

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

SURFACE MINING DOCKET NO. C13-0020-SC-03-F

**APPLICATION BY LUMINANT MINING COMPANY LLC FOR RELEASE
OF PHASE I RECLAMATION OBLIGATIONS FOR 90.9 ACRES AND PHASE II AND III RELEASES OF
RECLAMATION OBLIGATIONS FOR 2,099.2 ACRES WITHIN ITS SURFACE COAL MINING OPERATIONS
FOR PERMIT NO. 3F, BIG BROWN MINE, FREESTONE COUNTY, TEXAS**

ORDER APPROVING APPLICATION FOR RELEASE OF RECLAMATION OBLIGATIONS

STATEMENT OF THE CASE

Luminant Mining Company LLC (Luminant), 1601 Bryan Street, Dallas, Texas, 75201 applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for various releases of reclamation obligations for an aggregate 2,190.1 acres within Permit No. 3F, Big Brown Mine, Freestone County, Texas. The permit area contains approximately 12,910 acres. Luminant requests the following releases: Phase I for 90.9 acres, and Phases II and III for 2,099.2 acres. The acreage requested for release is located in the B and C areas of the mine. The application is made pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. ADMIN. CODE ANN. CH. 134 (Vernon Supp. 2015) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE ANN. CH. 12 (Regulations) (Thomson West 2015).

Permit No. 3F is located in Freestone County, near Fairfield, Texas. Copies of the application were filed in required county and Commission offices and notices were mailed to landowners of the areas requested for release and to adjoining landowners. No written comments, protests, or requests for hearing were filed. The only parties to the proceeding are Luminant and the Commission's Surface Mining and Reclamation Division (SMRD or Staff). Staff noted deficiencies in the application, and Luminant filed additional information in three supplements to address the noted deficiencies or to clarify information in the application. Staff now recommends release of the acreage requested.

Based on the record in this docket including the application and supplements, Staff's technical analysis, and addenda, its inspection report, and the Act and Regulations, the Commission finds that the application for release should be approved as set out in the Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. By its request dated August 7, 2013, Luminant Mining Company LLC (Luminant) filed its application for release of an aggregate 2,190.1 acres within the 12,910-acre permit area of Permit No. 3F, Big Brown Mine, located in Freestone County, Texas. Luminant did not request a reduction in the amount of the approved reclamation bond. The areas requested for release are made up of areas located primarily in the southern and central portions of the permit area. One parcel of 90.9 acres is requested for Phase I release, and several parcels, some running almost the length of the permit area, are requested for Phase II and III release and comprise 2,099.2 acres. No replacement bond instrument has been filed. The existing bond is in the amount of \$69,792,530 (current reclamation costs) and is part of the blanket collateral bond for all of Luminant's mining operations in Texas in the amount of \$1.1 billion.
2. Luminant has supplied a certification that all reclamation activities associated with the acreage requested for release have been completed in accordance with the Act, the regulatory program, and the approved reclamation plan [§ 12.312(a)(3)]. No filing fee is required. The application is made pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon Supp. 2015) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2015) (Regulations).
3. Supplements were filed by letters dated September 11, 2013 (three revised pages and a structure map (Plate II.B.1-1), September 18, 2013 (revised pages and additional approval letters for activities and structures), and October 21, 2013 (proof of publication of notice and proof of mailed notification letters). Staff declared the application administratively complete by letter dated October 25, 2013 and transferred it to the Hearings Division. Approximately one year later, by letter dated October 3, 2014, Staff filed its Technical Analysis (TA) dated October 2, 2014 and inspection report dated December 9, 2013. The TA indicated concerns by Staff regarding the areas requested for Phase II and III release related to surface water and groundwater concerns. By letter dated November 6, 2014, Luminant requested and received, without objection by Staff, additional time until February 27, 2015 to respond to the TA. By letter dated February 27, 2015, Luminant again supplemented the application. Staff filed its Addendum No. 1 to the TA by letter dated September 4, 2015. The TA identified concerns related to the amount of pit pumpage and depressurization water and how it could impact water levels at water monitoring station

HSW-2 and Stream Segment No. 0804 of the Trinity River. By letter dated September 21, 2015, Luminant addressed these concerns with supplemental information; Staff filed its TA Addendum No. 2 by letter dated September 29, 2015.

4. Information presented by Staff and/or Luminant include land ownership information and related information, public notice information, previous release information, status of structures contained within the areas requested for release, sampling history, information regarding groundwater chemistry data, postmining land use, ground cover and productivity data, surface water monitoring data, appropriate mapping of the areas proposed for release, soil monitoring grid maps, monitor well location maps and data, and permanent structures.
5. Notice of application was published once each week for four consecutive weeks in the *Fairfield Recorder*, a newspaper of general circulation in Freestone County in the locality of the surface mining and reclamation operations on September 12, 19, 26, 2013, and on October 3, 2013. The notice was also published in the *Freestone County Times*, also a newspaper of general circulation in the locality of the surface mining and reclamation operations on September 10, 17, 24, and on October 1, 2013. The notice of application contains all information required by § 134.129 of the Act and § 12.312(a) of the Regulations for notice of application for release of reclamation obligations. The notice contains a statement that the applicant does not seek a reduction in the approved bond, but that an eligible bond reduction amount may be determined. Luminant submitted an affidavit of publication with news clippings by letter dated October 21, 2013. The published notice is adequate notification of the request for release. The notice included the name of the permittee, the location of the land affected, the number of acres, permit number at the time of application and date approved, the amount of approved bond, the type and appropriate dates reclamation was performed, and a description of the results achieved as they relate to the approved reclamation plan. The notices contained information concerning the applicant, location and boundaries of the permit area, the application's availability for inspection, the address to which comments should be sent, and a map showing sufficient notice of the boundaries of the areas requested for release.
6. Copies of the application were filed for public review in the offices of the Freestone County Clerk in Fairfield, Texas and in the offices of the Railroad Commission of Texas in Austin, Texas.
7. Luminant owns 25 of the tracts within the areas requested for release, and F.E. Hill Co., LLP

owns 50 of the tracts. One tract is owned by individual landowners.

