

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

SMRD DOCKET NO. C15-0016-SC-04-C

**APPLICATION BY LUMINANT MINING COMPANY LLC
FOR RENEWAL/REVISION OF PERMIT NO. 4K
MARTIN LAKE MINE
PANOLA AND RUSK COUNTIES, TEXAS**

ORDER APPROVING APPLICATION FOR RENEWAL/REVISION

Luminant Mining Company LLC (Luminant), 1601 Bryan Street, EP27-065H, Dallas, Texas 75201 has applied to the Railroad Commission of Texas (Commission) for renewal/revision of its surface coal mining and reclamation permit for its Martin Lake Mine, Permit No. 4K, located in Panola and Rusk Counties, Texas. The application was filed pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon 2011 & Supp. 2016) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE CH. 12 (West 2016) (Regulations).

The Martin Lake Mine is located in the northwest corner of Panola County with a small area to the south located in the adjacent Rusk County. The Commission approved the renewal/revision application for the mine and issued Permit No. 4K by Order dated January 13, 2011. This application for renewal/revision was declared administratively complete by the Director, Surface Mining and Reclamation Division (SMRD) and transferred to the Hearings Division on July 31, 2015. Public notice and notice to landowners and state and federal agencies, with opportunity to comment, were provided. No public hearing on the application was requested.

SMRD's Applications and Permits Staff (Staff) reviewed the application for compliance with the Act and pertinent regulations, and prepared a Technical Analysis (TA) document dated January 20, 2017. Staff and Luminant are the only parties to the proceeding. Technical review of the application, supplements, Staff analyses and other filings by the parties reflects no outstanding deficiencies. Staff recommended five new permit provisions. After review of these recommended permit provisions, the Commission adopts three of the permit provisions. After review of the supplemented application and the Staff's TA, the examiner recommends that the Commission find that the application should be approved in accordance with the Findings of Fact, Conclusions of Law, the permit provisions (Appendix I) and the soil monitoring plan (Appendix II) appended to this Order, and should be issued conditionally as Permit No. 4L. No exceptions were filed.

FINDINGS OF FACT

Based upon the evidence in the record, the following Findings of Fact are made:

1. On July 14, 2015, Luminant submitted its application made up of ten volumes for renewal/revision of its surface coal mining and reclamation permit for the Martin Lake Mine, Panola and Rusk Counties, Texas. SMRD received the application on July 15, 2015. On July 21, 2015, the Director of SMRD declared the application administratively incomplete because it did not address § 12.145(b)(4) of the Regulations. In response, Luminant filed its first supplement, dated July 29, 2015, to satisfy § 12.145(b)(4) of the Regulations (hereinafter SD1). After receiving SD1, the Director of SMRD declared the application administratively complete and filed it with the Hearings Division for docketing on July 31, 2015.
2. The application consists of the ten main volumes and three supplements for a total of 15 volumes. Staff filed two comment letters listing application deficiencies and providing non-substantive comments (hereinafter, CL1 and CL2). Luminant filed its second supplement (hereinafter, SD2) and third supplement (hereinafter, SD3) in response. These documents were filed as follows: CL1, by letter dated November 2, 2015; CL2, by letter dated November 5, 2015; SD2, by letter dated October 17, 2016; and SD3, by letter dated November 28, 2016. (a request for an additional 60 days of review time was transmitted to the Hearings Division by Staff by letter dated November 10, 2016 and the time was allowed.) Staff filed its TA by letter dated January 20, 2017. Staff's TA indicates that Luminant has satisfactorily addressed all of Staff's enumerated deficiencies with Commission approval of the Staff-recommended permit provisions.
3. The permit area contains 30,905 acres. No additional acreage is proposed to be added. The area to be mined during the proposed renewal term (2015-2019) is approximately 574 acres in size located in Panola County, Texas. The proposed permit renewal area is located 10 miles northwest of the city of Carthage, Texas. It is bounded on the west by Martin Lake and the town of Tatum, Texas. The eastern boundary lies to the west of Beckville, Texas. The southern boundary lies north of FM 1251. Surface mining activities are expected to continue through the year 2024, subject to Commission approval of subsequent permit renewals and revisions as appropriate.

4. The application was properly filed at least 180 days prior to the projected implementation of the renewal/revision [§12.108(a)(5)].
5. The application, as supplemented, was appropriately verified by an authorized representative of Luminant and was processed pursuant to the Act, the Regulations, the Administrative Procedure Act, TEX. GOV'T CODE ANN. CH. 2001 (APA), and "Practice and Procedure," TEX. R.R. Comm'n, 16 TEX. ADMIN. CODE §1.1 *et seq.* Notice of the application was published once each week for four consecutive weeks in a newspaper of general circulation in the locality of the surface mining and reclamation operations on September 16, 23, 30, and October 7, 2015, in *The Panola Watchman*, Panola County, Texas, and the *Henderson Daily News*, Rusk County, Texas. Luminant filed proof of publication of notice by letter dated November 18, 2015. The notice of application contains all information required by §134.058 of the Act and §12.207(a) of the Regulations. The information contained in the supplements was for the purpose of supplementation, clarification, revision or correction of data and information addressed in sections of the administratively complete application, and to address comments and questions of parties. The application and all supplements were appropriately placed on file for public inspection. The information contained in the supplemental documents, for the purposes of approval of this application as set out in this Order, does not constitute a material change to an application for which additional notice must be provided under §12.226 of the Regulations. The required public notice was given after the filing of the application. The supplementary documents were filed to address Staff exceptions to compliance.
6. Copies of the application have been on file with and available for public inspection at the office of the County Clerk, Panola and Rusk Counties, the Commission's main office in Austin, Texas, and the Commission's regional office in Tyler, Texas.
7. The Commission mailed a complete notice of application on September 24, 2015 to landowners within and adjacent to the proposed permit area. Notice of application was re-mailed on November 10, 2015 to a list of persons for whom notice was returned for insufficient addresses and for which Luminant provided updated addresses. The date for filing comments was extended to December 11, 2015 and the date for requests for hearing was extended to December 28, 2015. No landowners submitted comments/inquiries and/or protests regarding the application or requested a hearing, and no hearing was held.

8. The Commission placed a complete notice of application in the mail on September 24, 2015 to the Texas and Federal agencies listed in §12.207 of the Regulations and to local government agencies. One state agency, Texas Parks and Wildlife Department (TPWD), filed comments with the Commission by letters dated October 26, 2015 and November 21, 2016. TPWD's comments regarding the proposed renewal/revision are addressed in Finding of Fact No. 33.
9. Luminant submitted the required application fee of \$3,000.00 [§ 12.108(a)(3)]. Luminant has met the general requirements for format and contents of the application, as supplemented. Form SMRD-1C was filed, and it contains information required by §§ 12.116-12.154 [§ 12.107(a)]. In the application, as supplemented, the information is presented clearly and concisely and is supported by appropriate references [§ 12.107(b)]. Technical data has been submitted as required [§ 12.107(c) and (e)], and the data were prepared by or under the direction of professionals in the subjects analyzed [§ 12.107(d)]. Maps and plans were prepared as required [§12.107(f)]. A responsible official of the applicant verified the application, as supplemented, under oath that the information is true and correct to the best of the official's information and belief [§ 12.107(g)].
10. Section .116 of the application, as supplemented, includes all information required to show organizational information, ownership interests, control, and compliance information, including other Luminant mining permits and identifications.
 - (a) Luminant owns certain tracts or is the lessee of certain land tracts located within the proposed permit area. Luminant's former parent company, Texas Competitive Electric Holdings Company LLC, emerged from bankruptcy on October 3, 2016. Luminant provided its resident agent, CT Corporation, 350 North St. Paul Street, Dallas, Texas 75201. Other identifying information was filed including the Mine Safety and Health Administration identifying numbers and compliance information. Luminant, a Texas limited liability corporation, is now directly owned by Vistra Asset Company LLC. There will be numerous changes to Luminant's ownership and control information in connection with the bankruptcy emergence. Luminant has provided updated ownership and control information prior to the issuance of the 4L Permit. Information for notices of violation was updated (Appendix 116-D, SD2), as discussed below in Finding of Fact No. 45. In addition to Appendix 116-

A and 116-B, Luminant has included Plates 116-1, 2 and 3, the property ownership map, with tracts within and adjacent to the permit area identified by tract number. Tract ownership for tracts within the permit area are set out in Appendix B, and ownership of tracts adjacent to the permit area are set out in Appendix C. Appendix C also includes a description of the legal instrument by which Luminant claims right-of-entry, if any. Appendix E contains a table listing those tracts with lignite interests that have been severed from the surface estate. Appendix F includes lease holder information.

- (b) Luminant will continue to conduct mining operations on property it owns, property owned by Luminant Generation Company LLC and on property where a valid coal and lignite lease exists. Luminant does not propose any surface mining operations on any property for which Luminant has not demonstrated a valid right-of-entry from the landowner. Information on the right-of-entry and property ownership is detailed in the application. Luminant has described and identified documents to demonstrate a legal right to enter and begin surface mining and reclamation operations on all tracts proposed for disturbance during the proposed five-year renewal term, with the exception noted by Staff that accommodation agreements have not been reached with 13 of 23 oil and/or gas well interest owners from some wells located on specific tracts (TA, p. 49). Because Staff believes that Luminant has not provided documentation indicating it has a right to disturb any oil and/or gas well where it does not have an accommodation agreement with the oil/gas lessee, Staff recommends a new permit provision, numbered in the TA as Permit Provision No. 4 to replace currently approved Permit Provisions Nos. 1 and 2. Previously approved Permit Provision Nos. 1 and 2 are no longer needed. (Replaced Permit Provision No. 1 had specified special marking of pipelines every 25 feet for the entire length of the activity extending 200 feet in both directions beyond the location of the limits of the mining related disturbance. Luminant has incorporated this provision in its application so that a separate permit provision is not needed. Replaced Permit Provision No. 2 had listed the tracts on which these non-right-of entry oil and gas wells or leases existed. Rather than listing specific tracts on which an oil and /or gas well is currently located or which may be installed by certain lessees with which Luminant does not have an accommodation agreement, Staff recommends that a reference to Table 116-F-1 (certain oil and

gas lessees) be used rather than listing all tracts as contained in the original Permit Provision No. 2. The text of the new proposed permit provision is:

Prior to obtaining written approval of the SMRD Director, Luminant may not disturb any oil and/or gas well currently located within or which may be installed on any property tract listed in Table 116-F-1 where the oil/gas lessee is Indigo Minerals, LLC; Gene Powell Investments, Inc.; Sabine Oil & Gas, LLC; Texakoma Operating, LP; Basa Resources, Inc.; Camterra Resources Inc.; Kaiser Francis Oil Company; Danmark Energy Services, Inc.; HRB Operating Company Inc.; Anadarko Petroleum Corporation; Kabco Oil & Gas Company; Bigfoot Energy Services, LLC; or The Long Trusts.

This permit provision is needed to prohibit operations until accommodation agreements are reached with the owners. Luminant has agreed to the adoption of this permit provision. New Permit Provision No. 1 is adopted.

- (c) The rights-of-way for state highways and farm-to-market roads, as delineated on Plates 116-1 through 116-3, represent "recorded" easements or surface ownership. No "metes" and "bounds" description can be found for the rights-of-way of existing county roads in the permit area (TA, p. 105). All county roads within the permit area have established fences on both sides, and the County maintains the area within these right-of-way fences. Luminant proposes to use these established fence lines as the right-of-way boundary on each side of these roads. Actual field measurements of the right-of-way widths (fence to fence) of several of these county roads yielded an average width of 40 feet. Therefore, where fence lines may not exist, Luminant will use 40 feet (or 20 feet on either side of the road as measured from the road centerline) as the right-of-way width. Luminant will notify the Commission in a timely fashion should applicant become aware of a situation in which a county road right-of-way may differ from the aforementioned width.
- (d) Staff noted certain violations linked to Luminant or to other companies with an ownership and control relationship to Luminant; In SD2 Luminant indicated that it is investigating the connections with Luminant and the nature of the violations and indicated its intention to update the application with the information. Staff indicates that these violations are subject to a settlement agreement. The information provided regarding violations and fee payment has been compared with the

information contained in the Applicant Violator System (AVS) database, operated by the Office of Surface Mining Reclamation and Enforcement (OSM) to identify violators across the county and the AVS database has been updated as needed. The Office of Surface Mining Reclamation and Enforcement operates the AVS database to identify violators across the country. The AVS database has been queried to determine whether Luminant or any controller identified in the application, or found in the database, currently has any outstanding violations at coal mines owned or operated in the United States. The system also indicates whether Luminant or any controller is delinquent in the payment of abandoned mine land (AML) reclamation fees. A report of the findings resulting from a query of the AVS database is provided in Appendix VI of Staff's TA. No pending violations or non-payment of AML fees were found to exist. The AVS system links Luminant and/or its controllers to 17 outstanding violations, bond forfeitures, and/or civil penalties. The violations are linked to Luminant through William K. Reilly. Luminant indicates that William K. Reilly, a director of Energy Future Holdings Corp., served as a director of DuPont from 1993 until April 2012, and the noted violations appear to be related to DuPont and one or more settlement agreements related to its Island Creek Coal Mine. Luminant is investigating the identified violations to determine the extent of Mr. Reilly's association with them, if any. Based on the information in the AVS database, all the noted violations are under the Island Creek settlement. No outstanding or unabated violations were found; NOV 298T is in remediation. In SD2, Luminant also updated its list of notices of violation in Appendix 116-D to include the following violations: NOVs 301T Modification No. 1, 106A, 107A Modification No. 1, 109A, 308T, 310T, 311T, 115A, and 123A. Only the initially identified NOV 298T related to Permit No. 4K (AFM/TFM); the other NOVs identified related to other permits.

11. Section .119 of the application shows the number of acres anticipated to be affected during the permit term and over the life of the mine. This section and updated Sections .125 and .139 include other details regarding the operation plan that are hereby approved.
 - (a) An updated list is included in Table 119-1 (SD2) showing the yearly mined and affected acreages for the permit term (2015-2019) and for five years after the requested permit term (2020-2024). As reflected on Table 119-1, Luminant

anticipates at least one additional permit term following the proposed renewal term during which mining will occur. Additional terms may be required for reclamation. Requirements have been met for permit term information, §12.119.

- (b) Table 125(a)-1 (SD2) indicates that the following total acreage will be mined from the primary mine area, CVI South, during the permit term (2015-2019), and from the CVII area in at least one future term for mining and another for reclamation:

Mining Area	Year	Mined Acres
CVI South	2015	141
CVI South	2016	153
CVI South	2017	112
CVI South	2018	166
**CVII Area	2020-2024	451

**Denotes Out Year Mining for all areas

Staff has summarized the acreages proposed for mining by mine year as follows (TA, p. 13):

Mine Year	Mined Acres	Affected Acres
2015-2019	572	658
2020-2024 [out year mining (next permit term) for all areas]	451	518

Approximately 2.0 million tons will be mined annually during this five-year permit term. The total mine production is estimated at approximately 10.0 million tons through the end of mining at Martin Lake Mine.

- (c) Luminant has described measures it will use to maximize recovery of all economically mineable seams in accordance with §§12.145(b)(6) and 12.356. Economically mineable seams are normally greater than one-half foot in thickness (TA, p. 86). The maximum normal pit widths are 150 feet; they may vary due to operational and safety considerations.
- (d) Luminant does not propose blasting or auger mining in the operations plan.

