RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

SURFACE MINING DOCKET NO. C16-0023-SC-33-C

**APPLICATION BY THE SABINE MINING COMPANY
FOR RENEWAL/REVISION OF PERMIT 33H
SOUTH HALLSVILLE NO. 1 MINE
HARRISON COUNTY, TEXAS**

ORDER OF APPROVAL AND ISSUANCE OF PERMIT NO. 33I

Procedural History

Application Filed:	June 13, 2016
Supplement 1:	July 20, 2016
Supplement 2:	August 14, 2017
Supplement 3:	January 24, 2018
Staff's Technical Analysis (TA):	May 29, 2018
Mailing of Notice of Application:	June 7, 2018
Publication of Notice of Application:	June 6, 13, 20, and 27, 2018
Supplement 4:	June 1, 2018
Staff's Technical Analysis Addendum (TAA):	June 8, 2018
Hearing Request Filed:	July 26, 2018
Informal Conference Held:	September 27, 2018
Prehearing Conference Held:	October 31, 2018
Hearing on the Merits:	December 5 and 13, 2018
Proposal for Decision (PFD) Issued:	January 23, 2019

Statement of the Case

The Sabine Mining Company (Sabine), 6501 FM 968 West, Hallsville, Texas 75650, has applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division for renewal and revision of its Permit 33H for the South Hallsville No. 1 Mine. The application was filed pursuant to §134.081 of the Texas Surface Coal Mining and Reclamation Act, Tex. Nat. Res. Code Ann. Ch. 134 (Vernon Supp. 2018) and 16 Tex. Admin. Code Ch. 12, (Thomson West 2018) (Regulations). Permit 33H currently authorizes surface mining operations at the South Hallsville No. 1 mine, located in Harrison County, Texas approximately ten miles south of Hallsville. Sabine proposes to renew and revise operations at the mine and denotes a five-year renewal term of 2016-2020 in the permit application.

Public and other notices required by law were issued. One hearing request was received from a landowner, Clayton Morris ("Protestant"). Following a Prehearing Conference held on October 31, 2018, the Protestant was determined to be a party. A hearing on the merits was held in Marshall, Texas on December 5, 2018, was continued, and was completed on December 13, 2018 in Austin, Texas. The Protestant contends that the application should be denied, citing right-of-entry, reclamation, and suitability concerns. Sabine and the staff of the Surface Mining and Reclamation Division (SMRD or Staff) agree to the issuance of the requested permit. Sabine, however, disagrees with the adoption of two permit provisions requested by Staff.

In a Proposal for Decision (PFD) dated January 23, 2019, the Administrative Law Judge (ALJ) recommended approval of the application and the adoption of each of Staff's proposed permit provisions, with certain modifications to the language of the provisions. Exceptions and Comments were filed by Staff to request clerical corrections in the PFD, including the removal from Finding of Fact No. 36 of certain verbiage pertaining to soil handling, included in error in Staff's proposed order. Exceptions were also filed by the Protestant pertaining to the merits of the application. No replies were filed. Additionally, Agency records reflect that Sabine filed an updated certificate of insurance on January 31, 2019 for the term of February 1, 2019 through February 1, 2020. As stated below, with clerical corrections and the notation of the filing of the updated certificate of insurance, the Commission adopts the Administrative Law Judge's proposed Findings of Fact and Conclusions of Law contained in the PFD.

FINDINGS OF FACT

1. By letter dated June 13, 2016, in accordance with §134.075 of the Act, The Sabine Mining Company (Sabine) submitted its Application for revision of its Permit No. 33H, for mining operations in the Q, R, and S Areas of the South Hallsville Mine, Harrison County, Texas (Initial Application). The permit for the mine was last renewed by Order dated December 13, 2011 for a five-year term. Sabine submitted the timely Application to the Commission's Surface Mining and Reclamation Division (SMRD) pursuant to the Texas Surface Coal Mining and Reclamation Act (the "Act"), Tex. Nat. Res. Code Ch. 134 (Vernon Supp. 2018) and the Commission's "Coal Mining Regulations," 16 Tex. Admin. Code Ch. 12 (Thomson West 2018) The permit authorizes mining and reclamation activities within a permit area of 44,401 acres. American Electric Power (AEP) [also known as Southwestern Electric Power Company (SWEPCO) and referred to in this Order as AEP/SWEPCO or SWEPCO], and Sabine are parties to a Reinstatement of Lignite Mining Agreement dated January 1, 2008 and Amendment dated October 13, 2013, for Sabine to mine the reserves in, upon, and underlying the lands covered by the permit application which SWEPCO has leased and/or owns in fee. The operator and permittee, Sabine, is a wholly-owned subsidiary of The North American Coal Corporation which is itself wholly-owned by NAACO Industries, Inc. Sabine provides lignite from the mine to AEP/SWEPCO for its Henry W. Pirkey Power Plant located adjacent to the mine. The Director, SMRD, determined the Application to be administratively complete and transferred the Application to the Hearings Division by letter dated July 29, 2016. Sabine paid the required application fee of $3,000. Staff issued comments on November 18, 2016

and December 22, 2017, issued its Technical Analysis document (TA) on May 29, 2018 and issued its Technical Analysis Addendum (TAA) on June 8, 2018. Sabine filed Supplement No. 1 (SD1) by letter dated July 25, 2016, Supplement No. 2 (SD2) by letter dated August 18, 2017, Supplement No. 3 (SD3) by letter dated January 24, 2018 and Supplement No. 4 (SD4) by letter dated June 1, 2018. Staff recommended a total of eight permit provisions, including one revised, one retained, and six new (TA Addendum and hearing testimony). The current permit includes six permit provisions. Staff proposes revising current Permit Provision No. 1, retaining current Permit Provision No. 2, and removing current Permit Provisions Nos. 3 through 6. Staff is recommending six new provisions.

2. The current permit area is made up of approximately 44,401 acres under Permit No. 33H. Sabine proposes continuation of the mining activities in the Q2, R and S areas within the existing permit boundaries. Sabine plans to mine approximately 791.9 acres within the approved permit area.

3. The Application, as supplemented, has met the requirements for format and content, information, and technical data as set out in §12.107 (a)-(g) of the Regulations, with the adoption of the recommended permit provisions set forth in Appendix I to this Order.

4. The Application was filed at least 180 days prior to the projected implementation of the renewal/revision in accordance with §12.106(b) of the Regulations.

5. Notice of the Application was published once each week for four consecutive weeks in a newspaper of general circulation in the locality of the surface mining and reclamation operations on June 6, 13, 20, and 27, 2018 in *The Marshall News Messenger* in Harrison County, Texas. Sabine identified the location of the public offices where the Application, as supplemented, was filed in accordance with §12.122 of the Regulations and submitted by letter dated July 3, 2018, an original affidavit and news clippings showing publication in accordance with §12.123 of the Regulations. The notice of application as published contains all information required by the Act and the Regulations. All of the information contained in the supplements to the Application was for the purpose of supplementation, clarification, revision, limitation, or correction of data and information addressed in sections of the administratively complete application. The Application and all supplements were appropriately placed on file for public inspection. The information contained in the supplemental documents does not constitute a material change to an application for which additional notice must be provided pursuant to §12.212(d) of the Regulations. The required public notice was published after the filing of Supplements 1, 2, 3 and 4. The notice indicated that the Application might be further supplemented.

6. A copy of the Application was filed for public review in the office of the Harrison County Clerk in Marshall, Texas; copies were also filed with the Railroad Commission of Texas in Austin.

7. In accordance with its policy, on June 7, 2018, the Commission mailed notice of

application to owners of interests in lands within the permit boundary and tracts adjacent to the permit boundary. Returned notices of Commission mailing of notice of application for which updated or corrected addresses were available were re-mailed.

8. On June 7, 2018 the Commission mailed notice of application to the appropriate divisions of the Texas Commission on Environmental Quality (TCEQ); Texas Historical Commission (THC); University of Texas, Bureau of Economic Geology; Texas State Soil and Water Conservation Board; Texas Parks and Wildlife Department (TPWD); General Land Office; USDA, Natural Resources Conservation Service (NRCS); U. S. Department of the Interior (USDI) Fish and Wildlife Service (USFWS), to the USDI Office of Surface Mining Reclamation and Enforcement, and to the Harrison County Clerk and County Judge, as required by §12.207(c) of the Regulations.