8. By letter dated October 21, 2013, Luminant provided copies of letters of notification of the application for release to the Freestone County Judge/Commissioners Court, the Texas Commission on Environmental Quality (TCEQ), the Natural Resource Conservation Service, Fairfield, Texas Department of Transportation, the U.S. Army Corps of Engineers, Navarro County Electric Cooperative, Inc., Navasota Valley Electric Cooperative, Inc., Ward Prairie Water Supply, and Windstream, and to property owners, owners of leaseholds or other property interests, and adjoining property owners in accordance with § 12.312(a)(2). The areas at issue are not located within any municipality's boundaries that would be notified pursuant to § 12.313(c) of the Regulations.
9. The Surface Mining and Reclamation Division mailed letters dated August 12, 2013 to the owners of the areas requested for release, to lessees, and to the Office of Surface Mining Reclamation and Enforcement, Tulsa Field Office (OSM), notifying them of the date for inspection and the opportunity to participate in the inspection scheduled for September 4, 2013. The Staff sent notice by certified mail of the application to the Freestone County Judge by letter dated September 11, 2013 as required by the Act, § 134.133. Four representatives of the applicant and four staff inspectors attended the inspection. A representative of F.E. Hill Co., L.L.P. also attended the inspection.
10. No persons filed written comments, written objections, or requests for hearing regarding the request for release.
11. The areas were mined between 1990 and 2003, and various reclamation activities were conducted from 1990 to the present as necessary for reclamation and maintenance of the areas. Monthly inspections have occurred since mining operations began. Representatives of the Commission's Tyler office conducted the inspection of the areas requested for release as required by §12.312(b)(1) of the Regulations on the date scheduled. Staff's inspection report dated November 14, 2013 (provided to the Division by memorandum dated December 9, 2013) contained Attachment IV that includes approximately 114 photographs including photographs of structures within the areas requested for release taken at the inspection. The photographs contain each type of structure contained within the release areas as well as the types of reclaimed land uses. Inspection staff determined that all approved structures and the approved depressions are

stable and well-vegetated.

12. Postmine land uses approved for the areas requested for release include the following uses and acreages by phase of release requested. These uses make up the following percentages of the total acreage: pastureland, 45.0%; fish and wildlife habitat, 42.7%, developed water resources, 12%, and industrial/commercial, 0.3%.

Release	Pastureland	Fish and Wildlife Habitat	Developed Water Resources	Industrial/Commercial	Total Acres
Phase I	73.3	0	17.6	0	90.9
Phase II-III	912.7	936.2	244.1	6.2	2,099.2
Total	986.0	936.2	261.7	6.2	2,190.1

13. Based upon the application and Staff review, Phase I requirements for backfilling, regrading, and drainage control as required by § 12.313(a)(1) of the Regulations have been met for the 90.9 acres requested for Phase I release (73.3 acres of pastureland and 17.6 acres of developed water resources).

- (a). The areas approved for Phase I release have met Phase I requirements for stability with no active erosion evident.
- (b). The areas approved for Phase I release have been regraded to approximate original contour, all highwalls have been eliminated, and suitable topsoil and subsoil material have been placed over regraded soil. Luminant submitted a copy of Plate III.B.3-1, the watershed map, updated to include topography, with its supplemental materials filed by letter dated February 27, 2015.
- (c). All Phase I requirements for covering acid-forming and/or toxic-forming materials (AFM/TFM) and combustible materials (CBM) have been met for the areas requested for Phase I release (90.9 acres).
- (i). These approved areas were leveled and regraded as required according to the approved permit. Appropriate methods were used in reclamation operations in compliance with the permit and Regulations for replacement of the top four feet with non-toxic, non-acid-forming and non-combustible materials. Luminant has covered all exposed coal seams remaining after mining and all acid-forming,

toxic-forming, and combustible materials (AFM/TFM and CBM) with a minimum of four feet of the best available non-AFM/TFM and non-CBM.

- (ii). Mined areas within the 90.9 acres meet the required quality for each required soil parameter based on approved frequency distribution percentages for topsoil (0-1 foot) and subsoil (1-4 feet) intervals. In addition, the areas meet requirements for plant-available nutrients tested in the top one-foot increment. Luminant provided data for 19 applicable soil-testing grids and dates of sampling in its application, as supplemented. Staff determined by letter dated October 16, 2012 that the postmining soil data from the 19 soil-testing grids for the depth intervals required to be tested reflected no indication of the presence of AFM/TFM or CBM in the top four feet of reclaimed soils in compliance with § 12.386 of the Regulations (TA, pp. 2-3). Copies of applicable postmine soil testing approval letters and related materials were included in the application as supplemented in Supplemental Document No. 1, Attachments C and D.

- (d). The areas requested for Phase I release meet drainage control requirements. The areas were graded consistent with approximate original contour and drain to approved Sedimentation Pond B-62. Discharges from this impoundment are subject to the TCEQ Texas Pollutant Discharge Elimination System (TPDES) Permit No. 2700. No erosion is evident.

- (e). No cut-and-fill terraces have been constructed in the area requested for Phase I release for which other specific requirements would apply (§ 12.385).

- (f). The areas requested for Phase I release contain no prime farmland for which specific soil reconstruction requirements apply.

- (g). Based on the application and Staff review, the area requested for Phase I release contains two permanent diversions, the B-62 Diversion and the BIII Auxiliary Diversion No. 2 (approved December 5, 2007), as well as one permanent impoundment, Pond B-62 (approved as permanent on August 18, 2010), and four permanent roads, the CR03 Access Road, the BR06 Access Road Modification, the BR17 Access Road and Facility Pad, and the B-62 Pond Access Road (approved June 29, 1994, September 22, 2003,

March 23, 2004, and March 19, 2012, respectively) (Attachment IV to Staff's memorandum dated October 2, 2014, p. 5, and Appendix IV to Attachment IV, Figure 4, and application, Section VI, and Plates III.B.1-1 and III.B.1-2). All are intact and stable, and the areas surrounding them are well-vegetated; the diversions are fully-vegetated and structurally intact.