- (e) Luminant will obtain Commission approval prior to changes to the approved operation plan. Use of offset pits is a part of the operation plan to recover lignite when one end of a pit advances at a faster rate than the other end. Luminant's request for the use of angling of pits periodically to assist in the recovery of lignite at pit ends, in subcrop areas, voids, and where obstacles exist such as oil or gas wells is approved, provided that, in the case of changes that could occur due to offset pits or angling resulting in a change in postmine contours or pit alignment, Luminant will obtain Commission approval.
 - (f) As depicted on Plates 139-1-1 through 139-1-15 in the application, as supplemented, the mine blocks represent the overburden removal limit. The mining limits line on the operation plan maps, as supplemented, represents the limit of mining related disturbances. Land clearing by conventional land clearing methods will occur prior to mining. Luminant indicated that the maximum proposed clearing distance in Years 1-4 of the permit term will be approximately the longest annual advancement of mining in each mining area as measured from Plates 125(a)-1, 125(a)-2 and 125(a)-3. The application includes a chart indicating the mining areas with number of pits, pit width, and clearing distance of 1,800 feet in Years 1-4. The maximum clearing distance during Year 5 of the permit term will be the width of the Year 5 mine block. In mine areas with a width (the distance parallel to the progression of mining) less than the distance listed herein, the lesser parallel distance will be the maximum clearance distance.
12. Requirements have been met for §12.125 for the size, sequence, and timing of mining areas. The area proposed for mining during the requested five-year permit renewal term is a continuation of existing mining operations. The application reflects the mining area, year, and mined acres proposed for the permit term and for a five-year mine block thereafter [Table 125(a)-1, SD2]. For the proposed permit term, CVI South is the primary area to be mined. Surface mining activities are expected to continue through the year 2024, subject to Commission approval of subsequent permit renewals and revisions as appropriate. A revised Life of Mine Plan is set out on Plates 125(a)-1 through 125(a)-3; Plate 125(a)-3 depicts existing permit boundaries and the mining limits lines.

13. The requirements of §12.118(a) of the Regulations have been met. The permit area is not within an area designated as unsuitable for surface mining activities under §§12.75 - 12.85 of the Regulations, and not within any area under study for designation in an administrative proceeding.
14. The applicant does not propose to conduct surface mining activities within 300 feet of any occupied dwelling not owned by Luminant. Luminant does not propose to conduct mining in an area for which mining is prohibited or limited, except as otherwise approved by the Commission. The requirements of §12.118(b) and (c) of the Regulations have been met.
15. Section 120 of SD2 contains an updated Certificate of Insurance indicating that the minimum requirements for public liability insurance have been met. The certificate dated July 29, 2016 states that the coverage is not less than \$500,000 (each occurrence) for bodily injury, and \$1,500,000 (general aggregate for designated location), and \$500,000 (each occurrence) for property damage, and \$1,000,000 (general aggregate limit for designated location). The insurance is provided by Associated Electric & Gas Insurance Services Limited, Policy No. XL5147505P, effective August 1, 2016 to August 1, 2017. The insurance includes damage to water wells. The policies include an endorsement that requires the insurance company to notify the Commission whenever substantive changes are made in a policy, including termination or failure to renew. Appropriate authorizations accompanied the certificate.
16. The application includes identification of other licenses and permits required in accordance with §12.121 to address all operations proposed for inclusion in the permit area, as supplemented in SDs 2 and 3. These include permits or authorizations issued by the U.S. Army Corps of Engineers ("USACE"), the Texas Commission on Environmental Quality ("TCEQ"), the U.S. Mine Safety and Health Administration, U.S. Environmental Protection Agency (EPA), and the TPWD. Dates of issuance of approved issued permits and registration activation dates are contained in the application. Copies of required permits were provided in the permit application, Appendices A-C, as supplemented in SD2 and SD3.
 - (a) Specific information was included for permits and registration numbers issued by the TCEQ [water quality permit 02644 (renewed January 20, 2013; renewal application submitted August 31, 2015, solid waste registration number 34679,

water rights appropriation permits to divert water, Ponds B-81 and CII-20 (Permit No. 5219A), Reservoir All-75, Permit No. 5492, Permit No. 5504 (amended; right to impound water in AI-50 pond severed from permit and combined with water rights permit No. 5889A; Permit No. 5747A diversion and use of water not to exceed 1000-ac.-ft per year from 26 diversion points all within the Irons Bayou watershed in Panola County within the permit area for surface mining uses, and construction and maintenance of sediment ponds AIV-12, AIV-13, and AIV-14), Permit No. 5889A (Ponds AI-50R, AI-129R, and AIV-4, and AI-50R), Permit No. 5747A 1000 ac.-ft. per year from 26 diversion points within the Irons Bayou watershed, Panola County, for surface mining uses and construction and maintenance of sediment ponds AIV-12, AIV-13, and AIV-14.; Permit No. 5889A, allowing operation and maintenance of ponds AI-50R, AI-129R, and AIV-4, and AI-50R; Permit No. 5932 allowing operation and maintenance of on-channel pond CIII-71R and to divert water from 11 diversion points in the Gandia, Elijah, and Watson Branch watersheds; renewed Storm Water Multi-Sector General Permit TXR05AM69; renewed TPDES Storm Water Construction General Permit TX15XC67; renewed air quality Permit No. 928 authorizing continuing operation of Train Loading Station No. 1 (Appendix B, SD2); renewal of air quality permit 6244 authorizing the Railcar Loading Station near Tatum, Texas that replaced Train Loading Station No. 4 that has been dismantled; TCEQ Registration No. 78146, Permit by Rule authorizing operation of Portable Screen No. 1 near Beckville; Registration No. 79625 authorizing operation of Portable Screen No. 2 near Beckville, TX; and Registration No. 79628 authorizing operation of Portable Lignite Screen No. 1 near Tatum.]

- (b) In addition, the information includes the USACE Fort Worth District (USACE) Nationwide permit for the Martin Lake Mine operations under the Clean Water Act, Nationwide Permit 21-Project Number 200400078 and Project No. 199700632 (Appendix C), Project No. SWF-2009-00313 pending renewal to cover impacts to waters of the U.S. (Appendix C), and Mine Operations, Project No. SWF-2013-00036 (Appendix C).
- (c) Luminant has provided the Mine Safety and Health Administration ID No. 41-02632.

- (d) Also included is the Scientific Permit Number SPR-1215-262 issued to Peter F. Okonski by the Texas Parks and Wildlife, with names of persons authorized under the permit (Appendix A), and U.S. EPA hazardous waste identification number for the mine, TXD000821298.
17. Luminant included in Section 125, Appendix A of its application, *Cultural Resources Report, Panola and Rusk Counties*, a summary of the cultural and historic resources within the permit area, with references to previous inventories and other information contained in previous permits for the Martin Lake mining areas including Permit 4I, Martin Lake B-West Mine. An additional 196 acres were surveyed under Permit No. 4I, and four sites were located. Revised pages were included in SD2. In SD3, the report dated November 2016 was included in its entirety as Appendix A. In Table 125(2)-1, *Recorded Sites Within Martin Lake Mine Permit 4K Renewal*, Luminant lists 146 archeological sites recorded within the Martin Lake Permit boundary. Luminant indicates with revised text on page 125(2)-4 of Supplemental Document No. 3 that, of the 146 sites within the permit boundary, 19 are protected cultural resources or historic cemeteries. The application (SD3) includes Table 125(2)-2 that documents and lists identified sites, the investigations performed, the site type and its National Register of Historic Places eligibility status. References to studies are included for detailed site information. The application includes procedural steps to ensure that all sites are appropriately evaluated, documented, listed and protected, or mitigated. Site 41PN76, a prehistoric site, is listed as having an undetermined eligibility status. It is, however, listed as protected in Table 125(2)-2 and noted as outside the permit boundary.
18. A description of hydrology and geology of the approved permit area has been included in previous permit applications. The application contains an updated Section .127 (SD2). The permit area is within the Sabine River Basin. Upper Wilcox and Carrizo formations outcrop in the permit area. The recoverable lignite seams are located within the Wilcox Group that consist of interbedded fine sands, silts, clays and lignite with sand channels throughout the sediments. From core drilling, Luminant has identified and described the overburden and underburden. Over 2,000 geophysically logged boreholes and over 80 continuous cores have been drilled since the late 1970's. Additional cores were drilled

since the last permit renewal to satisfy core density requirements. In the Application, as supplemented, Luminant has included an updated Plate 127-1, *Continuous Core Locations*, and figures 127-2, 127-3 and 127-4 showing core density, geologic cross sections, and the geophysical log associated with Borehole 1074, respectively. The overburden includes sand and clay units; statistical analyses are provided in the updated Appendix 127-C (SD2). Updated Appendix 127-B (SD2) contains sufficient analytical reports for samples of lignite and overburden. The information provided is sufficient to represent the approved permit area (TA).

19. Groundwater information has been included in Section .128 of the application sufficient to characterize the permit area and surrounding area. Luminant provided an updated summary of water well inventory results in Section 128, Table 128-4. Plate 128-3 shows updated water well locations. Updated oil and gas wells within the permit boundary are shown on Plate 128-4 and listed in Appendix 128-G. This information and references to the approved permit, detailed in Staff's TA, p. 23, adequately identify the location of the information required by §§12.126-12.129 of the Regulations, as updated.
 - (a) The approved permit includes baseline maps and studies, a 1993 update to Permit No. 4E, the Permit No. 4I (or B West Study Area), and the Permit No 4H renewal document. No new baseline groundwater data were collected. The primary aquifers are sands in the Carrizo Sands, generally unconfined. Lignite seams and/or clay layers provide a hydrologic separation between the overburden and underburden. Underburden aquifers are generally confined, and the overburden and underburden hydrologic units do not appear to be connected.
 - (b) The approved permit includes information for monitoring well drilling and installation techniques construction, logs, and summary forms.
 - (c) In the approved permit, groundwater investigations are summarized with wells depicted on Plates 128-1a, 1b, 1c, and Plate 128-2 and listed in Table 128-2. Aquifer tests have been summarized in Table 128-3 of the approved permit. Overburden and underburden potentiometric surface maps are included (Figures 128-2 through 128-4, and Plates 128-5 through 128-12 of the approved permit). Baseline groundwater chemistry data are summarized in Section .128, Appendix C of the approved permit; laboratory reports are included in Appendix 128-D of the

approved permit. Luminant also included information, data, and analyses of the chemical water types of the Carrizo Sand, Wilcox overburden, and Wilcox underburden sands in the approved permit. Water well records for wells within one mile of the proposed permit boundary were updated (Table 128-4 of the application), and well locations are depicted on Plate 128-3 of the application. Water well records are included in Appendix 128-F of the approved permit. Oil and gas wells within the proposed permit area were also inventoried; locations within a Study area are identified on Plate 128-4 of the application. Information is summarized in Appendix 128-G of the application. The information contained in the approved permit, as updated in this application, provides adequate information to meet the requirements of §§12.126 and 12.128 of the Regulations.

20. Surface water within and near the permit area is adequately described in Section .129 of the approved permit. Water quantity and water quality are addressed in the approved permit to characterize the proposed permit area. No new baseline information was provided. The baseline information provided in Section 12.129 of the approved Permit No. 4K remains unchanged and is intended to support this renewal/revision application. Previous studies were conducted for the original applications for Permit No. 4, Permit 4I (B-West Area), and summaries were provided in Permit Nos. 4G, 4H, and in the currently approved Permit No. 4K.
 - (a) As stated in the approved permit, the permit area is located in the Sabine River Basin; the permit area includes the Martin Creek and Irons Bayou watersheds that drain into the Sabine River. Martin Lake, a 5,020 surface-acre reservoir in Rusk and Panola counties, is west of the permit area. Some local streams and tributaries originate within the permit area. In the approved permit, surface water monitoring is described; stream monitoring stations are depicted on Plate 129-1 and summarized in Table 129-1, and baseline streamflow monitoring data is contained in Appendix 129-A. Twelve stock ponds and impoundments were previously sampled in the B-West Study Area. For this area, baseline monitoring stations are depicted on Plate 129-3 and summarized in Table 129-1 of the approved permit; data is included in Appendix 129-A of the approved permit. Detailed descriptions are included in the approved permit.

- (b) Descriptions of baseline surface water quantity are included in the approved permit, and monthly streamflow data for monitoring stations are contained in Appendix 129-C as summarized in Table 129-5 of the approved permit. Per unit area monthly volumes for each station, as extrapolated, are contained in Table 129-6 of the approved permit. Details regarding storm events and the resulting rainfall predicted for these events is described in the approved permit and was used by Luminant as representative for all watersheds within the approved permit area.
 - (c) Surface water quality sampling is described in the approved permit. The stations and periods used for sampling are described in the approved permit, and a summary of results is contained in Table 129-4 of the approved permit. Surface water bodies and springs were also previously sampled [Plates 129-2, 129-3, Appendix 129-A, and Appendix 129-B of the approved permit (photographs and descriptions)]. Spring water quality data are included in Appendix 129-A of the approved permit that includes the B III West Area.
 - (d) In Appendix 121-A, Luminant provided a copy of TDPEs Wastewater Discharge Permit No. WQ0002644000, issued on January 10, 2013. It submitted a renewal application to the TCEQ for this permit on August 31, 2015 and will provide the Commission with a copy of the renewed permit upon approval by the TCEQ (SD2).
21. In the approved permit, Section 130, alternative water supplies are identified to replace water supplies that may be affected and may require replacement as set out in §12.130 of the Regulations. No new water rights were identified or included in this application, and the baseline information provided in the approved permit remains unchanged. As described in the approved permit, potential sources for replacement water include public water systems from the City of Beckville and the City of Tatum and deep wells into the Wilcox aquifer. Permitted water rights, including downstream water rights, are identified in the approved permit in Table 130-1, *Active Water Rights*, and on Figure 130-1, *Water Rights Locations*. The approved permit describes active water rights and private water wells that may potentially be affected by surface mining activities. In the approved permit, Luminant has acknowledged its responsibility to replace water sources used for domestic, agricultural, industrial, or other legitimate use if contamination, diminution, or interruption

occurs as a proximate result of mining activities in accordance with the requirements of §12.130 of the Regulations.

22. All required climatological information is included in satisfaction of §12.131 of the Regulations in Section .131 of Luminant's approved Permit No. 4K. The baseline information provided in Section 12.131 of the approved permit remains unchanged and is intended to support this Permit Renewal/Revision application. As described in the approved permit, regional precipitation data from the National Weather Service cooperative station at Carthage, Texas (No. 411500), generally 12 miles southeast of the permit area, indicates that mean annual rainfall over the period of 1951-2004 was 49.97 inches (Table 131-1 of the approved permit). The approved permit indicates that mean monthly low and high temperatures from the same period of record at the Carthage Station were 53.2 degrees Fahrenheit and 77.1 degrees Fahrenheit, respectively. Gross annual lake evaporation compiled from Texas Water Development Board data is 48.85 inches. The National Weather Service cooperative station in Lufkin (No. 93987) was the source of data for wind speed and direction included in the application for the years 1961-1980. The most frequent wind direction is from the south. Winds are strongest in the spring months.
23. All required vegetative resource information for the proposed permit area is included in Section .132 of the application and is sufficient to describe premine vegetation important for fish and wildlife habitat, and sufficient to predict the potential for the re-establishment of vegetation during reclamation. Information contained in the application includes a June 2015 report prepared by Luminant's consultant Blanton & Associates, Inc. (Blanton) (Section .132 of the application) with a summary of previous baseline vegetative reports dated 1989, 1990, 1991, 1996, 2002, and 2008. The original permit application includes Plates 132-1 and 132-2, maps with depictions of topography, vegetation transects, and fish and wildlife sampling sites for the permit area. A representative list of vascular plant species for the renewal area and surrounding vicinity was presented in Appendix 132-A of the original permit application and remains representative of the renewal area. The specific vegetation of the ten vegetational areas identified in the proposed permit area are described, with the percentages of the proposed permit area containing each type:

VEGETATION TYPE	GENERAL CHARACTERISTICS	PERCENT TOTAL
Grasslands	Pastureland with Bermudagrass and Bahiagrass	41.7
Upland Hardwood Forest	Post Oak, Blackjack Oak, Bitternut Hickory, Sweetgum, Pine, Southern Red Oak, White Oak, Water Oak, and Mockernut Hickory	30.3
Pine Forest	Loblolly and Shortleaf Pine	11.6
Bottomland/Riparian Forest	Water Oak, American Hornbeam, Sugar Hackberry, Green Ash, Sweetgum, Black Gum, American Elm, Slippery Elm, and River Birch	8.0
Mixed Pine/Hardwood Forest	Loblolly, Shortleaf Pines, Sweetgum, Post Oak, Southern Red Oak, Blackjack Oak, Mockernut Hickory, Bitternut Hickory, Eastern Red Cedar, Winged Elm, and Black Hickory	3.3
Regenerative/Cutover Areas	Woody species and pioneer species	2.9
Disturbed Land	Commercial sites, highway corridors, gravel and/or sand pits, and drilling pads and other oil and/or gas facilities	0.8
Cropland	Small orchards	0.5
Hydric Habitat	Leathery Rush, Whiteroot Rush, Slimpod Rush, Round-head Rush, Narrowleaved Sedge, and Boneset	0.4
Aquatic Habitat	Rushes, Cattails, Spikerushes, and species of sedges	0.4
Total		100.0

24. Adequate fish and wildlife resource information is included in the application, with information from the applicant and Staff regarding the current status of state and federal threatened and endangered species (TA), and with information to provide an accounting of premine wetlands and waters of the U.S. pursuant to §404 of the Clean Water Act. Luminant included a report from its consultant in the application, Section .133, dated June 2015. This report includes the appropriate scope and level of detail to enable the design

of a protection and enhancement plan for fish and wildlife required by §12.144 of the Regulations, including site-specific resource information to address listed or proposed endangered or threatened species or their critical habitats or other habitats of unusually high value for fish and wildlife in accordance with the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*). There are no critical habitats within the proposed permit area. The information meets the requirements of §12.133 of the Regulations. Luminant's protection and enhancement plan for fish and wildlife is set out in Finding of Fact No. 34.

