RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION

SURFACE MINING DOCKET NO. C15-0001-SC-01-F
APPLICATION BY ALCOA USA CORP.
FOR RELEASE OF PHASE III RELCAMATION OBLIGATIONS ON 1,621.4 ACRES,
PERMIT NO. 1G, SANDOW MINE, MILAM AND LEE COUNTIES, TEXAS

ORDER APPROVING RELEASE OF PHASE III RECLAMATION OBLIGATIONS FOR 1,621.4 ACRES

Statement of the Case

Alcoa USA Corp. (Alcoa), P.O. Box 1491, Rockdale, Texas 76567 applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for Phase III release of reclamation obligations for 1,621.4 acres within the Sandow Mine located in Milam and Lee Counties, Texas. The application is made pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon Supp. 2017), and the "Coal Mining Regulations," Tex. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2017).

Permit No. 1G currently authorizes surface coal mining operations at Alcoa's Sandow Mine within its 8,079.7-acre permit area. Copies of the application were filed in required County and Commission offices and distributed to applicable agencies for review and comment. No requests for hearing were filed following public notice. The only parties to the proceeding are Alcoa and the Commission's Surface Mining and Reclamation Division (Staff). There remain no outstanding issues between the parties. Based on the information provided by the application, Staff analyses, and the inspection of the area, Staff recommends Phase III release of reclamation obligations on 1,621.4 acres. The parties have filed waivers of preparation and circulation of a proposal for decision.

After consideration of the application and the Findings of Fact and Conclusions of Law, the Commission approves the release of reclamation obligations as recommended by Staff. Alcoa does not request adjustment to the approved reclamation bond at this time and no new bond has been submitted. The Commission determines an eligible bond reduction amount of $1,926,223.20 as calculated by Staff.

FINDINGS OF FACT

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

1. By letter dated September 17, 2014, the subject application requesting Phase III release on 1,621.4 acres within the Sandow Mine Area (Application), was submitted to the Commission's Surface Mining and Reclamation Division (SMRD and/or Staff) by Alcoa Inc. as the approved permittee under Permit No. 1F at the time of filing. Subsequently, Alcoa USA Corp. filed an application for transfer of the permit and submitted a replacement surety bond for Commission acceptance. By separate Orders dated August 1, 2017, the Commission approved the application for transfer and issued the permit, renumbered as Permit No. 1G, to Alcoa USA Corp. (Docket Nos. C17-0011-SC-01-B; C17-0007-SC-01-E).

2. The Application is made pursuant to Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon Supp. 2017) (Act), and the "Coal Mining Regulations," Tex. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2017) (Regulations). No filing fee is required. The Application was properly certified by Alcoa Inc. at the time filing [§12.312(a)(3)]. By letter dated August 8, 2017, Alcoa USA Corp., as the approved permittee under Permit No. 1G, affirmed it adopts the Application as its own and certified that the information contained therein is true and correct to the best of its knowledge [*Id.*].

3. By letter dated June 9, 2016, Alcoa submitted Supplement No. 1, containing additional information to address Staff's concerns raised in its Technical Analysis (TA) issued on May 20, 2016. Staff in its TA did not recommend Phase III release on the requested 1,621.4 acres. By letter dated June 17, 2016, Staff requested that processing of the Application be suspended to allow for review and approval of Alcoa's application for Revision No. 61 (Finding of Fact No. 23, *infra*). By letter dated June 20, 2016, suspension was approved by the Hearings Division. By letter dated August 18, 2016, Staff requested that review of the Application continue after the approval of Revision No. 61. Staff filed an addendum to the TA (TA Addendum) on August 26, 2016 recommending approval of Phase III release of reclamation obligations on the 1,621.4 acres requested.

4. A proposed order was circulated to the parties for opportunity to file exceptions and/or comments on November 10, 2016. No exceptions to the proposed order were filed, and Alcoa Inc. and Staff filed waivers of proposal for decisions by letters dated November 15 and 18, 2016, respectively. By letter from the ALJ dated November 21, 2016, the parties were informed that issues related to Alcoa's request to modify the bond attributable to the Permit No. 1F would need to be resolved prior to presentation of the proposed order for Commission consideration. The subject order was revised following Commission approval of the transfer of the permit and issuance of Permit No. 1G to Alcoa by Orders dated August 1, 2017 (Docket Nos. C17-0011-SC-01-B; C17-0007-SC-01-E). The parties filed waivers of a proposal for decision for the subject order on August 17, 2017. No exceptions to the proposed order were filed.

5. Permit No. 1G currently encompasses 8,079.7 acres approximately six miles southwest of Rockdale, Texas. The 1,621.4 acres proposed for release consists of multiple noncontiguous parcels located in portions of Milam and Lee Counties, Texas. A general location map of the permit area, with the areas requested for release distinguished, is found in Appendix I of Staff's Inspection Report (TA; Attachment III). A detailed depiction of the subject acreage is provided in Attachment I (Maps 1-4) to Staff's TA Addendum.

6. Copies of the Application were filed for public review at the main office of the Railroad Commission of Texas at 1701 North Congress, William B. Travis Building, Austin, Texas 78701, the office of the Milam County Clerk, 100 South Fannin, Cameron, Texas 75840 and the office of the Lee County Clerk, 151 East Hempstead Street, Giddings, Texas 78942.

7. Alcoa does not request a reduction in the amount of the approved reclamation bond in the Application. The existing reclamation bond in the form of a surety bond issued by Federal Insurance Company, accepted by Order dated August 1, 2017, is in the amount of $14,000,000 (Docket No. C17-0007-SC-01-E).

8. The 1,621.4 acres recommended for Phase III release consists of 1,567.8 acres bonded at the Phase II mined rate of $1,080 per acre and 53.6 acres at the Phase II disturbed rate of $1,080 per acre.

9. By letters dated January 26, 2015, Alcoa sent notice to owners of interests in the areas requested for release and adjacent lands. Alcoa also sent notification letters to local governmental bodies and other agencies and authorities as required by §12.312(a)(2). Notice was sent to the Milam County Judge and Commissioners Court, Lee County Judge and Commissioners Court, Brazos River Authority, Texas General Land Office, Texas Commission on Environmental Quality, Natural Resources Conservation Service, Environmental Protection Agency, Texas State Soil and Water Conservation Board, Texas Department of Transportation, U.S. Army Corps of Engineers, Taylor Soil and Water Conservation District, Burleson-Lee Soil and Water Conservation District, Manville Water Supply Corp., Southwest Milam Water Service Company, Bartlett Electric, and Blue Bonnet Electric. Copies of the notification letters with filed with the Commission by letter dated February 23, 2015.