14. The areas requested for Phase II and III release (2,099.2 acres) were approved for Phase I release in various acreages by Orders dated February 8, 2005 (Docket No. C4-0019-SC-03-F), October 25, 2005 (Docket No. C5-0018-SC-03-F), December 7, 2005 (Docket No. C0-0035-SC-03-F), August 12, 2008 (C7-0027-SC-03-B), and November 24, 2009 (C9-0001-SC-03-F). These orders found that requirements for backfilling, regrading, and drainage control had been met for these areas. Based upon the application and Staff review, Phase II reclamation obligations have been met for the acreage requested for Phase II and III release, including the establishment of revegetation, and the requirement that discharges from the area not contribute suspended solids to streamflow or runoff outside the permit area in excess of the requirements of the Act and Regulations [§ 12.313(a)(2)].
 - (a). No temporary structures are located within the areas requested for Phase II and III release. The 2099.2 acres requested for Phase II and Phase III release contain 18 permanent impoundments, 18 permanent diversions, 56 drop structures, 19 permanent roads, and 21 small depressions. All structures are intact and surrounding areas are well-vegetated. Approval of Phase I release for these areas now requested for Phase II and Phase III release included the Phase I requirement for required covering of non-waste disposal areas; two small areas of disposal of non-coal waste are located within the areas requested for Phase II and III release (Plate I-4, Sheets 1 and 2). They are deed-restricted and registered with the TCEQ. One other disposal area is depicted; however, no disposal occurred within the area. No disposal of coal processing waste occurred within these areas.
 - (b). No rills or gullies requiring stabilization were found during the inspection within the Phase II and Phase III requested areas. No silt dams, for which sound maintenance provisions must exist, are located within the Phase II requested areas [§ 12.313(a)(2)]. No prime farmland occurs within the areas requested for Phase II or III release for which specific levels of production must be met.

- (c). Permanent revegetation has been planted and is established on the regraded areas in accordance with the approved reclamation plan for the postmine land uses. Soil fertility data submitted indicates no prohibited augmentation. The approved depressions located in the areas requested for Phase II and Phase III release are compatible with the approved postmine land uses. The areas surrounding developed water resources (244.1 acres) and industrial/commercial land use (6.2 acres, an oil and gas pad and associated access road) are vegetated with approved species for the surrounding areas. The pastureland (912.7 acres) and fish and wildlife habitat (936.2 acres) requested for Phase II release are planted with approved species; photographs contained in Staff's inspection report show that vegetation is well-established. For the acreage reclaimed as pastureland, Coastal Bermudagrass was planted as the principal species. Plant species listed in the approved permit for wildlife habitat areas were used for revegetation (native trees, shrubs, and grasses), and indigenous plants also occur due to seed and root stock present in postmine soil material.
- (d). Areas requested for Phase II release have met Phase II requirements for the establishment of vegetation. Luminant submitted ground cover, stem count, and productivity data, as applicable, for the pastureland and fish and wildlife habitat. The areas have also met the Phase III requirement that the areas complete the five-year extended responsibility period (ERP) for vegetation.
- (i). The 912.7 acres of pastureland were evaluated based on ground cover and productivity. Ground cover and productivity data submitted by letter dated June 24, 2011 were approved for growing season 2010 on August 10, 2011 for all four of the land management units (LMUs) comprising pastureland (LMUs C-07-P1, C-07-P2, C-07-P3, and C-07-P4). Ground cover and productivity data submitted by letter dated April 24, 2012 were approved on August 14, 2012 for growing season 2011 for LMUs C-07-P3 and C-07-P4 [Table IV.A.4-1, Section IV.A of application, and pages 6-7, Attachment IV (inspection report) to Staff memorandum dated October 3, 2014]. The ERP for these two LMUs began for various areas on December 18, 1998, December 27, 1999, and July 9, 2007. Data submitted by letter dated March 6, 2013 was approved by letter dated July 5, 2013 for growing season 2012 for LMU C-07-P1, with an extended responsibility

period (ERP) beginning July 9, 2007, and were approved on the same date for the 2012 growing season for LMU C-07-P2, with an ERP beginning for various areas on December 18, 1998, December 27, 1999, and July 9, 2007 [Table IV.A.4-1, Section IV.A of application, and pages 6-7, Attachment IV (inspection report) to Staff memorandum dated October 2, 2014]. The data met the requirements for ground cover and productivity for land reclaimed to pastureland in accordance with §§ 12.395(b)(1) and 12.395(c)(2) of the Regulations. The ERP of five years for areas of more than 26 inches of annual rainfall has been completed for each LMU. Ground cover and productivity data were determined to meet the requirements for successful revegetation, that is, for any two years of the ERP other than the first year in accordance with § 12.395(c)(2) of the Regulations.

- (ii). Fish and wildlife habitat comprising 936.2 acres were evaluated based on ground cover and tree and shrub stocking (stem count). Ground cover and stem count data were submitted by Luminant by letter dated August 22, 2012 and were approved for the three LMUs making up the 936.2 acres (LMUs B-03-H1, B-07-H, and C-07-H) on November 15, 2012. The ERP began for LMU B03-H1 on October 9, 2003, for LMU B-07-H on July 9, 2007, and for two portions making up LMU C-07-H on December 27, 1999 and July 9, 2007. [Table IV.A.4-2, Section IV.A of application, and pages 7-8, Attachment IV (inspection report) to Staff memorandum dated October 2, 2014]. Based on the approval, eighty percent of the vegetation in the fish and wildlife areas has been in place for 60% of the extended responsibility period (ERP). All trees were healthy and had been in place for at least two growing seasons. In accordance with § 12.395(c)(2) for fish and wildlife habitat, ground cover and stem-count must equal or exceed the applicable success standard during the growing season of the last year of the ERP. The approved standard requires that ground cover or stocking shall be considered equal to the approved success standard when they are not less than 90% of the success standard with a 90% statistical confidence interval. Staff review indicates that the LMUs have met the ground cover and stem count requirements for Year 2012 based on the survey submitted for growing season 2012, the last year of the ERP as required. These areas have successfully met the five-year ERP. The vegetation on these areas is sufficient for the postmine land

use.

