

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

**SMRD DOCKET NO. C8-0024-SC-11-C
SAN MIGUEL ELECTRIC COOPERATIVE, INC.
APPLICATION FOR PERMIT RENEWAL/REVISION, PERMIT NO. 11F,
ATASCOSA AND MCMULLEN COUNTIES, TEXAS**

ORDER OF APPROVAL FOR PERMIT RENEWAL/REVISION

Statement of the Case

San Miguel Electric Cooperative, Inc. (San Miguel), 6200 FM 3387, Christine, Texas 78012, applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for a renewal/revision of Permit No. 11F for the San Miguel Lignite Mine, in Atascosa and McMullen Counties, Texas (application or renewal/revision application). The application was filed pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE Ch. 134(Vernon Supp. 2012) (Act) and the Commission's "Coal Mining Regulations," 16 TEX. ADMIN. CODE Ch. 12(West 2101) (Regulations). The application as supplemented includes revised mining operations and reclamation plans for the proposed five-year renewal term.

The permit area comprises 16,000 acres in Atascosa and McMullen Counties, Texas, located approximately 50 miles south of San Antonio, Texas, 16 miles south of Jourdanton, Texas, and 6 miles southeast of Christine, Texas, on FM 3387. The proposed San Miguel Lignite Mine area is comprised of three mine areas: Areas A, B (including B-extension area), and E. Area B-Extension is located east of Area B and is bounded on the west by the STEC power line and on the east by Metate Creek. Copies of the application were filed in the required counties (Atascosa and McMullen) and Commission offices and distributed to required local, state, and federal agencies for review and comment. Notice of the application was published in newspapers of generation circulation in Atascosa and McMullen Counties. No hearing was requested and no objections were made on the application following public notice and notice to agencies and landowners. The staff and the applicant, the only parties to the proceeding, have waived the preparation and circulation of a proposal for decision.

San Miguel has addressed all requirements relating to the application in accordance with the Act and Regulations. The parties to the proceeding are San Miguel and the Commission's Surface Mining and Reclamation Divisions (Staff).

San Miguel has accepted the Staff's Technical Analyses. Based upon the application, as supplemented, and the Staff's Technical Analysis, all factual issues have been addressed as required by the Act and Regulations that are within the jurisdiction of the Commission as set out in the Findings of Fact and Appendix I, the Soil Testing Plan in this Order.

San Miguel's existing posted bond amount is \$70,000,000. Staff's bond estimate is for the amount of \$69,847,546. No change to the approved posted bond is requested at this time.

Based on the application as supplemented, Staff's review of the application, and the information contained in the approved permit and Commission files, the Commission finds the application for renewal and revision may be approved.

FINDINGS OF FACT

Based upon the evidence in the record, the Commission makes the following Findings of Fact:

1. San Miguel Electric Cooperative, Inc. (San Miguel), 6200 FM 3387, Christine, Texas 78012, applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for a renewal/revision of Permit No. 11F for the San Miguel Lignite Mine, in Atascosa and McMullen Counties on April 1, 2008. The application was filed with the Railroad Commission of Texas at least eight months prior to commencement of operations in compliance with §12.106.
2. San Miguel is a rural electric cooperative that acts as a wholesale power supplier to Brazos Electric Cooperative, Inc. and South Texas Electric Cooperative, Inc. Kiewit Mining Group, Inc. is the operator for San Miguel..
3. The application, as supplemented, meets the requirements of §12.122. A copy of the application was filed with the County Clerk Offices in Atascosa and McMullen Counties. The physical addresses for Atascosa and McMullen County courthouse are provided in section .122 of the application. Copies of the application were also filed with the Railroad Commission of Texas in Austin.
4. The application, as supplemented, meets the requirements of §12.123. Notice of application was published once each week for four consecutive weeks in newspapers of general circulation in the locality of the surface mining and reclamation operations in the counties where the mine will be located. The public notice was published in *The Progress*, in McMullen County, February 22 and 29 and March 7 and 14, 2012. Tear sheets and publisher's affidavits for *The Progress* publication were submitted to the Commission on April 2, 2012. The public notice was also published in the *Pleasanton Express*, in Atascosa County, on March 7, 14, 21, and 28, 2012. Tears sheets and publisher's affidavits for the *Pleasanton Express* publication were submitted to the Commission on April 10, 2012. These newspapers are in the locality of the San Miguel Lignite Mine. San Miguel filed supplement five and six after the Notice of application was published. Neither supplements five or six contained changes to the original application of previous supplements requiring re-publication of notice.
5. The Commission mailed notice of application on April 19, 2012 after filing of the initial application to owners of interest in lands within the permit boundary and tracts adjacent to the permit boundary and to State and federal agencies required by §12.207.
6. The application, as supplemented, meets the requirements of §12.107.

- (a). The application, as supplemented, was filed in the format required by the Commission at the time of filing, contains the applicable information required under §§12.116 through 12.154, and is in compliance with §12.107(a). Permit provisions included in the prior approval of Permit No. 11F have been rescinded. The application was made up of six initial volumes and six supplements.
- (b). The application, as supplemented, is supported by appropriate references to technical and other written material available to the Commission.
- (c). The technical data submitted in the application, as supplemented, are accompanied by the information required by §12.107(c) and (e),
- (d). The technical analyses contained in the application, as supplemented, have been prepared under the direction of professionals qualified in the subjects analyzed, as required by §12.107(d).
- (e). Permit revision/renewal supplements (supplements) Nos. 3, 4, 5 and 6 contained revised Forms SMRD-1C signed by Mr. Michael J. Nasi, Attorney on behalf of San Miguel, indicating that the information contained in the application is true and correct to the best of his knowledge and belief. Supplement No. 2 contained a revised form SMRD-1C signed by Mr. Mark Weatherston, Fuels Manager, indicating that the information contained in the application is true and correct to the best of his knowledge and belief. Supplement No. 1 contained a Revised form SMRD-1C signed by Mr. Mike Kezar, General Manager, indicating that the information contained in the application is true and correct to the best of his knowledge and belief. The initial application contained a form SMRD-1C signed by Mr. Marshall Darby, General Manager, indicating that the information contained in the application is true and correct to the best of his knowledge and belief. Staff herein attests that the original Forms SMRD-1C contained in Supplement Nos. 1, 2, 3, 4, 5 and 6 are contained in the Commission's files.
- (f). Permit revision/renewal supplement No. 5 contained revised data to reflect approved administrative Revisions No. 38 and No. 39. Specifically Supplement No. 5 included: Ownership and Control information for Kiewit; revised approval dates; revised exhibits; revised text and tables to include information from Revision No. 38 and No. 39 including stockpile locations, ash haul out road and incidental boundary revision; inclusion of revised monitoring well location; inclusion on bond map approved in Revision No. 38 and San Miguel's bond estimate of \$69,579,795 and the inclusion of additional Industrial/Commercial land use acreage.
- (g). Permit revision/renewal supplement No. 6 was submitted by the applicant in response to emails and telephone call between Staff and San Miguel.

7. The application, as supplemented, meets the requirements of §12.108. The application for the renewal/revision of the San Miguel Lignite Mine, submitted on April 1, 2008, was accompanied by a check in the amount of \$3,000. Staff herein attests that the appropriate application fee has been received by the Commission for this application and that documentation of this fee payment is contained in the Commission's files.
8. The application, as supplemented, meets the requirements of §12.116.
- (a). ~~The operator of the mine is Kiewit Mining Group, Inc., and is no longer the North American Coal Company. Violations listed in Table .116-5, *MSHA Citations and Orders for the San Miguel Lignite Mine*, represent MSHA violations issued to the San Miguel Lignite Mine during the 10-year period preceding this application.~~
 - (b). Table .116-6, *RCT Notices of Violation*, includes NOV 105A, issued at the San Miguel Lignite Mine on August 29, 2011, for failure to submit detailed design plans prior to construction of a diversion.
 - (c). Table .116-7, *Notices of Violation for Mining Permits Held by Peter Kiewit Sons', Inc. and Affiliates*, includes a list of violations issued to Kiewit Mining Group by the Montana Department of Environmental Quality for other mines that Kiewit operates from July 26, 2005, through January 14, 2011.
 - (d). Table .116-8, *MSHA Citations and Orders*, includes a list of citations/orders issued by MSHA to other mines that Kiewit operates.
 - (e). The information provided in the application has been compared with the information in the AVS database and the database has been updated as needed. The AVS database is operated by OSM to identify violators across the country. The AVS database has been queried to determine whether San Miguel or any owner or controller identified in the application, or found in the database, currently has any outstanding violations at owned or operated coal mines in the United States. The system also indicates whether San Miguel or any owner or controller is delinquent in the payment of AML reclamation fees. A report of the findings resulting from a query of the AVS database were provided in Staff's Technical Analysis (TA) Addendum No. 3 document. An updated report of the findings resulting from a query of the AVS database was provided in Staff's Technical Analysis (TA) Addendum No. 4 document. No pending violations or non-payment of AML fees were found to exist.
9. The application, as supplemented, meets the requirements of §12.117. The right-of-entry information is contained in section 12.117 of Approved Permit No. 11F. No changes to the information in Approved Permit No. 11F are proposed.
10. The application, as supplemented, meets the requirements of §12.118. Information required for §12.118 is contained in section 12.118 of Approved Permit No. 11F. No changes to the information in the Approved Permit No. 11F are proposed.
11. The application, as supplemented, meets the requirements of §12.119. The permit term is five years, commencing on the permit renewal/revision issuance date. Exhibit .119-1 and Table

.119-1 reflect the revised operation plan included in Revision No. 21 (approved administratively by letter dated March 24, 2011). Table .119-1 includes columns describing the mining years and the annual mined acres. The annual mined acres described for each year match the area shown on Exhibit .119-1.

12. The application, as supplemented, meets the requirements of §§12.120 and 12.311. San Miguel submitted an updated certificate of insurance for Permit No. 11F to the Commission by letter dated July 3, 2012. The certificate was approved by letter dated July 20, 2012. Liability insurance coverage is provided for bodily injury and property damage in the amount of \$500,000 (each occurrence) for both permits. Aggregate coverages for bodily injury and property damage are provided in the amounts of \$1,500,000 and \$1,000,000, respectively, for each permit. The certificate of insurance was administratively approved by Staff's letter dated August 2, 2013. The provider for San Miguel's liability insurance is ACE American Insurance Company. The Certificate is effective from July 14, 2011 to July 14, 2014. A policy endorsement is also provided in Appendix .120-1 showing that Permit Nos. 11F and 52 are separate designated locations with insurance limits being applicable to each permit separately. The limits of liability currently approved for Permit No. 11F meet the minimum required amounts.
13. The application, as supplemented, meets the requirements of §12.121. Table .121-1, *San Miguel Lignite Mine Notification, Licenses or Permits Required*, identifies the following notices, licenses or permits that it has obtained or anticipates the need to obtain:

TABLE .121-1 NOTIFICATION, LICENSES OR PERMITS REQUIRED				
<u>Agency</u>	<u>Action*</u>	<u>Subject</u>	<u>File Number</u>	<u>Status</u>
Federal				
U.S. Army Corps of Engineers Fort Worth District Fort Worth, TX	P	State Program General Permit, Permit 11A	8600298A	Issued January 20, 1989
	P	State Program General Permit, Permit 31	8600298B	Issued March 17, 1989
	P	USACE Nationwide Permit 21, Permit 11	199300324	Issued June 27, 1994
	P	USACE Nationwide Permit 21, Permit 11	199600202	Issued November, 1999
	P	USACE Nationwide Permit 21 Revision, Permit 11	199600202	Issued May 13, 2003
	P	USACE Nationwide Permit 21, Permit 52	SWF-2007-00582	Issued April 25, 2008

Mine Safety and Health Administration Washington, D.C.	L	Legal Identity Report	41-02840	Filed April 4, 1979
Mine Safety and Health Administration Denver, Colorado	A	MSHA Ponds		Previously submitted and on file.
State				
Railroad Commission of Texas Austin, Texas	P	Permit 11, Surface Mining and Reclamation Permit	11F	Approved October 30, 2006. Renewal Pending
	P	Permit 52, Surface Mining and Reclamation Permit	52A	Approved April 9, 2013
Texas Commission on Environmental Quality Austin, Texas	P	TPDES	WQ00002043000	Approved July 24, 2008
	P	TPDS Storm Water Multi-Sector General Permit	TXR05L582	Approved August 14, 2006
	N	Fly Ash, Bottom Ash, and Scrubber Sludge Expanded Disposal Areas B and E Solid Waste Registration	31434	Issued May 14, 1997; Amended April 2, 2012 and Approved May 9, 2012
	P	Water Use Permit – Type 11.121	5145	Issued November 2, 1987
	P	Water Use Permit Amended	25145B	Issued March 20, 1991
	P	Water Use Permit – Type 11.121	5511	Issued March 24, 1995
	P	Industrial Reclaimed Water Use Authorization – Authorized use for hydraulic fracturing and production	2E-0000151	Issued March 12, 2012
	P	Class V Industrial Waste Disposal	5W200002	Issued October 20, 2000
	P	Class V Industrial Waste Disposal	5W2000016	Issued October 20, 2000

Texas Department of Transportation, San Antonio District, San Antonio, Texas	P	Utility Permit	SAT 20130320091119	Issued March 27, 2013
County				
Atascosa	P	Dike #11		March 4, 1986
	P	North Haulroad Bridge & Levee 20A	93-01A	February, 1993
	P	Metate Levee 20B	97-06	March 2, 1998
	P	Metate Creek Levee	02-01	October 28, 2002
	P	La Parita Creek Levee	03-01	January 29, 2003
	P	Floodplain Development	N/A	Approved September 17, 2007
* A = Approval P = Permit L = License N = Notices				

14. The application, as supplemented, meets the requirements of §12.124. The application includes a description of the existing, premining environmental resources within the permit area and adjacent areas that may be affected or impacted by the proposed surface mining activities. Premining baseline information is presented in sections 12.125 through 12.135. Sections .136 and .137 of the application provides a listing and cross-reference of maps, cross sections, and plans used to describe environmental resources. The operation and reclamation plans are discussed in detail in sections .139 through .154 of the application.
15. The application, as supplemented, meets the requirements of §§12.125 and 12.151.
- Exhibit .119-1 and Table .119-1 of the application describe the size, sequence and timing of subareas to be mined during the proposed permit renewal/revision term.
 - All cultural resource sites within the permit boundary, identified during or subsequent to baseline surveys, for which eligibility for nomination to the National Register of Historic Places has not been determined, will not be disturbed by mining and/or mining-related activities, unless approved by the THC and the Director of the SMRD. Copies of all Permit No.52A correspondence items, including all attachments, between San Miguel and the Texas Historical Commission shall be provided to the Commission.
 - Exhibit .125-2 to the application, *Cultural Resource Sites*, shows all cultural resource sites within the permit boundary, including sites that have been cleared and sites that require further testing and must be protected. San Miguel shows 14 sites (41MC378, 41MC379, 41AT38, 41AT129, 41AT136, 41AT137, 41AT139, 41AT140, 41AT152, 41AT156, 41AT157, 41AT159, 41AT160, 41AT167) on Exhibit .125-2 that require further testing and must be avoided or protected.