10. Notice of application was published once a week for four consecutive weeks (January 29 and February 5, 12, 19, 2015) in the *Rockdale Reporter* and for four consecutive weeks (January 29, February 5, 12 and 19, 2015) in the *Lexington Leader*. The newspapers are newspapers of general circulation in both Milam and Lee Counties, which are the locality of the proposed 1,621.4-acre release areas of the permitted mine. The notice of application contains all information required by the Act and Regulations for notice of application for bond release applications. Alcoa submitted affidavits of publication with clippings. The published notice is adequate notification of the request for release. The notice included the elements required by §134.129 of the Act and §12.312(a)(2) of the Regulations: the name of the permittee, the precise location of the land affected, the total number of acres, permit number at the time of application and date approved, the amount of bond filed, the type and appropriate dates reclamation work was performed, and a description of the results achieved as they relate to the approved reclamation plan. The notice contained information concerning the applicant, the location and boundaries of the permit area, the availability of the Application for inspection, and the address where comments should be sent. Alcoa submitted proof of publication to the Commission by letter dated February 23, 2015.

11. No adverse comments or written objections were filed regarding the request for release. No requests for hearing or informal conference were filed pursuant to §12.313(d).

12. Pursuant to §12.312(b), SMRD mailed letters dated September 18, 2014 to owners of the surface and leaseholders of the area requested for release, and to the Office of Surface Mining Reclamation and Enforcement, Tulsa Field Office (OSM). The notification stated that a release had been requested and advised the recipients of the opportunity to participate in the on-site inspection scheduled for October 15, 2014 [§12.312(b)(1)]. In addition, the Commission sent notice by certified mail to the Milam County Judge and Lee County Judge on February 27, 2015 pursuant to §134.133 of the Act.

13. On October 15 and 16, 2014, SMRD Inspection and Enforcement staff, accompanied by representatives of Alcoa, conducted its inspection of the area requested for release. The field report found that the proposed release areas were eligible for the requested release, pending Staff review.

14. No concerns with erosion were noted by Staff and no rills or gullies were observed or noted in Staff's inspection (*See* Appendix IV (Photos 1-14) of Attachment III to Staff TA) [§12.389].

15. The 1,621.4 acres proposed for Phase III release were granted Phase I Release by Orders dated November 8, 2011 (Docket No. C11-0005-SC-01-F) and September 10, 2013 (Docket No. C12-0028-SC-01-F) and Phase II release by Order dated April 12, 2016 (Docket No. C14-0017-SC-01-F).

16. The approved postmine land uses within the various proposed release areas comprising the 1,621.4 acres consists of 1,410.4 acres of Pastureland, 158.7 acres of Fish and Wildlife Habitat and 52.3 acres of Developed Water Resources. The five-year extended responsibility period (ERP) on all acreage requested for release was initiated May 20, 2009 [§12.313(a)(3)].

17. The 1,410.4 acres of pastureland are included in six land management units (LMUs), designated as A09-NP, A09-P, E09-P, F09-P, G09-P and H-09P. These LMUs were accepted into the extended responsibility area (ERA) and on May 20, 2009. By letters dated

January 18, 2014, and April 16, 2014, in accordance with the five-year ERP, Alcoa submitted groundcover and productivity data for 2012 and 2013. SMRD determined by letters dated February 14, 2014 and August 5, 2014 that the vegetation data for the LMUs met the performance standards in accordance with §12.395(c)(2).

18. The 158.7-acre fish and wildlife habitat is included in five LMUs denoted as A09-H, C09-H, F09-H, G09-H and H09-H. These LMUs were also accepted into the same ERA that was initiated on May 20, 2009. By letter dated May 19, 2014, in accordance with the ERP, Alcoa submitted the 2014 groundcover and stem-count data for the five LMUs within the ERA. By letter dated February 17, 2015, SMRD determined that the five LMUs met or exceeded the applicable success standards for fish and wildlife habitat land use in accordance with the approved reclamation plan.

19. The 52.3 acres of developed water resources includes Pond 014, Pond C2C3, Pond A1, Pond RF3B1 and RF4 Basin 1. Groundcover standards are inapplicable for developed water resources; however, groundcover in the area not covered by water must be adequate to control erosion and compatible with the surrounding area. Staff observed in its inspection report that the groundcover around the approved structures is adequate to control erosion and is comprised of bermudagrass and native grasses compatible with surrounding land uses (TA; Attachment III). The 52.3 acres of developed water resources were accepted into the ERA initiated on May 20, 2009.

20. Soil fertility reports for the six pastureland LMUs within the proposed release area were submitted, in accordance with the ERP, by letters dated February 24, 2012 (2011 Soil Fertility Report), March 26, 2013 (2012 Soil Fertility Report), and February 18, 2014 (2013 Soil Fertility Report). Subsequently, by letters dated April 10, 2011 (*sic*), April 10, 2013, and March 18, 2014, respectively, Staff concluded the parameters reported were in accordance with the soil-testing plan approved by Order dated August 18, 2009 (Docket No. C4-0017-SC-01-C), and that augmented fertilization did not occur during the applicable ERP pursuant to §12.395. By letter dated August 25, 2014, Alcoa, in accordance with the ERP and the resample requirements of the approved soil-testing plan, submitted data and analysis of a random ten percent of the grids within the ERA. Alcoa's report was based on two sets of data

and analysis collected on June 11, 2014, and August 6, 2014. By letter dated January 27, 2015, Staff determined postmine soil degradation had not occurred within the areas proposed for release pursuant to §12.395.

21. No portions of the areas proposed for Phase III release of reclamation liability were reclaimed as prime farmland [§§12.201 and 12.620-12.625].