9. No agencies filed comments on the application, with the exception of TPWD, which filed comments by letters dated October 21, 2016 and October 17, 2017. The TPWD October 21, 2016 comment letter included recommendations for Section 12.145. The SMRD Staff addressed these comments in their November 18, 2016 comment letter on the Application and Supplement No. 1. The TPWD October 17, 2017 comment letter included recommendations for Sections 12.133, 12.144 and 12.145. Staff addressed these comments in their December 22, 2017 comment letters on the Application, SD1 and SD2, and in their May 29, 2018 Technical Analysis document.

10. One hearing request was filed on behalf of landowner Clayton Morris (the Protestant) by his wife, Carolyn Morris. The request was filed timely pursuant to §12.211(a) of the Regulations.

11. Other individuals wrote or telephoned the Commission, in response to the public notice, with inquiries about the Application and were referred to Sabine and/or Staff's representative for information. No comments, other than those from the Protestant and TPWD, were filed.

12. An Informal Conference was held on September 27, 2018 to facilitate discussions between the Protestant, Staff, and Sabine. Thereafter, in response to Sabine's motion to challenge the Protestant's party status, a Prehearing Conference was held on October 31, 2018.

13. Mr. Morris owns two tracts of land, identified in Sabine's Application as Tracts 10-39A and 10-39G. These tracts ("The Morris Tracts") are within both the current and proposed permit boundaries, but are not within the areas proposed for mining during the 2016-2020 permit term. The Morris Tracts are located, at their nearest point, approximately five miles from the nearest disturbance boundary proposed in this Application. The Morris Tracts have been owned by various relatives in Ms. Morris' family for many years. A portion of Tract 10-39A was mined by the Applicant in approximately the year 1998. The remainder of Tract 10-39A and the entirety of Tract 10-39G were not disturbed by mining activities. The mined tract is considered by the Applicant and SMRD

to be under reclamation. At the Prehearing Conference, and in prehearing filings, Ms. Morris indicated that the Protestant disputed Sabine's right-of-entry to the tracts and had concerns regarding the reclamation plan and reclamation timeframe. Following the Prehearing conference, the ALJ determined by order dated November 5, 2018 that Mr. Morris' interest in the application was sufficient to entitle him to party status under the Act and Regulations. No revisions affecting the Morris Tracts are proposed in this Application.

14. A public hearing in this case was held on December 5, 2018 at 9:00 AM at City of Marshall City Hall, Room 201 (2nd Floor Conference Room), 401 S. Alamo Blvd., Marshall, Texas. On November 9, 2018, notice of the hearing was provided to the parties, to public agencies and authorities required by law, and to persons who had expressed an interest in the application. Pursuant to §12.212(a) of the Regulations, notice of the hearing was published for three consecutive weeks on November 11, 18, and 25, 2018 in *The Marshall News Messenger*, a newspaper of general circulation in Harrison County, Texas. No persons appeared to give public comment or to request party status. Testimony on the merits was taken on December 5, 2018. The hearing was continued to December 13, 2018 in Austin, Texas, by announcement at the December 5 setting pursuant to §12.213 of the Regulations, and was completed at that setting.

15. At the hearing, the Protestant challenged Sabine's right-of-entry to the Morris Tracts. The Protestant further challenged the postmine land use designation of forestry for a portion of Tract 10-39A, alleging that landowner consultation had not occurred. The Protestant further alleged an unmarked cemetery to exist within the Morris Tracts.

16. Sabine claims right-of-entry to the Morris Tracts based on a 1974 coal lease entered into by a predecessor-in-interest to the Protestant. No legal proceedings to challenge the validity or interpretation of this lease have been instituted. The 1974 lease provided that grass for grazing would be planted on disturbed areas.

17. In 1999, Mr. Morris and his then co-owner, by means of a 1999 coal lease amendment, authorized in writing the planting of pine trees in place of grass, thus consenting to the postmine land use of forestry. Either Mr. Morris, or his wife, acting as his authorized agent, signed this document. Although the document bore the notarial seal of Tim Burton, land agent for SWEPCO, Mr. Burton did not witness the signing of the document. The Regulations do not require that landowner consultations concerning land use be acknowledged in writing.

18. Prior to mining on Tract 10-39A, Sabine conducted the required archeological survey, in consultation with the Texas Historical Commission. The archeological survey did not indicate the presence of cemeteries on the Morris Tracts. Prior to the December 5, 2018 hearing in this case, neither Sabine nor Staff were advised of the existence of a cemetery on the Morris Tracts. No cemeteries exist within the Morris Tracts.

19. Section 116 of the application, as supplemented, includes all information required to show organizational information, ownership interests, and compliance information,

including other mining permits and identifications in compliance with § 12.116 (Application and Supplements).

20. Section 117 of the application, as supplemented and with the inclusion of Permit Provision Nos. 1, 2 and 4 (Appendix I of this Order), meets the requirements of § 12.117 of the Regulations. The following are included in the application: Table 117-1, Legal or Equitable Owners of Record of the Surface and Mineral Property Within the Permit Area (SD2); Table 117-2, Surface and Subsurface Owners Contiguous to any Part of the Permit Area (SD3); Exhibit 1, Land (SD3).

(a). Permit Provision No. 1 requires Sabine to demonstrate to the Commission its right to enter and provide documentation of its consultation with affected landowners concerning its proposed postmine land-use plans, prior to disturbance for Tract Nos. 1037-023, 1126-002, 1135-020.1, 1233-004.1, 1391-016.2, 1391-018.1, 1399-002, 1446-006, 1446-008 and 1447-003.

(b). The Application, as supplemented, includes required right-of-entry information, including oil and gas leasehold ownership. To ensure that Sabine retains a current right to mine through or disturb existing oil and gas wells and oil and gas pipelines as shown on the proposed operations plan, Permit Provision No. 2 requires Sabine to: (1) provide to the Commission documentation of its right of entry to mineral-estate leasehold interests; (2) provide information sufficient to comply with the requirements of §§12.382, 12.401, and 12.402 along with documentation of approval or accommodation agreement with the pipeline owner prior to disturbing any oil and gas pipelines; and (3) obtain permission from the Commission in accordance §12.226 of the Regulations prior to mining through or disturbing any oil or gas wells or any oil and gas pipelines.

(c). Permit Provision No. 4 requires Sabine to provide a revised Exhibit 8B, Oil and Gas map at a 1-inch to 500-feet scale, which depicts the entire permitted area. The revised Exhibit 8B shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations. For clarification, Permit Provision 4 in this Order is new and replaces Permit Provision 4 in prior orders.

21. The requirements of §12.118(a), (b), and (c) of the Regulations have been met. The permit area is not within an area designated as unsuitable for surface mining activities under the Regulations and not within any area under study for designation in an administrative proceeding.

(a). No public parks or federal lands are located within the permit area. Sabine's plan for the protection of cultural resource sites is found in section .125 of this application.

(b). The identification of public roads within and/or adjacent to the mine plan

area is provided in section .152 of the application. No new public-road closures, relocations, or crossings, other than at-grade crossings, will be initiated without prior written approval of the Commission.

(c). Sabine will obtain necessary approvals of the authority with jurisdiction over public roads prior to any proposed public road relocation, closure, abandonment, or other operation, as required by §§ 12.071(4),12.072(e) and 12.152 of the Regulations, and the Commission will be notified. Mining operations are planned to be conducted within 100 feet of the outside right-of-way of public roads within the permit area. No mining operations within 100 feet of the outside right-of-way of public roads will commence until the roads are closed by the authority having jurisdiction over these roads. When a public road is not closed and Sabine intends to conduct mine-related disturbance within the buffer zone, Commission approval will be obtained prior to conducting any mining-related operations within 100 feet of the outside right-of-way of a public road.

(d). Table 118-1 (SD2) contains a list of waivers from the landowners of four (4) tracts allowing surface-mining activities within 300 feet of an occupied dwelling. The waiver letters from landowners are included in Appendix 118-2 (SD2).

22. Section 119 of the Application, as supplemented, meets the requirements of §12.119 of the Regulations. The term for this permit renewal is five years from the date of Commission approval. The subject permit area is approximately 44,401 acres. This acreage is based on the permit boundary and is shown on Exhibit 1 Initial Application. Table 139-1 (SD3) shows the estimated number of acres to be mined, tons of coal to be mined, total disturbed acres, graded and leveled acres, acres to be revegetated and the estimated Phase III bond release planned to be completed during the permit term. Sabine does not propose a permit term in excess of five years.