16. The application, as supplemented, meets the requirements of §§12.126 – 12.127.

- (a). Detailed geology baseline information for the proposed permit expansion area is contained in section .127 of this renewal/revision application. This section includes five appendices (.127-1 through -5) and four exhibits (Figures .127-1 through -4). Appendix .127-1 contains nine geologic cross sections: Figure .127-1-1 presents a strike section covering the entire permit renewal/revision; eight dip sections are presented in Figures .127-1-2 through .127-1-9. Exhibit .127-3 shows the locations of the cross sections. Geophysical logs for cores are contained in Appendix .127-2. Geologic (lithology logs) for these cores are contained in Appendix .127-3. The overburden cores are presented in Appendix .127-4. Geochemical analyses are contained in Appendix .127-5. Lignite proximate and trace-element analyses are provided for averaged samples in section .127 and in Tables .127-1 and .127-2.
- (b). Regional geology related to the permit area is summarized and is shown on Figure .127-2, *Geologic Map*. The mine area is located in the South Texas Coastal Plain physiographic province. The regional stratigraphy is shown on Figure .127-1. The mine area is located near the base of the Eocene-age Jackson Group sediments. The lignite-bearing Jackson Group units are mapped in the area as undivided Manning, Wellborn, and Caddell Formation sediments (Figure .127-2).
- (c). The geological description of the permit area and a summary of the overburden geochemistry of the proposed permit-term mine areas (from core sampling) are contained in the application. Four mineable lignite seams (A, B, C, and D seams) separated by thin, averaging less than 1-foot thick, interburden partings are present throughout most of the proposed mine area. Units 17 through 21 (Figure .127-1) underlie the lignite and are predominantly clayey in nature with very low vertical permeability. These units are 40 to 70 feet thick collectively and provide effective hydraulic separation between the base of the mine and any underlying aquifer units.
- (d). The 24 identified stratigraphic units comprising the overburden and underburden are shown on the nine geologic cross-sections (Appendix .127-1). Overburden units are mudstones and siltstones. Underburden units are mudstones, siltstones, and poorly sorted sandstones. These stratigraphic units do not vary significantly in thickness based on the interpreted depositional environment and on correlation within the cross-sections.
- (e). Subcrop information is shown on Figure .127-3. The lignite seams generally strike northeast-southwest with some local variation and dip to the southeast ranging between 67 and 122 feet per mile. Small rolls of steeper dip are present locally. Faults that would intersect the mine area have not been identified.
- (f). Mining will continue in the Area B-Extension for the proposed renewal term. No changes are proposed to the approved four-foot haulback handling plan in the B-Extension Area. No new overburden information was gathered or is presented in the renewal/revision application.
- (g). The database for the proposed permit area includes several types of exploratory drill holes utilized in determining geologic baseline conditions, including lignite exploratory, overburden core and hydrological test holes. The majority of these holes were geophysically logged for natural gamma, density, spontaneous potential and

resistivity responses. Controlled procedures for sample selection, description and handling were employed by the on-site geologist(s). Substrate units were sampled and described on-site based on rock/soil type, texture, color, lithology and thickness utilizing accepted classification systems.

- (h). The application provides the overburden characterization for the Area B-Extension. A total of 12 continuous overburden cores, representing an average of 228 acres per core, were obtained in Area B-Extension. There are four continuous overburden cores from Area B. The locations of these cores are represented on Figure .127-4, *Area B and B Extension Structure*, and a summary of the cores are listed in Table .127-3, *Summary Information on Area B and Area B Extension Overburden Cores*. Overburden cores were collected from the surface to a few feet below the lowest mineable lignite using a 10-foot Christensen core barrel. These cores were used in the development of geological cross-sections. Cross-section locations are depicted on Figure .127-3 and detailed on Exhibits .127-1-1 through .127-1-9. Geophysical logs and core log descriptions of the overburden cores are included in Appendix .127-2 and Appendix .127-3, respectively.
- (i). Overburden core sampling intervals were selected for chemical and physical analyses by certified professional soil scientists and geologists on the basis of lithologic characteristics such as texture, geological structure, composition, and color (hue, value and chroma). Chemical and physical parameters including, but not limited to, pH, ABA, texture, CEC, EC, SAR, plant-available nutrients, organic matter content and trace elements, were analyzed for the 16 cores. A complete list of parameters analyzed is provided in section .127 of the application. The analytical results are included in Appendix .127-5, *Lab Data*.
- (j). San Miguel reviewed the data from the oxidized zone of each overburden core for suitability as a topsoil substitute and for use in the top four feet of reclaimed mine soil. Only the oxidized zone of the overburden has been considered in order to avoid placement of potentially pyritic acid-forming material from the reduced zone near the reclaimed surface. San Miguel included a summary of the data (taken from Appendix .127-4) from the oxidized zone of the 16 overburden cores in Table .127-4, *Overburden Core Data – Depth-Weighted Means*, and graphically represented these data in Figures .127-4-1 through .127-4-16 in Appendix .127-4. Core hole locations are shown in relation to mine blocks on Exhibit .139-1.
- (k). The zones of influence (ZOI) of five cores cover the areas to be disturbed in the proposed five-year term: Cores MK-59 OB, HPZ3, MK-96 OB, MK-97 OB, and MK-98 OB. San Miguel has provided adequate core data for areas to be disturbed in the proposed permit term.
- (l). San Miguel's response to section .127 is certified by Keith T. Anderson, P.E. (Texas Registration No. 53115).

17. The application, as supplemented, meets the requirements of §12.128.

- (a). San Miguel proposes no changes to the groundwater information contained in section .128 of the Approved Permit No. 11F. Section .128 of the application contains baseline groundwater information for the San Miguel Lignite Mine. Areas A, B and E (and B-

Extension) are areas described in previous permit documents. San Miguel has incorporated pertinent groundwater information from previous applications into this renewal/revision application as Appendices .128-1 through 5, and no changes are proposed to the approved groundwater baseline.

- (b). Mineable lignite seams in the San Miguel Lignite Mine area occur in the Manning Formation of the Eocene-age Jackson Group, which contains very poor aquifers of no local significance. Water-bearing formations in the area range from Tertiary to Recent age (Table .128-1); however, the major aquifers occur in the deep Carrizo Sand and Queen City Sand of the Claiborne Group, lying 1,000 ft to more than 3,000 ft beneath the proposed mining activities. These aquifers are not hydraulically connected to the shallow minor aquifers within the proposed mining areas.
- (c). Sediments occurring above the lignite seams in the overburden consist of impermeable siltstones, mudstones, and clays, ranging from less than 20 to about 140 ft in thickness. Quaternary sands and clays make up the only overburden alluvium aquifer in the area surrounding La Parita Creek and Metate Creek. This alluvium aquifer contains highly saline water and ranges in thickness from a few to nearly 20 feet.
- (d). The first aquifer encountered in the underburden consists of poorly transmissive fine-grained, silty sandstone named Unit 22. This aquifer normally occurs about 36 to 60 ft below the lowest lignite seam and ranges from less than 25 to about 60 ft thick, with the thickest portions encountered in the northeast Area B.
- (e). Hydrological interpretations were based on more than 800 drilled holes of several types, including exploration, core holes, and test wells, most of which have been geophysically logged. Baseline groundwater information was obtained from 33 baseline wells installed between 1977 and 2004 (Table .128-2), some of which have been incorporated into the approved and proposed LTGM plan. A summary of water level and water-quality data collected to date for these wells are provided in Tables .128-3, 4 and 5. Most of the 29 private wells that have been identified within and adjacent to the permit area (Table .128-7 and Exhibit .128-2) are used for industrial and domestic/livestock purposes. For those wells with known depths, completion was effected in the major underburden aquifers of the area at depths ranging from nearly 1,100 to more than 6,100 ft, except for two Eocene Yegua Formation shallow underburden wells completed at depths of about 500 ft or less.
- (f). Fluctuations in groundwater level are generally small in the permit area, reflecting water-level conditions in the underburden system (Unit 22). Movement of ground water in this underburden aquifer is generally to the east and southeast at an average velocity of less than six feet per year. Discharge appears to be toward the down-dip areas toward the Gulf Coast. There are no overburden aquifers in or adjacent to the permit area.
- (g). Several underburden aquifer tests have been performed since 1985, with the most recent being two slug tests performed in Area B alluvial sands in 2004. Results of these latest slug tests are provided in Table .128-6, and indicate that the hydraulic conductivity of the Area B alluvial sands ranges from 21 to 82 gpd/ft², representative of a silty sand. Earlier aquifer test results are contained in the documents in Appendices .128-2, 4 and 5.

- (h). Groundwater chemistry data are also provided in the appendices in this section for the various mine areas. For Area B, where additional mining is proposed, the chemical quality of alluvium ground water in the monitoring wells is somewhat variable, with a total dissolved solids (TDS) concentration ranging from nearly 16,700 mg/L to more than 37,600 mg/L. The water is a sodium chloride type with a slightly acid pH (4.76 to 6.3). No private wells have been identified as having been completed in this alluvium.
- (i). San Miguel has identified 25 oil and/or gas wells within and adjacent to the permit area (Table .128-8 and Exhibit .128-3). All identified wells are classified as dry holes or plugged and abandoned except for one producing oil well located on the far southern edge of the permit boundary.

18. The application, as supplemented, meets the requirements of §12.129.

- (a). No changes are proposed to the approved baseline surface-water information contained in previous permits. For convenience, San Miguel provided appendices in section .129 in which excerpts of approved baseline surface-water information are presented from the respective permit document. Exhibit .129-1, *Surface Water Monitoring Sites*, depicting the regional premine watersheds and baseline stream-monitoring stations, is also provided.
- (b). The approved baseline surface-water information is contained in section .129 of Permit Nos. 11C, 11D and 11E. Revision to the long-term surface-water monitoring plan (appended as Appendix .129-6 in this renewal/revision application) is sufficiently characterized as requisite information for section .146.
- (c). The long-term surface-water monitoring plan is contained in section .129 and .146 of the application.

19. The application, as supplemented, meets the requirements of §12.130.

- (a). San Miguel's alternative water-supply information is contained in section .146B of the pending renewal/revision application. Table .146B-1 and Figure .146B-2 list and show locations of active water rights claims within and downstream of the permit area. Water Right Nos. 5511 and 5145, owned by San Miguel for dust suppression and irrigation, area located within the permit area along La Parita and La Jarita Creeks, respectively. The closest adjudicated downstream water rights include no. 1731 (Texas Parks and Wildlife Department) and no. 3214 (City of Corpus Christi), both located at the outlet of Choke Canyon Lake, and; no. 3215 (City of Three Rivers) and no. 5065 (Diamond Shamrock Refining and Marketing Co.), located on the Atascosa River at Three Rivers, Texas. Users of surface water adjacent to and downstream of the permit area have not been, nor are they expected to be, adversely affected or impacted by mining activities.
- (b). Landowners adjacent to the permit area may use surface water released from sedimentation ponds or existing artesian well discharge. In the event that mining operations adversely affect water users, San Miguel will provide alternative water supplies using one or more of the following options:

- Release impounded water from sedimentation or postmine ponds to users

- Install wells to deliver ground water to surface-water users
- Haul water to affected users by tank truck. Hauled water would be pumped from wells drilled within the aquifers of the Carrizo, Sparta or Queen City; from mine ponds, or; purchased from a third party.

(c). There are no known users of the Unit 22 Sand and, based on the TDS concentrations greater than 10,000 mg/L, the Unit 22 groundwater is not considered an underground source of drinking water. In addition, the high TDS concentrations render the Unit 22 groundwater unsuitable for agriculture or livestock use. As a result, no adverse hydrologic consequences are anticipated from depressurization activities within or in the vicinity of the Permit 11F boundary. Therefore, no affected groundwater users that would require alternative supplies of groundwater as a result of depressurization activities are anticipated.

20. The application, as supplemented, meets the requirements of §12.131. San Miguel's response to the requirements of §12.131 is contained in the application. Climatologic information has been studied and reported since the initiation of mining, and San Miguel proposes no changes to previously submitted and approved information for Areas, A, E, B and B-Extension.

21. The application, as supplemented, meets the requirements of §12.132.

(a). San Miguel does not propose to revise its baseline vegetation information contained in Approved Permit No. 11F, section .132.

(b). San Miguel provided vegetation resource information for the 5,757-acre Area B-Extension in Permit No. 11E, Appendix .132-1, *Vegetation Species List*, Appendix .132-2, *Vegetation Field Data*, Appendix .132-3, *Species Observed in Wetlands*, and Exhibit .132-2 (*SMLM IV Jurisdictional Waters & Wetlands of the U.S.*). The vegetation in the 5,757-acre Area B-Extension is characteristic of the premine vegetation throughout the permit renewal area. Permit No. 11E contained Exhibit .132-2 (titled *SMLM IV Vegetation Communities*) and Table .132-1 (*Acreage and Proportional Extent of Vegetation Communities*) for the 15,997-acre permit area. San Miguel added 2.89 acres with grassland characteristics to Permit No. 11F in an incidental boundary revision that was administratively approved on May 17, 2006, thereby increasing Permit No. 11F to 15,999 acres and added 1.77 acres with grassland characteristics in an incidental boundary revision that was administratively approved on December 5, 2007, increasing Permit No. 11F to 16,001 acres. Staff's TA Addendum No. 4, noted that the permit boundary was revised to 16,000 acres due to corrections to the map so it would match the physical location of fences surveyed in the field. The baseline tables are not required to match the revised permit boundary acreage because the baseline acreage exceeds the permit boundary acreage.

