace Deposits	Quaternary Period / Pleistocene Epoch	
Ecd	Conquista Clay & Dilworth Sandstone members of the Whitsett Formation	Tertiary Period / Eocene Epoch	
Emwc	Manning, Wellborn & Caddell Formations, undivided	Tertiary Period / Eocene Epoch	
Еу	Yegua Formation	Tertiary Period / Eocene Epoch	
UD	Fault Segment with Indication of Relat	ive Movement	



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142 Chula Vista San Antonio, Texas 78232 Office: (210) 308-5884 Fax: (210) 308-5886

Date: October 4, 2012	Job No.: 2012-695
Drawn By: JLK	Checked By: GRA
Approved By: DB	Scale: N.T.S.

GEOLOGIC MAP

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

Appendix A

APPENDIX B: SITE PHOTOGRAPHS

Arias & Associates, Inc. B-1 Arias Job No. 2012-695



Photo 1 – View looking west at Boring B-2 and the Yard Drainage Retention Pond.



Photo 2 – View looking west from Ash Disposal Pond at Boring B-1, with Boring B-2 in the distance.



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Drawn By: TAS	Checked By: GRA
Approved By: DB	Scale: N.T.S.

SITE PHOTOS

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

Appendix B



Photo 3 – View looking north at Ash Disposal Pond from Boring B-5.



Photo 4 – View looking south from Boring B-6 towards Boring B-7 near the fence.



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Date: October 22, 2012	Job No.: 2012-695
Drawn By: TAS	Checked By: GRA
Approved By: DB	Scale: N.T.S.

SITE PHOTOS

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

Appendix B



Photo 5 – View looking south from Sludge Disposal Basin at Boring B-8, with Boring B-9 in the distance.



Photo 6 – View looking to the northwest at Boring B-11, with Boring B-10 at top near the truck.



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Date: October 22, 2012	Job No.: 2012-695
Drawn By: TAS	Checked By: GRA
Approved By: DB	Scale: N.T.S.

SITE PHOTOS

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

Appendix B



Photo 7 – View looking east from Sludge Disposal Basin at Boring B-13, with Boring B-14 in the distance.



Photo 8 – View looking north from Sludge Disposal Basin at Boring B-16, with Boring B-17 in the distance.



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Date: October 22, 2012 Job No.: 2012-695
Drawn By: TAS Checked By: GRA
Approved By: DB Scale: N.T.S.

SITE PHOTOS

Ash Transport Water Pond and Equalization Pond Stability Analyses at San Miguel Lignite Mine Atascosa County, Texas

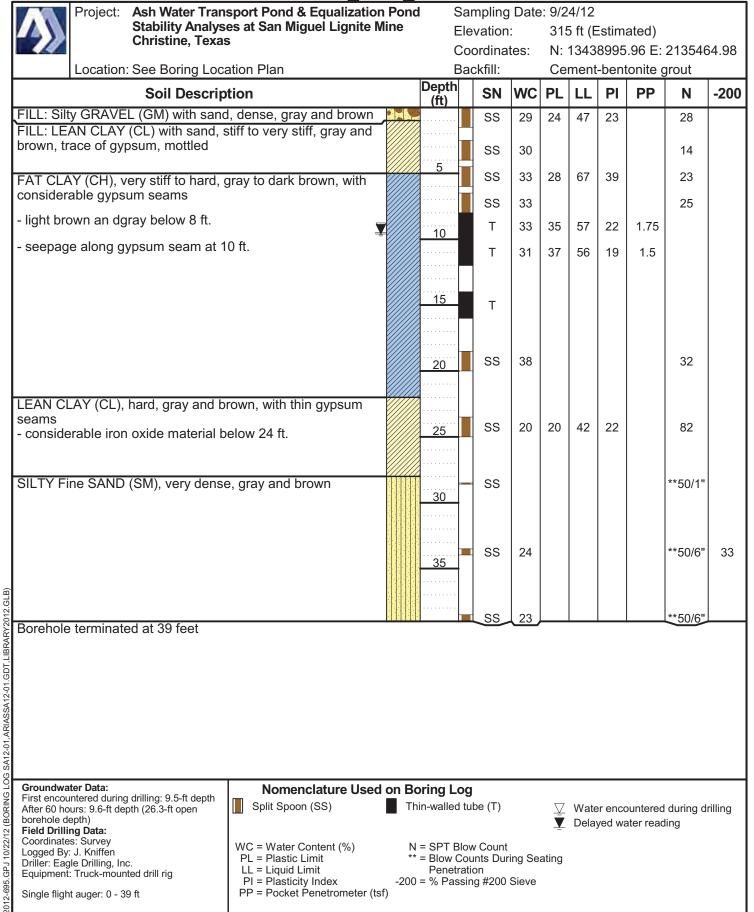
Appendix B



APPENDIX C: BORING LOCATION PLAN AND BORING LOGS

Arias & Associates, Inc. C-1 Arias Job No. 2012-695





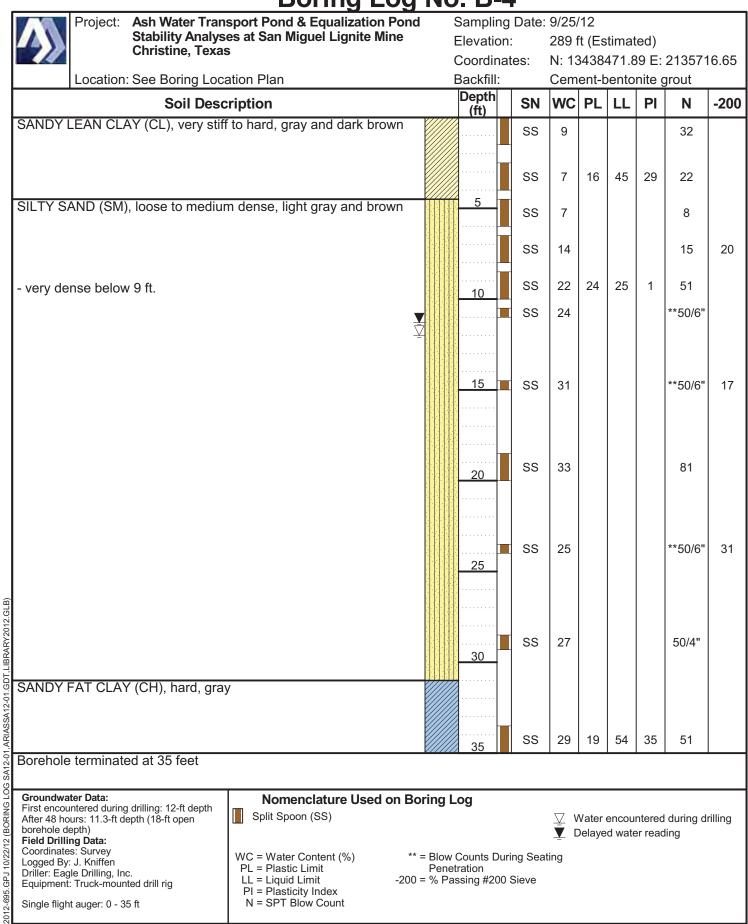
Ash Water Transport Pond & Equalization Pond Sampling Date: 9/25/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 303 ft (Estimated) Christine, Texas Coordinates: N: 13438985.27 E: 2135331.45 Location: See Boring Location Plan Backfill: Cement-bentonite grout Depth SN WC PP -200 **Soil Description** (ft) FILL: Silty GRAVEL (GM) with sand, medium dense, light SS 26 74 gray and brown LIGNITE Material, hard, dark brown and black FILL: GRAVELLY FAT CLAY (CH) with sand, very stiff, gray SS 24 21 53 32 28 FAT CLAY (CH), very stiff to hard, gray and brown, with SS 33 36 gypsum and silt seams SS 31 25 63 38 21 Τ 25 21 54 33 2.25 10 sandy with oxide staining below 10 ft. Т 24 5.0 SILTY Fine SAND (SM), very dense, gray and brown 15 SS 23 86/12" 32 SS 26 72 32 SS 24 50/5" 31 Borehole terminated at 24.4 feet BORING LOG SA12-01, ARIASSA12-01. GDT, LIBRARY 2012. GLB) **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 17-ft depth Split Spoon (SS) Thin-walled tube (T) Water encountered during drilling After 48 hours: 13.4-ft depth (17.8-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey WC = Water Content (%) N = SPT Blow Count Logged By: J. Kniffen -200 = % Passing #200 Sieve PL = Plastic Limit Driller: Eagle Drilling, Inc. LL = Liquid Limit Equipment: Truck-mounted drill rig PI = Plasticity Index PP = Pocket Penetrometer (tsf)

Job No.: 2012-695

Single flight auger: 0 - 24.4 ft

Ash Water Transport Pond & Equalization Pond Sampling Date: 9/24/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 314 ft (Estimated) Christine, Texas Coordinates: N: 13438572.89 E: 2135716.20 Location: See Boring Location Plan Backfill: Cement-bentonite grout Depth SN WC PL PΙ PP -200 **Soil Description** LL (ft) FILL: FAT CLAY (CH), very stiff, gray and brown, mottled, SS 30 19 trace sand, trace gravel SS 34 26 64 38 16 5 29 SS 22 FILL: LEAN CLAY (CL), very stiff to hard, gray and brown, SS 25 49 27 21 22 mottled, trace fine sand SS 21 28 10 Т 26 46 28 4.0 18 15 Т 30 2.75 FILL: FAT CLAY (CH), very stiff, dark gray and brown, mottled Т 28 62 41 2.75 21 20 Т 28 23 66 43 3.0 25 FAT CLAY (CH), very stiff, gray and brown, with gypsum Т 38 3.0 30 SILTY Fine SAND (SM), very dense, gray and brown, with SS 23 **50/5" 24 35 vellow stains SS **50/5' 27 40 SANDY SILT (ML), very dense, gray and brown - iron oxide lenses below 43 ft. SS 22 50/5" 51 45 SS 27 50/4" 50 SS 25 19 50 32 75 55 SANDY FAT CLAY (CH), dense to very dense, dark gray, with gypsum seams SS 26 22 77 55 44 60 Borehole terminated at 60 feet **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 33-ft depth Split Spoon (SS) Thin-walled tube (T) Water encountered during drilling After 60 hours: 34.3-ft depth (47-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey WC = Water Content (%) N = SPT Blow Count Logged By: J. Kniffen ** = Blow Counts During Seating PL = Plastic Limit Driller: Eagle Drilling, Inc. LL = Liquid Limit Penetration Equipment: Truck-mounted drill rig PI = Plasticity Index -200 = % Passing #200 Sieve PP = Pocket Penetrometer (tsf) Single flight auger: 0 - 60 ft

GDT, LIBRARY 2012, GLB

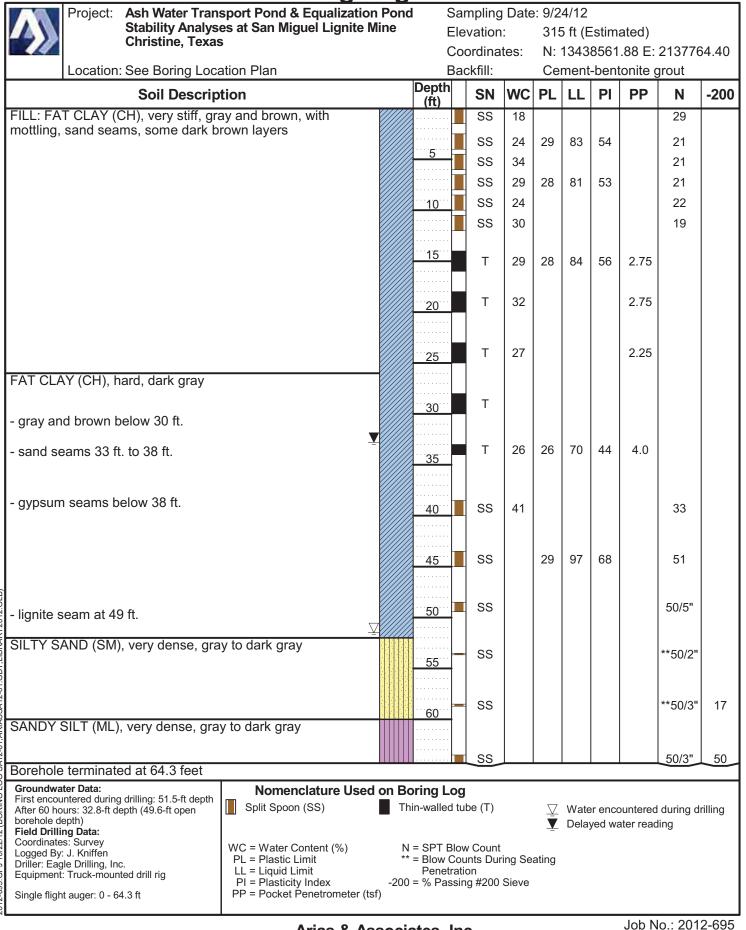


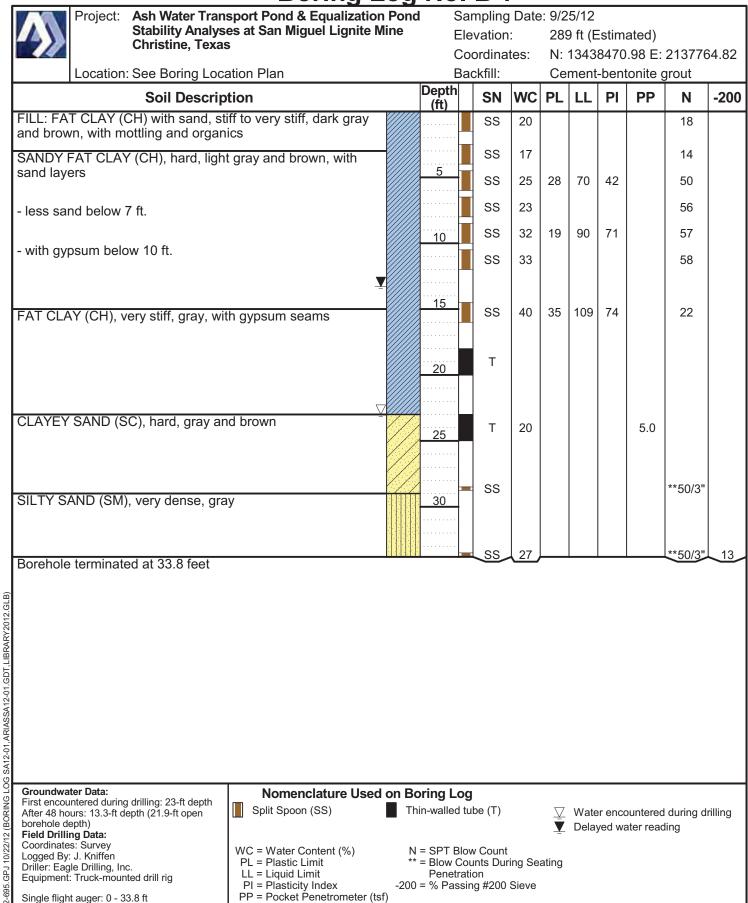
Ash Water Transport Pond & Equalization Pond Sampling Date: 9/25/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 314 ft (Estimated) Christine, Texas Coordinates: N: 13438062.07 E: 2136671.33 Location: See Boring Location Plan Backfill: Cement-bentonite grout Depth SN WC PL PΙ PP -200 **Soil Description** LL (ft) FILL: FAT CLAY (CH) with sand, stiff to hard, gray and SS 29 29 87 58 23 brown, mottled, trace gypsum 26 SS 32 5 Т 36 28 72 44 2.5 Т 21 4.0 Т 27 28 60 32 4.0 10 Т 28 5.5 - trace of fine gravel from 12 ft. to 13 ft. - dark gray and brown below 13 ft. 15 Т 61 32 1.25 32 29 FAT CLAY (CH), gray and brown, with iron oxide staining Т 5.75 28 20 adn gypsum - brown below 23 ft. SS 31 65 52 SILTY SAND (SM), very dense, gray and brown, with yellow stains FAT CLAY (CH), hard, gray and brown, with gypsum seams SS 37 36 102 66 43 30 SS 32 52 SILTY Fine SAND (SM), very dense, gray and brown SS 50/4" 29 Borehole terminated at 39.3 feet **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 37.5-ft depth Split Spoon (SS) Thin-walled tube (T) (23.2-ft open borehole depth) Field Drilling Data: Coordinates: Survey Logged By: J. Kniffen WC = Water Content (%) N = SPT Blow Count Driller: Eagle Drilling, Inc. -200 = % Passing #200 Sieve PL = Plastic Limit Equipment: Truck-mounted drill rig LL = Liquid Limit PI = Plasticity Index PP = Pocket Penetrometer (tsf) Single flight auger: 0 - 39.3 ft

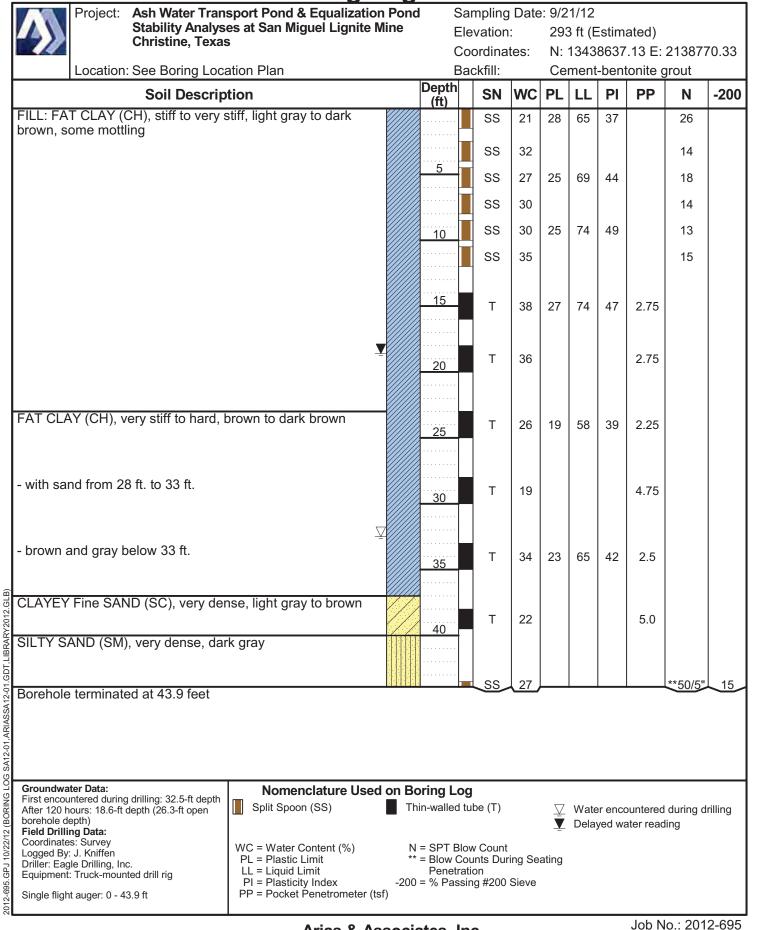
BORING LOG SA12-01, ARIASSA12-01. GDT, LIBRARY 2012.

Job No.: 2012-695

Borina Loa No. B-6





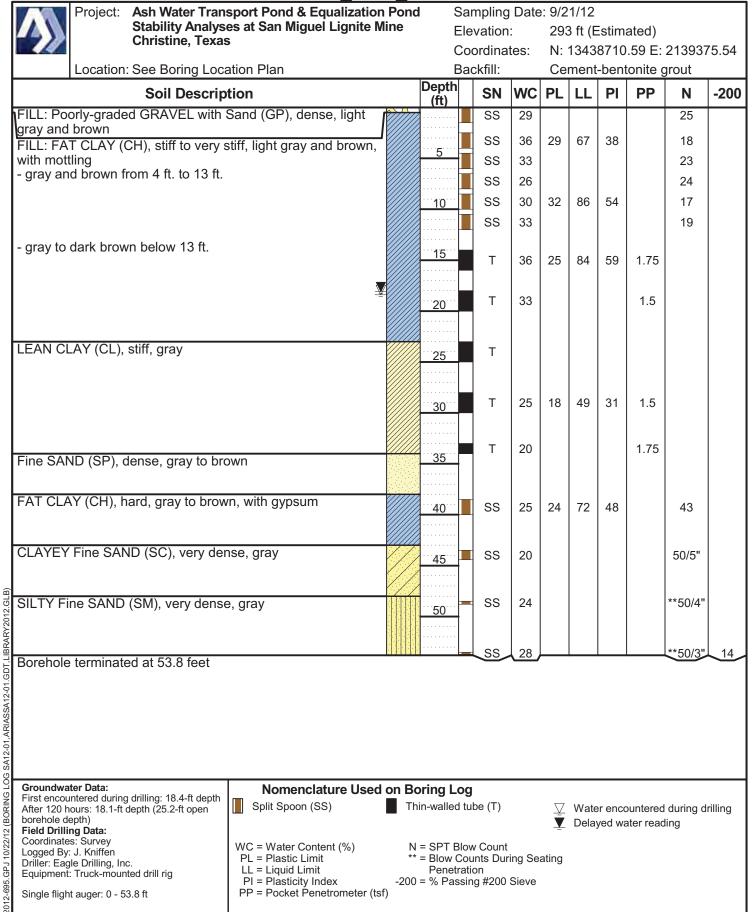


Ash Water Transport Pond & Equalization Pond Sampling Date: 9/25/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 276 ft (Estimated) Christine, Texas Coordinates: N: 13438445.24 E: 2138771.20 Backfill: Location: See Boring Location Plan Cement-bentonite grout Depth PP SN WC -200 **Soil Description** (ft) CLAYEY SAND (SC), dense, dark brown, with white calcite SS 13 17 FAT CLAY (CH), stiff, black, trace organics SS 27 21 65 44 14 SS 21 14 SS 24 13 39 26 16 SANDY LEAN CLAY (CL), very stiff, dark gray, trace organics SS 56 20 19 10 SS 20 25 FAT CLAY (CH), stiff to hard, light gray and brown, with gypsum 15 Т 40 32 109 77 1.5 Т 27 4.25 - sandy below 19 ft. Borehole terminated at 20 feet (BORING LOG SA12-01, ARIASSA12-01.GDT, LIBRARY2012.GLB) **Groundwater Data:** Nomenclature Used on Boring Log During drilling: Not encountered Split Spoon (SS) Thin-walled tube (T) After 48 hours: 6.7-ft depth (8.3-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey WC = Water Content (%) N = SPT Blow Count Logged By: J. Kniffen PL = Plastic Limit -200 = % Passing #200 Sieve Driller: Eagle Drilling, Inc. LL = Liquid Limit Equipment: Truck-mounted drill rig

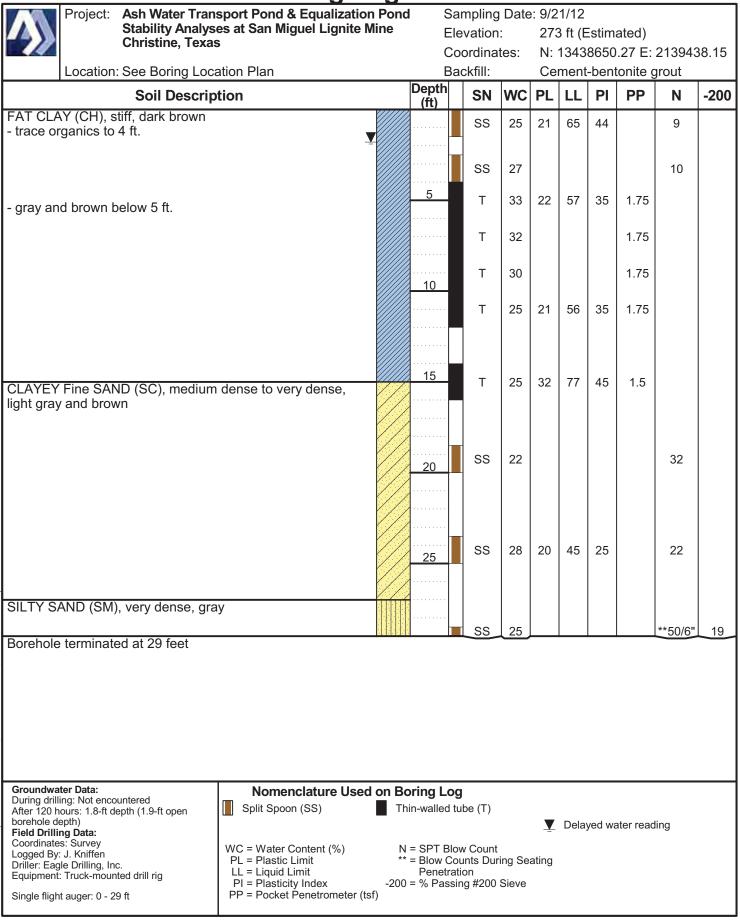
Job No.: 2012-695

PI = Plasticity Index PP = Pocket Penetrometer (tsf)

Single flight auger: 0 - 20 ft

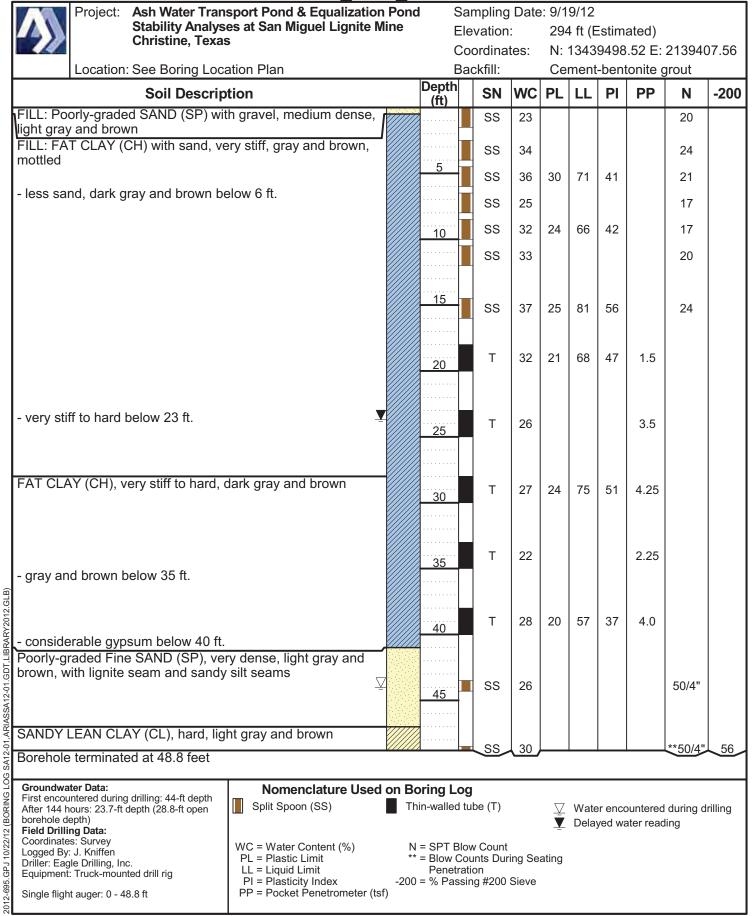


Job No.: 2012-695



BORING LOG SA12-01, ARIASSA12-01. GDT, LIBRARY 2012. GL

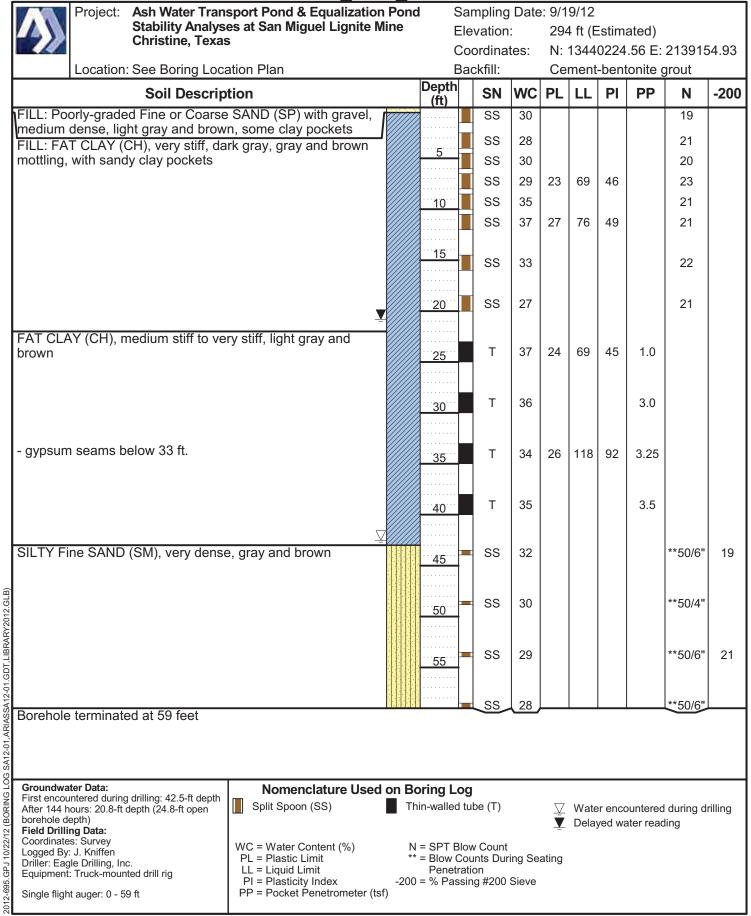
Ash Water Transport Pond & Equalization Pond Sampling Date: 9/21/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 274 ft (Estimated) Christine, Texas Coordinates: N: 13439115.06 E: 2139480.55 Backfill: Location: See Boring Location Plan Cement-bentonite grout Depth SN WC PL **Soil Description** Ν (ft) FILL: FAT CLAY (CH), hard, dark brown, trace organics SS 31 27 Τ 18 17 50 33 9.0 Т 17 7.75 LEAN CLAY with Sand (CL), stiff to hard, dark brown Τ 29 12 20 17 3.0 Τ 20 2.0 10 Т 20 1.25 15 SS 19 19 39 20 29 - less sand, light gray and brown below 15 ft. 21 SS 17 42 25 36 20 - some gypsum seams below 23 ft. 26 31 SS Borehole terminated at 25 feet (BORING LOG SA12-01, ARIASSA12-01.GDT, LIBRARY2012.GLB) **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 14-ft depth Split Spoon (SS) Thin-walled tube (T) Water encountered during drilling After 120 hours: 6-ft depth (9.8-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey N = SPT Blow Count WC = Water Content (%) Logged By: J. Kniffen PL = Plastic Limit Driller: Eagle Drilling, Inc. LL = Liquid Limit Equipment: Truck-mounted drill rig PI = Plasticity Index PP = Pocket Penetrometer (tsf) Single flight auger: 0 - 25 ft



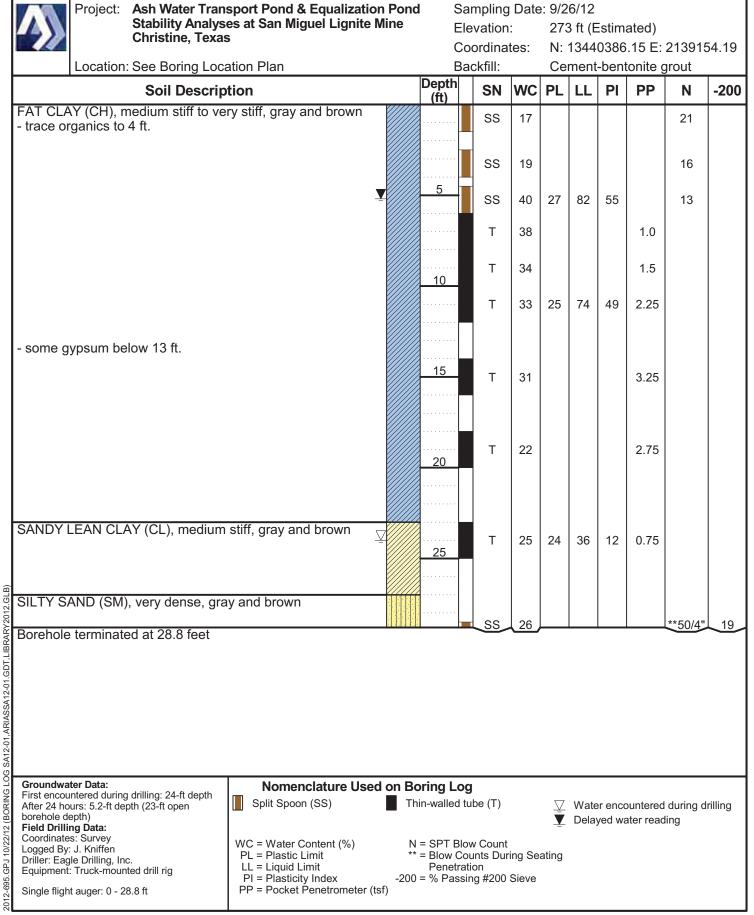
Job No.: 2012-695

Ash Water Transport Pond & Equalization Pond Sampling Date: 9/26/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 273 ft (Estimated) Christine, Texas Coordinates: N: 13439499.09 E: 2139532.23 Backfill: Cement-bentonite grout Location: See Boring Location Plan Depth PP SN WC -200 **Soil Description** (ft) FAT CLAY (CH), medium stiff to very stiff, dark brown SS 18 16 - trace organics to 4 ft. 12 SS 19 Т 26 16 50 34 1.0 - gray with some calcite below 6 ft. Т 2.25 27 - brown below 8 ft. Т 16 19 62 43 1.75 10 Т 1.25 28 SANDY LEAN CLAY (CL), stiff, light gray and brown 15 Т 25 16 35 19 1.5 CLAYEY SAND (SC), medium dense, light gray and brown SS 19 46 43 20 SANDY LEAN CLAY (CL), hard, dark gray and brown SS 30 - thin lignite lense at 24 ft. 21 15 45 64 Borehole terminated at 25 feet (BORING LOG SA12-01, ARIASSA12-01.GDT, LIBRARY2012.GLB) **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 6-ft depth Split Spoon (SS) Thin-walled tube (T) Water encountered during drilling After 24 hours: 7-ft depth (11.2-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey WC = Water Content (%) N = SPT Blow Count Logged By: J. Kniffen PL = Plastic Limit -200 = % Passing #200 Sieve Driller: Eagle Drilling, Inc. LL = Liquid Limit Equipment: Truck-mounted drill rig PI = Plasticity Index PP = Pocket Penetrometer (tsf) Single flight auger: 0 - 25 ft

Ash Water Transport Pond & Equalization Pond Sampling Date: 9/26/12 Project: Stability Analyses at San Miguel Lignite Mine Elevation: 273 ft (Estimated) Christine, Texas Coordinates: N: 13439963.51 E: 2139494.49 Backfill: Location: See Boring Location Plan Cement-bentonite grout Depth LL SN WC PL **Soil Description** Ν (ft) FAT CLAY (CH), medium stiff to very stiff, dark brown SS 16 24 - trace organics to 2 ft. 13 SS 29 Т 26 19 58 39 1.5 - gray and brown below 6 ft. Τ 29 1.25 Τ 29 19 61 42 2.0 10 - sandy from 10 ft. to 12 ft. Т 31 1.0 15 Τ 31 19 54 35 1.0 SANDY FAT CLAY (CH), very stiff, light gray and brown SS 21 18 20 21 30 SS 18 52 34 Borehole terminated at 25 feet (BORING LOG SA12-01, ARIASSA12-01.GDT, LIBRARY2012.GLB) **Groundwater Data:** Nomenclature Used on Boring Log First encountered during drilling: 19-ft depth Split Spoon (SS) Thin-walled tube (T) Water encountered during drilling After 24 hours: 4.8-ft depth (21.3-ft open borehole depth) Delayed water reading Field Drilling Data: Coordinates: Survey N = SPT Blow Count WC = Water Content (%) Logged By: J. Kniffen PL = Plastic Limit Driller: Eagle Drilling, Inc. LL = Liquid Limit Equipment: Truck-mounted drill rig PI = Plasticity Index PP = Pocket Penetrometer (tsf) Single flight auger: 0 - 25 ft



Job No.: 2012-695



APPENDIX D: KEY TO CLASSIFICATION SYMBOLS

US EPA ARCHIVE DOCUMENT

KEY TO CLASSIFICATION SYMBOLS USED ON BORING LOGS

More Than Half of Material LARGER Than No. 200 Sieve size	GRAVELS More Than Half of Coarse Fraction is LARGER Than No. 4 Sieve Size	Clean Gravels (Little or no Fines)	GW		Well-Graded Gravels, Gravel-Sand Mixtures, Little		
R Than No. 200 Sieve size	RAVELS alf of Coarse Frinan No. 4 Siev	Clean (Little or r			or no Fines		
R Than No. 200 S	&A \	=	GP		Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or no Fines		
R Than	GF han H GER 1	Gravels With Fines (Appreciable Amount of Fines)	GM		Silty Gravels, Gravel-Sand-Silt Mixtures		
₿ QE	More 7 is LAR	Gravels V (Appre Amount	GC		Clayey Gravels, Gravel-Sand-Clay Mixtures		
laterial LAF	action re Size	Sands no Fines)	sw		Well-Graded Sands, Gravelly Sands, Little or no Fines		
Half of Ma	IDS f Coarse Fr i No. 4 Siev	Clean (Little or r	SP		Poorly-Graded Sands, Gravelly Sands, Little or no Fines		
More Tha	SAN Than Half or LLER Than	ith Fines sciable of Fines)	SM		Silty Sands, Sand-Silt Mixtures		
	More TI is SMAL	Sands W (Appre Amount o	sc		Clayey Sands, Sand-Clay Mixtures		
e Size	SILTS & CLAYS	S & X	% S S >	Limit Than J	ML		Inorganic Silts & Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity
f of Materis o. 200 Siev		Liquid Less	CL		Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays		
e Than Hal ER Than N	SILTS & CLAYS	Limit r Than 0	МН		Inorganic Silts, Micaceous or Diatomaceous Fine Sand or Silty Soils, Elastic Silts		
SMALL		Liquic Greate 5	СН		Inorganic Clays of High Plasticity, Fat Clays		
SANDSTONE			Massive Sandstones, Sandstones with Gravel Clasts				
	MARLSTONE			Indurated Argillaceous Limestones			
MATERIALS CLAYSTONE CLAYSTONE			Massive or Weakly Bedded Limestones				
OR CLAYSTONE			Mudstone or Massive Claystones				
CHALK			Massive or Poorly Bedded Chalk Deposits				
MARINE CLAYS			Cretaceous Clay Deposits				
GROUNDWATER		UNDWATER	₹	Ā	Indicates Final Observed Groundwater Level Indicates Initial Observed Groundwater Location		
Mole Illan of Material is	SMALLER Than No. 200 Sieve Size	MATERIALS SMALLER Than No. 200 Sieve Size SILTS & SILTS & More Th is SMALL	MATERIALS SMALLER Than No. 200 Sieve Size SILTS & SILTS & More Th	MATERIALS SMALLER Than No. 200 Sieve Size SILTS & SILTS & More Th	MATERIALS SMALLER Than No. 200 Sieve Size SILTS & SILTS & More Th Is SMALL SAMALL SAMALL		



APPENDIX E: LABORATORY AND FIELD TEST PROCEDURES

FIELD AND LABORATORY EXPLORATION

The field exploration program included drilling at selected locations within the site and intermittently sampling the encountered materials. The boreholes were drilled using either single flight auger (ASTM D 1452) or hollow-stem auger (ASTM D 6151). Samples of encountered materials were obtained using a split-barrel sampler while performing the Standard Penetration Test (ASTM D 1586), using a thin-walled tube sampler (ASTM D 1587), or by taking material from the auger as it was advanced (ASTM D 1452). The sample depth interval and type of sampler used is included on the soil boring log. Arias' field representative visually logged each recovered sample and placed a portion of the recovered sampled into a plastic bag for transport to our laboratory.

SPT N values and blow counts for those intervals where the sampler could not be advanced for the required 18-inch penetration are shown on the soil boring log. If the test was terminated during the 6-inch seating interval or after 10 hammer blows were applied used and no advancement of the sampler was noted, the log denotes this condition as blow count during seating penetration. Penetrometer readings recorded for thin-walled tube samples that remained intact also are shown on the soil boring log.

Arias performed soil mechanics laboratory tests on selected samples to aid in soil classification and to determine engineering properties. Tests commonly used in geotechnical exploration, the method used to perform the test, and the column designation on the boring log where data are reported are summarized as follows:

Test Name	Test Method	Log Designation
Water (moisture) content of soil and rock by mass	ASTM D 2216	WC
Liquid limit, plastic limit, and plasticity index of soils	ASTM D 4318	PL, LL, PI
Amount of material in soils finer than the No. 200 sieve	ASTM D 1140	-200
Particle size analysis of soils (with or without fines	ASTM D 422	-200
fraction)		

The laboratory results are reported on the soil boring logs.

Arias & Associates, Inc. E-2 Arias Job No. 2012-695



Consolidated-Undrained Triaxial Compression Test Report

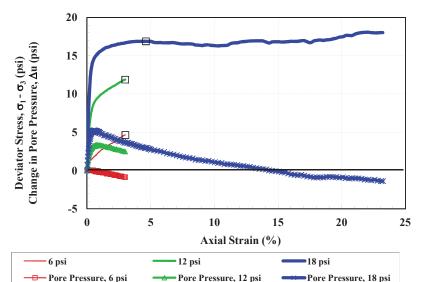
B-1 (14 - 16 ft) Sample No.: Client: Arias & Associates Project: San Miguel Electric Cooperative Type of Test: Multi-stage CU TRI Log No.: E2365-91-06 Strain Rate (%/hr): 1 % / hr 10/04/12

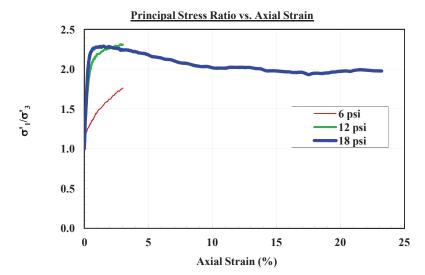
Test Date:

Type of Specimen: Undisturbed

Test Method: Modified ASTM D 4767

Deviator Stress and Pore Pressure versus Axial Strain





Total Stresses				
Friction Angle, ϕ (°):	19.3			
Cohesion, c (psi):	0.0			
Effective Stresses				
Friction Angle, ϕ' (°):	21.8			
Cohesion, c' (psi):	0.0			
Initial Speaim	on Conditions			

Initial Specimen Conditions					
Stage		#1	#2	#3	
Eff. Consolidation Stress	(psi)	6	12	18	
Depth/Elev (ft):		14 - 16	14 - 16	14 - 16	
Avg. Diameter (in)	D_{o}	2.84			
Avg. Height (in)	H_{o}	5.75			
Avg. Water Content (%)	W_{o}	35.4			
Bulk Density (pcf)	WD_o	109.3			
Dry Density (pcf)	DD_{o}	80.8			
Saturation (%)	S_{o}	87.8			
Void Ratio	e_{o}	1.09			
Specific Gravity (assumed)	G_s	2.70			
B-Coefficient	В	0.98			
Specimen Conditions after Consolidation					
Void Ratio	e_c	1.06	1.03	1.00	
Area (in ²)	A_1	6.29	6.23	6.18	
Saturation (%)	Sr			100.0	
Avg. Water Content (%)	\mathbf{W}_f			41.8	

Stresses at Failure					
Deviator Stress (psi)	4.7	11.9	16.9		
Total Stresses at Failure					
$\sigma_1(psi)$	9.9	23.5	33.9		
σ_3 (psi)	5.3	11.6	17.0		
Effective Stresses at Failure					
σ' ₁ (psi)	10.8	20.9	31.0		
σ' ₃ (psi)	6.1	9.1	14.1		

Note 2: Specimens were mounted in the triaxial cells using the backpressure saturation method. Failure stresses were determined at the greatest deviator stress or at 15% strain, whichever occurred first.

Note 1: Specimen was undisturbed

Trevor Yates, 10/15/12

Analysis & Quality Review/Date Specimens prepared by: Jon Millsap



TRI/Environmental, Inc.

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Triaxial Compression Test Appendix 1

Client: Arias & Associates

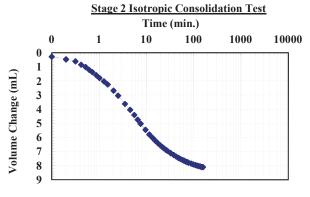
Project: San Miguel Electric Cooperative

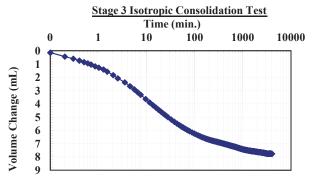
Specimen: B-1 (14 - 16 ft)



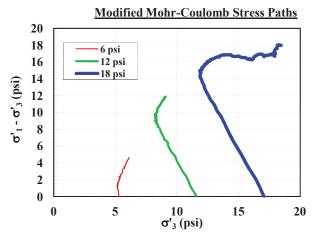


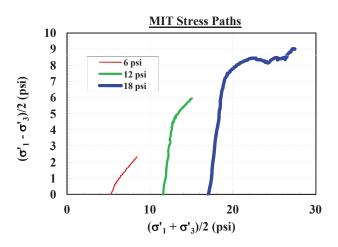
Stage 1 Isotropic Consolidation Test

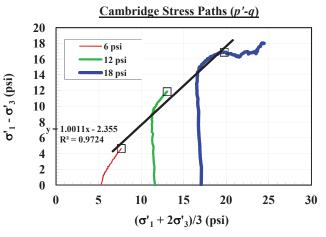




TRI Log No.: E2365-91-06 Test Method: ASTM D 4767 Test Date: 10/04/12









Shear Stress,

τ (psi)

TRI/Environmental, Inc.

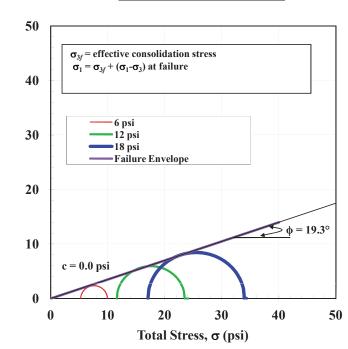
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Triaxial Compression Test Appendix 2

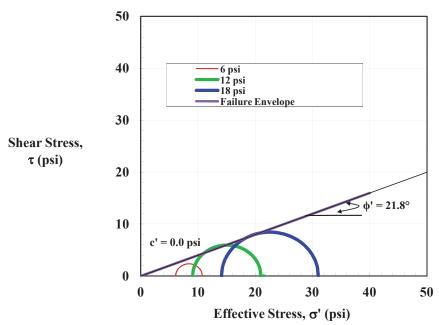
Client: Arias & Associates TRI Log No.: E2365-91-06
Project: San Miguel Electric Cooperative Test Method: ASTM D 4767

Specimen: B-1 (14 - 16 ft) Test Date: 10/04/12

Mohr's Circles (Total Stress)



Mohr's Circles (Effective Stress)



Consolidated-Undrained Triaxial Compression Test Report

Client: Arias & Associates Sample No.: B-6 (28 - 30 ft)

Project: San Miguel Electric Cooperative Type of Test: Multi-stage CU

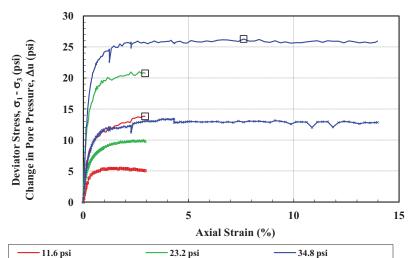
TRI Log No.: E2365-91-06 Strain Rate (%/hr): 0.19, 0.083, & 0.045

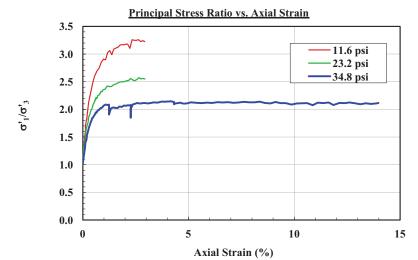
Test Method: Modified ASTM D 4767 Test Date: 10/02/12

Type of Specimen: Undisturbed

Pore Pressure, 9.6 psi

Deviator Stress and Pore Pressure versus Axial Strain





Pore Pressure, 19.2 psi

Note	1:	Specimen	was	undisturbed	
------	----	----------	-----	-------------	--

Total Stresses				
Friction Angle, φ (°):	13.1			
Cohesion, c (psi):	3.0			
Effective Stresses				
Friction Angle, ϕ' (°):	15.2			
Cohesion, c' (psi):	3.5			

Initial Specimen Conditions					
Stage		#1	#2	#3	
Eff. Consolidation Stress	(psi)	12	23	35	
Depth/Elev (ft):		28 -30	28 -30	28 -30	
Avg. Diameter (in)	D_{o}	2.81	-	-	
Avg. Height (in)	H_{o}	5.64	-	-	
Avg. Water Content (%)	Wo	28.1	-	-	
Bulk Density (pcf)	WD_o	116.6	-	-	
Dry Density (pcf)	DD_{o}	91.1	-	-	
Saturation (%)	S_{o}	89.0	-	-	
Void Ratio	e_{o}	0.85	-	-	
Specific Gravity (assumed)	G_s	2.70	-	-	
B-Coefficient	В	0.98	-	-	
Specimen Co	onditi	ons after Co	onsolidation	l	
Void Ratio	e_c	0.83	0.68	0.62	
Area (in ²)	A_1	6.16	5.81	5.65	
Saturation (%)	Sr	-	-	100.0	
Avg. Water Content (%)	\mathbf{W}_f	-	-	31.3	

Stresses at Failure				
Deviator Stress (psi)	13.8	20.7	26.3	
Total Stre	sses at Failu	re		
\Box_1 (psi)	25.0	44.0	60.6	
\square_3 (psi)	11.2	23.2	34.3	
Effective Stresses at Failure				
□' ₁ (psi)	20.0	34.0	45.0	
□' ₃ (psi)	6.2	13.4	21.3	

Note 2: Specimens were mounted in the triaxial cells using the backpressure saturation method. Failure stresses for the first two stages were determined at 3 percent and 6 percent strain.