23. Section 120 of the Application, as supplemented, meets the requirements of §12.120 of the Regulations. A copy of a certificate of insurance, effective February 1, 2017, through February 1, 2018 is included (SD2). Under separate cover by letter dated January 29, 2018 Sabine submitted a new certificate of insurance. The new certificate is effective February 1, 2018 through February 1, 2019. The Commission approved the new certificate by letter dated March 12, 2018. Sabine is insured by Greenwich Insurance Company with a commercial general liability policy, Policy No. RGD 3001040-02 for $2,500,000 general aggregate and $1,000,000 each occurrence. The Sabine Mining Company, South Hallsville No. 1 Mine is the insured party. The Railroad Commission of Texas' Surface Mining and Reclamation Division is the certificate holder. On January 31, 2019, Sabine filed with SMRD for approval an updated insurance certificate for the term February 1, 2019 through February 1, 2020 that is currently being reviewed by Staff.

24. Section 121 of the Application, as supplemented, meets the requirements of §12.121 of the Regulations. Table 121-1 contains information for other licenses and

permits (SD2) and is duplicated below.

Type of Permit	Name and Address of	Identification Number	Status	Special Notes
Mine Identification No.	Mine Safety and Health Administration U. S. Department of Labor Denver Training Center P. O. Box 25367, DFC 730 Sims Denver, Colorado 80225	MSHA41-03101-01L	Issued 11/02/81	
Waste Water Discharge	U.S. Environmental Protection Agency (USEPA) Region VI 1445 Ross Avenue Suite 1200 Dallas, TX 75202	NPDES Permit No. TX 0088935	Effective 12/13/82 Amended 03/21/85 Renewal submitted 06/12/87 Effective 02/16/88 Renewal submitted 08/19/92 Effective 03/25/93 Replaced by TPDES #02538	
Waste Water Discharge	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	No. 02538	Effective 03/22/82 Amended 04/15/85 Renewal submitted 11/04/86 Issued 09/29/87 Renewal submitted 07/22/92 Issued 03/25/93 Replaced by TPDES #02538 Draft Permit Received 12/10/07	
Waste Water Discharge	Texas Commission on Environmental Quality P.O. Box 13087 Capitol Station Austin, TX 78711	TPDES Permit No. 2538	Issued 01/11/02 Renewal Submitted 10/1/07 Issued 8/27/08	
Waste Water Discharge	Texas Commission on Environmental Quality P O. Box 13087 Capitol Station Austin, TX 78711	TPDES Permit No. WQ0002538000	Renewal Submitted 10/24/15 Issued - Pending	
Prevention of Significant Deterioration (Air Quality)	U. S. Environmental Protection Agency (USEPA) Region VI 1445 Ross Avenue Suite 1200 Dallas, TX 75202	Application No. PSD-TX-64	Applied 05/29/80 Declared exempt 09/03/80	
Water Rights Exemption	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Order Issued by TNRCC (Unnumbered)	Exempted 09/18/86	C-8 (5 ac-ft)
Water Rights Appropriation (8-8 and C-8 (Note: B-8 has been Reclaimed)	Texas Commission on Environmental Quality P. O Box 13087 Capitol Station Austin, TX 78711	Permit No. 5082	Issued 10/28/86	8-12 (5 ac-ft) B-13 (5 ac-ft)
Water Rights Appropriation (8-12, 8-13, and 8-14)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station	Permit No. 5124	Issued 06/10/87	8-15 (100 ac-ft)

(Note: 8-14 has been reclaimed)	Austin, TX 78711			
Water Rights Appropriation (8-15)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5177	Issued 09/06/88	E-1 (100 ac-ft)
Water Rights Appropriation (E-1)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5246	Issued 10/17/89	E-2 (100 ac-ft)
Water Rights Appropriation (E-2)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5382	Issued 12/11/91	D-1 J(100 ac-ft)
Water Rights Appropriation (D-1)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5454	Issued 07/14/93	
Hazardous Materials Registration	U. S. Department of Transportation Hazardous Material Registration P. O. Box 740188 Atlanta, GA 30374-0188	Permit No. 032295001001C	Renewed 2001	
Temporary Water Rights Appropriation (M1-Diversion)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5607	Issued 8/21/98	
Temporary Water Rights Appropriation (Q-4)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 12049	Issued 04/09/07	
Temporary Water Rights Appropriation (S-1)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Permit No. 5662	Issued 12/6/2000	400 ac-ft
Water Supply Contract (SABINE and SWEPCO)	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Contract No. 1557 Permit No. 3618	Executed 10/25/85	
Industrial Solid Waste Registration	Texas Commission on Environmental Quality P. O. Box 13087 Capitol Station Austin, TX 78711	Registration No. 34694	Received 02/15/85 Amended 04/18/85 Amendment to conditionally exempt small quantity generator	
Notification of Hazardous Waste Activity	U. S. Environmental Protection Agency (USEPA) Region VI 1445 Ross Avenue Suite 1200 Dallas, TX 75202	EPA ID No. 0508007000341 TXD 11 743 2823	Received 06/21/85 Issued 5/26/00 Expires 6/30/01	South Hallsville

Section 404 Permit	USCOE Fort Worth District P. O. Box 17300 Ft. Worth, TX 76102-0300	Permit No. 13 (RRC)	Approved 05/09/86	Pipelines
State Program General Permit	USCOE	Permit No. 24 (RRC)	Included 02/09/87	
SWF-85-Texas-SPGP-1 Case No. 86-00348	USCOE	Permit No. 33 (RRC)	Approved 08/05/91 Reauthorized 09/03/92 Issued 11/8/00	
Section 404 Permit	USCOE	Project No. 200000815		
Nationwide Permit 12	USCOE	Project No. 1996011		Slone Property Channel
Nationwide Permit 21	USCOE	Project No. 200300185	Issued 1/9/04	
Nationwide Permit 27	USCOE	Project No. 290400657	Issued 4/28/05	
Letter of Permission (LOP-3)	USCOE	Project No. SWF-2012-0043	Issued 5/9/12 Modified 9/17/15	

25. The Application, as supplemented, contains the information required by §12.122 of the Regulations. Copies of Sabine's Permit No. 33H renewal/revision application were made available at the time of original application filing and remained available for public inspection at the Office of the County Clerk in Harrison County, and at the office of the Railroad Commission of Texas in Austin, Texas. Section 122 of the Application contains the physical addresses for each office. Each supplement to the application was made available at these offices at the time of filing of each supplement.

26. Section 12.123 of the Application, as supplemented, meets the requirements of §12.123 of the Regulations. The Commission approved the notice for publication by letter dated April 25, 2018. Notice of the Application was published once each week for four consecutive weeks in a newspaper of general circulation in the locality of the surface mining and reclamation operations on June 6, 2018, June 13, 2018, June 20, 2018 and June 27, 2018, in *The Marshall News Messenger* in Harrison County, Texas. In that notice, Sabine identified the location of the public offices where the Application, as supplemented, was filed. Sabine submitted an original affidavit and news clippings by letter dated July 3, 2018 demonstrating publication in accordance with §12.123 of the Regulations.

27. Section 12.124 of the Application, as supplemented, meets the requirements of §12.124 of the Regulations. The contents of this permit application provide complete

descriptive information on the pre-mining environmental resources that may be affected or impacted by the existing or proposed surface mining activities.

28. Section 12.125 of the Application, as supplemented, meets the requirements of §12.125 of the Regulations.

(a). Table 139-1 (SD3) and Exhibits 8, 9C, 9D and 9E (SD3), contain the size, sequence and timing of sub areas to be mined in this permit term.

(b). Section 12.125 of the Application contains updated cultural resources baseline information. This section contains the text, (SD2) Table 125-1, Cultural Resources Sites (SD2), which has multiple parts in which Sabine provides separate sections for cemeteries, sites eligible for listing on the National Register of Historic Places (NRHP, other sites protected from disturbance until tested, archived, etc., and sites that are ineligible for listing on the NRHP. Exhibit 2, "Cultural Resource Site Locations" (Initial Application), Appendix 125-1, Cultural Resource management Plan (SD2), Appendix 125-2, "Historical baseline Study" (SD2), Appendix 125-3 "Memorandum of Agreement 1982" (SD2), and Appendix 125-5, "Programmatic Agreement for the Protection of Cultural Resources" (SD2).