(c). The premine vegetation of the 16,000-acre Permit No. 11F area is characterized by the following plant-community acreage, which also corresponds to wildlife habitats:

Plant Community	Area (acres)	Proportional Extent (percent)
Mesquite Shrubland	12,346	77.2
Managed Mesquite Shrubland	478	3.0

Cleared Shrubland	930	5.8
Mesquite Bottomland	365	2.3
Blackbrush Shrubland	143	0.9
Whitebrush Shrubland	93	0.6
Grassland	978	6.1
Pasture	127	0.8
Riparian	268	1.7
Bottomland	124	0.8
Plowed Fields	20	0.1
Aquatic (ponds)	119	0.7
Pits	10	0.1
Totals	16,000	100.0

- (d). The location of the proposed permit area is within the South Texas Plains vegetation region. Bluestem grasses (primarily Little Bluestem) and Mesquite are dominant species. Besides Mesquite, woody plants include Texas Sugarberry, Huisache, Soapberry, Texas Persimmon, Retama, and Cedar Elm. Shrubs and vines include Whitebrush, Spiny Hackberry, Brasil, Lotebush, Agarita, Old Man's Beard (White Fringetree), Catbriar, and Mustang Grape. Cacti include Prickly Pear and Tasajillo, and forbs include Poverty Weed, Western Ragweed, Golden Aster, and Wooly Croton.
- (e). According to the Texas Parks and Wildlife Department (TPWD) annotated lists of rare species for Atascosa and McMullen Counties, there are no federally or State-listed endangered plants or designated critical habitats. Further, no listed plants were encountered during field data collection. Elmendorf's Onion and Park's Jointweed are two rare plants that could occur in Atascosa County.
- (f). Approved Permit No. 11F contains adequate information to adequately describe the premine plant communities within the permit area to predict the potential for re-establishing vegetation on reclaimed land, and that are important habitat for fish and wildlife within the permit area. Approved Permit No. 11F continues to meet the requirements of §12.132.
22. The application, as supplemented, meets the requirements of §12.133. Section .133 contains information on threatened and endangered species.
- (a). The following is a compilation of endangered and threatened species and the likelihood of each occurring in or near the permit area, given the information in TPWD's July 19, 2010, *Annotated County Lists of Rare Species for McMullen County*, and March 5, 2010, *Annotated County Lists of Rare Species for Atascosa County*, as well as from the information contained in Permit Nos. 11F and 52:

Species	Status	Record of Occurrence
Plants		
None		

Invertebrates		
None		
Crustaceans		
None		
Mollusks		
Golden Orb	Threatened	Unlikely - No Records or Habitat
Fish		
None		
Amphibians and Reptiles		
Black-spotted Newt	Threatened	Unlikely - No Records or Habitat
Indigo Snake	Threatened	Yes
Reticulate Collared Lizard	Threatened	Unlikely - No Records or Habitat
Texas Horned Lizard	Threatened	Yes
Texas Tortoise	Threatened	Yes
Birds		
American Peregrine Falcon	Threatened	Possible Migrant, but no Nesting or Resident Individuals
Arctic Peregrine Falcon	Threatened	Possible Migrant, but no Nesting or Resident Individuals
Bald Eagle	Threatened	Possible Migrant, but no Nesting or Resident Individuals
Botteri's Sparrow	Threatened	Yes - One Possible Sighting
Interior Least Tern	Endangered	Possible Migrant, but no Nesting or Resident Individuals
White-Faced Ibis	Threatened	Yes
White-Tailed Hawk	Threatened	Yes
Wood Stork	Threatened	Yes
Whooping Crane	Endangered	Possible Migrant, but no Nesting or Resident Individuals
Mammals		
Black Bear	Threatened	Unlikely - No Records
Ocelot	Endangered	Unlikely - No Records

- (b). Table .133-2, *Premine Aquatic Associated Habitat (Riparian and USACE Jurisdictional Waters)*, and an updated Exhibit .133-3, Sheet 2 of 2, *USACE Waters of the US* were included in the application. The table contains the following information:

Table .133-2 Permit 11F Renewal/Revision Premine Aquatic Associated Habitats (Riparian and USACE Jurisdictional Waters) Total Permit Area Acres		
Category	Permit Area Totals RCT	Permit Area Totals USACE

	(acres)	(acres)
Non-Forested Wetlands	22.29	22.29
Stream Channels	22.15	22.15
On-Channel Ponds	37.00	37.00
Off-Channel Ponds	92.00	0.0
Riparian	239.40	0.0
Totals	412.84	81.44

23. The application, as supplemented, meets the requirements of §12.134.

- (a). HF & Associates, Inc. prepared section .134 of the renewal/revision application for San Miguel. Soil survey information from the Natural Resources Conservation Service (NRCS) published Soil Survey of Atascosa County (NRCS 1980) and unpublished soil survey of McMullen County (NRCS 2008) was reviewed to assess the status of the renewal/revision area soils. NRCS National Soil Data Access Facility and Texas Agricultural Statistics Service provided additional information. Revisions were made to all pertinent information provided in section .134 to reflect the increase in the renewal/revision area from 15,997 acres to 16,000 acres.
- (b). San Miguel provided a soils map (Exhibit .134-1, Permit 11F Distribution of Soils) delineating the native soil mapping units, native soil sampling locations, and prime-farmland soils within the renewal/revision area. A map unit legend with acreage and areal extent information, prime farmland soil information, soil descriptions and interpretation tables is provided for soils occurring within the proposed permit renewal/revision area. Distributions of native soils within the proposed San Miguel Lignite Mine area are summarized in Table .134-1 of the application. San Miguel identifies the taxonomic classification of the soil series in the renewal/revision area in Table .134-2. The aerial extents (approximately 23% of the renewal/revision area) of the 15 prime-farmland soil map units that are within the renewal/revision area are listed in Table .134-3.
- (c). Current NRCS Official Soil Series Descriptions for the San Miguel Lignite Mine native soils are included in Appendix .134-A. The renewal/revision area is made up of 30 soil-mapping units, representing 26 soil series. Soil interpretation information and tables, derived from the NRCS Soil Data Mart website (NRCS 2007), are provided in section .134, Tables .134-4 and .134-6, and in Appendices 134-B and 134-F. Appendix .134-B contains numerous soil interpretation tables for the area soils including chemical, engineering, physical properties, land use capabilities and vegetative information. NRCS Rangeland (Ecological) site descriptions are presented in Appendix .134-F. San Miguel provides estimated crop yields of existing soils in Atascosa County and the land capability classifications of these soils in Table .134-4. Present productivity data for various crops planted in Atascosa County for the 2006 growing season are provided in Table .134-5 (USDA National Agricultural Statistics Service). These data were not available for McMullen County. Rangeland productivity of the soils within Atascosa County are listed in Table .134-6 (NRCS 2007).
- (d). A native soil baseline that reflects the renewal/revision area has been provided. San Miguel has provided native-soil statistical baseline information for the renewal/revision

area (to reflect the permit area) and the 17 soil series sampled account for 98.7% of the permit area. Soil samples were collected by Morrison Knudsen of San Antonio, Texas from 1987 to 1995. The areal extents of the soil series sampled are listed Table .134-8. The data were evaluated and calculations made for this report by Mr. Tom Feuerbacher, P.G., CPSSC (License No. 345; Certification No. 02874) of HF & Associates, Inc., San Antonio, Texas. Laboratory source data are provided in Appendix .134-C, with 0-12" and 12"-48" depth-weighted data provided in Appendix .134-D. Topsoil/subsoil depth-weighted data, as defined by the Regulations (i.e., topsoil is considered to be the A and E horizons and subsoil is considered to be the B and C horizons to a depth of four feet), are presented in Appendix .134-E.

- (e). Minimum and maximum values for the parameters analyzed [pH; neutralization potential (NP); potential acidity (PA); exchangeable acidity (EA); acid/base accounting (ABA); pyritic sulfur; electrical conductivity (EC); sodium adsorption ratio (SAR); percent sand, silt, and clay; percent coarse fragments; cation exchange capacity (CEC); hot-water extractable B; total Cd, Mo, Se, and U], derived from the depth-weighted and the original laboratory data, are presented in Table .134-9. Included in the table are minimum and maximum values obtained for each parameter analyzed for 0-12 in. and 12-48 in. depth intervals and native topsoil and subsoil intervals. Tables .134-10 through .134-15 contain areally-weighted frequency distributions for pH, ABA, percent clay and sand, EC and SAR that were derived from the depth-weighted data.

24. The application, as supplemented, meets the requirements of §12.135. San Miguel does not propose to revise its premine land-use information contained in Approved Permit No. 11F, section .135. In an incidental boundary revision that was administratively approved on May 17, 2006, San Miguel added 2.89 acres of premine grazingland to Approved Permit No. 11F in an incidental boundary revision; and in an incidental boundary revision that was administratively approved on December 5, 2007, San Miguel added 1.77 acres of premine industrial/commercial land use to Approved Permit No. 11F, thereby increasing the permit area to 16,001 acres. Premine land-use for Approved Permit No. 11F is as follows:

Permit No. 11F Premine Land Use			
Land Use Category	Existing Permit No. 11F (Acres)	Proposed Permit Area (Acres)	Percent of Area
Grazingland	15,765	15,765	98.5
Pastureland	128	128	0.8
Industrial/Commercial	8	8	<0.1
Developed Water Resources	100	100	0.6
Residential	<1	<1	<0.1
Total	16,000	16,000	100.0

25. The application, as supplemented, meets the requirements of §12.136. Section 136 identifies the locations of maps that represent its response to the requirements of §12.136 using letter designation. The information is summarized and the applicable subsection is noted as follows:

San Miguel Response Section	SECTION	SUBJECT	LOCATION
a	12.136(1)	All boundaries of lands and names of present owners of record of those lands, both surface and subsurface, included in or contiguous to the permit area	Exhibit .116-1 and Table .116-2
b	12.136(2)	The boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and begin surface mining activities	Exhibit .116-1 and Table .116-2
c	12.136(3)	The boundaries of all areas proposed to be affected over the estimated total life of the proposed surface mining activities, with a description of size, sequence, and timing of the mining of sub-areas for which it is anticipated that additional permits will be sought	Exhibit .119-1
d	12.136(4)	The location of all buildings on and within 1,000 feet of the proposed permit area, with identification of the current use of the buildings	Exhibit .135-2 of the Approved Permit
e	12.136(5)	The location of surface and subsurface man-made features within, passing through, or passing over the proposed permit area, including, but not limited to major electric transmission lines, pipelines, and agricultural drainage tile fields	Exhibit .135-2 of the Approved Permit
f	12.136(6)	The location and boundaries of any proposed reference areas for determining the success of revegetation	None Proposed
g	12.136(7)	The locations of water supply intakes for current users of surface-water flowing into, out of, and within a hydrologic area defined by the Commission, and those surface-waters that will receive discharges from affected areas in the proposed permit area	Exhibit .148-1
h	12.136(8)	Each public road located in or within 100 feet of the proposed permit area	Exhibit .135-1
i	12.136(9)	Location of public parks, cultural, historical, or archeological sites	Exhibit .125-2
j	12.136(10)	Location of cemeteries and Indian burial grounds in or within 100 feet of the permit area	None
k	12.136(11)	Land in the National System of Trails or Wild and Scenic River System	None
None	12.136(12)	Other relevant information required by the Commission	None

26. The application, as supplemented, meets the requirements of §12.137. Table .137-1, *San Miguel Lignite Mine Cross Sections, Maps and Plans*, identifies the locations of cross-sections, maps, and plans required by §12.137. The information is summarized as follows:

SECTION	SUBJECT	LOCATION
12.137(a)(1)	Elevations and locations of test borings and core samples	Figure .127-4
12.137(A)(2)	Elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality, if required, in preparation of this application	Exhibit .129-1 Exhibit .133-1 ¹ Exhibit .146B-1 Exhibit .146A-1 Exhibit .146A-4
12.137(A)(3)	Nature, depth, and thickness of the coal seams to be mined, any coal or rider seams above the seam to be mined, each stratum of the overburden, and the stratum immediately below the lowest coal seam to be mined	Figure .127-1
12.137(A)(4)	All crop lines and the strike and dip of the coal to be mined within the proposed permit area	Figures .127-3 and 127-4; Appendices .127-1 and .127-4
12.137(A)(5)	Location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed permit and adjacent areas	None Exist
12.137(A)(6)	Location and extent of subsurface water, if encountered, within the proposed permit and adjacent areas	Figure .128-6 Exhibit .146-2 Exhibit .146-3
12.137(A)(7)	Location of surface-water bodies such as streams, lakes, ponds, springs, constructed or natural drains, and irrigation ditches within the proposed permit and adjacent areas	Exhibit .146B-1
12.137(A)(8)	Location and extent of existing or previous surface-mined areas within the proposed permit area	None Exist
12.137(A)(9)	Location and dimensions of existing areas of spoil, waste, and noncoal waste disposal, dams, embankments, other impoundments, and water-treatment and air pollution control facilities within the proposed permit area	Exhibit .139-1 Exhibit .139-2 Exhibit .148-1
12.137(A)(10)	Location, and depth if available, of gas and oil wells within the proposed permit area and water wells in the permit area and adjacent area	Exhibit .128-2 Exhibit .128-3
12.137(A)(11)	Sufficient slope measurements to adequately represent the existing land surface configuration of the proposed permit area	Table .145-6 Exhibit .145-3 Exhibit .145-4
12.137(B)	Location of Certifications	On individual exhibits

¹ Contained in Permit Nos. 31, 11C, 11D and 11E

27. The application, as supplemented, meets the requirements of §12.138. San Miguel provided documentation in approved permit No. 11F indicating that the 13 prime farmland soil map units do not qualify as historical cropland within the permit boundary. A negative prime farmland determination was found for the areas requested in the permit area in Commission Order dated November 17, 1998, Docket No. C9-0009-SC-11-B. The minor revisions to the permit boundary do not affect this assessment.