Jeffrey A. Kuhn, E.I.T., Ph.D., 11/13/12

Analysis & Quality Review/Date Specimens prepared by: Jon Millsap

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Pore Pressure, 28.8 psi

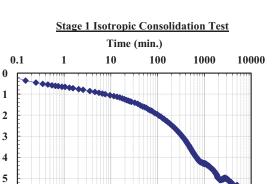
Triaxial Compression Test Appendix 1

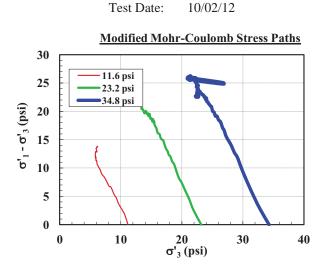
Client: Arias & Associates

Project: San Miguel Electric Cooperative

Specimen: B-6 (28 - 30 ft)

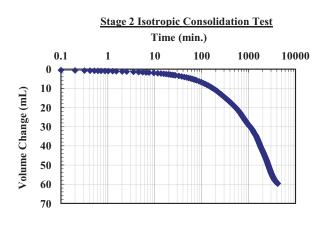
Volume Change (mL)

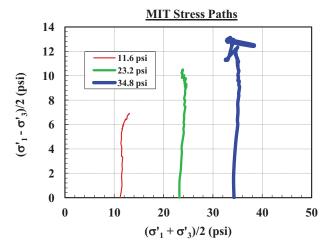


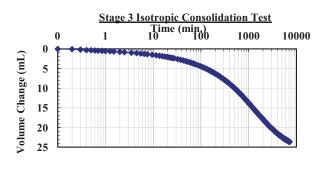


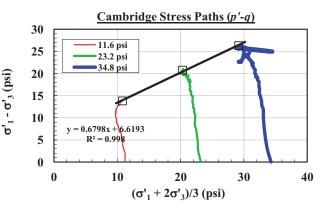
TRI Log No.: E2365-91-06

Test Method: ASTM D 4767











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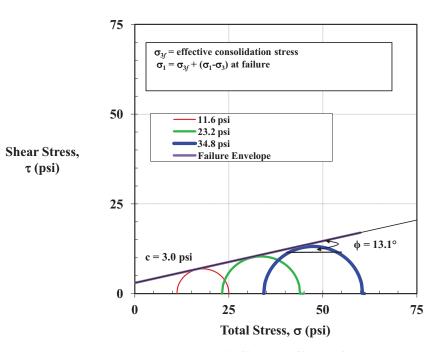
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Triaxial Compression Test Appendix 2

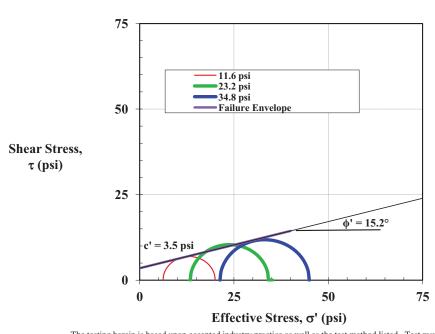
Client: Arias & Associates TRI Log No.: E2365-91-06
Project: San Miguel Electric Cooperative Test Method: ASTM D 4767

Specimen: B-6 (28 - 30 ft) Test Date: 10/02/12

Mohr's Circles (Total Stress)



Mohr's Circles (Effective Stress)





Consolidated-Undrained Triaxial Compression Test Report

Client: Arias & Associates Sample No.: B-10 (23 - 25 ft)

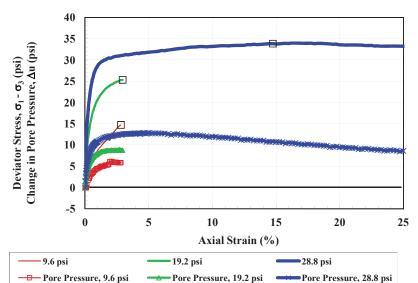
Project: San Miguel Electric Cooperative Type of Test: Multi-stage CU

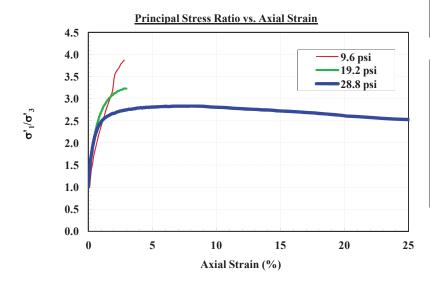
TRI Log No.: E2365-91-06 Strain Rate (%/hr): 5 % / hr

Test Method: Modified ASTM D 4767 Test Date: 10/04/12

Type of Specimen: Undisturbed

Deviator Stress and Pore Pressure versus Axial Strain





Total Stresses			
Friction Angle, ϕ (°):	19.0		
Cohesion, c (psi):	1.5		
Effective S	Stresses		
Friction Angle, φ' (°):	23.6		
Cohesion, c' (psi):	2.5		

Initial Specimen Conditions					
Stage		#1	#2	#3	
Eff. Consolidation Stress	(psi)	10	19	29	
Depth/Elev (ft):		23 - 25	23 - 25	23 - 25	
Avg. Diameter (in)	D_{o}	2.83			
Avg. Height (in)	H_{o}	5.66			
Avg. Water Content (%)	W_{o}	26.5			
Bulk Density (pcf)	WD_o	111.9			
Dry Density (pcf)	DD_o	88.5			
Saturation (%)	S_{o}	79.0			
Void Ratio	e_{o}	0.91			
Specific Gravity (assumed)	G_{s}	2.70			
B-Coefficient	В	0.98			
Specimen Conditions after Consolidation					
Void Ratio	e_c	0.89	0.86	0.83	
Area (in ²)	A_1	6.27	6.20	6.13	
Saturation (%)	Sr			90.5	
Avg. Water Content (%)	\mathbf{w}_f			27.7	

Stresses at Failure						
Deviator Stress (psi)	14.7	25.3	33.8			
Total Stre	Total Stresses at Failure					
$\sigma_1(psi)$	25.7	45.5	64.1			
σ_3 (psi)	10.9	20.2	30.2			
Effective Stresses at Failure						
σ' ₁ (psi)	19.9	36.6	53.5			
σ' ₃ (psi)	5.1	11.4	19.6			

Note 2: Specimens were mounted in the triaxial cells using the back-pressure saturation method. Failure stresses were determined at the greatest deviator stress or at 15% strain, whichever occurred first.

Note 1: Specimen was undisturbed

Trevor Yates, 10/15/12

Analysis & Quality Review/Date Specimens prepared by: Jon Millsap



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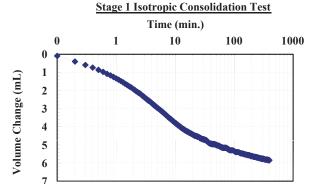
Triaxial Compression Test Appendix 1

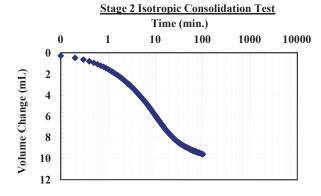
Client: Arias & Associates

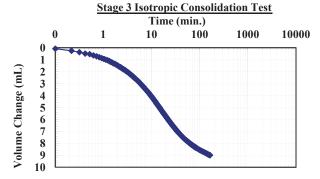
Project: San Miguel Electric Cooperative

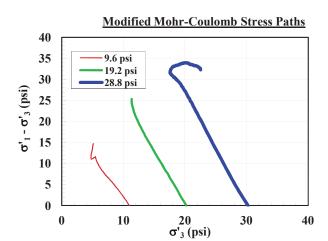
Specimen: B-10 (23 - 25 ft)









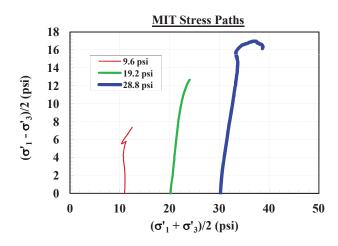


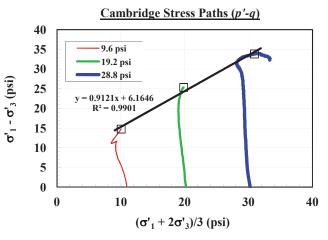
Test Date:

TRI Log No.: E2365-91-06

Test Method: ASTM D 4767

10/04/12







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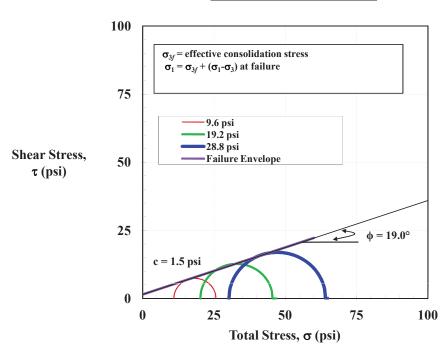
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Triaxial Compression Test Appendix 2

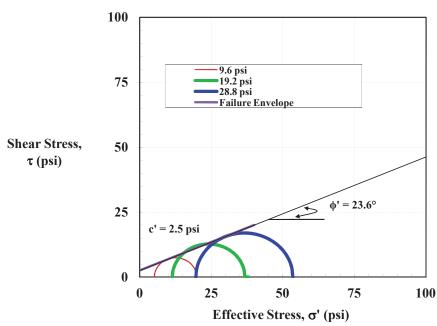
Client: Arias & Associates TRI Log No.: E2365-91-06
Project: San Miguel Electric Cooperative Test Method: ASTM D 4767

Specimen: B-10 (23 - 25 ft) Test Date: 10/04/12

Mohr's Circles (Total Stress)



Mohr's Circles (Effective Stress)



APPENDIX F: SEEPAGE AND SLOPE STABILITY RESULTS

SEEP/W Analysis - Normal Operating Pool San Miguel Ash Pond Section A-A.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: Ash Waste

Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 0.00033 ft/sec

Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft³/ft³

K-Ratio: 0.4 K-Ratio: 0.1 Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

K-Ratio: 1

K-Direction: 0 ° K-Direction: 0 °

Pond Water Elevation: 311 ft

Total Head

310

300 290 280

K-Direction: 0 °

350

300

250

200

150

100

50

0

-50

-100

230 240

260 250

Elevation

Distance

San Miguel Ash Pond Section A-A.gsz Steady State Seepage - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: Ash Waste

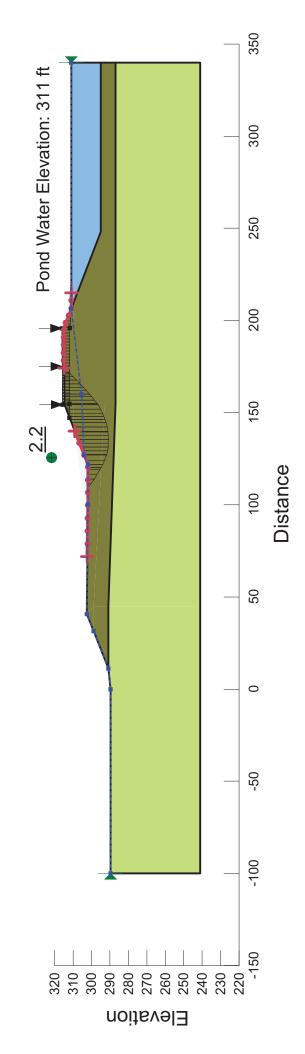
Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 110 pcf Unit Weight: 112 pcf Unit Weight: 120 pcf Model: Mohr-Coulomb

Cohesion: 288 psf Cohesion: 0 psf Cohesion: 0 psf

Phi-B: 11 ° Phi-B: 0° Phi: 30 ° Phi: 20.3 °

Phi-B: 0° Phi: 25 °



San Miguel Ash Pond Section A-A.gsz Steady State Seepage - Entry Exit A - Far 11/20/2012

Computed By: GRA

Name: (SM-ML) - U,S Mc Name: Clay Nat/Fill - S Mc Name: Ash Waste M

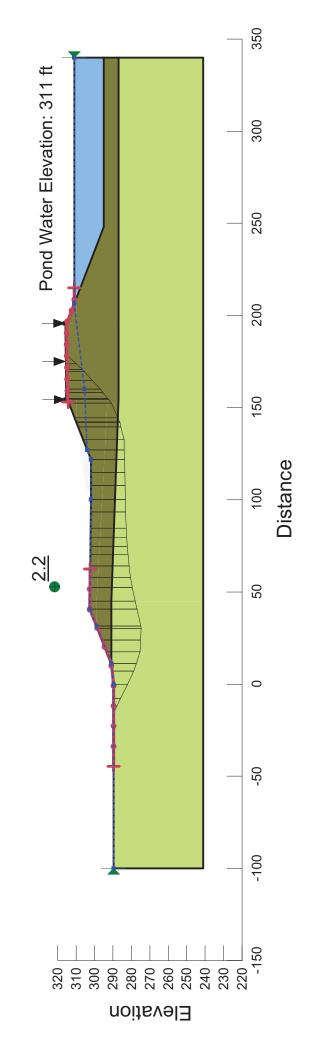
Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 120 pcf
Unit Weight: 112 pcf
Unit Weight: 110 pcf

120 pcf Cohesion: 0 psf 112 pcf Cohesion: 288 psf 110 pcf Cohesion: 0 psf

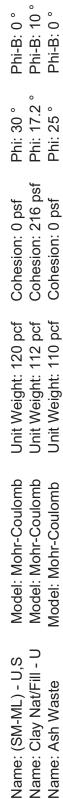
f Phi: 30° Phi-B: 0° psf Phi: 20.3° Phi-B: 11°

Phi: 25 ° Phi-B: 0 °

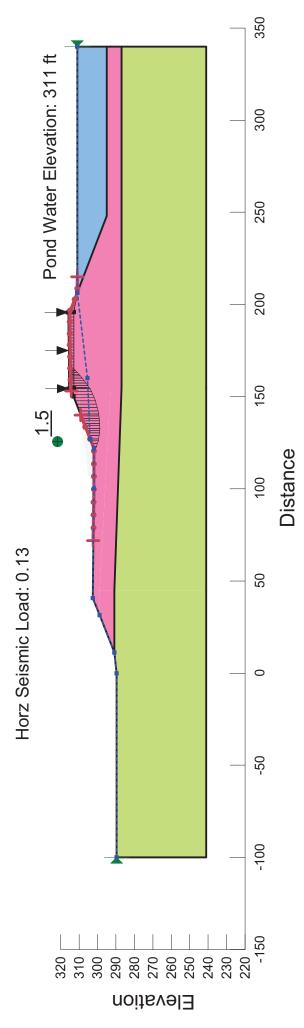


San Miguel Ash Pond Section A-A.gsz Seismic - Entry Exit A 11/20/2012

Computed By: GRA



Phi-B: 0 °



SEEP/W Analysis - Maximum Surcharge Pool San Miguel Ash Pond Section A-A.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: Ash Waste

Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 0.00033 ft/sec

Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft³/ft³

Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

Pond Water Elevation: 314.5 ft

Total Head

320 310

300 290 280

K-Ratio: 0.4 K-Ratio: 0.1 K-Ratio: 1











K-Direction: 0 ° K-Direction: 0 °

350

300

250

200

150

50

0

-50

-100

240 230 220

260 250

Elevation

Distance 100

Maximum Surcharge Pool - Entry Exit A San Miguel Ash Pond Section A-A.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: Ash Waste

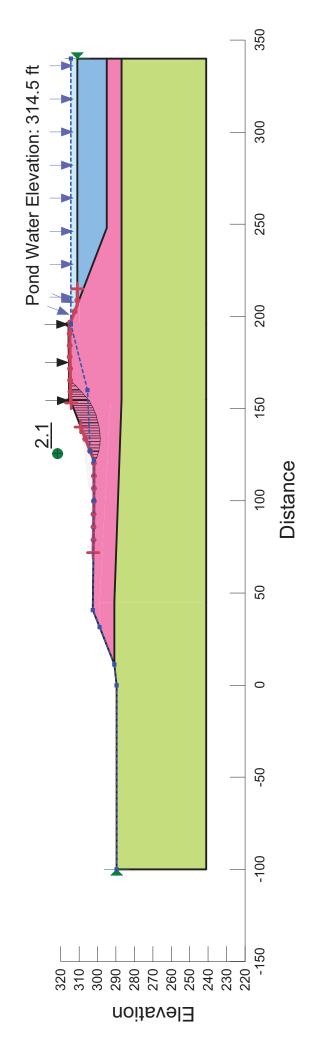
Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 110 pcf Unit Weight: 112 pcf Unit Weight: 120 pcf

Cohesion: 216 psf Cohesion: 0 psf Cohesion: 0 psf

Phi-B: 0 ° Phi: 17.2 ° Phi: 30 ° Phi: 25 °

Phi-B: 10 ° Phi-B: 0 °



SEEP/W Analysis - Normal Operating Pool San Miguel Ash Pond Section B-B.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - S Name: Blanket

Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 0.00033 ft/sec Model: Saturated Only Model: Saturated Only

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3

Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

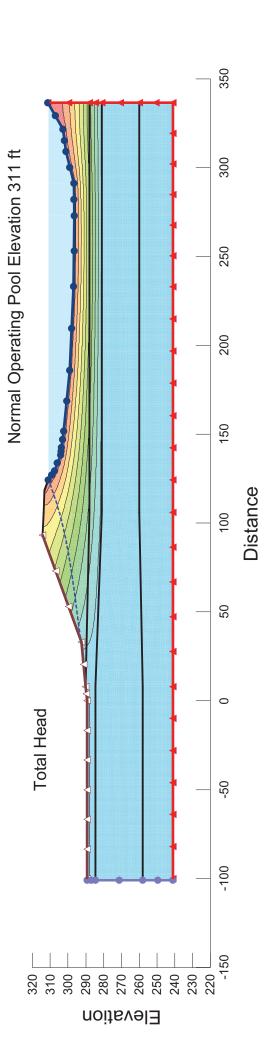
K-Ratio: 0.1 K-Ratio: 0.1 K-Ratio: 0.4 K-Ratio: 1

K-Direction: 0° K-Direction: 0 °

K-Direction: 0°







San Miguel Ash Pond Section B-B.gsz Steady State Seepage - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: (CL-SC) - S

Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Model: Undrained (Phi=0)

Name: Blanket

Unit Weight: 120 pcf Unit Weight: 120 pcf

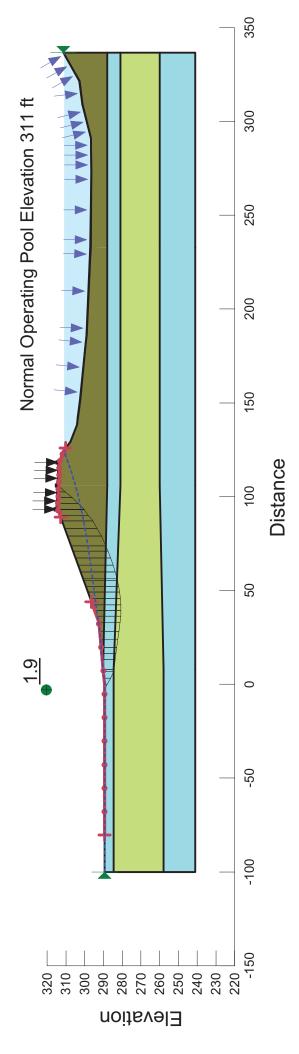
Unit Weight: 112 pcf Unit Weight: 1 pcf

Cohesion: 288 psf Cohesion: 200 psf Cohesion: 0 psf

Cohesion: 1 psf

Phi: 30 ° Phi: 24 ° Phi: 20.3 °

Phi-B: 0 ° Phi-B: 0 ° Phi-B: 0 °



San Miguel Ash Pond Section B-B.gsz Seismic - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Blanket

Model: Mohr-Coulomb Model: Mohr-Coulomb

Model: Undrained (Phi=0) Model: Mohr-Coulomb

Cohesion: 1 psf Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf

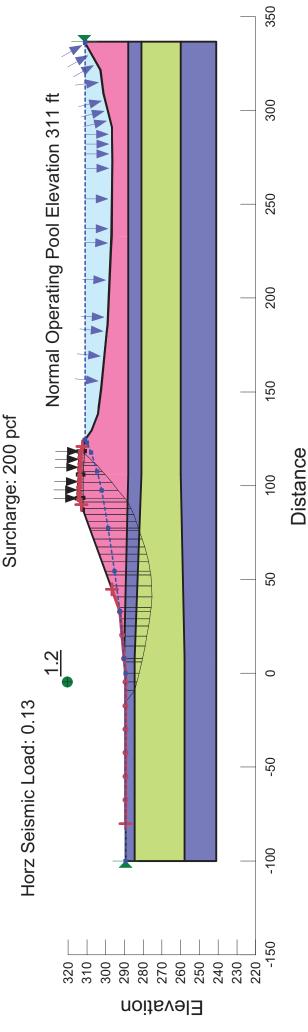
Cohesion: 1000 psf Cohesion: 0 psf Cohesion: 216 psf

Phi: 17.2 Phi: 30 °

Piezometric Line: 1

Phi-B: 0 ° Phi-B: 0 ° Phi-B: 0 ° Phi: 0°

Piezometric Line: 1



SEEP/W Analysis - Maximum Surcharge Pool San Miguel Ash Pond Section B-B.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - S

Name: Blanket

Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 3.3e-008 ft/sec

K-Sat: 0.00033 ft/sec

Model: Saturated Only

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft³/ft³

K-Ratio: 0.4 Mv: 0 /psf Mv: 0 /psf

Mv: 0 /psf Mv: 0 /psf

K-Direction: 0°

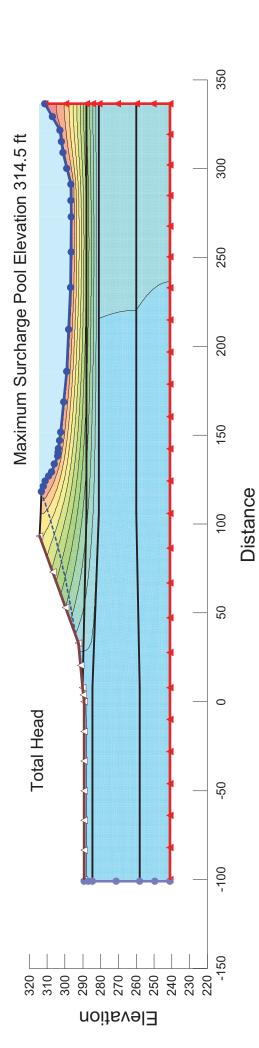
K-Ratio: 0.1

K-Ratio: 0.1 K-Ratio: 1

K-Direction: 0°

K-Direction: 0°

K-Direction: 0 °



Maximum Surcharge Pool - Entry Exit A San Miguel Ash Pond Section B-B.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U

Model: Mohr-Coulomb Model: Mohr-Coulomb

Model: Mohr-Coulomb

Model: Undrained (Phi=0)

Name: Blanket

Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf

Cohesion: 1000 psf

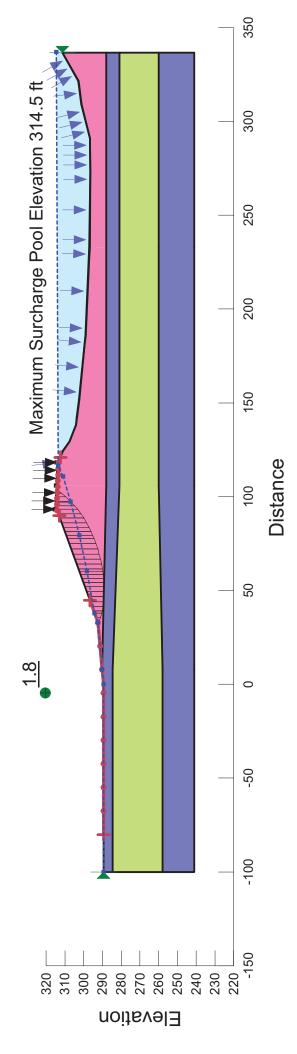
Cohesion: 216 psf Cohesion: 0 psf

Phi-B: 0 ° Phi-B: 0 ° Phi: 17.2 ° Phi: 30 °

Piezometric Line: 1

Phi: 0 ° Phi-B: 0 ° Piezometric Line: 1

Cohesion: 1 psf



SEEP/W Analysis - Normal Operating Pool San Miguel Ash Pond Section C-C.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S

Name: Surficial

Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 0.00033 ft/sec K-Sat: 7e-009 ft/sec Model: Saturated Only

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft3/ft3

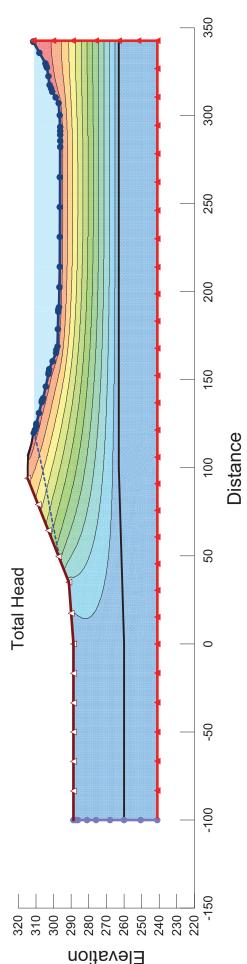
Mv: 0 /psf

Mv: 0 /psf Mv: 0 /psf

K-Ratio: 0.1 K-Ratio: 1

K-Direction: 0 ° K-Direction: 0 ° K-Direction: 0° K-Ratio: 0.4

Normal Operating Pool Elevation 311 ft



San Miguel Ash Pond Section C-C.gsz Steady State Seepage - Entry Exit A 11/20/2012

Computed By: GRA

Model: Mohr-Coulomb Model: Mohr-Coulomb Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: Surficial

Model: Undrained (Phi=0)

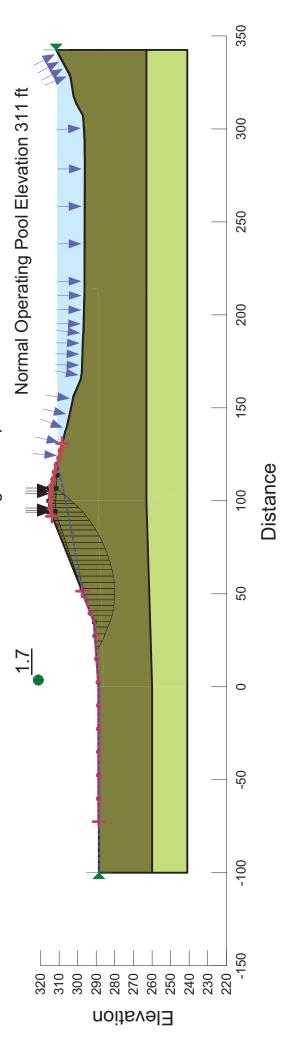
Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 1 pcf

Phi: 30 ° Phi: 20.3 ° Cohesion: 0 psf

Cohesion: 288 psf Cohesion: 1 psf

Phi-B: 0 ° Phi-B: 0 °





San Miguel Ash Pond Section C-C.gsz Seismic - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: Surficial

Model: Mohr-Coulomb Model: Mohr-Coulomb

Model: Undrained (Phi=0)

Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf

Cohesion: 216 psf Cohesion: 0 psf Cohesion: 1 psf

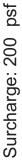
Phi-B: 0 ° Phi: 30 °

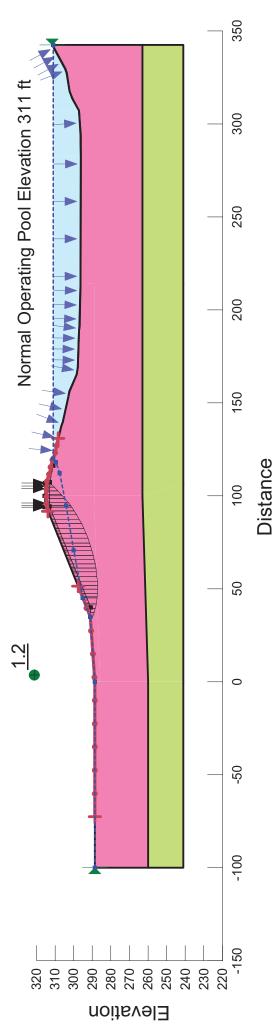
Piezometric Line: 1

Phi-B: 0 ° Phi: 17.2 °

Piezometric Line: 1

Horz Seismic Load: 0.13





SEEP/W Analysis - Maximum Surcharge Pool San Miguel Ash Pond Section C-C.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S

Name: Surficial

Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 0.00033 ft/sec K-Sat: 7e-009 ft/sec Model: Saturated Only

Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft3/ft3

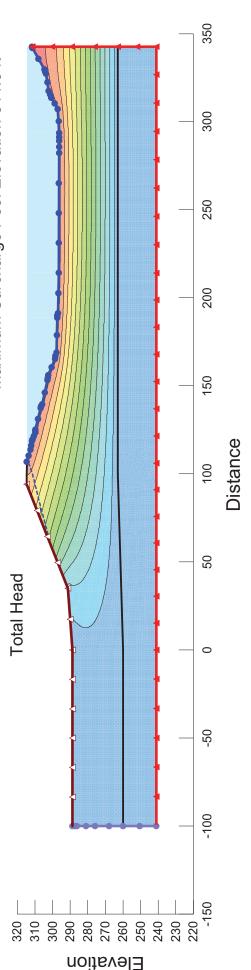
Volumetric Water Content: 0 ft3/ft3

Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

K-Ratio: 0.1 K-Ratio: 1

K-Direction: 0 ° K-Direction: 0° K-Direction: 0 ° K-Ratio: 0.4





Maximum Surcharge Pool - Entry Exit A San Miguel Ash Pond Section C-C.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: Surficial

Model: Mohr-Coulomb Model: Mohr-Coulomb

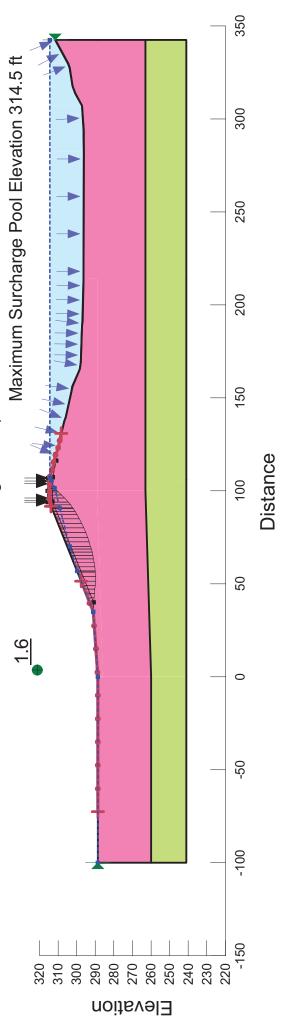
Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf Model: Undrained (Phi=0)

Cohesion: 216 psf Cohesion: 0 psf Cohesion: 1 psf

Phi-B: 0 ° Phi-B: 0 ° Phi: 17.2 ° Phi: 30 °

Piezometric Line: 1

Piezometric Line: 1



SEEP/W Analysis - Normal Operating Pool San Miguel Sludge Pond Section D-D.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Model: Saturated Only Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 3.3e-008 ft/sec

Volumetric Water Content: 0 ft3/ft3 K-Sat: 0.0033 ft/sec

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3

K-Ratio: 0.4 Mv: 0 /psf Mv: 0 /psf

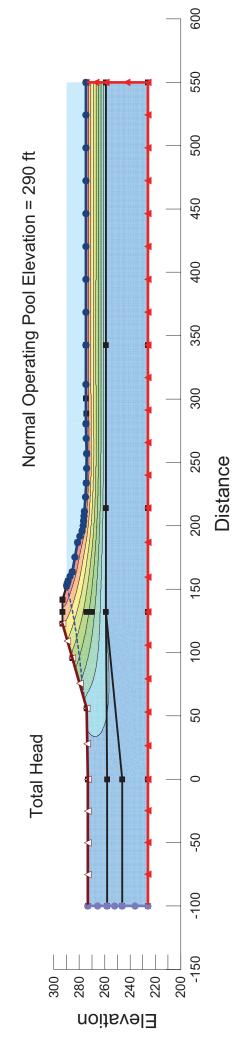
K-Ratio: 1 Mv: 0 /psf Mv: 0 /psf

K-Ratio: 0.1 K-Ratio: 0.1

K-Direction: 0°

K-Direction: 0 ° K-Direction: 0 °

K-Direction: 0°



San Miguel Sludge Pond Section D-D.gsz Steady State Seepage - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: (CL-SC) - S Name: Surficial

Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 120 pcf Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 1 pcf Model: Undrained (Phi=0)

Cohesion: 288 psf Cohesion: 200 psf Cohesion: 0 psf

Phi: 20.3 ° Phi: 30 ° Phi: 24 °

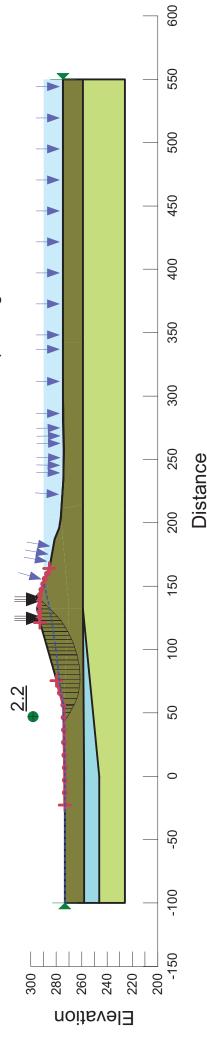
Phi-B: 0 ° Phi-B: 0 °

Phi-B: 0 °

Cohesion: 1 psf

Surcharge: 200 psf

Normal Operating Pool Elevation = 290 ft

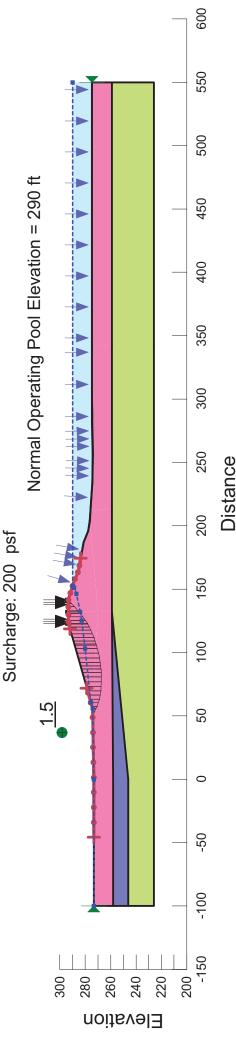


San Miguel Sludge Pond Section D-D.gsz Seismic - Entry Exit A 11/20/2012

Computed By: GRA







SEEP/W Analysis - Maximum Surcharge Pool San Miguel Sludge Pond Section D-D.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Model: Saturated Only Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 3.3e-008 ft/sec

K-Sat: 0.0033 ft/sec

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3

K-Ratio: 0.4 Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

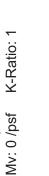
K-Ratio: 0.1 K-Ratio: 0.1











Maximum Surcharge Pool Elevation = 293.5 ft

Total Head

300 280 260



900

550

500

450

400

350

300

250

200

150

100

50

0

-50

-100

200 [[]

240 220

Elevation

Distance





K-Direction: 0°

K-Direction: 0 ° K-Direction: 0 °

K-Direction: 0°

San Miguel Sludge Pond Section D-D.gsz Maximum Surcharge Pool - Entry Exit A 11/20/2012

Computed By: GRA

Model: Undrained (Phi=0) Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Unit Weight: 1 pcf

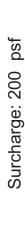
Cohesion: 0 psf Cohesion: 1 psf Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 120 pcf

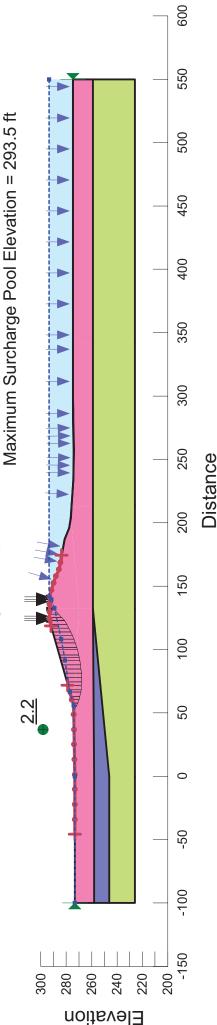
Cohesion: 1000 psf Cohesion: 216 psf

Phi-B: 0 ° Phi-B: 0 ° Phi-B: 0° Phi: 17.2 ° Phi: 30 ° Phi: 0°

Piezometric Line: 1

Piezometric Line: 1





SEEP/W Analysis - Normal Operating Pool San Miguel Sludge Pond Section E-E.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Model: Saturated Only Model: Saturated Only Model: Saturated Only

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 7e-009 ft/sec K-Sat: 0.0033 ft/sec Model: Saturated Only

Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft3/ft3

K-Ratio: 0.4 Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

K-Ratio: 0.1 K-Ratio: 1 K-Ratio: 0.1

K-Direction: 0°

K-Direction: 0 °

K-Direction: 0 °

K-Direction: 0°

Normal Operating Pool Elevation = 290 ft

Total Head

900

550

500

450

400

350

300

250

200

150

100

50

0

-50

-100

200 [[]

240 220

Elevation

280 260

300

Distance

San Miguel Sludge Pond Section E-E.gsz Steady State Seepage - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - S Name: (SM-ML) - U,S Name: (CL-SC) - S Name: Surficial

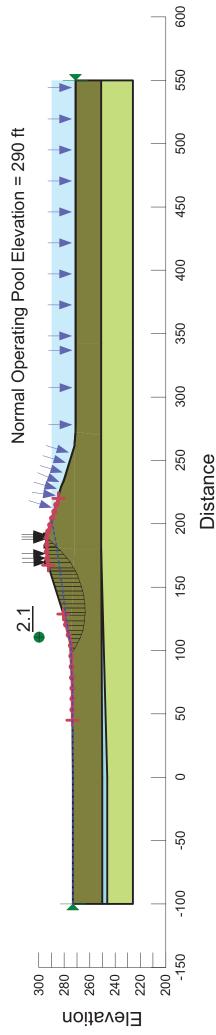
Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 120 pcf Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 1 pcf Model: Undrained (Phi=0)

Cohesion: 288 psf Cohesion: 200 psf Cohesion: 0 psf Cohesion: 1 psf

Phi: 24 ° Phi: 30 °

Phi-B: 0 ° Phi-B: 0 ° Phi-B: 0 ° Phi: 20.3 °



San Miguel Sludge Pond Section E-E.gsz Seismic - Entry Exit A 11/20/2012

Computed By: GRA

Model: Undrained (Phi=0) Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 120 pcf Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf

Cohesion: 1 psf

Cohesion: 1000 psf Cohesion: 216 psf Cohesion: 0 psf

Phi-B: 0 ° Phi-B: 0 ° Phi-B: 0° Phi: 17.2 ° Phi: 30 ° Phi: 0°

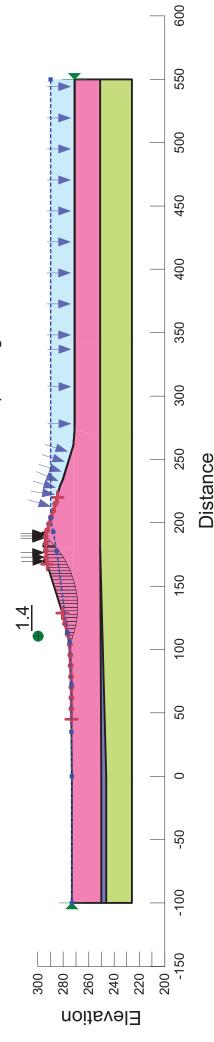
Piezometric Line: 1

Piezometric Line: 1

Piezometric Line: 1

Horz Seismic Load: 0.13

Normal Operating Pool Elevation = 290 ft Surcharge: 200 psf



SEEP/W Analysis - Maximum Surcharge Pool San Miguel Sludge Pond Section E-E.gsz 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U

Model: Saturated Only Model: Saturated Only Model: Saturated Only

Model: Saturated Only

Name: Surficial

K-Sat: 3.3e-005 ft/sec K-Sat: 3.3e-008 ft/sec K-Sat: 7e-009 ft/sec K-Sat: 0.0033 ft/sec

Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft3/ft3 Volumetric Water Content: 0 ft³/ft³ Volumetric Water Content: 0 ft³/ft³

K-Ratio: 0.4 K-Ratio: 0.1 Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf Mv: 0 /psf

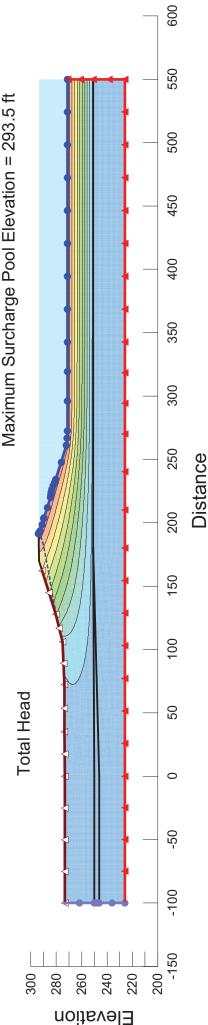
K-Ratio: 0.1 K-Ratio: 1

K-Direction: 0° K-Direction: 0 °

K-Direction: 0°

K-Direction: 0 °





US EPA ARCHIVE DOCUMENT

San Miguel Sludge Pond Section E-E.gsz Maximum Surchage Pool - Entry Exit A 11/20/2012

Computed By: GRA

Name: Clay Nat/Fill - U Name: (SM-ML) - U,S Name: (CL-SC) - U Name: Surficial

Model: Mohr-Coulomb Model: Mohr-Coulomb Model: Mohr-Coulomb

Unit Weight: 112 pcf Unit Weight: 120 pcf Unit Weight: 1 pcf Model: Undrained (Phi=0)

Cohesion: 216 psf Cohesion: 0 psf Unit Weight: 120 pcf

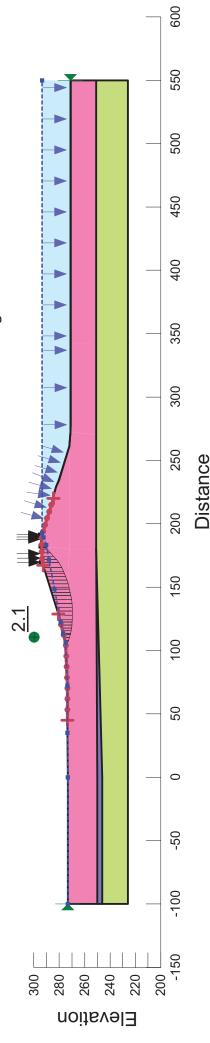
Cohesion: 1000 psf Cohesion: 1 psf

Piezometric Line: 1 Phi: 17.2 ° Phi-B: 0 ° Phi-B: 0 ° Phi: 30 °

Piezometric Line: 1 Phi: 0 ° Phi-B: 0 ° Piezometric Line: 1

Surcharge: 200 psf

Maximum Surcharge Pool Elevation = 293.5 ft





APPENDIX G: ASFE INFORMATION - GEOTECHNICAL REPORT

Arias & Associates, Inc. G-1 Arias Job No. 2012-695

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geolechnical engineers structure their services to meet the specific needs of their clients. A geolechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geolechnical erigineering study is unique, each geolechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geolechnical engineering report without first conferring with the geolechnical engineer who prepared it. And no one — not even you — should apply the report for any purpose or project except the one originally contemptated.

Read the Full Report

Serious problems have occurred because those relying on a geolechnical engineering report did not read it all. Do not rely on an executive summary Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geolechnical engineers consider a number of unique, project-specific faclors when establishing the scope of a study Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geolechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geolechnical engineering report that was:

- not prepared for you.
- not prepared for your project,
- · not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

 the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse.

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design learn, or
- project ownership,

As a general rule, always inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

Subsurface Conditions Can Change

A geolechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geolechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geolechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Oninions

Sile exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geolechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geolechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. The geolechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report, Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geolechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a geotechnical study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental Information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the express purpose of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geolechnical engineer in charge of this project is not a mold prevention consultant: none of the services performed in connection with the geolechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geolechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.



8811 Colesville Road/Suile G106, Silver Spring, MD 20910 Telephone: 301/565-2733 Facsimile: 301/589-2017 e-mail: info@asfe.org www.asfe.org

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10/12/16 Draft Privileged and Confidential Attorney Work Product

NFS 1978

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

NAS / NATIONAL BOIL SERVICES, INC. CONSULTING ENGINEERS

CONSULTING ENGINEER: 214 330-9211
P O. 80X 24896
4087 SHILLING WAY
DALLAS, TEXAS 75224
September 25, 1978
Job No. 75285-13

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

Attention: Mr. Ernest I. Wohlschlegel
Genesal Manager

SAN MIGUEL STEAM ELECTRIC STATION GROUNDWATER PROTECTION

Gentlemen:

In occardance with our discussion of August 29, 1978, we are submitting a revised plan to obtain the nacessary geotochnical data for certifying the pands at the San Miguel Plant site.

RISTORY

The water well starage pand, the ash disposal pands, and the yard drainage retention pands were designed based on data obtained in our foundation investigation for the plant island. This information was contained in two volumes; Volume I, Foundation Design Analysis and Recommendations for the Plant Island, and Volume II, Field and Laboratory Data for the Plant Island, of our report No. 75285, dated May 14, 1978. A 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.

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Based on the sails 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 yard drainage retention pand and sludge disposal pands be constructed similarly. With the exception of the west end of the ash dispasal pands and the southeast and of the yard drainage retention pand, moderately to highly plastic, relatively impermeable aloy sails were consistently encountered. Accordingly, additional barings 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 borings are shown on Plates 6 through 9. These borings were to have been five feet below the existing pand bottom. Additional depth was not required due to the optimum soil conditions. Samples obtained from these borings were to be used for the determination of dry unit weight, grain size distribution, coefficient of permeability, and liquid and plastic limits for each of the soil types ancountered. In addition, the information from this investigation was to be correlated with the previously developed sails data.

The yard drainage retention pand 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-fact clay blanket over the southeast quadrant of the pand. Shortly thereafter, a three-foot blanket of dork gray clay was placed in the southeast quadrant. These clays were obtained from required site excavation. Before samples could be obtained to verify in-place density of this blanket, excessive rainfall resulted in approximately three feet of water over the blanket. However, observations made during the selection of the materials and the liquid and plasticity index would indicate that the material meets the permeability requirements. The liquid limit of this material varied from 55,5% to 59,0% and the plasticity index ranged from 23.3 to 44.0. Continued excessive amounts of rainfall throughout the summer not only have continued to keep the yard drainage retention pand filled, but have also resulted in significant water accumulations 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 Rasources Technical Guidelinas dated Morch. 1978. The revised procedure would consist of drilling borings on the down dip side and partial. perimeter of the various pends as shown an Plate 1. These borings, together with the barings proviously drilled in the area would basically agree in number with those recommended by the referenced technical guidelines. These new borings would be drilled to a depth of at least ten feet below the existing pand floor elevation. Representative samples of the various strata encountered in these new borings would be tested to determine permeability characteristics, percent passing the No. 200 sieve, and liquid and plastic limits. Information from these new 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 borings. This conclusion is based on the fact that, with the exception of the yord drainage retention pand, profiles around and through the pand areas and additional borings in the plant site. have indicated satisfactory sail 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

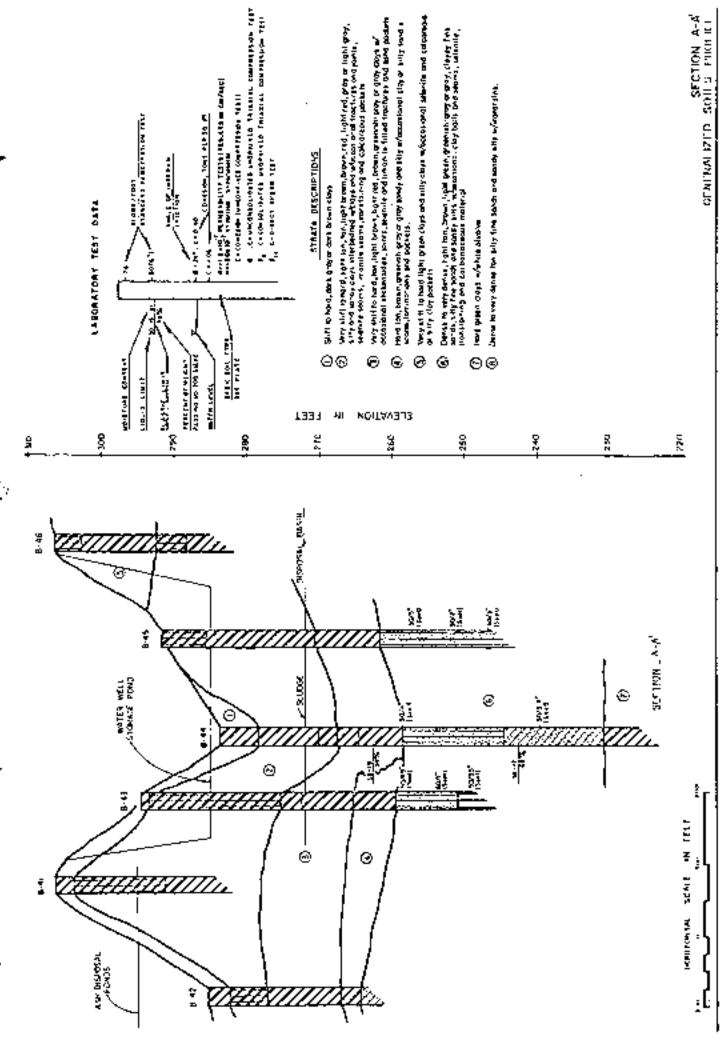
PLC/gt

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

Capies submitted: 5 ec: Mr. Ron Magel

Mr. Dub Matthews

ILLUSTRATIONS



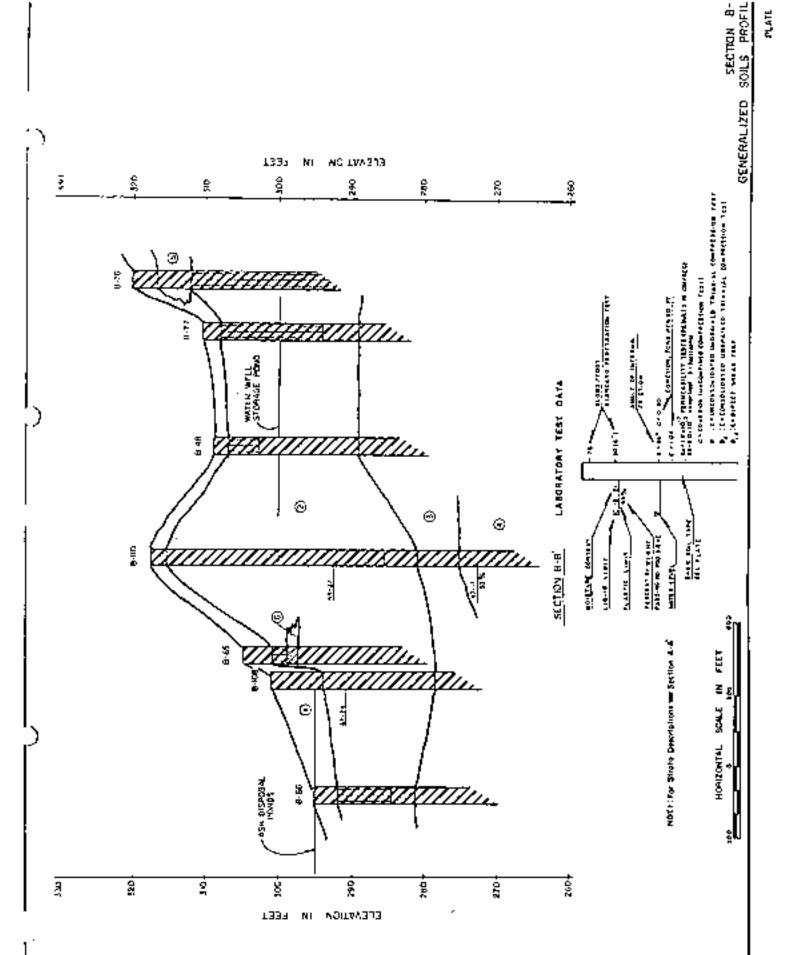
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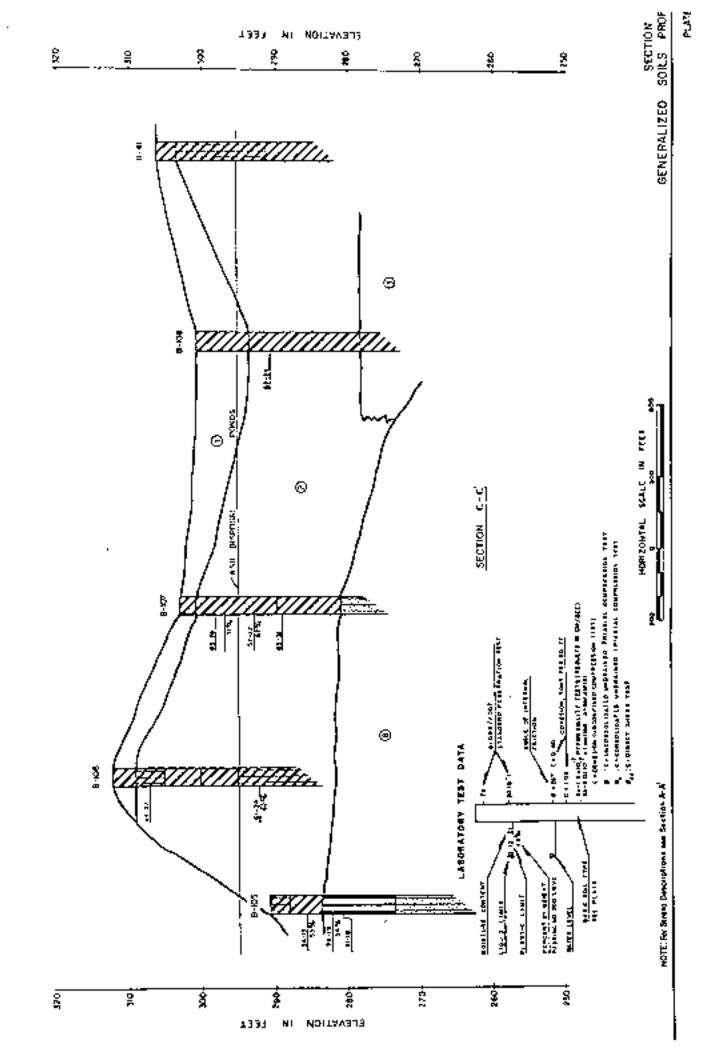
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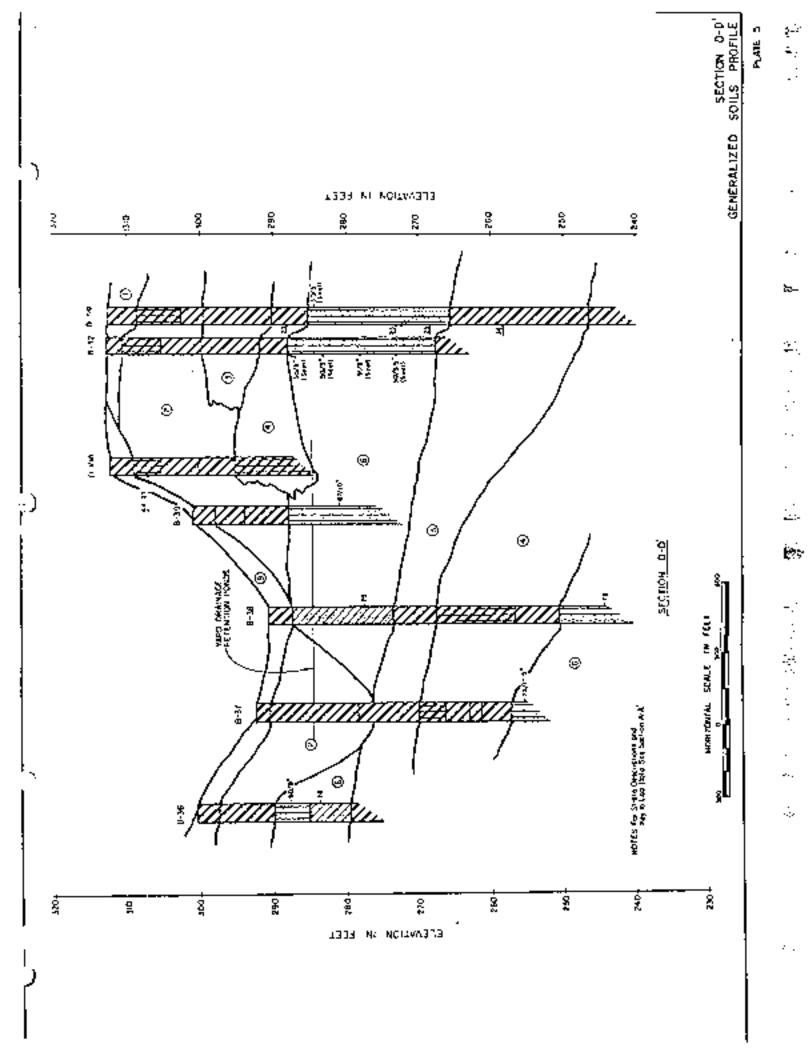
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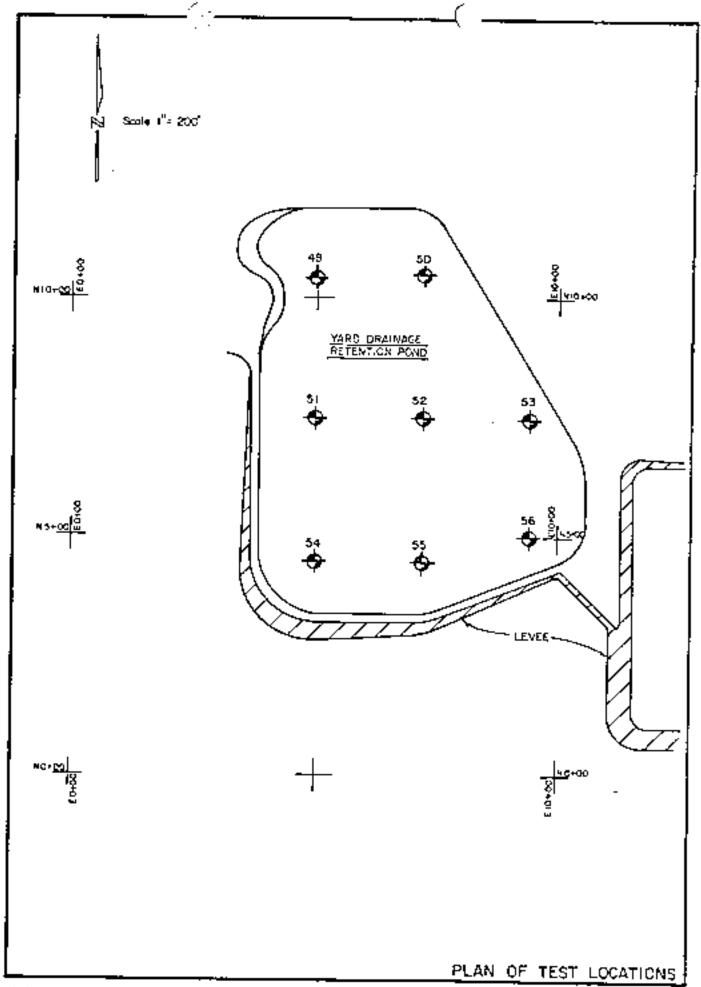