- (a) A report from Luminant's consultant dated June 2015 is included in Section .133. The report is intended as a stand-alone document reviewing previous reports and updating information. The report describes aquatic, wetland, and terrestrial resources within the permit area. It includes descriptions of sampling stations, methods and results of sampling, wildlife habitat, the potential habitat or lack of habitat for threatened and endangered species, and sensitive, important or unique areas within or near the proposed permit area. Figure 133-1 is a location map. The proposed permit area is located within the Sabine River Basin that has a drainage area of 7,396 square miles. The permit area is immediately adjacent to the eastern shore of Martin Lake, and the northernmost boundary of the proposed permit area is within one mile of the Sabine River.
- (b) The report includes a summary of fish collected during past surveys (1985, 1989, 1990, 1995 and 1996) and a table listing threatened and endangered fish and wildlife species of potential occurrence in Panola and Rusk Counties (Table 133-1).
- (c) Threatened and endangered species with the potential to occur in or near the proposed permit area are included in the following table, along with their protected status either under the Endangered Species Act or other state or federal laws, record of occurrence and likelihood of occurring within the proposed permit area:

Species	Protected Status, State (S) or Federal (F)	Record of Occurrence
Fish		
Paddlefish	Threatened (S)	Not Likely
Creek Chubsucker	Threatened (S)	1985 Record; Possible
Blackside Darter	Threatened (S)	Possible
Plants		
Earthfruit	Threatened (rare) (S,F)	Not Likely; absence of appropriate Soils; occurs in barren clay sites referred to as "slicks" reportedly just above the floodplain of the Neches River
Mollusks		
Louisiana Pigtoe Mussel	Threatened (S)	Possible
Sandbank Pocketbook Mussel	Threatened (S)	Possible
Southern Hickorynut	Threatened (S)	Possible (rare)
Texas Heelsplitter Mussel	Threatened (S)	Possible
Texas Pigtoe Mussel	Threatened (S)	Possible
Amphibians and Reptiles		
Texas Horned Lizard	Threatened (S)	Not Likely; no record
Northern Scarlet Snake	Threatened (S)	Possible; no record
Timber Rattlesnake	Threatened (S)	1985 Record; Possible
Alligator Snapping Turtle	Threatened (S)	1985, 1994, 2003, and 2004; Possible (little habitat in non-mined areas)
Birds		
Wood Stork	Threatened (S)	Possible Migrant (limited foraging and roosting potential)
Bald Eagle	Threatened (S)	1989, 1996, 2013 along Martin Lake (outside permit area); Winter resident and breeder near but outside the permit area
Peregrine Falcon, American	Threatened (S)	Possible Migrant
Peregrine Falcon		
Piping Plover	Threatened (S, F)	Possible Migrant
Interior Least Tern	Endangered (S, F)	Possible Migrant or Breeder
Red-Cockaded Woodpecker	Endangered (S, F)	Not Likely
Bachman's Sparrow	Threatened (S)	Not Likely; no occurrences; Limited habitat
Sprague's Pipit	Candidate (F)	Possible Migrant
Mammals		
Rafinesque's Big-Eared Bat	Threatened (S)	Possible

Red Wolf	Endangered (S, F)	Does not occur in renewal area.
American Black Bear	Threatened (S, F)	Not Likely
Louisiana Black Bear	Threatened (S, F)	Not Likely

- (d) Section .133 of the application also includes information for the approximate acreage of premine USACE jurisdictional waters and wetlands for the proposed permit area, made up of 1,369.4 acres. The total acreage is made up the following: forested wetlands, 826.7 acres; emergent (marsh) wetlands, 246.0 acres; open water, 173.5 acres, and stream channels, 123.2 acres. These wetlands are delineated on Plate 133-1 in the approved permit.
- (e) In addition to the species listed above, TPWD has included two rare, but not listed threatened or endangered, flowering plant species as potentially occurring in Rusk or Panola County: panicled indigobrush and Texas trillium. Texas trillium is reported to potentially occur in both Rusk and Panola counties. Observation of Texas trillium in the original permit area during vegetation baseline investigations was within hydric habitat. It is not expected to occur within the permit area. Panicled indigobrush is only reported to potentially occur in Rusk County. As documented in the original mine permit application, panicled indigobrush was not observed during vegetation baseline investigations within the renewal area, and habitat suitable for this species is not expected to occur. The June 2015 report prepared by Luminant’s consultant Blanton & Associates, Inc. (Section .132 of the application) includes Section 6.2, a discussion of threatened and endangered plant species. [See Finding of Fact No. 24(e)]. Two rare (but not threatened or endangered) plants, the Texas trillium (a forb in the lily family) and panicled indigobush (a shrub in the legume family) have the potential to occur in Panola and in Rusk County, respectively; however, there is a lack of suitable habitat. Potentially suitable habitat for this species is not expected to occur in areas to be disturbed by mining activities within the renewal area, and field data collected for baseline surveys does not support the occurrence of potentially suitable Texas trillium habitat within areas to be mined in future permit terms. However, while not anticipated, if the permit were revised to include an expanded area of disturbance during the proposed permit term, Luminant will conduct reconnaissance of the

expanded area to determine whether potential habitat for Texas trillium is present, and if so, a protection plan for the species will be developed.

- (f) On page 31 of its TA, Staff noted that there is a protected mussel sanctuary located within one mile of the permit boundary, and that current permit term disturbance in the area is not as extensive near Martin Creek as that which is proposed in this application. Staff believes that stream buffer zones and other surface water controls reduce adverse impacts to aquatic life but do not adequately address the indirect effects from altered hydrology. The probable hydrologic consequences (PHC) determination that no significant changes to surface-water quality or quantity are predicted. In the TA, Staff recommended new Permit Provision No. 3 requiring Luminant to determine whether native State-listed mussel species are present in the reach of Martin Creek that stretches across the permit area during the next appropriate survey season and provide the survey results to the SMRD Director no later than November 30, 2017. Luminant has agreed with this permit provision; however, as shown on the chart on pages 19-20 of this Order, the mussels for which the Staff-recommended permit provision addresses are State-threatened species that are indicated as *possible* to occur within or near the permit area. The Regulations at §12.133(a)(2) specifies that site-specific resource information shall be required when the permit area or adjacent area *is likely to include*, in subsections (A), (B), and (C) of this section, listed or proposed endangered or threatened species of plants or animals or their *critical habitats* listed by the Secretary under the Endangered Species Act.... or similar state statutes and habitats of unusually high value or under other special laws. As indicated, Staff and Luminant each characterize the area as only possible to include these mussel species, not likely to include them. The Regulations at §12.380 requires protection of threatened and endangered species when the area is critical habitat or when it has been shown that the activities threaten their continued existence. No critical habitat occurs, and no information is presented that the continued existence of the species is threatened. Luminant may submit the survey if it chooses to; however, it is not required by the Regulations to do so, and the Commission declines to require the survey in a permit provision. Staff-recommended Permit Provision No. 3 is not adopted.

25. Plate 134-1 of Luminant's approved permit includes soil maps depicting native soil mapping units within the proposed permit area, soil series, sample locations, and prime farmland soils. Information is included describing the native soil sampling sites (Appendix 134-A of the approved permit). The approved permit contains tables containing depth-weighted data and frequency distributions for the topsoil and subsoil intervals, and the areally-weighted frequency distributions for the topsoil and subsoil for pH, ABA, clay, sand, cadmium and selenium, detailed information for distributions, classifications, and aerial extent of soils, and native soil baseline acreage and proportionate extent. Staff's comment letter CL2 noted an application deficiency due to the percentages in approved Tables 134-9 through 12 that are expressed to the nearest whole number, noting that these should be revised to reflect the appropriate level of precision (e.g., the nearest tenth). Luminant responded to this deficiency by revising the frequency distributions for pH, ABA, Sand and Clay on Tables 134-9 through 12 to show one decimal place (SD2). The approved permit contains the information required by §12.134 of the Regulations for soil resources information. Soil resources information and baseline conditions presented in the approved Permit No. 4J application, as supplemented, are representative of pre-mine conditions in the renewal area and continue to meet the requirements of §12.134. Luminant's consultant reviewed Natural Resources Conservation Service (NRCS) soils information to verify relevance of approved soil interpretations, and a review of county crop records published by the Texas Agricultural Statistics Service resulted in no new information for Panola County since 2007, as presented in Section 134 of the approved permit.
26. Luminant has described premine land use in the application in accordance with the requirements of §12.135 of the Regulations for the proposed permit area. Luminant included a general location map of the area, Figure 135-1, and included the following premine land uses and percentages as a part of Table 135-1:

Land Use Category	Percentage of Total
Undeveloped Land	48.2
Grazingland	28.9
Pastureland	10.0
Forestry	8.9
Industrial/Commercial	2.5
Developed Water Resources	0.6
Cropland	0.5
Residential	0.4
TOTAL	100.0

Plate 135-1 in the approved stand-alone 2008 Permit No. 4J renewal application contains a map delineating the eight land-use categories within the renewal area as well as the location of pastureland condition evaluation sites. The permit area is not subject to municipal regulation. The information in Section 135 was based on previous permits for the permit area and published NRCS soil surveys. In the approved permit, Luminant included information for premine soil yields for crops and pasture (Tables 134-4 and 134-4a) and forestry productivity (Table 134-5). Information for wildlife habitat (and limitations on wildlife use for each soil series), ponds, landfills, building site development, and recreational development is contained in Appendix 134-A of the approved permit. Appendix 134-A also includes information for land use management plans including the TPWD's Texas Wildlife Action Plan (TWAP) (2005). Its purpose was to provide a statewide "roadmap" for research, restoration, management, and recovery projects for species of greatest conservation need and important habitats. TPWD then developed its Texas Conservation Action Plan (TCAP) in 2012 to replace the TWAP. The TCAP is a series of 11 regionally specific handbooks and a statewide handbook as a conservation guide for all natural resources. Luminant indicates that mining activities are not expected to conflict with the TCAP (p. 135-9, Land Use Information Report, Blanton & Associates, Inc., Section 135, application).

27. All requirements are met in the approved permit and application for the submittal of maps, cross-sections, and plans required by §§ 12.136 and 12.137 of the Regulations. All required operational maps and plans have been submitted in the application, as supplemented, in accordance with §12.142. Staff certified Luminant's compliance with regulatory requirements in the TA.
28. As required by §12.138 of the Regulations, Luminant identified 10 prime farmland soil units within the permit area for the approved Permit No. 4K, totaling 4,098 acres, in Docket No. C9-0018-SC-04-C. Luminant replaced section 138 in the approved Permit No. 4K in Revision No. 104, approved by the Commission on August 22, 2016. This same information was provided in this renewal application (SD2). The permit boundary used in the permit renewal approved in Docket No. C9-0018-SC-04-C is the same as the permit boundary proposed in this application. Natural Resource Conservation Service prime farmland soils make up 13.3% of the renewal area and include select map units of Bowie (where slopes are 5% or less), Cart-Erno complex, Kullit, Laneville, Latex, Meth, Sawlit,

Sawlit-Sawtown complex, Thage, and Wrightsville soils, if artificially drained. In SD3, Luminant indicated that of the tracts identified as Bowie soil series, 87 have affidavits of use in Appendices 138-1 through 138-H. Luminant submitted affidavits for tracts 1016, 247, and 236 in Appendix 138-H (SD2) and requests a negative determination for these tracts. There are 12 tracts listed with no right of entry; a negative determination cannot be requested for these tracts. Of the tracts on Table 138-2, 58 previously contained Bowie soils, but the identified acreage was completely disturbed prior to the delineation of prime farmland. No prime farmland soil remains for mitigation within these tracts, and therefore a negative determination is not required. For the leased tracts that contain prime farmland soil which do not currently have an affidavit as indicated on Table 138-2 (SD2), Luminant has indicated that it will not disturb 25 tracts 78, 79, 80, 81, 126E, 155, 159, 161, 419, 523, 523A, 630, 630A, 636, 637F, 637G, 637K, 653, 653A, 711, 713A, 742A, 815, 889A, and 1021 prior to receiving written approval from the SMRD Director or Commission (p.138-4, SD2). Luminant has included a reclamation plan for prime farmland in Section .145 of the application.

29. Luminant has submitted all required materials to document its proposed operations plan for the proposed permit term, as revised in the application and supplements, in accordance with §12.139 of the Regulations, and as set out in the permit provisions contained in Appendix I.
 - (a) The Martin Lake Mine has four recoverable seams. Lignite recovery in accordance with the size, sequence, and timing set out in Section 125 of the application, as supplemented, will be accomplished by mobile/auxiliary equipment in combination with the dragline. To supplement the operation, surface miners, hydraulic excavators, front-end loaders, end-dump trucks, haulers, dozers and other mobile equipment may be used in portions of the permit term mine blocks where the overburden depths are generally 50 feet or less. Lignite recovered will be transported by railcar to the Martin Lake Power Plant. The use of public roadways, using licensed vehicles, will be a secondary means of lignite transportation in the event the railroad system access is limited. Areas for shops, warehouses, offices, lignite stockpiles, storage of equipment and supplies and other such activities are shown on Plates 139-1-1 through 15 (initial application and SD2). The Martin Lake Mine loading station facility is shown on Plate 139-1-11 and 13 (SD2). Temporary

overburden storage areas are depicted on Plates 139-1-1 through 15 (initial application and SD2). The material from this storage area will be used in the final reclamation of the Martin Lake Mine. Any excess material from this storage area will be blended in accordance with the proposed post mine contours. Luminant has also included details regarding proposed exploration activities in Section 139 of the application. Luminant proposes to conduct the following activities on an as-needed basis to obtain necessary geotechnical data: subcrop definition drilling, lignite coring, lignite test pit excavation, overburden coring, aquifer identification, and other deposit development drilling as set out in the application.