22. The 1,621.4 acres requested for Phase III release of reclamation liability contain five impoundments (Pond 014, Pond C2C3, Pond A1, Pond RF3B1 and RF4 Basin 1) and nine roads (Pond 014 Access Road, RR-A3, RR-F1, Permanent North F Service Road, RR-F3, RR-G1, RR-F2 and two Hay Storage Area roads) [§§12.154, 12.347, 12.400 and 12.401]. Staff noted in its inspection report the impoundments and associated appurtenances were found to be structurally intact. As to the roads within the proposed release area, Staff noted each was structurally intact and stable. All permanent structures were approved prior to Phase II release granted by Order dated April 12, 2016 (Docket No. C14-0017-SC-01-F at Finding of Fact No. 17, Subparagraph 7).

23. The groundwater hydrologic balance has been protected as required by §12.348 and the re-established postmine groundwater system is adequate for the approved postmine uses of the 1,621.4 acres requested for Phase III release.

    (1) In addressing requirements of §12.348, Alcoa has submitted groundwater monitoring data for the overburden, spoil and underburden aquifers within and adjacent to the Sandow Mine.

    (2) Groundwater monitoring for the area proposed for Phase III release has been performed in accordance with the provisions of the approved permit. Long-term groundwater monitoring records have been reviewed by Staff on a quarterly basis.

    (3) The premine overburden aquifers in the reclaimed area have been destroyed; however, they constituted only minor aquifers. The underburden aquifers in the Sandow Mine area are sands of the Simsboro Formation, underlying the lignite

bearing Calvert Bluff Formation. These underburden aquifers are separated from the underburden by clays five feet or more in thickness. The shallowest aquifers underlying these clays are thin, silty lenses interbedded with clays and lignite stringers that are limited laterally. The sandier unit (Simsboro) is separated from the mined and affected area by an underlay of several tens of feet to hundreds of feet in thickness and is fairly well developed in this region in the lower Wilcox Group outcrop.

(4) Alcoa provided an analysis of the groundwater data from pertinent wells by letter dated September 17, 2014. For those wells possessing long-term records, Alcoa indicates that the water levels in the spoil monitoring wells adjacent or within the area proposed for Phase III release show measurable increases since the time of mining. The water levels in the spoil monitoring wells also appear to be stable or are approaching the post-recovery stage. Seasonal rises and drops in water levels appear to be occurring, indicating that the groundwater system within the spoil has stabilized or is approaching stability

(5) Staff reviewed the analysis and data and determined that long-term quarterly monitoring data for most of the overburden and underburden hydrologic units within and adjacent to the proposed Phase III release area and spoil monitoring wells do not indicate that any significant impacts have occurred to water quantity or quality. Water levels in spoil monitoring wells with long-term records show measurable increases since mining. Staff analysis agrees that the levels are stable or are approaching the post-recovery stage, with seasonal rises and drops. Staff also reviewed pH and TDS concentrations. The average TDS concentrations from overburden wells that have been continuously monitored since the mid-1990s or early 2000s have remained generally similar, ranging from 40 mg/L to 3,800 mg/L, depending on the particular overburden stratum in which the well has been completed.

(6) In the initial TA, Staff noted concerns regarding overburden LTGM well H4159A in the H-Area due to rapidly increasing TDS, chloride and sulfate concentrations and

in spoil well SP-21 in the F-Area because of increasing TDS and chloride concentrations. Staff noted further concerns regarding LTGM wells SP-21, SP-22, SP-34, SP-36 and SP-42 being located within the proposed Phase III release area and recommended that these wells remain bonded until surrounding areas could be released. Based on these noted concerns, Staff in its initial TA did not recommend release of the parcels in H-Area requested for release or areas surrounding the noted LTGM wells.

(7) In Supplement No. 1, filed by letter dated June 9, 2016, Alcoa provided responses to the noted groundwater concerns. Alcoa responded to the issue regarding proper well disposition by indicating it had submitted a revised LTGM plan (Revision No. 61) that included plugging of wells that are were longer necessary for future bond release applications. Additionally, Alcoa indicated it had submitted an application to transfer all remaining wells to Alcoa as the property holder from Alcoa as the operator. Plugging and abandonment of wells installed by the permittee when no longer needed, and/or transfer of these wells to the landowner in accordance with §12.351, are necessary and ongoing components of permit maintenance under §12.331 and §12.333. Both the application to revise the approved LTGM plan and the request to transfer were submitted by letters dated June 3, 2016 and were subsequently modified by letters dated July 26, 2016. Both applications were approved by the Division Director by letters dated August 17, 2016. By transferring all remaining LTGM wells from Alcoa (as permittee) to Alcoa (as landowner), proper disposition has been effected. The subject acreage and wells were conveyed to Alcoa by Alcoa Inc. via a Deed Without Warranty dated September 30, 2016 (*See* Docket No. C17-0011-SC-01-B at Finding of Fact No. 18).

(8) With respect to the increasing sulfate trend in overburden LTGM well H4159A, as the result of discussions with Alcoa personnel, Staff re-evaluated the trend based on the predictions in the approved probable hydrologic consequences (PHC) determination, wherein Alcoa indicated the following:

(i). However, the quality of water in the spoil is of little concern with respect to impacts to the groundwater system, groundwater resources in the area and postmine landuse for the following reasons:

[a]. The overburden was not a significant or important groundwater resource prior to mining operations and the spoil material will also not yield any significant quantity of water.

[b]. The spoil water has similar total dissolved solids concentration as premine groundwater in the lower permeability overburden materials,

[c]. The endlakes act as sinks and all overburden groundwater in the spoil will move towards the endlakes rather than migrate outside of the permit boundary,

[d]. Significant groundwater resources are available from the underburden and will support all local postmine landuses and regional water needs.

(ii). It is probable that once resaturated, higher mineralized water will be flushed out and the spoil groundwater quality should slowly improve and then stabilize. However, this flushing and stabilization of spoil groundwater quality may take many tens of years or more and has no impact on the ability of local groundwater systems to meet groundwater demands in the area. (Application at p.146-22).

(9) Staff then revised its position and concluded there was no impediment to release of the parcels in H-Area. The revised position is set forth in Staff's August 26, 2016 TA Addendum, summarized as follows:

(i). Staff believes that the trend in well H4159A is following the expected trend as predicted in the approved PHC determination, as the well is located immediately adjacent to and downgradient from the H Area mine block. Staff also finds no evidence in the approved permit that the small overburden groundwater resources have been used in this area because of the presence of the prolific Simsboro Formation in the immediate underburden. Staff no longer believes that the increasing sulfate trend in well H4159A presents an impediment to Phase III release from reclamation obligations.