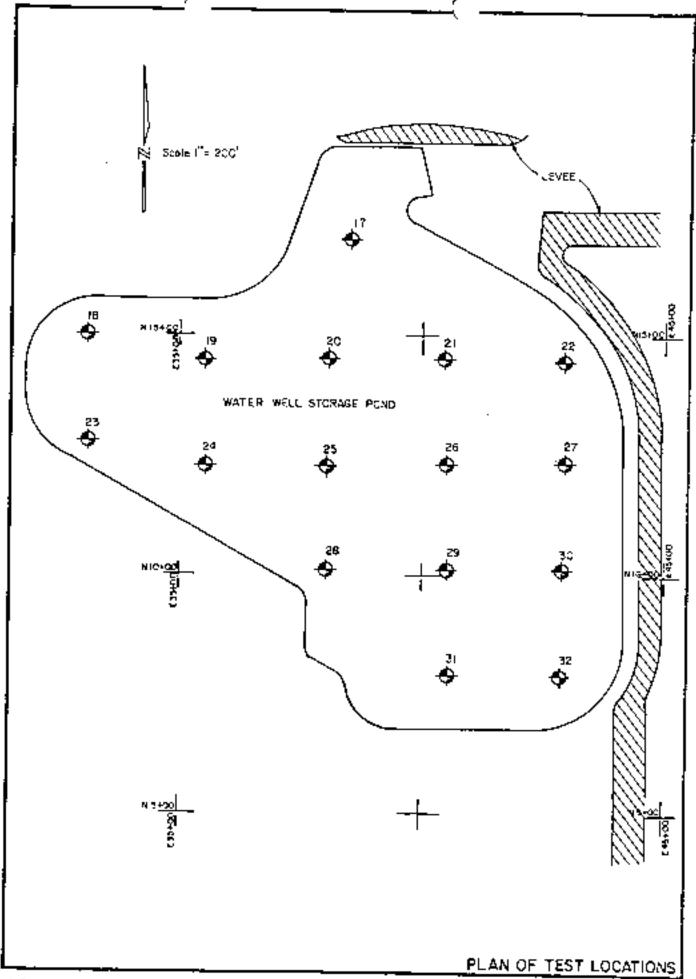


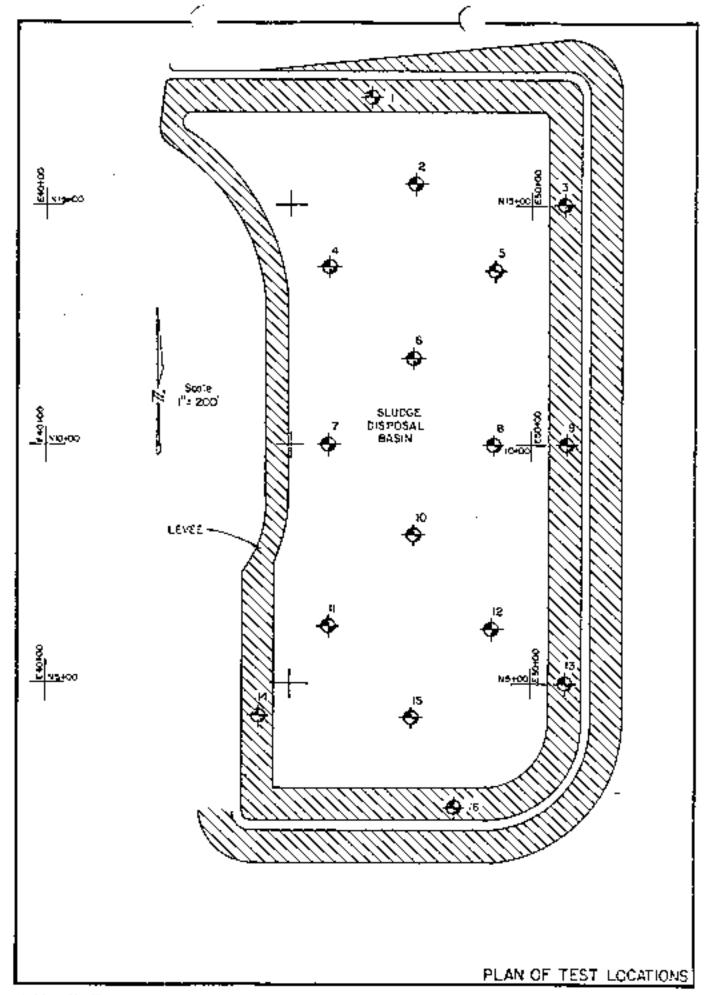
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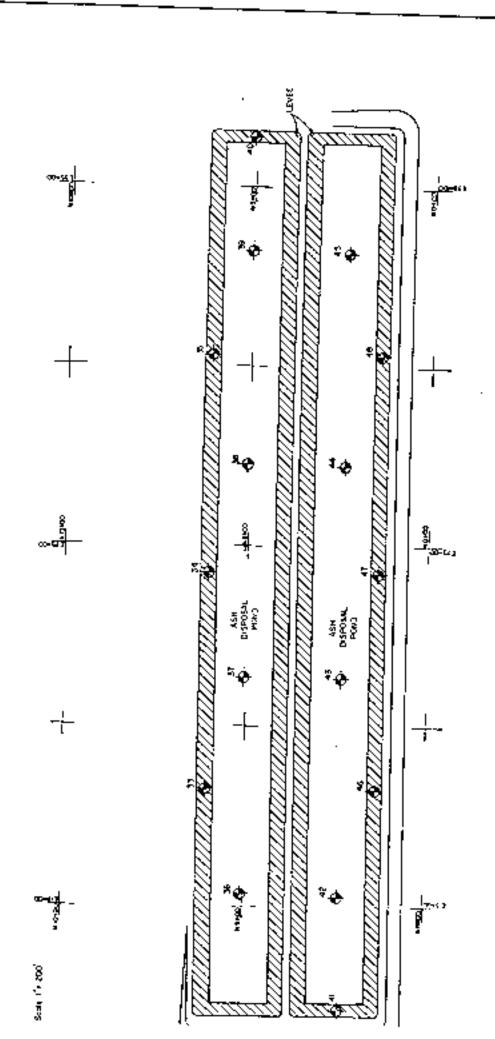








PLAN OF TEST LOCATIONS



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Table 1

SUMMARY OF RESULTS YARD DRAINAGE REFENTION POND

Test No.	Field Test No.	Sample Elevation	Description	Liguid Limit	Plostic Limit	Plasticity Indax	Passing No. 200 Sieve
26	2	283.5 ~ 284.5	Gray silly sand, w/ben- ronite		ı	Non-plastic	18,9
SS	ო	283,5 - 284,5	Ion clayey sand, w/calcare- ous crystals and bentonite	37.4	25.4	12.0	33,5
55	4	283.5 - 284.5	Brown and fan clayey sand, w/calcoreous crystals and bentonite	37.6	18.2	19.4	39.7
53	-	284,0 - 285,0	Grayish-tan silty sand w/bentanite	28.4	27.6	0.8 (N.P.)	20.8
ଧ	•	283.5 - 284.5	Grayish-tan clayey sand, w/bentonite	31,9	25.3	δ, δ	35.8
2	9	283,5 - 284.5	Brown and tan clayey sond, w/bentonite	40.6	15.2	25.4	33.8
50	7	286,5 - 287,5	Brown sandy clay, w/calcare- ous crystals and bentonite	49.4	22.1	27,3	55.3
49	æ	286.5 - 287.5	Tan clayey sand, w/calcore- ous crystals and bentanite	53.6	18.4	35.2	43.2
Composite Sample (Nos. 3,4,5,6, and 8)	a Somple S, 6, and 8)		Tan clayey sand, w/calcare- ous crystals and bentonite	42.9	21.6	21.3	37.9

Tunie 2

SUMMARY OF RESULTS
YARD DRAINAGE REFENTION POND

Swell	(g)	0.00	0.00	(;	0,00	0.00	8.	1.63	2,72
	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	2.49×10^{-2}	4,93 × 10 ⁻¹	$3,76\times10^{-2}$	2.02×10^{-2}	9.31 × 10 ⁻³	4.63×10^{-3}
k Volue	Н/Чоу	4.87 × 10-4	6.98×10^{-3}	6-79 × 10-5	1,35 x 10 ⁻³	1.03 × 10"A	5.54 × 10 ⁻⁵	2.55×10^{-5}	1.27 × 10 ⁻⁵ 4.63 × 10 ⁻³
	038/ш0	1.72×10^{-7}	2.29 × 10 ⁻⁶	2.39 × 10"B	4.77 × 10 ⁻⁷	3.63×10^{-8}	1.95 x 10°B	9,00 x 10-9	4.47×10^{-9}
Remold Permeability Maximum Dry Molded Density	(%)	94.3	94.3	68.3	95.3	9.76	96,8	96.2	95.3
Remold Permeability Moximum Dry Molded D	Density pef	9.101	102,8	162.8	101.6	102.8	102,8	95.5	102,8
Molding	Moistare	20,1	19.8	20,5	21.4	20.0	20.4	23.7	21.1
Oprinous	Moisture	21.5	21.2	21.2	21.5	21.2	21.2	24.1	21,2
Field	ارة الأ	7	e	ਦ	-	φ	40	7	8
Test	į١	56	55	7	53	25	15	20	49

10/12/16 Draft Privileged and Confidential Attorney Work Product

NFS 1984 Study of Ash Pond Leakage, San Miguel Electric Station, Report No. D-75285-13A, 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

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

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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
	O 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
	C	8.4	7,000	12,573	1,953
	D	7.5	8,000	2,947	835
	ε	8.0	7,000	2,357	391
	D E E	77007004	Not Tested		3 71
	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 low original ground elevations, the dikes of ponds "A" and B" are comprised of a lower section of in-situ clay and an upper section of compacted clay. A five-foot-deep inspection trench was opened and backfilled with compacted clay along the toe of the interior 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.

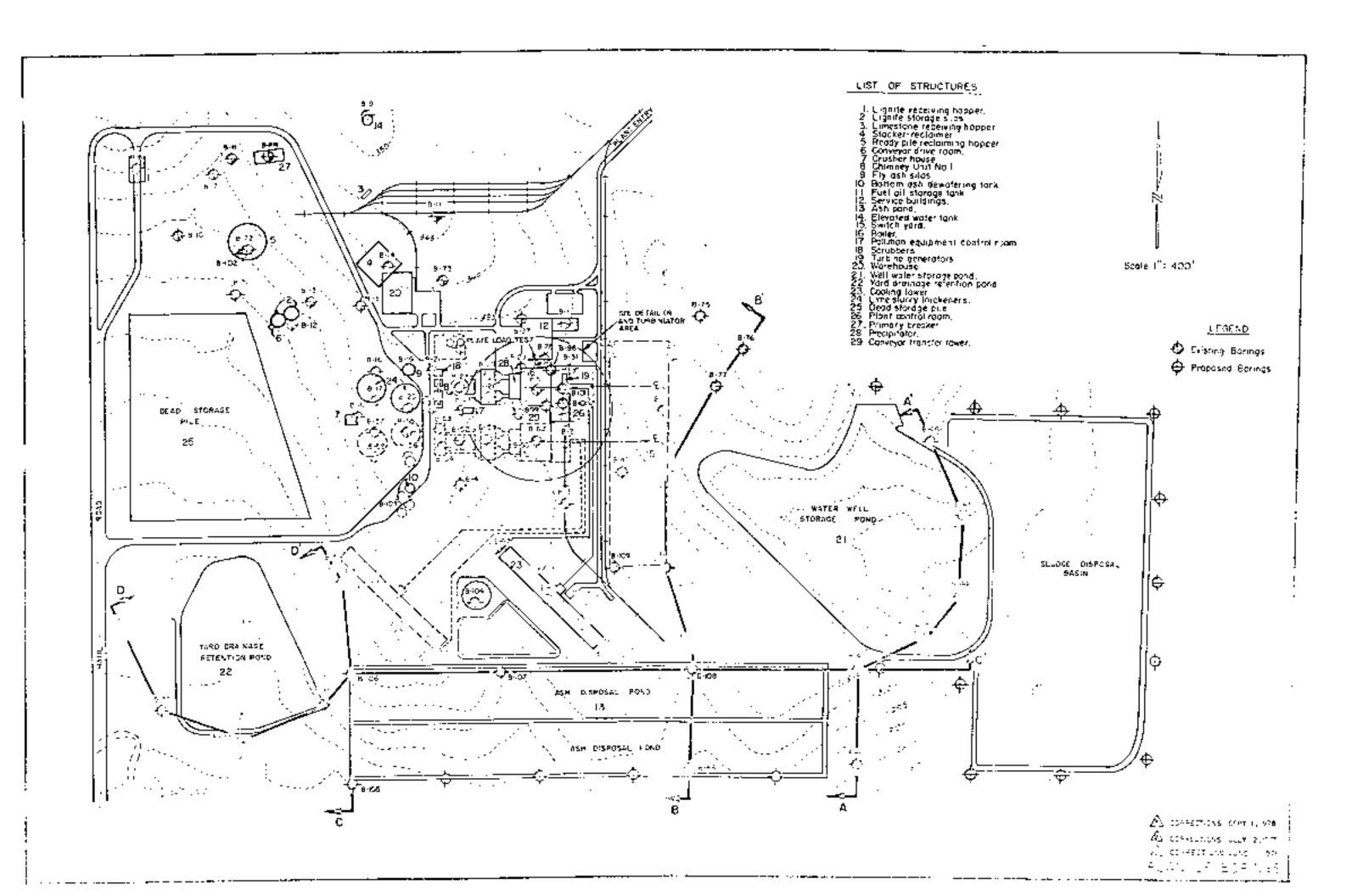
Gory G. EdFrance, P. E. Manager of Engineering

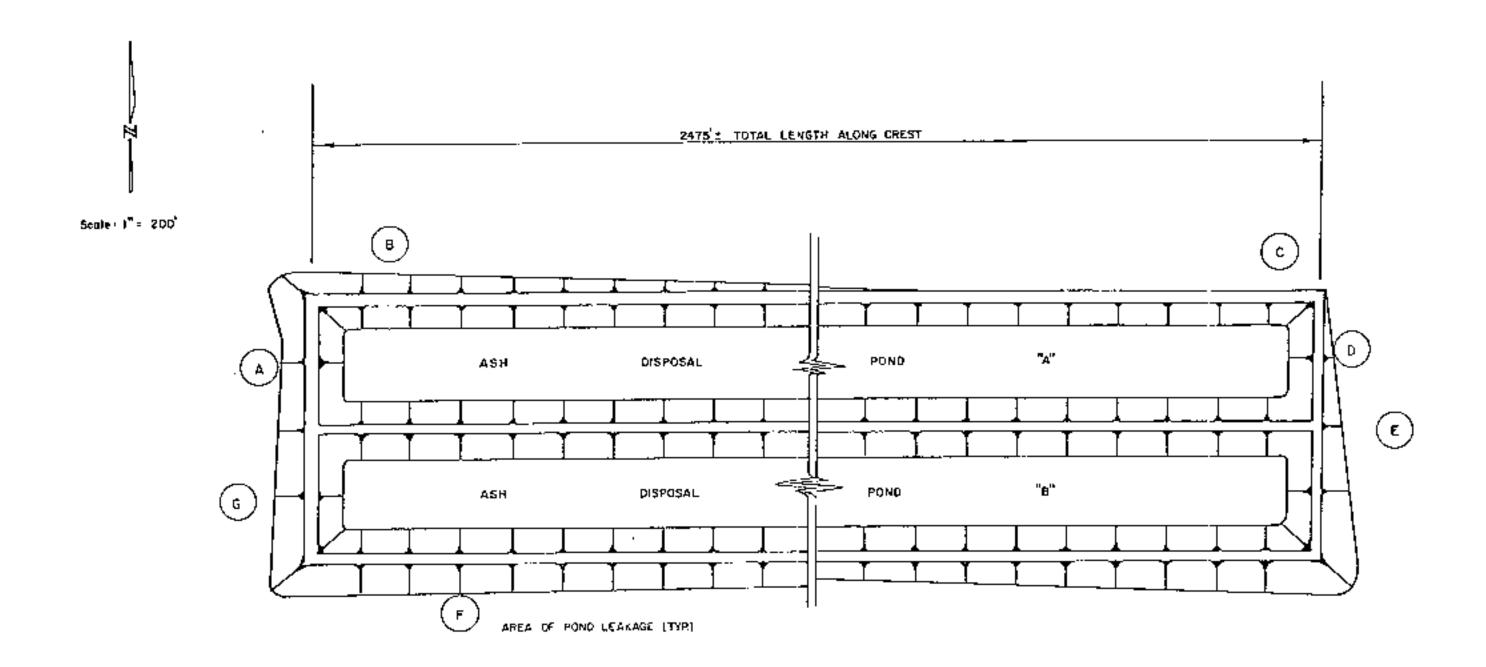
Ralph J. Reum /GC Rolph F. Reuss, P. E.

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) Here light ten silty clay w/coispreous 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 171||||||||| 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 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 8-5E5-39 GAT COOPERATIVE PROJECT FLEASANTON, TEXAS TYPE BORING: Undimprised Sample 1.004 Flore of Parison									
JYP	<u> </u>	09	IINS - Undimpibed Sample	LOCATION:	See Plan of	Borin	çı	;	
DEPTH , F.C.	SYMBOL.	STAPLES	SOUL DESCRIPTION ELEVATION: 301,0		K-3 416	LISUID	PLOSTIC	SMEAR STRENGTM LA 100/ SALE AR STRENGTM LA 100	
			Maid dark brown sandy clay	g c u	T				
-		Ï	Mord light provisionmen aloy, jointed 	<u>.</u> IC41					
10-			Nord redailm-brown sandy clay, wyaczasianał limpnite packets						
=	7	Ļ	<u> </u>	(c p				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
- 15 - - 20 -	Company of the Property of the Company of the Compa	1	Very dense light gray and light brown allry fine cand, wylight brown alloy seams, clayey fine cand seams and acceptional selente seams	(SMI	82	*>-			
- 35 - 40 - 45 - 45 - 45 - 45 - 46 - 45 - 45 - 45		1	TION DEPTM. 25.C'						

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 ٠. COMPLETION CEPTH DATE: TOWNER OF THE PROPERTY.

			641	F BORING COOPERATIV LEASANTON	re Proj	ECT	42	_				
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		!
- 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							
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						_			-
energy Company	Shibi, F = 6	50 446	. 31/-(t)	·			_	_				

	LOS OF BO GATCOC PLEAS	DRING NO. 8 PERATIVE PROJE ANTON, TEXAS	-\$65-60 ECT		
TYPE 8	ORING: Ungighterated Scripte LOC	ATION: Se	≠ F°an e¹ (·	
SYMBOL			%P25576 B2305 95VE.	CHOULD LAMIT PLASFIC MANT	SHEAR STRENGTH IN TOWS/60 FT
-0	Mard brown sangy clay		·· • -	-	
		(CL)			
	Hard fight gray silty clay w/numerous selected pockets	/ C D	iΠ	<u> </u>	
	Hard light red clay w/seignite seams			- -	
	-w/numerous iron famingrions	(CH)			
	Pard light gray ulty clay w/occosional clays y pockers	(ÇL)			
	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			
			- -	\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	Barin	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	¥			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-] 	-w/mmay aloy laminations and packets below 20.8*		(Сн)	_	1	
25 -						İ		
30								
- 35 •		-						
45		İ			į			
- I		Pu	STION DEPTH: 41.3					
<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	oring	5.			
DEPTH, FT.	SYMBOL	STIMMES	SOIL DESCRIPTION ELEVATION: 290.8'		WORSENS . SWE	gino.	PLASTIC LIMIT	WOISTURE CONTENT W	SMEAR STRENGTH IN TONS/SQ FT. AND LINE CO. S. TO. 15
H		7	Still brown silty clay	· {CL)				-	
- 5			Tan clay, w/accessioned crystal material	,	55	ы	15		
			Deme les sondy silt		54	28	19		
-10-		 	-3sen stoined			31	18		
-20 -			Dente ton sixty fine sand, iron stained						
30 -	ļļi.			(534)	-		-	ļ	
-35 -			•						
-40-									
.45 .50									
			TION DEPTH: 25.01 DATE: 7 no rak		_J.	_1.		<u> </u>	iril
COMP.) 4 BL	1.4	- 414+ CE3 -416+3						

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.,	Н		<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

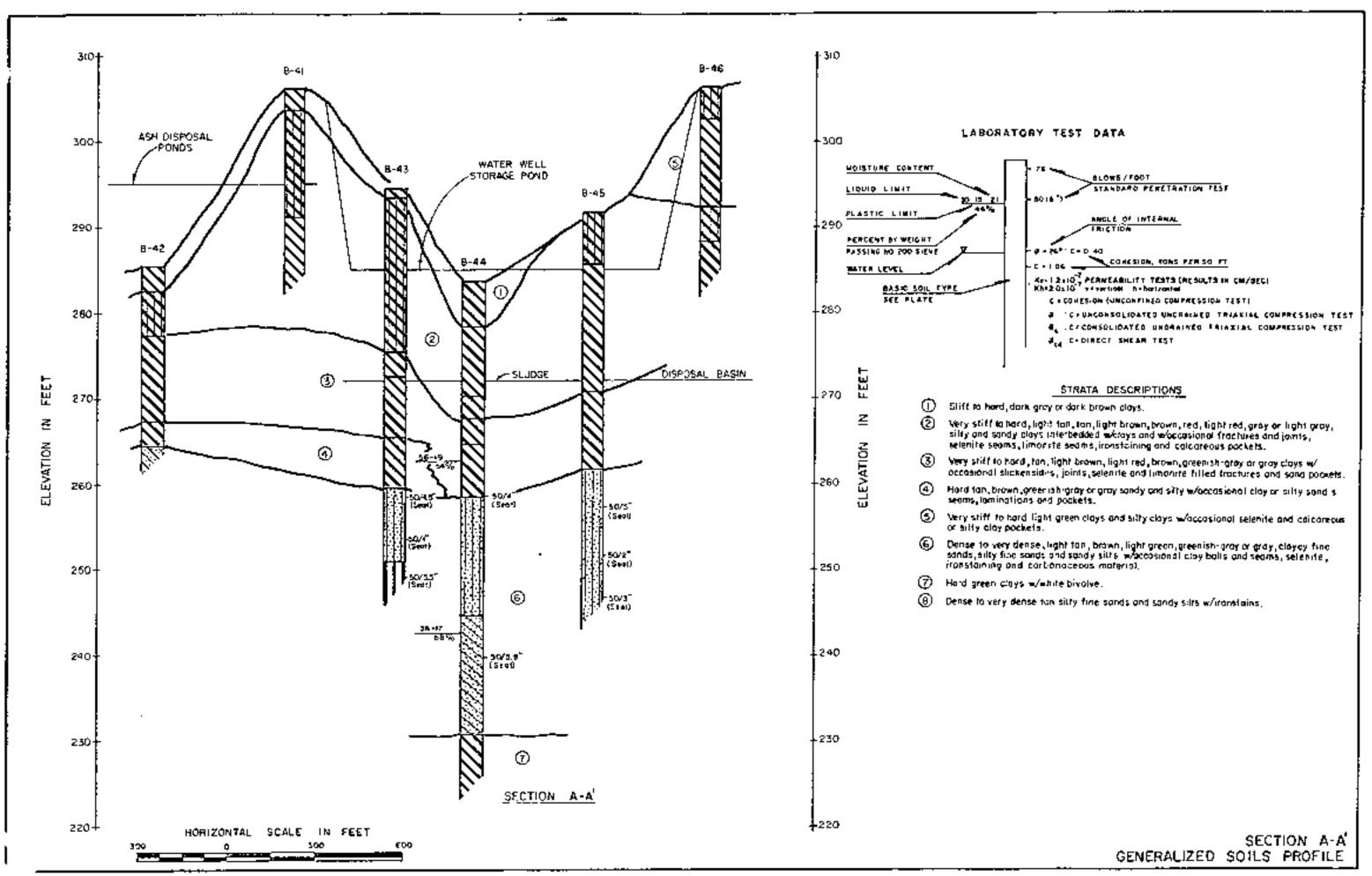
TYPE	BOR	ING: Undisturbed Somple	LOCATION (See Plan of Bo	dags.				
DEPTH , FT. SYMBOL	SAUPLES	SOIL DESCRIPTION ELEVATION: 302.9'		ND 200 SIEVE	1	PLASTIC	MOISTURE CONTENT, %	SHEAR STRENGTH
	4	Srift dark brown clay		╁	H	\vdash	\vdash	0_51015
- (╢╴	Hora light tan clay,	(CH)	_	-		-	
	77777	w/iron stain		71	83	28		
	,	-light brown recessional very stiff salanita	(54)	67	52	22		
-15		Mard ton clay	(CH)		원우	31		
20			(СН)	:				
25	-	Very dense silly (ine sond	(SM)		_			
-30					1			
35.				i	İ			
46						-		
45-								
	Pt_S	TION DEPTM: 25.0" DATE: 7.70/74		\				
		- 10**1965						

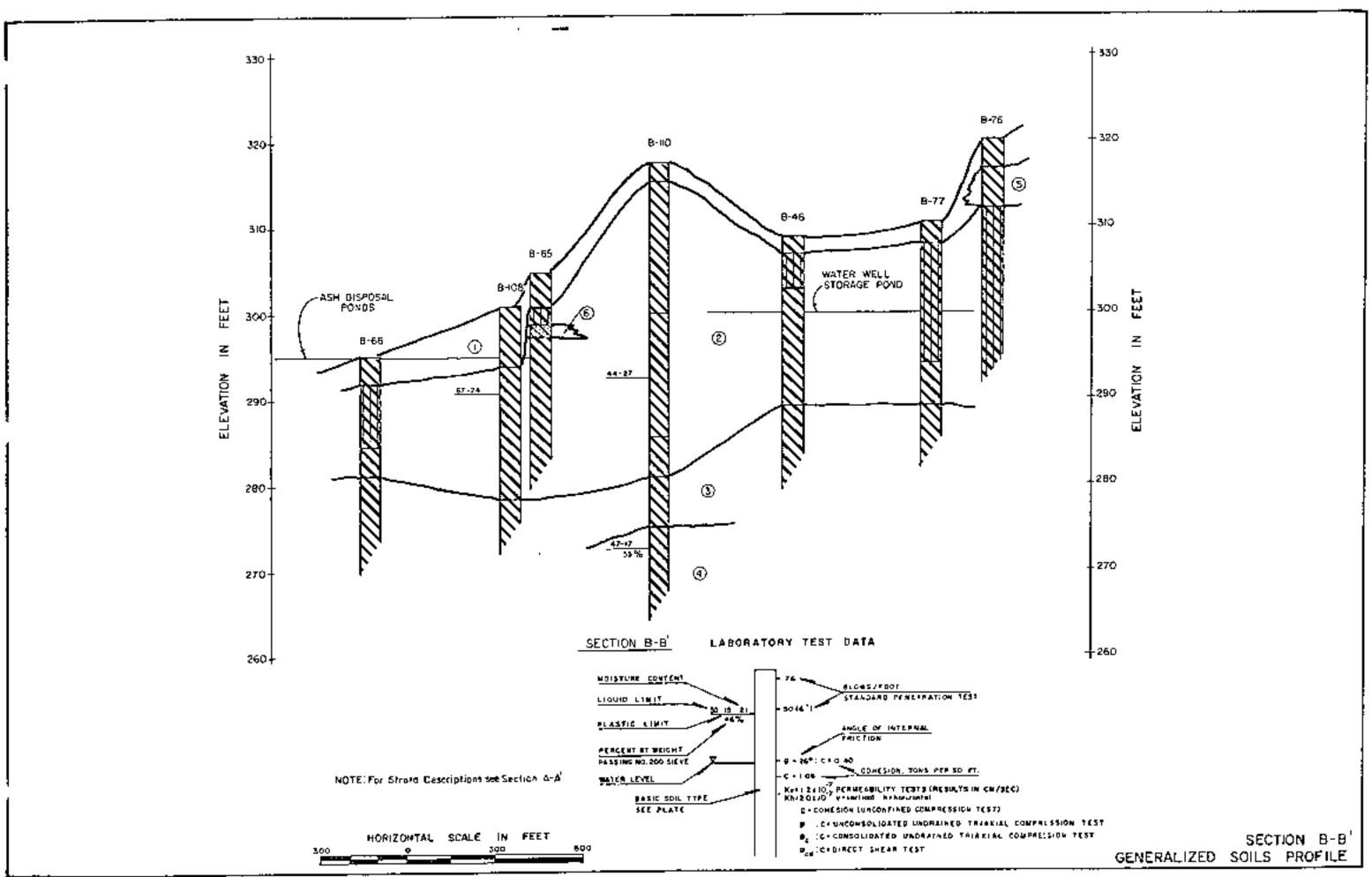
LOG OF BORING NO. B-109 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

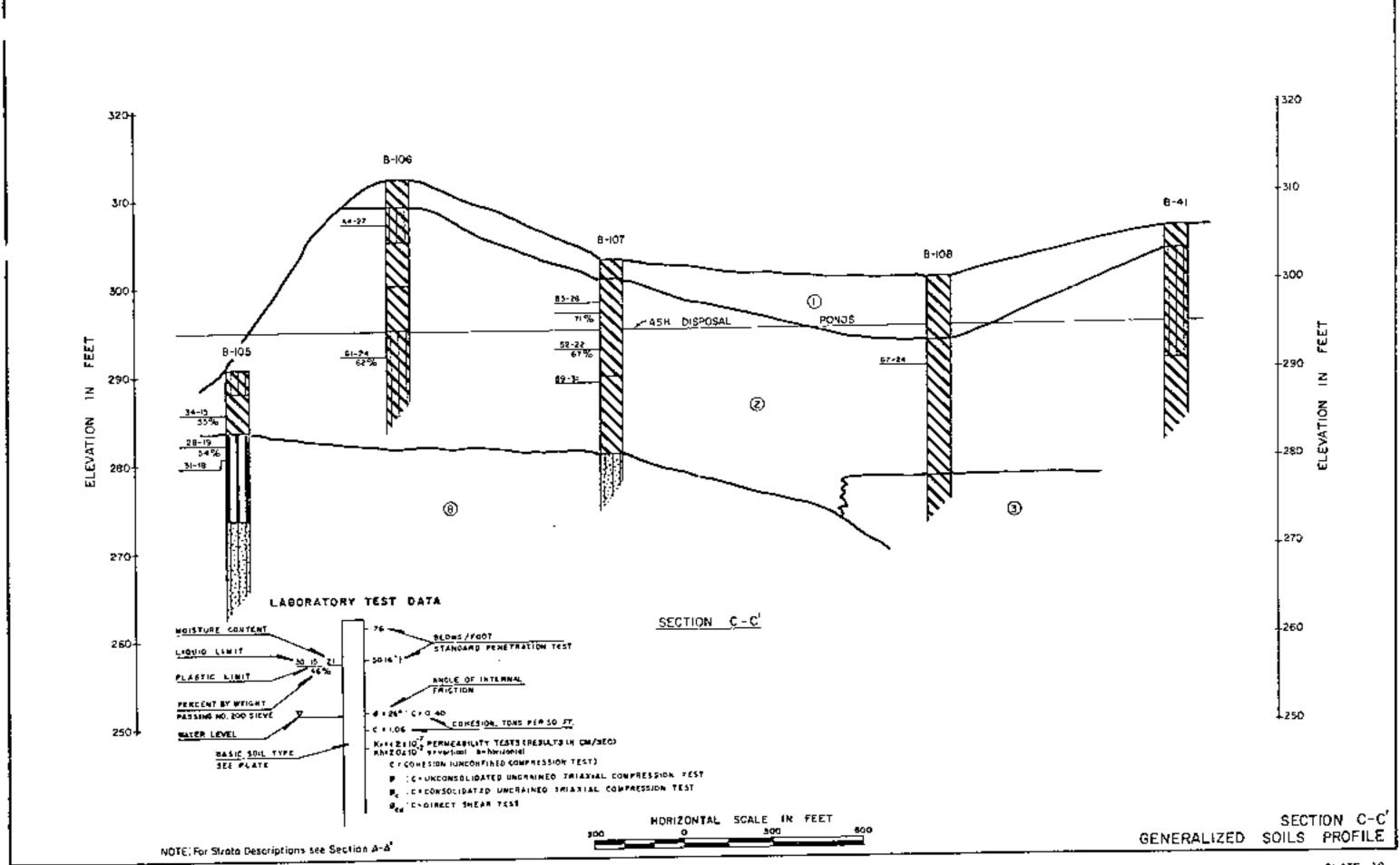
-tan -tan -	TYPE	: e	ORING : Undissurbed Somple LOCATI	ON: See Plan of Borin	ı.				
Stiff dark brown clay	- -	SYMBOL SYMBOL		وا غزا	NG2DOSEVE -	TIMIT MIT	PLASTIC LIMIT	MOISTURE CONTENT, 76	IN TONS/SOLFT. AND LINE
-ton -ton -ton -ton -ton -ton -ton -ton			Stiff dars brown clay -very stiff	{CH1			•		
Mord 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									

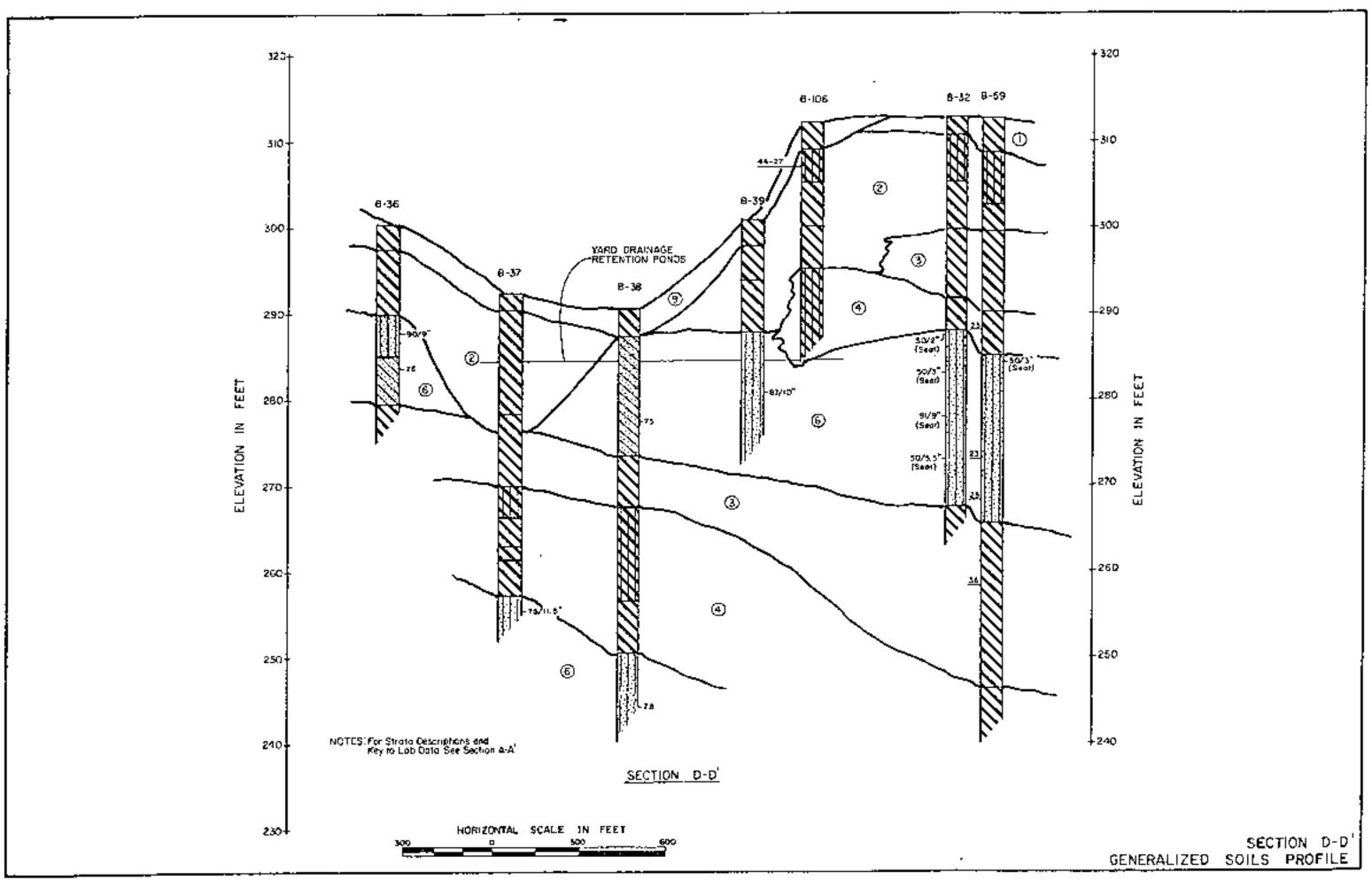
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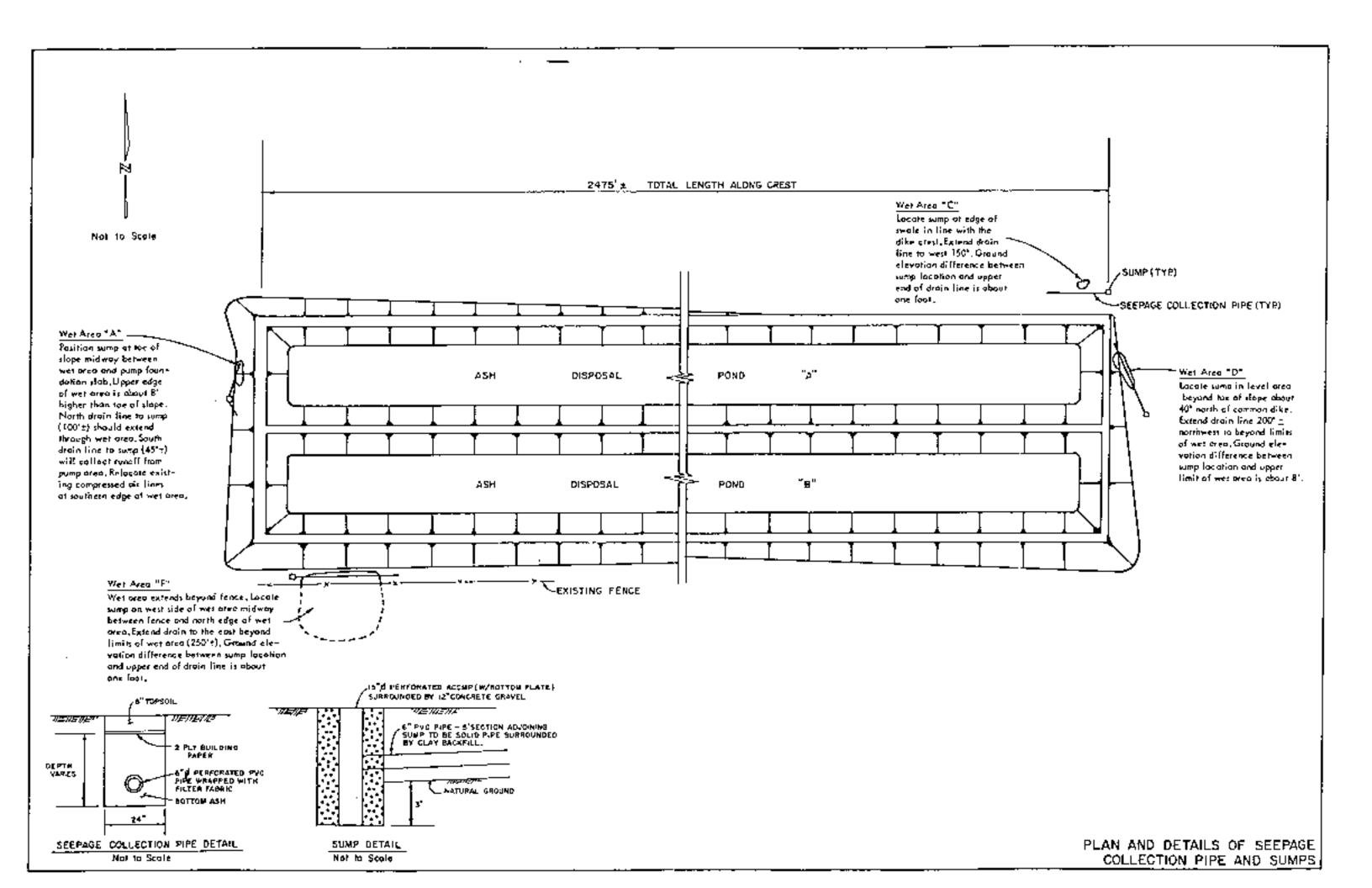
ILLUSTRATIONS











10/12/16 Draft Privileged and Confidential Attorney Work Product

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 (mie 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:

SRP 18 (00)

- 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.

UNDERSESPAGE CONTROL

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

- Sand filled collector tranches located along the top of the dikes and extending through the fissured clays.
- An impervious clay lining in the natural soils present in the bottom and side slopes of the ponds.

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

COLLECTOR TRENCHES

The sand filled trenches would be located as recommended previously. However, trench depth should be increased to intercept the fissured clay stratum. Based on available data, specifically borings 8-105, 8-106, 8-66, 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. Bottom grade can be sloped to drain to collector sumps.

COMPACTED LINING

The natural clays present in the bottom of the pond will be suitable for development of an impervious lining. Following removal of the ash, the upper two feet of the clay should be excavated and stockpiled. The upper 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 lining is planned, it is recommended that six monitor wells be installed to develop baseline data on water levels and quality and demonstrate effectiveness of the lining. Two monitor wells should be located in the north and south dikes and one in the east and west dikes.

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

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

Very truly yours.

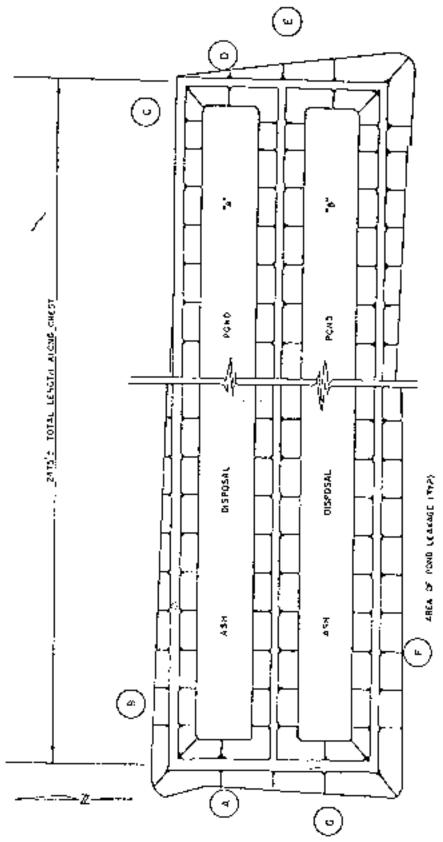
PSI/NATIONAL SDIL SERVICES DIVISION

Raych F. Lowsoffle

Ralph F. Rouss, P.E.

Vice President

cc: Mr. R. Magel RFR/ds



10/12/16 Draft Privileged and Confidential Attorney Work Product

PSI 1987a

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



Professional Service Industries, Inc. National Soil Services Division

January 27, 1987

- 2005) 52 2 40 02 - 50

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

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Attention: Mr. Clyde Price

Professional Control of Control o

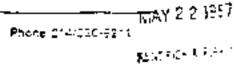
Re: Liner Construction Unit #1 Ash Pond

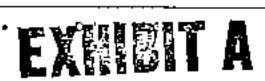
Dear Mr. Price:

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

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

RECEIVED





- to a uniform 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 inch thick loose lifts, add sufficient moisture to increase moisture content to three to four percent above optimum as determined by ASTM D 658 (Standard Proctor). Disc to decrease particle size and develop a uniform moisture content, and compact to a minimum of 95 percent of the maximum dry density as determine by ASTM D 698 (Standard Proctor).
- (e) Continue fill placament to develop a minimum three foot thick low permeability 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 manner which will result in a uniform clay fill with minimum permeability. Bond between soil particles and lifts is more important than compaction to achieve a specified density. Our previous experience with high plasticity clays warrants the conclusion that the clays at this site can be processed to moisture contents three to four percent above optimum and compacted to the desired density (similar clays were compacted at numerous times under our control at moisture contents approaching six to eight percent above optimum). In the event the contractor will not agree to the recommended moisture control them 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 maisture until the lining is again covered with ash and/or water. A temperary spray irrigation system should be installed along the slopes to maintain maisture 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.

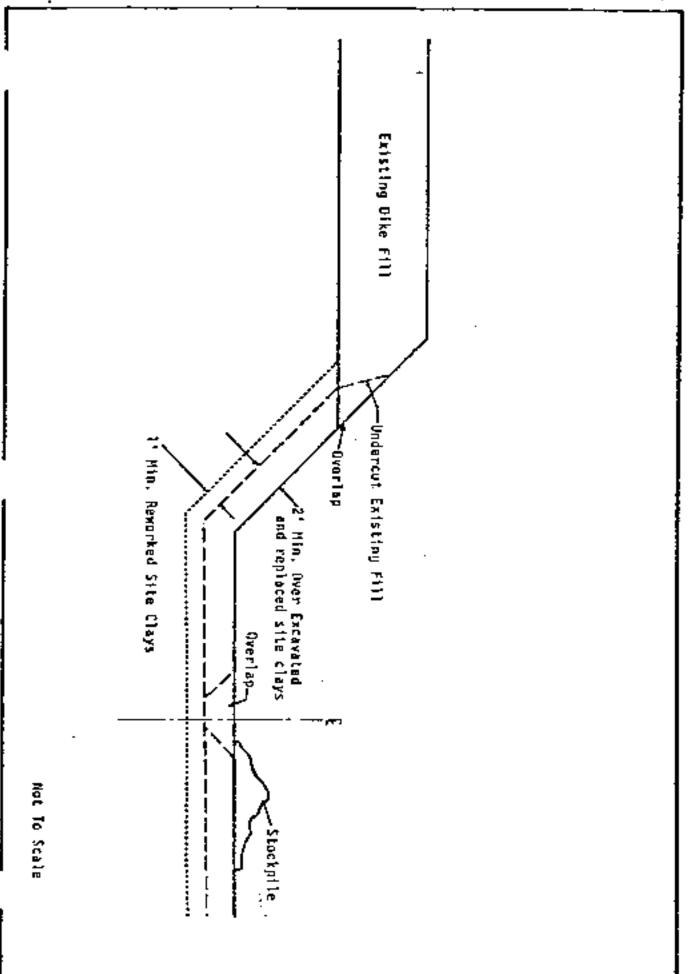
Very truly yours.