- (e). The vegetation surrounding the developed water resources is sufficient to control erosion. No revegetation standard applies to the industrial/commercial land use. Non-grassed areas, an oil/gas pad and access road, are covered by rock. Staff noted that no ground cover evaluation report had been submitted for the vegetated portions of the industrial/commercial land use areas (less than 0.4 acres). Additional information provided by Luminant indicates that these areas are made up of a 0.29-acre area that is a driveway area entering Luminant property from adjacent County Road 228 and a very small sliver of land extending to the west from the driveway area that appears to be part of the right-of-way for the mine Access Road BR03. In addition, a 0.07 acre area appears to be a remnant of an area associated with mine Access Road CR48. Both of these small areas appear to have been part of larger industrial/commercial areas submitted for bond releases previously and were omitted due to limits on mapping accuracy associated with available technologies at the time they were submitted. Luminant requests that they be released due to their connection with the areas previously released. Luminant provided photographs of the areas taken on February 25, 2015 (Photo No. 1 and Photo No. 2, submitted by letter dated February 27, 2015). These photos reflect that these areas are sufficiently vegetated so control erosion.
15. Surface waters have been protected in accordance with §§ 12.313(a)(2) and (3) for the areas requested for Phase II release. The areas requested for Phase II and III release (2,099.2 acres) meet the Phase II requirement that they are not contributing excess suspended solids to streamflow or runoff outside the permit area in excess of the requirements of § 134.092(a)(10) of the Act, the water quality permit, and stream segment standards. Based on information from Luminant's analysis of surface water information and discharge data from final discharge ponds, as well as water quality from stream monitoring stations that receive runoff from the areas requested for release, as supplemented, and Staff review, surface waters have been protected.
- (a). All areas proposed for Phase II and III release are within the watersheds of Ponds B-46, B-52, B-62, C-30, C-44, C-61, C-66, C-87, C-104, C-255, C-238, WC-2, and CII-2 (application as supplemented). In a supplement dated February 27, 2015, Luminant provided revised Plate III.B.3-1 depicting watersheds with the addition of topography as well as long-term surface water monitoring stations noted by Staff to have been missing

from the initially filed exhibit. All runoff from disturbed areas has either been routed through the sedimentation ponds or the areas have been released from sediment control requirements. The runoff from the areas proposed for release from Phase II and III obligations is monitored at Ponds B-62, C-30, C-44, C-61, C-66, C-87, C-104, C-238, and CII-2. Ponds C-61, C-87, C-104, and C-238 were released from sediment control requirements on July 25, 2007, February 25, 2000, May 4, 2009, and July 25, 2007, respectively, and water quality data for the active phase of mining were not provided for these ponds.

- (b). Monitoring of the discharge ponds is by TCEQ Texas Pollutant Discharge Elimination System (TPDES) water quality Permit No. 2700. Monitoring of runoff is by the discharge records of the ponds that have not been released from sediment control and by monitoring of stream monitoring stations. Records of point-source discharges from the ponds collected weekly when discharging from active mining areas for varying periods of record between April 2004 and March 2013 show that discharges were generally compliant with the requirements of the TCEQ water quality permit. The records reflect one discharge from 2008 from Pond B-62 (active mining) that was slightly in excess of the allowable maximum limit for pH and one exceedance of the TPDES permit standard for total iron from 2004 (active mining). Postmine monitoring of Pond C-30 indicates three exceedances of pH, two in 2009 and one in 2010. Postmine monitoring indicates compliance with effluent requirements. The areas are no longer receiving disturbed area drainage. For the ponds that have not been released from sediment control, Staff examined data for discharges from the TPDES Permit No. 2700 outfalls applicable to the ponds. For the remaining ponds for the active mining phase, Luminant provided data collected weekly when discharging (Tables III.B.3-1 through 3-9, application). Staff includes a summary table on page 7 of its TA dated October 3, 2014. The averages for pH, total suspended solids (TSS), and total iron (Fe) met the requirements for pH, TSS, and iron [6.0 – 9.0 standard units (s.u.)] for pH, 70 mg/L (allowable daily maximum) and 35/mg/L (allowable daily average) for TSS, and 7.0 mg/L (allowable daily maximum) and 3.5 mg/L (allowable daily average) for Fe. Concentrations for selenium (Se) sampled once every six months also met the limitation of the TPDES permit, 0.035 mg/L. During postmine monitoring for pH and settleable solids (SS), all average concentrations for pH met the requirement of 6.0-9.0 s.u., and all concentrations measured for SS met the requirement of no more than 0.5 mL/L. Staff's TA noted missing data for TSS, Fe

and Se during active mining for Pond C-44 (Table III.B.3-3, application). In its supplement dated February 27, 2015, Luminant explained that the lack of data occurred either due to no flow conditions or according to an alternate plan contained in the TPDES permit for discharges caused by precipitation that are less than or equal to the 10-year, 24-hr precipitation event. Staff review in its TA Addendum indicates that when Luminant activated this plan, the discharges were in accordance with the requirements for the alternate monitoring plan. Staff review of this information agrees that when the plan was activated, the discharges met the requirements for the alternate effluent monitoring plan, and Staff recommends Phase II release for the 2,099.2 acres proposed for Phase II release.

- (c). Based on the history of discharges from the eighteen approved permanent impoundments that are located in the areas requested for Phase II/III release [B-62, B-81 (Re-analysis), B-89, C-61, C-180, C-191 (Reanalysis), C-197 (Reanalysis), C-198, C-201 Modification, C-202 (Reanalysis), C-209, C-238 (Phase II Reanalysis), C-240, WC-5, WC-6, WC-7, and WB-8], the ponds are compliant with permit requirements. The areas requested for Phase II release are not contributing suspended solids to streamflow or runoff outside the permit area in excess of regulatory requirements.
- (d). Individual pond quarterly long-term water quality data for permanent ponds located within the areas proposed for release for four consecutive quarters (for each pond; various periods) is summarized in Staff's TA (p. 8-9) filed by letter dated October 3, 2014. The permanent ponds are Ponds B-62, B-81, B-89, C-61, C-180, C-191, C-198, C-201, C-202, C-209, C-238, C-240, WB-7, WB-8, WC-5, WC-6, and WC-7. Luminant did not include water quality data for Ponds C-180, C-191, C-198, C-201, C-209, and WC-5 because these ponds were approved prior to August 9, 2001 when individual quarterly pond data were required. Individual final discharge monitoring data represents the water quality of these ponds. Discharge records for the remaining permanent ponds for varying periods of record reflect data showing pH averages that meet the stream segment standard, 6.5 to 9 s.u., and total dissolved solids (TDS) averages that meet the requirement of no more than 600 mg/L maximum average annual concentration for Stream Segment 0804 of the Trinity River.
- (e). The areas requested for Phases II and III release in the southern portion of the permit area