28. The application, as supplemented, meets the requirements of §12.139.

- (a). Mining operations are currently ongoing under Approved Permit No. 11F at the San Miguel Lignite Mine. In this renewal/revision application, San Miguel proposes to extend mining activities within the Approved Permit No. 11F area, as shown on Exhibit .139-1, Operations Map (Sheets 1 through 5 of 5). Lignite removal has been completed in Areas A and E. With the exception of permanent roads and open pits where coal combustion residuals are being placed, Areas A and E have been reclaimed. The existing pit in Area B is in temporary cessation. All active mining operations proposed in this permit term will occur in Area B-Extension. The permit term is five years, commencing on the permit renewal/revision issuance date.
- (b). Approximately 248.3 acres will be disturbed (cleared and grubbed) during the proposed permit renewal/revision term. The proposed permit term mine blocks encompass approximately 244.9 acres and are located in the southern portion of Area B-Extension (bounded on the west by the STEC power line and on the east by Metate Creek Levee). Previously mined areas are also shown on Exhibit .139-1. San Miguel lists the major equipment to be used for the mining operation in Table .139-9, *Major Equipment to be Utilized in Coal Mining Procedures*.
- (c). Lignite from four seams (A, B, C and D) that are contained in one zone (continuous over the entire proposed permit renewal/revision area) will be recovered during the proposed permit renewal/revision term. Continuous surface miners will primarily be used to load lignite into bottom and/or end dump trucks following cleaning by continuous surface miners, rubber-tired dozer or other mobile equipment. No coal storage stockpiles are proposed within the proposed permit renewal/revision area. The mining progression is based on an annual average lignite production of 3,257,000 tons combined from the San Miguel Lignite Mine, Area C (Permit No. 52A) and the Permit No. 11F renewal/revision area. According to Table .139-1, approximately 3,200,000 tons of lignite will be recovered from Area B-Extension during the proposed permit renewal/revision term. The annual lignite production for the proposed permit renewal/revision term ranges from a minimum of 168,000 tons to a maximum of 660,000 tons (in 2011). Typical range diagrams depicting the overburden removal are provided on Figures .139-1 through .139-9.
- (d). Overburden (varying from 65 to 130 feet deep) removal is generally performed with a dragline using the simple side-cast method (Figure .139-1). Overburden removal is scheduled to occur 24 hours per day, five to seven days per week, or as required. The overburden is cast into the adjacent open pit (which ranges from 100 to 160 feet wide). Spoil-side stripping may be used at greater depths. Auxiliary equipment will be utilized in the event the dragline stripping capacity is exceeded. Range diagrams of various overburden-stripping methods are provided in section .139 of the application.

The proposed overburden stripping methods are Simple Side Cast Method, Chop Cut Method, Spoil-Side Stripping Method, and Dozer Push method.

- (e). The dragline operating in Area B-Extension will advance the extreme northeast end of the pit to align the entire east end of the pit in approximately two years, after which it will move to a full pit extension in the area east of the 1H ramp and Pond 27B. The full pit will be continued for the remainder of the proposed permit renewal/revision term.

- (f). San Miguel does not anticipate a final highwall or end pit during the proposed permit renewal/revision term. San Miguel currently places fly ash, scrubber sludge, and bottom ash (collectively referred to as coal combustion residuals) in mine pits in the Permit No. 11F area, as authorized by TCEQ Waste Control Order 02043, Solid Waste Registration 31434 (amended April 2, 2012), as approved in Permit No. 11F. The information from Permit No. 11F regarding the placement of coal combustion material is provided in the renewal/revision application, as supplemented, to support the continued placement of this material during the proposed permit renewal/revision term.
- (g). Non-coal wastes generated at the facilities are disposed of using a private waste disposal company, which transports the waste off site to an approved disposal site.
- (h). Prior to overburden removal, existing vegetation that hampers the removal of topsoil and haulback material will be removed with dozers, multi-application rakes and root plows. Clearing may also be employed if obstacles prevent movement of the dragline trail cable. Trees, brush and roots removed during clearing operations will be stacked and burned under existing TCEQ agricultural burning approval, with the remnants spread, or placed in mined out pits. Additional clearing areas may include: topsoil, haulback and construction material stockpile locations; roads outside of the mined area; pond embankment areas; sediment pool areas; and power line corridors. Clearing will occur approximately four pits ahead of the active pit. The time schedule and estimated acres to be cleared are provided in Table .139-2.
- (i). The future mining area is dominated by native soils with topsoil that differs significantly in color and/or texture from the subsoil. For example, Imogene, Floresville, Miguel, Poteet, Wilco, Campbellton, and Poth soils are characterized by fine sandy loam, loamy fine sand, or loam topsoil over clay, sandy clay, or sandy clay loam subsoil. The difference in these topsoil and subsoil textures is obvious and can be easily determined in the field.
- (j). Other soils, such as the Hanis and Fashing soils, are relatively monotextured throughout the soil profile, but have obvious color differences. Hanis soils are characterized by brown topsoil over reddish brown and red subsoil. The Fashing soils are characterized by dark gray topsoil over light gray or white subsoil.
- (k). The boundary between topsoil and subsoil in the remaining soils is less obvious due to similar texture and color throughout the soil profile. These soils, including the Monteola, Christine, Amphion, and Coy soils, average approximately 12" in thickness across the permit area. In soils such as these, with no obvious difference between topsoil and subsoil horizons, the upper 12" will be removed for replacement as topsoil.

- (l). San Miguel's staff agronomist is on-site and can be called upon at any time to provide guidance if a question about topsoil thickness arises.
- (m). In areas where suitable overburden materials are present and a four foot haulback was not used (pre-1994 mine areas and areas previously approved by the Commission), mobile equipment was utilized to place select materials on regraded spoils. These areas are delineated on Exhibit .145-2, *Permit 11F Renewal/Revision, Grid Map*. Exhibit .145-2, shows the proposed permit boundary, soil grids, soil bank boundary, undisturbed areas, and the referenced areas where select material placement (as opposed to four-foot haulback) was authorized. In areas where coal combustion products are disposed, select material will be placed in the top four feet of reclamation disposal areas in and only in Area A where it has been pre-approved, as depicted on Exhibit 139-2 in Supplement 5 and will meet statewide standards as set forth in SMRD Advisory Notice ER-BA-127(b), effective 06/10/2010.
- (n). Haulback material will be removed to a depth of up to four feet below the original roof of topsoil surface using mobile equipment. Survey locations and elevations are used to assure proper depth of removal. Haulback material will be either stored in temporary stockpiles, or distributed directly on regraded areas. The estimated haulback material removal (based on 3-ft removal depth) and replacement volumes during the proposed permit term are listed in Tables .139-5, *Haulback Material Removal Volumes*, and .139-6, *Haulback Material Stockpile Volumes (Approximate)*, respectively. Typical haulback placement operations are depicted on Figure .139-10, *Typical Haulback Placement Operation-Cross Sectional View*, and Figure .139-11, *Typical Haulback Placement Operation-Plan View*.
- (o). Temporary topsoil and haulback stockpiles may be constructed in two or more lifts. All stockpiles will be established, marked and maintained utilizing 3h:1v or flatter slopes. All topsoil stockpiles will be temporary structures approximately 30 feet tall and will be seeded, weather and planting conditions permitting, following completion of construction to minimize erosion. Temporary topsoil and haulback stockpiles placed in the vicinity of boxcut placement areas will remain in place until final reclamation of the associated mine area.
- (p). In areas where suitable overburden material are present and a four foot haulback is not used, mobile equipment will be used to place select material on regraded spoils subject to Commission approval. Topsoil and replacement material will be distributed to provide a minimum of four feet of soil free of AFM and TFM as compared to the native soil baseline.
- (q). A high wall and spoil engineering study was performed in different stages for the mine operations during the time period 2008 through 2012. The study included field drilling and sampling, laboratory testing, and slope stability analyses. The conclusions of the geotechnical study were approved in a prior permit.
- (r). Highwall slopes of 68 degrees and up to 110 feet high were determined to have a safety factor above 1.3. Due to equipment limitations, San Miguel does not anticipate highwalls higher than 110 feet. Prebenching or other methods will be used, if necessary, to maintain highwall heights to 110 feet or less. Spoil slopes range from 34 degrees to 44 degrees and the maximum slope is determined by the height of the spoil

from the pit floor. The results of San Miguel's calculations showing the spoil height at which an acceptable factor of safety (1.1) is achieved are shown in section .139 of the application. If spoil falls below a factor of safety of 1.1, steps will be taken to reduce spoil height or angle.

- (s). Continuous surface miners and dozers will be the primary equipment used to remove approximately one foot of burden material that remains over the uppermost lignite seam after dragline overburden removal is complete. This material is placed directly onto the base of spoil material as conveyor reach allows. The continuous surface miners may also load trucks or scrapers that will transport material to mined portions of the pit or to the surface where it is placed adjacent to the current pit and pushed back into the bottom of the pit when lignite has been removed. The front end loader and rubber-tired dozer will push the burden material to the dragline face or to the spoil pile, while scrapers will haul the material to previously mined portions of the pit. The approximate one foot thick layer of removed burden material will be placed where there will be at least four feet of cover containing acceptable non-AFM, non-TFM material.
- (t). The transportation system at the mine consists of travel ways for mobile equipment and supervisory personnel that are within the immediate mine area (IMA) or within the area controlled by sedimentation ponds. Travelways will be regularly inspected for signs or degradation and maintained to ensure a safe and reliable transportation system. Travelways will be reclaimed when no longer needed for mining related activities, or proposed as permanent if requested by the affected landowner. San Miguel proposes the continued use of a one-lane bridge (approved in Permit No. 11D) over La Parita Creek. In-pit access routes, ramps and travel lanes are constructed from locally available material and parting material may be used as base material in their construction. Primary and ancillary roads and roads located outside the surface-water control area are summarized and evaluated in section .154 of this TA document.
- (u). San Miguel requests a continuation of previous approvals to conduct surface mining related activities within the 100-foot buffer zones for La Parita and Metate Creeks. The operations within the buffer zones include: the B-North Haul Road; B-East Haul Road; La Parita Creek Bridge; Dragline Walkway; Levee 9B; Sedimentation Pond 9B; La Parita Creek Levee; Metate Creek Levee; Pond 21B; and Pond 23B. These operations may include reclamation, regrade, erosion control, maintenance, mowing and haying activities, grazing and vegetation clearing, and active lignite removal. No new stream buffer zone variances are proposed in this application.
- (v). San Miguel requests to extend an existing temporary cessation of operations (TCO) in Area B until the end of the proposed permit renewal/revision term. The TCO area encompasses approximately 112.9 acres, as shown on Exhibit .139-2.
- (w). Exhibit .139-2 also depicts an area congruent with the proposed permit renewal/revision term mine blocks where additional time to complete rough backfilling and grading is proposed. Additional time to complete rough backfilling and grading is approved.
- (x). Surface-water control structures for Areas A, E, B and B-Extension will be constructed and removed according to the schedule provided in Tables .148-1, 2 and 3. The

schedule for removal of some of these structures maybe altered if they are requested to remain in the postmine phase by the affected landowner(s). Information regarding existing and proposed surface-water control ponds, including approval and construction dates and pond design characteristics is provided in Table .148-4.

(y). Current structures and reclamation facilities, are shown on Exhibit .139-1. All buildings and facilities at the mine facilities area are proposed to be removed when no longer needed following the completion of mining-related operations.

(z). San Miguel may need to obtain additional crop, subcrop, geotechnical, overburden, soil groundwater or other data within the permit area during the proposed permit renewal/revision term. These exploration activities may require the use of backhoes, dozers and other construction equipment to clear access routes for drilling, testing and surveying equipment. San Miguel will provide notification of any exploration program within the proposed permit renewal/revision area to the Commission at least five days prior to the commencement of drilling activities. Any drilling activities that would constitute a revision to the approved permit will be submitted for review and approval prior to implementation. Drill holes will be plugged in accordance with the drill hole and well sealing plan contained in section .145 of the application.

(aa). San Miguel's plan to control fugitive dust is provided in section .139.

(bb). A copy of San Miguel's TCEQ Solid Waste Registration Permit No. 31434 is contained in Appendix .139-1 (section .139).

29. The application, as supplemented, meets the requirements of §12.140. There are no existing structures to be modified or used for mining operations within the proposed permit renewal/revision area. Based on the definition of existing structures in §12.3(63), the information provided is sufficient to satisfy the existing-structures requirements of §12.140.

30. The application, as supplemented, meets the requirements of §12.141. No blasting is proposed in this renewal/revision application for the San Miguel Lignite Mine. Therefore, the requirements of §12.141 are not applicable and San Miguel's response is satisfactory.

31. The application, as supplemented, meets the requirements of §12.142. Section .142 contains information to identify the maps, plans and cross sections submitted to satisfy the requirements of this section of the Regulations. This information is summarized as follows:

SECTION	SUBJECT	LOCATION
12.142(1)	Lands affected and changed by the proposed operations	Exhibit .119-1 Exhibit .139-1
12.142(2)	Show the location of the following:	
12.142(2)(A)	Buildings, utility corridors, and facilities	Exhibit .139-1
12.142(2)(B)	Area of land to be affected by mining and reclamation	Exhibits .119-1 and .139-1
12.142(2)(C)	Area of land to be bonded	Exhibit .145-1-1
12.142(2)(D)	Coal storage, cleaning and loading areas	Exhibit .139-1
12.142(2)(E)	Topsoil, spoil, coal waste, and non-coal waste storage areas	Exhibits .139-1 and .139-2
12.142(2)(F)	Water diversion, collection, conveyance, treatment,	Exhibit .139-1

SECTION	SUBJECT	LOCATION
	storage, and discharge facilities	Exhibit .148-1
12.142(2)(G)	Air pollution collection and control facilities	None proposed
12.142(2)(H)	Source of waste and waste disposal facilities relating to coal processing or pollution control	Exhibit .139-2 Exhibit .148-1
12.142(2)(I)	Fish and wildlife enhancement and protection	Discussed in section .144; depicted on Exhibit .144-1
12.142(2)(J)	Explosive storage and handling facilities	None proposed
12.142(2)(K)	Location of each sediment pond, permanent impoundment, coal processing waste dam and embankment, and fill area for the disposal of excess spoil	Exhibit .139-1 Exhibit .148-1
12.142(3)	Certification by a qualified registered professional engineer or geologist	Plates and tables are individually certified
12.142(4)	Description of and plans and drawings for support facilities	None proposed

32. The application, as supplemented, meets the requirements of §12.143. San Miguel proposes no changes to the plan contained on page .143-1 of the approved permit document. The approved permit contains a list of measures to be taken to minimize fugitive dust. The listed measures include: watering and grading of haul roads, limiting traffic to specific roads, controlling vehicular speeds, and stabilizing disturbed areas in a timely manner. Since the mine is located east of the 100th meridian, an air-quality monitoring program has not been required for this mine and will not be required for the proposed permit renewal/revision term.