- (b) No coal cleaning facilities are proposed at this time. Coal waste will be placed in the active pit for proper disposal and will not be placed within the top four feet of reclamation material. Hazardous waste will be removed, handled, stored, transported, and disposed of in accordance with federal and state requirements. Ash disposal operations were approved in previous Commission actions. No ash disposal operations are proposed in the CIV Area. If excess construction material is generated during construction projects, the material will be used in the final reclamation of the associated project.
- (c) Based on the information contained in Tables 139(T)-3 and 139(T)-4 and Figure 139(F)-31, and in accordance with §§ 12.384(a)(3) and (4) of the Regulations, Luminant requests additional time beyond 180 days and distance beyond four pits for backfilling and grading in the CVI South Area mining areas. Luminant requests a maximum distance of 1,400 feet behind the highwall and a maximum of 12 months for reclamation of the CVI South Area. The distance allows four spoil peaks using the spoil-side mining method, though the initial peak may not be discernable due to the maneuverability of the dragline. Backfilling and grading of auxiliary areas mined with mobile equipment will be completed within 180 days following coal removal and will not be more than four widths behind the active pit. Backfilling and grading of auxiliary areas adjacent to dragline pits will be completed in the same time and distance as the adjacent dragline pits if the auxiliary area is mined with the dragline (with the timing for auxiliary areas measured from the date of last lignite removal per excavated numbered pit). Luminant has also requested variances from the prohibitions against conducting activities within 100 feet of

perennial or intermittent streams set out in §12.355 of the Regulations. The five new stream buffer-zone variances in the proposed permit term are listed in Table 139(T)-2. The Commission may approve disturbances within 100 feet of perennial or intermittent streams: (1) if proposed activities will not cause or contribute to the violation of applicable State or federal water quality standards and will not adversely affect the water quantity and quality or other environmental resources of the stream [§12.355(a)(1)], and (2) in cases of temporary or permanent stream-channel diversions, they will comply with §12.341 of the Regulations related to the requirements for approval of diversions [§12.355(a)(2)]. Luminant proposes stream buffer variances for waterway and creek segments depicted in Plates 139-4-1, 2 and 3 which will support disturbances projected to occur within the proposed permit term. Luminant has provided information to address the specific activities and/or the measures to be taken for each of the proposed stream buffer-zone variances. Staff has indicated that information is included in the application as supplemented that requirements are met under §12.355. Therefore, Staff recommends that these variance requests be approved. Staff withdrew a permit provision recommended in its earlier processing of the application. The stream buffer variances are approved.

- (d) Luminant has also described the backfilling and grading variance applicable to the permit term that is currently pending administrative review and the stream channel buffer zone variances applicable to the permit term that have received Commission approval (Table 139(T)-2, SD3). Staff recommends approval of the proposed additional time (up to 12 months) and distance (1,400 feet from the highwall toe) to complete rough backfilling and grading for the CVI South Area. Staff has reviewed the times and distances requested based on methods of mining to be used and other special circumstances that require additional time and/or distance and determined that the requested variances are needed to complete reclamation due to the depth of overburden, time required to mine and remove the lignite, length of pit progression, width of pits, and related, operational concerns. The requested time schedule (up to 12 months) and distance (1,400 feet from the toe of the highwall) for the CVI South Area are based on detailed written analyses as required in §12.384(a)(3) of the Regulations.

- (e) There are numerous producing oil or gas wells located within the proposed permit renewal/revision area; their locations are depicted in Section 128, Plate 128-4 and listed in Appendix 128-G. Luminant also depicts proposed pipeline relocations shown on Plates 136-1 (SD2), 136-2 and 136-3 in Section 136 of the application. Luminant indicates that the location of all pipelines will be visibly marked at 200-foot intervals in active mining areas, as measured from the centerline of the pipeline nearest to mining-related construction activities in accordance with §12.382(2) of the Regulations when pipelines are located within 500 feet of surface mining activities. All pipelines within 200 feet of mining-related disturbances will be marked with high-visibility markers every 25 feet for the entire length of the disturbance and will extend 200 feet in both directions beyond the location of the limits of the mining-related disturbance. The portion of the previously approved Permit Provision No. 1 regarding marking of pipelines is no longer needed, as the requirements of this portion of the permit provision have been incorporated into the proposed permit.

- (f) No new closures or relocations of public roads are proposed. Variances are requested, however, to allow mining related activities to occur within 100 feet of various public roads (Finding of Fact No. 42). A portion of Panola County Road 260 (Bill North Area) was closed in 2009. The location of the closure area is shown on Plate 154-2. The County Commissioner's Court Resolution approving the closure of Panola County Road 260 is part of the approved permit.

- (g) Should there be a road closure in the future, Luminant will request that the county road(s) be approved as temporary ancillary road(s). County roads were designed and constructed under the specifications and supervision of the Panola County Commissioners' Court and satisfy the performance standards of Section 12.400(b) of the Regulations. Through normal use, these roads will be maintained to control or prevent erosion, siltation and air pollution attendant to erosion; control or prevent damage to fish and wildlife resources; control or prevent contributions of suspended solids to stream flow or runoff outside the permit area; neither cause or contribute to violations of State or Federal water quality standards applicable to receiving waters; not seriously alter the normal flow of water in streambeds or drainage channels; control or prevent damage to public or private property; and

non-acid or non-toxic-forming substances in road surfacing. Future abandoned public roads used for surface mining related activities will be adequately bonded. Detailed design plans will be submitted prior to any road design modification. No relocations or closings will be undertaken until all necessary approvals have been obtained from the proper state and county offices and approved by the Commission in accordance with §§12.152 and 12.72(a) of the Regulations.

- (h) Luminant updated the design information and status of approximately 74 sediment ponds and primary sediment control structures in Table 139(T)-6, Primary Sediment Control Structures and Impoundment Schedule (SD2). Of these structures, 36 have been removed from sediment control. Four additional structures are listed as removed from the operations plan. Diversion information for approximately 74 existing diversions was updated in Table 139(T)-7, Diversion Schedule. An additional 18 diversions have been removed from the reclamation plan. Information is included as well regarding proposed permanent ponds and existing permanent ponds in Table 139(T)-8, Permanent Impoundment Schedule. Luminant also provided information regarding the frequency of pond maintenance inspections: pond inspections will be performed in accordance with §§ 12.344(b)(4) and 12.347(a)(12) for ponds that meet or exceed the size or other criteria of 30 CFR §§ 77.216(a), and in accordance with §§ 12.347(a)(11) and (12) for all ponds with embankments.
30. Nine existing structures as defined by §12.3 of the Regulations were used or proposed for use in connection with or to facilitate surface coal mining and reclamation operations. In compliance with Section 140 of the application, Luminant provided pages 140-1 and 140-2 including the updated status of each structure. All nine were ponds; only four ponds still exist within the permit area. Three were modified and are temporary sedimentation ponds (AI-10, AI-13, and AI-14); one other has been approved as a permanent impoundment and has been released from sedimentation control (B-14).
31. The application does not propose any new surface mining activities to occur within 500 feet of any known underground mines within the proposed permit term. The application indicates that Luminant is not aware of any known workings of active, inactive or abandoned underground mines, including mine openings to the surface within the proposed permit or areas adjacent to the permit.

32. The application meets the requirements of §§12.143 and 12.379 of the Regulations for fugitive dust control. An air pollution control plan is not required pursuant to §12.143(a). The permit area is not located west of the 100th meridian west longitude. The fugitive dust control practices used include use of water trucks to wet roads, application of asphalt emulsions, closing mining roads when not in use, grading road surfaces, minimizing clearing of land, and reclaiming land as contemporaneously as possible. Luminant indicates that in high wind conditions (wind gusting over 31 mph or exceeding Level 6 – Strong Breeze category – of the Modified Beaufort Scale) it will cease potentially dusty operations not specifically related to mining or construction required for mining (primarily reclamation related activities) and will use all available water trucks to wet down areas required for mining or construction of structures required for mining or creating excessive dust. Fugitive dust control measures are adequate based on compliance with the Regulations and with TCEQ air quality requirements.
33. By letters dated October 26, 2015 [Appendix A, Section 144 (SD3)] and November 21, 2016, filed with the Hearings Division November 28, 2016, TPWD provided comments and recommendations regarding protected vegetative and wildlife species based on its review of the initial application, SD1 and SD2. Luminant has addressed TPWD's comments in accordance with Commission requirements by modifications to portions of the application. Luminant provided responses to the TPWD's recommendations in an attachment to the SD2 errata and by incorporating some of the recommendations into SD2 and SD3. Staff's responses to TPWD's comments and recommendations are provided in the TA, Appendix III, and are based on a review of the Application through SD3. The requirements set out in Luminant's fish and wildlife plan will satisfy the requirements of these regulations and sufficiently address TPWD's comments.
- (a) TPWD Recommendation No. 1 states that if Luminant identifies that Martin Lake Mine activities fall within the TPWD permit parameters, then TPWD recommends coordinating with Tom Heger with TPWD Inland Fisheries to obtain a permit. Staff responded that Luminant indicates in its attachment to the Errata of SD2 that it has modified page 144-4 to incorporate this commitment.
- (b) TPWD Recommendation No. 2 states that for mine-related activities that involve dewatering or other harmful construction activities in streams, wetlands or ponds, TPWD recommends relocating potentially impacted native aquatic resources in

conjunction with a Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters and aquatic resource relocation plan (ARRP). If seeking a permit, an ARRP should be completed and approved by TPWD 30 days prior to dewatering and/or resource relocation and submitted with an application for a no-cost Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters. If Martin Lake Mine activities fall within the TPWD permit parameters, then such a permit should be acquired and identified within Section 12.121. Staff responded that Luminant indicates in its attachment to the Errata of SD2 that it has modified page 144-4 to incorporate this commitment. Staff noted that although the operations plan on page 139-21 indicates that dewatering wells are proposed for all mining areas during the permit term, this narrative appears to be an inadvertent carryover from the previous permit term. In its probable hydrologic consequences determination in revised section .146(d) [page 146(d)-6], Luminant clarifies that no dewatering activities are planned for the upcoming permit term and Luminant depicts no areas for dewatering on Plate 146(d)-1.

- (c) TPWD Recommendation No. 3 recommends clarifying the statements to indicate whether the Texas trillium or its habitat may occur within the area proposed for disturbance during the five-year renewal period and incorporating a plan to protect the species prior to disturbance if impacts are anticipated. Staff responded that Luminant has addressed this comment by indicating that habitat does not occur in the permit area. In addition, in response to Application Deficiency No. 132-1, Luminant provided a description in the Errata and in section .132 to clarify in more detail the species requirements and how Luminant made its determination that there is no habitat for the species (p. 132-11, SD2). The species occurs in acid hardwood bottoms on lower slopes. Potentially suitable habitat was not observed in areas proposed for mining activities.
- (d) TPWD Recommendation No. 4 recommends that reclamation efforts include planting or seeding native milkweed (*Asclepias* species) and nectar plants, as funding and seed availability allow, in wildlife enhancement areas, fish and wildlife areas, pastureland areas, and in landscaping areas of appropriate commercial or industrial sites. TPWD recommends scheduling maintenance and grazing activities to occur once the seed from pollinator plants has been released. In its November 21, 2016 follow-up letter, TPWD stated that it continues to recommend

that Luminant incorporate a variety of native floral species into all lignite mine reclamation plans in Section 144 and 145 to provide pollen and nectar for declining pollinator species. Staff responded that Luminant has clarified that its listing of species that may be planted includes three species of milkweed and 38 species of nectar plants (forb and shrubs species). Luminant has footnoted these species in Table 144-C (SD3).

- (e) TPWD Recommendation No. 5 states that for any threatened, endangered or SGCN reptile encounter, TPWD recommends reporting to the Texas Natural Diversity Database per the data submittal procedures outlined at <http://tpwd.texas.gov/txnodd>. TXNDD reporting would be in addition to the required RCT reporting of threatened and endangered species sightings. Photographic documentation of the reptile is preferred. If there is uncertainty in identifying the species, a photo with location data can be uploaded to the Herps of Texas project in iNaturalist, (www.inaturalist.org) so that the species can be identified by a qualified curator and get mapped into the iNaturalist database. Staff responded that Luminant has indicated that it copies the TPWD on any sightings that it sends to the Commission, implying that it does not plan to send the TPWD's requested TXNDD reporting "in addition to the required RCT reporting." Staff encouraged Luminant to review the additional information that the TPWD TXNDD form requests and to make its staff aware of the additional information needs TPWD is requesting. Staff noted that this would be an efficient way to improve Luminant and its consultants understanding of the species that are required to be protected, and a simple cost-effective way to enhance the protection plan for these species by contributing to the information that can be gathered on these species life histories. TPWD noted in its November 21, 2016 follow-up letter its appreciation that Luminant has begun providing information directly to the TPWD.
- (f) TPWD Recommendation No. 6 states that TPWD generally concurs with the proposed monitoring and protection activities for the Alligator snapping turtle, though it recommends the following (bolded text) to update the activities to more closely align with TPWD's most recent guidance (emphasis in original):

- **Observations of the Alligator snapping turtle will include photographs, if feasible, of the specimen (live or dead) to aid in species identification and verification of the record.**

- If found in the renewal area **and** within areas where mine activities pose an imminent threat, the individual would be captured and relocated **to nearby suitable habitat**, if necessary, and in accordance with TPWD Scientific Research Permit. **Turtles would be allowed to leave the area safely on their own if they are not in imminent danger.**

- Dead specimens would be collected and donated to educational facilities, **scientific collections (TPWD-preferred and if Luminant can successfully find a collection that is accepting specimens)** or disposed of as waste material according to applicable regulations.

- **Luminant will establish suitable deep water habitat for the Alligator snapping turtle during reclamation if such habitat would be removed during mining disturbance activities. At areas of suitable deep water habitat, Luminant will ensure that existing connectivity of habitat within waterways will be maintained during operation, such as at proposed culvert crossings, and re-established in reclamation, such as along disturbed waterways.**

Staff responded that Luminant has indicated that it incorporated most of TPWD's recommendations; however, it was unable to commit to "including photographs, if feasible" and indicated that deep water habitats would not likely be available after reclamation. Staff opined that it is unclear why Luminant would not commit to including photographic documentation, when the request was open to providing this information on an only when feasible basis. Providing photo-documentation, when it is an option to do so (when the turtle is visible and safely accessible, and when a camera or phone with a camera is readily at hand), may provide important documentation for the record; however, the Commission declines to require this documentation in that it is not a regulatory requirement. In addition, the Commission notes that during the requested permit term Luminant also indicates that deep water habitats for this species are not likely to be available in the

reclaimed habitat. Staff states its belief this conclusion appears unfounded. Staff indicates that although during operations the surface water connections are diverted to ensure acceptable water quality standards are met, the postmine landscape should provide an enhanced level deep water habitat for this species. Luminant has reported that the premine landscape consisted in part of developed water resources land use (177.4 acres) and additional waters of the U.S. that included forested wetlands (826.7 acres), emergent wetlands (246), and streams (123.2 acres), all of which provide some utility for the alligator snapping turtle as habitat. Luminant is proposing to reclaim over eight times the acreage of developed water resources (1,512 acres) in the postmine land use. Of the premine waters of the U.S., Luminant has reported that it has impacted the following: forested wetlands (96.79 acres), potential forested wetlands (2.05 acres), non-forested wetlands (emergent) (74.94 acres), open water ponds (76.17 acres), and streams (42.32 acres). Under the Regulations §12.380(7), Luminant is required to and will restore stream channels to afford protection to the aquatic community and acceptable measures have been included in the application, as supplemented, to ensure protection of stream channels that may be disturbed. Under its Clean Water Act permits Luminant has indicated in its mitigation plan (included as Appendix 144-B) that it will reclaim forested acres (impacted under NWP 21 permits) at a 2:1 ratio, non-forested acres at 1.5:1, and open water and streams at 1:1 ratios. The significant increase in developed water resources coupled with the reclaimed waters of the U.S. should result in enhanced habitat for this species in the postmine landscape, once the fish and invertebrate communities reestablish.

- (g) TPWD Recommendation No. 7 states that TPWD has identified the following scientific collections that are interested in receiving Alligator snapping turtle carcasses, and TPWD recommends that Luminant contact them to coordinate carcass donations, when applicable:

- Carl J. Franklin, herpetologist and Biological Curator and Collections Manager of the Amphibian and Reptile Diversity Research Center at the University of Texas at Arlington.
- Dr. Toby Hibbitts, Assistant Curator of Amphibians and Reptiles, at the Biodiversity Research and Teaching Collections at Texas A&M University.

Luminant's response in the Errata attachment stated that it would coordinate with these researchers, if feasible. Staff states that Luminant somewhat inconsistently

modified the text of section .144 (page 144-11) to indicate that it would donate to an educational facility or scientific collection, if it can successfully find a collection that is accepting specimens. Staff encourages Luminant to incorporate the contact information that TPWD developed for Luminant into the section text for ease of use by facility staff during the next update of section .144.