drain to Pin Oak Creek, thence to Tehuacana Creek, thence to the Trinity River (Stream Segment 0804). The northern portions of the areas requested for Phases II and III release drain to Prairie Creek, thence to Tehuacana Creek, thence to the Trinity River (Stream Segment 0804). Surface water analyses were provided by Luminant's consultant. Staff reviewed the data and information provided in the application, as supplemented to provide a revised Plate III.B.3-1 to depict long-term surface water monitoring (LTSM) stations, to provide a surface water quantity analysis for paired LTSM watersheds, and to provide responses to other Staff concerns. Staff reviewed and summarized long-term quarterly stream monitoring data and baseline quarterly data provided by Luminant for stations representing paired watershed monitoring, long-term monitoring station HSW-1 for Pin Oak Creek (undisturbed watershed) to long-term monitoring station HSW-2 on Bear Creek (disturbed watershed) for the period of record 1997 to 2006. Based upon comparisons of annual averages of data for pH and total dissolved solids (TDS) to the required pH range (6.5 s.u. – 9.0 s.u.) and to the maximum annual average for Stream Segment 0804 of the Trinity River for TDS (600 mg/L), the comparisons indicate that all average values meet stream segment standards or, in the case of pH, are reflective of baseline conditions. The data reflect that values for TDS, as the indicator parameter, are sufficiently in accordance with predictions set out in the cumulative hydrologic impact assessment that predicted minimal impacts on receiving streams.

- (f). In its TA, Staff noted that Luminant had not provided a surface water quantity analysis in the application. In its supplement dated February 15, 2015, Luminant provided the analysis. Although the flow at the disturbed station on Bear Creek, HSW-2, is greater than that at the undisturbed station HSW-1, the watershed is almost twice the size so that higher flows would be expected, and the station also received water from pit pumpage and dewatering activities. Impacts from the increased flow will be insignificant in that the water discharged from the mine is minimal in comparison to the surface water discharging into the Trinity River at USGS Stations 08065000 and 08065350. There are no water right users on Tehuacana Creek between the Big Brown Mine and its confluence with the Trinity River. Staff review in Addendum No. 2 indicates that Luminant's analysis appears reasonable, but that the evaluation is generalized and does not provide an accounting of runoff volumes and volumes attributable to depressurization and pit pumpage. Staff indicated that Luminant should provide a surface water quantity analysis for comparison of the paired watersheds with the PHC determination (Advisory Notice

AD-BO-312). By letter dated September 21, 2015, Luminant provided additional information addressing Staff's concerns [Finding of Fact No. 17(d)(iv)].

16. All structures in the areas proposed for Phase II and III release are permanent and facilitate the approved postmine land use (including the depressions, diversions, drop structures, and roads). The postmine land uses may be sustained.

(a). Inspection of the areas requested for Phase III release indicate that all structures are approved as permanent and are stable and structurally intact. No rehabilitation of any structure is needed. The well-vegetated state of the areas surrounding all structures requested for Phase III release contributes to the stability of the areas.

(b). Three groundwater monitoring wells are located within the areas requested for Phase III release (B-27-UB-03, B-27-UB-97, and MW39A-1). They will remain intact for use in continued monitoring.

(c). Eighteen approved permanent impoundments are located in the areas requested for Phase II/III release. These impoundments and their approval dates are as follows: B-62 Permanent Impoundment (August 18, 2010); B-81 (Reanalysis) and B-89 (Reanalysis) (June 28, 2005); C-61 (December 27, 2006); C-180 (December 15, 1995); C-191 (July 23, 1996 and Modification May 18, 1999); C-197 (Re-analysis) (August 10, 2005); C-198 (May 6, 1992 and Modification April 7, 1995); C-201 (December 14, 1995 and Modification November 17, 1998); C-202 (Reanalysis) (August 10, 2005); C-209 (August 20, 1997); C-238 (Phase II Re-analysis) (February 23, 2009); C-240 (January 24, 2002); WC-5 (June 18, 1999); WC-6 (May 17, 2001); WC-7 (April 2, 2002); WB-7 (Order dated November 23, 2004); and WB-8 (February 26, 2004) (Sections III.B and VI, application, as supplemented. The structures are depicted in Photographs 13-29 in Staff's inspection report (Attachment IV to Staff memorandum dated October 2, 2014, pages 9-10).

(d). The areas requested for Phase II/III release contain 19 approved permanent diversions: C-87-1 Drainageway (December 7, 1998; modification, October 27, 2000); C-66 Permanent Diversion (August 10, 2005); Prairie Creek Restoration (November 20, 1995); CR14 Roadside Ditch System (March 2, 2000); CII Auxiliary Diversion No. 2 (March 2,

2000); B-62 Diversion No. 2 (December 18, 1996); Permanent B-62 No. 2 Diversion Extension (September 12, 2003); B-62 Diversion (August 18, 2010); B-89 Terrace A Modification, B-89 Terrace C, B-89 Terrace B Modification, B-89 Terrace D, and B-89 Terrace E (Order dated November 23, 2004); BIII Area Drainage (October 11, 1999); BR18 Terrace A and BR18 Terrace B (August 28, 2006); B-81 Terrace (January 30, 2002); B-89 Slope Protection Modification System (September 16, 2004); and Pin Oak Creek Diversion (September 2, 1997) (Sections III.B and VI, application, as supplemented). These are depicted in Photographs 30-47, respectively (Attachment IV to Staff memorandum dated October 2, 2014, page 10).