33. The application, as supplemented, meets the requirements of §§12.144 and 12.380.

- (a). The application contains Table .144-2, *Permit 11F Renewal/Revision High Value Habitat Riparian and USACE Jurisdictional Wetlands Impacts and Mitigation Acres*. Table .144-2 contains the following wetland impact and mitigation acreages, that includes 0.54 acres of impacts and mitigation for the proposed permit term:

Table .144-2 Permit 11F Renewal/Revision High Value Habitat (Riparian and USACE Jurisdictional Wetlands) Impacts and Mitigation Acres						
	Currently Existing 1981-2009 (acres)		Proposed 2009 - 2014 (acres)		Permit Area Total 1981-2014 (acres)	
	RCT	USACE	RCT	USACE	RCT	USACE
Impacts						
Non-Forested Wetlands	3.40	3.40	0.29	0.29	3.69	3.39
Channels	5.40	5.40	0.25	0.25	5.65	5.65
On-Channel Ponds	29.70	29.70	0.0	0.00	29.70	29.70
Off-Channel Ponds	74.70	0.00	0.00	0.00	74.70	0.00
Riparian	34.30	0.00	0.00	0.00	34.30	0.00

Totals	147.50	38.50	0.54	0.54	148.04	39.04
Mitigation						
Wetlands	8.60	8.60	0.29	0.29	8.89	8.89
Channels	4.70	4.70	0.25	0.25	4.95	4.95
On-Channel Ponds	41.90	41.90	0.00	0.00	41.90	41.90
Off-Channel Ponds	74.70	0.00	0.00	0.00	74.70	0.00
Riparian	23.30	0.00	0.00	0.00	23.30	0.00
Totals	153.20	55.20	0.54	0.54	153.74	55.74

- (b). Table .144-2 includes accounting for impacts to and mitigation for USACE jurisdictional waters and wetlands, to include the additional 0.54 acres of impacts to and mitigation for a 0.29-acre non-forested wetland and a 0.25-acre stream channel around Sample Site No. 19. Table .144-2 also reflects the impact and acreage revisions that are the result of San Miguel's January 15, 2010, withdrawal of its April 16, 2009, pre-construction notification (PCN) for 0.54 acres of impacts and mitigation under USACE Project No. SWF-2009-00340 for the Permit No. 11F renewal, as well as its January 15, 2010, amendment/re-verification request to add these 0.54 acres of impacts and mitigation into existing USACE Project No. 200300732.
- (c). San Miguel will not disturb any migrating threatened species. San Miguel will report the observation of any previously unreported threatened or endangered species to the Commission and to local TPWD officials.
- (d). San Miguel will provide to the Commission, and concurrently to the USACE, copies of its Pre-Construction Notification (PCN) to the USACE for Nationwide Permit No. 21, copies of any revisions to its proposed Jurisdictional Determination, and copies of any modifications to the USACE authorizations for impacts to and mitigation for USACE jurisdictional waters and wetlands. The application contains a description of mitigation for USACE jurisdictional waters and wetlands for the transportation corridor to the C Area (Permit No. 52A). San Miguel has accounted for the impacts and mitigation in Table .144-2.
- (e). San Miguel will select herbaceous and woody species from its planting lists in Tables .145-6 and .145-8.
34. The application, as supplemented, meets the requirements of §§ 12.145, 12.331, 12.332 and 12.333.
- (a). General Requirements. San Miguel provided a plan for reclamation of the lands within the permit area in sections .145 through .154 of the renewal/revision application. The information provided meets the requirements of §12.145(a).
- (b). Reclamation Timetable.
1. The application contains the following tables
 - Table .145-1, *Pastureland Post Topsoil Reclamation Timetable*;

- Table .145-2, *Final Ash Pit Backfill Schedule*;
- Table .145-3, *Industrial/Commercial Topsoil Reclamation Timetable*;
- Table .145-4, *Pre and Postmine Slope Classes*;
- Table .145-5, *Pasture Grasses for Revegetation of Disturbed Areas*;
- Table .145-6, *Potential Volunteer Herbaceous Species Occurring in Revegetated Areas*
- Table .145-7, *Temporary Vegetation/Cover Crops and Rates For Disturbed Areas*; and
- Table .145-8, *Woody and Aquatic Related Revegetation Species*.

2. Coal removal for the proposed renewal/revision permit term is to occur in Area B-Extension on land owned by Harrison Interests, Ltd. (Tract Nos. A-427, A-469, A-470, A-473, A-476, and A-765) where San Miguel does not propose any ash placement. San Miguel proposes the following reclamation schedule for Area B-Extension. It is described in section .139 of the application, and includes:

- Allow spoil peaks to stand for up to 24 months (740 days) after final coal removal;
- Complete backfilling and grading within 40 months (1,220 days) of final coal removal;
- Haulback placement within 11 months following final leveling (51 months after final coal removal);
- Topsoil placement within 6 months following haulback placement (57 months after final coal removal); and
- Following topsoil replacement, reclamation will proceed as proposed in the schedule presented in Table .145-1 for pastureland.
- Figure .139-11, *Typical Haulback Placement Operation - Plan View*, in section .139 is an illustration of San Miguel's reclamation timetable.

3. In Table .145-1, *Pastureland Post Topsoil Reclamation Timetable*, San Miguel proposes the following reclamation completion schedule for all areas of reclaimed pastureland:

- Temporary or permanent revegetation within 1 to 6 months following topsoil placement;
- Initiate the extended responsibility period (ERP) and apply for Phase I bond release in April of Year 1 after planting permanent vegetation (6 years after coal removal);
- Apply for Phase II bond release in September of year 2 after planting permanent vegetation (7 to 8 years after coal removal), with the bond-release application submitted between 30 days following the last average frost date and 30 days prior to the first average frost date; and
- Apply for Phase III bond release in June of year 6 after planting permanent vegetation (11 to 12 years after coal removal), with the bond-release application submitted between 30 days following the last average frost date and 30 days prior to the first average frost date.

4. Table .145-1, Table .145-5, and Table .145-7 are also suitable timetables to accomplish reclamation activities for reclaiming disturbed land to this postmine land use of grazing land.
5. In Table .145-2, *Final Ash Pit Backfill*; San Miguel proposes the following reclamation completion schedule for Areas A and E:

	Acres	Year Of Final Coal Removal	Years From Final Coal Removal		
			Ash Final Grade	Spoil Regrade	Topsoil Regrade
BLOCK E	309.3	2000	13	17	18
BLOCK A ³ San Miguel	220.2	1990	30	32	33
BLOCK A ³ Other	127.0	1990	30	34	35

6. Placement methods for coal combustion residuals are in section .139 and in section .145. San Miguel will place coal combustion residuals in the areas it has delineated on Exhibit .139-2, *Variance, Temp. Cessation of Ops. & Ash Disposal Map*.
7. In Table .145-3, *Industrial Commercial Post Topsoil Reclamation Timetable*, San Miguel proposes the following reclamation completion schedule for all areas of industrial/commercial land use:
 - Temporary or permanent revegetation within 2 to 6 months following topsoil placement;
 - Apply for Phase I bond release in April, 2 years after planting permanent vegetation; and
 - Apply for Phase II and III bond release in September, 3 years after planting permanent vegetation, with the bond-release application submitted between 30 days following the last average frost date and 30 days prior to the first average frost date.
8. Planting dates for temporary vegetation and cover crops are from April 1 through May 15 and September 1 through November 30.
9. The application, as supplemented, meets the requirements of §12.145(b)(1).

(c). Detailed Reclamation Cost Estimate.

1. A summary of the estimated reclamation costs for the San Miguel Lignite Mine is listed in Table .145-1-17, *Summary of Reclamation Cost*. The application contains a detailed reclamation cost estimate, with supporting text in Appendix .145-1.

2. Exhibit .145-1-1, *Permit 11F Reclamation Bond Map* is contained in the application.
3. San Miguel's estimated reclamation cost contained in Table .145-1-17 is \$68,904,509.
4. Staff's reclamation cost analysis was updated to incorporate the latest equipment costs and productivities, and to reflect the proposed acreage changes bonded at various disturbance categories. The Staff's reclamation cost estimate in Table I is provided as follows:

TABLE I SUMMARY OF STAFF'S ESTIMATED RECLAMATION COSTS			
Disturbance Category ¹	Acres ²	Cost/Acre	Total
MINED			
A Area & E- Area (Pre 1994)			
Pre 4' Haulback No Reduction	1,193	\$9,754	\$11,636,522
Pre 4' Haulback Phase I (60%) Reduction	8	\$3,902	\$31,216
Pre 4' Haulback Phase II Reduction	1,893	\$892	\$1,688,556
Pre 4' Haulback Phase III (100%) Reduction	566	0	\$0
B Area & E Area (Post 1994)			
Post 4' Haulback No Reduction	1,669	\$17,012	\$28,393,028
Post 4' Haulback Phase I (60%) Reduction	463	\$6,805	\$3,150,715
Post 4' Haulback Phase II Reduction	1,030	\$892	\$918,760
Post 4' Haulback Phase III (100%) Reduction	1119	0	\$0
Seep Area			
Sampling	43	\$160	\$6,880
DISTURBED			
No Reduction	2,264	\$7,278	\$16,477,392
Phase I (60%) Reduction	24	\$2,912	\$69,888
Phase II Reduction	511	\$892	\$455,812
Phase III (100%) Reduction	108	0	\$0
ANCILLARY			
No Reduction	749	\$892	\$668,108
Phase I (60%) Reduction	0	\$892	\$0
Phase II Reduction	1	\$892	\$892
Phase III (100%) Reduction	0	0	\$0
SUBTOTAL			\$63,497,769
ADMINISTRATIVE COSTS (10%)			\$6,349,777
TOTAL RECLAMATION BOND COST			\$69,847,546
CURRENT BOND POSTED			\$70,000,000

- ¹ Mined Areas: Includes any area where spoil is deposited, the active pit, and any highwall reduction areas.
Disturbed Areas: Includes reclamation activities (such as clearing and grubbing, topsoil removal, etc.) associated with construction of sediment ponds, diversions, access roads, haul roads, and facilities where the area is not mined.
Ancillary Areas: Includes disturbance areas on which soil preparation and seeding are the only required reclamation activity.
- ² All acreage figures were taken from Table .145-1-17, *Summary of Reclamation Cost*.
-

5. Staff's reclamation cost analysis shows that a minimum of \$69,847,546 is necessary for reclamation of the mine in the event of forfeiture. Staff's cost estimate is greater than San Miguel's estimate (\$69,579,795); therefore, Staff's estimate is recommended as the minimum required performance bond amount. San Miguel's \$70,000,000 self-bond approved by Order March 22, 2011, is sufficient to cover the cost of reclamation. No change in the bond instrument is proposed or required at this time.

6. San Miguel has satisfied the requirements of §12.145(b)(2).

(d). Backfilling and Grading.

1. The application provides a description of the impacts of dewatering the Area A final pit on the proposed ash placement schedule. San Miguel is currently evaluating alternatives (forced natural evaporation, Class V or I injection, or other alternatives) for disposal of the pit water to allow for ash placement. San Miguel is evaluating modified ash placement designs to expand capacity for ash material.
2. Table .145-2 outlines the reclamation timetable to obtain final ash grade in Areas A and E. Topsoil placement will be complete 16 years and 35 years following final coal removal in Areas E and A, respectively. Ash will be primarily placed in Area E until final grade is met in early 2013 and spoil located on either side of the pit will be used to cover the ash. Spoil cover will not be completed uniformly down the length of the pit, because the spoil to be cut is not found uniformly along the pit and water control within the pit must be maintained. To complete reclamation in Area E, 3.1 million cubic yards of spoil will need to be cut and spread over the ash along with 1.65 million cubic yards of haulback/select material and 270,000 cubic yards of topsoil. This work will primarily be conducted during the annual plant outage, when a fleet is available to move to the ash pit to complete the truck and shovel portion of the material movement. Because the availability of this fleet is limited, 980,000 cubic yards per year is the most that can be expected to be completed. At this rate topsoil regrade will be completed by the end of 2015. After topsoil placement is completed, the reclamation schedule described in Table .145-3 will be followed for all industrial/commercial areas.
3. Table .145-4 shows a comparison of premine and postmine slopes. The table accounts for the premine and postmine slopes shown on Exhibit .145-1 and Exhibit .145.

4. A comparison of the proposed postmine slopes with the proposed premine slopes is shown in the following table:

Slope Category	Proposed Premine Slopes		Proposed Postmine Slopes		Proposed Change	
	Area (Acres)	% of Total Area	Area (Acres)	Slope Category	Area (Acres)	% of Total Area
0-2%	10,737	67.1	10,008	62.6	-729	-4.5
2-5%	4,969	31.1	4,653	29.1	-316	-2.0
5-10%	292	1.8	817	5.1	525	+3.3
10-15%	2	0.0	438	2.7	309	+2.7
15-100%	0	0.0	84	0.5	80	+0.5
TOTAL	16,000	100.0	16,000	100.0		

5. The proposed postmine contours and their associated slopes represent minor changes to the approved postmine topography and generally retain the character of the premine slopes. San Miguel has provided sufficient information in the application, as supplemented, to demonstrate compliance with §12.145(b)(3).
- (e). Soil Handling. Postmine initial soil data, maintenance soil data, and soil-fertility data will be utilized when necessary to determine nutrient and other soil-amendment requirements to support the approved postmine land use and to meet the revegetation requirements. San Miguel has provided sufficient information to meet the requirements of §12.145(b)(4).
- (f). Plan For Revegetation.
1. The application contains a revegetation plan. San Miguel will reclaim “ancillary bonded areas” to their premine land uses. Revegetation species and seeding rates are included in Table .145-5 (*Pasture Grasses for Revegetation of Disturbed Areas*).
 2. San Miguel will reclaim ancillary bonded areas to the premine land use of grazingland using approved grass species. Planting plans will generally follow plans for pastureland, but will insure native species will occur in specified percentages in the “Guideline”. Ancillary bonded areas that have not been physically disturbed will be supplementally planted to augment the existing native vegetation and needed to meet the revegetation specifications in the Guideline.