PSI/MATIONAL SOIL SERVICES DIVISION

Xoi Z. Woodson Branch Manager

Ralph F. Reuss, P.E. Vice President

104



10/12/16 Draft Privileged and Confidential Attorney Work Product

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 11 1987

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

Re: Pond Liner Sampling and Testing

Pond 1A Repair Project

San Miguel Plant Jourdanton, Texas

PSI Report No.: 311-70065-1

Gentlemen:

A site visit was conducted on March 15, 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 rendom 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^{-}	<u>Pt</u>	14	<u>Permeant</u>	Permeability
1 2	52	20	32	Ash Water	7.6 x 10 ⁻⁹ cm/sec
	52	20	32	Distilled Water	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 F. Arias, P.E. Vice President

RPA/tt

TAULE 1

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

PLE PLASTIC LIMIT

PLE PLASTIC LIMIT

PLE PLASTIC LIMIT

-200= FINOS PASSING

2005 FINOS PASSING

MC = MOISTURBE CONFORT

. 14	13	12	11	10	9	œ	7	¢,	ហ	4	Ĺ	2	1	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 pund 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'	<pre>n 617' from East end of pond at 1'</pre>	* 224' from East end of pond at 1.5'	* 85' from Southeast weir at 2'	* Southeast corner at 1'	Location and Depth
Dark 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 silty 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	48	8	70	ន	72	67	55	67	2	8	46	60	65	~
21	8	16	is is	16	24	28	23	2	29	22	15	22	85	2
32	30	ų A	32	ي 4	₽B.	9	₽	43	35	38	7	38	37	2
59	2	70	5 A	73	92	66	54	71	, t	4	66	52	69	-200
24	20	20	- 29	: 23	28	27	. 21	29	2 6	26	. 25	24	29	MC*

TABLE 1 (Continued)

Brown clay with interbedded fine 64 23 ferrous stained silt Light grayish tan sandy clay 51 22 interbedded with fine silt S' Brown sandy clay 56 21	Sample No.	Location and Depth 1938' from East end at	Soil Classification Tan fissured clay	86 F	2 2	S 2	<u>ج</u> ج	۲
Dewatering Bio area 0'-4' Brown clay with interbedded fine 64 ferrous stained silt Borrow area 0'-4' Light grayish tan sandy clay 51 interbedded with fine silt Run off pond borrow at 2.5' Brown sandy clay 56	15	1938' from East end at middle of pond bottom at 0'-2'	Tan fissured clay	98	26		60	60 99 30
Borrow area 0'-4' Light grayish tan sandy clay 51 22 interbedded with fine silt Run off pond borrow at 2.5' Brown sandy clay 56 21	16	Dewatering Bio area 0'-4'	Brown clay with interbedded fine ferrous stained silt	64	23		41	41 20 24
Run off pand borrow at 2.5' Brown sandy clay 56 21	17	Borrow area 0'-4'	Light grayish tan sandy clay interbedded with fine silt	51	P3		23	29 45
	18	Run off pond borrow at 2.5'	Brown sandy clay	93	21		35	93

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

TASTED FOR SAN MIGUEL ELECTRIC COOP., INC.

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

PROJECT

Pond 1A Repair Project

Sam Miguel Plant

Jourdanton, Texas

DATE

DRY DENSITY, LBS., PER CURIC FOOT

May 7, 1987

QUE REPORT NO. 311-70065-1

TEST DATA transferences. Tax and gray of loss of the ----------************** ********** ***************** ************************

MOISTURE CONTENT, PERCENT OF DRY WEIGHT

Respectfully submitted, Professional Service Industries, Inc. - 10/12/16 Draft Privileged and Confidential Attorney Work Product

PSI 1987c

Daily Reports for San Miguel Electric Cooperative, Inc. Re: *1A Ash Pond Soil Testing*, Professional Services Industries, Inc., July 17 – September 23, 1987.



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

DAILY REPORT

entro i si Stitu

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



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

7**d**d



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 CIEA	SOL OF PRIMISER	ear comple (an fact (6 m/d m	MATER CONTENT	ëv PriACE Ditv Di MSCT	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	αf	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



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)				
99	((4.1)	Strong At 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 LOCATO	ON
-------------	----

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:



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 07 c	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度に対象を行るの数となっている。

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:



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

	244 (1841 - 1446 - 1444
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 TAIL BOY DI SNALC	74144 (Chilen)	A 17,6(6 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

манци.

311-70065-56

Page 4 of 4

(Campor 4

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 number

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

IA 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	rumtada ray di norv	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	KON () 9. ()	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.
<u> </u>	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 all PERCENT COMPACTION Busing on maximum disdensity obtained no surger and lared by

sp. ID manber

* I FILL MATERIAL

3 HACKSILL

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



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

оце вероят во 311-70065-54.

Page 2 of 3

TEST D	ата: Optimur	m moisture	: (3)	3, 23.7)				
100°	, 11 4 5	X1004	yr≽ s. ∎ h Negr-	List G. D. List Letter List Control	osije Chrim	ALFT RES DEV DEMOSTE	PERCENT COMMISSION	COMMENT OF T
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	EST LOCATION: POND FLOOR - Station 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>	2.8-		
TEST 10	TEST LOCATION: WEST SLOPE IN N.W. CORNER - Station 2400-2475'.							

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

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

the bottom of slope.

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,

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	rest 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>		
		Ļ	ļį		į .		·		

TEST LOCATION:

r	T		· · · · · · · · · · · · · · · · · · ·
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 му 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 DATA: Optimum moisture: {33, 23.7}									
11 KT	··^*1	3.10	99. 9. 9 89.9	радо о Дарили 1914 годи	985 4 : 085 81	re Pulati Historia Transfer	COMPASTION SYMPTOM	(-,444(4)** 	
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	TEST LOCATION: NORTH SLOPE								

NUKTH SLUPE

$\overline{}$			· ———— ——— ·	
1 1	40' West o	f Station 2300'	and 20' from bottom of slope.	
:_2	20' West o	F_Station_2000'	and 10' from top of slope.	
. 3	_ <u>15' We</u> st o	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.	· — · · ·
_\$	75" West o	<u>f St</u> ation 2300'	and 10' from top_of_slope	
6	85' West o	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 simple in the fest to lead to the firm in the fest of the

* I I J MATERIAL

2. BACKFILL A BARE COURSE

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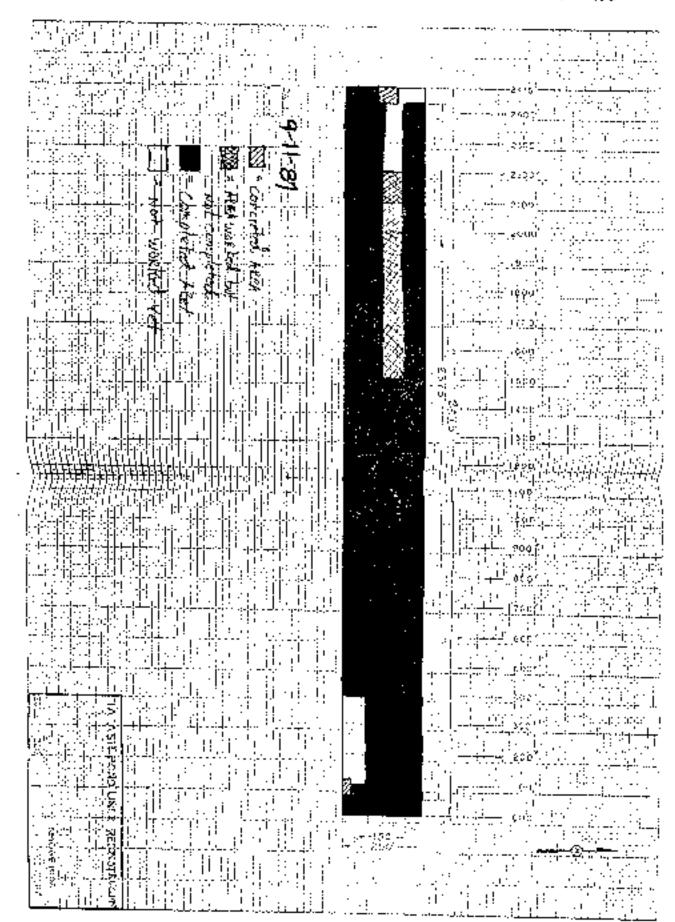
4 SOIL DEMENT

A I TEST RESOUTS COMPLY WITH SPECIFICATIONS

8 RECOMPACTION PROVIDED OF THE SAFTER PRODUCTION

REMARKS:

Respectfully submitted Professional Service Industries, Inc.



🏗 👵 😘 mawamana 🦰



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

	rest DATA: Optimum moisture: (33, 23,7)								
	luse ec	: 476	(40.0 1.10	ovi ji Noj a nejii		COMPLY:	#44 #08 1944 11 5447 #	PERMITTER PROPERTY.	COMMENT *
	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	1	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 robusts of WATCH CONTENT Pro-Greek mark was one. PERCENT COMPACION. Based to may bain sigidentify bout each or 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

/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

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

/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

September 8, 1987 DATE

OUR REPORT NO. 311-70065-49.

Page 2 of 2

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241	man Ces	900 °	. All (307 E155-15	COCT 4:	394 394 355537	PLACERI COMPACION	CONNECT 1
09-08-87	2nd Lift	33	88.2	28.1	84.3	95.5	1 - A
09-08-87	Final	33	88.2	27.1	86.5	98.0	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>		
		·· ····

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



Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

ESTED FOR	SAN MISUEL	ELECTRIC	COOPERATIVE,	INC. PROJECT
lesieu rum	SHOULD BE SHOULD		COULTINGIANT	Tail

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pand Soil Testing

9.0. #26643-032108

	OUR REPORT NO : 311-70065-47
weather Sunny & Cla	ear
TEMPERATURE RANGE. 7	5" то 85°
INSPECTOR K. McWill	iams & K. Bowen
TYPE OF INSP	ECTION BEING PERFORMED
SOILS	CONCRETE
FOUNDATIONS	BATCH PLANT
FOUNDATIONS CONTROLLED FILL (COMPACTION)	BATCH PLANT PLACEMENT (JOB SITE)
CONTROLLED FILL (COMPACTION)	
CONTROLLED FILL COMPACTION X	PLACEMENT (JOB SITE)

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

(2) Above

oud.

Respections 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

/dd

47.0750

200 and the contract them of



Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

ESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE.	- [NC. PROJEC	·T
--	---------------	----

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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kaan ja



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

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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		1800 11
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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

ESTED FOR	SAN	MIGUEL	ELECTRIC	COOPERATIVE.] NC _PROSECT:
IF5IFUFUR	2MIA	MIGOET	LLEL IKIL	CUUPERRITER	TMC cucasage

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	Опері
	SATCH Pt AN1	
	PLACEMENT (JOB SITE)	 -
		······································

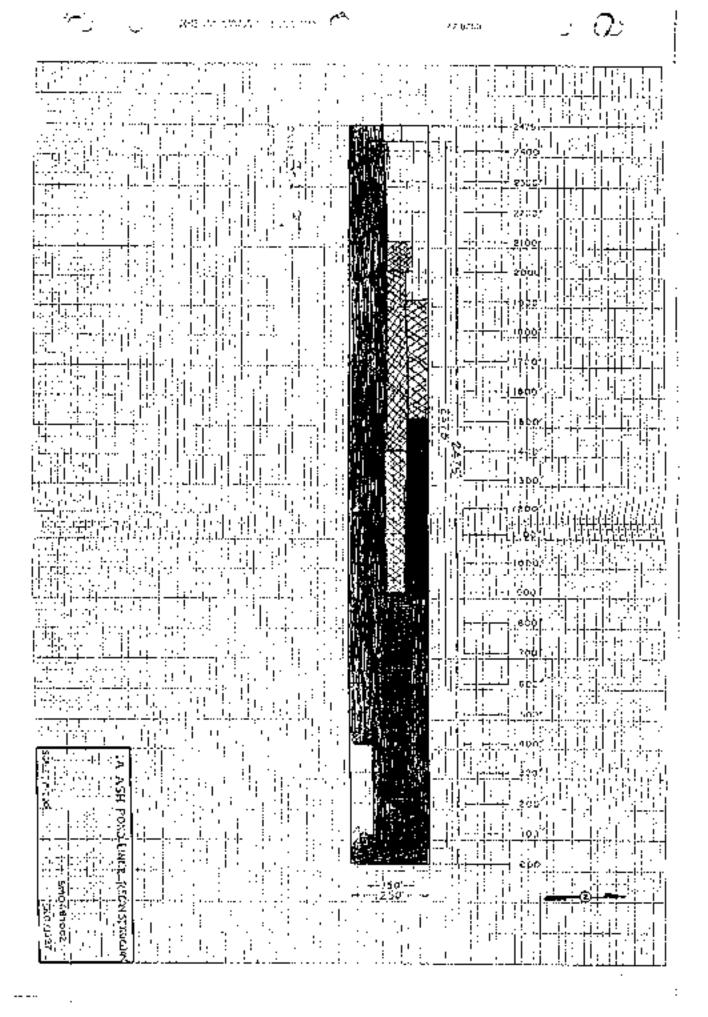
PSI. Inc. Drilling of the weep holes was attempted, but unsuccessful due to the pond condition. The drilling of the weep holes was tentatively rescheduled for 09-03-87.

(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)
	XDrill 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

/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 28, 1987

OUR REPORT NO 311-70065-40

Page 2 of 3

TEST O	ата: Optimum	moisture:	(33	. 23.7)				
rt (c) NO	B±1€	(c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	200 < nayva2010	OAS OLIV AR COM OLIVETE	0000 97 0000 97	04 P. ADI 049 06 9 P.Y	50/m 20 (10/m b) 4 (0) k ((Ondex.
1	08-28-87	Final	33	88.2	28.5	84.8	96.1	1 - A
2	08-28-87	2nd Lift	33	88.2	26.9	85.5	96.9	1 - A
3	08-28-87	2nd Lift	33	88.2	27.6	85.8	97.2	<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 DATA: Optimum moisture: (33, 23.7)								
njinje Mil	SATI	30 m	MM (0 MA N ER)	DEN M. D. LEG TILL DEN CETY	COLER.	SHP, ACE ONE OR MONTH	m signif quakaj lajs	(CAUSI 4" "
. 7	08-28-87	lst Lift	33	88.2	29.1	83.3	95.0	1 - A
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 G 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

/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 27, 1987

оци вероят мо - 311-70065-39.

Page 2 of 5

TEST	DATA
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1157 83	001	21-70	SML D NJUNSEN	021 07 0 748 987 98 55 54	nwien Context	A Milacé Olav Osaciny	FERGUST COMMODES	COMPACE
1	08-27-87	Subgrade	33	88.2	22.7	91.3	103.5	1 - ξ
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.FRODEC

Post Office Box 280

Courdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

.....

August 27, 1987

сов неясят ко | 311-70065**-**39 |

Page 3 of 5

TEST DA	ATA: Optimum	moisture:	(33,	, 23.7)				
40	2477	3.00	500. 1 5940.0	(AD 50 r (AD 50 r (44 % r)	WHILE WALLACO	5 F. AGE 580 1 F. AST 7	PERFORM DOMPNOTION	course.*
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 - A,C
12	08-27-87	Subgrade	33	88.2	27.0	87.0	98.6	1 - A,C
TEST LOCATION: POND FLOOR, STATION 1600'-2000' / NORTH SLOPE, STATION 1500'-1900'								

- 7 30' West of Station 1600' and 5' South of 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 ti**D** munitier

- * 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,//				
11.67 H 0	PATE	Nata (Tx	SOLID NO MERCEN	049047 (49047 (5047	%A1 ₆ 1/ (ON*61/1	15 15 ACE 19 - (4 ACE)	PLAICING COMPACTION	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 LDS per copie 6221 WATER CONTENT Per Control for weight PERCENT COMPACTED & Based on maximum dry gensity obtained on sample, he cathralby ser ID cumber.

THE MAY HATE 2 HACKER:

3 BASE CQUASE 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 Charles	MATES COATEST	MA. ACE (CA) (C) 4617	estional (Outsoline	(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 Sangler intigated by

so ID ministra

1 FILL MATERIAL 2 BACKFILL 3 BASE COURSE

4 SUBBASE

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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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二甲酰胺氰甲基伊利耳克伯 信禁責 云:"我不是进步",就会提出自己	11.41.44
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人名英格勒伊利 法法官 人名伊莱斯 计二层 经分替 医二甲二甲二胺 计记号 化二烷基化	ulibia at
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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:

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	rest data: Optimum moisture: (33, 23.7)										
	6.00	m vin	NAC A	e as Jense An Pros Diving 7 -	AATTA 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

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A LIFEST HERQLITS 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)				
11.51	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 CDMFACTON	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

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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

MA Ash Pond Soil

Testing

P.O. #26643-032108

DATE

August 26, 1987

OUR REPORT NO 311-70065-39

Page 4 of 5

TEST DATA: Optimum moisture: (33, 23.7)									
1881 MC	J#*(Mark Park	SON CO MONARED	ecknowed Last Over Of MSIFT	MARP COMMENT	Signatur 1947 Olivitar	PERCIST ECHPACHES	COMMI 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 LOCATION: NORTH SLOPE, STATION 1300'-1600' / POND FLOOR, STATION 800'-1500'									
13	30' West o	of Station	13001	and 10' fro	om bottam	of slope.			

123121	Seattlest Room Secret 214 Jon 1888 - 1886 7 Tells Tellsky British	
13	30' West of Station 1300' and 10' from bottom of slope.	
14	25' West of Station 1400' and 30' from bottom of slope.	
15	10' West of Station 1500' and 15' from bottom of slope.	
16	50' West of Station 900' and 25' South of North slope.	
17	75' West of Station 1000' and 45' South of North slope.	
18	40' West of Station 1100' and 15' South of North slope.	

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

* · FILL MATERIAL

2 BACKTICE 3 BASL COURSE

4 SUBBASS

5 SGIL CEMENT

6 CINER

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

Respectfully submitted Professional Service Industries, Inc.

REMARKS:

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

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}				
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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	000000 000000 000000	KOWALI NA WASER	P) P, ADE 584 666 5 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 LOCATION: NORTH SLOPE, STATION 1300'-1400' / POND FLOOR, STATION 600', 700', 800', 900',								

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

DUR REPORT NO.

311-70065-37

Page 3 of 5

TEST D.	in DAYA: Optimum_moisture: (33, 23.7)								
40 33	2471		(SVIII)	140 (30) 125 - 14	604 0 W	A PLASI (804 (804/0)	01/44 () Su 01/44 () Su	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	TEST DATA: Optimum moisture: (33, 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	rc⊌⊎i 41 ⁼		
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	ESTLOCATION: POND FLOOR, SIAIIONS 2000, 5001-1000									

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	rest data: Optimum moistore: (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	COMPACTION SERVICES	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	EST LOCATION: POND FLOOR, STATION AGO! SOO! & LLOO! LAOO! / KOSTH SLOPE STATION 1200!								

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

Огчен

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 ко — 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

PESTED 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 D.	ara: Optimum	<u>moisture</u>	: (33	, 23.7)				
1131	(147)	Title TOPIN	SOU : INTERCLIP	16 agy 17 e 4 may 17 e 4 may 17	WATER 0040191	4 (0.40) 594 0 (0.60)	COMMUNICATION OF THE PROPERTY	powers.
1	08-24-87	Grade	33.	88.2	22.2	94.5	107.1	1 - E
2	08-24-87	Grade	33	88.2	20.7	84.5	95.8	1 - E
3	08-24-87	Grade	33	88.2	16.4	80.7	91.5	1 - 3,E
4	08-24-87	Grade	33	88.2	28.6	85.5	96,9	1 - A,C
2A	08-24-87	Grade	33	88.2	23,4	81.0	91.8	1 - 3,6,0
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.
	2	Station 13 + 55, 30' from bottom of slope.
į		Station 14 + 35, 20' from bottom of slope.
į	1.0	DETECT OF TEST AL ABOUE

1 A RETEST OF TEST #1 ABOVE.

2Д RETEST OF TEST #2 ABOVE.

3Д REJEST OF TEST #3 ASOVE.

NOTES DENSITIES SHOWN LES per code d'oct WATER CONTENT, Per Control de America

PERCENT COMPACTION, Swind on making in dry egusey ablument on suingdering cuting by two ID numbers

FILL MATERIAL

2 HACKERS

3 RASP COLMSE

4 SUBBASE

4 SOIL CEMENT

A TEST RESULTS COMPLY WITH SPEC HICATIONS.

S. MEDOMPACT: ON REDI. #50

C. TEST IS ARTICAL RECOMPACTION.

D Moisture in excess of specs.

E Moisture below specs.

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

STAC

August 24, 1987

OUR REPORT NO 311+70065+36 ______.....

Page 3 of 4

TEST DA	ATA: Optimum	moisture:	(33	, 23.7)				
12.5	-sn	1 / E	ر الا الله	(A) (A) (A) (A) (B) (A)	W4760 0.048150	A-P. 401 2015 D15/075	PHOISE COMPACTOR	DOMES!
4	08-24-87	2nd Lift	33	88.2	20.2	85.2	96.6	1 - E
. 5	08-24-87	2nd Lift	33	88.2	19.8	91.7	104.0	1 - E
6	08-24-87	2nd Lift	33	88.2	21.7	87.5	99.2	1 - ā
7	08-24-87	Grade	33	88.2	20.4	88.0	99.7	1 - E
8	08-24-87	Grade	33	88.2	17.6	86.2	97.7	1 - E
9	08-24-87 CATION: POND	Grade	33	88.2	22.7	86.7	98.3	1 - ε

4	i 90,	South	οf	North	slope,	<u>Station</u>	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 monthly density obtained on sample including by security in contemp.

- 1 FILL MATERIAL
- BACKFILL
- 3 BASE COURSE 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.



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>	
			ļļ		<u> </u>	,		
!]						i i		

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 coor ser-WATER CONTENT, Pro Control day weight 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

GIFEST IS AFTER RECOMPAGNON

O Moisture in excess of specs.

E Moisture below specs.

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	200	NO. 71 NOMBEL D		COZIEN. Maién	# 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	lst 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 970' - 1270' / 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 MATERIA:

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 (50 550 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 DENSITIES SHOWN the periodic lost WATER CONTENT (Per Croplet de l'Avigne) 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>14</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	TEST DATA: Optimum moisture: (33, 23.7)									
20	:A11	MADH 1112	50. () 514601	04+41.0 (#874+ (#574	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		
2	08-21-87	2nd Lift	33	88,2	27.0	87.0	98.6	1 - A		
23	08-21-87	2nd Lift	33	88.2	29.8	87.1	98.7	1 - A		
24	08-21-87	2nd Lift		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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Zentr. 2005 2 2004 15 NO 324 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	256	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	: 1. 1.	y e filosofia and tales. The filosofia

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Shilstone Engineering Testing Laboratory Division

DAILY REPORT

:61

1100 FED26

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			10% 0 8 9 00.0	generale ge 1981 od e 1985 od e	COVIRY. Whish	es PriACr BNY Of mixCy	PLACENC COMMISSION	coupl s t *
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	ode : 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		(A cont.) Factor	#A16#1 (13#16#1	SEMIACE CHY CHARLE	en fall, 1 se ⁿ (-(supres) false	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, PS(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 FUL 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

	rest DATA: Optimum moisture: (22, 33.0)													
1151	':A")	Chart		04466.0 90.046 94.556	60MI V. 94II V	M PURCE 1941 1855 1 *	PERIODIA : COMPACION :	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	FIFY FIFY	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 '1 +		
19	19 08-20-87 2nd Lif		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	1 08-20-87 Final		08-20-87 Final	08-20-87 Final 2	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	1008	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 2852.035



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

(1) D-6 Dozen with Rake

3. (1) 0-8 Oozen

5. (1) Water Truck

6. (1) CAT, Spray King

7. (1) 120G Motor Grader

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



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 CONT.: NO	6, 0, 4() (44- (5, 6),0 s	Principle COMPACIANA	Campina.
ι	08-19-87	1st Lift	02	82.6	37.2	80.5	97.4	1 - A
2	08-1 9 -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

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., or	Final (22	82.6	36.4	79.5	96.2	1 - A
19-87 1	st Lift	22	82.6	37.9	79.8	96.6	1 - A
19-87 2	nd Lift	22	82.6	38.1	80.0	96.8	1 - A
19-87	Final	22	82.6	37.7	79.4	96.1	1 - A
19-87	Grade	22	82.6	37,4	80.8	97.8	1 - A
19-87	Grade	22	82.6	36.3	80.3	97.2	1 - A
֡	19-87 2 19-87 19-87	19-87 2nd Lift 19-87 Final 19-87 Grade 19-87 Grade	19-87 2nd Lift 22 19-87 Final 22 19-87 Grade 22	19-87 2nd Lift 22 82.6 19-87 Final 22 82.6 19-87 Grade 22 82.6 19-87 Grade 22 82.6	19-87 2nd Lift 22 82.6 38.1 19-87 Final 22 82.6 37.7 19-87 Grade 22 82.6 37.4 19-87 Grade 22 82.6 36.3	19-87 2nd Lift 22 82.6 38.1 80.0 19-87 Final 22 82.6 37.7 79.4 19-87 Grade 22 82.6 37.4 80.8 19-87 Grade 22 82.6 36.3 80.3	19-87 2nd Lift 22 82.6 38.1 80.0 96.8 19-87 Final 22 82.6 37.7 79.4 96.1 19-87 Grade 22 82.6 37.4 80.8 97.8 19-87 Grade 22 82.6 36.3 80.3 97.2

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 100 1,000 (200 1,4 (200) (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'-305'j				

:		
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

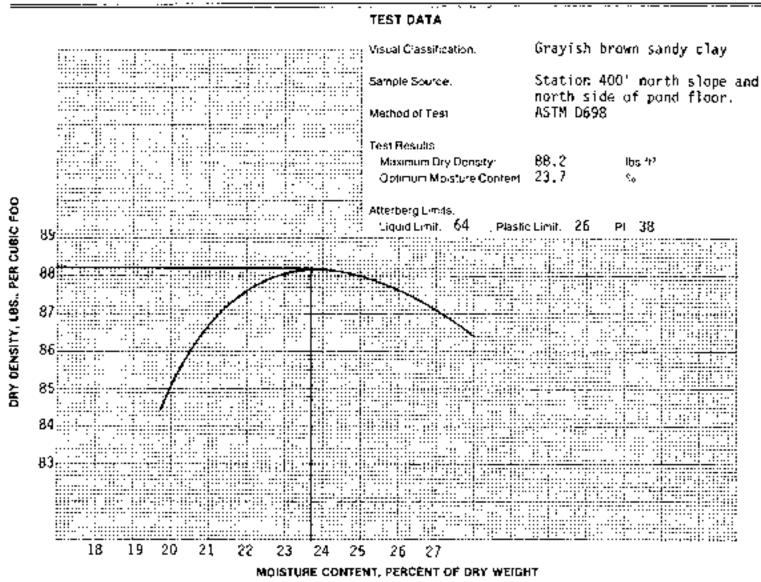
1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

August 18, 1987

OUR REPORT NO. 311-70065-33.



cc: (2) Above /dd

Respectfully submitted, Professional Service Industries, Inc



Shilstone Engineering Testing Laboratory Division

DAILY REPORT

TESTED FOR SAN MIGUEL ELECTRIC COOPERATIVE, [NC. PROJECT

Post Office Box 280

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

JA 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. Cuintanilla

Type of Inspection: Fill Control

Brief surmary of work accomplished today:

Equipment Used:

(1) 6370 Scraper

(1) Liebherr Dozer

(1) D-8 Dozer

(1) Water Truck

6. (1) CAT, Spray King

7. (1) 120G Motor Grader

(1) D-6 Dozer with Rake

V.K. Knowliton 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.X. 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

31AC

August 18, 1987

ODR REPORT NO

311-70065-31

Page 2 of 4

TEST Q.	ara:Optimum m	gisture: .	(22,	33.0}				
10.1 VG		0.00	A.Or. O recipied fi	90000 (9 140 (9) 140 (1)	AATER COMPENS	M PA ACA DIT DEMOLIT	PHILICIAN COMPACTON	€Genal d- _p
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	<u>1 - A</u>
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 DINOTES SOOMS Los persone los WASLA CONTEST Per Certables weight PERCENT COMPACTION, Business maximum div activity thraned on sample indicated by at IRI in other

: FILLMATERIAL

3 BACKHEE

3 AASE COURSE 4 SUBHASE

5 SOLCEMENT

6 CTHER

A LIST RESULTS COMPLY WITH SPECIFICATIONS

B. RECOMPACTION HEQUIRED C. TEST IS A FER RECOMPACTION

Respectfully submitted, Professional Service Industries, Inc.



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 150	2574	1112	NON DI NUMBER	(40.50) (40.50)	0.02(6.0) (1.54,6.0)	(1/27) (2/27) (2/27)	COMMUNICACIÓN SERIOLIVA	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-Táo. gisč	<u>00'-500'),</u>	POND FLOO	<u> ROITATION</u>	O-600') NDRTH SIDE.
7	20' West o	f Station	0-1 <u>00</u>	' and 20' fr	om Bottom	of Slope		
8	40' West o	f Station	0-100	' and 10'_fr	on Bottom	of Slope		
9	50' West o	f Station	2001	and 25° from	Top of 5	lope		
_ 10	10 70' West of Station 300' and 15' from Bottom of Slope.							
11	15' West of station 400' and 20' from Top of Slope.							
12	30' West o	f Station	0-100	' ạnd 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	- 2-16	2015	1231 51 Vol.8	(15 (A) (15 (A)	98/14 (00/14)	M (1, 2, 2) UH- + N(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	'EST LOCATION: PONG F100P (STATION OL600') NORTH SIDE									

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

demoty of tamention 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 DATA: Optimum moisture:			(22, 33.0)						
1 17 N	;****	2004	nga, n agami s	operation (1991 File (1994 File	estic Contrat	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	DROS :NOITAGE	FLOOR (S	(O) TAT	1200'-1500	1}				

	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 DENSITES SHOWN the percure that WATER CONTENT the Control of 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 ${\rm const}$, ${\rm const}$, ${\rm page}$ STIMESTAIN RECOMPLY TO ${\rm const}$
- 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 II	1, 10, 4(0) (1 to 1 € N − 15 t	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 H 209-11 H7	24 (% AC) (6.0) (31 (% 4.4)	COMMADION	COMPANY 1 A 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 imparion. POND FLOOR (STATION 0_200))									

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 management Benuty obtained on sample indicated by soft Dinor ben

Fig. MaTERIAL

2 BACKFICE 3 DASSICQUASE

4 SUBANSE

5 SOFICEMENT 6 OTHER

A I TEST RESULTS COMPLY WITH SPECIFICATIONS.

TO RECOMPACTION PECUIPED CITEST 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 70 5 0000	24*1	mary (my	SON IC MUMBICE	western.0 . we some generals	COVAL)	is feed f DRA SEARCH	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	2nd Lift	22	82.6	38.6	78.3	95.0	1 - A
22	08-17-87	Final	22	82.6	37.0	81.0	98.0	1 - A
23	08-17-87	Final	. 22	82.6	38.0	80.8	97.8	1 - A
24	08-17-87	Final	22	82.6	35.9	82.7	100.1	1 - A
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	TEST DATA: 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.
_ 2	35' West of Station 400' and 25' North of South Slope.
3	60' West of Station 500' and 40' North of South Slope.
_4	80' West of Station 600' and 5' North of South Slope.
_ 5	25' West of Station 900' and 10' North of South Slope.
6	35' West of Station 800' and 30' North of South Slope.

NOTES UPNSITIES SHOWN they generately will get water CONTENT, they consist on weight PERCENT COMPACTION Broad on making - dig. 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	EST DATA: Optimum moisture: (22, 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 ()	0000 00 100 1 000 (41 4 2 00 450	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	ما جيجي ۾ ا	. F	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 indicated by only Disamber

FILL VATER AL

2 BACKFILL 3 BASE COURSE

4 SUBBASE

5 SQUICEMENT FEREIG P

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) DB 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 C 22 C	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

AA Ash Pond Soil

Testing

P.O. #26643-D32108

STAC

August 13, 1987

CUR DEPORT NO

311-70065-28

Page 3 of 3

TEST D	EST DATA: Optimum moisture: {22, 33.0}											
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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 Turburg by der - Iy obtained on sample and calendar

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

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A I TEST RESULTS COMPLY WITH SPEC FICATIONS

U PECCUPACTION REQUIRED
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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 DATA: Optimum moisture: (22, 33.0)										
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

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REMARKS-

FILL MATERIAL

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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

QUA REPORT NO

311-70065-25

Page 2 of 2

TEST DA	ra: Ontimum	moisture:	(22.	33.0) 51.5/8 ,40.94 31.64	MATTE CONTINE	as 20 40 1 (24) (31 5 1 1 1	Her Class	I (SUM) X- T
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>			! !			
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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

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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	epantegrapi Listi GP Salita 1 -	(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										
ı		т-															

- 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 OH-O7-87 in Station 2200'.

NOTES INSPECT SAMPOWN The general foot want BIDDNESS. Per Certifularly weight PERMENT COMPACTION, Based on maximum disten ely obtained on sample indeption to

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T. F. L. MATERIAL

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- 3 SASE COURSE
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- 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 ntnctd.	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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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	HERMS COMMENTED	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.	
:	 	

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≙CMFILL 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	m moisture	; (2	2, 33.0)		 ···		
11 NT NC	· 4 -1	Criscal in 19	NO J GLAMBII		Construct Construct	# F1 #() (4) (9 Yulin	echickes Commertense	CONTRACT T
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 LEADER 2:MITON TOOD, -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

NCITES IDENSITIES SHOWN THAT Bett bubble that WARRED CONTENT, POR Control of Vivillation PERCENT COMPACTION. Beset on triuming of a den eit begreicht und erhabt in bei der bes Sie Die einem

* 1 FILL WATERIAL 2 RACKELL

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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.D. #26643-032108

DATE

August 7, 1987

QUE REPORTING.

311-70065-21

Page 4 of 4

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,	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
9	08-07-87	2nd Lift	22	82.6	36.9	78.5	95.0	1 - A

TEST LOCATION:

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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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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

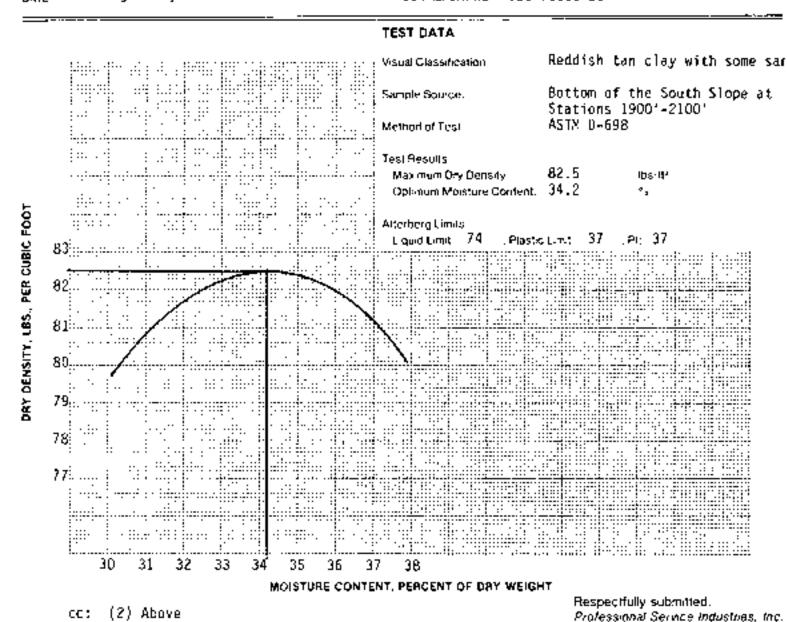
P.O. #26643-032108

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

0A70

August 6, 1987

OUR REPORT NO

311-70065-20

Page 2 of 5

TEST DATA: Optimum moisture: (5, 28.7)										
27	r.1	Here Her	179. 9. Mpt 4	1 M (0) 08 M (4)	(10), 16 Mil	6 (4.404 (30) (31.45) 6	PERCENT CONTRACTOR	COMMIN ^{1, 6}		
1	08-06-87	Grade	5	86.8	31.4	83.7	96.4	1 - A		
2	08-06-87	Grade	5	86.8	30.6	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

- 1 Foll MARRIA.
- Z BACKERS
- 3 BASE COURSE
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- 6 WOLDEMENT
- 6 OTHER
- A LIFET RESULTS COMPLY WITH SPECIFICATIONS
- S. RECOMPACTION BLOD RED.
- 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 DATA: Optimum moisture: (5, 28.2)										
(15.1 50)	: 4 %	101V	sation special	146.06- 146.15-	OCSULS:	94 (5.40) 249 26 (5.60)	Established Legal Billion Co. Al.	COPAL 4- +		
7	08-06-87	Final	5	86.8	33.1	85.3	98.2	1 - A		
8	08-06-87	Final	5	86.8	. 31.8	85.2	98.1	1 - A		
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TEST LO	CATION: SOUTH	SLOPE (40	0060	ō")"(2001 S	FULLON)			-		

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8	BO.	West of	station	500' and	50' from	Battom	n of Slope.	
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NOTES DANSITIES SHOWN LOS per care from WATER CONTENT Per Sectionary weight PERCENT DOMPACTION. Have disc maximum for definity one and any small or skilled by a life department

2 BACKFUL 3 BASE GOURSE 4 SUBBASE 5 SG J CEMENT

* 1 FILLWATERAL

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	TEST DATA: Optimum maisture: (5, 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
- A BASE COURSE
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- 6 DOMEA
- 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 Other No	MIR CENT COMPAGION	Control of *
7	08-06-87	1st Lift	5	86.8	30.9	85.5	98.5	1 - A
A	08-06-87	1st Lift		86.8	32.9	85.8	98.8	1 - A
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

Section in More

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2 RACKING. 3 RAST COURSE

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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

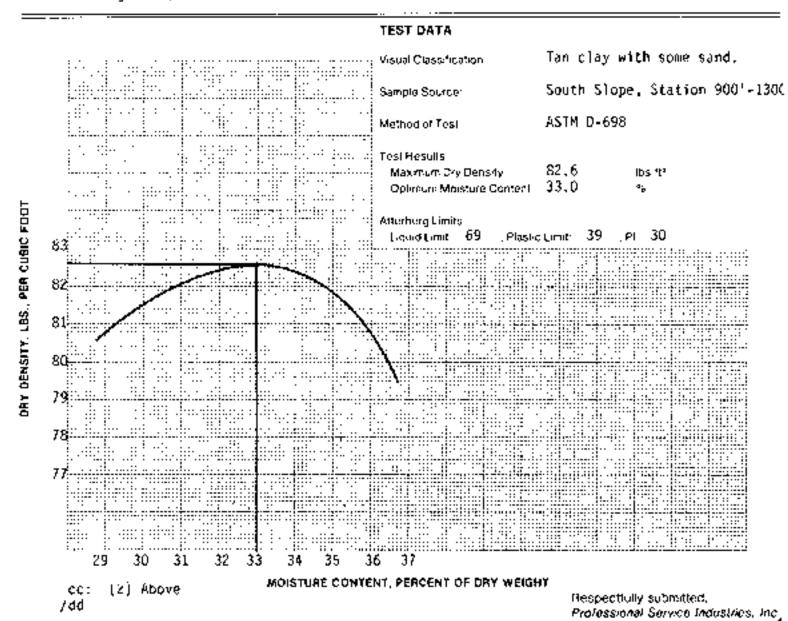
P.O. #26643-032108

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

EST DA	TA: Optimum :	moisture:	(<u>5, 2</u>	8.2)	(AA1) II (106/14/1	1, P. Arig 1000 1000 10	TO DESCRIPTIONS	(Kenter *
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2	08-05-87	: Grade	5 .	86.8	29.6	85.3	98.2	1 - E
3	08-05-87	Grade	_ 5	86.8	31.5	84.7	97.5	1 - A
4	08-05-87	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'.

NOTES DENSITED SHOWN Library of the first WARRY CONTENT the Control of American control of PERMISSING SOMEWITCHS Revised from the day some the other control of the day some the other statements.

REMARKS:

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 - FEHIO B
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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

TEST D.	ATA, ÜPTİMUM ID	oisture:	(5, 2	8.2}				
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7	08-05-87	Grade	5	86.8	31.9	84.5	97.3	1 - A
8	08-05-87	Grade	5	86.8	33.3	84.7	97.5	1 - A
9	08-05-87	Grade	5 ;	86.8	32.3	85.0	97,9	1 - A
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
TESTI	TEATION SOUTH	STUDE (S)	በፈተ በ ነገለ	600'- 400 1'	- በቁሰብ ነ ለምሮ	TION/DAY).		

<u> TEST FOCATION: 20019 2FORF (2141100 800.-300.) (300.</u>

:	7	ļ	851	West	of	Station	6001	and	401	from	Anteom	of	Slope.
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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 Comply additioned to complete participated by

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a SUDBASE 5 NOT CEMENT € QCHEP

FILL MATERIAL BACKFILL BASE COURSE

- A ITEM RESIDENCEMP, Y WITH SPECIFICATIONS B RECOMPACTION REQUIRED C. TEST IS AFTER RECOMPACTION.

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

ı		1000	Harry Carlotte	794760 (18418)	10 mg / Fry	COMPACTARY BENCHAL	: (WM 51 *
· 🗼	08-05-87	Grade 5	86.8	32.1	84.7	97.5	1 - A,C
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- A ITEST BY SUITS COMPLY WITH SPECIFICATIONS IT IR: COMPACT ON REQUESTO IT STIS 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

₽.0. ≠26643-032108

Jourdanton, Texas 78026

ATTENTION: inc. Clyde Price

OATE

August 5, 1987

овч нирови во 311-70065-19.

Page 5 of 6

TEST D	rest DATA: Obtimum moisture: (5, 28.2)											
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1	08-05-87	Grade	5	86.8	35.7	82.5	95.0	1 - A				
2	08-05-87	Grade	5	86.8	32.1	85.5	98.5	1 - A				
3	08-05-87	Grade	5	86.8	33.5	82.7	95.2	1 - A				
_ 4	08-05-87	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	08-05-87	lst Lift		86.8	34.1	82.7	95.2	1 - A				

TEST LOCATION: POND FLOOR BETWEEN STATION 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
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- SOIL CEMENT
- 6 CIRSA
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- A RECOMPACTION REQUIRED C TEST IS NOTER 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 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-B7	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
U	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, Period 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
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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

Section 1



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
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- 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"E

CUIT ASPORT NO

311-70065-18

Page 3 of 4

AΤΑ: Ôptimum	moisture:	(5.	28.2)				
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08-04-87	lst Lift	5	86.8	31.3	84.5	97.3	1 - A
08-04-87	lst Lift	5	86.8	33.3	84.0	96.7	. 1 - A
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
08-04-87	2nd Lift		86.8	30.7	85.0	97.9	1 - A
	08-04-87 08-04-87 08-04-87 08-04-87 08-04-87	08-04-87	08-04-87	08-04-87	08-04-87	08-04-87 2nd Lift 5 86.8 31.3 84.5 88-04-87 2nd Lift 5 86.8 31.5 84.8 88-04-87 2nd Lift 5 86.8 31.5 84.8 88-04-87 2nd Lift 5 86.8 33.1 83.8 83.9 83.3 84.0 88-04-87 2nd Lift 5 86.8 33.1 83.8 83.8 83.9 83.3 83.8 83.9 83.3 83.8	08-04-87 2nd Lift 5 86.8 31.5 84.8 97.6 08-04-87 2nd Lift 5 86.8 31.1 83.8 96.5 08-04-87 2nd Lift 5 86.8 33.1 83.8 96.5 08-04-87 2nd Lift 5 86.8 33.1 83.8 96.5 08-04-87 2nd Lift 5 86.8 33.1 83.8 96.5 08-04-87 2nd Lift 5 86.8 33.1 83.8 96.5 08-04-87 2nd Lift 5 86.8 30.7 85.0 97.9

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 RESPONDED TO the established water COMENT For Sent of the world. PERCENT COMPACINON, Business of the number by density aptions from simple indicated by

- FRE MATERIAL
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- 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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13	08-04-87	Final	5	86.8	30.9	83.3	95.9	1 - A	
14	08-04-87	Final	5	86.8	31.3	83,8	96.5	· 1 - A	
15	08-04-87	Final	5 .	86.8	30.7	83.8	96.5	1 - A	
6	08-04-87	Final	5	86.8	32.5	83.7	96.4	1 - A	
17	08-04-87	2nd Lift	5	86.8	31.7	84.3	97.1	1 - A	
18	08-04-87	Final	5	86.8	34.5	83.2	95.8	1 - A	
TEST LO	restlocation: SOUTH SLOPE / S.W. CORNER OF SLOPE (375' Section) (100' Section) 2200'-2475'								
12	12 101 Heat of Station (2001) and 101 from Botton of Slave								

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-X-2000

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

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1	08-03-87	Grade	5	86.8	30.9	83.3	95.9	1 - A
2	08-03-87	Grade	5.	86.8	30.8	86,0	99.0	·1 - A
3	08-03-87	Grade	5	86.8	30.7	84.5	97.3	1 - A
4	08-03-87	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 to produce that water Content are content of a 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

Respectfully submitted: Professional Service Industries, Inc.

Price pro 12/342-9077



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. #26643-032109

DATE

August 3, 1987

OUR REPORT NO

311-70065-17

Page 3 of 3

TEST D	ata: Optimum	moisture:	(5,	28.2)				
7/5"		1.11	1975. () 41. 44 0 (U	од г. от да г. Ап (104 21 55 7 г.	WATER CONTINU	A PLACE ORNALY ORNALY	PLACING COMPUCAN	COVMIN. *
7	08-03-87	2nd Lift	غ [86.8	31.1	83.5	96.1	1 ~ A
8	08-03-87	2nd Lift	_ غ [86.8	30.9	85.5	98.5	1 - A
	08-03-87	2nd Lift	5	86.8	32.7	84.0	96,7	1 - A
.0	08-03-87	Final	j 5 [86.8	30.7	86.5	99.6	1 - A
11	08-03-87	Final	5 [86.8	31.7	82.8	95.3	1 - A
12	08-03-87	Fina1	5	86.8	30.9	83.3	95.9	1 - A
TESTIA	THOS MOLTADO	H STOPE 19	1001-2	1001 (3001 -	Section/Da	w)		

LEST FOCULION: 2001H 2FOLE TADO.-STOO. Tago. Section/Dall

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 Los and consisted 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 S	SAN	M1GUEL	ELECTRIC	COOPERATIVE,	[NC, PROJECT
--------------	-----	--------	----------	--------------	--------------

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

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

DATE July 31, 1987

QUA REPORT NO

311-70055-16

Page 1 of 4

WEATHER Sunny & Clear

TEMPERATURE RANGE 90°

то 95°

INSPECTOR G. Quintanilla

TYPE OF INSPECTION BEING PERFORMED

χ	SOILS		CONC	RETE
	. FOUNDATIONS			_ BATCH PLANT
	_XCONTROLLED FIL	L (COMPACTION)		_ PLACEMENT (JOB SITE)
	ДЅРНАЦТ		ОТНЕ	R
	BATCH P. ANT			
	PLAC! MENT DOB	B SITEI		

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



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	OCATION: 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.
	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 iku etakhe tan kempe interalektak ki kepa mga

5 SOLORMENT

* * FOLLWATER AS

A ITEST RESULTING OVER Y WITH SPECIFICATIONS IN DECOMPACTION REQUIRED TEST IS ALTER RECOVERACTION.

A BACKING A BASE COURSE 4 SJB5ASI

REMARKS:



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

SESSED FOR SAN MIGUEL ELECTRIC COOPERATIVE, INC. PROJECT

Post Office Box 280 Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

1A Ash Pond Soil Testing

P.O. #26643-032108

DATE

July 31, 1987

OUR REPORT NO

311-70065-16

Page 4 of 4

TEST D	ata-Optimum n	oisture:	(5, 3)	28.2)				
1:3	1-1	50000 0000	as i gas i	74 artes F att C++ Arteration	WATE : (MFLK)	90 (0, 40) (1944) 1940) (14	COMMELS.	Connection
13	07-31-87	Final	5	86.8	33.5	82.8	95.3	1 - A
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		<u></u>	_					
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		ļ						
TEST IS	CATION: SOUTH	SLADE (1	6001	1 80011 2001	\$053700 V			
123110				1,000) 300				

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

4 SUBBASE S SOLCEMENT

A ITEST RESULTS COMPLY WITH SPECIFICATIONS BIRD COMPACTION HEQUISED.

C. RESTUS AFTER RECOMPACTION.

Respectfully submitted, Professional Service Industries, Inc.

REMARKS

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	# PESS A PERSON SASTRUGE SASTR
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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

TEST DATA: Optimum moisture: (5, 28,2)								
9.55 50	5911	(3) (7)	NO 60 (40) NO MOL (0)	Mario yo Mario yea Cara yan	<: 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 Life	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 -1 500! /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 sample inaksana by Kut O herbare

- * * 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

CAIL

July 30, 1987

TEST DATA: Optimum moisture:

CUR REPORT NO

311-70065-15

Page 4 of 4

9.57 *:	1, 16 M	1.15	971 ° 19 9414	energy of tark one of soils	AATTE CHACENE	DENINGE DENINGE DENINGER	PERIODAT Demokratika	DIAMONI [®]
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

BASE COURSE

4 SUBDASE

SOIL CEMENT

OTHER

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

REMARKS:

				12. E
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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> .	soits		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

Post Office Box 280

P.O. #26643-032108

Jourdanton, Texas 78026

ATTENTION: Mr. Clyde Price

DATE

July 29, 1987

CUP PERONT NO.

311-70005-14

Page 2 of 5

TEST DA	<u>ara:</u> Optimuu	<u>m</u> moisture	: (<u>5.</u>	<u> 28.2)</u>			-· ···——	
75	7811	100 2	e gregoria. Na magazin da	ender of the control	8.441.0 0.7901.50	9 P. 40) (40) (40) (40)	ALA: ; N' ; OWNE; NO	Culture 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
	07-29-87	Grade	5	<u>8</u> 6.8	<u>3</u> 3. <u>5</u>	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	<u>l - A</u>
. 6	07-29-87	Grade	5	86.8	33.1	85.3	98.2	1 - A
TEST LO	CATION: SOUTH	SLOPE -	STAT 10	000,1-000 N	0', 1,000'	-1,1 <u>00',</u>	<u> 1,100'-1,200</u>	<u>' (300' AREA PER D</u> A

יאָ

- 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 TEST RI SULTS COMPLY WITH SPECIFICATIONS B. BI COMPACTION RECOMPACTION C. IT STIS 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 %* %*.	***1	(1) 70	1 971. 19 1901.0	grapjo (ARCIO) DOMAS	WATER CONTRACT	701 (BCR) (940 (31 95-14	PERICLUT	Constant
7	07-29-87	lst Lift	5	86.8	31.7	82.8	95.3	1 - A
8	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 - A
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	95.7	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-



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: Dptimu</mark>	n moisture:	{5	. 28.2)				
Tests (%)	5 1 (1)	11.57	.994 (5) 44 . 94 0.0	galanago Jacope Officials	666/19 666/1961	19 P. ACC 1994 19 Mary 1	COMMUNICATION IN THE PROPERTY OF THE PROPERTY	Common to the
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	DEATION: SOU	TH SLOPE 90	10'-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 are sample in California.

Self-Oracles assessment of a quantum of

* 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:



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

оца вероят во 311-70065-14

Page 5 of 5

TEST O	ATA: Optimum	moisture	: (5,	28.2)				
11.57 50	ייי	31.510	9.900 9.000	94 (44) 9 (41) 204 (3) 55 (4	MATERI CONTENT	아 아, ACI (Alla EK NoFY	DEMICT OF	Çewweni *
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 driving 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:

The state of the s		Programme Constitution Constitution (Constitution Constitution --	--	--
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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

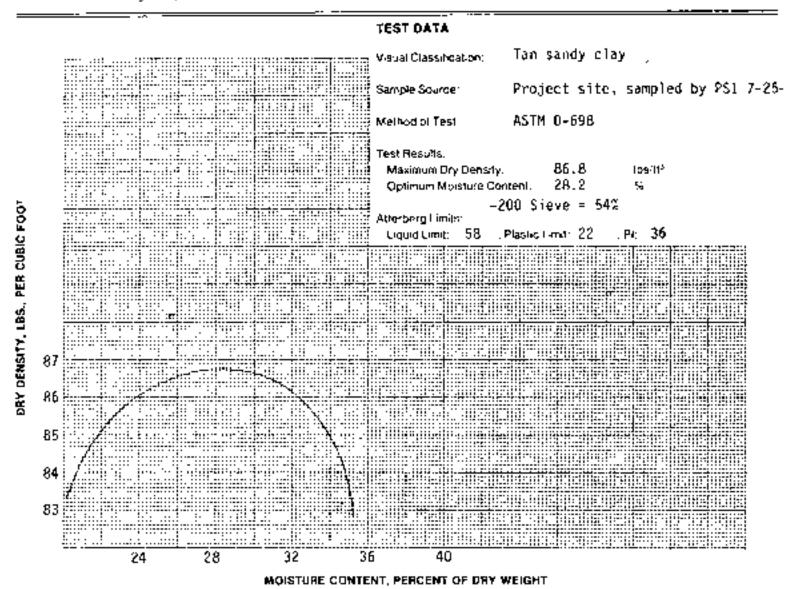
P.O. #26643-032108

SATE

duly 29, 1987

OUR REPORT NO

311-70065-5



(2) Above

ж: /ps

Respectively submitted.

Professional Service Industries, Inc.



Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

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

Post Office Box 280 Jourdanton, Texas 78026

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
	
ASPHALT	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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257	1 / 7 / 7	100.00 N. 901.1	(40.70) (40.70) (3.50)	041(R) (051(N)	61 PLACE (011) (013):-1-	Self Celed Colombic Tricks	Coherent Not =
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 o PERCENT COMPACTION, Based to constant the strongly interest on Neighbord Street by so "Din more

Three Bur would Lane

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3 BASE COURSE

4 SUBBASE

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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)
		–		·
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	BATCH PLANT			
	, PLACEMENT IJO	R SITE)		··································
	-			

BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE: Due to rain over the weekend, V.K. Knowlton was unable to work the area properly. The 1st lift was removed from station 1,000'-1,100' on south slope. The 1st lift was placed once again. No tests were taken on this date. It started raining at about 11:00 a.m. and work on the slope was stopped. V.K. Knowlton worked from 7:00 to 12:00.

(2) Above

Respectfully submitted, Professional Service Industries, Inc.



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Shilstone Engineering Testing Laboratory Division

DAILY FIELD REPORT

FESTED FOR	SAN	M]GUEL	ELECTR1C	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
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 soits	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 311-70065-11

Page 3 of 3

TEST D	ATA: Optinaum	moisture:	(5,	28.2)				
23	2311	30.00	No. 10 Gradue of	.881 m. .881 m.	SQUITE SQUITE	n PIAC(1947 WMS CV	Migration Constantion	COMMENT *
1	07-24-87	lst Lift	5	86.8	28.2	85.8	98.8	1 - A
2	07-24-87	1st Lift	5	86,8	29,2	88.8	102.3	. 1 - A
	 							
		ĺ			<u> </u>			
TEST LO	CATION: SOU	TH SLOPE			•		<u> </u>	

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.
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		-	

NOTES BEASINES FROM TEN Services for the WATER CONTINUE For Continue, we still PERCENT COMPACTION. Bureling research for the

growth, of thinget on loss place to about building

TO SILL MATERIAL

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SUBBASE S SOLCEVENT COTHLE

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

Respectfully submitted. Professional Service Industries, Inc.

Three Burwood Lane

San Aelongi, TX 78216

Phone, 512/342-9377

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 РЦАЧТ						
		PLACEMENT IS	O8 \$1E)					

(な) Above

, d**d**

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		Tes	t	taken	iη	1,800'	-1,900	• Area	ı –	30'	South	of	North	Slope	Å	201	West	of	1,800'	Mark.
Ļ	2	,	Tes	t	taken	in	1,800'	-1,900	' Area		401	South	of.	North	Slope	å	301	West	of	1,800'	Mark.
																				1,900'	

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)

/dd

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Shilstone Engineering Testing Laboratory Division

90-

DAILY FIELD REPORT

	SJIM	MICHEL	FLECTOIC	COOPERATIVE.	TMC DOOLERY
TESTED FOR	SMM	MIGUEL	PERCHANCE	LUUMEKAITYEL	TINU. PROJUGI

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, (appromimately 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

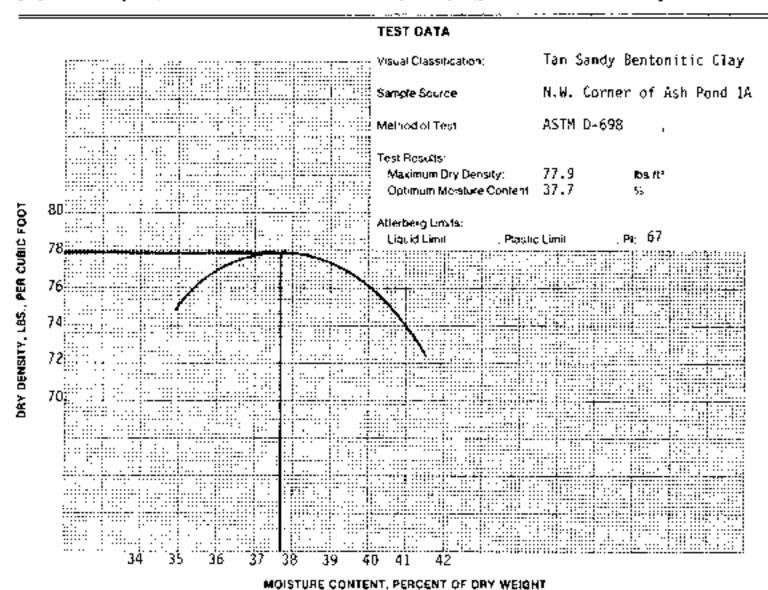
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July 22, 1987

ONE REPORT NO

311-70065-9

Page 4 of 5



(2) Above

/dd

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

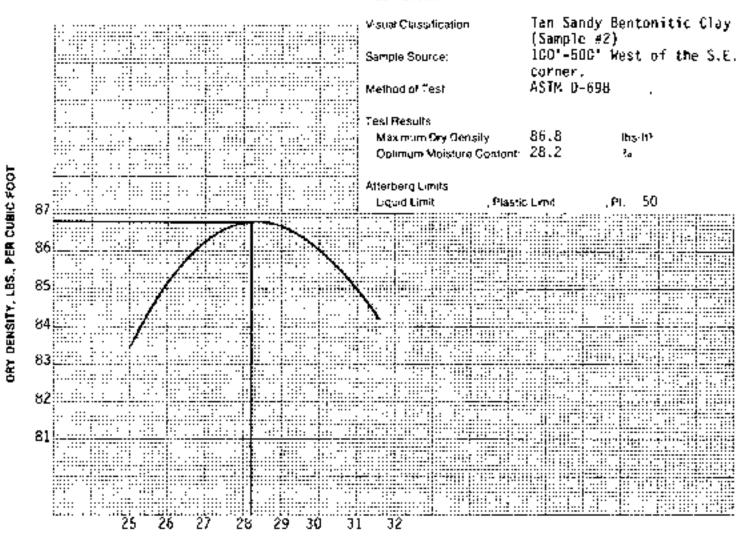
DATE

July 22, 1987

ари невонима 311-70065-11

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)

cc:

(2) Above

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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

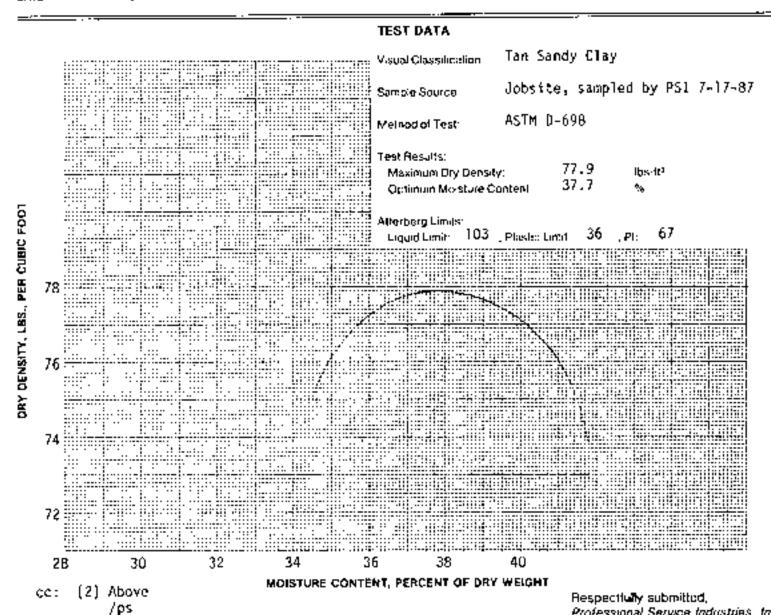
P.Q. #26643-032108

OATE

July 21, 1987

CAITRORSBIRDO

311-70065-4



Three Burwood Lane

San Antonio, TX 78216

Phone 512/342/9377

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

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

Attention: Mr. Clyde Price

PROJECT:

Pond 1A Repair Project

San Higuel Plant

Jourdanton, Texas

DATE.

May 7, 1987

OUR REPORT NO - 311-70065-1

TEST DATA

TEST DATA

Internal Laboratory Control of the second of t

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 MARECI	ION HOND TOUGHNED
\$DILS	CONCRETE
FOUNDAY ONS	BATCH PLANT
X_ CONTROLLS DIFFUL (DOMPACTION)	, FLACEMENT (JOB SITE)
ASPHALY	СТИЕЯ
BATCH PLANT	· · · —
PUACEMENT (JOB SITE)	
	

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	_	a	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	
	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-
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FLACEMENT (308 SITE)	
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Engineer - & HRS.	•

TESTED FOR: Say Miguel	PROJECT: A Parc
DATE 7-27.81	OUR REPORT NO. 73
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PLACEMENT (JOB SITE)	
	
BRIEF RESUME OF WORK ACCOMPLISHED THIS DATE:	Due to rain over the wrekens
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Respectively admitted, 2. Professional Service Industries, In

7-2e-37	CUR REPORT NO. 10 (1)
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Respectively submitted, Forebosional Service Industries,

TESTED FOR. \$2 ~ Nigoel Case	PROJECT! SMC IA POND
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DATE: 7-29-87	CUR REPORT NO.: 3 / (+
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A 300 Section in SME DAY, The	MOGET SPECE - VE KNOW Have Commission

Professional Service Industries.

TESTEDFOR SOON MIGUEL COOP ME	DECT SMC IA PUND
•	
DATE 7-30-87 OUR	RAEPCATINO: 311-
WEATHER: SUNNY & CL	EAK .
TEMPERATURE RANGE 90"	
INSPECTOR G. QUI, nta	nil/a
TYPE OF INSPECTION 8	EING PERFORMED
Soils	CONCRETE
AOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
ASPHALT	çh s a
BATCH PLANT	
PLACEMENT (JCB SITE)	
<u> </u>	
	عس) ۱ د د د د د د د د د د د د د د د د د د
Approximately 1300'-1500'(300's core taken doday. There ALL T 300' AREA WORK 7-29-87 Appl No Apparent Scapage is For 19:00 Auro Finished Mr. 6:00. A	GETTION). 12 compaction tost GETS comply with specs. The ARS TO BE Holding prolly well.
9:00 Auro Finished mr. 6:00. A	400' Station will be Attempted Tomore

Page schildly schmilled. Professional Cervice Industries,

TESTED FOR:	San	Miquel	Coop
-------------	-----	--------	------

PROJECT: SMC 14 POND

DATE	7	- 31	1 – 9	27
	г		-	

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)	

Ŀ

2 3. **5** .

Respectfully submitted, Professional Service Industries,

% A 300 7

TESTED FOR: SAN	Miguel Coop Mariet SMC IA BAD
date: 8 - 4-87	OUR REPORT NO. 311 —
DARE: 85 T G 7	WEATHER: SUNNY & CLEAPL TEMPERATURE PLANCE: 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)
	• —
ASPHALT	ОТНЕЯ
BATCH PLANT	-· +
, 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 prostless to a drug other arca: Inches state 4001-11001424A. You reduction has stated only drained exposure for bottom of such seconds. 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-ticksorr beech a-6770 Clarents 1.1-08 cs. Ducay 5.1 cs. 58% N. Professional Service Industries 3.1-060zakilenebil water text 7. Discourge equipment

S. 1 - COT ITHE GRADER

DATE: 8-5-87	OUR REPORT NO : 311
WEATHER: SUNTY (*) TEMPERATURE RANGE: RC	то: 4.51
TYPE OF INSPEC	TION BZING PERFORMED
SOILS FOUNDATIONS CONTRICLLED FILL (COMPACTION)	CONCRETE BATCH PLAN? PLACEMENT (JOB SITE)
ASPHALT BATCH PLANT PLACEMENT (JOB SITE)	CTHER
and test results complete with speci	look, they will be having 3 make mach of 25 compaction on moisture in STA 700/A Retist 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° 10. 100°

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- STROY KING

Professional Service Indu

7-27	CUR REPORT NO.: 311
WEATHER: SUPPLIED C	Clesic
TEMPSHATURE RANGE: 6	t –
RISPECTOR: (C.C.)	Marila.
TYPE OF INSPECT	ION BEING PERFÖRMED
\$OIL\$. CONCREVE
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JCB SITE)
	
ASPHALT	OTHER
BATCH PLANT	
PSACEMENT (JOB STE)	

Respectfully submitted. Fig. Professional Service Industrias, In

The park You

TESTED FOR: San Miquel

PACUECT: SMC 1A Pond

DATE: 8-24-87	OUR REPORT NO :
WEATHER: Clear	
TEMPERATURE RANGE: 93	1° 19°
INSPECTOR: Keith Ms	W.lliams
TYPE OF (NSP)	ECTION BEING PERFORMED
X soils .	CONCRETE
FOUNDATIONS	BATCH PLANT
CONTROLLED FILL (COMPACTION)	PLACEMENT (JOB SITE)
X In-place density tests	
ASPHALT	ОТНЕВ
BATCH PLANT	
PLACEMENT (SOB SITE)	,
<u> </u>	
prief resume of work accomplished this days. a fee fobsite at 2:20 pm. In-place describe and pond floor. a total of 15 helt the fobsite at 6:10 pm.	presentative of PSI arrived on the noity tests were performed on North tests were taken. Our representative

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 8-27-87

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 DG 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: Co. G. Jakobilla

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

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 At 310 SX3R/C 8.

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

taten today. Pan. 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:	Hone	
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.

З. 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

ጋር ዜቃዬ።

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

Brick Resume' of Work Accomplished on This Day:

Equipment Used:

1. 1- Lichberr Obert 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

ム・スペー マャマペッ・

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 awhiles. 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: タンチャタ5

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 Gradek

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 d 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. I 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 KNOWLEDN 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 remaine 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 ARING A JOHN & the foliowing 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 SOR DN STE TO MANY TOWN 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 we 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, D-6 CA+ do-se 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 with a rely down with materials more within the per of region. 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. 18 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 KE STON FOR AND

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

Daily Field Report

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.

Daily Field Report

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 clayeythan 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.

I Noted that Thomas I all the Hospitalis of the Sound of

The MINISTER AMPLICATION OF RATE AND ADMINISTRATION OF REMAINS OF REMAINS OF THE WAY TO SHE WILL THE WAY THE MAN THE WORK THE WORK THE WORK THE WORK THE WORK THE WORK THE WORK THE WORK THE WORK THE THE OTHER MEN TOTAL STATE OF THE OTHER MEN TOTAL STATE OF THE OTHER MEN TOTAL STATE OF THE OTHER WORK THE OTHER THE OT

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 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 some text at more and point at some in the solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a first at some solid and a first at some in the solid and a first at some in the solid and a first at some in the solid and a solid

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 was 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 taken for motorist my the The year war and in commence to well goodM-ATE CONTAGE AFFER NOVEM KATIL 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. JAN. PROVES POWE 1 48 S. TARING E. 15 TO TO KNOWN 1000E F. MAJE W. FOR KNOWN E. A. FUTWING. APPARA FOR KNOWN SOW 10 KNOWN.

Daily Report

7-30-87

CLIEFT: 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 Knowthen came in later and This matter was descuse 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 Grader

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 Submittel G. Q. intanille/Keith McWills San Mignel Coop - IA Pono ATTEN. CLYDE PRICE

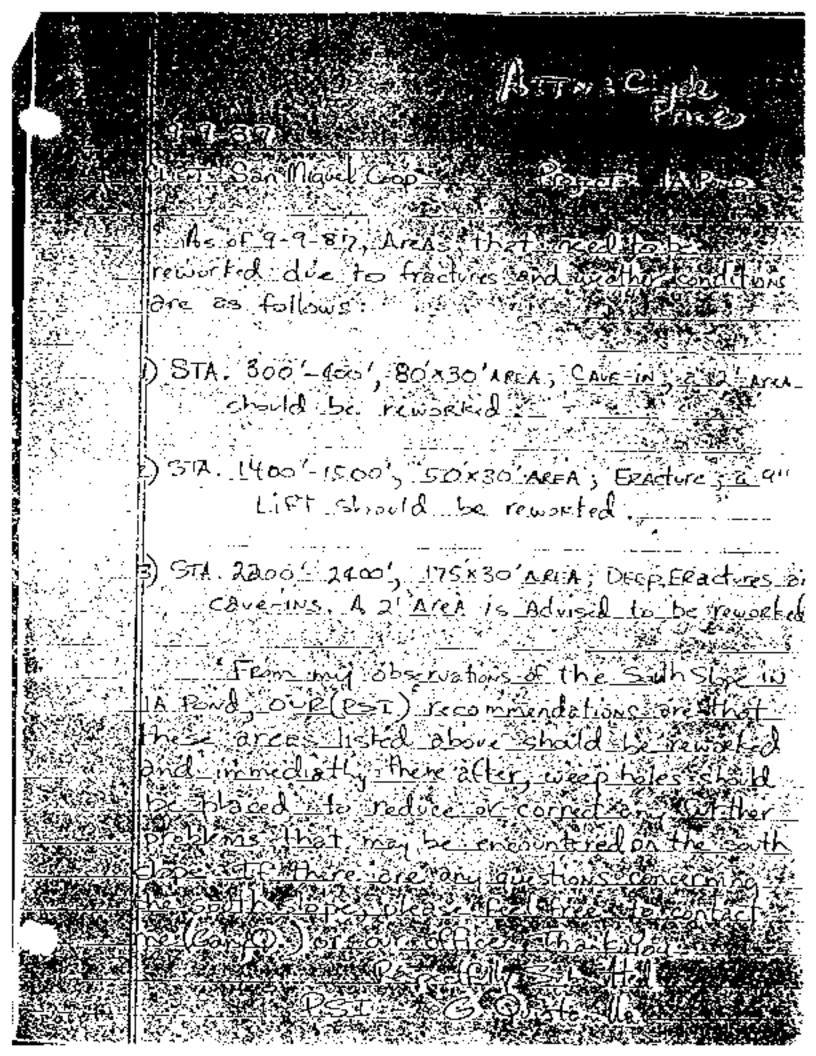
8-27-87

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 inside 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 1. 24/18-

Commence of Marine Commence of the Commence of The second of th .



SEPT. 23.1987:

P.S. I. hap to I hady to the largering the stimula periller in order that show the show should be the show that since synsteader (Sept. 22.1127). One was appeared to provide appearance to find how been placed to provide the provide start from the sound of the sound



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

CURREPORT NO 311-

TEST DATA: O M.	737 77 TENTO 100 100 100 100 100 100 100 100 100 10		Crown Earl May 15M	Ay PunCl prin plate th	PERIOSHE COMPACTION	CDown[at *
1 7.22.87	GRADE	77.9	37.5	74:5	95.6	·
2			293	80.8	103.7	
3 \	V	\V	345	78.8	190+	
		ļ ·				
			[;			
					-	

POND TEST TAKEN IN 1300 -- 1900' AFRA - 30'S. OF YORTH SLOPE BUD ZO WEST of 1800' MARK. W - 40'S. OF NORTH SLOPE BLD 30' WEST OF Zo'N of South Shape and to Gast of TAKEN TO CHECK MOSISTURE CON A RECONSTRUCTED AREA

L	. ــ ـــــ				· ·· — ·		-				
		А		ō		Ð	√ E	F	Ġ	H	1
iest Ng	Prob Cepti			sity ti <u>n</u>	Net Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content		Percent Compactit
1	ß ⊊ "	245	.3 O.	405	\$102.5	2468	0.670	28.00	37.5	74.5	95.6
2		237	40.	372.	1045	413	0.574	23.75	29.3	දිර.දි	103.7
.3	J,	234	18 0.	388	106.0	2406	3 (0.6	27.25	34.5	78.8	100+
									· .		
			<u> </u>						<u> </u>		
i I			_		 		 -	 -	 		

MOTES GENOTIES SHOWN USS before from WATER CONTENT Min Control for which PLACENT COMPACTION, Busines on maximum day density abusines on wangle proceded by say III nomber

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 speci-

Than 12 19

MT 14 A MY P.



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

áo P ộn :	Sar	Migo	ما لم	90	
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1A Pord PROJECT:

7-24-27

3!(-· OUR REPORT NO

EST D	ATA:	37.5	, 7	ε.′⊶				
TEST NO	DaiF	CE O'H ELEV	SOU O MULABLER	EAS ONY OCASIA	##11 P	PARACE DAN DENSITY	PEH CÉM! COMPACION	CGARLENT *
•	7-24-61	P	?	سِنعبِسِينَ فَرَحَ	2 90	878	A 1.	1-4
2	·	N/	V	V	597	G : F	122.5	
		·		,	ļ.			
			[]					

:		e status.	<u> 1200' </u>	1: .	<u></u>	 	
		1_ 5.16					
Ţ.	· · · · · - · ·	- .	. – .			 <u> </u>	

		^		·	D	E	F	G	н	1
Yest Ma	Probe Repth	Density Count	Densi t y Ratio	Net Density		Moisture Ratio	Motstore PCF	Water Content		Percen Compact
1.1	G"	8738	[445	37.5	3312	0584	<u>94</u> ,95	28.2	3इ.ह	qq:
2	1/	8221	1.357	((3×5 [±]	2350	८६२५	2600	29.0	୧୫.୧	102.3
		-		<u> </u>	- -			1.	·	
\$ 	 	 	1	 	<u> </u>	-	 • · · · •	<u> </u>		
' .		1.	<u> </u>	-	-					
L	ree assess	IE IZ IZLAINIMA I I BA		1	 	L MATERIAL	A TEST HE	STILL IS COMPLY	WILLIAM SPECIFIC	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

COILborderina

な ご



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					·—··
#651 #40	0416	OLO.M ECEN	504.10 1 41.466A	# ** ** C ** LAR 59 T DE 45 T **	walen COntent	IN PLACE DAY DESCRIP	PER CENT COMPACTION	COMMENT*
	7-24-€		,,	86.6	\$3.0	8/3	101.7	Maria Light
2		\forall	1.	_ \	93 11	,	13.8	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
							<u></u>	
<u> </u> 					<u> </u> 			·
							<u> </u>	
			<u> </u>					

TEST LOCATION: Cotto Brake Burkeye .

		_ н	ь		Ð	E	F	G	H	ī
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}	1 597	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
							-			[· ·
	· · ·	 						1.0		
	<u> </u>	1								ļ
' . 	 	 	<u> </u>	 		<u> </u>		 		
NO:	ES DENSIT	IES SHOWN LOS	per cubic luot		, Fa	LMATERIAL	A TEST NE	S 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 **B**ACKFILL

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.



Professional Service Industries, Inc.

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	ATA:	22,2						;
MG 15 21	ΔΑΠ	CALDIAN ETEA	SOC IO MUNICER	DEAZHY DESZUNA	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	97.9	<u> </u>
4					31.9	<u>ئ</u>	୨୨.୦	
Ξ		1			32.9	85.0	97.9	
6			V	V	33.1		98.2	
TEST LC	CATION: 45014	74 SLO	PE.	61A. 900) – 10 <i>00</i>	ا-قىدا ر	وال و النا	0 - 1200 1200 April
. !	25"WEST 0							PERDAY
	70' NEST	_ე — წ⊤A	. , Gai	o, gvy so	i fesh T	12 ಸಂ ಎಂ	°FC	
3	301 WEST	of STA.	80	ລ, 3″ ເລ 3∢	01 F20m	mosted_	of slop.	e
4	20 EAST	ofista.	Ros	o' amn a	W Feam	Topof	sbpe	
Ţ	to wear	of 57%.	HER	o' and 10	feem.	8-st-ton	عجملت کہ	_
ζ-	25 E2€T •	of sta.	ريا	o' ans 3	o' February	126-of	epotro-	

			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



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

ILLIEDFOR Saw Miguel Cop

PROJECT. SNC 1A POND

DATE: 7-29-87

3 € (~ OUR REPORT NO

TEST 0	PATA: DATA	28.2						e . vv=					 .=
TEST HO	DAT		0÷81×	FETV	SON, CO MUNICIPAL S	MARSHUM DISHOPAY DENUSY			PAPE DE LOS PO CORAS EN	200.00	ENT CTADA	COMMENS *	$\neg \neg$
7	7-27	-87]57	LIFF	?	86.8	31.	7	82.8	3 95.	3 1	- /	
පී							31.	9	845	5 97.	3		
9	<u> </u>						31.	7	85.	<u>o 99.</u>	9 1		
10					 -		3.4	5.	840	0 96.	<u> </u>]
11							307		<u>83,0</u>		.6	· .]
12	1 11		V	/	\bigvee	<u>V</u>	33.		84.0		スレル	<u>/</u>	
1E51 L	OCATION:	<u> 50u</u>	<u>_+</u>	<u> </u>	<u> 고</u> 은	514 . Gor	<u> </u>	<u>' (3</u>	ე <u>ე</u> ' <u>გ</u>	REALDA	Y/		
7	2						Franc l				_		
۱ - _							er from						
9	: -						'ڪا آف			_			
10	೩೦⁺೬	[Ash	აი	STA	\ ·	ااعت ' <u>څ</u>	اسط عن	(¢ k	om 4	Percentage of a	Sbpe.]
1.1)	501	WES:	7 ع	(- <,7	Α.	<u>[[35]</u>	عب <u>رط</u> ع	5-1F8	2 <u>J</u> w.	والوحا	~ o€sla	<u>P<-</u>	
12	lo¹ €,	As⊤.	o¢	57/	4. ا	20016	1~15 35) F.	eum.	اه دون	حامود		
	_	н		0			D	Ē		F	G	н .	İ
iest	Probe Depth	Densi Count		Densi <u>Rati</u>		Ket Density	Moisture Count	Molst Rati			Water Content	Dry Density	Percen Compact
7	6"	8 51	4	! 40	<u> </u>	1090	2097	0.6	29	a6,25	31.7	92.8	95.
8		808	32	1.33	; ; 	14.5	ଲାଣ	0.6	50 {	27.00	31.9	84.5	97.3
9		80	39	. 32	13	112.0	2169	0.6	51	27.00	31.7	8 5.0	97.9
10		78	71	1.29	î	[]30	2310	0.0	£13	29.00	34.5	84.0	967
łı		745	70	1.31	ž	112.5	2351	0.1	106	2950	35.5	83.0	95.6
112	W	793	31	1.3(ا ما(112.5	2265	0.6	80	2850	33.9	84.0	196.7
NOT	FS DENSITI	ES SHOW CONTENT	N LOS	ger cur- ent of ce	c feat y weigh			CKFUL	II/L	A TESTRES B RECOVE	STLES COMPLY ACTION REQUIR	WATH SPECIFIC SED Care	ATIONS 2772

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

3 BASE COURSE



Professional Service Industries, Inc.

Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

... Dron San Miguel Cosp

PROJECT: SMC_ 1A POND

DATE 7-29.87

NEW PROCTOR OUR HEPORT NO 311-

7EST D	ATA: O.M.C.	28.2			··. 			
ELSE No	DATE	OLDIN FTA	SOL O MUNITIFIE	Marketyte Leg CAY CENSTR	#A16 B CO47FAT	# PLACE 044 044 06NS/FY	1000 A34 1001 300 A34	EGWNENT *
13	7-29-87	2nd Lift	۲.	ଟେ ଓ	31.2	84.5	97.3	1-A
14-					32.5	83.8	96.6	
15	<u> </u>	<u> </u>			33.7	83.7	965	
طا	<u> </u>	<u>i</u> ,			31.2	83.7	96.5	
17					32.7	83.3	95.9	
[8]		V			33.1	83.6	96.4	1 V
	CATION:	<u> OUTH </u>	<u>ج اح</u>	FE 600	<u>-1200</u>	<u>' (300</u>	<u> AZEA</u>	/DAY/
	25 WEST							_
1006	<u>দ্⊙'∈∧÷ে</u> ∘	of Sta	. 10	22, 924	رويوع أديا	و++درا ب	ope 06 5	
<u> 15 j</u>	451WEST	475 € على	. 1	500, gMq	351 Cress	~ T3p 36	્કાના ક	
160	401EAST	ري €ت	Δ.	1100 and	ا کی و	Fron b	ott~ m. o	
[7	35 WEST	- _O F 5-	гΑ.	1100' BM	۴ کی ا	ROM TS	p of \$ 10	PE
18	4 5 ′ £743 7	of s	<i>7</i> <u> </u>	المن من ا	اعا لي	From 15.	o metho	Eslape
								<u> </u>

		А	D	Ų	Ď	<u></u> ξ	F	G	Н	1
ĭest . Mo.	Probe Depth	Density Count	Density Ratio	ket Density		Moisture Ratio		water Content		Percent Compacti
13	G	કેટ્લા	1.345	110.5	2085	0.626	2600	31.2	84.5	97.3
(4		8/90	[348	111.0	2175	0.653	2 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	83 8	965
17		8250	1358	110.5	2183	0.655	27.25	32.7	83.3	95.9
$\int \! \mathrm{tr} \omega$	W	8135	1339	1115	2205	0.662	27.75	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 5 SOIL CEMENT

FILE MATERIAL 2 BACKFAL 3 BASE COURSE 4 SURBASE

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

E. Meisture balow speca

TRA. A.D



Professional Service Industries, Inc. Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

... coron San Miguel Coop

SAC IA POUD

7-29-87 DATE

OUR REPORT NO : 311 -

TEST DATA: ONC. 28.7.											
12.31 NO	CATE	DE ITH ELEV	SCAL NO LAR DRY NUMBER DRIVERS		BAIÉM COMIÉM	M PLACE DRV DCYSITY	PER CENT COMPACTION	CD4445 41 T			
(<i>-</i>)	7-29-87	Fwallia	٠.	ଟ େ. 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	$oldsymbol{psi}$	$\sqcup \mathbb{W}$	$ \mathcal{M} $	W	30.7	83,8					
TEST LOCATION: SOUT IS SLOPE MARON - 1200 1300 AREA DAY											
	30'WEST of 5-A. 900' 8~0 20' FRIN Top of Blops										
1	20'EAST OF STA. 1000' BND 15 FROM Bottom of single										
[2]	10 WEST OF STA. 1000 AND 20' FROM topof slope										
<u>ZZ</u> .	40 (East of STA. 1100' AND 25 From button of slope										
Z3	55 ₩ 5 ≊	er o(-	STA	<u>, ((35/</u> 2	<u>را ⊂ي∽</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 1			

		A	D	L	D	E	F	G	Ħ	I
lest No.	Probe Denth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	_ :	Water Content	Dry Density	Percent Connacti
19	6"	7842	1291	113.5	2240	0.678	28.50	33.5	ଟରେ ୦	97.9
20		7890	1.370	110.0	2305	0.692	29.00	35.8	81.0	95.0
2		7954	[.309	112.5	ZZ54	0.67უ	28.25	33.5	84.3	960
โฉว		8032	1322	112.0	zl93	0658	27.50	32.5	84.5	97.3
23		ଞ୍ଚମ	1-414	108.5	2035	0.611	25.25	31.3	83.3	95.9
1a4		8432	1.398	09.5	2000	0.618	as.75	30.17	838	96.4

NOTES DENSITES SHOWN LOS DE CODE TOCE WATER CONTENT Per Cent of dry weight 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 6 , 041	_			
TEST O	ATA: 2	182) <u> </u>								==
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	1		!		32.1	825	95.0	ì	· _	
6	\bigvee		W	V .	304	85.5	98.5	W		
TEST L	DEATION. ST	90,40 G	LUPE	<u>~ 1300'r</u>	1 <u>200, i-</u>	3.42 D.E.E.A	ŢŸŖĸŢŢ	—	 	
<u> </u>				د ان3 دیس ≙ ′						[
7	401 WEST	∵್ಕ ಕ್ರ	! - ! !	لام مهل الدنب	45160	ارداء مدد	1000 66	5 300		
3	25 665	,	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.	150012	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	$-l_e^{\gamma^{i}}$	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	82.5	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.

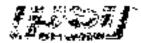
2 BACKFILL 3 BASH COURSE 4 SARRASE 5 NOIL CEMENT A TEST RESULTS COMPLY WITH SPECT CALIDAS

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 -

TEST C	DATA:		. 28.	2	-			<u> </u>	 -	 -	 .
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9.			V			33	_		5.5		
10			Figul	11		32.	rio-nidi		, , 3	<u> </u>	
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!! 12-		<u>₩ 6 > 1</u> 1580 €	S (4	<u>> 1 4 -</u>	1400	<u>2md</u> 2md	3. FE3W	<u>۱۲۵۲ د ۲</u> ۵۲ ساس	<u> </u>		-
. L <u>. ' -</u>	1.62.	AN SI	0, 21	ъ.	100	2	<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	Macer Content	Oensity	Percent Compact
7	G"	806	.3 1.3	27	112.0	2127	0.638	26.50	30.9	85.5	18.5
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	: / .	37		Bills	J. 13			1	25.3
IV.			.:	3 1.		25.04	3.7		77.4 ₁	-,	970
	V	.7 @	"- I - '	.3;:	1.4	2!;	\$ 3000		·		2.5
\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	32:41	7. J. J. J. V.	
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3	45 W.37.7 -	5 5°4. (ای ید	A 60 96 3	eriose <u>Po</u> lor	. "	್ಷ	<i>.</i>
+	Karasti k	्ट म्ह	=	<u></u>	_	_	·	···
٦.	3 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	-	r	Ģ	rı	4
	Test No.	Probe Deuth	Density Count	Density Ratio	Net Density		Moisture Ratio		water Content		Percën Comba c li
	1	6"	7899] 300	112.5	Z\$23	0.637	્રદ ક 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 PLAN	WORKSHE CIE O	MIN COND

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

FLIRCENT COMPACTION: Base the minimum dry density obtained go reargh, observed by self-to-maker.

2 BACKPUL 3 BASE COURSE

4 SOBBAS; 5 SOLCEMENT 6 OTHER A TEST OF SECTS COMPLY WITH SECUR CATIONS
B RECOVERACTION PER DIFFURE ART A TEST OF SECURITY AS THE RESECUTIVE OF THE SECURITY

D. MOISTHER IN SACES 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	 -	f=		- 		·		28.2	<u> </u>	ATA:	TEST D
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32.1 85.5 96.5 12	- <u>A</u>	[96-1	23.5	₹0.5	ଷ୍ଟ ଓ	?	St Life	1-87	7-31	7
	<u> </u>		98 E	६६६	317			Zano Laft			8
	<u> </u>	<u> </u>	୍ବର ଅ	3.28	1.58					L	9
	;		୩୫.ସ	৪১১	321			W/	<u> </u>		! :
			950	€2.5	33.9			Final	Ì		1.
7 50'25 10 57 57 52 5 12 3 3 1 3 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5	/	\				\mathbb{V}	$ \downarrow \rangle $			$\mid \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \; \;$	12
7 65 5.7 3 36 50 A. 13 30 A. 25 John Barry 66 25 1 3 1 3 1 4 3 1 4 3 4 4 4 4 4 4 4 4 4 4			CAY	4 AMM.	1.1.)3	13 miles	<u>∟∂~(</u> 5	<u>u žiri St</u>	<u>"</u> \$₽	CATION	TEST LO
1 701, 01 2 31 51 A. 13 50 A. 25 A. BARRA 652 A. 13 70 A. 13 A. 13 A. 13 A. 13 A. 13 A. 14 A. 15		 ,	5 8/22	<u>,. </u>		<u> </u>	27/5	0-5	Page 1	50	_2
10 15 NOTE OF SEX 13 MILES 13 15 FROM BUSHOW & C. M.	.•	<u>:</u>	رکی رود	- 1.40 (12)	Z.5	ji <u>g 57.</u>	<u>ο Α.,</u>	<u> </u>	1, 5 ,	65	7
1 50 WELL OF - 1921 PROJECT FROM 18 18 - 18 18 18			<u> </u>	un þ	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.		.	•	as For	42	17551 <u>a.</u>	6	166	₩ 6-27	50'	3
A B C D E F G	H		G	F	Ξ.		·.		<u> </u>		

		_	7	ь	•	D	ε	F	G	H	I
	le st Un		Density Count	Density Ratio	Wet Density		Hoisture Ratio	Moisture PCF	Nater Content	Dry Density	berden Comnact
	7	6	85%	1403	189	207	0.61	25.50	20,5	93 <i>5</i>	96.1
		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 2 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 5 .

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 CAST1		A (147 41 Oc VS		CENT WCHGN	COMMECT *	
13	7-31-5	<u>⊘</u> Γ•		868	9 335	81.	· 5 35	.3	1-4	
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	<u> </u>	[
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	Probe IDei	A isity I	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	
` 	Depth Col	sity	Density	Wet	Morsture (Moisture	Moisture	Mater	עיזע)	<u>රි</u> කතෘ
"	<u>Depth Co</u>	sity nt	Density Ratio	Wet Consity	Monsture (Count	Moisture	Moisture PCF	Mater Content	Dry Density	<u>රි</u> කතෘ
^	<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
^- 	<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	15, 28.2)					
FEST MO	34,1	TEN EIEA	SON IO	₩###### LAG GAY DL \S-FY	MAIFR COMIENT	PH PLACE QAP QENGIN	1930 A44 HQ1049400	CDANENT*
١	8-3-87	GRADG	5	878	30.9	83.3	95.9	1 -) .
2			1		30.8	86.0	9920	
3					30.7	84,5	97.3	
4		<u>[67 Lif-</u>]			30.8	84.5	91.3	1-A
5	İ	ļ	1		33.3	82.5	95.0	
6	V	$ \psi $	$ \downarrow $	V .		84.3		
TEST LO	CATION: 9(*)	1774 SLC	'nΕ	<u>1900/15</u> 2	2[[0:57]]]	(300 sec	7 20 / D	57)
	35 ზ,ლგ⊤ა							<i></i>
$+\eta$.	45 ¹ 6.55 ⁷	66 SVA	. 29	<i>∪၁1</i> 2⊬p	25 G	J. 155+3	Ç)	
12	60 WES 6	c (- S-	λ.;	د:۸.۵ ۲۵۵۱	35' F	Kara for	, <u>000 esc.</u>	P.C.
4	65 NEST	ر4 £1.	- ।५	201 Jun	ეა! £r.	الحراج المرا	T., 369	5107C
5	70 VIEST	of Sta	. z	ass' देख	451 600	· +57 .	عودای ک	s
عا	20 NEST	5F S5	4. 2	<u>و،6 اددا</u>	25"(um botto	r. 04 sl	γρ <u>α</u>

			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	96.0	99.0
5	1,33		8395	1.382	110.0	z 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	$\Gamma \Gamma$	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 Sau Miguel Coop

PARLIECT SMC IA POND

DATE 8-3-87

1

OUR REPORT NO : 311-

TESY O	ATA: C	28 رکن ۱۸	3. 2		***=							==
NO NO	6216		ELEY	SOL IÓ AUMURH	CE 4/9	a⊤ ~~	ATER NEENT	N ACA DAN DEVIS		PICENT PROTION	COPPLINE T	
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 $	$\perp \underline{\vee}$, ;	a ';		· <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	1F 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	
; ;	15' w	PUT OF	STA.	2	000/ 2	nd 30	fee	mto	o of st	0.De_	l	
12.	101 W	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	н Н]
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. 12	``,	Ż,	
ΙÌ						 		- -		-		٠.
112	V		 	,	,		1			-	3.4	
NOTE	WATER (PERCENT S	S SHOWN TE CONTENT POR COMPACTION Analy estates of ID number	Cent of di IN Busing of Polystings	, 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	13



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	EVEN	SOU TO NE-POPM	BARRACH LAD CRY DE PERTY	MATER CONTINE	M PT AGE 244 DE452FY	PERCENT CEMP+CTICN	COMMENT 4
1	2-4-87	GKADU	1,1	୫୬୫	35.5	3 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	\		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"
-)	25' WES	۵۳۶ کی۔	. 25	sol hours	T Films	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 رو جا	spc_
વ	I			2475 / B				•
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6	15 WES	7 06 5	7 4 .	2300/ S	2 NO 2	ರ' ೯೪ _{೮೫}	top of s	فالهجف
							- ,	: tr 1

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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	!! a \$	2139	0.642	2675	31.3	85.3	98.2
,3		مودي	0.837	!!2.C	2175	0.453	27.25	. 32.1	84.8	97.6
4		5770	0.851	1:10	2013	0.628	2625	30.9	84.7	97.5
5		5347	0.880	109.5	2069	0.621	26 ∞	31.1	835	96.1
10	V	5379	0.885	109.5	1	3.3-0	26.00	31.1		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)					
12 ST ND	0A1F	Storm Storm	We CANCED	Warted CChrent	M FLACE DRV D(NS) FV	PERICENT COMPACTION	0000441
7	8-4-87	1-5-110- 5	8.38	31.3	94.5	97.3	1 -A
8				33.3	84.0	96.7	
9	<u></u>	عريم لناتا	<u> </u>	33.9	83.3	95.9	
10			<u> </u>	31.5	84.8	97.6	
1				33.1	83.8	96.5	
121	24.00		<u> </u>	30.7	85.0	97.9	
7	451 030	T OF STA	. 2404/ 2	<u> '⊃i -5</u> 54' '`⊃ -1:2'	हुष्टर प्र अस्टिर्ड्डियड	10/25 : 44	1 8345 - 2475 <u>- 1</u>
6	20/ Nake	<u>ь об</u> 15°А	2475 a	<u>~d</u> 05	Fron 1	<u>ان ۱۳۵۳ کا</u> ان+شان	. 51400. . 6 0 300.
<u> </u>	<u>60 6000</u>	o€ 5-4.	<u> </u>	් පි≎්	[837 +c	ے کہ جو	lape_
ا ت: إ	<u> 15</u> <u>9.667</u>	<u>ي:</u> حج - <u>۸</u>	2300/ 4	nd 40'	Fran to	داع کو ط	<u> </u>
i i	701 WSST	<u>- د</u> ٠ م <u>- ت</u>	4. 2400' 2	<u> 1.4</u> 24	of France	Jetted .	of 5/200
124	<u>35' 0927</u>		k. 2475"	a-d 4	5" Fizux	ره ÷ادط_	ر وح جامعو
7		D	·	D	E	G	н´ 1
lest	robe Densia Denth Count	y Vensity Ratio	Net Moi	sture Mois	ture Mo)s	ture Water	r (Ury Perc

٠.							U	Ľ	1-	G	H	1
	Test Un	Pro Den		Density Count	Density Ratio	Wet Density	Moisture _Count	Moisture Ratio	PCF	Water Content		Percen Compact
	[-]	2	, "	5 147	0.847	111.0	2124	3.333	2650	31.3	84.5	97.3
١	ଷ		·	5'ರಚನ	0.837	مداا	223	0.670	3800	33,3	84.0	96.7
١	jî,		 .	5132	O-845	111.5	2262	0.679	28.25	33. 9	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		•		9 8≥।	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	OATE	3670	ELEV SOL		wate conte		V PER C		COMMPAT *]	
	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		30.	7 83	8 96	5			
	16		\V	/		32.5	5 83	.7 96.	4			
	17	<u> </u>	3 /	40-	[36.5	7 84	3 97.		_å		
	18	LV	File	لإللف	1 <u>V</u>				<u></u>]	
Ţ		OCATION:	<u> </u>	Sacrific 1	<u> </u>	8 888 W	<u>∞2 17375</u> - 173	<u>Sed7304)</u>	(fcc, 24: 2	201 2301 -	247 <u>5</u> 12	
-	13	1			<u>യ′ മ∞</u> ർ .		-					
1	14	1			<u>c'</u> á'≥₫							
L	15	50'10	. شي سيري	<u>1174 - 23 -</u>	x1 201	40' 42,	m top.	6F 5/095	<u>:</u>			
					37712					1.		
	.17	15'W	est of:	57A, 120	oc′ and	ويت اسس	1.02 bo	++02-0f	5/070			
					3001 as			1 .		A2		
١.			Α	D	·	D	Ε	F	G	н	1	
-	est (<u>Depth</u>	Density Count	Density Ratio	Wet Density		Moisture Ratio	Moistore PCF	Water Content	Dry Density	Compacti Compacti	
	13	6"	8550	1.408	109.0	2072	0.622	25 75	30.9	93.3	95.9	
Į	14		ે33≳હ	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	838	965	
2	(&	$\overline{\mathbf{A}}$	<i>ह</i> । (3	[,344	111.0	2190	0.657	27.25	3 2. 5	83.7	96.4	
; [ל	œ	5186	0.854	111.0	2]4:	0,643	26.75	31.7	84.3	97.1	
_		61		·]	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 iridustries, 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	ÇAT	DEP	TAC'	SOL ID	LAB DRY DRYSTY	#417 COA10		ACE PRIV	ACTION	_	COMMENT *	<u> </u>
	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>	ــــــــــــــــــــــــــــــــــــــ	$ \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	.6 00	and a	o'Crox	1 Botto	» 6FS	lope.	<u>.</u>		
{2	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	. É	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) /

 -				x=		·•		·			
TEST D	ATA: ON	1.C./5,	28.3)					,		
163r MD	4472	DEPT	in,	SOK 10 NUMBER	DEWZIEA Free Deux Americalitie	WATE CONTE		y FRM	ric richt CENT	COMPERT*	
7	8-5	-87 2.	97 ^t	5	86.8	31.	9 84	,5 97,	3	_A	
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	* :			
12	$\downarrow \psi$		/	Ψ	L W					<u> </u>	
TEST LO	CATION:	SOUTH	SLO	rt 1	<u>(544.60</u>	n'-900'	<u>) (30415)</u>	ع / سن ۲ عم	<u> </u>		
7_	85	West	of s	πA.	600 2	and 4	0' FRUM	1. 15041	or~ o∈	SLope	
ା ନ_	201	West	οF :	STA	7001	and 1	51 C00	m 60t	tom of	slope	
Ч_	18'	West a	of s	TA.	8001	and	45' F	Purc be	Hon o	FSlope	
ĮO	151)	NOSC C	<u>(€ 5</u>	TΑ.	6001			<u> </u>			
p	32,	west o	۴ 5	<u>ΓΑ.΄</u>	100' <u>a</u>	nd 35	-1 6pm	~ bott	omof	·slope	
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	Water 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
10:	Ĝ	€ 226]. 35	<u>-</u>	1	35.00	0.00	8800	<i>1</i> 200	<i>ब्रह्म</i>	i -
14	\$ 1.00 \$	7900	1.3	, . 7		0.09	A 1, 11	13 1 2 1		77 	7, 3
٠,٨	W.	8220		63		4	2.77	20	1 1 2 1	12/2	
XVOI	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 LESYS

DATE 8-5-87

OUR REPORT NO.: 31

TEST D	ATA:	<u>a</u> m.c.	÷١	<i>5,2</i> 8,	2	}			•				·
TES?		D74E	DEP	ELET	30 M,M	. 0 +64		AUGAJU AB DAY RHSTY	WAPEA CONTENI	PR PLACE PRY DEASTTY	PER-CENT COMPACTION		COLAMENT A
	8-1	5-87	ĞŘ	YDE	5	-	90	. 8.	35.7	82.5	95.0	1-	-A 2. 12.
(c)	•	1							32.1	85.5	98.5		•
3			,						33.5	82.7	95.2		
4			/s	τ[₁ ξ+					32.5	84.5	<i>9</i> 7,3		
5		l							33,0	82,5	95.0		.
[6]	\	V	1		V	/		/	34.1	82.7	952	Į Ų	/
TEST LO	CATIO	•: P9:	10	FLOO	F	C 5	وتزير	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

				д	Þ	L.	ט	E	F	G	FI	Ţ
	est Ma	Pro Des	obe oth	Density Count	Vensity Ratio	Ket Density	Moisture Count	Apisture 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
<u> </u>	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			5347	0.883	109.5	5180	0654	27.25	33,0	82.5	95.0
,		$\overline{\lambda}$	/	5 254	0845	(1110)	225]	0.616	28.25	34.1	3271 WITH SPECIFIC	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]	ነላው ነ 5μ	454 I									
rest MC	D4:	E 00'	FUTV	500,10 M,10 0 (A	557400 A0 087 084517			, l -:	ANYCLOP SwcFW:		COurse(est *	}
7	8-5	-87 G	PADE	c	868	32.	3 89	5.0 9	7.9	1-	-A _	
8	<u> </u>					37.	5 85	3 9	8.2			
<u> 9</u>	1 1			_		31.	3 86	0 9	9.0			
10		<u> </u>		_		32	<u>4 85</u>	0 9	7. 9			
11			1	+		32.			67		· · _	
12	DCATION:	<u> </u>	ĂΠ	<u>V</u>	<u>V</u>	<u> </u>	· -		6.7	V,		
7	7 TT 11		C.C.1.	<u> 2</u> 00	<u>مرواده د</u> از برتی ۱ ۵۰	2014 25 PM		<u>-2400′</u> ት⊹⊵	'}{ '}'	<u> 600 </u> 	Z Diapa	
Ŗ	1					3 rd 10)	المارية الرائم ك	. 	
Ä						(31)						203.
10	1					art -						— - ·¶
[]	35'	vest c	of ST	1 1	2 <i>400 4</i>	erd as	5'N. F	Police +	. ستعد مهرسا	of s	noth s	lo D⇔
15						2×4 2						nDe
 1		A	<u> </u>			D	Ε	F		ì	Ħ	. 1
les t Na.	Probe Neath	Density Count	Densii Ratio		Ret Density		Moiscure Ratio	PCF	e Nato Cont		Density	Percent Compati
7	8	4995	0.82	0	112.5	2190	0.657	27.5	0 37	1.3	85.0	97.9
<i>می</i>		4935	0.81	2	113.0	2210	0.663	27.7	5 32	1.5	85.3	98.2
8	1	495	0.8	315	113.0	2165	0,650	27.0	31	.3	86.0	99.0
? O		4971	0.81	8	113.0	2235	0.671	28.0	0 3	2.9	850	97.9
Ι)	\prod	5121	0.8	34 Ś	111.5	2198	0,660	27.5	0 37	.7	84.0	96.7
سور [V	5065			1120	2235	0671	280		3.3	84.0	96.7
NOT	ES OFMS-III	SSHCWYLI	užbek ciπek	1001		. 1 64	LMATERIAL	A TEST	RESULTS (JOMPLY1	WITH SPEC FIC	A1ANS

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 -

STLOCATION: SOLET SLOTE STE GOVERNMENT OF THE STATE OF THE STE GOVERNMENT OF THE STATE OF THE ST	1851 NO	241		DEN CIEV	10 (0 40 (0)		W416 COVII		, , , , , ,	ACTION		CD44(41 *	
Refer to the Total Art Property of the Property Count Ratio PCF Content Density Count	<u> </u>	8-9	167	PP-re	<u>.S</u> .	8%	// 3 2.1			1.5	1-	AC_	- <u>-</u>
Refer to the first of the first	_ <u> </u>		-										
Refer to the term of the term				···-—									
Refer to the total of the total						<u> </u>				\Box			
Refest of That # A Property of Parties 100 St. 100 A P D E F G H It Probe Density Density Wet Moisture Moisture Moisture Mater Dry Pero Depth Count Ratio Density Count Ratio PCF Content Density Comm	<u> </u> ST LQ	CATION:	. <u> </u>	ئىرىلىك ئىرىلىك		<u>₹#</u>	201-9						
A D E F G H At Probe Density Density Net Moisture Moisture Moisture Water Dry Pero Depth Count Ratio Density Count Ratio PCF Content Density Comp	<u>, </u>												
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero n Depth Count Ratio Density Count Ratio PCF Content Density Comm		No.	re-37 1	70 /	~~~	# 1-1 /	ሳተ ፈ. ነ	N, 15, -0	(な)とん ラス	. 5.	4 17.1		
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero Depth Count Ratio Density Count Ratio PCF Content Density Comm	\dashv	jî ve 1	<u>(63)</u> (УL{		* ~ / /	<u> </u>	,	<u>~~/_/</u>	, <u>5,</u>	<u>4, 12-)</u>		
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero n Depth Count Ratio Density Count Ratio PCF Content Density Comm	<u> </u>	j£v-i	<u>res)</u> l	уг 		# d (<u> </u>	<u>~ ~,</u>	<u> </u>	, 57,	<u>4, 17-)</u>		
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero Depth Count Ratio Density Count Ratio PCF Content Density Comm	-	<u>f</u> [v]	<u>(65)</u> . (У.Г . <u></u> {		## c/ (<u></u>	, <u>17.</u>	<u>4, 72,</u>		
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero n Depth Count Ratio Density Count Ratio PCF Content Density Comm	-		<u>(63)</u> 	?.г . <u></u> .		<u> ₹= c/ (</u>		<u>~~~</u>	<u> </u>	<u>, Σ.</u>	——————————————————————————————————————		
st Probe Density Density Wet Moisture Moisture Moisture Water Dry Pero n Depth Count Ratio Density Count Ratio PCF Content Density Comm		Alve i	<u>res]</u>).[! 	<u></u>	- #== c/ - (<u> </u>		, <u>17.</u>			
n. Depth Count Ratio Density Count Ratio PCF Content Density Comm		Alve i	<u>res]</u>	?.「 . <u></u> .	<u></u>	- #= c/ (·	<u> </u>		, <u>17.</u>	——————————————————————————————————————		
	-									G			-
	n kr	Probe	Density	Densi	 ty [D Moisture	— — E	F	G		Н	Perc
	, 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	Perc Comm
	, l 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 5301 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 30,1 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