- (e). Fifty-six approved drop structures are located within the Phase II/III areas. They include, with approval dates: C-87-1, C-87-2, and C-87-3 (October 8, 1992); CVI Area (December 10, 1992); C-197-1, C-202-1, C-202-2, and C-202-3 (August 10, 2005, and reanalyses August 10, 2005); C-201-A (November 8, 1999); C-201 (December 14, 1995, and modification July 23, 1996); C-185-E, C-185-4, and C-185-5 (April 3, 1998); CII Catch Basin (March 2, 2000); 5C-2 (February 1, 1994); C-180 Rock Drop Structure No. 1 (March 13, 2001), B-62 No. 2 Diversion Drop Structure No. 1, B-62 No. 2 Diversion Drop Structure No. 2, and B-62 No. 2 Diversion Drop Structure No. 3 (December 18, 1996), B-81-1 (February 8, 2001), C-194 Spillway (January 30, 2006); and BRP11-BRP16, BRPH1-BRPH5, BRPJ1-BRPJ4, BRPE1-BRPE8, BRPG1-BRPG5, and BRPF1-BRPF7 (May 17, 2000) (Sections III.B and VI, application, as supplemented). Photographs 48-74 depict most of the drop structures (Attachment IV to Staff memorandum dated October 2, 2014, page 11).
- (f). Nineteen approved permanent roads are located within the areas requested for Phase II/III release: CR35 Access Road Extension Modification No. 1 (July 7, 2006), CR38 Access Road (May 14, 2001) and CR39 Access Road (August 9, 2001), CR46 Access Road and CR47 Access Road (August 25, 2006), CR-36 Access Road (May 14, 2001), CR44 Access Road (March 6, 2003), CR48, and CR49 Access Road (January 22, 2009), CR14 Access Road No. 4 Modification (December 27, 2006), CR14 Access Road (as modified December 27, 2006), BR01 Access Road (June 15, 1994), BR-03 Access Road Extension and Modification and BR13 and BR14 Access Roads (November 6, 2001), BR14 Access Road Extension (June 28, 2005), BR18 Access Road (August 28, 2006), B-89 Boat Ramp (June 9, 2005) and B-89 Access Road No. 1 (Order dated November 23, 2004) (Sections

III.B and VI, application, as supplemented). Photographs 75-93, respectively, depict these roads (Attachment IV to Staff memorandum dated October 2, 2014, page 12).

- (g). Twenty-three approved permanent small depressions are located within the areas requested for Phase II/III release: B-SD-10 through B-SD-13 and C-SD-9 through C-SD-27 (Sections III.B and VI, application, as supplemented). These were approved by letter from the Director, Surface Mining and Reclamation Division, dated March 20, 2013. Photographs 94-114, respectively, depict these small depressions (Attachment IV to Staff memorandum dated October 2, 2014, page 12).
 - (h). Staff examined pH and total dissolved solids (TDS) concentrations from samples taken during four consecutive quarters for the 18 approved permanent impoundments except C-180, C-191, C-198, and C-201. Ponds C-180, C-191, C-198, and C-201 were approved prior to August 9, 2001 when the four consecutive quarters of sampling requirement to establish suitability of ponds for their intended postmine land use was initiated. The samples taken reflect water quality compatible with the postmine land use of the surrounding areas and the intended purpose of the ponds as developed water resources for stock and fish and wildlife. Final discharge monitoring data represent the water quality of Ponds C-180, C-191, C-198, and C-20; the data show compliance with the TCEQ water quality permit and reflect adequate water quality.
17. Groundwater monitoring has been conducted throughout the periods of mining and reclamation. Luminant maintained quarterly monitoring records as required since 1984; Staff examined water quality and quantity as reflected by these records. The application, as supplemented, and Staff review show that the groundwater of the overburden, spoil, and underburden within and adjacent to the areas now requested for Phase III release has been protected [§§ 12.313(a)(3) and 12.348].
- (a). The overburden within 100 to 150 feet of the surface in reclaimed areas was destroyed by mining; however, only minor aquifers were present there. Underburden aquifers are separated from the overlying mined spoil by clays five feet or more in thickness. Immediately below the clays are the shallowest water-bearing underburden units. These underburden units are thin, silty sand lenses that are interbedded with clay units and lignite stringers with limited lateral hydrological extent. The Simsboro Formation underlies the lignite bearing Calvert Bluff Formation. It is the shallowest significant

aquifer and lies several hundred feet below the underclay. Underburden wells in areas adjacent to the release areas have not been impacted. The underburden aquifers in the mine area are separated from the overlying spoil by clays five feet or more in thickness and below the clays are the shallowest water-bearing underburden units that are relatively thin, silty sand lenses interbedded with clay units and lignite stringers with limited lateral hydrologic extent. The Simsboro is the shallowest significant aquifer and it is several hundred feet below the underclays.

- (b). General chemistry data and water levels for 16 wells, 14 long-term monitoring wells (LTGM) monitored quarterly, and two others, sampled almost annually since 2003 (C-46-R-92 and C-45-R-92), made up of overburden, underburden, and spoils wells are contained in Tables III.A.9-1 through III.A.9-15. Staff indicates that water levels in all long-term groundwater monitoring wells in spoil with long-term records within and adjacent to areas requested for Phase III release show measurable increases since mining and that water levels have stabilized in some of those wells. In addition, seasonal and longer-term cyclic rises and drops in water levels are occurring in most spoil monitoring wells. Infiltration capacity (recharge) is expected to approach that of premine conditions.

- (c). Based on the data from four wells in the spoil mass located in the B and C Areas (B-48-R-92, B-26-R-93, C-41-R-93, and C-42-R), Staff indicates that most wells completed in these reclaimed areas appear to have reached maximum TDS concentrations and are decreasing. The median concentrations of TDS in groundwater in three adjacent overburden monitoring wells (B-26-OB, MW39A-1, and B-27-OB-97) are lower and less variable, with a range of less than 232 mg/L to 3,164 mg/L, and with the median baseline TDS concentration in the three wells ranging from less than 232/mg/L to approximately 1,554 mg/L. Most overburden LTGM wells show no substantive effects from mining; however Staff noted that the TDS concentrations in some adjacent overburden wells have been rising. Staff pointed out that in the southern B Area, overburden LTGM well B-26-OB exhibited a significant rise in TDS, then dropped to baseline levels but currently shows a steep rising trend for sulfate and a drop in pH. Staff indicated that the well location is in native ground surrounded on three sides by reclaimed mine blocks and does not constitute a significant effect to groundwater. Staff also evaluated well B-52-OB-01, determining that it shows increased TDS concentrations and increases in sulfates and chlorides over a ten-year monitoring period, but that the well is

not part of the approved LTGM plan and there is no data on well completion. Staff does not believe that it has sufficient information on the well for use in its assessment. Staff indicates that data from monitoring well MW-39A-1, located between the mined area and Fairfield Lake, is suitable for use in determining effects on the B Area, and that it indicates no adverse measurements counter to expected trends described in the probable hydrologic consequences determination included in the permit.