(c). Updates to Table 125-1 and Exhibit 2 include eight previously unrecorded sites discovered during a 2012 494-acre survey of the Q2 Area.

(d). In Table 125-1, 625 cultural resource sites are identified within and adjacent to the proposed permit area, of which 505 lie wholly or partially within the proposed permit area. Three known historic cemeteries not recorded as archaeological sites are also located within the permit area and one historic cemetery is just outside the permit area.

(e). Seventeen of the 625 sites are eligible for listing on the National Register of Historic Places and 71 sites require further testing to determine their NRHP status. These sites will be protected from disturbance unless and until properly tested and, if necessary, mitigated. The information in Table 125-1 is consistent with the site information shown on Exhibit 2. Staff had noted in its TA that Site 41HS074, located within the proposed permit area, is listed in Table 125-1 as an NRHP-eligible site but is no longer protected because it has been mitigated.

(f). All areas to be disturbed within the permit term area have been surveyed for the presence of cultural resource sites. Areas that have not been surveyed will not be disturbed by mining-related activities. Sabine's treatment and mitigation plan in Section 12.151 (SD2) adequately affords timely treatment of these sites.

29. Sections 12.126 and 12.127 of the Application, as supplemented, meet the

requirements of §§12.126 and 12.127 of the Regulations.

(a). The Application provides a response to §12.126 (SD2). The baseline information for the regional geology and hydrology for the South Hallsville Mine remains unchanged from the approved permit. Section 12.127 of the application contains a complete description of the site-specific geology within the permit and adjacent area.

(b). The following items are included in Section 12.127 of the Application, as supplemented: Text (SD2 and SD3); Tables 127-1 through 5, physical Properties of Selected Overburden Cores (SD2); Table 127-6, Detailed Summary of Testing and Coring Programs (SD4); Table 127-7, Lignite Quality (SD2); Table 127-8, Overburden Core Information (SD2 and SD3); Figure 127-1, Geologic Map (SD2); Figure 127-2, Generalized Stratigraphic Column of East Texas (SD2); Figures 127-3 through 5, Generalized Lithologic & Geophysical Logs, Overburden Cores (SD2); Figure 127-6, Deposition Environments Wilcox Sediments in East Texas (SD2); Exhibit 127-1, Cross Section Locations (SD2); Exhibit 127-2, Top of Red Bed (SD2); Exhibit 127-3, Core Locations (SD3); Exhibit 127-4, Geologic Cross Section L-L' (SD2); Exhibit 3, Sheets 1 & 2, Premining Geology (Approved Permit 33H); Exhibit 3M, *Overburden Core Locations*, which is contained in Permit No. 33H, Revision No. 1 (initial application); Exhibits 3XA through 3XL, Geologic Cross Sections (Approved Permit 33H); Appendix 127-1, Overburden Core descriptions, Data & Procedures (SD2); Appendix 127-2, Geophysical Logs of Cross Section Boreholes (SD2).

(c). Figure 127-1 (SD2) is a geologic map of the surface-exposed sediments in the general area. A generalized stratigraphic column of the sediments occurring in East Texas is presented on Figure 127-2 (SD2). Geological cross sections delineating the interrelationship of the sediments are presented on Exhibits 3XA through 3XL in the approved permit. The locations of these cross sections are shown on Exhibit 127-1 (SD2) and geophysical logs for cross sections and boreholes are contained in revised Appendices 127-1 and 2 (SD2).

(d). The lignite bed that was mined in the South Hallsville Area (western half of the permit area) is referred to as the Green Bed, which occurs within the upper Wilcox Group. The South Marshall Area (eastern half of the permit area where active mining is proposed) is stratigraphically lower than the South Hallsville Area. The major lignite beds to be mined in the South Marshall Area are, in descending stratigraphic order, the Tan, Brown, Red Upper, Red Lower, and AY Beds (also in the upper Wilcox Group). In the Darco Mine Area, a portion of which was added to Permit No. 33H in years past, these five seams are referred to as Seams A, B, C, D, and E, respectively.

(e). The major structural feature in the area is the Sabine Uplift, a domal feature that extends from East Texas to Louisiana and covers more than five million acres. The stratigraphic units within the region to the northwest dip away from the uplift at a rate of 20 to 150 ft/mi. Localized dips in the permit area range from 0 to 200 ft/mi.

(f). Structural elevations on the top of the Red Bed range from 180 to 360 ft AMSL. The depth to the top of the Red Bed ranges from subcrop to 110 ft to 150 ft. The physical properties of each stratum through the Green Bed lignite are presented in Tables 127-1, 2, 3, 4, and 5 (SD2).

(g). Sections 12.128, 12.129, and 12.146 of the Application, as supplemented contain information regarding the occurrence, availability, movement, quantity, and quality of potentially impacted surface and ground waters.

(h). Exhibit 127-3 (SD3), shows the locations of the cores used to characterize overburden in the proposed five-year disturbance area. A summary of Sabine's testing and coring programs is presented in Table 127-6 (SD4) which indicates that 257 geophysical logs have been provided. Table 128-1 in Section .128 of the application, as supplemented lists 185 domestic well and 34 Sabine wells as sampling sites. Sabine lists 78 continuous cores, 190 pre-mining oxidized overburden cores, and 18 lignite analysis cores.

(i). The location of subsurface water is summarized in Section 12.127 (SD2) and discussed in more detail in Section 12.128 of the Application as supplemented.

(j). Appendix 127-1 (SD2) contain lithologic characteristics of each overburden stratum and coal seam. Figures 127-3, 127-4 and 127-5 (SD2) show generalized lithologic and geophysical logs.

(k). Sabine's reclamation plan includes replacement of selected oxidized overburden materials in the reclaimed surface four-foot layer.

(l). Historic lignite-sampling information for both the South Hallsville and South Marshall Areas has been provided. In the South Marshall Area (which includes areas to be mined in the proposed permit term), lignite core samples were analyzed for total sulfur, pyritic sulfur, and pH. The number of samples by seam and analysis results are shown in Table 127-7 (SD2). Tables of physical and chemical parameters of oxidized materials and coal within cores relevant to the area are given in Appendix 127-1 (SD2) and Table 127-7 (SD2). In Table 127-8, (SD3) the contents of Appendix 127-1 are summarized. Additional test borings or core samplings have not been required by the Commission.

(m). Sabine does not request that the requirement for a statement of the results

of the test borings or core samplings be waived by the Commission.

30. Section 12.128 of the Application, as supplemented, meets the requirements of §12.128 of the Regulations.

(a). The Application contains baseline ground-water information for the South Hallsville No. 1 Mine permit area in Section .128 (SD2).

(b). The main aquifers in the permit area consist of sand layers within several Tertiary-age strata (Queen City Formation, Reklaw Formation, Carrizo Formation and Wilcox Group) and within the Quaternary-age alluvial sediments. These sand layers, which may range in net thickness from a few to as much as 70 feet, have been described collectively as the Cypress Aquifer. Only the alluvium and the sand-bar deposits within the other formations have hydraulic conductivities that may be greater than 10 feet per day. Conductivities of the other sands are much lower, ranging from less than one to a few feet per day. Sands within the overburden sediments generally are unconfined, whereas the deeper underburden sands, which are located mainly within Wilcox Group sediments, usually are confined.

(c). Ground-water baseline information for the permit area consists of hydrologic data derived from: (1) several vintages of water-well surveys in which are identified a cumulative total of approximately 675 wells; (2) 106 baseline monitoring and test wells installed by the permittee; (3) 257 borehole geophysical logs; (4) 71 continuous overburden cores; and (5) 125 premining cores of the oxidized overburden. In addition, aquifer tests were performed at 18 well sites within the South Hallsville and South Marshall Project Areas of the permit, in addition to several slug tests performed by Norit Americas, Inc. (now Cabot Norit) within former portions of the Darco Mine, Permit No. 29C, that were contiguous to Permit No. 33H. Aquifer test results are contained in Appendix 128-3 (SD2). Locations of inventoried wells for the entire permit area are depicted on Exhibit 128-4, Water Well Inventory Location Map (SD2), and listed in Tables 128-3, 128-4 and 128-5 (SD2).