- (h) TPWD Recommendations No. 8 and No. 9 state that TPWD generally concurs with the proposed monitoring and protection activities for the Northern scarlet snake (Recommendation 8), and the Timber Rattlesnake (Recommendation 9) although it recommends the following (bolded text) to update the monitoring and protection activities to more closely align with TPWD's most recent guidance (emphasis in original):

- If encountered in the renewal area and if mine activities pose an imminent threat, the individual would be captured and relocated in accordance with TPWD Scientific Research Permit.

- Relocation, when necessary, would be to appropriate habitats that are of sufficient distance from the collection point to ensure there is no threat from mine activity, yet still within the species home range. **Relocation would occur the shortest distance possible less than one mile, preferably within 100-200 yards, when feasible.**

Therefore, relocation areas will be based on a combination of the snake's original observed location, proximity to mine disturbance activities, and proximity to suitable habitat.

- Dead specimens would be collected and donated to educational facilities, **scientific collections (TPWD-preferred and if Luminant can successfully find a collection that is accepting specimens)** or disposed of as waste material according to applicable regulations.

- **Luminant will avoid the use of erosion control matting, if feasible, for revegetation and stabilization of disturbance areas because the netting found in many erosion control blankets or mats poses an entanglement hazard to wildlife, particularly snakes. If erosion control blankets or mats will be used, Luminant will use products that contain no netting or contain loosely woven, natural fiber netting in which the netting design allows the threads to move, therefore allowing expansion of the netting openings. Overall, plastic netting will be avoided.** (The practice to avoid using erosion control netting is also beneficial for common wildlife species and could be included under *2.1.1 Impact Analysis and Mitigation, Item 10 Water Quality Controls* on page 144-8).

- **An occurrence of the Northern scarlet snake in the renewal area will be followed by discussions with TPWD and RCT to determine the need for additional monitoring and protection activities for the Northern scarlet snake.**

Staff responded that Luminant modified its text in section .144 to include all but the recommendation for avoiding the use of erosion control matting. However, in the Errata, Luminant indicated that it would investigate the use of bio-degradable, non-petroleum based, loosely woven, natural fiber matting.

- (i) TPWD Recommendation No. 9 stated that TPWD generally concurs with the proposed monitoring and protection activities for the Timber rattlesnake, though it recommends the following (bolded text) to update the monitoring and protection activities to more closely align with TPWD's most recent guidance (emphasis in original):

- If encountered in the renewal area and if mine activities pose an imminent threat, the individual would be captured and relocated in accordance with TPWD Scientific Research Permit.
- Relocation, when necessary, would be to appropriate habitats that are of sufficient distance from the collection point to ensure there is no threat from mine activity, yet still within the species home range. Home range sizes for this species vary among season, geographic populations and sex. Migration distances range from 0.5 to 1 mile for all sex and age classes, but may be up to 5 miles for males seeking mates. **Relocation would occur the shortest distance possible less than one mile, preferably within 100-200 yards, when feasible.** Therefore, relocation areas will be based on a combination of the snake's original observed location, proximity to mine disturbance activities, and proximity to suitable habitat.
- Dead specimens would be collected and donated to educational facilities, **scientific collections (TPWD-preferred and if Luminant can successfully find a collection that is accepting specimens)** or disposed of as waste material according to applicable regulations.
- **Luminant will avoid the use of erosion control matting, if feasible, for revegetation and stabilization of disturbance areas because the netting found in many erosion control blankets or mats poses an entanglement hazard to wildlife, particularly snakes. If erosion control blankets or mats will be used, Luminant will use products that contain no netting or contain loosely woven, natural fiber netting in which the netting design allows the threads to move, therefore allowing expansion of the netting openings. Overall, plastic netting will be avoided.**

• An occurrence of the Timber rattlesnake will be followed by discussions with TPWD and RCT to determine the need for additional monitoring and protection activities for the Timber rattlesnake at the renewal area.

In its November 21, 2016 follow-up letter, TPWD stated that it continues to recommend that Luminant avoid the use of erosion control matting, if feasible, for revegetation and stabilization of disturbance areas because the netting found in many erosion control blankets or mats poses an entanglement hazard to wildlife, particularly snakes and birds. If erosion control blankets or mats will be used, TPWD recommends that Luminant use products that contain no netting or contain loosely woven, natural fiber netting in which the netting design allows the threads to move, therefore allowing expansion of the netting openings. Overall, plastic netting should be avoided. Luminant modified its text in section .144 to include all but the recommendation for avoiding the use of erosion control matting. In the Errata (SD3), Luminant indicated that it would investigate the use of bio-degradable, non-petroleum based, loosely woven, natural fiber matting. Staff encouraged Luminant to implement this best management practice technology, as soon as it can feasibly do so. The timber rattlesnake has been reported as a species found to be susceptible to rigid plastic netting used in erosion control matting. Staff recommends that Luminant inform its staff of this potential hazard to snakes and other wildlife, to be attentive and responsive to its potential occurrence, especially during new pond development that occurs in newly cleared areas and in areas that are adjacent to habitat, where disturbance to snakes and other wildlife may be more prevalent, to document and report any such observations, and to safely free any entangled wildlife, providing that it can be done safely to minimize impacts to wildlife. Luminant and Staff responses are sufficient to address this comment.

- (j) TPWD Comment No. 1 states that the Martin Lake renewal/revision application identifies that Luminant holds a permit for relocation, surveys, monitoring, and research of terrestrial state-listed species. Staff responded that Luminant listed the species and groups of animals that are covered under its TPWD Wildlife Division permit. Staff states that this TPWD comment appeared to intend to clarify that relocation of aquatic species would need to be covered under an aquatic resource permit and possibly a relocation plan.

- (k) TPWD Comment No. 2 states that TPWD concurs with reporting an occurrence followed by discussions with TPWD and the Commission to determine appropriate monitoring and protection activities for the Texas horned lizard at the renewal area. Staff's response noted this concurrence.
 - (l) TPWD Comment No. 3 states that TPWD strongly encourages mining operators and the Commission to support research of the Timber rattlesnake to help guide future mining operation and reclamation practices. Staff responded that Luminant has indicated that it will discuss future research needs with TPWD regarding the Timber rattlesnake as part of ongoing coordination.
 - (m) TPWD Comment No. 4 states that TPWD concurs that reporting an occurrence, occurrence-triggered surveying, and electric facility design protections are appropriate monitoring and protections for the Bald Eagle at the renewal area. Staff responded that it finds that attributing the N2 Bald Eagle nest to the Liberty Mine is misleading, stating that the Liberty Mine is located approximately 4,100 feet across the lake and had other active nest sites during the same time period that the N2 site was active. The N2 nest, a naturally occurring fallen nest, was found on the eastern shoreline of Martin Lake (approximately 750 feet outside the boundary of the permit area). In SD3, Luminant committed to conducting surveys for nesting eagles at and near the previous nest location and within and surrounding the proposed disturbance areas. This sufficiently addresses Staff's comment and the TPWD comment.
 - (n) TPWD Comment No. 5 states that TPWD concurs with reporting an occurrence and developing appropriate protection measures for the Interior Least Tern. Staff's response noted this concurrence.
34. The application includes a protection and enhancement plan to minimize disturbances and adverse effects on fish and wildlife and related environmental values during the proposed operations. The protection and enhancement plan meets the requirements of §§12.144 and 12.380 of the Regulations.
- (a) Appendix 144-C contains a list of forbs, grasses, trees, shrubs, and other plants appropriate for use in fish and wildlife habitat and wetland mitigation, depending on availability and applicability, as well as common Bermuda grass and clovers for

erosion control. The species list in the approved USACE permits are to be used to guide the revegetation of USACE mitigation areas.

- (b) Loss of wetlands will be mitigated in accordance with the Corps of Engineers Nationwide Permit for the proposed permit area. Mitigation ratios for the permit area are 2:1 for forested wetlands, 1.5:1 for non-forested (emergent) wetlands, and 1:1 for on-channel ponds and stream channels. Appendix 144-B (SD2) contains a copy of the mitigation plan contained in the USACE Nationwide Permit 21 authorization as its typical reclamation plan for wetlands. Luminant indicates that it may create wetland areas along various drainages and may enhance existing wetlands. Plate 133-1 of the approved permit delineates wetlands within the permit area.
- (c) The application includes a handling and relocation plan (to the Martin Creek reservoir) for the alligator snapping turtle. Luminant has a scientific permit from the TPWD that will allow handling and relocation of this species. There is a record of the threatened Creek Chubsucker fish species; it is possible that it may be present. Measures will be taken to protect this species if it should be present, such as limiting stream crossings. Luminant has provided protective measures for the timber rattlesnake that has been observed within the permit area, the threatened Bald Eagle, a winter resident and breeder near the permit area, the endangered interior least tern, a possible migrant, and other potentially present migratory birds that may occur within the proposed permit area. Luminant has included a plan to protect migratory birds within the permit area by minimizing disturbance areas and avoiding nesting sites. With respect to the Bald Eagle, Luminant will conduct a nest survey during the November 2016 through March 2017 survey season in the area proposed to be disturbed by mining operations during the next permit term and within 660 feet of that area and will provide the results of the survey to the Commission (SD3). Luminant will also continue to voluntarily report any Bald Eagle nests observed along the shoreline of Martin Lake outside of the Martin Lake permit area (SD3).
- (d) Luminant coordinated with the USFWS in 2003 with respect to compliance with the Migratory Bird Treaty Act ("MBTA"), and a copy of the 2003 coordination letter is included in Appendix 144-A (SD2). Luminant contacted USFWS again in 2015 by

telephone and by letter to solicit input and to follow up on the 2003 consultation regarding MBTA compliance. Luminant also provided a copy of a July 8, 2015 letter from the USFWS to Luminant in Appendix 144-A (SD2). This letter indicates that USFWS believes that Luminant's mining and reclamation activities fall within the scope of prohibited conduct under the MBTA. This letter states that "[t]he MBTA provides, in part, that unless and except as permitted by regulation, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, or attempt to take, capture, or kill any migratory birds." Because the USFWS letter states its belief that the MBTA prohibitions apply to Luminant's mining activities, the letter recommended that Luminant incorporate USFWS's *Nationwide Standard Conservation Measures* into Luminant's generic wildlife plan as best management practices that are intended to avoid, minimize, or mitigate, to the extent practicable, potential impacts of permitted mining activities on migratory birds. In a later September 4, 2015 ruling regarding the MBTA, the United States Court of Appeals for the Fifth Circuit held in *U.S. v. Citgo Petroleum Corp.*, 801 F.3d 477 (5th Cir. 2015) that "the MBTA's ban on 'takings' only prohibits intentional acts (not omissions) that directly (not indirectly or accidentally) kill migratory birds." (See portion of Appendix A, SD2 of application.) As noted in Luminant's March 22, 2016 response letter to USFWS (SD2), because this court's ruling is binding in Texas, the USFWS's July 8, 2015 response does not accurately reflect the requirements of the MBTA in the State of Texas, and the MBTA prohibitions do not apply to Luminant's mining activities, which do not involve intentional impacts on migratory birds. On June 20, 2016, the USFWS sent a coordination letter to Luminant regarding protection to migratory birds. In the June 20, 2016 letter, the USFWS recommended that their *Nationwide Standard Conservation Measures* be incorporated into Luminant's fish and wildlife plan. Applicable and practicable elements of the *Nationwide Standard Conservation Measures* referenced in the USFWS's July 8, 2015 and June 20, 2016 letters are incorporated into Luminant's Fish and Wildlife Plan or other sections of this permit application as best management practices that are intended to avoid, minimize, or mitigate, to the extent practicable, potential impacts of permitted mining activities on migratory birds. Luminant will continue to coordinate with USFWS and the Commission to ensure that adequate protective measures are in place with respect to species protected under the MBTA. Staff withdrew a proposed permit provision that would

have required specific actions to be taken prior to clearing activities for which the Commission had previously determined were not necessary based on other protective measures contained in Luminant's protection plan and the Fifth Circuit's opinion in *U.S. v. Citgo Petroleum Corp.* For American and Bald Eagles, actions contained in §12.380 are applicable once nesting sites are discovered. As indicated in this Order [subparagraph (c), *supra*] no nesting site has been discovered within the Martin Lake Mine permit area. It is noted that areas remaining to be mined are over 8 miles from the closest observed nest and over four miles from other proposed disturbances (SD2, Errata, response to Deficiency 144-10). There are no other endangered or threatened migratory birds that are likely to occur within the permit area, and Luminant has included sufficient protection measures for other migratory birds as set out in SD2, pp. 144-5, 144-5a, and 144-5.

- (e) In Section 144 of the Application, Luminant included proposals to limit disturbances to wildlife by mining in narrow, incremental bands, and limiting disturbances in the construction of stream crossings through the use of sediment control, pond construction and operation, in the operation and maintenance of equipment, and in observing the 100-foot buffer zone for intermittent and perennial streams (unless the Commission has approved disturbance in accordance with the Regulations), and in prompt revegetation. Pond areas and stream banks will be planted with appropriate vegetation. Plant species will be used to provide appropriate food and cover. Specific species are identified in the application, as supplemented (144-15, Appendix 144-C, and Appendix 144-D). Staff confirmed that the plan contains locally occurring native trees, shrubs, vines, grasses, and forbs, as well as common Bermuda grasses and some clovers for erosion control. Appendix 144-B includes Luminant's July 23, 2009 mitigation plan for the USACE Nationwide Permit 21 authorization to impact and mitigate wetlands within the Martin Lake Mine as well as Luminant's July 2014 proposed conceptual restoration plan for the USACE Nationwide Permit 49. In Application Deficiency No. 144-3, however, Staff initially objected to Luminant's proposed maximum clearance distance of 1,800 feet and proposed a permit provision requiring a maximum of 600 feet. After further review and discussion with Luminant, Staff withdrew the proposed permit provision. Staff noted in its comments to a draft order that the maximum 1,800-

foot clearing distance previously identified as being too large only applies to a small portion of the central portion of the remaining pits to be mined in the CVI South Area and stated that when considered as a whole, the pit configuration proposed would not result in clearing distances that would be considered excessive. The maximum of 1,800 feet for the small portion of the central portion of the remaining pits to be mined is appropriate.

35. The application, as revised and supplemented, contains a reclamation plan for the permit area that includes all required information in accordance with §12.145 of the Regulations, including detailed reclamation timetable, a detailed estimate of the costs of reclamation, a plan showing the final surface configuration of the permit area, a topsoil redistribution plan, and a plan for revegetation (SD3).

(a) A detailed timetable for the completion of each major step remaining in the reclamation plan for the permit area is included in the application, as supplemented, in accordance with §12.145(b)(1). This timetable is contained on Figure 145-1 and discussed on p. 145-9 of the application, as supplemented in SD2, and includes the following:

Coal removal — The timeline for reclamation is initiated by final coal removal from the pit.

Backfilling and grading — Following coal removal, backfilling and grading will be completed within the timeframe and distance described in Section .139 of the application, as supplemented (backfilling and grading plan).

Revegetation — Seeding and, planting will be conducted during the first normal period favorable for planting conditions after completion of backfilling and grading.

Mulching — Mulching occurs following initial planting of temporary or permanent vegetation.

Temporary vegetation — May be planted when seasonal conditions prevent planting permanent cover. Temporary cover is typically planted from September through November.

Permanent vegetation — Warm-season grasses are typically planted during March through June. Trees and shrubs are typically planted from January through April within areas with established ground cover.

Extended responsibility period — Will be initiated when augmentation of the permanent vegetation has ceased and management units have been established.

Phase I bond release — Application for Phase I bond release will be submitted within one year of the initiation of the ERP, with the exception of approved temporary structures that are needed for drainage control and facilities that support mine operations.

Phase II bond release — A combined Phase II and III bond release application will be submitted within one year of the end of the ERP.

Phase III bond release — A combined Phase II and III bond release application will be submitted within one year of the end of the ERP.