(ii). Regarding the increasing TDS and chloride concentrations in spoil LTGM well SP-21, Staff's evaluation of the data as described in the initial TA supports a conclusion that the increase in chloride in this well is the cause of the increase in TDS concentration, and that no viable mechanism for chloride increase resulting from mining activities is known in the Gulf Coast province.

(10) Staff concluded that all concerns noted in the initial TA have been adequately addressed and no remaining issues exist with respect to protection of the groundwater hydrologic balance that would preclude Phase III release of the 1,621.4 acres proposed in this Application.

24. Alcoa has conducted surface mining activities in accordance with §12.313(a)(3) and §12.349 to protect surface water quality and quantity for the acreage proposed for Phase III release.

(1) The areas proposed for release from reclamation liability are located in both the north and south areas of the Sandow Mine. The parcels proposed for release of reclamation in the north mine area drain to East Yegua Creek. The parcels proposed for release of reclamation in the south mine area drain to Middle Yegua Creek.

(2) All discharge from the Sandow Mine flows to Somerville Lake on Yegua Creek (TCEQ Stream Segment No. 1212) and ultimately to the Brazos River.

(3) TCEQ issued TPDES Permit No. 00395 to Alcoa for wastewater discharges from the Sandow Mine. Based upon monthly long-term and quarterly monitoring data, Alcoa established that wastewater discharges do not exceed the Texas Pollutant Discharge Elimination System (TPDES) water quality effluent standards and are within limitations established for TPDES Permit No. 00395 for pH and iron (Fe). The average total suspended solids (TSS) concentrations are below or on the low range of the premine data in the PHC determination.

(4) During the period of record, runoff from the area proposed for release from reclamation obligations was controlled by several ponds. Discharge from 488.5 acres proposed for Phase III release in the north area of Sandow Mine (East Yegua Basin) flows into the C-Area Endlake prior to exiting the permitted area. Discharge from 27.3 acres flows through Permanent Impoundment 014 prior to discharge into Ham Branch.

(5) Discharges in the south area of the Sandow Mine (Middle Yegua Creek) flow into the H-Area Endlake. Discharges from Permanent Impoundments 004A, 004, 006, 007, 009, RH3, RH4, RH5, and RH1-B1 and the F, North F, FG-1, FG-2 and G-Area Endlakes flow into the H-Area Endlake. Pond discharge in the Sandow mine is currently monitored under TPDES Permit No. 00395.

(6) Long-term data and quarterly pond data are typically provided and analyzed as described in Advisory Notice AD-BO-312 and SMRD letter dated August 9, 2001, respectively, in support of Phase II release from reclamation obligations. The parcels requested for Phase III release in the Application were previously approved for Phase II release (Docket No. C14-0017-SC-01-F at Finding of Fact No. 21, Subparagraph 3); therefore, Staff did not consider any long-term data from final discharge ponds and quarterly pond data from permanent impoundments in its review of the Application for Phase III release.

(7) The 1,621.4-acre area proposed for release includes 515.8 acres in the north area of Sandow Mine and 1,105.6 acres in the south portion of the mine. The aggregate 515.8 acres proposed for Phase III release in the north mine area can be divided into 488.5 acres that drain to LTSM Station No. 7 on East Yegua Creek and a 27.3-acre parcel surrounding Pond 014 that drains to Ham Branch. Alcoa provides in the Application stream monitoring data for LTSM Station Nos. 6, 7 and WQMPI to support Phase III release for the 488.5 acres that drain to LTSM Station No. 7. Regarding the 27.3-acre parcel surrounding Pond 014, Alcoa provided data for LTSM Station No. 13, 6 and WQMP1. In the south area of the mine, Alcoa provided monitoring data for LTSM Station Nos. 1, 2, and Station I6. Alcoa indicates that data collected at these monitoring stations is composite data for the entire drainage basin that includes areas that have not been disturbed by mining, areas that have received Phase III release and areas that continue to have active mining activities associated with the Three Oaks Mine. In its review Staff separated baseline data from the long-term monitoring data for each LTSM station based on available information in the approved permit. LTSM Station No. I6 located downstream of the confluence of Walleye Creek and Cross Creek is the only monitoring station that receives runoff from areas affected by mining activities in the Three Oaks Mine.

(8) In the initial TA, Staff concluded that it could not recommend Phase III release from reclamation obligations for the proposed 515.8 acres in the north area of the Sandow Mine due to issues with the watershed maps, a lack of information regarding the correlation between the increasing trends in chloride and sulfate concentrations at LTSM Station No. 7 and the application of fertilizer to reclaimed areas, and the availability of alternative data sources relating to the 27.3-acre parcel surrounding Pond 014 that once analyzed would constitute a more accurate depiction of proposed area's eligibility for Phase III release.

(i). In Supplement No. 1, Alcoa did not provide a correlation between the increasing trends in chloride and sulfate concentrations to the application

of fertilizer to reclaimed areas; however, Alcoa provided a comparison to the baseline data for LTSM Station No. 13 located approximately 1.5 miles downstream of LTSM Station No. 7 on East Yegua Creek. The baseline data recorded at downstream LTSM Station No. 13 in 1977 show average concentrations of 1,078 mg/L and 322 mg/L for sulfates and chloride, respectively, which are higher than the average concentrations for sulfates (208.0 mg/L) and chloride (92.0 mg/L) at LTSM Station No. 7 for the period of record of June 1991 through July 2015. Based on this information, Alcoa concludes that sulfate concentrations are naturally occurring and are a result of the movement of sulfate materials in runoff. A comparison of the average concentrations of sulfates (124.9 mg/L) and chloride (82.3 mg/L) at downstream LTSM Station No. 13 to the average concentrations at LTSM Station No. 7 for the same period of record shows that some dilution is also occurring downstream of the permit boundary.