(d). Water levels in monitoring wells vary from a few to as much as 100 feet below land surface in the permit area; the levels fluctuate seasonally and the rises and declines are generally small as shown on Table 128-2 (SD2). The chemical quality of the water in the shallow overburden sediments varies from less than 100 to about 900 mg/L in concentration of total dissolved solids (TDS); the average is less than 150 mg/L. The TDS concentration of the ground water in the deeper underburden ranges from less than 200 to more than 2,000 mg/L, with an average of nearly 550 mg/L. Iron content in both systems is generally higher than the accepted drinking-water standard of 0.3 mg/L(Texas Department of Health). Water-level and water-quality monitoring results are provided in Tables 128-2, 128-6, 128-7

and 128-8 (SD2), and in Appendices 128-2 and 128-4 (SD2). Well completion data and geophysical logs are contained in Table 128-1 (SD2) and Appendix 128-1 (SD2), respectively.

(e). The inventory of private wells in the surveyed area (updated as of 2008) consists of approximately 675 wells, of which 371 (55 percent) are indicated to be used for domestic supply. Other uses include industrial supply, public supply and miscellaneous use. About 120 wells (18 percent) are abandoned, unused, or the use is unknown. The completed zone for these wells varies significantly also. Approximately 188 of the wells (28 percent) are shallower than 50 feet and 231 wells (34 percent) are greater than 100 feet deep. For approximately 158 wells (23 percent) the completed depth is not known. Although the private-well inventory has not been updated since 2008, there is no evidence that the remaining areas proposed to be mined will affect any additional wells in the area.

31. Section 12.129 of the Application, as supplemented, meets the requirements of §12.129 the Regulations.

(a). Section 12.129 contains a report titled Baseline Surface Water Information which is certified by Keith Wheeler, Professional Geoscientist, with Pastor, Behling & Wheeler, LLC. (SD4). The baseline information in the approved permit remains unchanged and supports this Application.

(b). The text in Section 12.129 references reports in the approved permit for baseline surface water data collected during separate programs, the South Hallsville baseline surface water monitoring program and the South Marshall baseline surface water monitoring program. These reports are described as the following: South Hallsville Project – Surface Water Hydrology – Phase I (EHA, 1977); Baseline Water Quality – Steady State, Non-steady State Monitoring – South Hallsville Project (EHA, 1980); South Marshall Permit, Permit 33C Renewal/Revision (GTI, 1996).

(c). The entire Permit 33H renewal area is located within the Sabine river watershed. The project area watersheds are shown on Exhibit 129-1 (SD2) and information summarized on Table 129-1 (SD2). The South Marshall project area is located within the hydrographic boundaries of Brandy Branch, Spring Creek, Potters Creek, Colliers Creek, Hatley Creek, Eight Mike Creek and unnamed tributaries of the Sabine River. Roseborough Creek and Starkey Creek are tributaries of Potters Creek. The South Hallsville project area is located within the hydrographic boundaries of the Hatley Creek, Clarks Creek and Mason Creek watersheds. Rodgers Creek, Hardin Creek and two unnamed streams are tributaries of Clarks Creek. These subwatersheds cover most of the South Hallsville project area west of Hatley Creek.

(d). Project area drainage patterns are oriented mainly in the southeastwardly direction draining into the Sabine River. The majority of the South Hallsville project area is drained via Hatley and Clarks Creeks while the majority of the South Marshall project area is drained via Potters Creek.

(e). Pre-mine hydrologic features, baseline surface water stations and monitored watershed areas are shown on Exhibit 129-1 (SD2). Table 129-5 (SD2) lists the monitored watershed areas.

(f). The South Marshall baseline surface water monitoring program was initiated in August 1995 and included measuring streamflow and collecting monthly water quality samples at thirteen surface water stations.

(g). As a part of the South Marshall baseline surface water monitoring program, two continuous stage recorders were installed at surface water stations CM-1 and CM-2 on Roseborough Creek and Colliers Creek, respectively. Stage-discharge relationships were developed for the continuous monitoring stations and are included in Appendix 129-B of the application (SD4).

(h). At the South Hallsville project area water quality samples were collected from six surface water stations in conjunction with discharge measurements for 11 consecutive months from November 1977 through September 1978. At the South Marshall project area water quality samples were collected from thirteen surface water stations for 12 consecutive months from August 1995 through July 1996. Tabulated analytical data for the monthly sampling events are included in Table 129-7 (SD2) and Table 129-8 (SD2). In addition, three baseline sampling events were conducted for eight ponds located in the South Marshall project area. Pond sampling locations are shown on Exhibit 129-1 (SD2). Tabulated data for the baseline ponds are included in Table 129-9 (SD2) and Table 129-10 (SD2).

32. Section 12.130 of the Application, as supplemented, meets the requirements of §12.130 of the Regulations.

(a). Section 12.130 of the Application contains updated alternative water supply information. Alternative water supplies are available in the vicinity of the mine site in the event impacts occur to surface water or ground water as a result of the surface mining activities.

(b). Thirteen existing water rights in the area are listed in Table 130-1 (SD2). This table indicates that Sabine holds nine of these existing water rights. Of the remaining four water rights, one (No. 4647) is held by AEP/SWEPCO, two (Nos. 5158 and 5468) are held by Cabot Americas, Inc., and one (No. 5918) is held by area landowner Larry Slone. Most of these adjudicated rights are for industrial/mining use. Mr. Slone's water right was filed on February 1, 2006, for use of up to 66 ac-ft/yr for private irrigation purposes

from an unnamed tributary to Colliers Creek. None are used for municipal water supply. Figure 130-1, Water Right Locations (SD4), depicts the locations of the water rights listed in Table 130-1.

(c). Should any downstream surface water rights be demonstrated to be impacted by mining operations, Sabine will provide alternative water sources. Sources of alternative water include: project area impoundments, water wells from deep water-bearing sands in the Wilcox Formation (locally known as the Cypress Aquifer) below the lignite and a local rural water supply system.

(d). If the proposed mining activities impact any ground-water users or downstream users of water, Sabine will provide an alternative source. Such alternative source may be: (1) water from a permit- area impoundment, (2) installation of a well completed in the underburden Cypress Aquifer, or (3) connection to an existing rural water-supply system. In the initial renewal/revision application, SABINE referenced the approved permit but included additional information in Appendix 130-1 (SD2), which contains water system data sheets for Gill Water Supply Corporation and Talley Water Supply Corporation, both of which obtain water from wells.

(e). Should the mining activities be shown to adversely impact ground water users Sabine will replace the impacted wells with wells completed in the Wilcox Formation (Cypress Aquifer).

33. Section 12.131 of the Application, as supplemented, meets the requirements of §12.131 of the Regulations.

(a). Section 12.131 of the Application, as supplemented, provides climatological summary information. The South Hallsville No. 1 Mine lies in the region of humid and subtropical climate with hot summers and mild winters. Regional temperature and precipitation data were obtained from the National Weather Service's Shreveport, LA station for the period of record 1965 through 1994. This station is located approximately 43 miles east of the mine. Monthly and total annual precipitation is summarized in Attachment 131-1 (SD2). Mean annual precipitation was 46 inches. Generally, August is the driest month, with an average precipitation of 2.4 inches, and the wettest month is May, with an average precipitation of 5.2 inches. The average annual relative humidity is 69.6 percent.

(b). Table 131-3 (SD2) shows that the average annual temperature for the region is 65.1° F with a mean monthly low temperature of 55.7° F and a mean monthly high temperature of 75.1° F. The highest and lowest recorded temperatures were 106° F and 2° F.

(c). The National Climatic Data Center indicates that the predominant wind

direction is from the south, which has occurred more than 16 percent of the period of record (1964 through 1994). An annual frequency distribution for wind direction is shown on Figure 131-1 (SD2). Table 131-1 (SD2) shows that 99% of the wind speeds recorded fall below 23.6 mph and indicates the annual average wind speed for the period of record (1951 -1970) to be 9.1 mph. Table 131-2 (SD2) shows a maximum persistence of 26 hours for both north-northeast and south winds.