The timetable, Figure 145-1, as supplemented in SD2, also includes provisions that Surface Mining and Reclamation Division approval of quantitative data, demonstrating revegetation success, will be obtained prior to submitting applications for Phase II and/or Phase III bond release, and that submittal of Phase II and/or Phase III bond release applications will be submitted following the average last frost date of the spring and 60 days prior to the average first frost date. Figure 145-1 is a graphical reclamation timetable. From the completion of backfilling and grading until submittal of Phase II and Phase III application for bond release, the timetable covers approximately 11 years. Staff indicates that the timetable is adequate to meet §12.145(b)(1).

- (b) Luminant's accepted bond currently in place for all its statewide mining operations is a blanket collateral bond in the amount of \$975,000,000 (Docket No. C16-0021-SC-00-E approved by Order dated September 27, 2016). Staff's analysis indicates that Luminant's current bond exceeds the sum of the estimated reclamation costs for its Texas mines, including the proposed reclamation costs attributable to the Martin Lake Mine (TA, pp. 66-67), estimated by Staff, \$120,349,023. Luminant's summary of estimated costs is \$119,684,361.71. Staff's estimate is more conservative and appropriate for reclamation performance that must be sufficient should a third party complete reclamation in the event of forfeiture. Staff's estimate is approved. The total amount of reclamation costs for all Luminant mines included in Staff's TA, p. 63 is \$886,073,329. This amount is \$88,926,671 less than the approved bond.

Mine Name	Permit Number	Reclamation Cost Estimate Date	Minimum Required Bond Amount/Reclamation Cost Estimate
Big Brown Mine	3F	February 9, 2016	\$24,448,255
Martin Lake Mine	4K	Renewal Revision TA January 17, 2017	\$120,349,023
Monticello Thermo Mine	5G	June 6, 2014	\$40,945,674
Monticello Winfield Mine	34F	February 11, 2015	\$129,529,692
Oak Hill Mine	46C	December 3, 2014	\$218,309,341
Three Oaks Mine	48C	February 24, 2016	\$73,456,371
Bremond Mine	49B	November 16, 2015	\$3,423,560
Kosse Mine	50B	November 28, 2016	\$145,575,352
Leesburg Mine	51	May 3, 2016	\$4,886,759
Martin Lake AIV South Mine	53	June 6, 2014	\$40,448,786
Turlington Mine	54A	January 9, 2017	\$37,952,426
Monticello Thermo A-1 Area Mine	56	January 6, 2016	\$3,487,626
Liberty Mine	58	April 29, 2016	\$43,260,464
Total Aggregate Reclamation Cost			\$886,073,329
Approved Collateral Bond			\$975,000,000
			\$88,926,671

Luminant's current bond of \$975,000,000 is an *Exit Collateral Bond* that became effective on October 3, 2016, when Luminant's ultimate parent company, Energy Future Holdings Corp., and its competitive businesses (the "Competitive Companies"), emerged from the Chapter 11 proceeding that was pending before the United States Bankruptcy Court for the District of Delaware. The current *Exit Collateral Bond* replaced an *Interim Collateral Bond* that was in effect until the October 3, 2016 emergence of Energy Future Holdings Corp. and its Competitive Companies from bankruptcy. The *Exit Collateral Bond* is a blanket collateral bond that covers all Luminant's statewide mining operations. As set out in the TA, this amount exceeds the sum of the estimated reclamation costs for Luminant's Texas mines, including the proposed bond amount attributable to the Martin Lake Mine.

Therefore, no changes to Luminant's existing blanket collateral bond (the *Exit Collateral Bond*) are necessary.

(c) The operations plan includes the continued use of selected overburden for topsoil substitution. Appendix 145-A (SD3) of the application, supported by the geologic information in Section 127 of the application, as supplemented, includes all necessary overburden core information. Methods that may be used to selectively handle the overburden materials are described in the CVI South Operation Plan in Appendix 139-B.

(1) Given language in the body of Section 139 of SD3 that conflicts with the site-specific information overburden characterization and selective handling information in Appendices 139-B and 145-A, Staff recommends a new permit provision as follows ("Appendix V of Staff's TA: "Selective handling of overburden material to be placed in the top four feet of the regraded surface must be accomplished using only mobile/auxiliary equipment." To afford Luminant the flexibility to include additional site-specific overburden data in a future revision application to support revised overburden handling methods in the CVI South Area, that could be approved administratively, Staff also proposed the following revised wording for this proposed permit provision:

"Selective handling of overburden material to be placed in the top four feet of the regraded surface must be accomplished using only mobile/auxiliary equipment, unless otherwise approved by the Director, Surface Mining and Reclamation Division, through an appropriate revision application."

This proposed permit provision, numbered as Permit Provision No. 2 in Appendix I to this Order, is approved, with the addition of adding the words "or Commission" in the text. All other requirements for backfilling and grading are met. All highwalls and spoil piles will be regraded in a manner that blends in with the surrounding terrain.

(2) Luminant's proposal to use mixed oxidized overburden as a topsoil and subsoil substitute is approved based on the intervals to be used [See subparagraph (c), *supra*] and characteristics of the substitute materials. Staff indicates (November 2, 2015 comments) that limitations exist for

deeper intervals of overburden based on sand content of greater than 90% and also due to high levels in overburden of pyritic sulphur, organic sulphur, clay content, selenium, and boron. Limitations on the depths of intervals used will avoid higher sand content in deeper intervals as well as other limiting factors. The proposed substitute intervals were compared to the chemical and physical analyses for pH, ABA, texture, and other criteria to assess its suitability. Staff review indicates that Luminant has shown that the substitute material proposed for use will result in a soil medium that is equal to or better than the native topsoil and subsoil as required by §12.335 of the Regulations.

- (d) Postmine contour information has been revised as necessary to show that approximate original contour will be established for the Martin Lake Mine [Table 139(T)-1, and TA]. In the application, Luminant has provided premine and postmine slope information based on a combination of USGS and aerial photography. Proposed postmine slopes for the study area of 30,905 acres are the following percentages by slope category: 0-5% slope, 54%; 5-10% slope, 27.3%; 10-15% slope, 12.6%; and >15% slope, 6.1%. Using these slopes, proposed postmine slopes will result in the following changes to approved postmine slopes: no change in the 0-5% category; an increase of 0.2% in the 5-10% category; a decrease of 0.3% in the 10-15% category; and an increase of 0.1% in the greater than 15% slope category. The following changes will result from premine slopes to proposed postmine slopes: an increase of 5.3% in the 0-5% slope category; a decrease of 4% in the 5-10% category; no change in the 10-15% category; and a decrease of 1.3% in the > 15% category. The proposed changes in the slope categories are minimal. Based on these comparisons, approximate original contour will be met. The proposed postmine slopes are approved.
- (e) A plan for revegetation is included that includes a schedule of revegetation, species and amounts per acre of seeds and seedlings to be used, methods to be used in planting and seeding, mulching techniques, irrigation as appropriate, pest and disease control measures, measures to be used to determine the success of revegetation, and a soil testing plan. Luminant plans to use Coastal Bermudagrass, Weeping Lovegrass, Common Bermudagrass, Bahiagrass, Big Bluestem, Little Bluestem, Indiangrass, Sideoats Grama, Dallisgrass, Switchgrass,

Improved Bluestem and Johnsongrass for pastureland and cropland and to use NRCS forage production standards to evaluate ground cover and productivity (Appendix 145-D, *Forage Production Standards for Post Mine Soils*). Luminant provided documentation from the NRCS that row crops are few in Panola County and that hay is an acceptable crop for cropland use [Appendix 145-B and Appendix 145-F (SD2)]. Indigenous species will be used for planting in grazingland postmine land use (Appendix 145-G, SD2, *Revegetation Species for Grazingland in Post Mine Land Use*). Vegetation species proposed in the revegetation plan, as revised, are appropriate. Industrial/commercial areas will be planted with species set out in Appendix 145-C (SD3); undeveloped areas will be planted with species set out in Appendix 144-C (SD2). Proposed ground cover standards and productivity standards meet requirements and are approved. The addition of species to the revegetation plan that commonly occur on reclaimed areas as invader species includes species appropriate to the permit area; such species will comprise less than 25% of ground cover for reclaimed areas other than cropland. Invader species that may occur in forestry and fish and wildlife habitat reclaimed areas are listed in Tables 145-B-1 in Appendix B (SD2). Invader species that may occur in pastureland reclaimed areas are listed in Table 145-B-2 in Appendix 145-B (application). Luminant includes a fish and wildlife habitat and undeveloped land stocking standard of 100 trees/ac. and a 78% ground cover standard with 75% composed of approved species. Minimum stocking rates for commercial forestry areas are in compliance with the Regulations. The forestry stocking density will meet a minimum of 90% of the 450 stems/acre standard [Texas Forest Service recommendations in Appendix 145-E (SD2)]. Luminant has also included acceptable thinning plan including approval by the Commission and notification to Commission field inspectors of plans to thin areas not released from bond. Luminant will use the Commission's *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas* to determine revegetation success on all land uses. For pastureland, a 95% ground cover standard will apply, with 75% composed of approved species, and for pastureland productivity, Luminant will meet at least 90% of the technical standard developed by NRCS (Appendix 145-E). For industrial/commercial land use and residential land use, ground cover must be sufficient to control erosion. Page 78 of Staff's TA notes that Luminant has indicated that ground cover and productivity will meet or

exceed the approved standard during any two years of the ERP except the first year, but that under § 12.625(b)(3), the measurement period for determining average annual crop production shall be a minimum of three crop years. Therefore, Staff proposes new Permit Provision No. 9 which requires that cropland vegetative ground cover and productivity must meet or exceed the approved standards during any three years of the ERP, except the first year. Luminant has agreed to this proposed permit provision. This provision, renumbered in Appendix I to this Order as Permit Provision No. 3, is approved. The revegetation plan contained in the application, as supplemented, with Permit Provision No. 3, meets the requirements of §12.145(b)(5)(A)-(F).

- (f) The reclamation plan also includes a description of measures to maximize the use and conservation of the coal, a description of AFM-TFM control, disposal of wastes and debris, measures to plug, case, or seal boreholes, wells and other openings within the proposed permit area, and measures to be used to comply with the Clean Air Act and the Clean Water Act.
- (g) Revisions to the approved postmine soil-monitoring plan are proposed in the application, as supplemented in SD3. The application and the TA demonstrate that the proposed postmine soil monitoring operations will be sufficient. The postmine soil monitoring plan as set out in Appendix II to this Order (taken from Staff's TA, Appendix VII) will result in soil testing and monitoring which will meet the requirements of §§12.145(b)(vii) and 12.386 for a soil-testing plan sufficient to protect against AFM/TFM in the top four feet of reclaimed mines soils.
 - (1) Initial postmine soil sampling results will be submitted to the Commission before approval of Phase I bond release (SD2, p. 145-29) and before placement into the extended responsibility period. Luminant will sample on 23-acre grids. The soil-monitoring plan includes two sampling depth intervals (0-1 foot and 1-4 feet). If the disturbance within a grid is less than two acres in size, it will be combined with an adjacent full grid for sampling purposes. If the disturbance within a grid is less than 0.5 acre in size, it will not be individually sampled or reported but will be combined with an adjacent grid. If the disturbance within a grid is less than 0.05 acre in size, it will not be individually sampled nor reported. Grid identification is

specified. With the addition of nitrate-nitrogen, plant available phosphorus, potassium, calcium, and magnesium, initial samples of the 0-1-foot interval will be sampled, in composite samples, for the same elements as the 1-4-foot interval: pH, potential acidity, exchangeable acidity, neutralization potential, acid-base accounting, texture (sand, silt, and clay), cation exchange capacity, and sulphur forms.

- (2) The postmine soil-monitoring plan includes appropriate frequency distribution requirements for trace elements and soil characteristics and applicable parameters. The revised premine soil distributions (as set out in the soil-testing plan, Appendix II to this Order), will be used as the performance standard for evaluation of postmine soil monitoring results. The frequency distributions are based on the premine soils baseline.
- (3) A random 10% of initial soil samples will also be sampled for trace elements total cadmium, selenium, and hot-water extractable boron, electrical conductivity (EC), and SAR (sodium adsorption ratio).
- (4) The soil-testing plan details the sampling methods to be used, reporting requirements, and the use of a banking method to establish postmine soil suitability by comparison with premine or baseline soil quality Table 145-4, SD2, p. 145-34).
- (5) Soil fertility sampling will be used to ensure that no augmentation of postmine soils occurs during the five-year extended responsibility period (ERP) following establishment of vegetation.
- (6) In the fourth year of the ERP, a random 10% of grids will be resampled for the same parameters and reported to the Commission in accordance with the soil-testing plan. Additional testing may be required.
- (7) An alternate soil testing plan will be developed should the postmine soil testing show AFM/TFM problems. The plan will be developed specific to the needs of the tested area and submitted to the Commission. The Commission will be provided with the dates of sampling so that representatives may attend; split samples will be provided to the

Commission upon request. Results of sampling (of the same parameters as initial soil sampling unless otherwise determined by, the Commission) will be reported to the Commission, and a remediation plan will be developed. Additional soil sampling of the initial parameters will be conducted following remediation to verify successful remediation. The revised soil testing plan set out in Staff's TA is approved as sufficient to detect acid-forming and toxic-forming materials in the postmine reclaimed soils.

- (8) The approved permit contains a 1,158.6-acre special soil bank created to assess mine soil suitability as a result of NOV 298T as set out on page 145-31 of the application, SD2, that will continue in effect.
36. No publicly owned parks exist within the permit boundary. There are no lands within the permit area located in the National System of Trails or Wild and Scenic Rivers System, the National Park System, the National Wildlife Refuge System, the National Wilderness Preservation System, or National Recreation Areas, as limited or prohibited by §12.71 of the Regulations.
37. The application contains sufficient information meeting the requirements of §§12.147 and 12.399 for alternative postmine land uses. The information is presented for areas disturbed by mining and other disturbance. Luminant proposes that mined and disturbed lands be reclaimed to the following postmine land uses: pastureland, 17%, fish and wildlife habitat, 31%, forestry, 37%, developed water resources, 6%, industrial/commercial, 8%, and undeveloped, cropland, and grazingland, each less than 1% (SD3, Table 147-1; the plates in SD3 include updated depictions of land use changes). Alternative postmining land uses are proposed for lands disturbed by mining. Mining will occur on lands owned or controlled by Luminant and on some leased tracts or tracts with which Luminant has an agreement regarding the postmine land use. Any post-mine land use stipulations by the surface owner that are contained in the lease agreement will be provided to the Commission and strictly adhered to by Luminant. No alternative postmine land use changes are proposed at this time for leased tracts. Very slight changes to land use categories are proposed. The application and the approved permit include adequate information showing the capability of the reclaimed land to support the proposed alternative uses and the reclamation activities required to achieve the uses. The proposed

alternative uses are compatible with existing adjacent land uses. No approvals are required which have not been obtained. Based upon the reclamation plan contained within the application, the proposed alternative uses are feasible and can be achieved within a reasonable time after mining and can be maintained. A registered professional engineer certified the proposed land use plans as conforming to required standards. Luminant provided information that the postmine land use plan includes 1,512 acres of developed water resources and will not cause the cumulative postmine acreage of surface-water resources to exceed the 1,500 acres of permanent impoundments considered in the proposed probable hydrologic consequences (PHC) determination for the Martin Lake Mine because the developed water resources include structural areas of the impoundments that do not constitute actual surface-water acreage. The application meets the requirements of §§12.147 and 12.399 of the Regulations. The proposed postmine land uses are approved.