3. To determine the success of revegetation, San Miguel will utilize Section .395(a) of the Regulations, the use of Forage Production Standards developed for San Miguel by the USDA Natural Resources Conservation Service (NRCS) for determining vegetation success. The NRCS Production Standards have been approved by the Commission for permit 11F and were provided in Appendix .145-3 of the Application as supplemented. San Miguel will use the highest rated species production rate for non-listed cultivars and species, and productivity will be estimated by using clip plots.
 4. Reclamation success for woody vegetation will be determined by use of approved Technical Standards.
 5. San Miguel will reclaim ancillary bonded areas with native plants to re-establish premine grazingland use and provided a list of native grasses with which it proposes to establish postmine grazingland use, as required by §12.145(b)(5)(B).
 6. San Miguel's revegetation plan for all postmine land uses as supplemented complies with the requirements of §12.145(b)(5)(A-F).
- (g). Soil-Testing Plan. The application contains a revised soil-testing plan (STP), including as Appendix I of this Order. Soil grids are depicted on Exhibit .145-2. The soil-testing plan is included as Appendix I of this Order. San Miguel has satisfied the requirements of §12.145(b)(5)(G).
- (h). Coal Recovery. The application describes the measures to be used to maximize the use and recovery of the coal resources for maximizing coal recovery. The information provided is adequate to meet the requirements of §12.145(b)(6).
- (i). AFM/TFM. In order to ensure that reclamation conforms with the requirements of §12.386, a haulback material handling plan and a select material handling plan using mobile equipment have been designed (described in section .139). The soil properties resulting from the material handling plans are evaluated in section .127.

If unsuitable material is found, the contingency plan calls for additional samples to be taken within the unit to determine the extent of unsuitable material. Once delineated, action will be taken to either: (1) correct AFM deficiencies through liming or TFM through approved measures; (2) cover the material with four feet of suitable plant growth material; or (3) remove the material (to a maximum final depth of four feet), bury it in the pit, and replace it with suitable plant growth material. The specific correction method will be selected after considering the size of the area containing the unsuitable material, the type and location of the suitable cover and the amount of AFM and/or TFM present. The information provided in the application as supplemented is adequate to meet the requirements of §12.145(b)(7).

(j). Drill Hole and Well Sealing Plan.

1. San Miguel's drill hole and well sealing plan is contained in section .145 of the application. Exploration holes will be sealed by first filling the hole with an industry-accepted hole abandonment mud from the bottom of the hole to

within 13 feet of the surface. This will be followed by the installation of an industry-accepted hole plugging device set at a depth of 13 feet. A cement plug will be set between the depths of 13 and three feet, with the remaining three feet to surface filled with drill cuttings or native soil. If artesian conditions are encountered, a cement plug will be used to prevent water flowing from the hole. Geophysical logs of exploration holes within the permit area that penetrate below the lowest lignite to be mined will be reviewed to determine the lithology. If, upon review, it is found that plugging the hole with abandonment mud is not adequate, holes will be plugged with bentonite or cement to isolate any potential aquifers.

2. An exploration plan is included in section .139 of the application. Additional crop, subcrop, geotechnical, overburden, soil, groundwater or other data may need to be obtained within the permit boundary during the permit term. Exploration activities to obtain this data may require the use of backhoes, dozers and other construction equipment to clear access routes for drilling, testing and surveying equipment. Before implementation of any exploration activities within the permit boundary, San Miguel will provide notification of the proposed program to the Commission at least five business days prior to commencement of drilling. Any drilling activities that would constitute a revision to the approved operation or to the approved reclamation plans will be submitted to the SMRD for approval prior to implementation of the activity.
3. Water wells or piezometers used for monitoring or pumping purposes, when no longer in use, will be plugged in accordance with procedures or options described in 16 TEXAS ADMIN. CODE §76.1004 as follows:
 1. If a well is abandoned or deteriorating, all removable casing shall be removed from the well and the entire well pressure-filled via a tremie pipe with cement from bottom up to the land surface. In lieu of this procedure, the well shall be pressure filled via a tremie tube with clean bentonite grout of a minimum 9.1 pounds per gallon weight followed by a cement plug extending from land surface to a depth of not less than two (2) feet, or if the well to be plugged has one hundred (100) feet or less of standing water the entire well may be filled with a solid column of 3/8 inch or larger granular sodium bentonite hydrated at frequent intervals while strictly adhering to the manufacturer's recommended rate and method of application. If a bentonite grout is used, the entire well from not less than two (2) feet below land surface may be filled with the bentonite grout. The top two (2) feet above any bentonite grout or granular sodium bentonite shall be filled with cement as an atmospheric barrier.
 2. Undesirable water or constituents, or the fresh water zone(s) shall be isolated with cement plugs and the remainder of the wellbore filled with clean bentonite grout of a minimum 9.1 pounds per gallon weight followed by a cement plug extending from the land surface to a depth of not less than two (2) feet.

3. Large-diameter hand-dug and bored wells up to one hundred (100) feet in depth may be plugged by backfilling with compacted clay or caliche to the surface and left mounded to compensate for settling.

4. Drillers may petition the Commission, in writing, for a variance from these methods. The variance will state in detail, an alternative method proposed and all conditions applicable to the well that would make the alternative method preferable.

5. A non-deteriorated well which contains casing in good condition and is beneficial to the landowner can be capped with a covering capable of preventing surface pollutants from entering the well and sustaining weight of at least four hundred (400) pounds and constructed in such a way that the covering cannot be easily removed by hand.

4. Under 16 Texas Admin. Code §76.1009, the following alternative hole abandonment procedure for water wells/piezometers is proposed if casing removal stipulated above is not feasible or practical: The cased well or piezometer will be cemented or filled with bentonite slurry from the bottom up to within 2 feet of the land surface with the casing left intact. By not removing the well casing, impervious plugs (10-foot concrete surface plug or strategically placed bentonitic seals) set during well/piezometer installation remain intact and unbroken. Introduction of cement/bentonite slurry into the cased well or piezometer will permeate through slotted casing sections and infiltrate and plug the annulus area of the cased hole in addition to the aquifer in the immediate vicinity of the well/piezometer. The combination of surface plugs, bentonitic seals and cementing will isolate aquifers and prevent surface contamination. In the event an abandoned well is mined through, the aforementioned well abandonment procedure will prohibit movement of spoils-zone fluids into the aquifer underlying the lignite. After the cement has been allowed to dry, surface casing and cement will be removed to three feet below the ground surface and backfilled with topsoil.

5. Oil and gas wells to be mined through will be plugged in accordance with the requirements at 16 Texas Admin. Code §3.14. In the unlikely event that oil or gas strata are encountered during coal exploration drilling, such strata will be isolated with a cement plug.

6. The Commission's regional office will be notified five working days prior to any hole-plugging operations. The information provided is inadequate to meet the requirements of §12.145(b)(8).

(k). Compliance With The Clean Air Act and Clean Water Act. San Miguel's plan for compliance with the requirements of the Clean Air Act, Clean Water Act, and other applicable air- and water-quality requirements resulting from the proposed activities listed in this permit application and under the permits listed in section .121 of the application, is adequate to meet the requirements of §12.145(b)(9).

35. The application, as supplemented, meets the requirements of §12.146.

(a). Protection of Hydrologic Balance (Ground Water).

1. San Miguel's depressurization plan is contained in Appendix .146A-1. Table .146A-1-3 contains adjusted estimated depressurization rates and volumes, as follows:

<u>Stress Period</u>	<u>Year</u>	<u>Number of Wells</u>	<u>Pumping Rate (gpm)</u>	<u>Avg. Pumping Volume (ac-ft)</u>	<u>Est. Pumping Volume (ac-ft)</u>
Period 1	1/2009 – 1/2012	6	130	210	629
Period 2	1/2012 – 1/2014	10	80	258	258
Total volume pumped (ac-ft) during permit term (2009-2014)					887

2. Model outputs for the five-year proposed permit term are illustrated on Figures .146A-1-2 through 7.
3. The proposed five-year permit term depressurization pumpage needs for the proposed permit renewal term are included in the application in. Table .146A-1-2 shows that the anticipated life-of-mine pumping (including the five-year proposed permit term) is through January 2015. The anticipated drawdown extents at the end of the five-year permit renewal term are depicted on Figure .146A-1-7.
4. San Miguel has submitted sufficient information to demonstrate compliance with the hydrologic reclamation plan and groundwater monitoring-plan requirements of §12.146(a) and (b).

(b). Protection of Hydrologic Balance (Surface Water).

1. San Miguel provided surface-water information in section .146 to address the requirements of §12.146(a) and (c). Section .146 (subsection B) is certified by Keith Anderson, P.E., a professional engineer licensed in the State of Texas.
2. The application includes information for a plan to handle water in Area A to be consistent with the administrative approval of the water handling plan in Revision Nos. 31 and 32 (duplicates provided in new Appendix .146B-9). San Miguel will sample pond water once daily when EC concentrations reach 9,000 mmhos/cm. Ponds 7, 10 and 11 will only be discharged to La Parita Creek if EC concentrations are less than or equal to 11,000 mmhos/cm as a daily average and less than or equal to 16,000 mmhos/cm as a daily maximum. These limits were based upon reports prepared by James Miertschin & Associates, Inc. and Texas Agriculture Extension Service: wherein Mr. Miertschin concludes that discharges from the San Miguel Lignite Mine precludes adverse impact on the Atascosa River to exceed the average annual TDS concentration criterion for Stream Segment 2107, and; Texas Agriculture Extension Service reports that livestock may subsist on waters with TDS concentrations ranging between 7,000 and 10,000 mg/L

(approximate equivalent of 11,000 and 16,000 mmhos/cm of EC), however these concentrations may, over time, cause considerable risks for pregnant or lactating livestock. Notification will be provided to the Commission via telephone, E-mail or facsimile within 24 hours of commencing discharges. During discharges, San Miguel will sample once every two days and keep a log at the mine for review. If discharge EC concentrations exceed 16,000 mmhos/cm, or if any TPDES or Commission effluent standard is exceeded, San Miguel will discontinue discharge and begin pumping water to the Ramp 10 End Pit. Water will then be pumped to pond 25A, pond 26A or the Ramp 8 End Pit for storage. Boron is no longer a constituent for which San Miguel will monitor.

3. San Miguel provided Table 6 (containing the Area A pond water-quality data) in its *Area A Post-Mine Groundwater and Surface Water Evaluation Report*, in the application.
4. Acid and Toxic Drainage. San Miguel will manage topsoil to provide four feet of soil free of AFM and TFM. In the event of development of postmine seeps that result in dead or distressed vegetation, San Miguel recognizes its responsibility to mitigate these seeps. Possible solutions include inundation with a postmine pond or installation of a cut-off trench. San Miguel commits to evaluate the potential seep and develop a seep investigation and submit a work plan for Commission review prior to implementation.

San Miguel has provided sufficient information to demonstrate compliance with the surface-water requirements of §12.146(a) and (c), except as described above.

- (c). Probable Hydrologic Consequences (PHC) Determination (Surface Water). The application provides surface-water information in section .146 (subsection B) addressing the requirements of §12.146(d). Section .146 (subsection B) is certified by Keith Anderson, P.E., a professional engineer licensed in the State of Texas.

1. Surface-Water Quantity. San Miguel provides citation to the Texas Water Development Board's Report 192, "Evaporation Data in Texas" as the publication from which it derived pan evaporation data. San Miguel deduced a mean lake evaporation of 60 inches by multiplying the pan evaporation by the appropriate monthly conversion coefficient (summarized in Table .146B-5A) provided in TWDB's report. The postmine annual evaporative losses (due to evaporation, seepage and livestock consumption) is 1,782.8 ac-ft compared to premine losses of 497 ac-ft.
2. Surface-Water Quality. The application provides a discussion of changes to total Fe, indicating that total Fe values recorded at final discharge ponds did not exceed 3 mg/L (data contained in Appendix .146B-4 of initial application). Comparison of the LTSM water-quality data for La Jarita Creek show that approximately 22% of the total Fe samples from upstream station 1E exceeded 6 mg/L while none of the samples at downstream station A2 exceeded this value. On La Parita Creek, San Miguel notes that 58% of the total Fe samples collected at upstream station MK001 exceeded 6 mg/L and 47% of the samples

taken at downstream station MK002 exceeded this value. On Metate Creek, 43% and 46% of the total Fe samples exceeded 6 mg/L at upstream station MK003 and downstream station MK004, respectively. San Miguel concludes that based on this analysis, elevated values of total Fe are unlikely the cause of discharges from the mine, but more likely indicative of iron rich soils found in the respective watersheds. Table .146B-18A now contains a summary of the total and dissolved Fe and Mn concentrations at LTSM stream stations. This summary shows that the maximum and average dissolved Fe (at all upstream and downstream monitoring stations) has been below 3 mg/L and 1 mg/L, respectively.

San Miguel has presented the PHC determination for the proposed mining operation on the surface-water component of the hydrologic balance. This determination was based on baseline hydrologic data collected from monitoring stations established by San Miguel, long-term surface-water monitoring data, and data provided for USGS stations.

3. The following is a summary of San Miguel's cumulative PHC determination, as supplemented thus far:

Parameters Used for PHC Determination for the San Miguel Lignite Mine			
Impact Parameter	Premine Condition	Active-Mine Estimate	Postmine Estimate
Average Annual Soil Loss	0.43 tons/acre/yr ¹	0.073 to 8.570 tons/acre/yr	0.39 tons/acre/yr ¹
Flooding or Streamflow Alteration	Non-uniform deeply incised creeks with steep banks	Reduced rates of discharge from permitted outfalls due to attenuation of peak discharges in ponds	Shallow swales and uniform prismatic channels with mild bed and bank slopes
Average Runoff	0.20 ac-ft/ac ²	0.203 - 0.244 ac-ft/ac (Table .146B-2)	0.20 ac-ft/ac ²
Postmine Pond Acreage	0 acres ³	799.8 acres ⁴	201.9 acres (Table .146B-6)
Consumptive Loss of Surface Water	0 acre-feet/year	3,977 acre-feet/year ⁵	1,824.1 acre-feet/year

¹ based on sediment losses from Table .146-28; Permit No. 11E

² based on runoff volumes from Table .146-29; Permit No. 11E

³ assumption made by Staff for most conservative comparison to postmine pond acreage

⁴ based on construction of all sedimentation ponds; Tables .148-1 through 3; pending renewal/revision application

⁵ based on average postmine ponds evaporative losses calculated by San Miguel; pending renewal/revision application

36. The application, as supplemented meets the requirements of §§12.147 and 12.399(c).

- (a). The application contains San Miguel's proposed postmine land-use in section .147, including Table .147-1 and Exhibit .147-1, *Permit 11F Renewal/Revision Conceptual Postmine Land Use*, all accompanied by an engineer's certification on Exhibit .147-1 and on in section .147, dated December 21, 2011, from Mr. George Lovland, P.E., a licensed professional engineer.