34. Section 12.132 of the Application, as supplemented, meets the requirements of §12.132 of the Regulations.

(a). Vegetation information for the 44,401-acre permit area is contained in Section 12.132 in the Application consisting of the following: Narrative (SD4); Table 132-1, Common Plant Species List (SD2); Table 132-2, Vegetation Habitat Type Distribution Acreage (SD2); Exhibit 6, Premining Vegetation & Fish/ Wildlife (SD4); Appendix 132-1, Site Specific Vegetative Information and Methods (SD2 and SD4), and Appendix 132-2, Forage Production Standards for Postmine Soils (SD2). In Table 132-1, Sabine provides a list of plant species found in the permit area. Appendix 132-1 contains baseline vegetation data collected by Espey, Huston & Associates, Inc. Appendix 132-2 contains forage production standards from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The permit area is located in the Pineywoods Region of Texas. Exhibit 6 contains a depiction of the spatial distribution of the vegetative types within the approved 44,401-acre permit area. The aerial extents of these vegetation communities, as contained in Table 132-2, are as follows:

Vegetation Type	**Permit Area Acreage**	**Percent of Permit Area**
Aquatic Habitat	340	0.77%
Bottomland Hardwood Forest	3,849	8.67%
Wetlands	329	0.74%
Upland Pine-Hardwood Forest	19,438	43.78%
Pine Forest	5,951	13.40%
Native/Improved Grassland	14,175	31.93%
Ironstone Mining Lands	318	0.72%
Total	**44,401**	**100.00%**

35. Section 12.133 of the Application, as supplemented, meets the requirements of §12.133 of the Regulations with the inclusion of Permit Provision No. 5. For clarity, Permit Provision 5 in this Order replaces the existing Permit Provision 5 that will not be retained.

(a) The following information is included in the Application as supplemented and consists of unchanged information from the approved permit and updated information on threatened and endangered species and wetlands: Text (SD4); Figure 133-1, Aquatic Map (SD2); Table 133-1, Rare Threatened and Endangered Species of Potential Occurrence (SD3); Table 133-2, Mammals of Potential Occurrence (SD2); Table 133-3, Results of Small Mammal Census (SD3); Table 133-4, Birds of Potential Occurrence (SD4); Table 133-5, Fixed Plot Bird Census (SD2); Table 133-6, Roadside Bird Census (SD2); Table 133-7, Reptiles & Amphibians of Potential Occurrence SD4); Table 133-8, Fish Species of Sabine River Basin (SD2); Table 133-9, Fish Species Caught (SD3); Table 133-9A, Invertebrate & Fish Data (SD3); Table 133-9B, Comprehensive List of Freshwater Mollusks Detected (SD3); Table 133-10, Creek Habitat Characterization Data (SD3); Table 133-11, Summary Table of Creek Habitat by Creek Size (SD3); Table 133-12, Surface Water Chemistry Data (SD3); Table 133-13, Wildlife Observed During Field Survey (SD3); Table 133-14, Premine Jurisdictional Waters of U.S., 33G (SD2); Appendix 133-1, Federal & State Listed Threatened & Endangered Species (SD3); Appendix 133-2, USCOE General Permits 13 & 24 (SD2); Appendix 133-3, Jurisdictional Determination Waters of U.S., South Hallsville (SD2); Appendix 133-4, Jurisdictional Determination Waters of U.S., South Marshall (SD2); Appendix 133-5, Supplemental Jurisdictional Information (SD2); Appendix 133-6, Neches River Rose Mallow Survey (SD3).

(b). The baseline studies to characterize the fish and wildlife resources within and around the permit area encompassed approximately 46,468 acres. These studies were conducted in 1977, 1978, 1986, 1987, 1995, 1996, and 2001. Given that this permit renewal area is identical to the current permit area, no further data was collected for general fish and wildlife information.

(c). Section 132 of this application provided a description of vegetative habitat types, with the aerial extent of each habitat depicted on Exhibit 6 (SD4) and identified in Table 132-2 (SD2).

(d). The Application contains updated information for wetlands and waters of the U.S. for the entire 44,401-acre permit area, as well as updated information about threatened and endangered species (SD2 and SD4). Section 12.144 of the application contains a mitigation plan for impacts to wetlands and Jurisdictional Waters of the U.S.

(e). Appendix 133-2 (SD2) contains copies of documents from April 1986 through August 1989 pertaining to the USACE State Program General Permit SWF-85-TEXAS-1 that covered activities within the combined 4,959-acre area under RCT Permit Nos. 13 and 24 for the South Hallsville Project

Area, USACE Case No. 86-00348. Figure 1 in this Appendix identifies the subject areas of previous Permit Nos. 13 and 24.

(f). Appendix 133-3 (SD2) and Appendix 133-5 (SD2) contain copies of premine wetland information. Appendix 133-3 contains general premine wetland information for the South Hallsville Project Area from the U.S. Environmental Protection Agency (EPA) March 1982 draft Environmental Impact Statement. Appendix 133-5 contains a copy of Sabine's March 15, 2001, letter to the USACE to revise the boundaries of the South Hallsville No. 1 Mine by removing 2,760.0 acres and adding 398.7 acres from the Darco Mine as part of Sabine's application to renew and revise RCT Permit No. 33D.

(g). Appendix 133-4 (SD2) contains a copy of the USACE's August 26, 1996, letter concurring with Sabine's revised July 1996 jurisdictional determination of wetlands within a 33,402-acre area bounded by Interstate 20 to the North, the Sabine River to the south, Brandy Branch Reservoir to the west, and U.S. Highway 59 on the east that Sabine identified as the South Marshall Project Area. Appendix 133-4 contains a copy of the 1996 jurisdictional determination, prepared by Horizon Environmental Services, Inc. Figure 2-1 in the 1996 jurisdictional determination identifies the waters and wetlands in the 33,402-acre South Marshall Project Area, and Table 2-2 quantifies the 2,283 jurisdictional areas, including the 242 jurisdictional areas that Sabine proposed to impact in the succeeding five years.

(h). Appendix 133-5 (SD2) contains a copy of Sabine's February 14, 2001, letter to the USACE concerning a proposed amendment to Project No. 199600112, with wetlands information for 398.7 acres that Sabine added to the South Marshall Project Area as part of RCT Permit No. 33E.

(i). Section 133 discusses field surveys conducted for threatened or endangered species in support of its 1982 Environmental Impact Statement, and in 1986, 1987, 1995, and 1996. Sabine reports that it did not find any threatened and endangered species during the 1986, 1987, 1995, and 1996 field species. Sabine indicates that the only threatened or endangered species that have been observed within the permit area by Sabine are the Bachman's Sparrow (observed in 1979), Alligator Snapping Turtle (observed in 1977, 1991, 1993, and 2007) and Wood Stork (observed in 1996).

(j). Section 12.133 indicates the following threatened species observations: Bachman's Sparrow (observed in 1979), Alligator Snapping Turtle (observed in 1977, 1991, 1993, and 2007), and Wood Stork (observed in 1996). Sabine indicates in Supplement 1, Table 133-15, the following other threatened species observations: American Bald Eagle (sighted on February 25 and April 16, 2009) and Timber Rattlesnake (sighted on August 10, 2009). Sabine has sighting documentation of: Alligator Snapping Turtle,

observed in 1977, in 1991 in Pond C8, in 1993 between Hatley's Creek and Pond D4, and in 2007 on the embankment of Pond Q4; Bachman's Sparrow observed in 1979; Bald Eagle observed in 2009 near the A4 Pond, the Brandy Branch and Spring Creek ponds, and the Q4 Pond; and Wood Storks, observed in Ponds A4 and C6 in July 1996.

(k). Section 12.133 describes 13 threatened or endangered species with the potential to occur within Harrison County, including Louisiana Black Bear, Rafinesque's Big-Eared Bat, Arctic Peregrine Falcon, Bachman's Sparrow, Wood Stork, Reddish Egret, Alligator Snapping Turtle, Northern Scarlet Snake, Timber Rattlesnake, Paddlefish, Creek Chubsucker, Bluehead Shiner, and Blackside Darter. Appendix 133-1 contains a Texas Parks and Wildlife Department (TPWD), March 12, 2008, annotated list of 17 Federally and State-listed threatened and endangered species that may occur in Harrison County, including all of the above species except Reddish Egret, plus Black Bear, American Peregrine Falcon, Bald Eagle, Interior Least Tern, and Piping Plover. The TPWD list includes information about the species' distribution and habitat preferences.

(l). Appendix 133-6 (SD3) contains a survey and habitat assessment for the Neches River Rose Mallow.