38. The application contains a description with required maps and typical cross-sections of each road to be constructed, used, or maintained within the permit area, and a general description of the transportation facilities in the proposed mine plan area to meet requirements of §12.154. Table 154-1 lists all existing and proposed transportation structures. Plates 139-1-1 through 139-1-15 depict all roads to be used for the proposed permit term. No detailed design plans are included in the application, as supplemented.
39. The application includes an updated hydrologic investigation, groundwater control plan and surface water control plan that meet requirements of the Regulations.
 - (a) A determination of PHC as required by §12.146(d) of the Regulations is included in the approved permit. It has been updated in the application and in SD2 to consider effects from proposed operations for the requested permit term. The information includes a summary and update in accordance with the regulations, including a description of measures to be taken to protect the hydrologic balance of the surface and groundwater systems within the permit area and adjacent areas and to prevent damage outside the permit area, to meet water quality laws, and to protect groundwater and surface water users. Data from long-term groundwater monitoring wells indicate that pH in resaturated spoil is similar to pre-mine conditions [p. 146(d)-7]. Spoil wells that have data trends for TDS or sulfate are not expected to exceed about 5,000 to 6,000 mg/L for TDS concentrations or 4,000

to 5,000 mg/L for sulfate concentrations [p. 146(d)-9]. Water-level data from long-term monitoring wells are provided in Appendix 146(d)-A, and these data confirm that the spoil is resaturating as expected. The updated report indicates that data obtained from long-term surface water monitoring indicates that Luminant's surface impoundments and current reclamation practices are minimizing downstream impacts on surface water quality. The updated report indicates that long-term groundwater monitoring indicates that offsite water quality impacts are unlikely.

- (b) Advance dewatering has occurred previously within the existing permit area, but no advance dewatering is anticipated for the current or future permit terms. Dewatering of the pits will occur due to the collection in the pit of seepage out of the overburden units adjacent to the mined area. Discharge from dewatering operations may flow into natural drainage out of the permitted area without first being routed through a sediment control structure as long as the dewatering discharge is routed through an activated TNRCC/NPDES or TDPES wastewater final discharge monitoring point. All applicable monitoring and water quality standards shall be met. Monitoring results shall be reported at the intervals specified in TCEQ water discharge permits. Section .146 of the application includes information assessing the effects of dewatering on surrounding water levels for the proposed permit term. Streamflow measurements will be conducted using staff gauges. Following approval of this permit renewal application, the staff gauges will be installed and surveyed. A diagram showing the design for a typical staff gauge is provided as Figure 146(d)-1. Groundwater monitoring data at other lignite mines in Texas in similar geological settings indicate that drawdown resulting from groundwater seepage into the pit have been limited to less than 2,000 feet from the open pit. Luminant included a plan within the application to track the effects of dewatering. Luminant will submit quarterly groundwater monitoring data in paper and digital formats to the Commission within 30 days following the end of each calendar quarter. A map depicting the location of final discharge ponds will be submitted to the Commission on an annual basis during the first quarter of the year [p. 146(d)-16 (SD2)]. The existing final discharge ponds are listed in Table 146(d)-8 (SD2). Luminant will discontinue the monitoring program for the CIII seep pursuant to the Commission letter dated January 13,

2016 indicating that remediation efforts for the seep in the CIII Area have been satisfactorily completed and that Luminant can cease sampling activities associated with the CIII seep.

- (c) Depressurization is not expected to be necessary because of the lack of significant underburden sands directly below the lowest coal seam to be mined.
- (d) The long-term groundwater monitoring plan is sufficient to detect any significant changes in groundwater levels and chemistry. Luminant lists existing long-term monitoring wells, including wells that will be destroyed by mining, in Table 146(d)-3, and proposed long-term groundwater monitoring wells on Table 146(d)-2 (SD2). Proposed spoil wells will be installed within one year of backfilling and grading. The long-term groundwater monitoring wells will be sampled quarterly, analyzed, and reported for field pH, EC, temperature, sulfate, chloride, total dissolved solids, and dissolved iron and manganese. Spoil monitoring wells will also be analyzed and reported for 12 trace elements annually. Any new or replacement well installed during the permit term will be sampled once for basic water-quality parameters - calcium, potassium, sodium, dissolved magnesium, bicarbonate, carbonate and nitrate-nitrogen. Completion data for monitoring wells installed during the permit term will be submitted to the Commission within 30 days following the end of the quarter in which they were installed. Quarterly sampling data from long-term groundwater monitoring wells will be submitted to the Commission within 30 days following the end on the quarter in which they were sampled. Laboratory reports will be provided with the transcribed data. The long-term groundwater monitoring plan will not be revised without specific written approval from the Director of the Surface Mining and Reclamation Division.
- (e) Information is included in the approved permit for alternative water supplies (Finding of Fact No. 21). Alternative water supplies are available if supplies are affected as set out in §§12.130 and 12.352.
- (f) Measures are included to ensure that no problems exist from acid-forming and toxic-forming materials, including selective handling of overburden materials, disturbed area runoff control, and treatment of water if necessary.

- (g) The surface water control plan meets requirements. The plan is depicted on Plate 148-1 through Plate 148-3 (SD2). All drainage from disturbed areas will be routed through sedimentation ponds prior to release from the permit area unless otherwise approved by the Commission. No advance dewatering is proposed for the remaining life-of-mine. Appropriate sediment control measures are proposed. Surface waters will be monitored in accordance with the long-term surface water monitoring plan contained in the application as summarized in Tables 146(d)-5, 146(d)-6, and 146(d)-7 (SD2). All long-term surface water monitoring data will be reported to the Commission in both paper and digital format no later than 30 days following the end of each quarter. Text on pp. 139-17 through 139-21 describes the plan that includes the use of impoundments, sediment ponds, and diversions, and dewatering of overburden. No pond general design plans are included in the application. No detailed design plans for impoundments, sediment ponds, or diversions have been submitted. The existing and proposed permanent impoundments are listed in Table 139(T)-8. Outfall changes will be reported to the Commission to ensure that appropriate monitoring is conducted and reported. Luminant will collect data obtained from final discharge ponds in accordance with TCEQ discharge permits and will continue to monitor paired watersheds for stream monitoring. Luminant's consultant reviewed water quality data from the long term paired monitoring stations, which consists of a disturbed watershed (a Mulberry Creek station) and an undisturbed watershed (a North Caney Branch station). The following water quality parameters were reviewed: pH, TDS, TSS, total iron and total manganese. Luminant states that water quality data show that the water quality from the disturbed areas is similar to baseline conditions [Appendix 146(d)-B]. The long-term surface water data indicate that Luminant's surface impoundments and current reclamation practices are minimizing downstream impacts on surface water quality. Luminant personnel will maintain the monitoring sites during regular visits and will update the rating curves following 10-year/24-hour flood events or if any changes in channel geometry are observed. Final discharge ponds monitored under the TPDES permit are listed in Table 146(d)-8. All surface-water runoff from disturbed areas will pass through sedimentation ponds before discharging from the permit area. The use of sedimentation ponds will mitigate impacts to sediment yield. Staff's TA at page 99, however, states that Staff does not agree with Luminant's conclusion that water-quality data from the

disturbed and undisturbed stations are generally similar; therefore, Staff proposes new Permit Provision No. 10, stating that it is to ensure that Luminant provides an updated comparison of baseline and long-term surface water monitoring data for the paired watersheds within 60 days of approval of this Application. Staff's analysis in its TA, p.94, states:

The previously approved surface water PHC determination found in the approved Permit No. 4K remains unchanged. In its evaluation of the LTSM data, Luminant concludes that the water quality data from the disturbed station are generally similar to undisturbed conditions. Based on the summary of the LTSM data in Table 146(d)-4, Staff does not agree with Luminant's conclusion that water-quality data from the disturbed and undisturbed stations are generally similar and believes that a detailed evaluation of the LTSM data for the disturbed and undisturbed stations should be included in the PHC determination. Staff qualitatively evaluated the summary information in Table 146(d)-4 for the paired stations and determined that the water quality of the disturbed station appears to have improved for *most of the parameters measured and recommends approval of the application based on this comparison.* (Emphasis added.) Staff nevertheless sponsors proposed Permit Provision No. 10, as follows, to ensure that Luminant provides an updated comparison of baseline and LTSM data for the paired watersheds:

Within 60 days of approval of this application, Luminant must submit to the SMRD Director a detailed evaluation of the LTSM data for the disturbed and undisturbed stations that includes comparisons between stations to baseline data and State and federal standards.

(Staff, TA, p.94). In this analysis, Staff has provided no reasoning to justify its proposed permit provision. It has not cited to any specific data that would indicate any problems with Luminant's comparison and has not referred to any data or other information that justifies this permit provision. Luminant reports monitoring data regularly, but Staff refers to no monitoring data indicating specific problems. The Commission finds that Luminant has provided sufficient information for approval of this application, as stated in Staff's analysis above (italicized text). With no additional analysis by Staff, the permit provision recommended by Staff is not adopted.

- (h) Temporary and permanent water control structures are proposed that will be sufficient for water control and discharge in accordance with TCEQ permit requirements. No detailed design plans have been included for approval. Diversions will assist in the control of surface water. No general design plans for diversions are included in the application. General design plan information for permanent impoundments proposed within the permit term is located in Table 139(T)-8 and on Plates 139-2-1, 2 and 3. Typical designs of various permanent drop structures are shown on Figures 148-4 through 7. No other design plans have been submitted for approval. Luminant will obtain Commission approval of temporary and permanent structures prior to construction.
40. The permit area is not within an area designated as unsuitable for surface mining activities under §12.118(a), and not within any area under study for designation in an administrative proceeding. Luminant does not claim an exemption pursuant to §12.118(b) and does not propose to conduct surface mining activities within 300 feet of an occupied dwelling other than those owned by Luminant. The requirements of §12.118 are met.
41. A previous cumulative hydrologic impact assessment (CHIA) was prepared by Staff for the existing mines within the Sabine River Basin on November 16, 2012 for the Permit No. 599, Marshall Mine permit application, Docket No. C12-0010-SC-00-A. This assessment included an analysis of cumulative effects from all past, existing and proposed mining in the Sabine River Basin in Harrison, Panola, and Rusk Counties (Martin Lake AIV South Mine, former Darco Mine, Oak Hill Mine, South Hallsville Mine No. 1 Mine, Martin Lake Mine, Rusk Mine, Marshall Facility Area Mine, Liberty Mine, and Marshall Mine). The additional mining proposed in the application, as supplemented is not significant enough to change the predicted effects in that CHIA. No changes are proposed in the application that would affect the findings and conclusions set out in the CHIA. No additional CHIA is necessary. The analysis reflects that all cumulative effects to surface waters and groundwater will be insignificant because of the large dilution effects from the surrounding aquifers and from substantial runoff within the large drainage areas (TA, Appendix I).
42. Luminant's proposals for closure, relocation and/or variances from the 100-foot buffer zone requirement for public roads are approved.
- (a) No road relocations or closures are proposed in the requested permit term.

- (b) The proposed surface mining will not approach nearer than 100 feet of the outside right-of-way line of any public road except as allowed by the Regulations or approved by the Commission. However, public road buffer zone variances are requested for the locations listed below for the proposed permit term. Activities will include, but not be limited to, mining, pre-stripping activities, pond construction, diversion construction, road construction, dewatering activities, regrading, reseeding, erosion repair, and other such activities associated with normal mining, construction and reclamation procedures. Luminant Mining Company LLC requests the following road buffer zone variances for the proposed permit term (2015-2019):
- (1) FM 1794 – Along both sides from its intersection with FM 959 to the permit boundary.
 - (2) FM 3231 – Along the east side from the intersection of Panola County Road 257 south to the intersection of FM 1251.
 - (3) State Highway 43 – Along the east side from the intersection of FM 959 to a point approximately 3.0 miles south of the same intersection.
 - (4) Panola County Road 257 – Along the south side from the intersection of FM 3231 to its intersection with Panola County Road 256, then along both sides from the same intersection to a point approximately 3.9 miles from the aforementioned intersection.
 - (5) Panola County Road 256 – Along the east and north side from the intersection of Panola County Road 257 to a point approximately 1.0 miles from the same intersection.
 - (6) Panola County Road 260 – Along both sides from the intersection of Panola County Road 256 to a point 0.25 miles east from the same intersection.
 - (7) Panola County Road 259 – Along both sides from the intersection of State Highway 149 to a point approximately 1.0 miles from the same intersection.
 - (8) Panola County Road 242 – Along both sides from the intersection of FM 3231 to a point 1.0 miles east from the same intersection.
 - (9) State Highway 149 – Along the south and west side approximately 3.6 miles north from the intersection of Panola County Road 259 and 0.5 miles south from the aforementioned intersection on the west side.
 - (10) FM 959 – Along both sides from the intersection of Hwy 43 east to the intersection of Panola County Road 286.

- (11) Panola County Road 286 – Along the north side from the intersection of FM 959 to a point approximately 0.75 miles west of the aforementioned intersection.
- (12) Panola County Road 241 – Along the west side from the intersection of Paola County Road 248 south to the intersection of Panola County Road 237.
- (13) Panola County Road 237 – Along the west side from its intersection with Panola County Road 241 to the intersection of FM 1251.
- (14) FM 1251 – Along the north side from the intersection of Panola County Road 237 west to the intersection of FM 3231.
- (15) Panola County Road 248 – Along the west side from the intersection of Panola County Road 241 north to a point approximately 2.5 miles of the same intersection.
- (16) Panola County Road 2561 – Along both sides from its intersection with Panola County Road 256 to a point approximately 0.5 miles east of the same intersection.

The road buffer zone variances are listed on pages 152-2 through 152-3 of the application, and their locations are set out on Figure 152 of the application. Appropriate notice has been provided in accordance with §12.207. The Commission is the public authority with jurisdiction over the areas within 100 feet of the outside right-of-way line of the public roads. The application indicates the methods that will be used to ensure that the activities proposed do not present danger to the public. The interests of the public will be protected. The road buffer zone variance requests meet the requirements of §§12.72(a)(2)(c) and 12.72(a)(3) and 12.152. Requests for the public road buffer zone variances are approved.

43. Luminant indicates that existing routes will be used to transport lignite as depicted on Plates 154-1 through 154-3 (SD2). Luminant proposes no new roads or conveyors. Luminant will reclaim roads when no longer needed for surface mining and reclamation operations. A reclamation schedule for the temporary roads is included (Table 154-1).
44. Luminant's plan for reconstruction of prime farmland soils sets out removal, salvage, segregation, storage, and replacement of the soils. The soils will be managed as cropland, and forage grasses will be used to demonstrate productivity after replacement of the soils, using average yields of hay against the standard established by the NRCS. Production rates will be reported to the Commission in accordance with regulatory requirements. The requirements of §12.201 have been met.

45. As of the date of this Order, Luminant has been issued 11 notices of violation (NOVs) during the three years prior to the filing of the application for operations at various mines. None were issued with regard to operations at Martin Lake Mine Permit No. 4K. All of the NOVs have been terminated or are progressing to the satisfaction of the issuing agency.. Staff's Deficiencies noted that the AVS database had been queried to determine whether Luminant or any controller identified in the application or found in the database has any outstanding violations, and that the AVS database had linked Luminant and/or its controllers to 20 outstanding violations, bond forfeitures, and/or civil penalties. In response, Luminant explained that the noted violations were linked through one of the directors of Energy Future Holdings Corp. who was a previous director of DuPont and that the noted violations appear to be related to DuPont and one or more settlement agreements related to the Island Creek coal mine. As noted in Staff's TA, the information in the AVS database indicates there are no pending violations which remain uncorrected. The information provided in the application, as supplemented, including Luminant's ongoing obligation to update this information for the permit, is adequate to address the requirements of § 12.116. All required fees have been paid. Luminant is current in the payment of required franchise taxes.
46. Luminant has met the requirements of §§12.229-230 for those portions of the application related to the length of the permit term, requests for renewal of approved activities, meet environmental protection standards, continue meeting its responsibility to comply with the Act and Regulations, satisfactorily meet the terms of the approved permit, continue to meet bond requirements, and continue to meet insurance requirements.
47. The operations proposed by the proposed permit will not adversely affect any publicly-owned parks or places included in or eligible for listing in the NRHP, do not propose activities within a National Park, are not within 100 feet of a cemetery, are not within 100 feet of a public road except as otherwise approved in this Order, and are not within 300 feet of an occupied dwelling, public building, school, church, community, or institutional building, except as provided for by the Regulations.
48. Luminant does not control and has not controlled mining operations with a demonstrated pattern of willful violations or intent not to comply with the Act and Regulations.