- (b). San Miguel will reclaim ancillary bonded areas to their premine land uses. These areas are depicted on Exhibit .147-1.
- (c). Table .147-1 contains the following postmine land-use plan for disturbed acreage in the permit area:

TABLE .147-1 Permit No. 11F Renewal/Revision Comparison of Pre and Postmining Land Uses of Disturbed Land				
Land Use	Premine Area (Acres)	Percent	Reclaimed Area (Acres)	Percent
Grazingland	10,790	98.2%	0	0.0%
Pastureland	91	0.8%	7,758	70.6%
Industrial/Commercial	6	<0.1%	2,799	25.5%
Developed Water Resources	90	0.8%	435	3.9%
Residential	<1	<0.1%	0	0.0%
TOTALS	10,992	100.0%	10,978	100.0%

- (d). Reclaimed land will be used as postmine industrial/commercial (I/C) land use where San Miguel has placed coal-combustion residuals (coal ash), as registered with the Texas Commission on Environmental Quality. Sections .139 and .145 of the supplemented application contain detailed plans for ash placement and reclamation of the affected land areas. San Miguel provided documentation of an approval from the Texas Commission on Environmental Quality, dated May 9, 2012, approving 3.0 feet of select material (i.e., material free of AFM and TFM), plus one foot of topsoil or with four feet of haulback material including topsoil over ash placement areas on property owned by San Miguel in accordance with Commission regulations. On property owned by other land owners, the ash is covered pursuant to the respective lease agreement.
- (e). San Miguel provided a copy of a letter signed by landowner Dan J. Harrison, III, regarding the proposed postmine land uses on lands owned by Harrison Interests, Ltd. In this letter, Mr. Harrison acknowledges there will be five reclamation ponds comprising 105 acres of postmine developed water resources.
- (f). The area disturbed by temporary impoundment 15E will be reclaimed to postmine grazingland use.
- (g). San Miguel will reclaim disturbed “ancillary bond areas” to postmine grazingland using native revegetation species as provided in the application as supplemented.
37. The application, as supplemented, meets the requirements of §12.148.
- (a). The application contains section .148, including Tables .148-1 through .148-3 (characteristics for existing and proposed water control structures for Areas A, B, and E), and Exhibit .148-1 (water control plan).

- (b). The general water control plan was developed by or under the direction of George, Lovland, P.E., a licensed professional engineer in the State of Texas and a certification is provided in section .148.
 - (c). Pond A-1 was constructed during regrading activities as part of the Area A water-control plan, restoration of an un-named tributary of Hog Creek has been designated as Ditch 5E and Wetland E-1 was approved as a permanent structure in 2000 as part of the Area E water control plan and the water control plan for Area B consists of diversion ditches, levees, reclamation Pond B-1 and sedimentation ponds.
 - (d). Homestead Pond is included as one of the reclamation ponds proposed for Area B. This pond has been approved as a permanent structure.
- 38. The application, as supplemented, meets the requirements of §12.149. There are no known underground mines within the permit area. Therefore, no special reclamation activities are required for compliance with § 12.367.
 - 39. The application, as supplemented, meets the requirements of §§12.150 and §12.341. San Miguel does not propose to construct any stream-channel diversions during the permit term.
 - 40. The application, as supplemented, meets the requirements of §12.151. Evaluation of this application section provided pursuant to §12.151 is addressed in Finding of Fact 14(b)-(g), addressing §12.125.
 - 41. The application, as supplemented, meets the requirements of §12.152. San Miguel does not propose to use, relocate, or conduct surface mining activities within 100 feet of the outside right-of-way of any public roads during the permit renewal term. County Road 420 (shown on Exhibit .154-1) was approved for closure by the Atascosa County Commissioners Court prior to the issuance of Permit No. 11 and this road will remain closed for the entirety of the permit term.
 - 42. The application, as supplemented, meets the requirements of §12.153. No excess spoil will be produced during mining in the permit area.
 - 43. The application, as supplemented, meets the requirements of §12.154. The application contains section .154, including Exhibit .154-1 and a certification by Mr. Keith Anderson, P.E. Exhibit .154-1 depicts lignite haulage routes in the proposed permit renewal/revision area. Exhibit .154-1 also shows the locations of the permanent ponds for which detailed design plans are provided in this application, as supplemented.
 - 44. The application, as supplemented, meets the requirements of §12.215. The administratively complete application, as supplemented, has been reviewed. The notification of intent to publish in *The Pleasanton Express* in Atascosa County and *The Progress* in McMullen County on February 22 & 29 and March 7 & 14 was filed with the Examiner on February 27, 2012 (letter dated February 24, 2012). The public notice was published in *The Progress*, in McMullen County, February 22 and 29 and March 7 and 14, 2012. Tear sheets and publisher's affidavits for *The Progress* publication were submitted to the Commission on April 2, 2012. The public notice was also published in the *Pleasanton Express*, in Atascosa County, on March 7, 14, 21, and 28, 2012. Tear sheets and publisher's affidavits for the *Pleasanton Express* publication were submitted to the Commission on April 10, 2012. No written comments or objections to the permit application have been submitted to the Commission.

45. The application, as supplemented, meets the requirements of §12.216.

- (a). The permit application, as supplemented has been determined to be accurate and complete and demonstrates compliance with all requirements of the Act and this Chapter.
- (b). San Miguel has demonstrated that surface coal mining and reclamation operations, as required by the Act and this Chapter, can be feasibly accomplished under the mining and reclamation plan contained in this application, as supplemented.
- (c). An assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance has been made by the Commission and was summarized in Appendix I of the initial TA document.
- (d). The permit area is:
 - 1. Not included within an area designated as unsuitable for surface coal mining operations under §§12.74 - 12.85;
 - 2. Not within an area under study for designation as unsuitable for surface coal mining operations in an administrative proceeding begun under §§12.78 - 12.85;
 - 3. Not on any lands subject to the prohibitions or limitations of §§12.71(a)(1), (6), or (7);
 - 4. Not within 100 feet of the outside right-of-way line of any public road, except as provided for in §12.72(e); and
 - 5. Not within 300 feet of any occupied dwelling, except as provided for in §12.71(a)(5) and §12.72(b).
- (e). The proposed operations will not adversely affect any publicly owned parks or places included on or eligible for listing on the National Register of Historic Places.
- (f). San Miguel has provided to the Commission documentation required under §12.117(b) for operations involving surface mining of coal where the private mineral estate to be mined has been severed from the private surface estate.
- (g). The report of the AVS [operated by OSM] is contained in Appendix VI of this TA addendum document. The report indicates that there are no pending violations which remain uncorrected; or, the violations are in the process of being corrected or are subject to a valid, good-faith appeal of the alleged violation. San Miguel has demonstrated compliance with §12.215(e) and satisfied the requirements for submissions and demonstrations under this paragraph.
- (h). The AVS report has been reviewed. If reclamation fees had not been paid by San Miguel the report would so indicate. No such indication was found.
- (i). The surface coal mining and reclamation operations to be performed at the San Miguel Lignite Mine, in the renewal/revision application, will not be inconsistent with other such operations to be performed in areas adjacent to the permit area.

- (j). The currently posted bond amount for Approved Permit No. 11F is \$70,000,000 (approved by Order dated March 22, 2011). Staff's reclamation cost estimate in the amount of \$69,847,546 is adopted as the minimum required bond amount since it is higher than that calculated by San Miguel (\$69,579,795). Based on the revised estimate, the existing \$70,000,000 bond amount is sufficient to cover the cost of reclamation. No changes to the approved bond documents are requested at this time.
- (k). San Miguel has satisfactorily addressed the requirements of §12.201 regarding prime farmland. The proposed permit area is located east of the 100th Meridian West Longitude and contains no alluvial valley floors; therefore, the requirements of §12.202 are not applicable.
- (l). The proposed postmining land uses in this application, as supplemented, meet the requirements of §12.399.
- (m). All specific performance-standard approvals required under Subchapter K of this Chapter have been made.
- (n). The proposed activities will not affect the continued existence of endangered and threatened species or result in the destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.).
- (o). San Miguel has satisfied the requirements for approval, as applicable, of a long-term, intensive agricultural postmining land use in accordance with §12.390.

Based on the above Findings of Fact, the following Conclusions of Law are made:

CONCLUSIONS OF LAW

1. The Commission has jurisdiction under §134.051 of the Act and §12.216 of the Regulations to approve this application for permit as contained in this Order, and as set out in Appendices I to this Order.
2. Proper notice of the application was provided in accordance with the requirements of the Act, §134.058 and 134.059, 16 TAC §12.207, the Commission's *Practice and Procedure*, 16 TEX. ADMIN. CODE §1.1 et seq. and the Administrative Procedure Act (APA), TEX. ADMIN. CODE CH. 2001 (Vernon Supp. 2010).
3. No public hearing is warranted.
4. Based upon the Findings of Fact, the application for a permit renewal/revision was submitted to the Commission by San Miguel Electric Cooperative, Inc. and was processed, circulated, and reviewed in accordance with requirements that ensure public participation and that comply with the Act, Regulations, the Commission's *Practice and Procedure*, and the APA.
5. The application, as supplemented, with the permit set out in and the soil-testing plan Appendix I to this Order, complies with the reclamation standards set out in the Act and Regulations.

6. San Miguel's existing posted bond amount is \$70,000,000. No change to the bond amount or additional approval is necessary prior to issuance of the permit renewal/revision.
 7. Based upon the updated compliance history filed by San Miguel Electric Cooperative, Inc. and in accordance with §§12.116(9 & 14) and 12.215(g), this requested renewal/revision permit may be issued for San Miguel Electric Cooperative, Inc.
-

APPENDIX I SOIL-TESTING PLAN

The Soil-Testing Plan (STP) is contained in section .145 of the application and Exhibit 145-2, *Permit 11F Grid Map* and reads as follows:

SOIL TESTING PROCEDURES

All areas within the Area A Mine Block will be monitored in six-acre grids (417' x 625'); all areas within the Area E and B Mine Blocks will be monitored in 5.7-acre grids (500' x 500'). A grid map (Exhibit .145-2) is provided showing the 5.7- and six-acre grids, and includes the following:

1. Limits of all projected mine related disturbance, including temporary structures;
2. The 5.7-acre grids within the Area E and B Mine Blocks and six-acre grids within the Area A Mine Block;
3. The bank boundary for grids in Areas A, E, and B that are selected for banking; and
4. Areas in B and E Mine Blocks with four-foot haulback and those with select overburden.

AREA A MONITORING PLAN

The reclaimed soil profile in Area A (monitored on six-acre grids) consists of respread topsoil over mixed overburden. An initial one-time soil sampling will be performed and will consist of composite samples from each six-acre grid as may be delineated by the advance of spoil leveling. Adjacent soil samples will be taken with no less than 200 feet between them. Six soil samples per grid, one sample per acre, will be mixed to make one composite sample per depth increment. The samples will be collected under the direction of an agronomist or soil scientist using standard techniques for sampling soils and overburden. The composite samples will be collected to a depth of four feet. Each composite sample will be sectioned into the following depth increments: 0"- Topsoil Depth (TSD), TSD-24", 24"-36", and 36"-48" and analyzed for the following chemical and physical parameters:

1. Standard soil testing procedures for the 0"-TSD increment will be used for:
 - a. pH
 - b. plant available nitrate-nitrogen
 - c. plant available phosphorus (Olsen Method)
 - d. plant available potassium (Ammonium Acetate Method)
 - e. electrical conductivity (EC) (post January 9, 1989 grids only)
2. Standard soil testing procedures for the TSD-24", 24"-36", and 36"-48" intervals will be used for:
 - a. pH

- b. pyritic sulfur
 - c. potential acidity
 - d. exchangeable acidity
 - e. neutralization potential
 - f. acid-base accounting (ABA)
 - g. USDA texture
 - h. EC (post January 9, 1989 grids only)
 - i. sodium adsorption ratio (SAR) (post January 9, 1989 grids only)
-

A random 10 percent of the six-acre grids will be sampled on a one-time basis and analyzed for water-soluble boron (B) and total cadmium (Cd), copper (Cu), molybdenum (Mo), selenium (Se), and uranium (U) in the TSD-24", 24"-36", and 36"-48" increments.

The analyses results and a map showing the area represented by each composite sample will be submitted to the Commission within two years of rough backfilling and grading and prior to Phase I bond release, except where noted in the section entitled *Partially Reclaimed Grids*. In the event that the postmine soil-monitoring program identifies possible AFM or TEM, the Commission may require additional testing. A contingency plan will be developed to identify and remediate the problem, as discussed below in the section entitled *Contingency Plan*.

The samples will be collected from representative areas, as determined by an agronomist or soil scientist, using standard techniques for sampling soils and overburden. The analysis results, annual fertilizer application and liming rates, and a map (scale of 1"=400' to 1"=500') of the area represented by each sample, including northing and easting index marks, will be submitted to the Commission.

AREAS E, B, AND A (post January 9, 1989) MONITORING PLAN

The reclaimed soil profile in Areas B and E (monitored on 5.7-acre grids) and A (monitored on 6-acre grids) consists of respread topsoil over mixed overburden; contiguous grids selected by San Miguel in Area B (monitored on 5.7-acre grids) consist of respread four-foot haulback obtained from premine material in the depth increments of TSD to four feet. Initial, one-time spoil sampling will consist of composite samples from each 5.7-acre grid (6-acre grids in Area A) as may be delineated by the advance of soil leveling. Adjacent soil samples will be taken at a spacing of approximately one subsample per acre per depth increment, with no less than 200 feet between each subsample. Six soil samples per grid will be mixed to make one composite sample per depth increment. Composite samples will be representative of the 0"-TSD and TSD-48" increments. The samples will be collected under the direction of an agronomist or soil scientist using standard techniques for sampling soils and overburden. San Miguel will continue to report the topsoil depths to the Commission.