Alcoa provides graphs of sulfate and chloride concentrations in Supplement No. 1. For the north mine, although the average sulfate concentration of 208.0 mg/L at LTSM Station No. 7 is higher than the stream segment standard of 100 mg/L for Stream Segment No. 1212, Alcoa's graphs show a decreasing trend in sulfate concentration at the monitoring station since 2014. The graphs also show a decreasing trend in chloride concentration at LTSM Station No. 7 and the average concentration of 92.0 mg/L is lower than the stream segment standard of 100 mg/L. Based on this information, Staff concurs with Alcoa's assessment that sulfate and chloride concentrations at LTSM Station No. 7 have stabilized.

(ii). Based on the available data for the 488.5-acre parcel in the north mine area, the range for pH levels at LTSM Station Nos. 6, 7 and WQMPI fall within TCEQ stream segment criteria (6.5 standard units (s.u.) – 9.0 s.u.), except for one occasion on November 24, 2014, at LTSM Station No. 6 (6.06 s.u.).

(iii). Total iron (Fe) concentrations appear to remain consistent at LTSM Station Nos. 6, 7 and WQPMI. The average Fe concentrations at LTSM Station Nos. 6, 7 and WQPMI are, respectively, 0.8 mg/L, 0.7 mg/L and 0.5 mg/L. These average concentrations are lower than the average concentrations for LTSM Station Nos. 6 (2.5 mg/L), 7 (1.0 mg/L) and WQPMI (1.5 mg/L) for the baseline monitoring period. Alcoa indicates that EPA drinking-water standards for human consumption recommend Fe concentrations lower than 0.3 mg/L; however, these recommended levels have not been formally established for livestock watering and the receiving stream is not a source for human consumption. Graphical analyses of the data show an increasing trend in total Fe concentrations at upstream LTSM Station No. 6 and a declining trend at downstream and upstream LTSM Station Nos. 7 and WQPMI, respectively. Staff agrees with Alcoa's assessment and does not anticipate total Fe concentrations to have a negative impact on downstream water quality.

(iv). The average concentration for total manganese (Mn) at downstream LTSM Station No. 7 (0.7 mg/L) is higher than the average concentration at upstream LTSM Station No. 6 (0.3 mg/L) and lower than the concentration at upstream LTSM Station No. WQPMI (1.1 mg/L). Total Mn concentrations are expected to be higher at LTSM Station No. 7 because it is located downstream of areas previously disturbed by mining activities. However, Alcoa's graph of total Mn versus flow for LTSM Station No. 7 depicts a single concentration quite higher than all other concentrations. This high total Mn concentration (41.1 mg/L collected on April 13, 2004) can be considered an outlying data point. When this outlying data point is removed from the data the set, the average total Mn concentration at downstream LTSM Station No. 7 is reduced to 0.1 mg/L. This revised average concentration for LTSM Station No. 7 is not only lower than the average concentrations at upstream LTSM Station Nos. 6 and WQPMI, but also lower than the average concentration for the baseline data (0.5 mg/L).

(v). The average total suspended solids (TSS) concentration at downstream LTSM Station No. 7 (18.7 mg/L) is higher than the average concentration at upstream LTSM Station No. 6 (13.4 mg/L) and lower than the average concentration at upstream LTSM Station No. WQMPI (22.2 mg/L). Although Alcoa's graphs of TSS versus flow depict a decreasing trend at LTSM Station No. WQMPI and increasing trends in TSS concentrations at LTSM Station Nos. 6 and 7, the average TSS concentrations at LTSM Station Nos. 6, 7 and WQMP 1 are lower than the baseline average (67.6 mg/L) for LTSM Station No. 7. The TSS data support Alcoa's conclusion regarding the improvement in TSS concentration due to the construction of sedimentation ponds during mining and the establishment of vegetation during reclamation.

(vi). The flow-weighted average total dissolved solids (TDS) concentration calculated for downstream LTSM Station No. 7 (506.7 mg/L) is greater than the flow-weighted average TDS concentration for upstream LTSM Station No. 6 (304.2 mg/L) and lower than the flow-weighted average for upstream LTSM Station No. WQMPI (551.3 mg/L). A comparison of the average flow-weighted TDS concentration to stream segment criteria indicates that the TDS concentration at LTSM Station No. 7 (506.7 mg/L) is within the criteria specified for Stream Segment No. 1211 (640 mg/L, Yegua Creek, downstream of Somerville Lake) but exceeds the average annual maximum TDS concentration for Stream Segment No. 1212 (400 mg/L, Somerville Lake). In its analysis of the cumulative hydrologic impacts (Section 6.0 of the CHIA), Staff indicates that the effects of mining on TDS concentrations measured at Mass-Balance Location No. 2 (East Yegua Creek) could result in a maximum TDS of 223 mg/L, and anticipates an increase in the TDS concentration at Somerville Lake to a maximum of 230 mg/L, which is less than the maximum annual average concentration for Stream Segment No. 1212 (400 mg/L).

Alcoa's graphs of TDS versus flow show a downward trend in TDS concentration at LTSM Station No. 6 and upward trends at downstream LTSM Station Nos. 7 and upstream station WQMPI. In the application, Alcoa provides an explanation for the upward trend in TDS concentrations at downstream LTSM Station No. 7. Alcoa indicates that the highest TDS concentrations occurred during the early monitoring period from 1979 to 1991 and began to decline between 1991 and 2008 due to discharge of water from depressurization activities into East Yegua Creek. Alcoa provides in the application a graph depicting annual depressurization flow and average annual TDS concentration. When depressurization ceased in 2009, TDS concentrations began to rise in response to decreased flows in East Yegua Creek, peaking in April 2010 (808 mg/L). No discharge was reported between April 2010 and May 2012 due to an extended drought in the Sandow Mine area. Starting on May 22, 2012, flow measurements resumed at LTSM Station No. 7 and TDS concentrations have remained near the baseline average of 791 mg/L, ranging between 750 mg/Land 834 mg/L.

Alcoa also indicates that water quality in the C-Area End Lake will influence TDS concentrations in East Yegua Creek and provides a graph depicting daily TDS concentrations in the lake. Alcoa began daily sampling at the C-Area End Lake in April 2013 and indicates that the TDS concentration in the lake averages 768 mg/L. Alcoa provides a graph of daily TDS concentrations of the C-Area End Lake but the x-axis is not labeled on the graph and the pond sampling data were not provided in the application. With the exception of the x-axis not being completely labeled, the graph is identical to the graph submitted in the application for release from reclamation obligations covering 401.3 acres (Docket No. C14-0001-SC-01-F) approved on January 27, 2015. The graph is based on pond sampling data collected at the C-Area End Lake between April 17 and May 16, 2013. The pond sampling data were provided in the release application covering 401.3 acres and are available in the Commission files. The data

and graph indicate that TDS concentrations at the C-Area End Lake have remained stable and near the baseline average of 791 mg/L for the reporting period.