(m). Permit Provision No. 5 requires Sabine to provide a revised Exhibit 6, "Pre-mining Vegetation and Fish/Wildlife" map at a scale of 1-inch to 500-feet, which depicts the entire permitted area and corrects the labeling issues identified in Staff's Technical Analysis Addendum. The revised Exhibit 6 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

36. Section 12.134 of the Application, as supplemented, meets the requirements of §12.134 of the Regulations.

(a). All chemical analyses, physical analyses, and laboratory data for native-soil baseline samples were completed in accordance with procedures outlined in Appendix 134-4, Materials Suitable for Placement in the Top Four Feet of Leveled Mine Spoil (SD3). Laboratory data are included in Appendices 134-5.1, Analysis Results for Native Soils, Soil Baseline Area No. 1 (SD3), and 134-5.2, Analysis Results for Native Soils, Soil Baseline Area No. 2 (SD3).

(b). Sabine indicates that the relatively poor chemical and physical qualities of the highly weathered native soils within the area have been the basis for requests for and subsequent approval of topsoil-substitution.

(c). A review of overburden core data collected throughout the area from 1985

to the date of application indicates that Commission maximums for sodium absorption ratio (SAR) or electrical conductivity (EC) are not exceeded in the oxidized zone. Because of warm average temperatures, high humidity, and the amount of rainfall, most of the soils on uplands are strongly weathered, leached, and acidic. Such conditions are not conducive to high SAR and EC values, which are generally associated with high base saturation (minimal leaching and/or weathering). Sabine, therefore, will not monitor for SAR or EC.

(d). Exhibit 5 (SD2) presents the soil map units in the permit area as delineated by the soil survey. Also shown on Exhibit 5 are approved soil-baseline area (SBA) Nos. 1 and 2, and the total disturbance area. Map unit symbols on Exhibit 5 are represented by numbers in the South Hallsville (western) portion of the permit area and by alphabetic symbols (soil survey publication symbols) in the South Marshall (eastern) portion of the permit area. The SBAs are also shown on Exhibit 5A (SD2).

(e). Table 134-1 (SD2) lists the distribution of each soil map unit within the permit area in and displays the soil map units on Exhibit 5. The text (SD2) also refers to Exhibit 5A for this information.

(f). Table 134-1 (SD2) and Appendix 134-1 (SD2) contain soil description information published by the NRCS. Topics covered in the survey include profile descriptions and ranges of characteristics for soil series in Harrison County, a detailed description of each soil map unit, use and management of the soils for various land uses, physical, chemical and hydrological properties of the soils, and soil-suitability ratings.

(g). Appendices 134-1 (SD2) and 134-2 (SD3) contain present and potential productivity of existing soils. Tables 5, 6, and 7 of the soil survey (Appendix 134-1) present potential productivity data for selected crops, native grasses, pasture grasses, and common trees, representing potential yields under a high level of management. Appendix 134-2 provides 2009 productivity data supplied by the Harrison County office of the Texas Agricultural Extension Service.

(h). A request to use selected overburden materials as a substitute for topsoil in areas not already approved as such is not included in this application. Exhibit 5A (SD2) depicts all previously approved topsoil substitution request areas (TSRAs).

(i). Calculations of the frequency distributions for pH, acid-base accounting, clay and sand for SBA No. 1 and SBA No. 2 are contained in Appendix 134-3, Native Soil Distribution Calculations (SD3). The resulting frequency distributions serve as postmine soil-performance standards, which are presented in Tables 134-2, 134-3, and 134-4 (all in SD3).

(j). All chemical and physical analyses of native-soil baseline samples were completed in accordance with procedures outlined in Appendix 134-4 (SD3). Laboratory data are included in Appendices 134-5.1 (SD3) and 134-5.2 (SD3).

37. Section 12.135 of the Application, as supplemented, meets the requirements of §12.135.

(a) Section 12.135 contains premine land-use information. The information is summarized in Table 135-1 (SD2) as the following premine land-use acreages for the 44,401-acre permit area:

Premine Land Use	Area Acres	Percent of Total
Forestry	22,539	50.76%
Grazingland	9,461	21.31%
Industrial/Commercial	845	1.90%
Pastureland	4,212	9.49%
Residential	973	2.19%
Undeveloped	6,006	13.53%
Developed Water Resources	175	0.39%
Recreational	42	0.09%
Cropland	3	0.01%
Wildlife habitat	145	0.33%
Total	44,401	100.00%

(b). Exhibit 7, *Premining Land Use* (SD3) contains depictions of these premine land uses.

(c). Prior underground and surface coal mining in the permit area includes historic, pre-law mining activity at the Darco Mine in the southern end of the South Marshall Project Area adjacent to State Highway 43. The historic underground mining at the Darco Mine occurred east of State Highway 43 and north of Terrapin Neck Road; historic surface mining occurred east of State Highway 43, south of Terrapin Neck Road and Spring Creek, and south of Darco Cutoff East Road between State Highway 43 and Spring Creek. Sabine also notes that iron-stone mining has also disturbed the land surface within the permit area in the gravelly soils of the Cuthbert and Kirvin series.

(d). There are no state or local land-use plans or programs for the permit area.

(e). Exhibit 8B (SD4) contains locations of gas wells and gas pipelines for the Q, R, S, and T areas.

38. Section 12.136 of the Application, as supplemented, meets the requirements of §12.136 of the Regulations. Table 136-1 (SD4) is included in the Application in response

to this section of the Regulations, with the following information:

SECT ION	SUBJECT	EXHIBIT NO.	TITLE	Location
12.136(1)	Landowners contiguous to and in the proposed permit area	1	*Land*	SD3
12.136(2)	Land where applicant has legal right-of-entry	1	*Land*	SD3
12.136(3)	Areas to be affected over the life of the mine	8	*Life-of Mine Plan*	SD3
12.136(4)	Location of all buildings	7	*Premining Land Use*	SD3
12.136(5)	Surface and subsurface man-made features	7	*Premining Land Use*	SD3
		8	*Life-of Mine Plan*	SD3
		8B	Oil and Gas Sheet 1	Permit 33H, SD3
		8B	Oil and Gas Sheet 2	SD4
		8B	Oil and Gas Sheet 3	SD4
		128-4	*Water Well Inventory Location Map*	SD2
12.136(6)	Reference area for determining revegetation success	NA	NA	--
12.136(7)	Location of all water supply intakes and affected surface waters	129-1	*Baseline Surface Water Monitoring Stations*	SD2
12.136(8)	Public roads	7	*Premining Land Use*	SD3
12.136(9)	Public parks, cultural and historical resources, archaeological sites	2	*Cultural Resources*	SD2
12.136(10)	Cemeteries and burial grounds	2	*Cultural Resources*	SD2
12.136(1 l)	Land in the National System of Trails or Wild and Scenic Rivers System	NA	NA	NA
12.136(12)	Other relevant information required by the Commission	NA	NA	NA

39. Section 12.137 of the Application, as supplemented, meets the requirements of §12.137 of the Regulations. Table 137-1 (SD4) is included in the Application in response to this section of the Regulations, with the following information:

SECTION	SUBJECT	EXHIBIT NO.	TITLE	LOCATION

12.137(a)(1)	Elevations and locations of test borings and core samples	127-1	Cross Section Locations	SD2
		127-3	Core Locations	SD3
		127-4	Geologic Cross Section	SD2
12.137(a)(2)	Elevations and locations of monitoring stations	6	Premining Vegetation and Fish/Wildlife	SD4
		128-1	Groundwater Monitoring Well Locations	SD2
		129-1	Baseline Surface Water Monitoring Stations	SD2
12.137(a)(3)	Nature, depth, and thickness of the coal seams, overburden, and immediate underburden	127-1	Cross Section Locations	SD2
		127-2	Top of Red Bed	SD2
		127-4	Geologic Cross Section L-L'	SD2
12.137(a)(4)	Coal cropline and the strike and dip of the coal seams to be mined.	127-1	Cross Section Locations	SD2
		127 -2	Top of Red Bed	SD2
		127 -4	Geologic Cross Section L-L'	SD2
12.137(a)(5)	Location and extent of abandoned and active underground mines	8	Life-of Mine Plan	SD3
12.137(a)(6)	Location and extent of subsurface water	128-2	Overburden Potentiometric Surface Map	SD2
		128-3	Underburden Potentiometric Surface Map	SD2
12.137(a)(7)	Location of surface-water bodies within and adjacent to the proposed mine-plan area	129-1	Baseline Surface Water Monitoring Stations	SD2
12.137(a)(8)	Location and extent of previous surface-mined areas within the mine-plan area	8	Life-of Mine Plan	SD3
12.137(a)(9)	Location of existing areas of spoil, waste, and non-coal waste disposal, impoundments, and air-pollution control facilities, topography and roads	8	Life-of Mine Plan	SD3
		10	Surface Water Control Plan	SD3
		8B	Oil & Gas, Sheet 1	Permit 33-H SD3
		8B	Oil & Gas, Sheet 2	SD4