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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 PSCUIPED
- 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 COM	PACTIC	ON TESTS	S			
i E	в FOЯ: С	5 MC			PROJ	CC1: '	ΙĄF) PHI	•		
DATE	- · [—] · —	-e7	4 <u></u>	· 7	OUA -	REPORT N	े 3।	ί –			
TEST (5,28.	E MARINETA)	M PLACE	T	CEST		
<u>-</u>	1	OC - T	17 H	En DEMONTY		EMF	SC4SIN	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	.	ļ
<u> 8</u>	 V		<u> </u>	<u> </u>	31.	<u>, </u>	85.D	ঀঀ	(1)	<u> </u>	
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<u> </u>				 	 -	- .					
1E57 L	CCATION:	J	<u>TH 51</u>		/ !400-6	<u>ا را</u> رو	1/200	SEC	7516 J		<u>!</u>
7	75	West	CF. STA	4. 4co'	and	151	ROM	top	of 5100	 K	_ :
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ł			•		•					1 OS = =	
· · · · · ·		Ä	b	L Track	D	E	F		G	н	1
Test No.	Probe Penth	Density Count	Density Ratio	liet Density	Maisture Count	Retio	PCF		Water Content		geword. Neuce:
7	6"	: 5	1000	٠	: •	/	· .		70	s	
B	J	1.6	1. 9						9 .		_
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<u> </u>		<u>ļ </u>	<u>. . </u>	<u> </u>	<u> </u>	<u> </u>			<u></u>	<u> </u>	
		}					ĺ		' '	[
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			-	<u> </u>	 -	-	 		 	 -	<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 SF, CCL/RS	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)		·		•			- ~=
1657 40	041		ELL?	SON D MAIMAS		## [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.				/	f
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1	_ 25.	W 6/2 1	<u> </u>	A		<u>10d. 30</u>		on toe		1 <u> </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	on 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 sl	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	79	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

GOFOR 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	(E 069°	E:EV SCA		, g war	t		CENT 4CTISN	COMMENT.	
7	8-6	<u>-87 [[5]</u>	րկգի 5	86.8	30.	9 85	5,5 98	.5 1	- <u>A</u>	
8	<u> </u>		<u>\</u> []		32	9 89	5.8 98	8	<u> </u>	f
9				<u> </u>	<u> </u>	3 89	.0 97	9 1	7	
10			1764	┷		<u> </u>				
11,	<u> </u>									
12	$\perp \lambda$		<u> </u>	LV		<u> </u>		1574	_	
TE5T L	OCATION:	<u> </u>	Floor (574. 171	221-240	01 8 20	(Spetton)	(Tabo!)		
 (<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> </u>	02.01.5	<u> </u>	<u>epe </u>
 ! भ) <u>(1/25)</u> 	براد <u>ان</u>	, 2400	<u>ana</u>	10 N.	<u> </u>	<u> </u>	swin sk	17
io	ا بەت _ە	Mr51	.0 <u>F \$ 1</u>	A. 1600	or. alna	U &S	N TRON	toe o	rsouth s	Jupel
<u> ;;;</u>	·	·	· ·							
12	<u> </u>		··				··	•		
سنے ا	<u>'</u> !	——· _A —				E	F	- <u></u>	К	
est !!o	Probe Ceath	Density Count	Density Ratio	liet Censity	Maisture Count	Moisture Ratio	Moisture PCF	Mater Content	Tury	Pencen Compact
7	8"	4993	0.822	1125	2128	0,639			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
_								 	 	

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 speed



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>		
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- 6 7	GRADE	5	868	21.5	84.8	97.6	
2		IST Lik-			32,2	850	97,9	
3	 	2-deG	†		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 2 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	1 1 10 10 00 00 00 00 00 00 00 00 00 00
1	7-1-17		4	3096	3 p. A. A	to/ fz	De Bat	them of slow
ا	151WE	7 5- 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	82,0	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 Cased on maker in dry 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

"ACM DODOTOR" OUR OF

CATE	8-7 —:-	· 87	116	A PROC	TOK OUR	REPORT NO	34-			
		O.M.C.	1,35.0	<u>) </u>	 -				 +	=- == :
re sr		ivie .		504 to HAB 0 148 0 0/45	(A) (A)	···· 6		TEL AL	CCMMH4- *	<u> </u>
<u> </u>	8-7	- 27		83.6	3/2	2 79	.3 91	60 1		
2-		\	Fina!	1 !	35	.7 79	. [-	5.6	$\int_{-\infty}^{\infty} dr f$	1
3	<u> </u>	<u> </u>		-	3.	7 79	5 96	.2. []		100
4	<u> </u>		<u>√</u>	 	<u> 36</u>	. 7 119	<u>C 95</u>	50 17	_ .	
5	 		<u> 2011-6-</u>	<u> </u>	35	<u> </u>	96	8		
L G	LOCATION			$\Psi \mid \Psi$	125	_ 	<u> 1.3 96</u>	0		
[]	20	` - ` - ` -	<u>트로라당</u> 0구 57년		51-245 rd 3:15	್ <u>. ಕಿಂಬ</u> ಚಿತ್ರ			- i	·
H - 2	30	interior	. <u></u> غەسىس سق			1		<u> </u>		
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	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> o <u>(am</u>	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> ዘ	<u>, </u>
lest ‼n.	Probe Penth	Count	Density Ratio		Moisture Count	Moisture Ratio		Mater Content	Density	Percen Compact
1	g.	5 534	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 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 SECURED C TEST 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: ሮምነር	33.Q				· 		 -
7037 M2	3478	SEALH SEA	SOU TO NOMBER	DANGUN LAB DAN OFNSFT	evertent Confent	M PLACE DAY CENSIEN	PER CENT COURSE FOR	couver.
7	8-7-87	3rdu9	₽?	82 6	3#3	80 C	348	1-E y
[8]		<u> </u>		. <u> </u>	3 5.0	800	908	1-4
-1	\dagger	V	V	U	36.9	785	95.C	1-2
<u>[</u>			; ,		``			
TEST LO	CATION. Lypin	F 31 7 1	0.02		· · ·			

			н	D	Ļ	D	Ε	F	G	H	
	lest No.	Probe Centh	Density Count	Censity Ratio	Wet Density		Maisture Ratio	Moisture PCF	Water Conten t	ury Censity	Perceñi ໂວກກ ລ ີ (ເ
	7	8"	5601	0.422	1.75	2199	0650	27.50	34.3	80.0	968
	9		55 7 3	0.910	108.0	2234	0.671	28.00	35.0	80.0	96.8
•	.9	\bigvee	5630	0.427	107.5	a 3i5	D. 645	29.00	36.9	78.5	9 <i>5</i> ,0
									٠,		
5		•									
		 		-					- -		

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 and dated 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 CHARGNOST NO. 311-

TEST DATA	OM.C	- (33.0	<u> </u>	'- ··· ·····	 :	· *** ***		
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
2					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>	Ψ	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 Liganija	("dos sideo" (Matric	Parcilla de Fer N. P.O.E.	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 and

EHOSSI COMPACTON, Bases to income day density data and on lesingle validation by see ID number. F Siliwa yewa Nakatu

3 BASTOLIMAE 4 Sucease 5 Sid Camero ATTRUM - GOTTS CONFICE WITH SPECIFICANONS. Pure transportation accompany

R I ROMONIY CHON RECURRED DI TODI BOMILEN RECOMFACTION

D. mantaning to excess of special to a sacra

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>เป</mark>็นที่สำนักเรียนทยาหิดริง 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 much dry density obtained an sample and cated by solf Olacaber

T mily valumet 2 B ChERT D DAGE COURSE 4 SURDAGE \$ 50 CAMENT 6 OTHER

TAST RESET DECOYPOY WITH SI RECOMPACTION FROM FRO 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 NIGHT	PAYER CONTENT	PI PLACE CPI-Y CENSURY	PER CENT COMPACTION	ECUPTAL *
1	8-11-87	GRADE	1	82.6	36.5	813	98.4	
2	<u></u> _	1st LA			361	83.0	100.4	
3		2nd US	1		36.5	82.8	100.2	$\sqrt{}$
ļ			ļ	<u> </u>				
	·		_			<u> </u>		
	CATION: Do	ND E17		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

		— - " —-	В.		<u>D</u>	<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>	<u>ଞି″</u>	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>		7.7.		
			,				<u></u>			
i	<u> </u>	1	 	 			 -	 	 	····

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

density obtained on pamps, indicated 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
2				[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		- 	_ ' ' ~ '	. 3(/4///	1 21006	
lest !!n		Density Count	Density Ratio	Wet Density	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	2360	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	LV_	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 TA POND

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

TEST D	ATA: OMC	33.0					
PEST MC	MA16		ZON, TO LINE CAN DEVICE OF STATE OF STA	ANTA ONNEADO	SHIPLACE BRV DENSITY	PERICENT COMPACION	COMMENT.
	8-13-81	Istlift	(82.6	36.0	80.3	97.2	1-A
7)	36.1	80.5	97.5	
3		2nd Lift		31.7	79.8	96.6	
4	<u> </u>			31.7	802	97.0	
5		Final	()	36.5	81.9	99.0	
6	V		$(\ \ \ \ \ \ \ \ \ \ \)$	36.3	82.5	99.8	1
TEST LO	CATION: EA	37 SLOPS	STF- 0-1	UQ/)/=-	या, ¹⁴ ,70 मि रि	my Fare	514. 1500 100V
	20'5 of	N.E. CORN	CR 2nd 20	of Epin b	etem o	Fslose	(GAST SLOVE)
اِ دا	20' N. of	<u>S.E., CORNE</u>	er and 3	51 FRUM	button	of 5 1000	2 (EAST 520)
13	40' IVEST C	of 541.4.	or and a	P' N. Fron	ite .	of south	5/000
4	bo'west.	of 57A. 19	500' and	20' N. 62	on toe	of south	sloce
5	35 West	of 51%,	1500' and	15'N, FR	an toe	of sout	a slove
<u> 6</u>	25' West	<u>र्ज इत्स्</u> र	1000' and	10'N, Fe.	من لم سي	of soil	1 5 one
	H	ដ	·	D	- 		12

		. 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	
<u>વે</u>) [37.6	9 1	47,5	
1.2		<u> </u>	Δ	, <u> </u>	<u> </u>	9. 1	974	
<u> </u>		G8294			38.5	g_{ij}	4 - 1	— ; ·——··
2		ISTLE	1	300-760	36%	8112	0.	.

20' West of 501. 300' And 20" 1. From top or 50 of 571. 4001 200 3 101 From the of std sour And

		н	ь	L	Ď.	E	` F	G	Ħ	<u></u>
iest Lo	Probe Cepth	Density Count	Density Ratio	Wet Density	Moistare Count	Moisture Ratio	Moisture PCF	Water Content	Ory Censity	Percent Compatit
7	8"	5113	0.845	111.5	Z 5 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. ₁ .	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		2	2 7)				· 	<u> </u>			 .,	·— ,_
1 8-14-87 2nd Lift 82.6 36.5 82.8 100.2 1-14 2 31.1 82.7 100.1 31.5 82.5 67.8 4 36.0 83.8 100.2 36.6 80.5 97.4 36.6 80.5 97.4 36.6 80.5 97.4 36.6 80.5 97.4 36.6 80.5 97.4 37.2 74.8 96.6 96.6 97.8 100.2 97.8 96.6 97.8 97	*E31		. [****		U-0 017	welf	C, •	w FE.		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 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.1 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 31.1 82.7 100.2 32.1 100.2 32.1 100.2 32.1 100.2 33.1 100.2 34.1 100.2 35.1 100.2 36.2 100.2 36.3 100.2 37.2 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 38.3 100.2 48.6 0.801 113.5 2435 0.731 30.15 37.1 82.7 100.2 48.6 0.805 113.5 2461 0.739 31.00 37.5 82.5 99.8 49.8 10.820 112.5 2370 0.711 29.75 36.0 82.8 100.2 49.8 10.820 112.5 2370 0.711 29.75 36.0 82.8 100.2 5 15.265 0.867 110.0 23.32 0.700 29.50 36.6 80.5 97.1	ſ	8-14	-87	and we	7		36.			1.2 1-		
36.0 82.8 1002 36.6 80.5 97.4 6	2		<u>_</u>)		- 1			21		
G			[5	┞ - ├	37.	5 82	5 99	.8		
6 GRADS W 37.2 79.8 966 STYLOCATION: POINT FLOOR (SCA. 300-TW) (SCA. 300') (SCA. SOV') 1 20' WEST OF STA 301' 21' 20' N. FRONTE 2" SOUTH STORE: 2 35' WEST OF STA 400' 21' 20' N. FRONTE 2" SOUTH STORE: 3 60' WEST OF STA 500' 21' 40' N. OF SOUTH STORE: 4 80' WEST OF STA 600' 21' 5' N. OF SOUTH STORE: 5 25' WEST OF STA 600' 21' 20' N. OF SOUTH STORE: 6 35' WEST OF STA 800' 21' N. OF SOUTH 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 4990 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					/	.}	36.		, _ 1 			
20' West of strand' and 20' N. fronte of sorth store 35' West of strand' and 25' N. of sorth store 4 80' West of strand' and 35' N. of sorth store 4 80' West of strand' and 10' N. of sorth store 5 25' West of strand' and 10' N. of sorth store 5 25' West of strand' and 10' N. of sorth store 6 35' West of strand' and 30' N. of sorth store 6 35' West of strand' and 30' N. of sorth store 6 1 1	ر2			\bigvee		$\perp \perp$	36.	<u>6 80</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 50th slope 6 35' West of STA 800' 2nd 10' N. of 50th slope 1 8" West of STA 800' 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 2461 0.739 31.00 37.5 82.5 99.5 4 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 97.5	6	L			4	<u>_</u> _		·			<u></u>	
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. 7 18' yest of stance and 30' N. of south slope. 8" 4917 0.809 113.0 2371 0.720 30.25 36.5 82.8 100.3 1 4865 0.801 113.5 2435 0.731 30.75 37.1 82.7 100.3 1 4980 0.805 113.5 2461 0.739 31.00 37.5 82.5 99.8 1 4981 0.820 112.5 2370 0.711 29.75 36.0 82.8 100.3 1 5265 0.869 110.0 2332 0.700 29.50 36.6 80.5 97.8	1			_			,			7.		
3 60' vest of sta soo' and 40' N. of south close. 4 80' vest of sta 600' and 5' N. of south slope. 5 25' vest of stagoo' and 10' N. of south slope. 6 35' vest of stagoo' and 30' N. of south slope. Best Probe Density Density Net. 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 Slope. 6 35' Nest of STA. 801' and 30' N. of s. th Slope. 8 Probe Density Density Not Moisture	2,									1 .	<u>′</u>	
5 25' West of Str. 900' and 10' N. of such shoe b 35' West of Str. 801' and 30' N. of such shoe A 0 DE F G G H I est Probe Density Density Wet Moisture Moisture Moisture Moter Density Commer In Depth Count Ratio Density Count Ratio PCF Content Density Commer I 8" 4917 0.809 113.0 2377 0.7120 30.25 36.5 82.8 100.3 J 4845 0.801 113.5 2435 0.731 30.15 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 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											<u> </u>	
b 35' Nest of STA.801' and 30' N. of south slove Probe Density Density Wet Moisture Mo	5			_	•						,	
Probe Density Density Wet Moisture	6	351	_						r	1 .	1	
No. Depth Count Ratio Density Count Ratio PCF Content Density Compact			A	D		<u> </u>	D	E	F	Ģ	H	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											-	Percéa Comp ⊲ (
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"	491	0.8	09	113.0	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 82.8 100.3 5 5 5265 0.869 110.0 2332 0.700 29.50 36.6 80.5 97.8	٦		486	5 0.8	o!	113.5	2435	0.731	30:15	37.1	82.7	00.
5 5265 0.869 110.0 2332 0.700 29.50 36.6 80.5 97.	3				05	113.5	i	[31.00	37.5	82.5	99,8
<u> </u>	4		498	3 0.8	20	1125	2370	0.711	29.75	36.0	87.8	100.2
1 \ f = \ \	5	آ ا	526	,5 0.8	67			0.700	29.50	36.6	80.5	97,
6 V 5314 0.875 109.5 2356 0.707 29.75 37.2 79.8 96.6	_ ج	V	5314	1 0.8	75	1095	2356	0.707	29.75	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



REPORT OF FIELD COMPACTION TESTS

OFOR Sar Miguel Coop

PROJECT. SMC IA POND

TEST DATA:

NEW PROCTOR OUR REPORT NO. 315

IE\$I	DATA:	55,0											
PEST MG		, cto	~ .	50: 10 91001,9	DE #2517		WATER CONTENT	N 70.0	·	A CENS PACTION		COAMENL .	$\overline{}$
7	8-14	87 G	84DE		82.6	2	37.1	82	7 10	0.1		- <u>A</u>	
8	1_1		.7	$\sqrt{1}$			38,4	82	.0 9	9.2			
9				_)		-	36.7	83		9.6			
10	ļļ	<u></u>	<u>, d</u>	\Box	- -		<u>36.3</u>	81.		8.4			_]
11	<u> </u>	لدلب	Z	\perp		ļ_	36.1	83	,0 10	0.4			
	OCATION:	—	<u>/2{ </u>		V	l	35,9	83	0 10	0.4	_ <u>\</u>	<i> </i>]
L	T	Port	r	<u>-(54</u>	4.700		_			<u> </u>		·· . <u>-</u> -	
1_	20'	Wrst.	م تله	STA.	$T_{\mathcal{O}}\mathcal{O}^{\mathcal{L}}$	ard	20'x	1, of	<u>50,44</u>	5/2	₽€		
8	40'	West	of _ s	14.	7001	200			2f 500				
<u></u>	40'	<u>west,</u>	ه <u>-</u> ۶	577. 8	ggot.	and			f sou	_	-		
10	301	V/P5+	0F_5	110	1001	drd	•		of so				
#	1201	West.	<u>o</u> F	5 <u>1%.</u>	8001	2m	A .		. OF 9	_		1soe	
12	701	west	<u>of</u>	<u>514</u>	9001	ano	<u>40</u>	11,	0F <	(1) t	65	/ope	
	0	A Name of A	ь 18 и ин		<u> </u>	D		E	F	G		, н	ĭ
iest No.	_	Density Count	Densit Ratio		et ensity	Coun	ure Noi t Ra	tio	Moisture PCF	Cante		ury Density	Perceni Combacti
7	8"	4880	0.80	3	113.5	243	50	731	30.75	31	1.1	82.1	100.
8		4899	0.80	6 1	13.5	249	0 0.	747	31.50	38	1.4	820	99.2
.9		4967	0.81	8 1	12.5	240	0 0.	720	30.29	36	.7	82.3	99.6
I			,								,		

NOTES THUSTIES SHOWN to, per cubic fool 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 6672

C TEST SAFISH RECOMPACTION \$3.2 F

C. FILMING AND CARRESS OF SPECIFIC

H. Marijana Salpo specio

36.1

30.00

30.00

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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							 _
1657 40	GA14	OKPEN ELEV	MANAGE A	EARMJE LARICKA OGRSJEV	ASTEA 1M31 oCO	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 . ļ	22/10	\perp		38.5	19,8	96.6	
[]		[36.7	79.7	96.4	
6	W	<u> </u>				80,5	97.4	V
TEST LO				<u> </u>				· · · · · · · · · · · · · · · · · · ·
<u> </u>	20' West	- of	573 J	Doo' and	f 10'N	<u> چې د</u>	<u>wth 5</u>	boe
_	60 WAST	6F :	54 <u>A</u> _	13001 2r	d 151	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
4	70 WP5	±0€ 3	7 <u>1.</u>	1200 2	M 45	1 N. OF :	50 th	slope
5	10' WEST	1 of	55%	13w/ az	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 P loi: Density Cou	styre M o): Int	sturie (Mors Co. (1905	ture ka e Cont	ent Density Comp

					v	D	ε	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. 7 24	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
	ζ_{-}		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 OFNSHIES SHOWN Last per particular 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 C TASTIS ASTER RECOMPACTION 67 14000

5 SOM TEMEN

the branchisme to say a section

Computation



DATE

Professional Service Industries, Inc.

Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

om San Miquel Gop

SML IA Pond

8-17-81 OUR REPORT NO. 311-33.0 TEST DATA: MAX.MEM (AB CAT 06 45 F* E:Ev FEST 505.0 WEFFH MANCENT COMPACTION DENTITY COMMENT * NOTE CONFE 51 рейзн **ት**ነላል gĺ 0 TESY LUCATION: Klmor 51%.700 ar

aro an/ 5TA.400 10

	_	А	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

DENSITIES SHOWN Libs Der cobic loss WATER CONTENT Per Cent of die weight PERCENT COMPACTION Basin on manythan dry density obtained on sample indicates by SOL ID MUNICIPA

- FILL MATERIAL
- BACKFILL
- 3 DASE COMPSE
- SUBBASE
- SOIL CEMENT F OTHER
- A TEST RESULTS COMPLY WITH SPECIFICATIONS
- 8 RECOMPACTION REQUIRED.
- TESSUS AT IER RECOVEACTION in many in sucres of speci
- N. Markhard States against



REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

PHOJECT: SMCIAPOND

DATE	8-17-87	NEW PROCTOR	OUR REPORT NO . 311
		THE N T WOLLD	

F€ST MÓ		OFFIN ELLY	SCN D NUMBER	PAR DUA PAR DUA	CG-re W1	MIPLACE ERY OCASITY	PER CENT COMPACTION	COMMENT *
13	8-17-81	GRADE	/	82.6	37.4	807	97.6	1-A
4	,- <u> </u>				38.9	<i>\$6,</i> 2-	GTC	
15		Ψ	<u> </u>		340	80.3	93.9	
6		[51]	171		36.8	80.8	97.8	
17			<u> </u>		39.4	785	35.0	_
18	CATION: Pany 6	\mathbb{V}	$\langle \cdot $	\mathbb{V}	36,4	803	97.2	<u> </u>

20' west of soil 5-100' 2nd 10'v. of 5- 40 01

10' west of 574 0-100' and

west of 511. 100' and 511 2001 21d 15 N. of

L <u></u>	1. =			- 0.00	1000 00 1000 1000 1000 1000 1000 1000					
				·	D	_ E	F	G	. н	Ţ
Test Lla_	Probe Denth	Density Count	Censity Ratio	Wet Density	Moisture Count	Ratio		water Content	Ury Density	Pencent Compacti
13	8"	4136	0.877	111.0	2620	9.45	30.25	37.4	80.7	97.6
14		4092	0.୫୯୫	101.5	2695	0.767	31.25	38.9	80.2	97.0
5		4216	0.894	110.0	2 5 81	0.134	29.75	37.0	80.3	97.3
16		4177	0.882	110.5	2577	0.733	29.75	36.8	80.8	978
[17]		4285	0.909	109.5	2687	0.765	31.00	39.4	78.5	95.0
II Q	<u> </u>	4300	0.912	1095	2534		29.25	' - 	80.3	97.0
PAL JA	MAISH	ES SHOWN LEST CONTENT Per C	ent of dry weigh	1	2 BAC	MAIEHIAL KENL		OLIS COMPLY) ACTION REQUIR	мим ѕреста сл ни ЧПП	A XXXIS

NOTES DENGINES SHOWN LDS OF CUBC GOT WATER CONTENT Per Cent of dry whight PERCENT COMPACTORY Shared on the court dry density oblighed on sample indicated by sol 40 Aumiber

FILL MATERIAL BACKFUL 3 BASE COURSE SUBBASE

C TEST IS AFIER RECOMPACTION Community in makes of species B. WARMER BALON WALLS

SCHUCEMENT



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

FOR San Miguel Coop

PROJECT: SMCIA POND

DATE 8-17-87

NEW OPOCTUR

CUR REPORT NO 3/1/

TEST D	ATA: O.M.C.	330				· · =	 -	·· ——— ·—
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	
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.

			υ 		Q Q	E	F	G	1i	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
2p		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
4	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

For March Coop

PROJECT CAP & TAPANE

DATE 8-18 87

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165r 90 :	ONFF	SEP*H C.EV	500 / 0 MJ AN 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>
	:				$[\beta_{r_s}, I]$	32.3	99.4	. 1
	:				383	1105	92.2	
<u> </u>	\\	1 .			370	118.8	153	

ROYSING HE FORMER THAT FOR FRIM A-100 819 20'

		_	4	B	_ L	_ D	ΕΕ	F	Ġ	R	I
!	Test No	Probe Neath	Density Count	Density Natio	Ket Density	Maisture Count	Moisture Ratio		Water Content	Dry Density	יפֿירכפֿוי באַרוויים
	'		4156	2,897	1.65	ر در در	0.74	67.00	3 6 .0	ীর	98.6
,	2_		122	0.345	110.0	25.,	3.777	2950	36.6	80.5	97.4
Computations	,3		6305	1.338	1:3.0	1/5/1	0.737	30.00	36.5	<i>8</i> 2 0	99.3
	1-1-		6290	1.335	1125	2617	0.745	34.25	36.7	823	77.4
	5	Ü	4256	0.903	110.0	2640	0.751	30.50	39.3	79.5	96.
:	1/2		7270	0.906	109.5	2659	0.756	30.15	39.0	78.8	15.

MOTES OFNSITIES SHOWN EET per carso foot WATER CONTENT Per Cent of the weight PERCENT COMPACTION Based on Hawman dry gensily obtained on Safable and called by sul (Dinamber

FEL MATERIAL

BACKFILL BASE DOURSE

SUGBASE SOIL CEMENT

TEST HE SULTS 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

PROJECT SMC IA POND

CHILDRY MENTAL OUR REPORT NO 31-

ATA:	PS:						
DA15 .	Sinin Ers.	SD. D N.:ORFR	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 S	1 / SD. 70 LABOUT DEWARTS	1 / September 1	Septem S	SD. 0 MARIAN MA

20'west of STA. 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' GROW top of styce To writ of STA. 300' And 15' From button of store 15' west of STA. 4001 and 20' From top of slope 30' west of STA U-12 and 20' so the of North slove

				Ð	ر 	D	ε	F	G	H	
	lest in	Probe Denth	Count	Density Ratio	Wet Density		Monsture Ratio		Water Content	Density	Vercen Concet
	1/	€	4185	0.838	تان باری	2588	0,134	29.75	360	80.7	97.6
	۶	$G^{\prime\prime}$	2270	1.330	1132	2599	0-140	30.00	36.3	82.5	99.8
	ক	-	4195	0.890	113.2	2619	0.745	30.25	36.7	82.2	99,
1	Ŀ	ĺ	4323	0.917	1090	2503.	0.712	29.00	36.2	80.0	96.8
>	1 _	}	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 cube real WATER CONTENT Per Central by weight PERCENT COMPACTION. Based on maximum dry density obtained on sample indicated 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.: 🔝 🕒 -

_ 												
TEST D	ата: 73 €											
rest Ho	OA:T	DESEM PTA	SCH NO . NEXMB(A)	Manneyer LAB CHY Ce 45/17	CCA1FMs AVIEN	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					
				—- -	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		-				· · ·				

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

15' west of STA God and 10's of worth slope

	_	•		•	D	Ŀ	F	G	Ħ	ī
lest . Mn.	Probe Repth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio		Water Content	Density	Percent Compacti
:3	, 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	27.75	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

1 + + 1:33

OCITY BYE.



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			 			· · · · · · · · · · · · · · · · · · ·		-
TEST NO		CEP	10 17 SCR 1000		74.47				Comment.	
1	3-1	<u>9-8</u> 1 /		82 ((31) ي	2 33	.5 4:	:	<u>-</u> .	
2	ļ <u>.</u>		$V \subset$	-]	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	<u> </u>	<u> </u>	<u>64</u> 1. (<u> </u>	<u> </u>	<u> 3 99</u>	<u> </u>	- [: :	
<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 7 11	7 <u>6</u>	-	r Fred	<u>i</u>	. 6 7	
<u> </u>								<u>- 150 (24)</u> - 15 24	- 57 270	î.
~	<u></u>		·	57 57		· ·	20', FR. 10' Froi		<u></u>	1.2 <u>6</u>
i.		- 		. <u>3 /</u>	_ 				<u> </u>	<i>):</i>
3	45	'west	- پر کر	Э. <u></u> Сп:	- 122 - 1377 - 3	an (<u>51, FRON</u> 12' 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

PLUCENT COMPACTION But not to accompany only to the period of t

2 BACKERT D BASS COURCE 4 COSSASC 5 BOLICEMENT S OTHER A THE PRESENTING THE PROPERTY OF CATHORS OF FROM HIS CONTROL OF CO

AFTITOTE.

REPORT OF FIELD COMPACTION TESTS

San Mignel Comp

PROJECT SMC IAtond

CATE 8-19-87

CURREPORT KO 311 -

		== : ··· • ;	V 41 6 5	22.0							=: 	·
	TEST	PATA-	7WT 3	33.0	 -	NA) U.O	<u> </u>			_· - · 		
	HO .	34	Oct.		224 0 6.00003 6.00003	440.000	, Average COALE		lT 1 1 1 1 1	GTM ² WGTiQW	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	
	TEST L	OCATION:	P/ 2	rda z	过.	5775	<u> </u>		4037		<u> </u>	.
	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		7
	3	65	. <u>wrs</u> t	- 05	<	STA BE	<u>.' ~ ~ ~</u>			403 OF	٠.	
	4	•								to0 of	 .	
	5								Free		or 5/00	ve
	6									botte,		
		,	Α	 D			D	<u>∞</u> 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			36.4	-	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	η	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 ALMUSH	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	-
IT LO	CATION: N	ORTH 5	A)-7-	log" -	300'			

1 20' west of stated and 10' from but of stope of state of state and 10' from two of state of state of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state and 10' from two of state of 10' west of state of 10' from two of state of 10' west of 10' west of 10' from

٠.		_	- "	D	ų.	D	E	F	G	Н	' <u>t</u>
	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	ol.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 .	Male 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	(λV	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	Politure Count	Moisture Ratio		Nater Conten t	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,		
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 8	.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>	
[<u>1</u> 2	V	14/10	<u>*15,</u>	Y	37.	0 80	7 97	0 0	/	
TEST	OCATION:		- 	<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 /	· ·		
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 ty Javn t	Density Ratio	Wet Density		Hoisture Ratio	Moisture PCF	Water Content_	Ory Density	Percen Compact
7	9	4150	0.830	111.0	2519	3/T16	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
لي		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 +¨	

O, maisture 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 SHA CYT SHA	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 8 1.	8 99.			
ĺ	11		Fin) [37.	<u>81.</u>	0 98.	0		
	19.	1	7 1	ri ci	\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 ol	<u> </u>
	<u>13</u>	25 !	<u> </u>	<u> ፍተ</u> և	<u>_ ৫১০ (</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	ان.	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 ۽ آج	. 6.316	12 Ac = 1	نےور	
	19	F	mest of				15' Gr	in bot		Eslope	2
•		t 1 - -	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		14007	0.850	112.0	2603	0.140	30.00	36.5	82.0	99.2
•	15	· · · · · · · · · · · · · · · · · · ·	4 <u>035</u>	0.84	1120	2633	0.749	3025	37.0	જાત	98.9
	1 .		4071	0.864		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 conceitout		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-

==	2 2 2									 -	 -
	ATA: 33	<u>, 0</u>			Y						
V3.	0.11		677	SO≡ :D HUMBÉH	DEA214	האינו האינו		7	CIM"	COMPENT "	
19.	8-20	-87 2.	li _e r .)	82.6	36.	1 81.	5 98.	b 1	^Å	
رر		<u>. F.</u>	nal	(36	79	0 95	5-6		
21				\setminus	!	311	.2 82	2 99	1.5 1	<u>/</u>	
22		Fu	rá!	2	:	_ 35	. 83	.2 10	0.7	E	←
23		12,	450			34.	9 93	3 99	26 V	/ ->	- [
7.4	V	\\	<u> </u>	}		136	્રે. <u>૧</u> ૮	7 97	6 1-	-A	
TEST LO	CCATION:	NOBAH	<u>امیاک</u>	26.	STA	1. 16.80	グロスド	5-2 -	304		
19	30	West	ot	5	STA 3.).	1 13.00	(30)	Fx 4	2	υ£ 5 bit	2
120	Con	1500	70	(9	5+4 (1),	<u>' är{</u>	15 8	<u> </u>	10 a1 ₃	-loge_	
11	45	" went	05		206. kg	J and	<u> 154 (</u>	Res 6	1100 C	f 5)000	<u>~</u>
22	30	16000	10	<u> </u>	CT/ 0	$\gamma \in \mathbb{C}^{M}$	rd 20	5' <u>5, of</u>	13th	slope	
23	40	21 W-	<u> 10</u>	-	511.	$\log L(A)$	1 25	15.00	F North	slope	
24	10	1 Wes	<u>t o</u>	<u> </u>	STA.	2001	ard '	515.0	f NORTE	Slope	·/
		А	, B		Ļ	Ď	Ę	F	Ğ	H [*]	1
Test Mn.		ûensity Count	Densi Ratio	ty	ket Density	Moisture Count	Moisture Ratio	PCF	Nater Content	Density	Percent Compactit
19	8*	4097	0.8	70	1 50	2565	0.730	29.50	36.1	81.5	98.6
20	6''	63 97	[, 4,	64	1080	2513	0.115	29.∞	36.7	79.0	956
21		6215	1.3	19	113.0	2 65 5	อ.ารร	30.75	37.2	82.2	99.5
22	\checkmark	6212	1.3	8	1) 2.5	2536	a 722	29.25	35.1	832	100,7
23	8"	4111	0.6	7.2	14.0	2479	0.711	28.75	34.9	87.3	99.6
	V	4221	0.8	357	1/0.0	2530		29.25		80.7	97.6
· . H	** Decidibilit	O DOWN LES	. pH cub(i loct		F F F F F F F F F F	MATERIAL	A TEST HÉ	SULTS COMPLY	MAIN PARECULIC	- r-ma

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 COMMENT DO r DINATA e de la co CONFERE CCAPACTAD 4 **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 cabic 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.ଜ୍ୟେଓ

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	E164 SOL 10	MAXAGE LAG CD r CCYS/CY	ekarri Odorka		P P P		COMMENT T	
7	8-3	I-g1 🚒	₽ ₹1 >	88.2	- 27.	6 87	8 99	5 1-	- ļ	
8		2 nd	(((+	<u> </u>	28	9 87	.3 9 <u>8</u>	9 1		
ন	ļ ļ		2 ایک	\- 	30,	0 35	8 97	<u>.2 1</u>		!
1.1.2	ļ	Sv4	9500/48 \	ļ [2ରୀ	3 97.	7 98	8		i
1,	1				28.	$1 \mid 29$	0 98	.le 1		
15	\bigvee				30.	<u> </u>	5 96			
TEST L	OCATION:	<u> </u>	F K	<u> 574. 300</u>	<u>'- 600',</u>	<u> </u>	<u> </u>			
1	5.	100 3+	<u>سون</u> ــــــــــــــــــــــــــــــــــــ	S (A 3,	<u> </u>		<u>, cf Not</u>	<u> Tr. de</u>	<u>∵ε</u>	
1.0	60	1495	t or	571, <i>4</i>	<u>, i arg</u>	142	<u>5 5- 5</u>	<u> </u>	15126	
19	્	51 WY		STA 5	w' dr	<u> 1,251</u>	<u>S. 2-1</u>	<u> </u>	<u>5/v)e</u>	
17	35	<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> 👌 r.	1.5/2	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	۷. ا
		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	91.9
NOI	MAJER 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

SO'L 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	ата: 2	3.7						
3631 MO	0411	OEBLA ETEA	SOR ID MUMOER	LAD ONY CHASTA	W411 11 COW15 41	M PLACE DP r DC49T*	EGMB+C UDA BLIK CEAL	COLUMN "
13	8-21-,	87 2×104E		88.2	29.4	81.3	98.9	1-A
14		Istua			28.U	81.7	97.5	
15		1516			29.0	\$ ' J	6.2	
16.		Final			29,0	86.8	9 8∓	
$l \gamma$		2000	!)]		30.8	85.0	975	
18	-	MOX H S	M.	Ų.	36.9	36.3	92.8	V

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
18 12 west of STELL A 3 5 STELL A 1 Jan 100 Last Store

			A	D	. L	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	1.7		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 number

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.:

						· * · * : *** 7	A STANK PARK A PARK		69.919.7. 7.7.	
TEST O	ATA:	23.7								
1851 #0	8,10	200	1	BIS DEWST-A	CONTR		, ,,,,,,,,		C04-VE'-T *	
19	B-21-	ಆ? 😽		88	2 28.	988	1.0 99	7	-A	
20		Fi	hal (27.	5 87	0 99	6		
31	<u> </u>		<u>Z</u> , [\		28.	2 31	7 99.	4		
7	<u> </u>			<u> </u>	27	0 27	0 98	6		
13.		<u> </u> S_5	grade \		29.	8 87	98	$A \mid A$		
·)		<u>.</u> <u>.</u>	ļ ′ ,	$'ot V_{ot}$	26.	4 99	0 98			
TEST LO	CATION:	P(01)(2)	1-1201K	<u>516.3</u>	മറുന്നശേ	ા, સાર	0,3200			
: 1	<u>٠٠٠</u>	<u>17 </u>	54	. Fee 01			Jr + 1.		_	
1 10	25"	600 3	9 50	<u> 7. s. s. s</u>	} nd 39	's.o	< NOPT	j. <u>sĺa⊬</u>	5	
21	10'1	<u>. الحجود</u>	اک کر	<u> 7</u> . Ş <u>ç</u> ç j	<u> 2014 - 4</u>	۲ <u>۵.</u> ن	<u>C</u> yceti	4 s lof	<u>-</u>	
22	45%	<u> </u>	<u> St</u>	1. 300 à	<u>ind 3</u>	<u>ب'چ. ہ</u>	<u> </u>	<u>۾ ڇاپءِ ج</u>	<u>. </u>	
23	1-5'4	nect.	s 51	2 420 0	<u>a. ⁄a. ⊬</u>	ډ <u>′s.</u> ن	of Non	871 SL	we_	
74	7:10	<u>د آک</u> یا	9	130c	<u> </u>	<u>5 </u>	Scy F	cl2 47	ص0	
(A	•	H	Đ	·	Ď	E	F	` G'	H	1
Test No.		Density ! Count	Density Ratio	Wet Density	Moistáire Count	Moisture Ratio		Rater Content	Density	реждег Соппаст
19	8"	386	0.819	113.5	2230	0.634	25.50	28.9	88.0	99.
20		4116	0.873	1:1.0	2105	0.599	24.00	27.5	87.0	98.4
21		4035	0.850	, 112.0	2120	0.603	24.25	28.2	87.7	99:1
21 22	,	4195	0.840	110,5	2073	0.590	23.50	27.0	87.0	98.1
13		3943	0.836	113.0	2262	0.644	26.00	29.8	87.(98,1
1,24	V	4200	0,84		2009	0.572		24.4	87.0	98.1
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	MATER PORTO	ESSHOWN LOS CONTENT Per l IT COMPACTION Jensily obtained	Jeronior Drywy IBASAraon ar	igasmism qils Biggi	2 HAC 3 HAS	MATERIA CREILE SE COURSE BBASE	6 RECOMP	SULTS COMPLY ACTION REQUIR FTER RECOMPL	16 D	APIGNS T

SURBASE

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		\ <u>\</u>			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		Λ	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
1	8-24	Substant	العرفة لم	88.2.	22.2	94.\$	[.50]	1 E
<u>_a</u>			Proc.		20.7	१ 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	L .	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
ļ	.1	8	7"	5870	,868	115.5	2139	.583	21.00	22.2	94.5	ו.לטן
	<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 maturition day (6764
demand obtained on simple indicated by
solid number (Avanta Riccan). 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			· /.·	× · · <u>-</u>				_
90	1	34-15	111.7 400		W11		· OFF	DENT NOTICE:	SCOVERS! *	
4	8-2	14-87 W	A SAMPLEY	+ 34.	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 9 7	7 1	E	
TEST	, OCATION	Pand Fl	4 7	.	22.7	7 84.	1	3 1 1	E	
4	\Box		_		_ ··-					
+	L ⊱ቦ ፟		<u>" sout</u>				6+00			
; -	<u> </u>		ALEN 50	<u>۴۱۸ مرا ۸</u>	1017h Slup.	e. Sl 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			
		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	Percen Comnact
4	8"	8049	i.190	103.5	1793	.489	17,25	20.2	8 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	86.7S	98.3
NCTE	WATER PERCE	15 SHOWN The CONFENT PARCHON COMPACTION WITH A COMPACTION WITH A 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	% -24-5	87			ÇUR F	IEPORT NO				•
	TEST (DATA:	OMC	2 3.7	e n perio 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	
•	l.H.	↓	İ	ly Hor	1	24.	0 89.	5 101.	4 1	E	
فهمة	12	1	`	1 1		30.1	8 81	7 92	6 1	В	
	(5	 			ļ <u>.</u>	<u> </u>		-, .			
	6	:									
	TESY	OCATION:	0 5		.L]
	lo	Floo	Penal Flo		P. North		 • * 1	.10	–		— -· ·
	. 11	1 11	40'	1) 1		1 /	эвж. 1 ө г 54 <i>с.</i> , 13 -			- · · ·	
	12		3 S′	1, 1	. n		جائز ۱۲۰ جائز ۱۲۰			· ·	
	ps.	T			- ——	,					
					· ·						
	qg'	<u></u>									
	c 	· ·	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	 	 						ļ. — · · · · · · · ·		1	\vdash
	, —		}		 	f	<u> </u>	 	<u> </u>	 - 	
	NOTI		ES SHOWN LES				L MATERIA.			with SPECIF C	AFIONS
		PERCEN	CONTENT Per 6 at COMPACTION density obtained:	Baselt on Acce	иотио сму 🕼 🗸	₩ 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

ው፣ **የ** -25-87

DUR REPORT NO 31(-

	TEST D				···- ·-						<u></u>
	1651 HO	EA14	oleti	A COLOR		74.44 COV.11				COMPLY"	_ ;_
		8-25	5-87 E	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,		·	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 4 11		1 0	8001		
	6	L 11		<u>" 7</u>		10 11	$\eta = 0$		9001	 -	
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. 64୫	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€)≱ K 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 #104	DUTS COMPLY ACTION ACQUE FOR RECOMPL THE FE (A EA THE E BELL	rack of 24 rackon red	



REPORT OF FIELD COMPACTION TESTS

SNE IA POND

DATE 8-25-85

OUR REPORT NO . 3//

ST DV	ATA: (23	5-7 + 37	304 10 11 WOLK	945, ULW 448,091 01/6977	WATER COMPENT	N PLACE CAY DENSITY	PERCENT COMPACION	Colon(nf =
7	8-25-81	Schopele	Hav	\$2.2-	26.4	87.0	986	1-A C
8		1	7/56.	_	28.0	863	97.8	
9		V.			29.1	86.7	98.2	
0		Sherale			30.0	86.5	98,0	:
J					31.0	4 4,3	95.5	
	V			V				

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.	Ţ.	D	E	F	G	Н	I
Test Lin			Court	Density Ratio	Wat Density	Moisture Count	Ratic		Water Content	Density	^บ ยาceก ใชกกละใ
7	q	3''	4214	0.894	110.0	2025	0.576	23,00	26.4	81.0	986
8		<u> </u>	41.76	0.886	110.5	2121	0,603	24.25	28.0	86.3	97.8
,9			4050	0.859	112.0	2216	٥.630	25.25	29.1	867	98.2
16			3988	0.846	112.5	2270	0.646	26.00	30.0	865	98.0
$\{ \eta_j \}$		/	4173	0.885	110.5	2273	0.647	26.25	3(.0	84 ,3	95.5
1	4 3 3					1					

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 दिचे 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

or the second of the second

31**-**-OUR REPORT NO

TEST D	<u> </u>	1 1 2 4	о v—					
TESP MO	DA'E	DE LLH ETLA	50% 13 H178868	EXCEPTION LAN DRY DENGIT	WATER CONTENT	GENZY,A DHA MANTES	PERCENT COMPACTION	COMMENT *
1_	8-25-87	5 $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	(1975) Vitera	88.2	292	85.5	96.9	1-A
2	}	ri			28.0	875	99.2	
3					2 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	
($\mid \; \downarrow \; \; ,$	Ψ	\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>128</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

								 '	<u>. </u>		
	iest Mo	Probe Depth	Density Coupt	Density (Ratio	Wet Density		Moisture Ratio	Moisture PCF	Gater Content		Perceni Compe ct i
		8"	4185	0.988	110.5	2193	0.624	25.00	29.2	8 5.5	96.9
	2		4239	0.857	112,0	2146	0.611	24,50	28.0	8ე.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	d d	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 indicated by sed to number

- BACKFAL BASE COURSE SUBBASE SOIL CEMENT DITHER
- TEST HESULTSCOMPLY WITH SPECIFICATIONS RECOMPACTION REQUIRED
- C TEST IS AFTER RECOMPACTION
- D. Manieting 2 IN RECESS 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.ASE DO: DEASIFY	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]		.	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 −(# 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 Centh		Density Ratio	Met Density	Moisture Count	Moiszure Ratio	PCF	Macer 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	Ψ	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 Professional Re-

BACKITEL BASE COURSE

ISST RESULTS COMPLY WITH SPECIFICATION RECOMPACTION REQUIRED

TEST IS AFTER RECOMPACTION

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REPORT OF FIELD COMPACTION TESTS

	TESTER TE	FOR		an Mi	il.	۔ دم	P	PROJE		Pord			23-40
1900 5	DATE C	3-2	۔ م	9 7			v Proc⊳i	≥ 0∪8 £	KEPÓRT NO	3 H —			
	TEST	ATA:	- (23.7	+ 38	-42	<u> </u>			rank share to a reads			
	11 S1 MG	<u> </u>	041		1117	SCAL III HETHREE	DEPORTY	WATE COVID		v P(4)	CENT CENT	, COUNCY!	
	,	8-	Z£ -	87 2	-	12	පියි.2	- 19	6 92	.8 105	2 1	-E	
	2	╽		50	reite	\rightarrow		18	··· 	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 (c)	ـــــــــــــــــــــــــــــــــــ		
	1	20		wes-t		00		<u>moranna</u>	<u> </u>		124.J	1.52	
~	<u>.</u>	6		 ا سوع	```			oo anc	A	5. of L	-		
ì	3	a		wes				00' GMC	I = I	2-0f K		one wite	
}	4	Į	<u>र</u> ा	we.s	١	_		 یی an	6	5. of b		losso	
ŀ	5	<u> </u>	O	البوج	1 c	>€		100' Ar	- N	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		22.50	26.0	87.0	98.6

NOTES DENSITIES SHOWN LOS ON CLOCK FOR WATER CONTENT For Cont of dry weath PERCENT COMPACTION Based on maximum day ay density obtained on samply indicated by ...

sol O number

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FA (MATERIAL HACKELL BASE COURSE SURBASE SON CEMENT OTHER

RECOMPACTION HECUIRED G TEST IS AFTER RECOVERACTION O materiage in excess of specs

TEST RESULTS COMPLY WITH SPECIFICATIONS ...

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E. Ministrate baken spece

REPORT OF FIELD COMPACTION TESTS

PALA USD JAMES

QUE REPORT NO. 31(-

TEST D	ATA: 2	13.7 F 3	%-4%	-			=====================================
.fésr ⊷0	0 =1E	CERTH TOTAL	SON, 40 LAB DAY DENSITY	WATER CONTINC	M PLACE CMV DENSITY	PERICENT COMPACTION	COmetat p
7	8-21-87	272	My 88	2 26.0	G0.0	102,0	1-A
જ	<u> </u>		()	274	87.5	99.2	4
3		ST LE)	27.5	97,0	98.6	1-AC
10		Subgradu	<u> </u>	27.2	88.0	99,7	
11			1	28,3	86.5	98.0	
12	\perp			28.2	85.8	97.2	
YESY LO	CATION: N	274 CJ JP	E STA. 13	<u>00'- ⊊05</u>	1.13-12	<u> </u>	1500-1900
7	35 W	st of	- STA-	1300 and	۸۱ .		Subtern of close
<u>, 3</u>	601 w	<u>est</u> þ	E STA.	1400' dr			top of slope
9	Retest of	TESt #	1 8 st	4. 15 oo'			
10	<u> </u>	``	_	R 1(30'	<u></u>		
£)	1.c "	u ,	3 stz	17001			
12	٧٠ ور	. 11 "	4 50	A. 1800'			
	i.		<u> </u>		E F		: H 7

				-	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	22 .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
	7) - 1 15	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 COURSE 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:							.	
TEST DM		iate	CEPTA	SQL (2) No,page(FR	BRIXEOUS LAB 39Y DLASTY	WATER CONTENT	PRÉLICE DAY DENSITY	PEH CEHT COMPACTION	CONTROL T
13	8-3	4.87	SAME A	\geq	88.2	27.2	9 1.3	98.9	1-A
14	<u> </u>		V			281	81.୦	98.6	
15			Substale	\sum_{i}		26.2	84.3	95.5	
16		•	2 <u>~d[rft</u>	\subseteq		29.2	85,5	969	
17			1 .	\geq		27.1	86,5	98.0	
18	-		\mathbf{V}	4	\(/ \	28.5	94.8	96.	V ,
TEST LO	CATION	; <u> </u>	τ Α . 130	0-1	600 NOE	CH SLOPE	ا دیہ ہے اُ ا	1000 90	101-15001
13	301	west				л	•		of slape
₩ 14	25	W45				-			m of slope
15	lot	<u> جسما</u>	40 of:	STA	1500	and 1	L51 FROX	- 14 acy	om of slope
المر[400' D				
17									th slope
18					- 1100 / 2				
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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	— 1	:		4	165	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

MAISA CONTENT Per Cent of dry weight
PERCENT COMPACTION Based on maximum dry
Compact of the percent of the perc

COLUMN CHINA

B. majorine balow spece

FILE MATERIAL
BACKFIL
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A DIMES

A TEST RESULTS COMPLY WITH SPEC B RECOMPACTION REQUIRED C TEST IS AFTER RECOMPACTION C THE MODELLE (L) CALCAGE OF



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

OUR REPORT NO. 3 / (

TEST D	ATA: 23	7 + 3%	-4:	4		/# (/ / - · · · <u> </u>		
TEST, OM	£ru£	OFFT/	MOR ID MUNICIPAL	EAS DAY	WATER CONTENT	N PLACE DRY CENSTY	PERICENT COMPACTION	COMPLET*
19	8-26-87	2nd Lift	5	88,2	261	86.5	98.0	1-A
20			\leq		28.0	84.8	961	
2 (i ro to	- 4		30/1	84.5	95.8	
ير		24	,(2911	84,8	96.1	
Z\$								<u>-</u>
₹)	V				

1200 - 1600 Pond Stook TEST LOCATION; 5TA-12007 and of North slope سلاح 13001 and 21 72

·						··= ==	 -			
		A	В	.	D	. E	F	G	H	İ
lest . No.	Probe <u>Penth</u>	Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio		Water Content	ury Density	Percent Compacti(
19	୫ 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.)
:L/	14		,				·			
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
- a motornia immices of spec
- B. Maistave betan spend

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 MO SON TO NUMBER 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**5.0 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

8-17:87

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	TEST	ATA;	123.7 F	-3%-49	4)		··· - · ··· :=_			 .,,	
	rest NC	ĜY.	E DEPT	ELFV SCOL O				, Province		. COWNER'	
	7	8-0	17-81	3 7	886	ν 33.	7 84	1,5 as.	8 1	A	
	8			1 15	<u> </u>	27.	7 80	,5 98	,O	<u>[</u>	
	G		<u> </u>	$\perp \downarrow \langle . \rangle$	<u> </u>	27.	96	.8 98	,4		
	10			11.11		27.	4 87	5 99	\mathcal{F}	/	
			Z	mar ada		28.	0 85	5 96	9	-11 C	
	42	1 /		<u>V 12</u>	$\perp \nu$	157	,0 B	10 98	.6	V	
	TEST L	OCATION	POMD	FLOOR	1600 70	00) (N.	DRTH SL	3PE 150	70' -1400	2 Code	٢).
	1	30	1 wes	- of	<u>5</u> 7,	A - 1639	o and	<u>5's</u> ,	of NoR	17 27°	se.
	<u>. 9</u>	6	51 we	et 0	<u> </u>	4. 170	o' and	7 to's.	. O€ kra	eth sh	1
ı	19	20	(610	st o	<u></u>		o tano	15,5		orth sl	٠
ţ	10	2	0' We	1	· -				5. OF NO	. •	
	1/	Retest	_:			A . /500	' 848	7	5, 07 N	0.121 <u>n 51</u>	obe
	12.	Retec		 ⊭ Z.		A. 1600		<u> </u>	<u> اعاد</u> د ا		
¦.	مستعي اسا	<u> </u>	A	M Z		D	<u>=</u>	<u>**</u>	<u>5 lape</u>		
	lest i	Probe Denth	Density Count	Density Ratio	Wet Density	Moisture Count	Moisture Ratio	Moisture PCF	Water Content	Density	Percen Compact
!	7	01	3936	0.835				-			AC c
		<u>_2</u> _	2126	0.035	1130	JH 13	0.704	2850	33.7	84.5	17.5
1	8		4775	0.886	105	2103	0.598	24.00	27.7	୧୯.୧	98.(
Tompütations	લ		4132	0.817	111.0	2/19	0/603	24,25	27.9	86.8	98.4
mpùta	ю		4075			2093	0.595	24.00	27.4	87.5	99.2
P	16:		uine!	n anu	1111	1	6 / 80	0 1 00	200	_ · ·	al a

DENSITIES SHOWN LOS per cube foot WATER CONTENT Per Cent of pry weight PERCENT COMPACTION Cased on man mum dry density obtained on sample injectated by

0.600

0.58

BASC COURSE \$009ASS SOR CEMENT

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2065

TEST RESULTS COMPLY WITH SPECIFICATIONS PECOMPACTION RECOMPACTION
TEST IS AFTER RECOMPACTION

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85,5

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 0.98 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

SOIL CEMENT

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E. Maisture training speech

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REPORT OF FIELD COMPACTION TESTS

8-27-87

OUR REPORT NO: 2 () -

DATE	√ ρc	1.01					2),			
TEST D	IATA:	23-7 t	<u>-3%-4</u>	75		<u></u>				
.165F MD	Çu TÇ	DK 01H	ELEV SIZE D	LIB DRY DRASICY	COMPLA COMPLA		504.0-0		COUNTY! *	!
19	8-27	7-87 14	Lift 1956.	98.3	27.	4 85.	5 96.0	i \	-A	
10		£,	nal /		\ <u>2</u> 1.	3 86	8 98			
21			1		27	16 85	0 96	3		
コブ		,	<u> </u>	<u> </u>	129	<u>4 85</u>	0 96			
23		Jud	OKEN /		21	3 86	1 98.	2		
J.Y	$\Gamma \cup V$		V_{\perp}	V	1275	7 85	8 97	2 1	1.5	
	OCATION:	Norn	77 510 PC	5 5712.	1808		900-140	00 Novi P	ELOOR)	
119	40	<u>' Wes</u>	1 6	>11	4 <u>. 1800</u>	<u>'ana</u>	<u> </u>	<u> اردا سرد</u>	tom of	\$ lopet
-20	5.	Mes	1 -	<u></u>	[A. 9 0 0	$\overline{}$		meth	<u>Slope</u>	
21	1.25	عجسانا أي	st of	- 51	A. 1300.	ard "	45's.	of Nor	eth slo	3pe
122	40	<u>, </u>	<u>ਤੀ ਨ</u> ਿ	<u>. 51</u>	7. 1100	and	50'S.	0 NO	<u>rthsl</u>	مهر
23	65	<u>. u</u>	<u>est o</u>	<u> </u>	1. 1200	and	35'5	<u>of 20</u>	, r. f. / (1	عدره.
124	8 5	<u>ين ' ج</u>	<u>kst o</u>	f 51	4-1300	<u>ara</u>	<u> ၁၀′ s</u>	. of No	eth sla	we.L
Real	·	M Done i tra	D Donei+v 1	Vět	D Maistare i	. E Roisture	F Monsture I	G Nater	א א נט ן H	i 1 Percen
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
20		4202	0.891	110.5	2091	0.595	23.75	27.3	86.8	98,4
21		4395	0.932	- ' - ' - '	2071	0.589	23.50	27.6	85.0	963
21		4221	0.895		2178	0620	25.00	29.4	85.0	963
) 7		4200	0.891	110.5	2080	0.592	23.75	27.3	86.8	98.7
12	W.	4310	0.914	109.5	2017	0.591	23.75	27.7	85.8	972
***	WAJER	ES SHONYN 16: CONTENT Peri KT DOMPACTYN	per curic loor Cant of during many	ħ1	2 84	É MARERIA I CNEALL SE COLASE	B RECOMP	SULTS COMPLY ACTION REQUIR FTER RECOMP	ιEO	.'A⊓ONS

vice Industries, Inc.