1. Standard soil testing procedures for the 0"-TSD increment will be used for:

- a. pH
- b. plant-available nitrate-nitrogen
- c. plant-available phosphorus (Olsen Method)
- d. plant-available potassium (Ammonium Acetate Method)
- e. EC

2. Standard soil testing procedures for the TSD-48" increment will be used for:

- a. pH
- b. pyritic sulfur
- c. potential acidity
- d. exchangeable acidity
- e. neutralization potential
- f. ABA
- g. USDA texture
- h. EC
- i. SAR

A random 10 percent of the 5.7-acre grids (or larger size grid) will be sampled on a one-time basis and analyzed for water-soluble boron (B) and total cadmium (Cd), copper (Cu), molybdenum (Mo), selenium (Se), and uranium (U) in the TSD-48" increment.

Postmine soil data collected from grids with topsoil replacement over selected overburden (Areas A and E) and from approved contiguous grids with four-foot haulback (Area B) and reported to the Commission will include bank acreage balance tables (bank accounts) for critical parameters. Bank accounts for EC, SAR, B, and U will be provided, based on acres reported to date.

AREAS E AND B HAULBACK MONITORING PLAN

Areas E and B (monitored on 5.7-acre grids) consist of respread four-foot haulback obtained from material in the premine depth increments of 0" to TSD and TSD to four feet. Initial, one-time soil sampling will consist of composite samples from each 5.7-acre grid as may be delineated by the advance of soil leveling. Adjacent soil samples will be taken with no less than 200 feet between them. Six soil samples per grid will be mixed to make one composite sample per depth increment. Composite samples will be representative of the 0"-TSD and TSD-48". The samples will be collected under the direction of an agronomist or soil scientist using standard techniques for sampling soils and overburden. Grids that are not approved for inclusion in the bank account will be monitored as follows:

1. Standard soil testing procedures for the 0"-TSD increment will be used for:

San Miguel Electric Cooperative, Inc.

- a. pH
- b. plant-available nitrate-nitrogen
- c. plant-available phosphorus (Olsen Method)
- d. plant-available potassium (Ammonium Acetate Method)
- depth of placement (reported for each core)

2. Standard soil testing procedures for the TSD-48" increment will be used for:

- a. pH
- b. depth of placement

ADDITIONAL ELEMENTS OF THE STP:

Maps

The soil monitoring report will include a map of the area monitored to date, including the area under review, in paper and electronic formats. The map will be at a scale of 1"=2,000' or larger (i.e., 1"=1,000', etc.) and will illustrate the following information:

- a. A grid system of the mine area consisting of six-acre blocks in Area A and 5.7-acre blocks in Areas E and B;
- b. Index marks identifying the Texas coordinate numbering system; and
- c. Bank boundary for grids proposed for banking.

For four-foot haulback areas that are not included in the bank account area shown on the attached map, an isopach map of the top four-foot haulback removal area and cross sections for the replacement areas will be supplied on 1,500 foot centers, perpendicular to the pit alignment, by the end of the first quarter of the year following removal/replacement. The depth of haulback will be checked by surveying at every pit advance (i.e., 120 ft) the surface before and after haulback placement.

Initial Sampling

An initial, one-time composite soil sample will be obtained from each grid. The samples will be collected, analyzed, and the results reported to the Commission within two years following rough backfilling and grading and prior to approval of Phase I bond release, except where noted in the section entitled *Partially Reclaimed Grids*. Initial soil sampling will consist of composite samples from each 5.7-acre or six-acre grid as may be delineated by the advance of spoil leveling. Adjacent soil samples will be taken with no less than 200 feet between them. Six soil samples in Areas A, E, and B, representing one sample per acre, will be mixed to make one composite sample per depth increment. Partial grids less than

two acres in size will be sampled with an adjacent grid at a density of one sample per acre. Topsoil thickness for each core taken from each grid sampled for analysis will be provided.

Analytical procedures will be in accordance with Commission recommendations dated May 16, 1989, including Attachment A (*Overburden Parameters and Procedures*) and Attachment B (*Soil Testing Procedures, March 1980, Texas Agricultural Extension Service*) for plant-available nutrients, with the exception of P and K, which will use the Olsen and ammonium acetate methods, respectively.

The analytical results and a map showing the area represented by each composite sample will be submitted to the Commission in electronic and paper formats.

Final Sampling

During the fourth year of the ERP, a random 10 percent of the 5.7-acre grids (or approved larger size grids) will be sampled and analyzed according to the initial sampling requirements. The analysis results and a map showing the grids sampled will be provided to the Commission no later than the end of the first quarter of the fifth year of the ERP. In the event that chemical and physical properties of the postmine soils warrant further investigation, the Commission may require additional testing.

Augmentation Sampling

The 0"-TSD interval will be sampled for fertilizer augmentation and analyzed for pH, nitrate-nitrogen, and plant-available P (Olsen Method) and K (ammonium acetate method), according to the methods for plant-available nutrients found in Commission overburden parameters and procedures list, at the end of the growing season in the year prior to the first year of productivity assessment and during the first and second years of productivity assessment. Samples will be collected and analyzed for nutrients prior to both the first and second years of productivity assessment when the years of assessment are nonconsecutive. Analytical results and a map showing the area involved will be provided to the Commission by the end of the first quarter of the year following each reporting period.

Sub-samples will be collected from areas of like land use and management within ERAs (management units) at a rate of approximately one sub-sample per 10 acres. Composite sub-samples will represent management units no larger than 100 acres for sampling and monitoring purposes. Management units larger than 100 acres will be subdivided where practical for sampling and monitoring purposes, each part being no larger than 100 acres. A grid line or a natural boundary, such as a road or an obvious land use change, will serve as the dividing line for separating sampling units.

Partially Reclaimed Grids

Partially reclaimed grids adjacent to areas with approved variances from contemporaneous backfilling and grading and/or temporary cessation of operations including coal combustion residual placement areas, or which contain temporary structures, will be sampled as a complete grid or partial grid upon reclamation of the entire grid or partial grid and analyzed according to the approved STP. If an entire grid or partial grid is included in a variance or is composed of a temporary structure, samples will be collected to the depth of disturbance, to a maximum depth of four feet. Survey data will be utilized to construct an isopach map of any area with less than four feet of disturbance to verify that less than four feet of soil was disturbed.

Demonstration that the material used to reconstruct the mine soil below the respread topsoil depth has comparable root development qualities as the premine material, will be based on productivity assessment and postmine soil testing.

Contingency Plan

In the event the postmine-soil monitoring program identifies problems, an alternate soil-monitoring program will be initiated. Soil samples will be collected from the 0 to 1-ft, 1 to 2-ft, 2 to 3-ft, and 3 to 4-ft increments at a density of one sample per acre for each affected grid and will be analyzed for those parameters identified by the SMRD and/or San Miguel in the postmine soil monitoring program as a potential problem. This intensified sampling scheme will assist in identifying the extent of the soil problem. San Miguel will notify the Commission of its re-sampling schedule to allow members of the Commission Staff to be present during this sampling. Splits of each sample taken during the re-sampling effort will be procured upon sample processing (after drying and grinding) and provided to the Commission. The results of these analyses and a remediation plan will be submitted to the Commission. Once San Miguel remediates the affected area, San Miguel will again collect soil samples from the 0 to 1-ft., 1 to 2-ft, 2 to 3-ft, and 3 to 4-ft increments at a density of one sample per acre for each remediated grid will be analyzed for all postmine soil parameters. San Miguel will submit results and a map showing the remediated areas to the Commission to verify the successful correction of any soil problems previously identified in the postmine-soil monitoring program.

Demonstration of Soil Suitability

Demonstration that the material used to reconstruct the mine soil below the respread topsoil depth has root development qualities comparable to the premine material will be based on soil banking and productivity assessment. Success of postmine quality will be based on a comparison of the values of the premine and postmine parameter frequency distributions, supplemented with suggested guidelines described in SMRD Advisory Notice ER-BA-127(b), with the following exceptions:

San Miguel Electric Cooperative, Inc.

Docket No. C8-0024-SC-11-C

Page 48

Area A disturbed prior to January 9, 1989:

pH /4.0 s.u.

ABA > -5 tons/1000 tons (t/kt).

The banking system of acreage accounting will be used to assess postmine-soil quality in the following areas:

- 1) Areas of the A Area disturbed prior to January 9, 1989 (boron and uranium only);
- 2) Portions of Areas A and E disturbed after January 9, 1989. Soil bank accounts exist for all applicable physico-chemical parameters for areas with respread topsoil over selected mixed overburden; and
- 3) Selected grids in Area B. Soil bank accounts will be provided for all applicable physicochemical parameters for approved areas with four-foot haulback material.

SAN MIGUEL LIGNITE MINE, PERMIT NO. 11F
AREALLY-WEIGHTED FREQUENCY DISTRIBUTIONS
POSTMINE SOIL PERFORMANCE STANDARDS – A AREA
(PRIOR TO JANUARY 9, 1989)

Characteristic of materials considered suitable for use in the construction of postmine soils

pH \geq 4.0 s.u.

<u>Soil Depth</u>	<u>-- % area -</u>
	=
0 - Topsoil Depth (TSD)	100
TSD - 24"	100
24" - 36"	100
36" - 48"	100

ACID-BASE ACCOUNTING > -5 tons/kton

<u>Soil Depth</u>	<u>-- % area -</u>
	=
0 - TSD	100
TSD - 24"	100
24" - 36"	100
36" - 48"	100

Cadmium (Cd)	\leq 0.7 ppm
Copper (Cu)	\leq 100 ppm
Selenium (Se)	\leq 2 ppm

<u>Soil Depth</u>	<u>B, ppm</u>						
	6	7	8	9	10	11	12
	% of Area						
0 - TSD	1	1	--	1	--	--	1
TSD - 48"	5	5	--	--	--	1	--

<u>Soil Depth</u>	<u>Mo, ppm</u>			
	6	7	8	9
	% of Area			
0 - TSD	--	--	--	--
TSD - 48"	2	--	--	--

<u>Soil Depth</u>	<u>U, ppm</u>											
	5	6	7	8	9	10	11	12	13	14	15	16
	% of Area											
0 - TSD	8	4	1	1	1	1	--	1	1	--	1	--
TSD - 48"	4	5	2	2	2	--	1	--	--	--	--	1

POSTMINE SOIL PERFORMANCE STANDARDS
A AREA (AFTER JANUARY 9, 1989) MONITORED ON 6-ACRE GRIDS
B AND E AREAS WITH RESPREAD TOPSOIL OVER MIXED OVERBURDEN, 5.7-ACRE
GRIDS, AND B AREA WITH RESPREAD TOPSOIL OVER NATIVE MATERIAL: TSD TO 4
FT, 5.7-ACRE GRIDS

pH 5.0 - 8.4 s.u.

<u>Soil Depth</u>	<u>-- % area -</u>
	=
0 - Topsoil Depth (TSD)	100
TSD - 48"	100

ACID-BASE ACCOUNTING > 0 tons/kton

<u>Soil Depth</u>	<u>-- % area -</u>
	=
0 - TSD	100
TSD - 48"	100

Cadmium (Cd)	≤ 0.7 ppm
Copper (Cu)	≤ 100 ppm
Selenium (Se)	≤ 2 ppm

ELECTRICAL CONDUCTIVITY (EC), mmhos/cm

<u>Soil Depth</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>24</u>	<u>25</u>	<u>26</u>
	% of Area																			
0 - TSD	2	3	1	1	1	--	1	--	1	--	2	1	--	--	--	--	--	--	--	--
TSD - 48"	14	4	6	2	2	5	2	--	1	3	--	1	1	1	1	1	1	3	1	--

SODIUM ADSORPTION RATIO (SAR)

Soil Depth	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	33	34	37	39	43	46	49	56	78	
	% of Area																											
0 – TSD	2	1	1	1	--	2	2	1	1	1	--	1	--	--	--	--	1	1	1	--	1	--	--	--	--	--	--	
TSD - 48"	3	2	4	1	1	2	--	2	1	--	2	1	3	3	1	2	1	--	1	1	--	--	1	1	1	2	1	

B, ppm						
<u>Soil Depth</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>
	% of Area					
0 - TSD	1	1	--	1	--	1
TSD - 48"	5	5	--	--	--	1

Mo, ppm			
<u>Soil Depth</u>	<u>6</u>	<u>7</u>	<u>8</u>
	% of Area		
0 - TSD	--	--	--

TSD - 48" 2 -- -- --

Soil Depth	U, ppm											
	5	6	7	8	9	10	11	12	13	14	15	16
	% of Area											
0 – TSD	8	4	1	1	1	1	--	1	1	--	1	--
TSD – 48"	4	5	2	2	2	--	1	--	--	--	--	1

**POSTMINE SOIL PERFORMANCE STANDARDS
E AND B AREAS (NOT SELECTED FOR BANKING) WITH RESPREAD TOPSOIL OVER
PREMINE MATERIAL FROM TOPSOIL DEPTH TO FOUR FEET MONITORED ON 5.7-
ACRE GRIDS**

pH 5.0 – 8.4

<u>Soil Depth</u>	<u>-- % area -</u>
	=
0 - (TSD)	100
TSD - 48"	100

Depth of Placement (ft)

0 - TSD
TSD - 48"

BE IT THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the Findings of Fact and Conclusions of Law, and Soil Testing Plan contained in this Order are hereby adopted; and

BE IT FURTHER ORDERED that this application for a renewal/revision permit for surface coal mining and reclamation operations is approved as set out in this Order; and

BE IT FURTHER ORDER THAT the permit term is five years, commencing on the permit renewal/revision issuance date.

BE IT FURTHER ORDERED that San Miguel Electric Cooperative, Inc. will submit to the Commission on or before July 1, 2014, mine plan details for the years 2015 through 2018; and

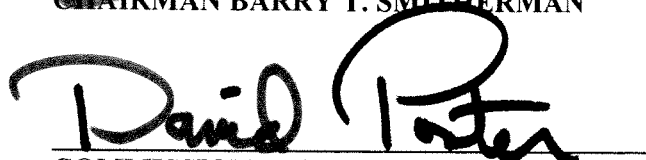
BE IT FURTHER ORDERED that the permit is hereby numbered Permit No. 11G; and

BE IT FURTHER ORDERED that San Miguel Electric Cooperative, Inc.'s existing posted bond in the amount of \$70,000,000 remains in effect.



DONE AT AUSTIN, TEXAS this 22nd day of October, 2013.

RAILROAD COMMISSION OF TEXAS


CHAIRMAN BARRY T. SMITHERMAN


COMMISSIONER DAVID PORTER


COMMISSIONER CHRISTI CRADDICK

ATTEST: 

Secretary
Railroad Commission of Texas