(vii). In Supplement No. 1, regarding the 27.3-acre parcel surrounding Pond 014 in the north mine area, Alcoa provided an evaluation of LTSM data available in Commission files for LTSM Station Nos. 11 and 12. In the Application for Phase III release from reclamation obligations, Alcoa submitted an analysis of data for LTSM Station Nos. 13, 6 and WQMPI to support release for the proposed parcel. LTSM Station No. 13 is located downstream of the confluence of East Yegua Creek and Ham Branch (approximately 1.5 miles downstream of permit boundary). LTSM Station Nos. 6 and WQMPI are located upstream of the mine on Country Club Creek and East Yegua Creek, respectively. Staff concluded it its initial TA that long-term monitoring data and analysis for LTSM Station No. 11 located on Ham Branch, prior to converging with East Yegua Creek downstream of Pond 014, would provide a better representation of the water quality immediately downstream of the proposed 27.3-acre parcel. Staff also concluded that the inclusion of analysis of the LTSM Station No. 12 data, in concert with LTSM Station No. 11, would provide a better comparison between disturbed and undisturbed stations than the analysis presented in the application. LTSM Station No. 12 is located on an unnamed tributary of Ham Branch upstream of the permit boundary northwest of Pond 013. Ham Branch intersects East Yegua Creek approximately 0.4 miles upstream of LTSM Station No. 13 and 1.1 miles downstream of the permit boundary (LTSM Station No. 7). East Yegua Creek drains to Somerville Lake and Yegua Creek, which were identified as Stream Segment Nos. 1212 and 1211 of the Brazos River Basin in Staff's initial TA. Staff recommended Alcoa provide an evaluation of the data in accordance with Advisory Notice ADB0-312 and depict LTSM Station Nos. 11 and 12 on the watershed maps submitted in the Application (Exhibit 142-WS).

(viii). Supplement No. 1 contains graphical analyses of data from LTSM Station Nos. 11 and 12 for pH, conductivity, total dissolved solids (TDS), total suspended solids (TSS), sulfates, chlorides, total iron (Fe) and total manganese (Mn). Alcoa also references in Supplement No. 1 the statistical analyses and collected data from LTSM Station Nos. 11 and 12 in Table 2 in the application for Phase I-III release from reclamation obligations of 7,916.7 acres (Docket No. C14-0017-SC-OI-F). Paper and electronic copies of the data for the LTSM stations were provided with the release application for 7,916.7 acres. Staff supplemented the data submitted by Alcoa with recent data available in the Division's files.

(ix). Based on the available data for the north mine area, the range for pH levels at LTSM Station Nos. 11 and 12 fall within TCEQ stream-segment criteria. A comparison of the reported chloride concentrations at LTSM Station Nos. 11 and 12 indicates that concentrations at LTSM Station No. 11 (downstream) are higher than the concentrations at LTSM Station No. 12 (upstream). However, the long-term monitoring data for LTSM Station No. 11 indicate that chloride concentrations at the monitoring station have remained below the stream segment standard of 100 mg/L since May 4, 2001. In a similar fashion, sulfate concentrations at LTSM Station No. 11 are higher than concentrations at LTSM Station No. 12 but have remained below the stream segment standard of 100 mg/L since February 9, 2010.

(x). Total Fe concentrations are lower at downstream LTSM Station No. 11 than at upstream LTSM Station No. 12. The total Fe concentrations for LTSM Station No. 11 for the period of record and are also lower than the concentrations observed during the baseline monitoring period. Moreover, Alcoa's graph of the data shows a decreasing trend in total Fe concentrations at downstream LTSM Station No. 11. Although the average Fe concentration at LTSM Station No. 11 (0.6 mg/L) is higher than EPA drinking-water standard for human consumption (0.3 mg/L), recommended

levels have not been formally established for livestock watering and the receiving stream is not a source for human consumption. Staff agrees with Alcoa's assessment and does not anticipate total Fe concentrations to have a negative impact on downstream water quality.

(xi). The average concentration for total Mn at downstream LTSM Station No. 11 (0.18 mg/L) is higher than the average concentration at upstream LTSM Station No. 12 (0.05 mg/L). Total Mn concentrations are expected to be higher at LTSM Station No. 11 because it is located downstream of areas previously disturbed by mining activities. However, Alcoa's graph of total manganese versus flow for LTSM Station No. 11 depicts a decreasing trend in total Mn and the average concentration at LTSM Station No. 11 is also similar to the average concentration (0.13 mg/L) from the baseline period. Staff concurs with Alcoa's finding that Mn concentrations at downstream LTSM Station No. 11 will continue to decrease over time.

(xii). The average TSS concentration at downstream LTSM Station No. 11 (11.8 mg/L) is lower than the average concentration at upstream LTSM Station No. 12 (63.0 mg/L). Although Alcoa's graphs of TSS versus flow depict an increasing trend at LTSM Station No. 11, the average TSS concentration for the monitoring station is lower than the baseline average (51.5 mg/L). The TSS data support Alcoa's conclusion regarding the improvement in TSS concentration due to mining activities (sedimentation ponds and establishment of vegetation during reclamation).

(xiii). The flow-weighted average TDS concentration calculated for downstream LTSM Station No. 11 (254.4 mg/L) is greater than the flow-weighted average TDS concentration for upstream LTSM Station No. 12 (85.5 mg/L). A comparison of the average flow-weighted TDS concentration to stream segment criteria indicates that the TDS concentration at LTSM Station No. 11 is within the criteria specified for Stream Segment No. 1212 (400 mg/L, at Somerville Lake). In its analysis of the cumulative hydrologic impacts

(Section 6.0 of the CHIA), Staff indicates that the effects of mining on TDS concentrations measured at Mass-Balance Location No. 2 (East Yegua Creek) could result in a maximum of 223 mg/L, and anticipates an increase in the TDS concentration at Somerville Lake to a maximum of 230 mg/L, which is less than the maximum annual average concentration for Stream Segment No. 1212 (400 mg/L). The flow-weighted TDS concentration at downstream LTSM Station No. 11 exceeds the TDS concentration predicted in the CHIA at Somerville Lake but Alcoa's graph of TDS versus flow for the monitoring station depicts a downward trend. Based on the available data for the monitoring stations, TDS concentrations are not expected to have a negative impact downstream on East Yegua Creek.