Shilstone Engineering T aboratory Division:

REPORT OF FIELD COMPACTION TESTS

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TEST DATA:	23.7 + 3%		- -			The Property of
.tesr oxtg	DE PIH ELEV	SON 10 CAS DAY HATERSEA DENSITY	GON FENT	PHPLACE Beth DENSUS	PER CENT	COMM Int T
8-28	87 Final	No. 68.2	28.5	84.8	961	1-4
	<u>Rudutt</u>	$\Delta \downarrow \bot$	26.9	85.5	96.9	
3			27.6	8 5.8	97.2	
4	E trate	<u> </u>	27.0	85.0	96.3	
5	F1001		28.9	84,5	95.8	
<u> </u>		<u>₹</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

0.924 0,606 109.0 2130 84.8 24.25 4356 28,5 96. 0.575 2 0.931 108.5 4387 2020 85,5 23.00 26.9 96.9 3 0.591 0.907 4223 09.5 23.75 *2011* 27.6 ଟ୍ର ଅ

4416 0.937 108.0 0.577 270 94.3 85.0

a612 0.920 109.0 2151 10.0

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

Q. meleture in excess of specs

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



density obtained on Comple indicated by soil ID number

DAĭE	9-8	-87			OUR R	EPÇRT NO	311-			
IEST D.	ATA:	23.7 +	3%-4%	<u> </u>						
3857 60	Ð4-	E	~~ d	THE CHANGE OF A PROPERTY OF A			GE PENC COMPA	ger clage -	COMMENT -	
1		2	ALIFE 2	88.2	28,	(84	3 95	511	À	
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<u> </u>			\$ (} 			1			
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ستجيم	 	- 	·· †`	7	<u> </u>	}		i		
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	CATION:	_ <u>N,эети</u>	SWPE	<u></u>	<u>ا</u> <u>عمدہ - دی</u> ج	,	i	!		
ı	[z		1. 1	5-1		1 <u>1 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / </u>	16/10/19	hotton.	J 4/20	?
^ Z	(, 5		+ of	·		''	or Februar	100°	of 36	R
3	·									J
#								···		
15									- 3	···
										- -
	<u>. </u>	— — —			·	.:E	F	G	# 2%	1
est Ne	Prote Nepth	Density Count	Vensity Ratio	Wet Density		Moisture Ratio	Mansture PCF	Water Content	Dry Dens ity	Perc Comna
,	ළ"	4484		_ 1 ''	2084	0.593	23.75	28.1	84.3	95
2		yot 7	0.903	110.0		ე,590	23.50	27.1	86.8	98
<i>B</i>		1	†	 		· ·		1		
(*		 	1	 -	<u> </u>	 				1.
18 18			<u> </u>		<u>'</u>	 ~	 	1		
THE TA		 			 	 	<u> </u>			1/2
NOT	WYATER	LES SHOWN (COMPENT PA NT COMPACTA	n Cert of cea w	etie: 51	2 82	L MATERIAL CAPAL SE COURSE	A TESTRE B RECOME C TESTES	SULTS COMPLY PACTION RECU AFTER RECORD		ATIONS TO



REPORT OF FIELD COMPACTION TESTS

San Miguel Coop

PROJECT:

IA Pay o

DATE 9-9-87

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TESE NO	CAFF	I DEPTH	SON O MUMBER	OFFICERA PAGE DAIA AVALENTARIA	BATTE CONTINE	PLACE CAL CENSTY	PER CENT COMPACTION	COMMINI *
Į į	9-9-8	7 (st).4	\sim	ශි.	27%	ES.5	100.3	ļ- β
Ż		263 [6		<u> </u>	رد ن ن	4 90	न्य 🕮	1,
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<i>!</i>	43	<u>(</u>	· · ·	<u> </u>	15.0	<u> </u>	44.5
⁷	17.	167	<u>:</u>	40,00		E () () ()	-
_L							

			. A		L	D	<u> </u>	F	Ġ	н	Ţ
	lest Lo	Probe Depth	Density Count	Density Ratio	Ret Density	Moisture Count	Moisture Patio		Water Content	פיטי Density	Compacti Compacti
	1	8"	3920	0.842	1/3/0	2[52	0.300	2250	27.6	୧ ୧.ଟ	1003
	-	1	4631	୦,୧୯୩	1100	a>i=	3,520	24.00	24,2	-88	99.5
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ż				<u> </u>				· · · ·			1
T:	L							<u>-</u>	1	-,	

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.

N. 12 45 11

CHICAT SANDERON



Shilstone Engineering Testing Laboratory Division

REPORT OF FIELD COMPACTION TESTS

San High Con SINC TA POLL PROJECT.

9-10-87

CUR REPORT NO

TEST D.	ATA: 23	<u>57) + 5%</u>	: 47	<u>, ì</u>										
7731 NO	CA*E	DE COME	FTAL 13 MAINHALL	OEMSILA FEB Cylin Mysgaffes	egarta: egarta:	M PLACE BOY COMMENT	PERKINA COMPASTION	COMMITT.						
<u></u>	9-10-27	्त्री, क्यून इत्तर्	5	용일.2.	26.5	858	97,2	-A						
.7	ŀ	<u> </u>			26.6	86.5	98.0							
_⁻₹		Final	/	<u>:</u>	26.0	87.8	99,5							
4		<u>լջի Անք</u>	- .		26.8	87.5	99.2	\square						
		1			27.1	86.5	98.0	1-A						
6	-			Ų.	26.7	86.0	97,5	-						
TEST LO	CATION:	North	T	- 	22. 6 2.	Carl, 19 (, 2.000	2160						

					•	ט	5	F	G)i '	ŀ
les Jig			Jensity Count	Uensity Ratio	Het Density	Moisture Count	Marsture Ratio		water Conten t	Density	Percen Compacti
	: 1	_	मान्त्	0.934	1297.	2.ଚୀର	0.8344	2000	26.5	৪৯৪	17.3
			4317	0.914	109.5	2.35	ر 18	23.55	34%	St. S	୩୪.¢
- Z	3		¥737	0-891	110.5	9.503	0.570	22.75	26.0	87.B	99.5
١	<u> </u>		4128	0.874	1110	2069	0.583	23,50	268	87.5	913
· -	<u>- </u>		4231	0.896	110.0	2092	0.589	28.50	27.1	865	9 <i>8</i> 0
L		· _	4361	0.923	109.0	2038	0.574	23.60	26.7	86.0	9735

NOTES THE STATE STATIONAL TEST OF COME THE WATER CONTENT OF COME OF THE WATER PERCENT COMPACTION Distriction may arrab the density obtained on sample indicated by sof ID number

- TILL MATERIAL BACKELL
- BASE COURSE
- SUDDASC
- SCHLICEMENT
- A TEST RESULTS CONSELV WITH SPECIFICATIONS
 B. RELOUPACTION HS CUIRED
 C. TEST IS AFFUR RECOMPACTION



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>					
121T, 04	5±16	DENSH EIEA	50% 10 M,240(69	DEMOLY THE CALA THE SELECTION	WETER CONTENT	DEV DEV DEVIT	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		· Vera			26.8	88.3	100.1	
5	}	444	1		a¶.6	88.5	190.3	
6		<u> </u>			26.7	86.8	98.4	V

TEST LOCATION: いったては シェッアモ

STA, 2300. 2nd 201 From botbom

			A	ь		D	E	F	ß	K	1
	est Ho	Probe Depth	Density Count	Density Ratio	vet Density	Moisture Count	Marsture Ratio		Mater Content	Density	Percent Compactit
Į	1	8"	1	0.895	10.0	2028	0.571	22.75	26.	873	98.9
	2-	V	4160	0.881	1105	2045	0.576	2300	262	875	99.2
	3	8"	4341	0.930	108.5	2033	0.57અ	22.15	265	85.8	97.2
ļ	4		4025	0,852	112.0	2115	0.596	23.75	26.8	88.3	100
	5		3945	0.835	113.0	2163	0.609	24.50	27.4	88.5	100/3
	- <u>پ</u> ا	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

SUBRASE SOLL CEMERIT OTHER

FEST RESULTS COMPLY WITH SPECIFICATIONS RECOMPACTION REQUIRED

TEST IS AFTER RECOMPACTION C. moisture furantiese of spec

C. Maished below 25423



REPORT OF FIELD COMPACTION TESTS

an Miguel Coop

OUA REPORT NO...

311-

TEST O	ATA: 231	+ 32-4						
.TE.97 (34)	DATE.	CEPTH CLEV	SOLID LAS OFF		WATER BY PLACE DATE AT DRY DE MSI IT		EGMBYCLIÓN BELLÖLM.	¢∩norpu- *
1	9-11-87	Final	\nearrow	8.2	26.7	୫୯୫	984	1 - A
3					28.9	84.5	95.8	
3	V	\mathbf{V}	7	V	27.3	867	98.2	<u> </u>
j				·			į	
			<u>C</u> L					
			7		,			

TEST LOCATION:

10' FROM 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	Moiscure Count	Moistura Ratio		Water Content	Density	Perceni Compa c 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		 -	•	1
	-	┖		 -	 	 	 	 		 	 	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	TEST DATA: 23.7 + 3% - 4%										
2 2nd Lift 27.1 87.0 98.6 3 26.5 86.5 98.0 4 26.2 86.7 98.2	.FES1 MD				1	LATICRY	ANY DICA			COMMENT *	
3 26.5 86.5 98.0 4 26.2 86.7 98.2	t	9-1	4-87	Final	7	88.2	21.0	8 5.8	97.2	1-A	
4 26.2 86.7 98.2	2			2nd Lift	\geq		27.1	8 7.0	98.6		
	3						26.5	865			
	丩	•			15.		26.2	86.7	98,2		
- 1 1 W 1 31 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5				151		279	86,0	97.5	ĺ	
6 V 1st Lift 2 V 28.3 87.3 98.9 V	6		/			\	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	. .	D	<u>. E</u>	F	G	. н	_ I
	st n_	Probe Depth	Density Count	Density Ratio	Wet Density	Count	Moisture Ratio	Moisture PCF	Water Content	Density	Comnatii:
Ĺ	1_	€"	4362	0,9,23	109.0	200	0.583	23.25	27.0	858	97,2
	<u>ء</u>		4302	୦.୧୩୯	10.5	2085	à.5 8 7	23 .50	27.1	87.0	986
	3		4333	୦.୧:୫	109.5	205\$	0.578	2300	26.5	84.5	98 P
	4		4315	0.414	109,5	2025	0.573	22.75	<i>à</i> 6.2	867	98/2
	5		4259	0.902	цо.0	2129	0.600	2400	27.9	860	9715
L	φ	V	4039	C. C 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>						
SEST MO	DATE	CEPIH 1.1V	SOL 10 Mundisa	FWI CUA TWA CUA CHANGE	\$24,6ML \$24,6M	Den Den Den	REPLETATION	COMMENT "
7	9-14-87	Surge	7	88.2	780	85.5	96.9	-A
S)	•	Ist GFT	7		26.7	86.0	91.5	
i			(کرا				<u> </u>	
			ζ,					
			3/					 -
			3		· · ·			
EST LC	CATION: "NES"	5,09e	10	IW. CORVER	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	. E	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				}						Nicon
$\prod_{i=1}^{n}$									•	41
ì ⁻	_	 -	_	1		<u> </u>	<u> </u>	 		k i

NOTES, DENSITE'S SHOWN LOS per cione boll WATER CONTENT Per Cars of dry weight PERCENT COMPACTION BUSED OF TRAINION BY emonly obtained on symple indicated by

sed ID Number

SUBBASE SOL CHIERT

TO CHELL

EASE COURSE

C TEST IS AFTER HECOMPACTION

RECOMPACTION RECUIRED.

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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	· .					3 11			
TEST DATA	ր : և։	23.7 t	3%-4	%		· — · — ·	·			——
JEST MO	¢a P	26/14	SOL SOL		CCH-ret CCH-ret		PERC	EMF CNG4	COLORENS *	_
1 9	-15	ජි7 <u>ධ</u>	d Lift	88.2	2 29.	3 80	0 90	7 1-	- B	
2			\$\tau \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\		26.	3 86	.2 97.	7	AC	
3	$\overline{1}$	Fu	hal S		28.	2 82	.3 93.	3 -	B	
4		1			26.	88	.S J 100	ر-1 3.	AC.	
5			{		29.	2 77.		ĺ	ß	
6	\bigvee		}	IV	26	3 83	5, 94.	le 1 -	B. 12. C.	`
TEST LOCA		WFST				<u>- ዲቶንር ′</u>	(POND)	LOUR TA	<u> ም፲५ ረነ</u> ንደ	<u>; — </u>
<u> </u>	୦,ଫ	outh of	N.M. CORP.	re of was	tslipe i	end 15'	trom top	ofshp	<u>e</u>	
「 2 <u>. </u> .	Ke to	<u>stof t</u>	<u>~† # </u>	<u> 7</u>						
<u>_3</u>	<u> 5'5</u>	۱۱ کو ماجمود	.N.Corryer	of most s	bpe and	8 20'F1	ean but	ton of	sbpe	
<u> 4 </u>	<u>Re-l</u> c	-st of t		25						·
5 3	201	Wasi	P OF	STA.	00 à n	d 20'	5. of 1	weth s	love	
6	35	· li	st of	STA. 18	an an	£ 51	s. of	worth	51006	2
		н	D		D	. E	F	G	н 7	žii a
	obe oth	Dénsity Count	Density (Ratio	Wet Density	Moisture Count	Ratio		water Content	Density	լլյում Մարդ
1	ટ્ર'ં	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	26.1	885	100
5	,	5551	1.176	995	1995	0.562		29.2	77.0	8'
<u>(a)</u>		4765	1.00%	105.5	1945	0.553	22.00	26.3	835	94
NOTES	OHNSIT!! WATER	ES SHOWN LES CONTENT Per (ՀԻՐԻ ԾՐ ԾԻջ ԹԹԿՈ	hr	2 9/4	L MATERIAL CNEILL SE COMBSE		UCTS COMPLY ACTION RECUP FICE RECOMP		A TICK

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%	, - 4	%				,,,,,,
JEST MO	gai{	OF NUM	104.10 M.MREA	DENSITY DESCRIPTION	WATER CONTENT	BY PLACE DPY DENSITY	PERICENT COMPACTION	COUPERT *
1	9-15-87	Final	2	88.2	26.7	86.8	984	1-AC
ଟ େ			_21		27.6	85.0	96.3	1-A
99			\supseteq		26.2	87.5	99.2	1-AC
0 M 0		\mathbf{V}	\sum	<u> j j j</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	{	₩	28.8	85.1	97.1	
EST LO	ICATION: PO	ادر 14 ادم	>	\$7A 1600'-	22001			——

STA 1600' from test # 5 of first page of this report 1015

		_	v.	THE BELLOW	1747 - 34		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	Mossiare Pos	witer Content	Bry Beasity	Percent Compacti:
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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		
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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 (] -

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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()~

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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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NOTES, BENSIFES SHOWN Lbs. set come foot WATER CONTENT Por Charlot by weight PERCENT COMPACTION. Based on national dry solling on symple indicated by solling miniber.

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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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NOTES DENSITES SHOWN Lbs on cubic wat WATER CONTENT Per Cent of dry weight PERCENT COMPACTION Based on maximum dry OMISTY ablained an sample indicated by sa≤ (Dinumber



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)-

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3			4354	0.922	109.0	2035	0573	23,00	26.7	86.0	97,5
4	L		4096	0.867	10.5	21.96	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

114 . 36°

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

Attention: Mr. Clyde Price

Service Service Associated

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 pend bottom liner along any section. This sequence will help reduce traffic and potential damage to the completed portions of the bottom liner.

We would be pleased to discuss the above comments in greater detail at your convenience.

Very truly yours,

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

Robert P. Arias, P.E. Vice/President

RPA/tt

PSI 1987e

Letter to San Miguel Electric Cooperative, Inc. Re: -200 Sieve Analysis 1A Ash Pond Soil Testing, PSI File No. 311-70065-3, from Robert P. Arias, P.E., Professional Services Industries, Inc., July 21, 1987.

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



Shilstone Engineering Testing Laboratory Division

July 21, 1987

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

Attention: Mr. Clyde Price

RE: -200 Sieve Analysis 1A Ash Pond Soil Testing P.O. ≠26643-032108 PSC File #311-70065-3

Gentlemen:

As requested, we have conducted a -200 Sieve Analysis, equal to 44.6%, on the sample of soil obtained from the project site on July 17, 1987. The sample was taken from the center of the pond. It consisted of tan sandy clay. The liquid limit equalled 70, with a plasticity index of 50.

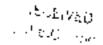
If there are any further questions concerning this report, please contact our office at your convenience.

Respectfully submitted,

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

RPA: 65

cc: (2) Above





Shitstone Engineering Testing Laboratory Division: , 7:238 78026

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

ICSTED FOR

SAN MIGUEL ELECTRIC COOPERATIVE, INCAROLECT

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pond Soil Testing

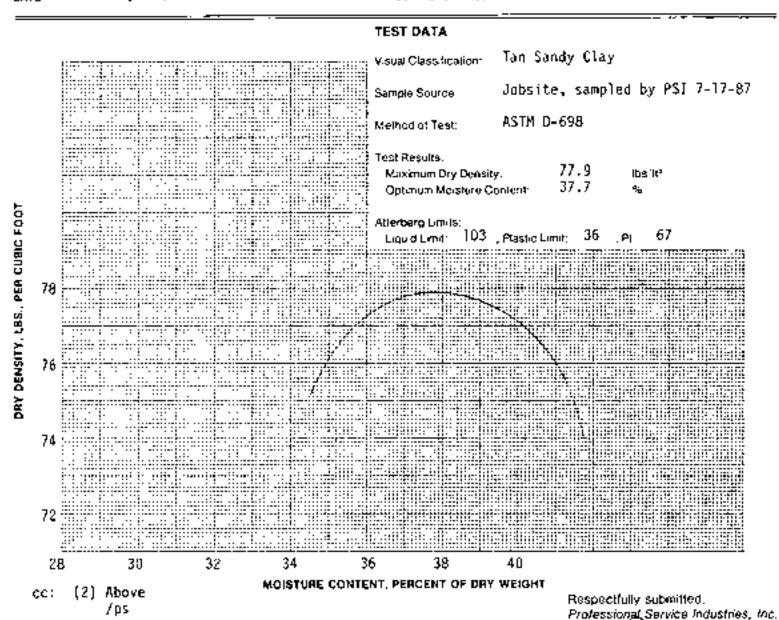
P.O. #26643-032108

DATE:

July 21, 1987

OUR REPORT NO.

311-70065-4





Shilstone Engineering Testing Laboratory Division

REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL

793**150 FOR**

SAN MIGUEL ELECTRIC COOPERATIVE, INGOUGHT

Post Office Box 280

Jourdanton, Texas 78026

Attention: Mr. Clyde Price

1A Ash Pond Soil Testing

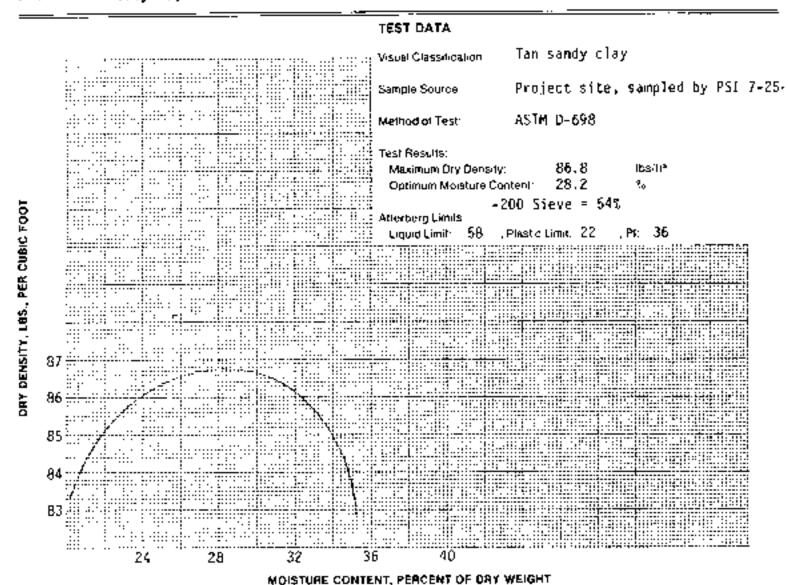
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July 29, 1987

ON TROPAR RUC

311-70065-5



CC: /ps

(2) Above

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 981 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 secpage 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 sail 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 hesitate to contact our office at your convenience.

Respectfully Submitted.

PROFESSIONAL SERVICE INDUSTRIES, INC. (Shilstone Engineering Testing

Laboratory Onvision)

Robert D. Arias, P.E.

Vice President

RPA: dd

PSI 1987g

Letter to San Miguel Electric Cooperative, Inc. Re: *Summary Report Pond 1A Soil Liner Re-Construction*, PSI File No. 311-70065-66, Robert P. Arias, P.E., Professional Services Industries, Inc., October 30, 1987.



Shilstone Engineering Testing Laboratory Division

October 30, 1987

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

KOY ≥ 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 Industries, Inc. dated January 27, 1987.

Prior to the construction operations, PSI visited the site and sampled in situ clay liner materials for testing on March 16, 1987. The results of this testing program as documented in our report dated May 7, 1987, indicated the in situ clays would be suitable for re-use for the pond liner reconstruction.

PS1 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 pend 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 pend 18 was going to slow liner construction in localized areas.

Accordingly, V.K. Knowlton requested that several areas along the south dixe 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. Schoper 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 opposed to scarification and re-compaction in place.

Five (5) saturated areas along the south dike toes and south dike slope were identified and reported on July 22, 1987, in Report No. 311-70065-9. These areas were dewatered and excavated. During this process unsuitable 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 pentonite 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 toree 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 IA, 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 pend lA 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

TESTED FOR MORRISON-KNUDSEN

P.O. Box 850

Jourdanton, Texas 78026

Attn: Mr. Gennis Price, P.E.

PAQUECE

Ash Pond & Liner

San Miguel Power Plant

DATE.

June 13, 1991

DUR REPORT NO: 311-30155-63

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 buildozers, 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

16STEG FOR

MORRISON-KNUDSEN

P.O. Box 850

Jourdanton, Texas 78**C**26

Attn: Mr. Bennis Price, P.S.

"ROJEC"

Ash Pond B Liner

San Miguel Power Plant

DATE

June 13, 1991

CA SACHER AUG

311-00155-63

Page 2 of 3

TEST .	DATA: Optimum	Moisture	: {34.	36.2%)		· ——- · —		
1.75	50g	Fil -	KO 0	U4.44.10	wart o	POPLACI (See CRANTE	CONTRACTION	Compress *
1	06-13-91	final .	 34	80.6	36.7	81.2	100.7	1-A
: 2	13-91	Final	34	80.6	36.4	81.0	† 100.5 100.5	
; 3	06-13-91	<u>(inal</u>	34	<u>8</u> 0. <u>6</u>	38.8	78,5	97.4	
! 4	06-13-91	Finai	34	<u>80.6</u>	37.3	80.5	99.9	1-A
5	06-13-91	<u>Final</u>	34	80 <u>.6</u>	36.9	80.G	99.2	
EST L	06-13-91 OCATION:	<u>F</u> inal	34	80.6	37.0	81.0	10 <u>0.5</u>	1_A
1	Ash Pond B	floor area		2 * 10 and 1	——. E 27 + 5G			
; <u> </u>	Ash Pond 8				· ·	— ·		
3	Ash Pond B 1							———— <u>-</u> i
<u>.</u> 4	Ash Pond B f							
<u></u>	Ash Pond B #				—:——: —			——·—
_6	Ash Pond B f	luor area	- <u>N</u> 2	+ 20 and E	:3 + 50		· —- —-	

YOTES DENSITIES SHOWN Lbs per critic loc: WATER COWIENT Per Chrisolidiy weight PERCENT COMPACTION Based on maketing dry density oblineed on sample indicated by

spelifications

- 1 FILL MATERIAL
- P BASS COUPSE
- 4 SUBBASE SON CEMENT 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

TESTED 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

OUR REPORT NO.

311-00155-63

Page 3 of 3

TEST D	ATA: Optimu	m moisture	; (34	, 36.2%), (2	2, 28.2%)		:	
957 90	; alv	Name Cl.	NDL 1 NEWHOU	AR CH False, In	WATERS CONSERS	M PLACE ENT DESIGNE	PERCINE EOMPRETON	cauui 4- *
. 7	06-13-91	Lift 24	34	80.6	38.0	79.0	98.0	:-A
	06-13-91	Lift 26	34	80.6	38.4	79.5	98.6	1-A
į 9	06-13-91	lift 28	34	80.6	38.5	78.7	97.6	1-A
10	06-13-91	Lift 30	34	80.6	38.9	79.2	98.3	1-A
11	06-13-91	Final	2	89.8	28.5	89.5	99.7	1-A
L:2	06-13-91	Final	2	89.8	28.5	88.7	98.8	1 - A

TEST LOCATION:

- /	: Ast	1 Pond	В	floor	area	-	Ν.	2 +	- 2û	and	Ε	12	*	10
								_						

- 8 Ash Pond B floor area - N 2 + 10 and E 12 + 20
- 9. Ash Pond B floor area - N 2 + 25 and 2 12 + 25
- 10 Ash Pond B floor area - N 2 + 10 and E 12 + 10
- 11 Ash Pond B floor area - N 2 + 30 and E 12 + 25
- 12 Ash Pond B floor area - N 2 + OD and E 12 + 30

NOTES IDENSITIES SHOWN Can per place feet WATER CONTENT Her Gentleff dry whight PERCENT COMPACTION Based on maximum div

remains obtained on sample indicated by sectID number

- FILL MATERIAL BACKFILL
- RASE COURSE
- SUBBASE SOIL CEMENT
- OTHER
- A ITES HESULTS COMPLY WITH SPECIFICATIONS
- 8 PCCOMPACTION REDUIRED
- C. JEST IS AFTER RECOMPACTION.

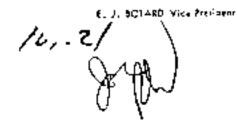
REMARKS:

cc: (2) Above

Respectfully submitted. Professional Service Industries, Inc.

San Miguel 1979a Letter to National Soil Services, Inc. Re: Certification of Ponds, from Gerald V. Camber, San Miguel Electric Cooperative, Inc., February 13, 1979.





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 4087 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 Son Migue! Plant Site.

In his inspection of the ponds, Raymond Marris, Field Representative, Texas Department of Water Resources recommended to TEXA 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. Cam²er Environmentalist

GC/jas

cc: Ron Magel
John Cleary

San Miguel 1979b Letter to National Soil Services, Inc., Re: Authorization to Proceed, from E.I. Wohlschlegel, San Miguel Electric Cooperative, Inc., February 14, 1979.



107.21

Poud Certification

MOTED FED 2 3 1979

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 Texas Department of Water Resources. The reports are to be sent to us and they in turn will be sent to the Texas Department of Water Resources.

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

CC/jas

cc: Ron MageL

San Miguel 1983

Letter to Texas Department of Water Resources, Re: Industrial Wastewater Inspection of May 26, 1983, San Miguel Electric Cooperative, SMEC File No. 311.9055, from R.P. Metcalfe, P.E., San Miguel Electric Cooperative, Inc., August 19, 1983.



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

Atascoss County

TOWN Letter Doted July 29, 1983

(200 Pile: 111.9055)*

Dear Mr. Francis:

The following is in reply to your letter, dated July 29, 1983.

- "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."

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. Sam above.

Be: Industrial Westewater Inspection of May 27, 1983 Permit No. 0261, TDWR Letter Dated July 29, 1983

Page 2

- 2) "The west and east side outer banks of Ash Pond "A" are apparently leaking contents. The clay liner on the inner bank of Ash Pond "A" (near the inlet pipes) bes begun to erode.
 - A. A program to vegetate the outer banks should be looked into in order to stop erosion."

Various programs for prevention of erosion are being evaluated at this time, including rip rap, vegetation, etc.

B. "Please identify the reason for pond leakage and your proposals for elimination."

We are currently at a loss to explain the leskage. We have contacted two (2) consulting firms that are competent to assess the problem and recommend a solution. In the meantime, we are ordering pipe in order to place the South pond in service. When the North pond is empty, we can make the necessary inspections to the inside of the dike and attempt to locate the point of scepage. During this time, we also plan to remove the ash that has built up, although the pond is far from being filled to capacity.

3) "Ash Pond "A" had only six inches (6) of freeboard. This pond is also approaching sludge capacity."

See above. Presently the pond level has been lowered and we are operating with freeboard of 12" - 18". Further studies will be made of the ash water suction piping to see if it is possible to eliminate vortexing. If this study results in vortex elimination, the pond level can be reduced further.

4) "Back-up pump at the bottom ash hopper was not working."

The electrical problem that occurred during the day of the inspection has been located and corrected. However, one of the pumps will be removed and replaced with another 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 Souse Creek."

It is impossible to explain how or why this could have happened at that time. The suction piping extends from the intake structure near the East and of both ponds and them into the two head tanks. If we had experienced a total power outage, and all pumps were on and running at

Attn: Ar. Vernon I. Frencis

Ma: Industrial Westewater Inspection of May 27, 1983 Parmit No. 0261, TDWN 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 pood pumps are leaking to an overflow gutter which discharges to Souse Creek."

Plans are underway to curb around this pump area and to collect pump seal leakage. This leakage will be pumped back into the ash pond or into the pumps suction system.

I hope that we have answered your questions in a satisfactory manner. It is our intention to operate in compliance with all available regulations. If you have any further questions or want to discuss the previous points in more detail, please let me know.

Yours yery truly,

R.P. Metcalfe, 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: *San Miguel Steam Electric Station, Plantsite. Industrial Wastewater Inspection of May 27, 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 9953-Fe econ-

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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		3 71
	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 low original ground elevations, the dikes of ponds "A" and B" are comprised of a lower section of in-situ clay and an upper section of compacted clay. A five-foot-deep inspection trench was opened and backfilled with compacted clay along the toe of the interior 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.

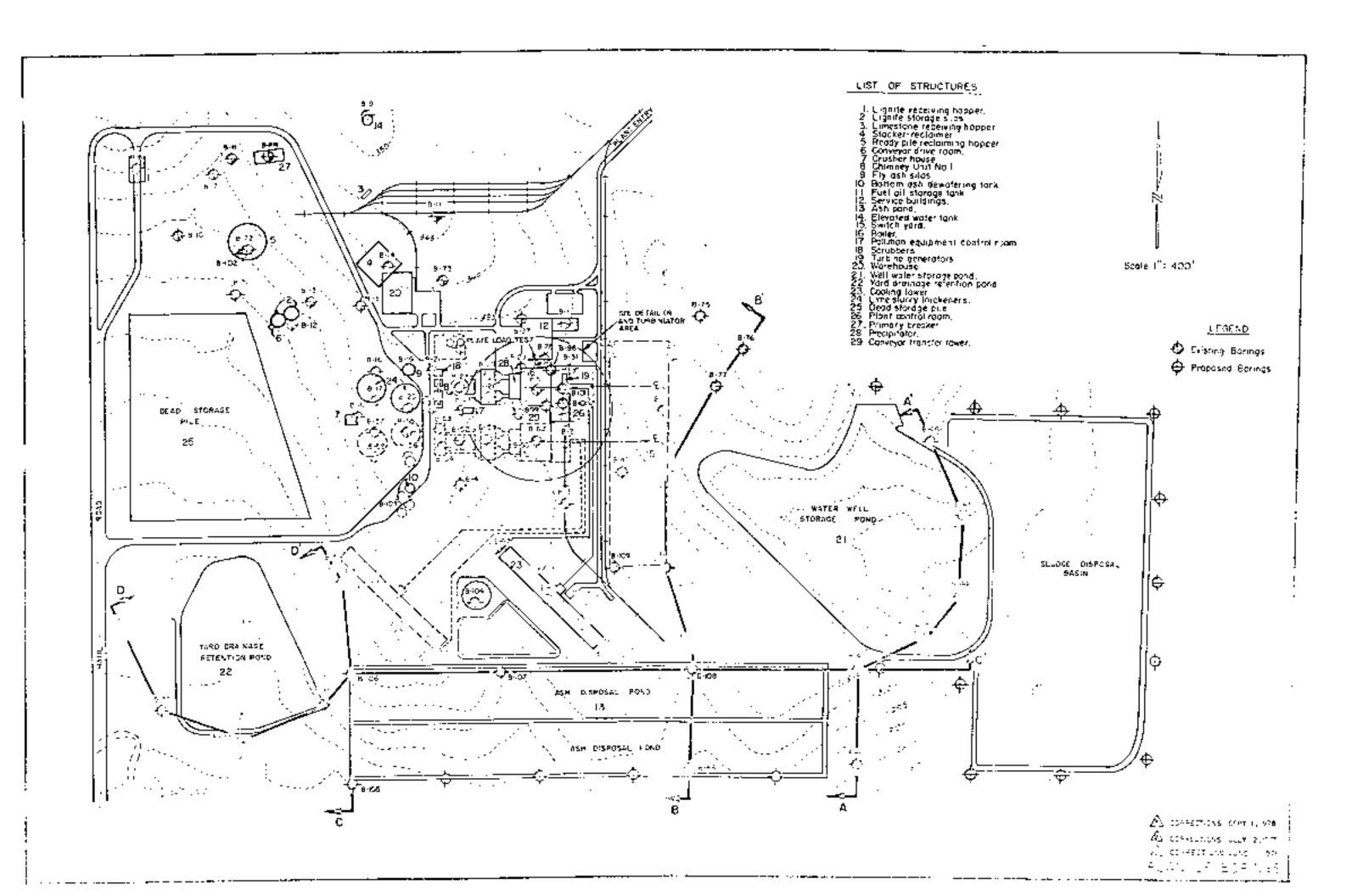
Gory G. EdFrance, P. E. Manager of Engineering

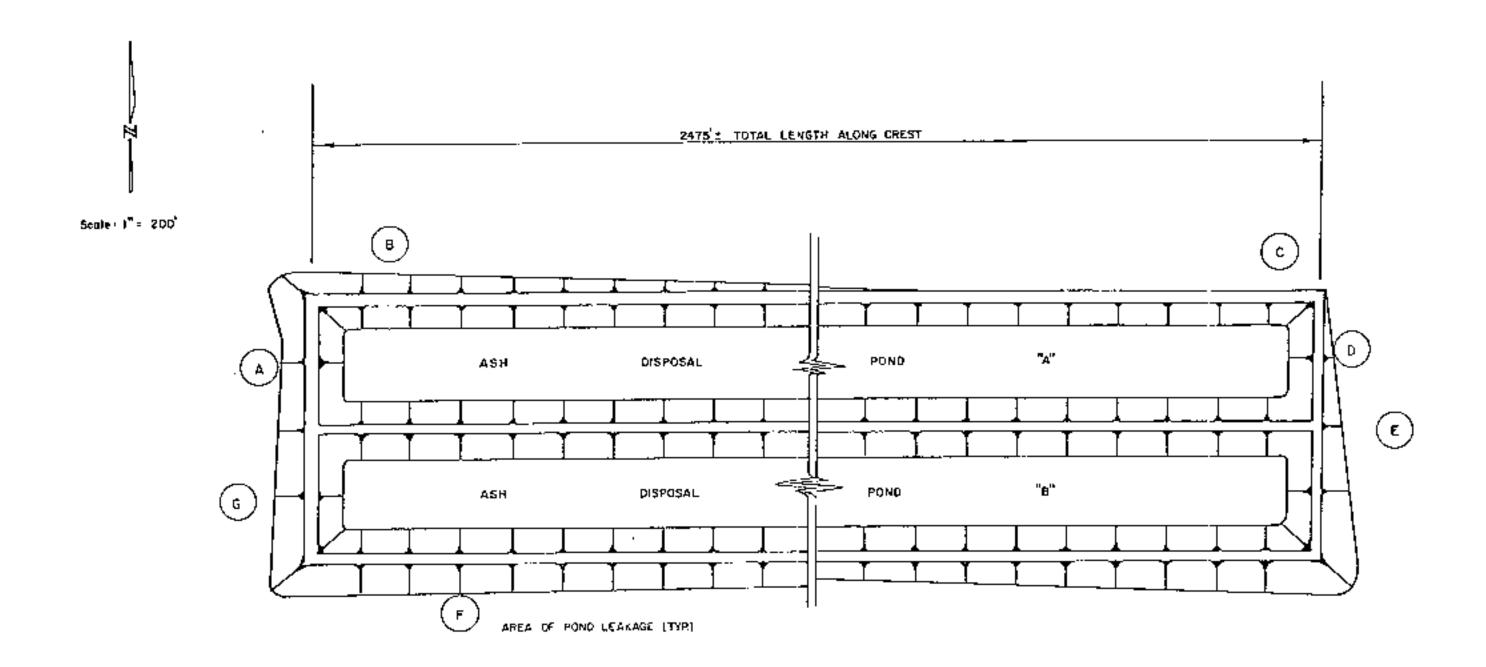
Ralph J. Reum /GC Rolph F. Reuss, P. E.

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, releases laming-sans w/roms sand 171|||||||| great His ICLI hard light prawnish-ton clay -/telenite seams - jaintes 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 con

	LOG OF BORING G&T COOPERAT PLEASANTOR	TIVE PROJECT
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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	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 ward, wylight brawn play seams,	œρ						
	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	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							
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						_			-
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		· · ·	-	
		(CL)			
	Hard fight gray silty clay w/numerous selected pockets	/ C D	iΠ	<u> </u>	
	Hard light red clay w/seignite seams			- -	
	-w/numerous iron famingrions	(CH)			
	Pard light gray ulty clay w/occosional clays y pockers	(ÇL)			
	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 whey till leminations before 48'	ļ			
<u></u>			- -	\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 -----111 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 TOWNS OF T. NO. ST.
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					
20-] 	-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	oring	5.			
DEPTH, FT.	SYMBOL	STIMMES	SOIL DESCRIPTION ELEVATION: 290.8'		WORSENS . SWE	gino.	PLASTIC LIMIT	WOISTURE CONTENT W	SMEAR STRENGTH IN TONS/SQ FT. AND LINE CO.S. TO FS.
H		7	Still brown silty clay	· {CL)				-	
- 5			Tan clay, w/accessioned crystal material	,	55	ы	15		
			Deme les sondy silt		54	28	19		
-10-			-3sen stoined			31	18		
-20 -			Dente ton sixty fine sand, iron stained						
30 -	ļļi.			(534)	-			ļ	
-35 -			•						
-40-									
.45 .50									
	COMPLETION DEPTH: Z5,0*								
COMP.	###******								

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.,	Н		<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, w/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

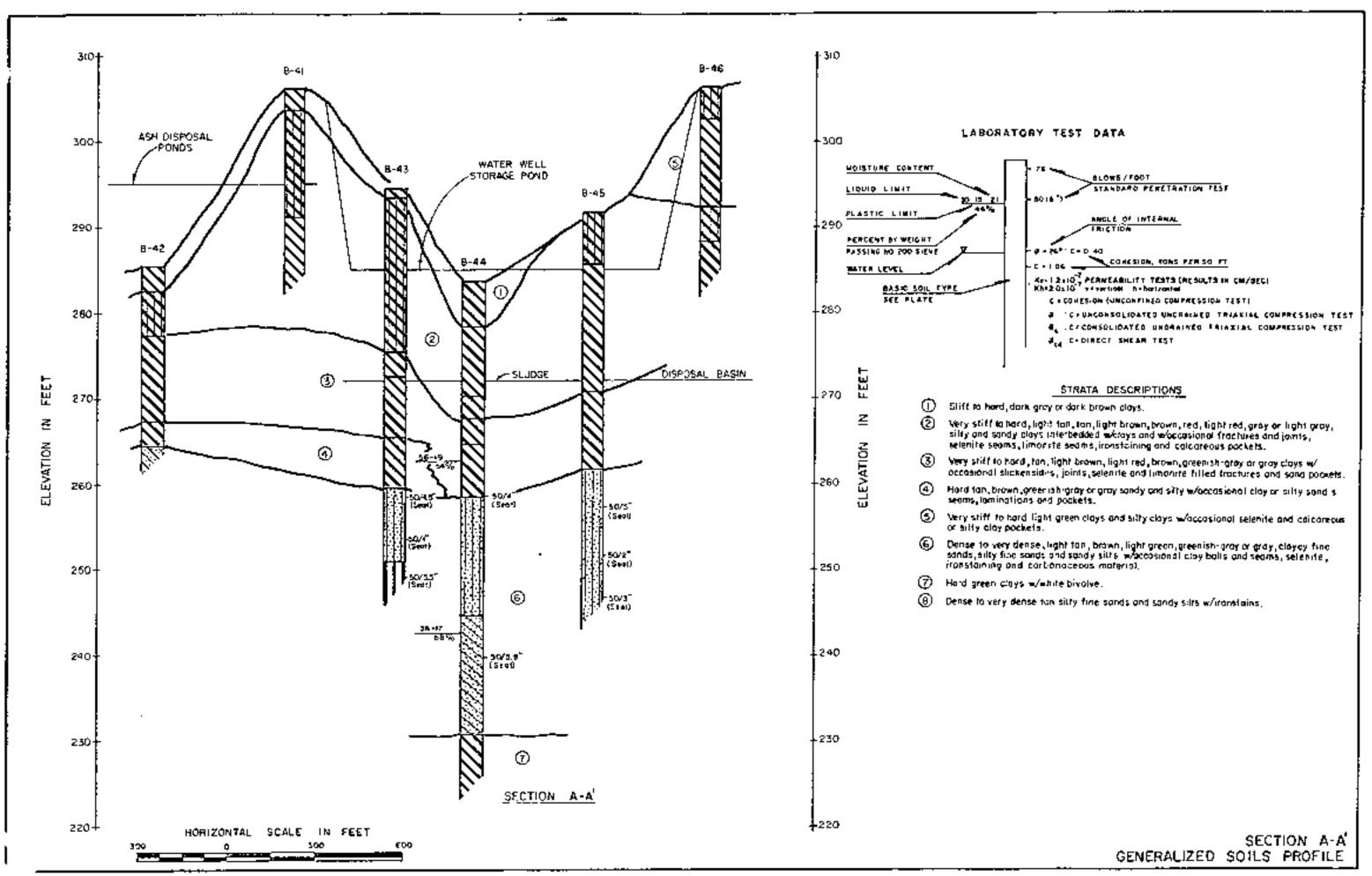
DEPTH , FT.	SYMBOL	SAMPLES	SOIL DESCRIPTION		NO 200 SIEVE	Liberio	PLASTIC	MOISTURE CONTENT Y	SHEAR STRENGTH
냣	4	4	ECEVATION: 302.9" Stiff dark brown clay	.	\vdash	<u> </u>	<u> </u>	\square	<u> 05 0 5 </u>
\Box	$\langle \rangle$	-		(CH)		_	_		
			Horai light tan clay, w/iron stain		71	83	28		
			-light 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				
- 				i	ĺ				
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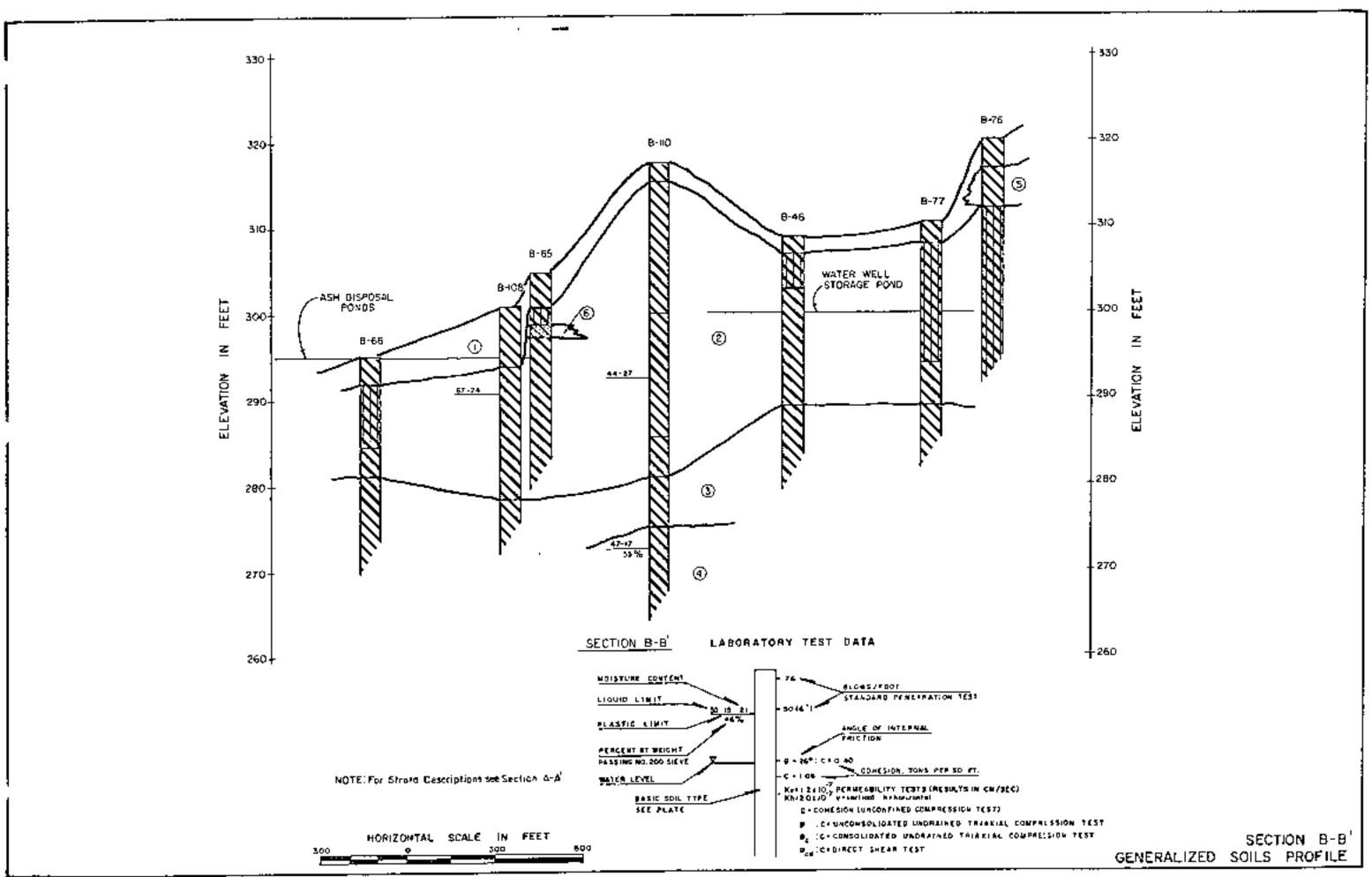
LOG OF BORING NO. B-109 G & 1 COOPERATIVE PROJECT PLEASANTON, TEXAS