49. Luminant Mining Company LLC and Luminant Generation Company LLC are current in the payment of franchise taxes through December 31, 2017, as required by Tax Code §§171.001 *et seq.* (Vernon 2015 & Supp. 2016) (Comptroller Certificates of Account Status).
50. All required information has been filed in accordance with §12.216 of the Regulations for the new activities proposed by the application, as supplemented, as well as updated information for existing operations. Such information, as supplemented, is accurate and complete and demonstrates that the proposed operations can be feasibly conducted in accordance with the supplemented application, this Order, the permit provisions contained in Appendix I to this Order, and the soil-testing plan contained in Appendix II to this Order.
51. Open meeting notice was posted for Commission consideration of this application.

CONCLUSIONS OF LAW

1. Proper public notice of application and notice of application to Texas and federal agencies were made as required by the Act, Regulations, the APA and the Commission's procedural rules. No public hearing was required. Open meeting notice has been made as required.
2. The application for renewal/revision of Permit No. 4K meets all requirements for approval as set out in the Act, the Regulations, the APA, and the Commission's procedural rules, as set forth in the Findings of Fact, and as required by the permit provisions.
3. The current blanket collateral bond in the amount of \$975,000,000 is in place as approved by the Commission and is not proposed for changes in this docket. The amount of the current blanket collateral bond exceeds the sum of the estimated reclamation costs for Luminant's Texas mines, including the proposed bond amount attributable to the Martin Lake Mine.

IT IS THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the Findings of Fact, Conclusions of Law, permit provisions, and soil testing plan as set out in this Order are hereby adopted; and

IT IS FURTHER ORDERED that no additional bond is required;

IT IS FURTHER ORDERED that the application, as supplemented, and as limited by the permit provisions is hereby approved and renumbered as Permit No. 4L, Martin Lake Mine; and

IT IS FURTHER ORDERED that the renewed and revised permit is hereby conditionally issued.

SIGNED AT AUSTIN, TEXAS on February 28, 2017.


RAILROAD COMMISSION OF TEXAS



CHAIRMAN CHRISTI CRADDICK



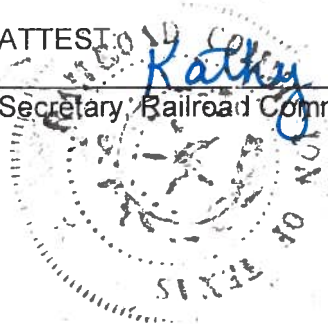
COMMISSIONER RYAN SITTON



COMMISSIONER WAYNE CHRISTIAN

ATTEST: 

Secretary, Railroad Commission of Texas



APPENDIX I

PERMIT PROVISIONS

1. Prior to obtaining written approval of the Surface Mining and Reclamation Division Director, Luminant may not disturb any oil and/or gas well currently located within or which may be installed on any property tract listed in Table 116-F-1 where the oil/gas lessee is Indigo Minerals, LLC; Gene Powell Investments, Inc; Sabine Oil & Gas, LLC; Texakoma Operating, LP; Basa Resources, Inc.; Camterra Resources Inc.; Kaiser Francis Oil Company; Danmark Energy Services Inc.; HRB Operating Company Inc.; Anadarko Petroleum Corporation; Kabco Oil & Gas Company; Bigfoot Energy Services, LLC; or The Long Trusts.
2. Selective handling of overburden material to be placed in the top four feet of the regraded surface must be accomplished using only mobile/auxiliary equipment, unless otherwise approved by the Director, Surface Mining and Reclamation Division or the Commission through a revision application.
3. Cropland vegetative ground cover and productivity must meet or exceed the approved standards during any three years of the extended responsibility period, except the first year.

APPENDIX II (Staff's TA, Appendix VII)

APPENDIX VII - SOIL-TESTING PLAN AND POSTMINE PERFORMANCE STANDARDS

Soil Grid Configurations and Timing of Sampling

After final grading, permanent markers will be placed on 1,000-foot centers in regraded areas to delineate a 23-acre grid system (see Plate 145-1) for monitoring postmine soil quality and nutrient requirements. These markers will be maintained until land is released from all reclamation obligations. All disturbed areas will be subject to the postmine soil monitoring program as outlined below.

The grids will serve as the basis for initial postmine soil sampling. An initial composite soil sample will be obtained on each grid. The samples will be collected, analyzed and the results reported to the Commission within two years following rough backfilling and grading. Luminant will obtain approval of initial postmine soil monitoring results before the placement of land into the extended responsibility period (ERP) and before the approval of Phase I bond release.

Initial Soil Sampling: Procedures and Parameters

If a grid is leveled to its full extent of 23 acres, it will be sampled and reported as a 23-acre grid. However, if a grid is not completely leveled (23 acres), the portion that has been leveled and will be proposed for placement into an Extended Responsibility Area (ERA) will be sampled and reported.

Portions of grids that are sampled and will be proposed for placement into an ERA will be physically marked in the field, with markers being placed so that they are visible from one to the next. The line dividing a grid into separate sampling portions will be clearly marked along an easily identifiable boundary such as an extended responsibility area, road or tree line. Markers are placed at each turn in an ERA line. So, if a person in the field needs to determine the extent of sampling which a portion of a soil grid has received, it would be a matter of locating the grid (from a map and/or the grid center post) and then observing which side of the ERA line they are on.

Grid identification for reporting purposes will be clear so that there is no question about which grids have been reported. Portions of grids which are sampled to facilitate placement into ERP will be labeled in such a way that it is clear there will be further sampling and reporting as the remainder of that grid is leveled and proposed for ERP. For example, a complete 23-acre grid will be labeled as "2345" whereas the first portion of an adjacent divided grid will be labeled as "2346-1" with subsequent samples being labeled as "2346-2", etc. until the entire 23 acres have

been sampled and reported. Any portion of a grid that will be proposed for placement into the ERA will have the appropriate number of samples collected from it based on its acreage.

Composite soil samples will consist of sub-samples collected at a density of one per acre of disturbance. An aggregate disturbance/redisturbance of 0.5 acre within a grid initiates soil sampling requirements. Composite samples will be made to represent the 0-1 ft. and 1-4 ft. depth increments. Adjacent soil sub-samples will be taken no less than 200 feet from each other. All samples will be collected using standard soil sampling techniques.

- If a grid is disturbed in its entirety, twenty-three (23) sub-samples will be mixed to make one composite sample per depth increment.
- If the disturbance within a grid is not the complete twenty-three (23) acres, then the disturbed acreage will be sampled at a frequency of one subsample per acre of disturbance. (Example: If only 12.6 acres are disturbed within the grid, 13 subsamples will be taken) If disturbance within a grid rounds to or is equal to 0.5 acre, at least one sample must be collected.
- If disturbance within a grid is less than 2 acres in size, the acreage may be combined with an adjacent grid, however no more than two grids will be combined for sampling purposes.
- If disturbance within a grid is less than 0.5 acre in size, it will not be individually sampled for reporting purposes but the acreage will be combined with an adjacent grid.
- If disturbance within a grid is less than 0.05 acre in size, it will not be individually sampled nor reported.

The composite samples representing the 0-1 ft increment will be analyzed for the following parameters:

1. pH
2. Potential acidity
3. Exchangeable acidity
4. Neutralization potential
5. Acid/base accounting
6. Texture – sand, silt, and clay
7. Nitrate-nitrogen
8. Plant-available phosphorus, potassium, calcium, and magnesium
9. Cation exchange capacity
10. Sulfur forms

The composite samples for the 1-4 ft. increment will be analyzed for the following parameters:

1. pH
2. Potential acidity
3. Exchangeable acidity
4. Neutralization potential
5. Acid/base accounting
6. Texture – sand, silt, and clay
7. Cation exchange capacity
8. Sulfur forms

In addition to the above analyses, a random 10% analysis of the initial samples at each depth interval (0-1 and 1-4 ft) will have the following analyses performed: electrical conductivity (EC), sodium adsorption ratio (SAR), total Cd, total Se, and hot-water-extractable boron.

Procedures for analyzing plant available nutrients will utilize the Texas Agricultural Extension Service publication *Soil Testing Procedures* (March, 1980). The remaining parameters will be analyzed according to the *RCT Overburden Parameters and Procedures Manual* dated May 16, 1989 (updated in 2003 for the adaptation of the EPA method for pyritic sulfur analysis).

The analytical results and a map showing each grid reported will be submitted to the Commission in both hard copy and digital formats. The map will display the grids and/or partial grids sampled and reported plus the Texas State Plane coordinates of their location. Luminant will also provide an updated bank with each initial report submitted, showing acres for each grid. Maps provided will clearly delineate the configuration of each grid, represented by the data contained in the report, and digital acreage information will be provided.

Initial Soil Sampling: Calculation of the Disturbance Area Bank Account

Luminant proposes to use a banking method to establish postmine soil suitability by comparison of premine and postmine acreage exceeding baseline soil quality criteria. For parameters not listed in the soil baseline, the statewide criteria as shown in Technical Release SA-2 will be used to determine postmine soil success. The statistical soil baseline (section .134) reflects the frequency distributions of native soils for regulated parameters. Postmine soil performance standards presented in Table 145-4, *Areally-Weighted Frequency Distributions, Postmine Soil Performance Standards* (shown below) are reflective of those distributions. These frequency distributions are then multiplied by the acreage within the actual disturbance area to yield the actual acreage allowed for each parameter value at each depth increment. The disturbance area will increase as mining

progresses to reflect additional areas of disturbance. Expansion of the disturbance boundary, reflecting newly mined and reclaimed areas, will be submitted to the Commission as part of each initial soil report. Postmine acres sampled to date will be compared to the native soil baseline, and no parameter will fall below the postmine soil performance standards. Ultimately, the disturbance boundary will reflect the full extent of disturbance and reclamation within the mining permit.

Banked acres will be provided with each submittal of initial postmine soil data. Luminant has two banks for the permit area, the original and the 1,158-acre special NOV 298T bank. If new areas are added to the permit or permit areas consolidated, these areas will be incorporated into the original soil bank. Acreage released from bond liability will continue to be included in the original bank. Therefore, the original bank will continue through the mine from the beginning of mining to the final extent of mining disturbance, irrespective of permit term or other time constraints. This approach will provide a truer means of evaluating postmine soil success throughout the entire life of a mine site than using intermediate bank areas. Luminant plans to provide the original soil bank using two depth increments (0-1 ft. and 1-4 ft.).

The following steps are involved in calculating the postmine bank account:

- 1) The premine standard is calculated by multiplying category baseline percentages for each soil parameter by total acres within the bank area.
- 2) The postmine values are the sums of total banked acres by category for each soil parameter represented by the initial soil sampling data.
- 3) Finally, balances are calculated as the difference between premine and postmine values to which adjustments are made. Adjustments are made by utilizing offsetting negative postmine balances in a given parameter category by amounts up to the unused sum of less desirable categories from the premine statistics.

Maintenance Soil Sampling

The purpose of soil-fertility sampling program is to ensure no augmentation beyond normal husbandry practices has occurred during the ERP. Maintenance soil sampling also provides documentation on soil conditions for management purposes. The results of this analysis will be used to determine the rate and amount of fertilizer application for the next growing season. The samples will be collected from each pastureland, cropland, and grazingland land management unit (LMU). The soil samples will be obtained at the end of the growing season (October 1 through December 31). Samples will be taken prior to the first year of productivity assessment, during the first year of productivity assessment, and during the second year of productivity assessment for

pastureland, grazingland, and cropland LMUs, and during the third year of productivity assessment in cropland LMUs. In the event that years of productivity assessment are not concurrent, Luminant plans to collect maintenance samples in the year prior to the second year of productivity assessment. Luminant will not obtain maintenance samples from areas where trees are planted, as fertilizer is only applied to trees the year in which they are planted.

At the end of each growing season, composite soil samples will be taken from the 0-1 ft. depth and analyzed for pH, nitrate-nitrogen, and plant-available P, K, Ca and Mg in accordance with the Commission overburden parameters and procedures list.

For sampling and reporting purposes, a pastureland, cropland, and grazingland LMU will not exceed 100 acres in size. Any management unit greater than 100 acres in size will be subdivided during sampling to reflect areas of approximately equal size less than 100 acres. The divisions will be made along existing soil grid lines using either northings or eastings, whichever is appropriate for the management unit configuration. Each management unit will be identified by number and shown on the map accompanying the report. Sub-samples will be obtained to represent no more than 10 acres per sub-sample. These sub-samples will be composited to represent the management unit for analysis and reporting purposes.

A report showing the amount and type of fertilizer and lime applied (since the end of the previous growing season), analysis results, and a map showing the units sampled will be submitted to the RCT during the first quarter of the year following each reporting period.

Ten-Percent Random Sampling in Fourth Year of ERP

During the fourth year of ERP, a random 10% of the 23-acre and/or partial post mine soil monitoring grids will be resampled using two depth increments (0-1 ft. and 1-4 ft.) and analyzed for the same parameters as those in the initial soil sampling. Results and a map showing the grids randomly sampled will be provided to the Commission no later than the second month 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.

Alternate Soil-Testing Plan

In the event the postmine soil testing plan identifies AFM/TFM problems, an alternate soil testing plan will be developed specific for the affected area. Luminant will submit a plan and schedule to the Commission for approval prior to the initiation of alternate soil testing. This plan will include detailed information regarding delineation of affected area, sampling depth, and increments. A maximum sample area of 5.7 acres at a density of one sample location per acre will be assigned

and sampled on one-foot intervals to the depth of concern, unless otherwise approved by the Commission.

Luminant will notify the Commission of its sampling schedule to allow members of the Commission staff to be present during this sampling. Upon request, splits of each sample will be provided to the Commission at the time of sampling.

Samples will be analyzed for the same parameters as those in the initial soil sampling, unless submittal of a more limited suite of parameters is approved by the Commission. The results of these analyses and a remediation plan will be submitted to the Commission.

Once Luminant conducts remediation, the affected area will be sampled using the initial soil sampling protocol. This is essential to ensure remediated acreage is accurately reflected in the postmine soil bank and to replace any previously submitted data for the grid(s). Luminant will submit results to the Commission verifying the successful correction of the identified soil problem.

The proposed postmine soil performance standards for the proposed Martin Lake Mine, Permit No. 4K renewal/revision/expansion area are attached.

**MARTIN LAKE MINE, PERMIT NO. 4K RENEWAL/EXPANSION
 AREALLY-WEIGHTED FREQUENCY DISTRIBUTIONS
 POSTMINE-SOIL PERFORMANCE STANDARDS FOR TOPSOIL SUBSTITUTE AREAS**

<u>SOIL DEPTH</u>	<u>pH</u>	
	<u>4.0-4.4</u>	<u>4.5-4.9</u>
	-----% area-----	
0-12"	1.0	19.2
12"-48"	1.7	30.4

<u>SOIL DEPTH</u>	<u>ACID-BASE ACCOUNTING (ABA)</u>								
	tons/1000 tons (t/kt)								
	<u>-9</u>	<u>-8</u>	<u>-7</u>	<u>-6</u>	<u>-5</u>	<u>-4</u>	<u>-3</u>	<u>-2</u>	<u>-1</u>
	-----% area-----								
0-12"	--	--	2.3	--	2.6	8.0	6.5	5.5	15.9
12"-48"	0.3	--	6.1	3.4	6.4	15.3	6.9	15.5	9.0

<u>SOIL DEPTH</u>	<u>SAND (%)</u>		
	<u>81-85</u>	<u>86-90</u>	<u>91-95</u>
	-----% area-----		
0-12"	11.8	9.9	3.9

<u>SOIL DEPTH</u>	<u>CLAY (%)</u>			
	<u>41-45</u>	<u>46-50</u>	<u>51-55</u>	<u>56-60</u>
	-----% area-----			
0-12"	5.0	3.0	0.3	2.0

**100% OF THE POSTMINE 0-12" AND 12"-48" INCREMENTS
 WILL MEET THE FOLLOWING STANDARDS**

Electrical conductivity (EC)	≤ 4 mmhos/cm
Sodium adsorption ratio (SAR)	< 13
Boron (B)	≤ 5 ppm
Cadmium (Cd)	≤ 0.7 ppm
Selenium (Se)	≤ 2 ppm

Note: a dashed line in a parameter value column represents a true zero (0) value for that interval.