(9) For the south area mine, Staff and Alcoa provided comparisons between the water quality at upstream and downstream long-term surface water monitoring stations as well as comparisons to available baseline data and receiving stream segments. Staff noted no material deleterious effects on water quality.

(i). The range of pH at upstream LTSM Station No. 1 (6.83 – 8.46) and downstream LTSM Station No. 2 (6.59 – 8.48) falls within the TCEQ stream segment standard (6.5 – 9.0). Chloride concentrations at upstream LTSM Station No. 1 are lower than the concentrations at downstream LTSM Station No. 2, and recent stream-monitoring data indicate an increasing trend in chloride concentration at both LTSM stations. A comparison of chloride concentrations to baseline data cannot be made because baseline data were not recorded for this parameter at LTSM Station Nos. 1 and 2; however, the average annual chloride concentrations at LTSM Station Nos. 1 (6 mg/L) and 2 (73.9 mg/L) are below the criterion for Stream Segment No. 1212 (100 mg/L).

(ii). Sulfate concentrations at downstream LTSM Station No. 2 are higher than concentrations at upstream LTSM Station No. 1. Stream-monitoring data indicate an increasing trend in sulfate at LTSM Station No. 2 starting in

January 2015 and a consistent sulfate concentration of approximately 3 mg/L at LTSM Station No. 1 since January 2013. Baseline data were not recorded for sulfate at the LTSM stations during the monitoring period. The average sulfate concentration at upstream LTSM Station No. 1 (8.8 mg/L) is lower than the criteria for Stream Segment No. 1212 (100 mg/L) while the average concentration at downstream LTSM Station No. 2 (104.9 mg/L) is only slightly higher.

(iii). Total Fe concentrations are lower at downstream LTSM Station No. 2 than at upstream LTSM Station No. 1 with average Fe concentrations of 0.9 mg/L and 2.2 mg/L, respectively. Alcoa indicates that EPA drinking-water standards for human consumption recommend levels of Fe lower than 0.3 mg/L; however, recommended levels have not been established for livestock watering and the receiving stream is not a source for human consumption. Graphical analyses of Fe at both monitoring stations indicate an increasing trend in total Fe concentration at LTSM Station No. 1 (upstream) and a declining trend at LTSM Station No. 2 (downstream). Limited baseline data is available for downstream LTSM Station No. 2. The baseline data have an average concentration of 1.5 mg/L which is higher than the average concentration of 0.9 mg/L for downstream LTSM Station No. 2. Based on the available information total Fe concentrations are not expected to have a negative impact on downstream water quality.

(iv). Total Mn concentrations are higher at downstream LTSM Station No. 2 than at upstream LTSM Station No. 1 with average Mn concentrations of 0.3 mg/L and 0.1 mg/L, respectively. Alcoa indicates that EPA does not have a primary drinking water standard for Mn and has established a secondary standard for taste only of 0.05 mg/L. The average total Mn concentrations for LTSM Station Nos. 1 and 2 exceed EPA's secondary standard but Alcoa indicates that the receiving stream is not utilized for drinking water and therefore it does not anticipate total Mn concentrations to have a negative impact on downstream water quality. Graphical

analyses of Mn at both monitoring stations indicate a decreasing trend in total Mn concentration. Limited baseline data for Mn is available for LTSM Station No. 2. The baseline data have an average concentration of 0.6 mg/L which is higher than the average concentration of 0.3 mg/L for LTSM Station No. 2.

(v). TSS concentrations at downstream LTSM Station No. 2 are lower than the concentrations recorded at upstream LTSM Station No. 1. Alcoa's graphs of TSS versus flow depict decreasing trends in TSS concentrations at LTSM Station Nos. 1 and 2. The average TSS concentration at LTSM Station No. 2 (19.3 mg/L) is lower than the baseline average (120 mg/L) for Middle Yegua Creek listed in Table .146-26 of Permit No. IF. The TSS data support Alcoa's conclusion regarding the improvement in TSS concentration due to the construction of sedimentation ponds during mining and the establishment of vegetation during reclamation.

(vi). The flow-weighted average TDS concentration calculated for downstream LTSM Station No. 2 (420.I mg/L) is greater than the flow-weighted average TDS concentration for upstream LTSM Station No. 1 (193.9 mg/L). A comparison of the average flow-weighted TDS concentration to stream-segment criteria indicates that the TDS concentration at downstream LTSM Station No. 2 (420.1 mg/L) is within the criterion specified for Stream Segment No. 1211 (640 mg/L, Yegua Creek, downstream of Somerville Lake) but exceeds the average annual maximum TDS concentration for Stream Segment No. 1212 (400 mg/L, Somerville Lake). In its analysis of the cumulative hydrologic impact (section 6.0 of the CHIA), Staff indicates that the effects of mining on the TDS concentrations measured at Mass-Balance Location No. 1 (Middle Yegua Creek) could result in a maximum of 480 mg/L, and anticipates an increase in the TDS concentration at Somerville Lake up to a maximum level of 230 mg/L, which is less than the maximum annual average concentration for Stream Segment No. 1212 (400 mg/L). The flow-weighted TDS concentrations at both LTSM stations

exceed the TDS concentration predicted in the CHIA at Somerville Lake. However, Alcoa's graphs of TDS versus flow show a downward trend in TDS concentration at LTSM Station Nos. 1 and 2. Additionally, Table .146-26 in Permit No. IF indicates an average baseline TDS concentration for Middle Yegua Creek of 686 mg/L which is higher than the average TDS concentrations for upstream LTSM Station No. 1 (193.9 mg/L) and downstream LTSM Station No. 2 (420. I mg/L). Alcoa indicates that TDS concentrations at LTSM Station No. 2 have averaged 131 mg/L since 2010 and anticipates TDS concentrations along the stream to remain near this level. Staff agrees with Alcoa's assessment because except for a reported TDS concentration of 387 mg/L on April 7, 2015, TDS concentrations at LTSM Station No. 2 since 2010 have remained below 131 mg/L.