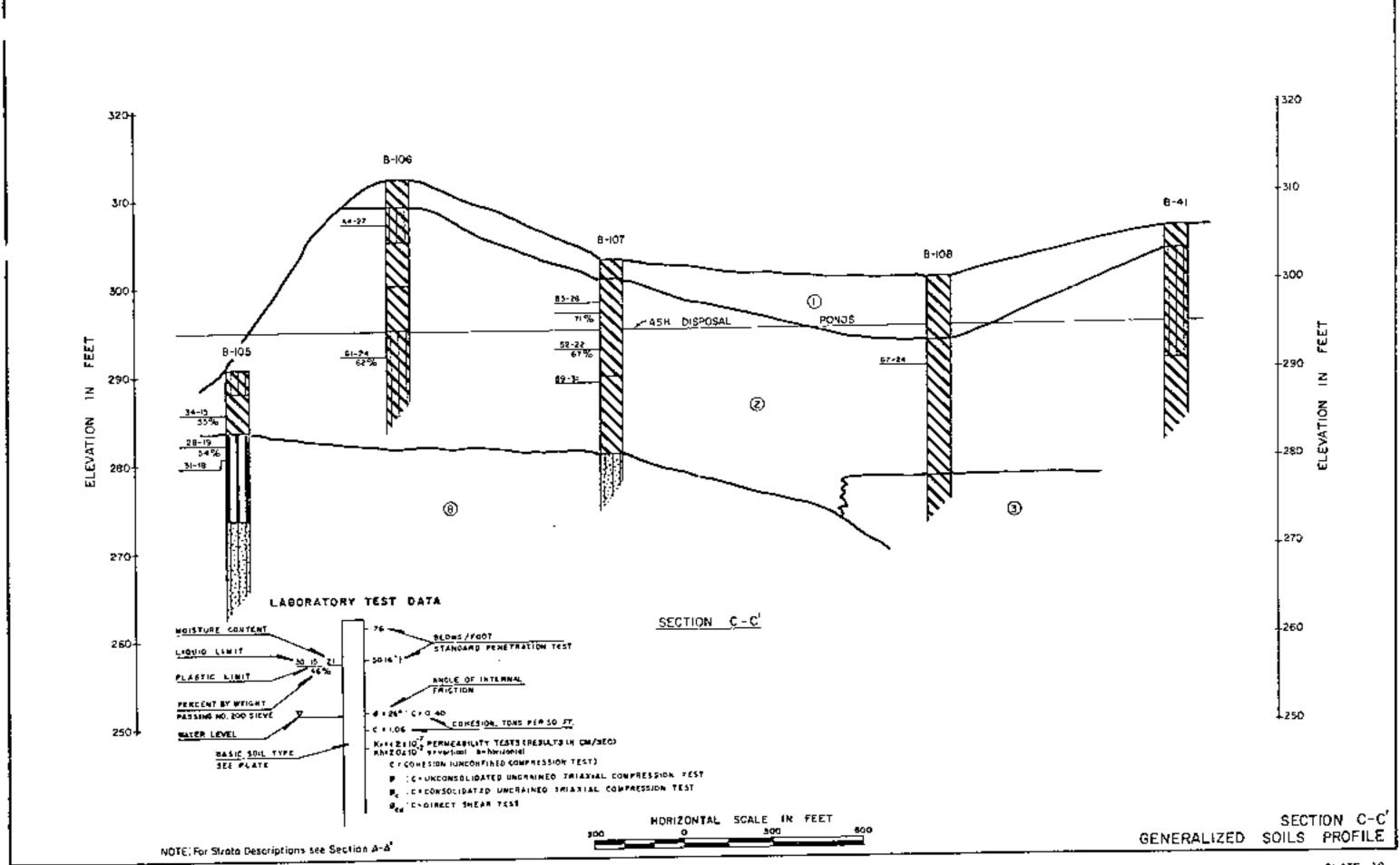
-tan -tan -	TYPE	: e	ORING : Undissurbed Somple LOCATI	ON: See Plan of Borin	ı.				
Stiff dark brown clay	- -	SYMBOL SYMBOL		وا غار	NG2DOSEVE -	TIMIT MIT	PLASTIC LIMIT	MOISTURE CONTENT, 76	IN TONS/SOLFT. AND LINE
-ton -ton -ton -ton -ton -ton -ton -ton			Stiff dars brown clay -very stiff	{CH1			•		
Mord 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		†	1	7		*************************************
	-30 - -35 - -40 - -50		TETION DEPTH: 25 A						
School gard, 50 d. Specifical									

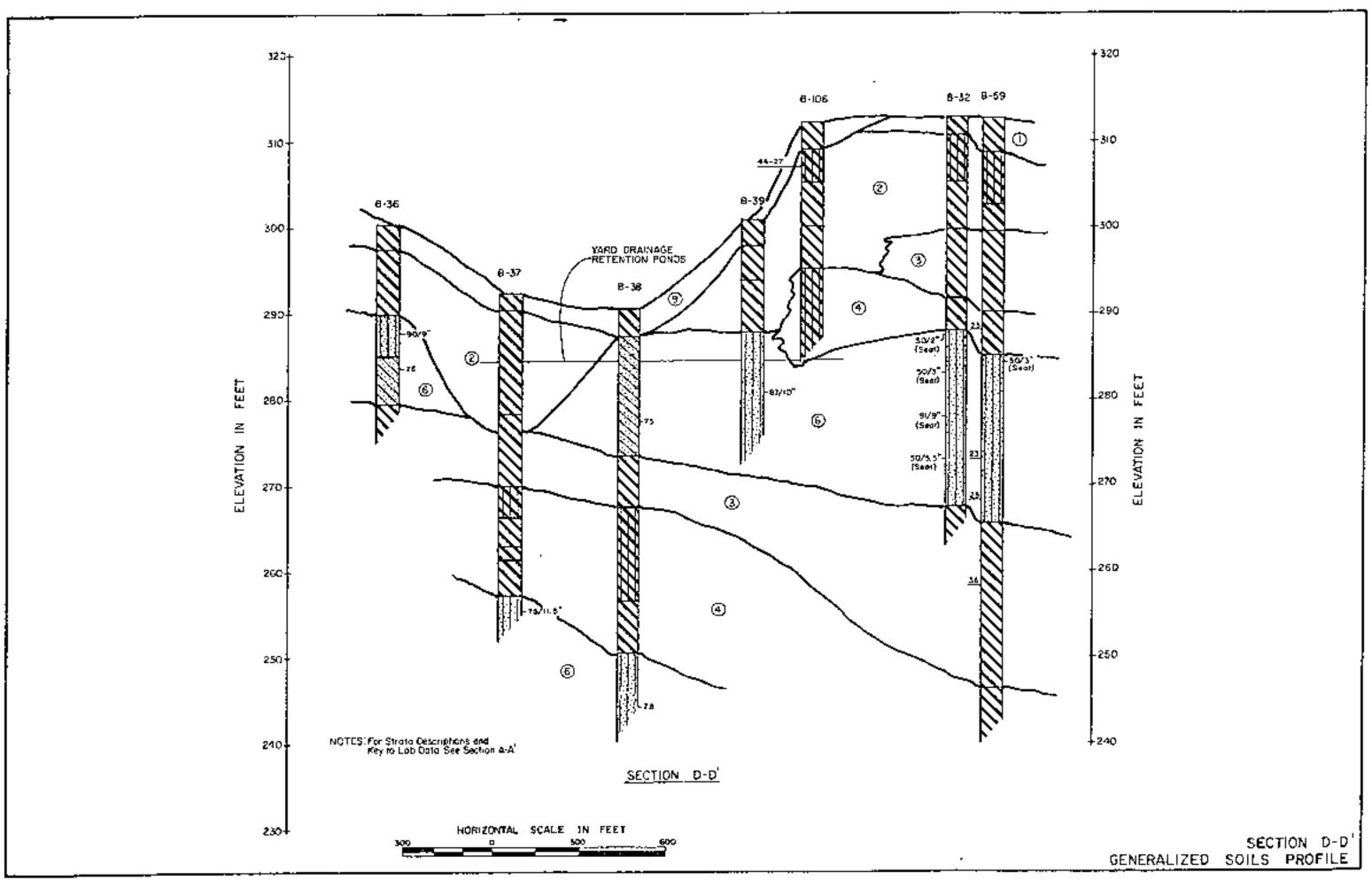
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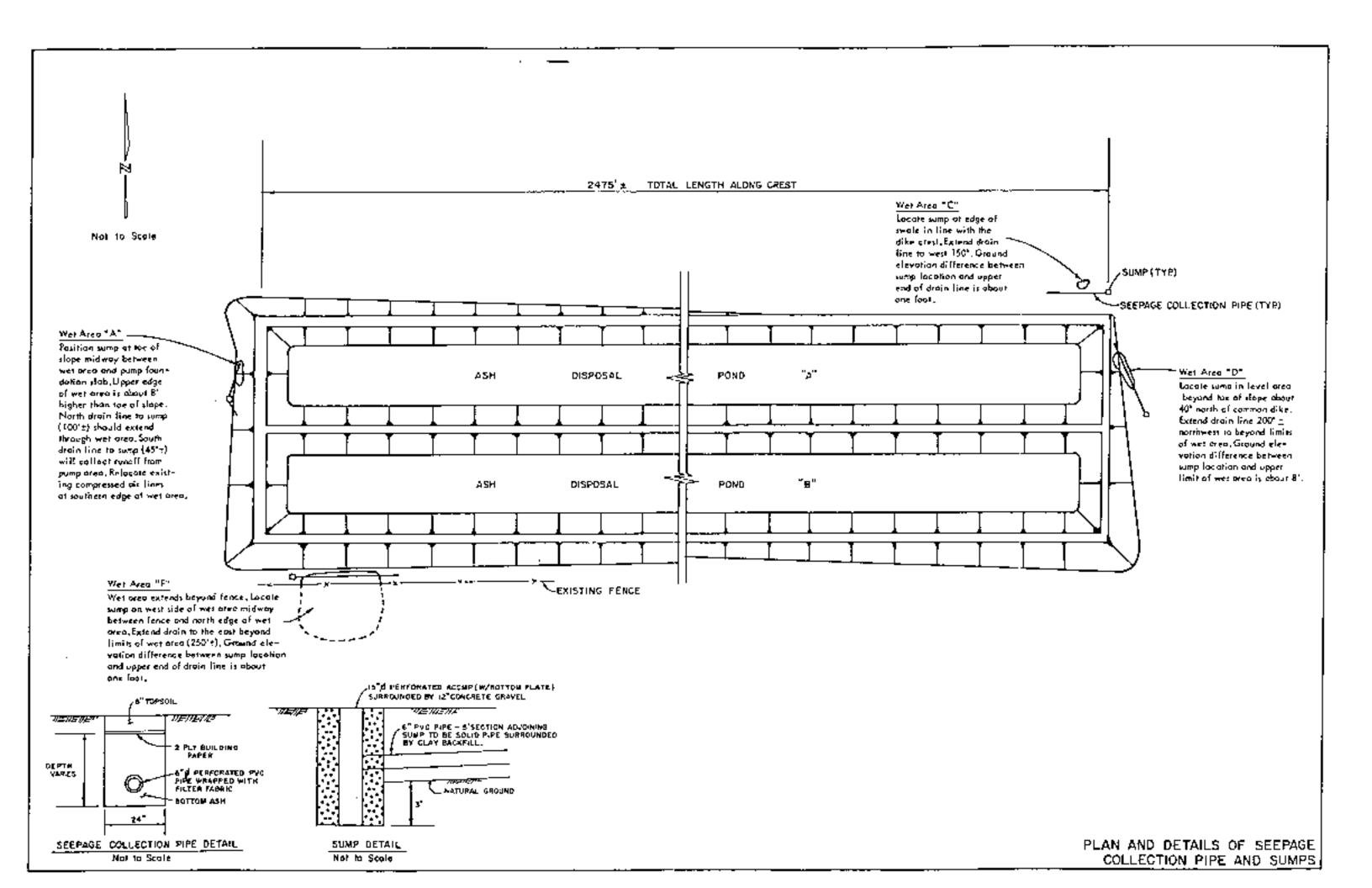
ILLUSTRATIONS











10/12/16 Draft Privileged and Confidential Attorney Work Product

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 Son Miguel Unit \$1, 3A Ash Pond Clay Liner.

Construction

(SMEC File: T311.8400)

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.

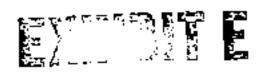
The 1A Ash Pond involves the four inner bank walls and the pond bottom. Your soil testing company shall test clays to meet the following specifications.

Liquid limit greater than 30

Plasticity index greater than 15

Permeability less than 1 x 10-7 cm/sec

 Compaction Lests 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. Mr. 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

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 Higuel 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.

PL W 67

Clyde Price

Project Engineer

CRP/ba

10/12/16 Draft Privileged and Confidential Attorney Work Product

San Miguel 1987b Letter to V.K. Knowlton Paving Contractor, Inc. Re: *San Miguel Unit* #1 *General Notes for 1A Ash Pond Clay Liner Construction*, SMEC File No. 311.8400, from Clyde Price, San Miguel Electric Cooperative, Inc., May 8, 1987.

Environmental Resources Management



SAN MIGUEL ELECTRIC COOPERATIVE, INC.

May 8, 1987

V.K. Knowlton Paving Contractor, Inc.

Mr. John Stuart

Rt. 3, Box 2096K

San Antonio, Texas 78218

Re: San Miguel Unit #1 General Notes for 1A Ash Pond Clay Liner

∃Eonstruction

(SMEC File: 311.8400)

Dear Hr. 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

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.

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, May 7, 1987, the soil testing company and your firm shall be expected to perform your respective work during the hours 7:00 AM thru 5:00 PM, Monday thru Friday. Since coordination among the three companies and work phases will be necessary to prevent conflicts, delays, etc., this working time frame should prove advantageous to all concerned.

RECEIVED

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.

Billing and drawing schedule shall be once per month.

SAMEC 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.

Konta stalk

Clade Price

Project Engineer .

Attachment

CRP/bn

10/12/16 Draft
Privileged and Confidential
Attorney Work Product

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 FOND LINER RECONSTRUCTION

DATE:

July 10, 1987

OWNER:

San Miguel Electric Cooperative, Inc.

CONTRACTOR:

V. K. KNOWLTON PAVING CONTRACTOR, INC.

PLANT LOCATION: Atascosa County, Texas

- 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 lA 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:
 - a. Liquid limit greater than 30,
 - b. 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.

All deficiencies discovered by PSI shall be noted in a written report made by PSI to the Owner. If it is determined by PSI that any such deficiency was caused by the Contractor's failure to perform the work in accordance with the requirements set forth in the Contract Documents, then Contractor shall take all steps necessary to correct any such deficiency, at no cost to Owner. Provided, however, if it is determined by PSI that any such deficiency was caused by the characteristics of the clay material provided by the Owner or pre-existing in the IA 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 harmless, and defend, the Owner, its officers, directors, agents, employees, attorneys, consultants, and engineers (bereinafter "Indemnitees") from and against any and all claims, suits, damages, and expenses of every kind, including attorney's fees, asserted against, incurred by and/or recovered from Indemnitees for injury to or death of any person or persons and for damages to or loss of property, arising out of or attributed, directly or indirectly, from the activities performed by the Contractor's employees/subcontractors, to include, but not limited to, the preparation, performance, and/or inspection of the work and/or services to be provided in accordance with this Contract. This indemnity expressly includes all claims or demands arising both from alleged negligent conduct and/or claims and demands based upon a theory of product liability or strict liability in tort.

If Indemnitees, in the proper enforcement of this Indemnity Agreement, shall incur reasonable and necessary expenses, or become obligated to pay attorney's fees or court costs, Contractor agrees to reimburse Indemnitees for such expenses, attorney's fees and costs within thirty (30) days after receipt of written notice from Indemnitees of the incurrence of such expenses, costs, or obligations.

- 10. Insurance Contractor and its subcontractors shall provide proof of and maintain until completion of the above described work at Owner's plant, the insurance coverage described in Exhibit "C", which is attached hereto and incorporated herein for all purposes.
- 11. Safety Policies Contractor, its employees, supervisors, and subcontractors, shall adhere to all applicable federal, state, and local laws, all OSHA standards, and Owner's safety policies and standards (Exhibit *D*).
- 12. Default If default shall be made by the Contractor in the performance of any of the terms of this Contract, the Owner,

without in any manner limiting its legal and equitable remedies in the circumstances, may serve upon the Contractor and/or the Surety upon the Contractor's Performance Bond, a written notice requiring the Contractor to cause such default to be corrected forthwith. Unless within ten (10) calendar days after the service of such notice upon the Contractor, such default shall be corrected or arrangements for the corrections thereof satisfactory to the Owner shall be made by the Contractor or its Surety, the Owner may terminate this Contract and the Contractor and its Surety shall be liable to the Owner for any cost or expense in excess of the Contract price occasioned by the Owner's reletting the Contract to a different Contractor.

- 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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- 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 Blectric 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.

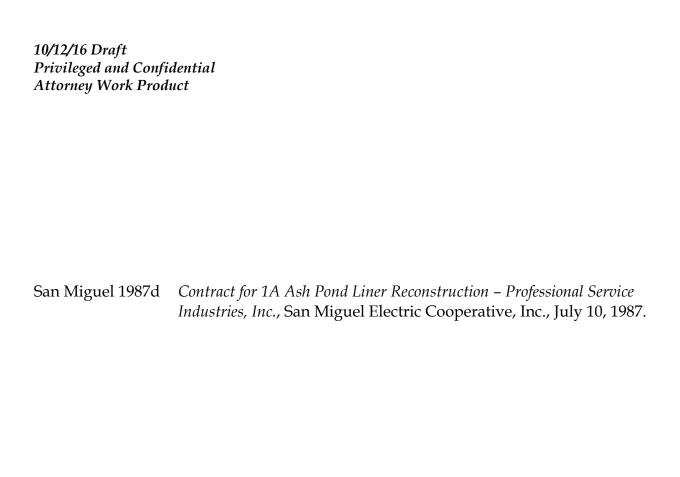
Executed this 10th day of July, 1987.

SAN MIGUEL ELECTRIC COOPERATIVE, INC.

V. K. KNOWLTON PAVING CONTRACTOR, INC.

Title Plant Mage

Attest



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 IA 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 IA 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 Cwner is relying on the accuracy of Contractor's test results and other information contained in PSI's letter dated May 7, 1987 which is attached hereto and incorporated herein as Exhibit "F".
- 2. Owner shall pay Contractor for services as outlined in PSI's proposal dated February 5, 1987 which is attached hereto and incorporated herein as Exhibit "G". In the event of a conflict between this contract and Exhibit "G", this contract shall prevail. Owner is to be billed for actual days utilized by PSI on this project.
- 3. Progress Payments The Owner shall make monthly installment payments on account of the contract price on the tenth day of each month beginning on the tenth day of the month following the first full month of work. Such payment shall be in an amount equal to one hundred (100%) percent of the contract prices described in Exhibit "G" for the value of the labor performed and the rental value of the equipment used by the Contractor at the work site up to and including the final day of the previous month, as determined by the certificate of the Contractor. At the time a request for payment is made, Contractor shall provide Cwner with copies of all invoices, work orders, manpower lists, weekly time sheets, job progress reports, equipment logs, statements, bills, etc. supporting the work and/or equipment for which Contractor requests payment.

Progress payments may be withheld if:

- (a) Work is found defective and not remedied;
- (b) The Contractor does not make prompt and proper payments to any subcontractors;
- (c) The Contractor does not make prompt and proper payment for labor, materials, or equipment furnished it; or
- (d) Claims or liens are filed on the job.

The Owner shall make final payment to the Contractor for work performed and/or equipment used by the Contractor during the last month of work after thirty (30) days but before thirty-five (35) days after the Contractor's performance is accepted by the Owner in accordance with paragraph 7 hereof; provided, however, such final payment shall further be conditioned upon the Contractor's delivery to the Owner of a complete release of all 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 Owner to commence work. Contractor further agrees to complete the work within seven (7) calendar days after V. K. Knowlton Paving Contractor, Inc.'s performance is accepted by Owner. The work shall be performed by Contractor between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday of each work week.
- 5. Force-Majeure The time of performance shall be extended for the period of any reasonable delay due exclusively to causes beyond the control and without fault of the Contractor, including changes in the specifications as herein provided and acts or as solely responsible. Provided, however, that no such extension of time for completion shall be granted the Contractor unless by the Contractor for such an extension of time, the Contractor shall have made a request therefor in writing to the Cwner and, 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 Owner's report have been satisfactorily corrected or, in the alternative, it may accept the Contractor's performance in its then present condition; said acceptance being expressly conditioned upon the Contractor's written assurance that the corrections can be satisfactorily made within thirty (30) days at Contractor's expense. Said assurance shall be in addition to the Contractor's responsibilities relative to any and all warranties set forth herein and/or implied by law.

Failure of the Owner to discover and/or report any defects in the Contractor's performance will not constitute a waiver of or in any way alleviate the Contractor's responsibilities as set forth herein.

8. Indemnification - The Contractor warrants that the Owner will not be legally responsible for liabilities resulting from or relating to activities by the Contractor and/or Contractor's employees/subcontractors. In this regard, the Contractor agrees to indemnify, save harmless, and defend, the Owner, its officers, directors, agents, employees, attorneys, consultants, and engineers (heteinafter "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

general english programmer series in the series of the ser

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").
- Il. 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 Contract 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 malled by either registered or certified mail, return receipt requested, postage prepaid, as follows:

Owner:

San Miguel Electric Cooperative, Inc.

Attention Clyde Price

P.O. Box 280

Jourdanton, Texas 78026

Contractor:

Professional Service Industries, Inc.

Three Burwood Lane

San Antonio, Texas 78216

- 22. Waiver The waiver by any party hereto of a breach of any provision of the Contract Documents shall not operate or be construed as a waiver of in; sub equent breach by any plifty and may not be changed except by written agreement duly executed by the carties hereto.
- 23. Additional Documentation In connection with this Contract, as well as all transactions related to this Contract, the parties hereto agree to execute and deliver such additional documents and instruments and to perform such additional acts as may be necessary and appropriate to effectuate and perform all to the terms, provisions, and conditions of this Co. act i 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 heirs, executors, successors and assigns.
- 26. Amendments No amendments to this Contract shall be valid unless prepared in writing and executed by each of the parties hereto.

Executed this 10th day of July, 1987.

SAN MIGURL ELECTRIC COOPERATIVE, INC.

PROFESSIONAL SERVICE INDUSTRIES, IVC.

Title

Attest

By_

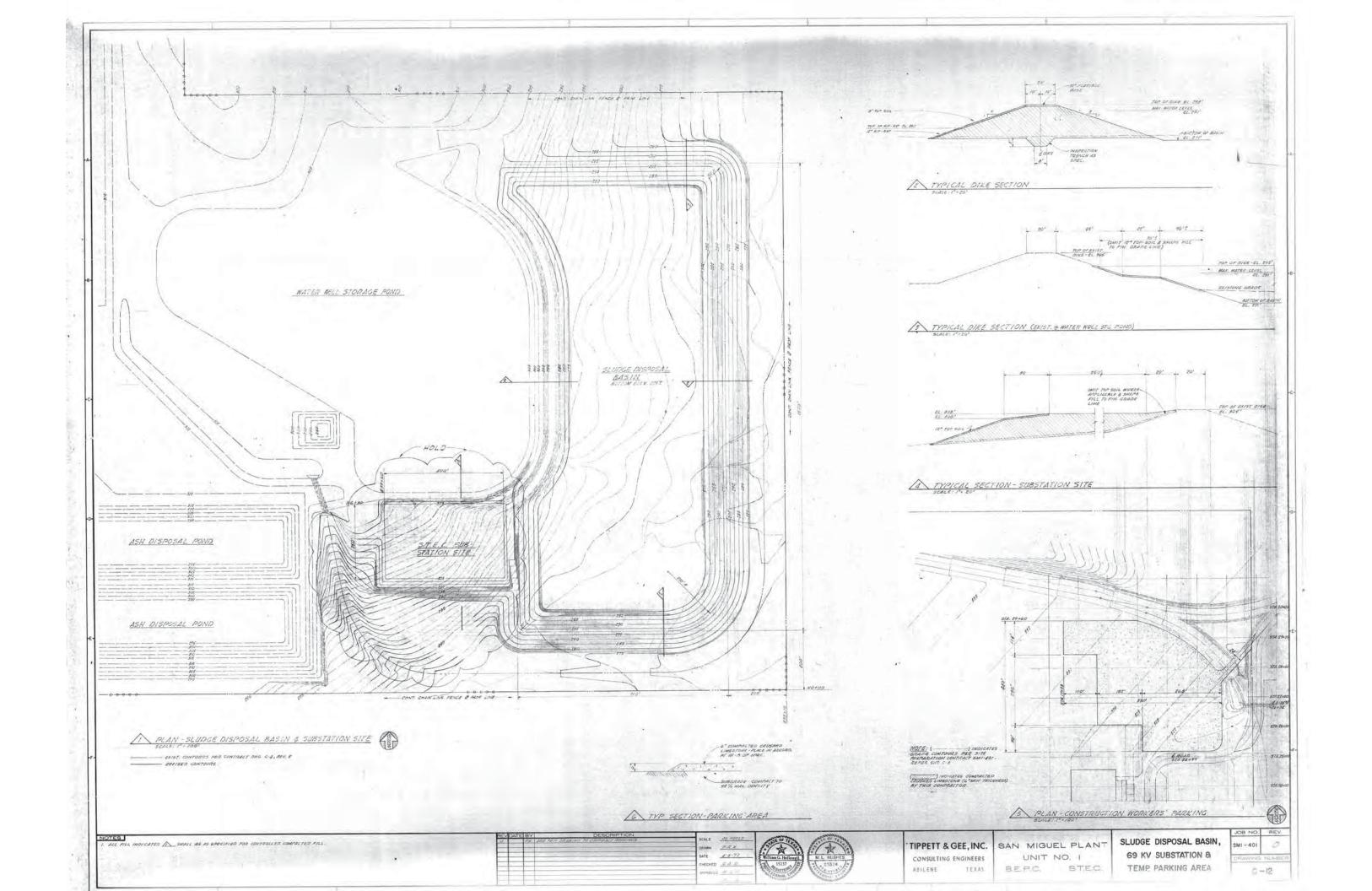
ASH POND AND EQUALIZATION POND DRAWINGS

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

T&G 1977a

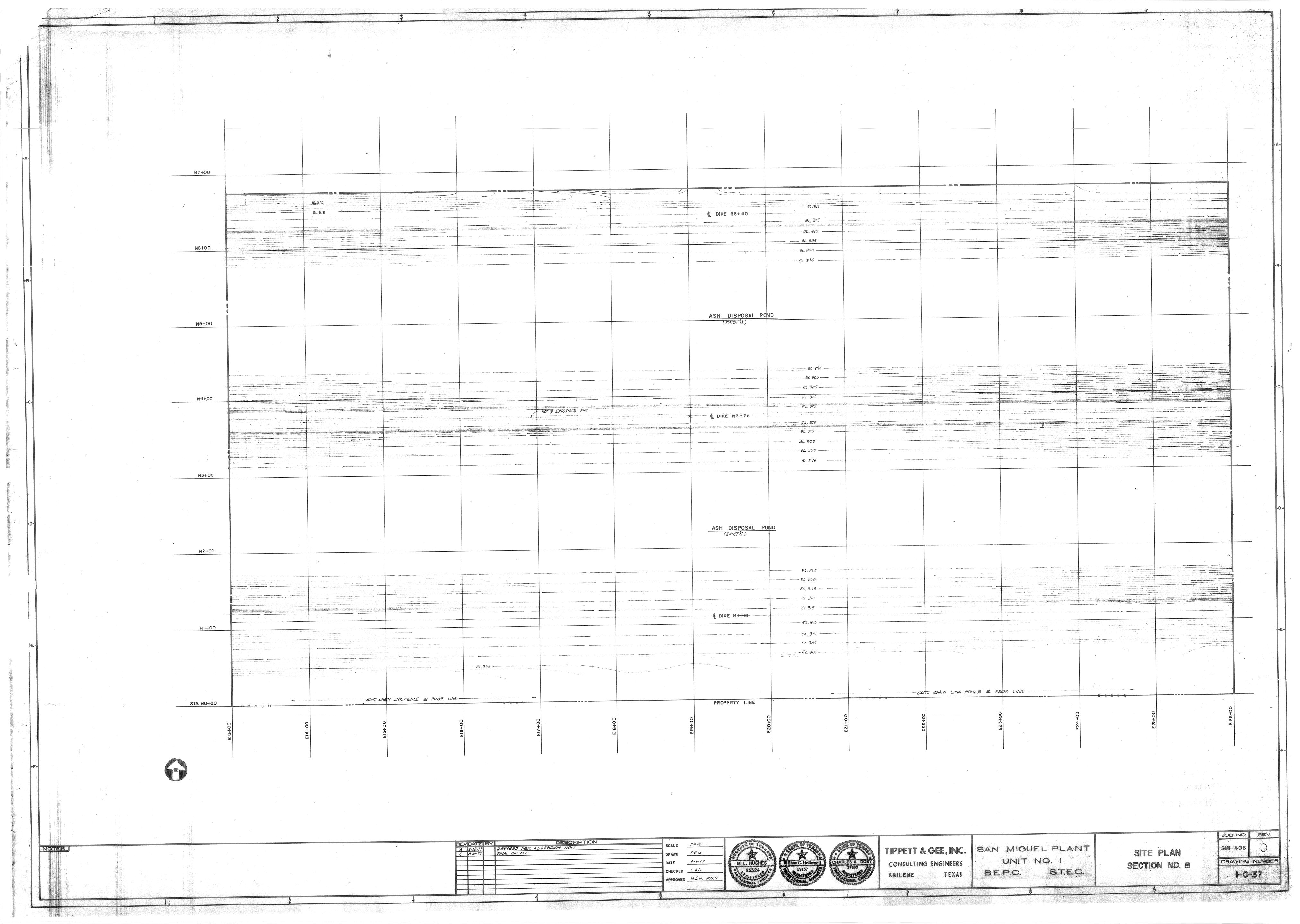
Sludge Disposal Basin, 69 kV Substation & Temp. Parking Area, San Miguel Plant Unit No. 1, Drawing No. C-12, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised April 5, 1977.

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



T&G 1977b

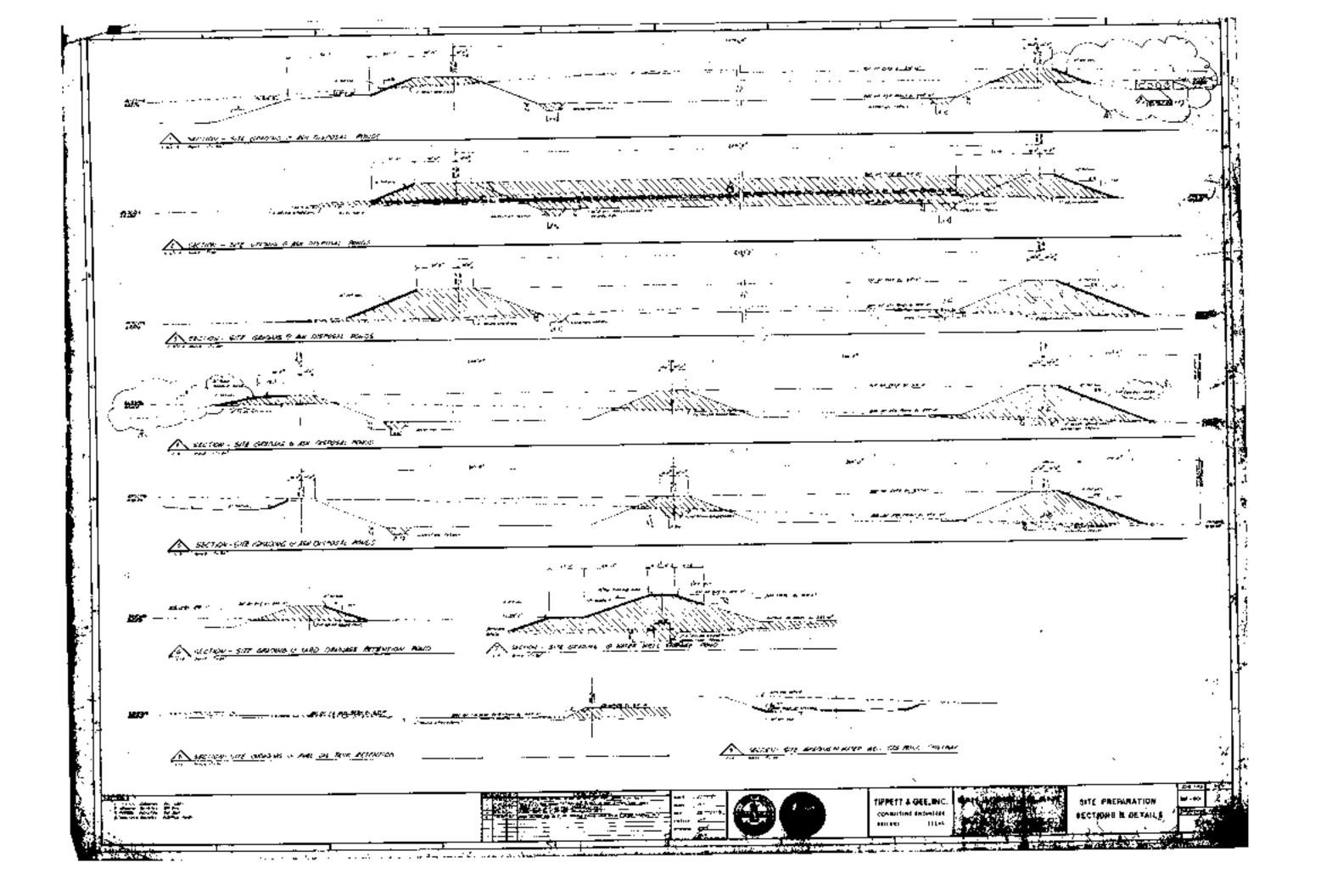
Site Plan Section No. 8, San Miguel Plant Unit No. 1, Drawing No. 1-C-37, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised August 18, 1977.



T&G 1977c

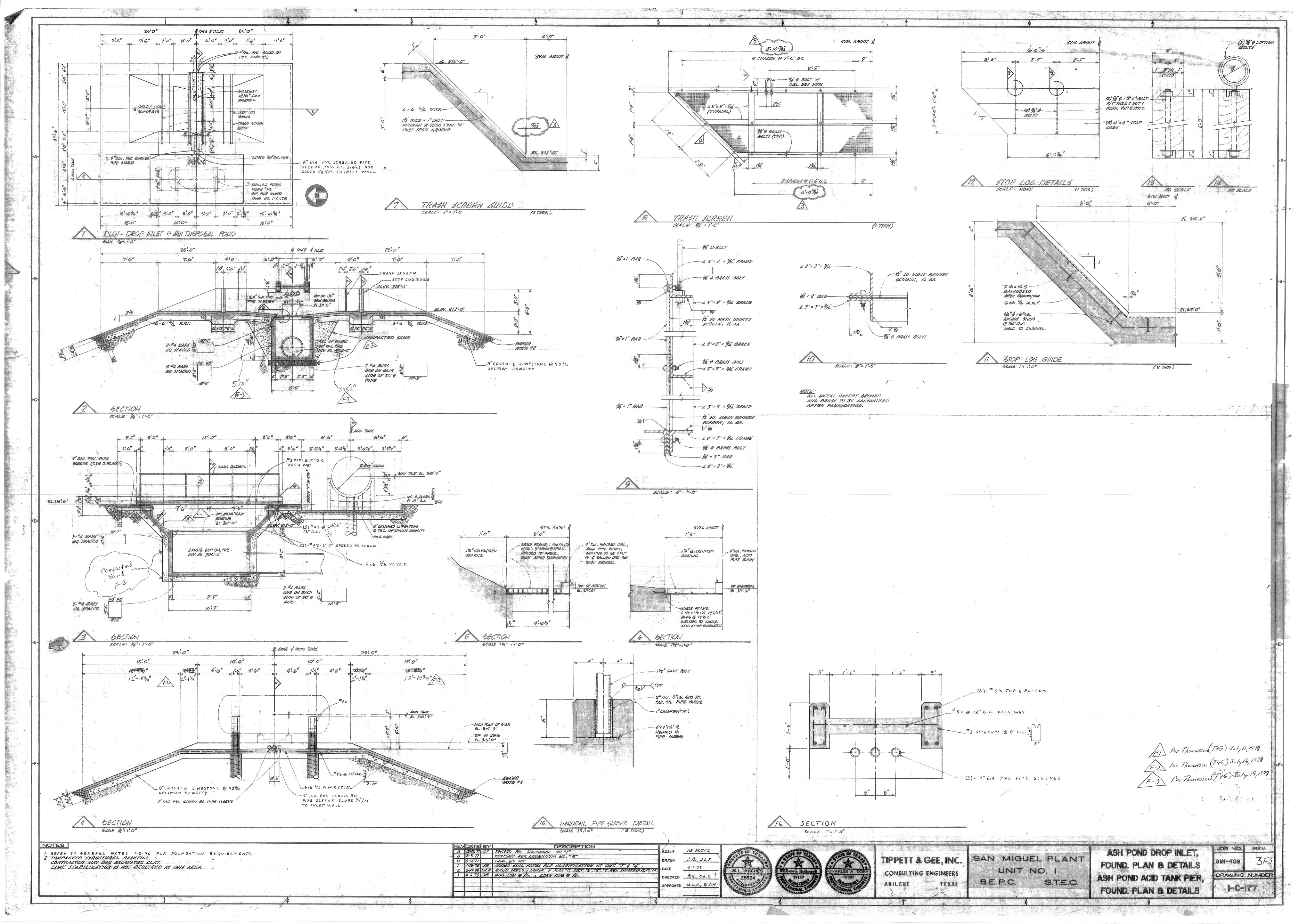
Site Preparation Sections & Details, San Miguel Plant Unit No. 1, Drawing No. C-2 Rev. 2, Tippet & Gee, Inc., 1977.

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



T&G 1979

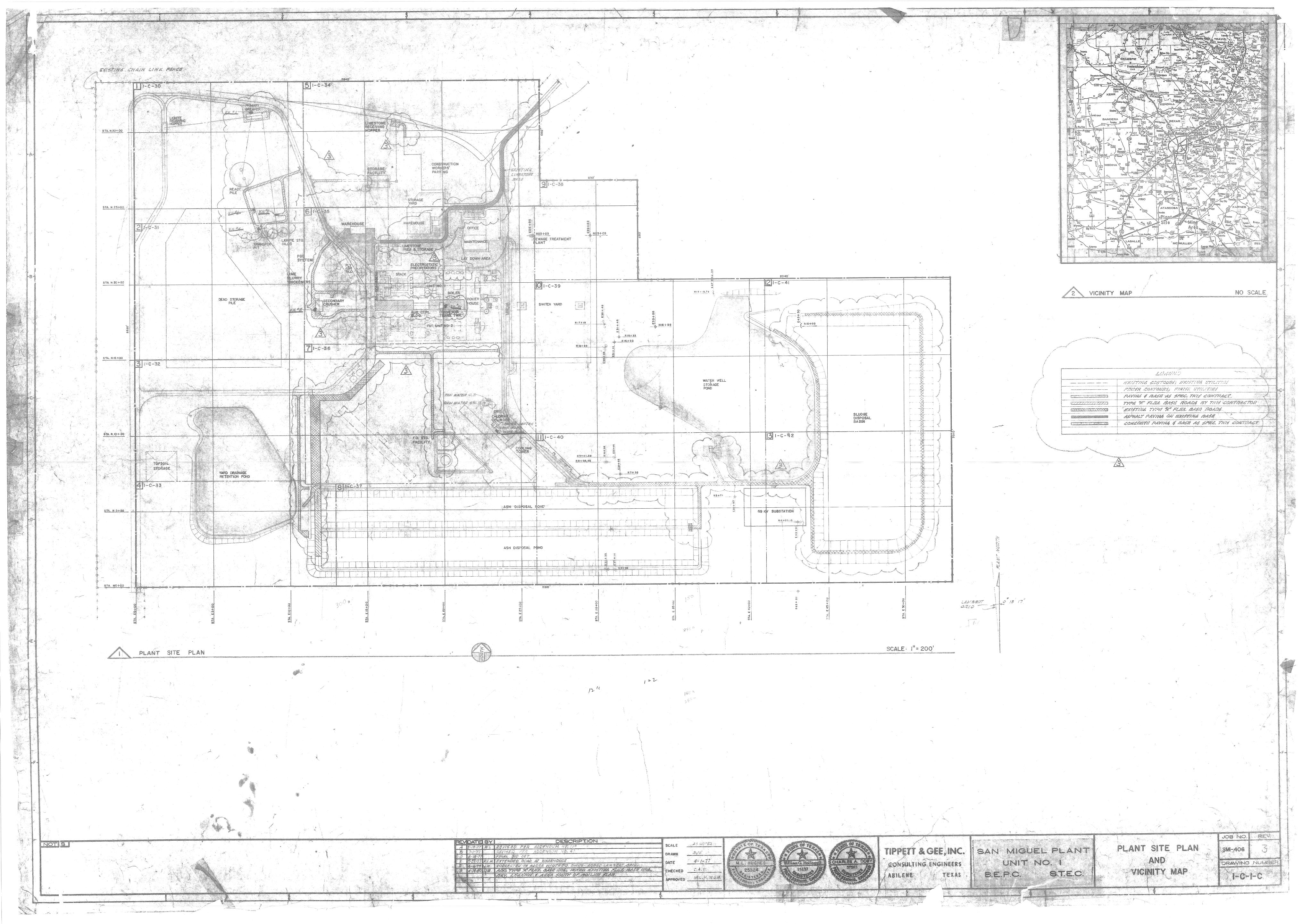
Ash Pond Drop Inlet, Found. Plan & Details Ash Pond Acid Tank Pier, Found. Plan & Details, Drawing No. 1-C-177, Rev. 3F3. Tippet & Gee, Inc., April 1, 1977, revised April 6, 1979.



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.

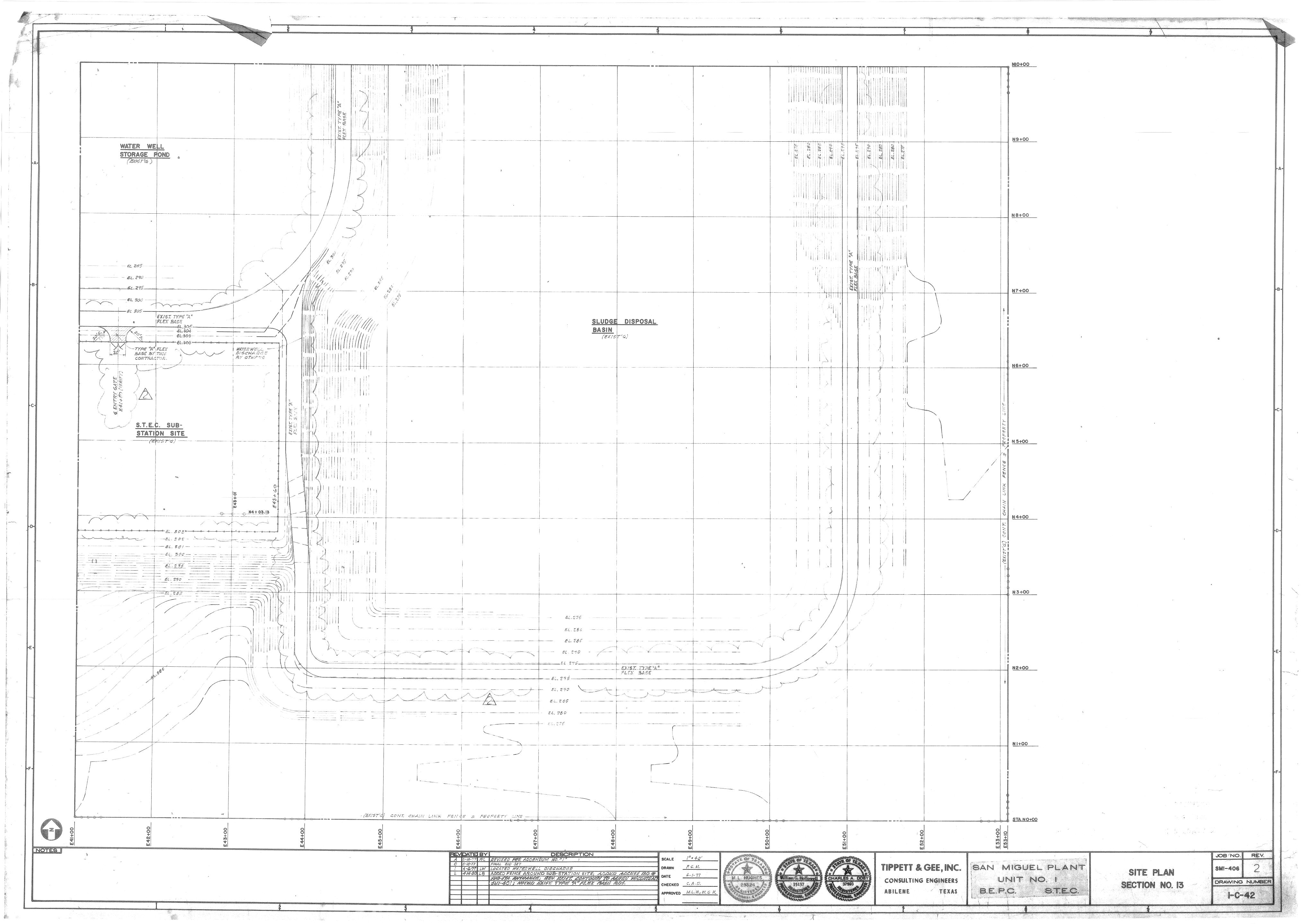
206 East 9th Street, Suite 1700 Austin, Texas 78701 (512) 459-4700



T&G 1980b

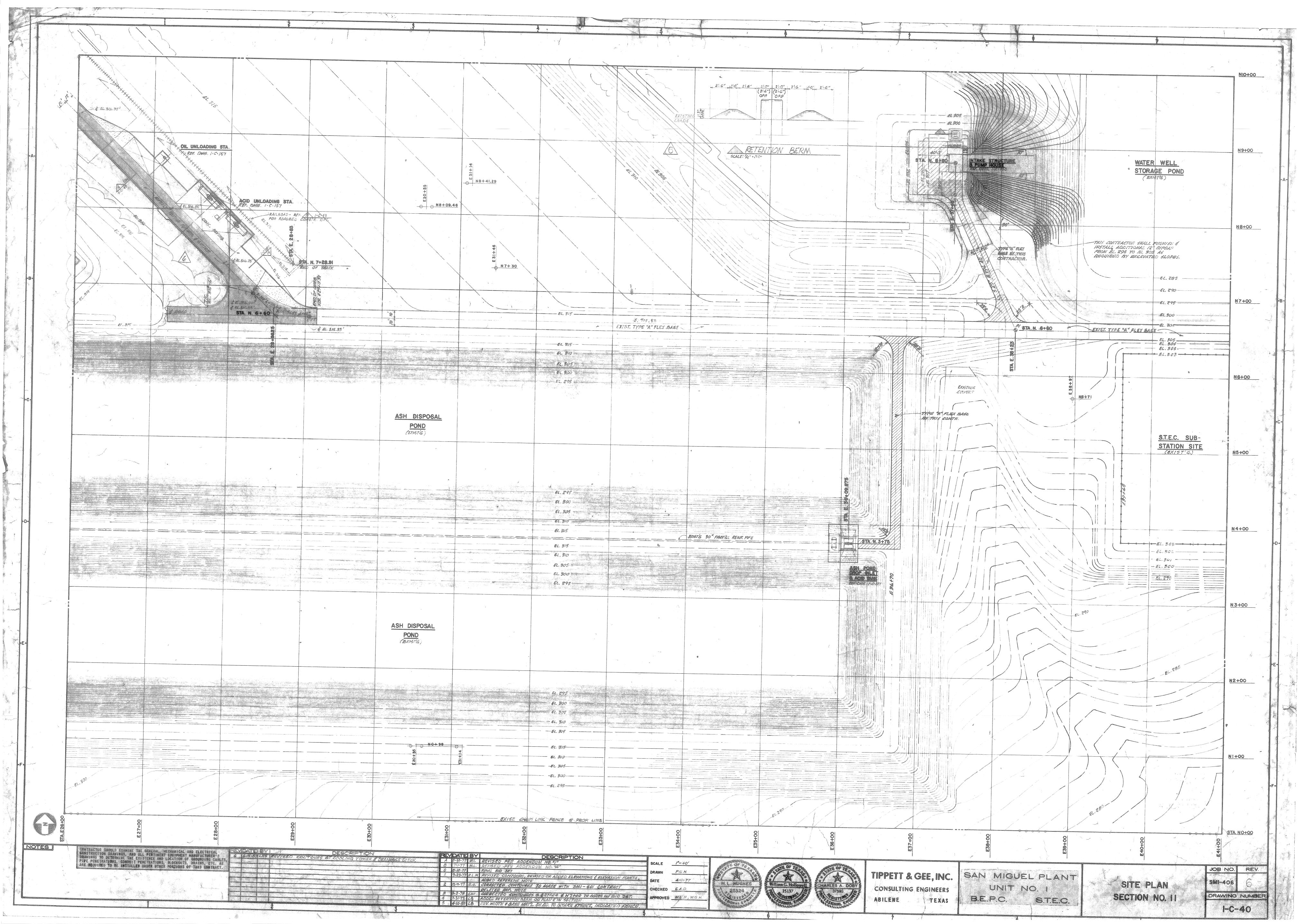
Site Plan Section No. 13, San Miguel Plant Unit No. 1, Drawing No. 1-C-42, Rev. 2, Tippet & Gee, Inc., April 1, 1977, revised April 14, 1980.

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



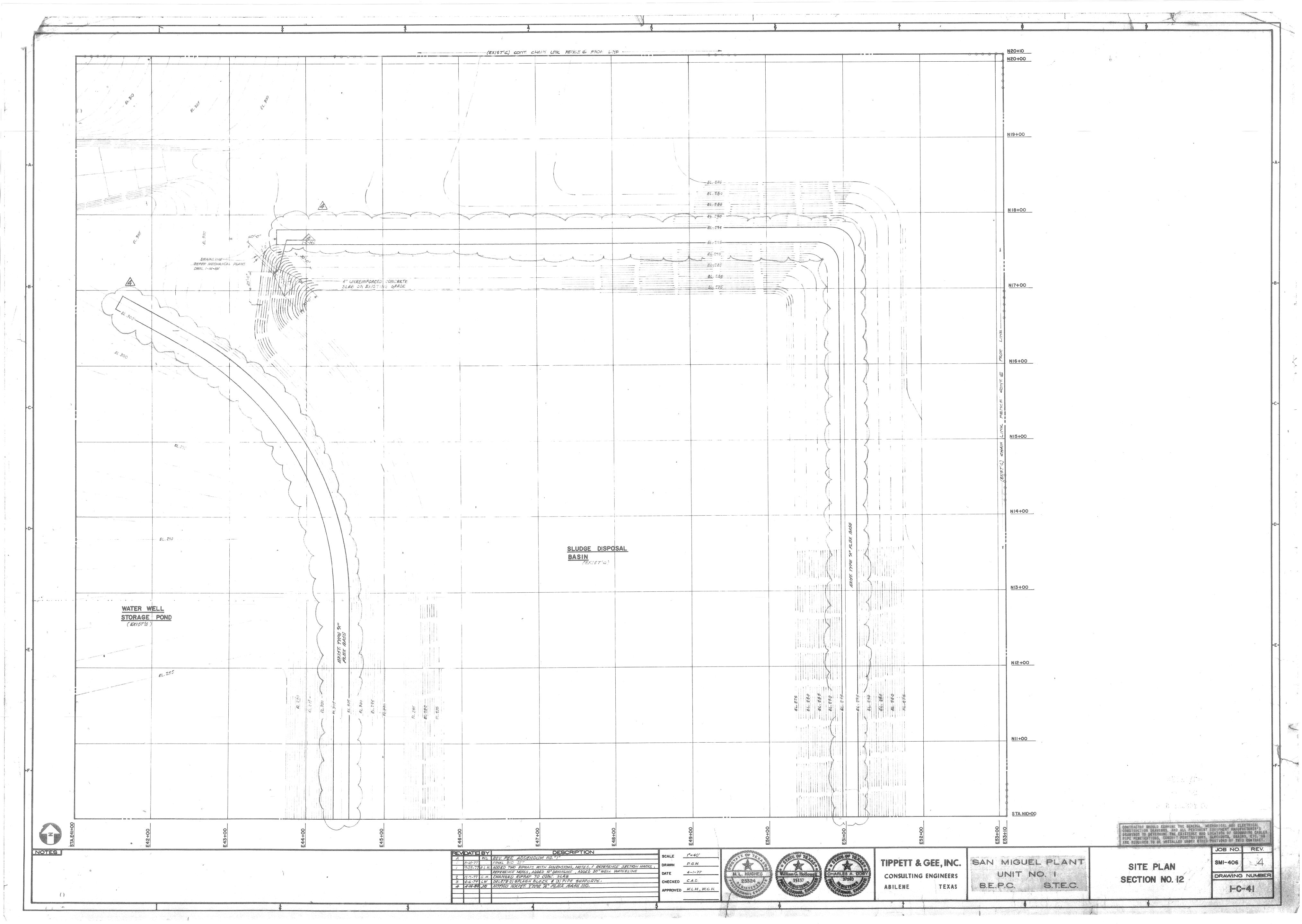
T&G 1980c

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.