- (d). Staff had concerns regarding overburden monitoring well C-38-OB-93 located along the northeastern limit of mining approximately 700 feet south of Pond C-66, that monitors subsurface gradients to the northeast toward Tehuacana Creek. Luminant did not evaluate the well in the application, and Staff noted that it shows a significant upward trend in TDS concentrations to four times its baseline. In addition, monitoring indicates that pH values have declined since mid-2007. Staff also noted that Luminant had not discussed effects to the hydrologic balance because of the data for well C-38-OB-93 or to the groundwater hydrologic balance due to a slurry wall installed in 1988 parallel to the Tehuacana Creek Levee. Because of these concerns, Staff's TA indicated that Luminant had not presented sufficient information to address overburden aquifers in the C area for Phase III release.
- (i). Luminant provided revised pages to its consultant's report in its supplement dated February 27, 2015 and acknowledged in its response in Attachment B that the elevated TDS and sulfate concentrations are most likely due to northeasterly migration of mineralized spoil water from the reclaimed area toward Tehuacana Creek, but that the concentrations peaked in 2011 and appear to have stabilized or decreased. Based on surface water quality data provided, Luminant and Staff analysis show that impacts to Tehuacana Creek have been minimized. Luminant also provided additional information regarding the slurry wall installed in 1988 parallel to the Tehuacana Creek Levee and potential impacts on the hydrologic balance. Slurry walls are used to construct barriers underground to impede groundwater flow. The natural discharge area for the overburden groundwater in the Tehuacana Creek area is generally toward Tehuacana Creek, also some discharge could go to Bear Creek. Luminant presented data showing that downstream impacts on surface water quality have been minimized to Bear Creek and that groundwater discharged to Bear Creek is not causing a substantive

effect on Bear Creek. Staff is in agreement with the analysis. Luminant indicates that there are no wells located within the Tehuacana Creek floodplain and that overburden groundwater is not used in the area. In addition, there are no water right users along the stretch of the creek in question. With its supplement dated February 27, 2015, in Attachment B, Appendix A, Luminant's consultant's report included mass balance calculations showing that groundwater discharges with elevated TDS concentrations will have an insignificant impact on the water quality of Tehuacana Creek, an increase from approximately 581 mg/L to 598 mg/L (a 3% increase). Groundwater discharge calculations included in the mass balance calculations were made ignoring the slurry wall that would impede the flow of groundwater toward the creek (groundwater would flow through and around the slurry wall at a lower rate), resulting in a conservative conclusion. In addition, the groundwater discharge to Tehuacana Creek represents less than 1% of the flow in Tehuacana Creek. Groundwater discharges with elevated TDS concentrations will have an insignificant impact on Tehuacana Creek. No water rights will be affected. If these impacts occur, they will be further minimized several miles downstream where the creek discharges into the Trinity River. Staff review is in agreement with Luminant's analysis.

- (ii). Staff also indicated that Luminant had not included a long-term water quantity analysis for comparison to the probable hydrologic consequences determination. In its supplement dated February 27, 2015, Luminant provided Attachment B to address these matters. In its supplement, Luminant also included information to address whether water quantity has been affected and to compare effects to the probable hydrologic consequences determination. Comparisons were provided between the paired watershed HSW-1 (undisturbed) and HSW-2 (disturbed). The flows provided for the undisturbed watershed were lower than those of the disturbed watershed, as well as the maximum flow and the median flows. Luminant explained that the disturbed watershed was approximately twice the size of the undisturbed watershed and had also received water from pit pumpage and dewatering activities for many years. Luminant's analysis was that downstream effects are expected to be minimal; there are no low water crossings known that could be affected. Luminant indicates that the discharges from the mine are insignificant in comparison to the long-term mean discharge at USGS

Station 08065000 at the confluence of Tehuacana Creek with the Trinity River (Stream Segment 0804), 5,207 cfs. Luminant's mass balance calculations for TDS included figures for long-term mean discharges at USGS Station 08064700 at Tehuacana Creek, 85 cfs, with the USGS Station 08065000, Tehuacana Creek with the Trinity River, 5,207 cubic feet per second (cfs). The flow at the station on Tehuacana Creek is .016 of the flow at the station on the Trinity River.

- (iii). Staff noted in its Addendum No. 1 filed September 4, 2015 that Luminant had not quantified the amount of flow from depressurization and from pit pumpage that would flow through station HSW-2, the disturbed watershed. At the present time, water from two impoundments (C-260 and C-262) located outside the release area is being pumped to Pond C-67 (also outside the release areas) and to Station HSW-2. It was unclear from the records whether the water from depressurization and from pit pumpage was included in the current flow information provided and how much flow is routed to HSW-2 from the ponds. Therefore, Staff requested that Luminant provide an adequate surface water quantitative analysis for comparison to the PHC determination for the LTSM paired watershed stations. By letter dated September 9, 2015, the examiner set deadlines for Luminant's submittal of this information and for Staff's final review. Luminant filed its response by letter dated September 21, 2014, received September 22, 2015, and the deadline for Staff review of the response was extended by letter from the examiner from September 21, 2015 to September 29, 2015.
- (iv). By letter dated September 21, 2015, Luminant filed its surface water quantitative analysis of flows at the LTSM paired watershed stations to the PHC determination. Luminant provided data and discussion regarding the long-term flow data at station HSW-2 and HSW-1. The information included graphs prepared showing historical discharges from these stations. At HSW-2, there were three high flow events that were most likely due to backwater effects on Tehuacana Creek when the Trinity River is in flood stage. A photograph from April 2012 was provided showing Luminant's recording of flooding of the creek rather than discharge. Recalculated flow statistics were also provided that excluded three erroneous readings; the recalculated statistics included, for the