(vii). In the initial TA, Staff recommended Phase III release from reclamation obligations for the proposed 1,105.6 acres in the south area of the Sandow Mine based on data provided in the application and Staff's evaluation of the information with respect to stream segment criteria.

(10) Runoff from 488.5 acres proposed for Phase III release from reclamation obligations in the north area of the Sandow Mine drains to the C-Area End Lake. This end lake is covered under Water Rights Permit No. 5803. In the south area of the Sandow Mine, runoff from the 1,105.6 acres proposed for Phase III release drains to the North F, F, FG-1, FG-2, G and H-Area End Lakes. The North F, F, FG-1, FG-2 and G-Area End Lakes are covered under Water Rights Permit No. 5816. The H-Area End Lake is covered under Water Rights Permit No. 12190. Alcoa provides an analysis of surface water quantity in comparison to the PHC determination in Permit No. IF. In the analysis Alcoa indicates that increases in surface water runoff will mitigate increases in evaporative losses. Based on the premine and postmine conditions considered in Table 146-25, Alcoa estimates the annual evaporation losses (1,817 ac-ft/yr) for all permanent impoundments to be approximately 2% in comparison to the combined average flows of USGS Stations 08109700 and 08109800 on East and Middle Yegua Creeks (84,000 ac-ft/yr). In

its CHIA, Staff anticipated slight changes in the quantity of surface water available to downstream water users. Staff also determined that the amount of water stored in the impoundments and lost to evaporation is negligible (3.7% on Yegua Creek) when compared to the aggregate amounts of water originating from the drainage basins upstream of the Cumulative Impact Area (CIA). Alcoa's conclusion regarding the impact of sedimentation ponds on water quantity is reasonable.

Runoff from an additional 27.3 acres for Phase III release in the north area of the mine drains to Ham Branch. Alcoa did not provide a surface water quantity analysis to support Phase III release for this proposed parcel. However, Staff evaluated the flow measurements taken as part of the long-term monitoring plan. A comparison of the flow data for LTSM Station Nos. 11 and 12 indicates that the range and average flow for upstream LTSM Station No. 12 are higher than the range and average flow for downstream LTSM Station No. 11. Theoretically, the flow measurements at downstream LTSM Station No. 11 should be larger even if Ponds 013 and 014 attenuate some of the flow because the station is located further downstream on Ham Branch than upstream LTSM Station No. 12 and it has a larger watershed. But the flow measurements taken at both monitoring stations for the period of record were taken on the same dates only 8.1 % of the time (6 samples out of 74), so a clear correlation between the flows at the stations cannot be made. Staff then considered the surface area and evaporative losses for Pond 014. The pond is located within the 27.3 acres proposed for Phase III release and has a surface area of 10.9 acres. Its estimated evaporative losses are 24 acre-feet/year (Table .146-23 in Permit No. 1F). The evaporative losses are only 1.3% of the estimated annual evaporative losses for all permanent impoundments (1,817 acre-feet/year) considered in the PHC determination. Therefore, Staff believes that the 27.3-acre parcel proposed for Phase III release will have a minimal impact on water quantity outside the permit boundary.

25. Of the 1,621.4 acres proposed for Phase III release, 1,567.8 acres are bonded at the mined rate (Phase II release) of $1,080/acre and 53.6 acres are bonded at the disturbed rate (Phase II release) of $1,080/acre. If the Application is approved by the Commission, as proposed,

Alcoa would be eligible to reduce its performance bond obligations by $1,926,223.20, as shown in the following table:

Bond Reduction as Proposed

Phase Requested	Area Acres	Disturbance Category	Bonded Per Acre	Eligible Reduction Per Acre	Eligible Reduction
Phase III	1,567.8	Mined	$1,080.00	$1,080.00	$1,693,224.00
Phase III	53.6	Disturbed	$1,080.00	$1,080.00	$57,888.00
Subtotal					**$1,751,112.00**
Admin. Costs (10%)					$175,111.20
Total					**$1,926,223.20**

26. The eligible bond reduction amount, based upon the Findings of Fact contained in this Order and Staff calculations, with which Alcoa agrees, is $1,926,223.20. No reduction of the $14,000,000 surety bond approved by Order dated August 1, 2017 is requested in this Application.

27. All acres requested for release were marked in the field to distinguish them from active mining and reclamation areas.

28. Open meeting notice has been posted for Commission consideration of this Application in accordance with Tex. Gov't Code Ann. Ch. 551 (Vernon Supp. 2017).

CONCLUSIONS OF LAW

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

1. Proper notice was provided for this request for release of reclamation obligations.

2. A public hearing on the request is not warranted.

3. Alcoa has complied with all applicable provisions of the Act and the Regulations regarding notice for Commission jurisdiction to attach to allow consideration of the matter.

4. Alcoa has complied with all applicable provisions of the Act and the Regulations for release of reclamation obligations for the areas requested for release as set out in the Findings of Fact.

5. The Commission may approve a release of reclamation obligations for Phase III reclamation obligations on 1,621.4 acres, as set out in the Findings of Fact.

6. An eligible bond reduction amount of $1,926,223.20 for use in reclamation cost estimates may be determined.

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 a release of Phase III reclamation obligations on 1,621.4 acres, as set out in the Findings of Fact, is hereby approved;

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, as a result of the Phase III release of 1,621.4 acres, the Commission approves an eligible bond reduction amount of $1,926,223.20;

IT IS FURTHER ORDERED that the Commission may vary the total amount of bond required from time to time as affected land acreage is increased or decreased or where the cost of reclamation changes;

IT IS FURTHER ORDERED that the areas shall continue to be marked in the field to assist in future field inspections of other areas; 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. As authorized by 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 this 19th day of September, 2017.

RAILROAD COMMISSION OF TEXAS

Christi Craddick

CHAIRMAN CHRISTI CRADDICK

COMMISSIONER RYAN SITTON

COMMISSIONER WAYNE CHRISTIAN

ATTEST:

Kathy Way

Secretary, Railroad Commission of Texas