watersheds of HSW-1 and HSW-2, average flow from 1997-2012 including the erroneous readings, average flow excluding erroneous readings, and median flow. With the recalculated statistics, the difference between flows at HSW-1 and HSW-2 are less, and are more in line with the difference between the sizes of the watersheds. The information also included the percentage of average flow in the nearest downstream classified Stream Segment No. 0804 of the Trinity River. In addition, the discussion included the annual dewatering volume range between 2001 and 2014, approximately 27 cfs in 2002 to 0.7 cfs in 2014. Dewatering is no longer occurring. The discussion also stated that low flows recorded at the stations between 2010 and 2012 were due to drought. The long-term rainfall average at the mine is approximately 42.3 inches; rainfall totals in 2010, 2011, and 2012 were 29.7 inches, 32.8 inches, and 35.3 inches, respectively. Luminant indicated that there are no records of pit pumpage. With regard to the flow from two impoundments, Luminant indicates that the flows are currently being routed to Pond C-67, and that were the runoff not routed to Pond C-67, it would otherwise flow directly into C-67 if the ponds were not present. Station HSW-2 would not be affected. Because the watershed of Pond C-67 represents only approximately 0.7 percent of the Tehuacana Creek watershed at the permit boundary downstream of C-67, minor or moderate changes in flow quantity are not likely to affect the flow in Tehuacana Creek downstream of the mine. In TA Addendum No. 2, Staff concurred with the analysis provided by Luminant's consultant.

18. The notice of application for release did not include an amount of eligible bond reduction requested, but stated that an eligible bond reduction amount may be determined. Luminant does not request an adjustment to the approved bond at this time. The most recent reclamation cost estimate, \$69,792,530.00, was approved administratively by letter dated April 15, 2014. This calculation used unit costs for mined acreage of \$5,740/acre. The areas requested for release were mined. No previous release has been made for the 90.9 acres requested for Phase I release. The release amount for this acreage is calculated at 90.9 acres x \$5,740/acre x .60, for Phase I release in accordance with § 12.313(a)(1). The 2,099.2 mined acres requested for release of Phase II and III reclamation liability have already been reduced 60% for Phase I release, to \$2,296 per acre (\$5,740 x .40). The release amount for this acreage is calculated at 2,099.2 acres x \$2,296/acre. \$4,819,763.20. Administrative costs 10% are also added. The total eligible bond reduction

amount is \$5,646,105.08 as follows:

Phase Requested	Acreage	Disturbance Category	Bonded Per Acre	Eligible Reduction Per Acre	Eligible Reduction
Phase I	90.9	Mined	\$5,740	\$3,444.00	\$ 313,059.60
Phase II and III	2,099.2	Mined	\$2,296	\$2,296.00	\$4,819,763.20
Subtotal					\$5,132,822.80
Admin. Costs (10%)					\$ 513,282.28
Total					\$5,646,105.08

19. The Regulations at § 12.310(b) require that the Commission shall not release an existing performance bond until the permittee has submitted and the Commission has approved an acceptable replacement performance bond. Luminant must submit an acceptable replacement performance bond prior to any adjustment of the approved bond instrument.
20. The areas requested for release have been clearly marked in the field with permanent boundary markers to distinguish the areas from active mining and reclamation areas. The areas not approved for release shall remain marked to reflect the bonded status. Identification of these areas assists future inspection of adjacent areas by field office staff; the markers shall be maintained.
21. Luminant and the Staff, the only parties to the proceeding, filed waivers of the preparation and circulation of a proposal for decision. The proposed order was circulated to the parties with opportunity for comment. The matter has been posted for Commission consideration.

CONCLUSIONS OF LAW

1. Proper notice was provided for this request for release of reclamation obligations.
2. A public hearing on the request is not warranted.

3. Luminant has complied with all applicable provisions of the Act and the Regulations for jurisdiction to attach to allow the Commission to consider this matter.
4. The Commission may approve a release of reclamation obligations for the acreages requested in accordance with the Findings of Fact as set out in this Order.
5. The Commission determines an eligible bond reduction amount of \$5,646,105.08.

IT IS THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the above Findings of Fact and Conclusions of Law are adopted;

IT IS FURTHER ORDERED that the following releases of reclamation obligations are approved: Phase I release of reclamation obligations for 90.9 acres, and Phases II and III release for 2,099.2 acres;

IT IS FURTHER ORDERED that the Commission determines an eligible bond reduction amount of \$5,646,105.08;

IT IS FURTHER ORDERED that the current bond remains in effect according to its terms until the Commission approves a replacement bond;

IT IS FURTHER ORDERED that all areas released from reclamation obligations shall remain clearly marked in the field with permanent boundary markers to distinguish these areas from active mining and reclamation areas;

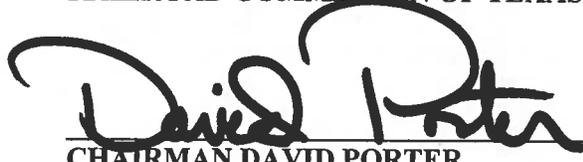
IT IS FURTHER ORDERED that the Commission may vary the total amount of bond required from time to time as affected land acreages are increased or decreased or where the costs of reclamation change; and

IT IS FURTHER ORDERED by the Commission that this order shall not be final and effective until 25 days after a party is notified of the Commission's order. If a timely motion for rehearing is filed by any party of interest, this order shall not become final and effective until such motion is overruled, or if such motion is granted, this order shall be subject to further action by the Commission. Pursuant to TEX. GOV'T CODE § 2001.146(e), the time allotted for Commission action on a motion for rehearing in this case prior to its being overruled by operation of law, is hereby extended until 90 days from the date the

parties are notified of the order.

SIGNED IN AUSTIN, TEXAS, on October 20, 2015.

RAILROAD COMMISSION OF TEXAS



CHAIRMAN DAVID PORTER

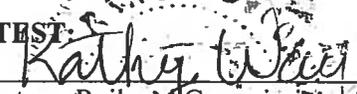


COMMISSIONER CHRISTI CRADDICK



COMMISSIONER RYAN SITTON

ATTEST:



Secretary, Railroad Commission of Texas