12.137(a)(10)	Location of oil, gas, and water wells	8B	Oil & Gas, Sheet 3	SD4
		128-4	Water Well Inventory Location	SD2
12.137(a)(11)	Existing land-surface configuration of permit area	7A	Map Premining Slope Categories	SD3
12.137(b)	Certifications	All Exhibits	All exhibits are certified on each individual exhibit.	N/A

40. Section 12.138 of the Application, as supplemented, meets the requirements of §12.138 of the Regulations.

(a). Sabine's prime-farmland investigation is found in Section 138, Table 138-A, Prime Farmland Determination Summary, Appendix 138-1, Prime Farmland Affidavits, Exhibit 5B, Prime Farmland Soils with Land Tracts, and Exhibit 5C, Prime Farmland Soils with Premine Vegetation. Sabine conducted a pre-application prime-farmland (PFL) investigation for the South Hallsville (western) portion of the mine in 1979 via a series of aerial and ground surveys. Appendix 138-1.1, *Prime Farmland Affidavits* (which is located in approved Permit No. 33H, SD3) contains affidavits signed prior to 2008.

(b). An Order Two Soil Survey of the South Hallsville Project Area was conducted by the NRCS, also during 1979, resulting in the Harrison County Soil Survey published in 1994 (Appendix 134-1). The soil map units are shown on Exhibit 5, Premining Soils. On Exhibit 5B, Sabine identifies the extent of PFL soil map units as they relate to land tract boundaries for the permit term. In Table 138 A, Sabine identifies potential PFL tracts by tract numbers, the basis for a negative prime-farmland determination, tract lease/acquisition dates, and historical land-use affidavit numbers.

(c). An application in accordance with §12.201(b) of the Regulations is not necessary due to the findings of the pre-application investigation and the 1989-2014 surveys and affidavits, and the identification of forest canopy or remnants of forest, which revealed no historic prime farmlands within the permit area.

(d). The Pre-application investigation and the 1989, 1990, 1993, 1994, 1996, 2001, 2008 and 2014 surveys or affidavits contained in the Application, have not revealed any known sites within the permit area for possible consideration as historic prime farmland. This determination is based upon the lack of any historic crop production on defined NRCS prime farmland map units during five of the last ten years prior to acquisition of this land for the purpose of conducting surface coal mining operations or an identification of forest canopy on aerial photography which would have

eliminated the possibility of cropping activities during five of the last ten years. A request was made for all prime farmland map units identified by the NRCS in the approved permit.

(e). A negative determination has previously been made by the Commission concerning prime farmland on all areas to be disturbed in the permit term for the Application. Table 138-A (SD4) identifies potential PFL tracts by tract numbers, the basis for a negative prime-farmland determination, tract lease/acquisition dates, and historical land-use affidavit numbers. The information in the Application, as supplemented, meets the requirements for a continued negative determination for prime farmland soils.

41. Section 12.139 of the Application, as supplemented, meets the requirements of §12.139 of the Regulations.

(a). The permit area for the South Hallsville No. 1 Mine contains approximately 44,401 acres. A narrative description of the type and method of mining operations and engineering techniques, anticipated coal production, and major equipment to be used is contained in Section 139 of the application, as supplemented. The lignite mined during this five-year permit term will be supplied to the Henry W. Pirkey Power Plant. Table 139-1, (SD3) shows that approximately 4.1 million tons of lignite on 791.9 acres will be mined during the five-year permit term. Total lignite production for the life-of-mine is shown in Table 139-1. The information in Table 139-1 indicates that an estimated 132.5 million tons of lignite will be produced over the life of the mine.

(b). Exhibit 8 (SD3) shows the mine-plan area and total area to be affected for the life of THE mine. The five-year mine plan presented on Exhibits 9C, 9D and 9E (SD3) identifies the areas in the five year mine blocks. The planned mining sequence indicates that the majority of the lignite to be produced during the permit term is from the Q Area and the R Area utilizing two 75 cubic yard draglines as the primary overburden removal equipment. A dozer and/or truck shovel system may also be used to remove lifts of overburden material. The overburden removal is described in Section 12.139 (SD3). Table 139-2 (SD2) lists the major equipment to be used during the five-year permit term. Approximately 60,000 tons of coal in the S Area may be mined utilizing mobile equipment.

(c). The Q, R and S Areas are multiple seam operations with one to five seems to be mined in a pit. The criteria used in delineating these coal deposits include:

(1). lignite in-place density: 80 pounds per cubic foot;
(2). mining recovery: 90 percent of in-place tonnage;
(3). minimum mineable lignite thickness: 1.25 feet;

(4). weathering depth: base of initial oxidation;
(5) maximum overburden depth: approximately 160 feet; and
(6). maximum overburden ratio: 20:1 feet of overburden to feet of coal

(d). The construction, modification, use, maintenance, and removal of dams, embankments, and other impoundments are addressed in Section 139 and meet the requirements of §12.139(2)(A) of the Regulations. All runoff from disturbed areas will pass through a sedimentation pond (or series of sediment-control structures) prior to leaving the permit area. The locations of the sedimentation ponds and other impoundments are depicted on Exhibit 10, Surface Water Control Plan (SD3). Three types of sedimentation ponds are currently used at the mine and are designated as Type 1, 2, and 3 pond designs and are defined as follows:

(1). The Type 1 sedimentation pond consists of an embankment with a principal and emergency spillway. The Type 1 sedimentation pond design will be used along natural drainageways or adjacent to stream diversions.

(2). The Type 2 sedimentation pond is excavated in natural ground and will be used for ponds located off-stream as needed. When the water level in the pond reaches the elevation of the spillway after a precipitation event, the pond will be dewatered to the sediment storage level by pump or siphon.

(3). The Type 3 sedimentation pond is a combination of excavated and embankment types. This type pond will also be used for off-stream construction as necessary.

(e). Detailed designs for sedimentation ponds will be submitted for approval prior to construction. Table 148-1 (SD4) shows the design, construction and reclamation schedule for existing and planned sedimentation ponds through the end of the five-year permit term. Removal of sedimentation ponds will not occur until the disturbed area has been restored, the vegetation requirements of §§12.390 through 12.393 and 12.395 have been met, and the drainage entering the ponds meets applicable effluent limitation standards. Ponds approved as permanent will meet the requirements of §§12.347 and 12.354 for permanent impoundments. Section 12.148 of the Application contains information regarding the design, construction, and reclamation schedule for existing and proposed sedimentation ponds. Table 148-2 (SD4) lists all approved permanent impoundments with pertinent data.

(f). A description of overburden and topsoil handling and storage areas and structures is provided in Section 12.139 of the Application, as supplemented. The overburden removal and handling discussion is broken

into five categories that consist of a premining identification plan for suitable and unsuitable materials; overburden removal; overburden replacement; quality control program to verify the placement of suitable material in the top four feet; and the application and incorporation of lime into the top four feet of material, as needed. Sabine indicates that, as part of the overburden replacement plan, after rough backfilling and grading is complete in an area, testing of the top four feet of the regraded surface will assist in identifying areas where additional suitable material is needed. A minimum of four feet of suitable material (topsoil substitute or topsoil salvage material) will be used to cover unsuitable material. A list of the mobile equipment used to place this suitable material is provided. A description of the suitable material removal and replacement process is also provided.

(g). Suitable overburden material will be identified using premine overburden cores and site geology. These methods are used to differentiate between oxidized and unoxidized overburden. Prior to removal, oxidized overburden is tested to ensure that it is suitable for placement in the top four feet of the regraded surface. When it is not practical to promptly redistribute the topsoil substitute materials or topsoil salvage materials, the material may be stockpiled in the locations shown on Exhibits 8, 9C, 9D and 9E. Material placed on stockpiles will be hauled from areas located in advance of mining or construction to the piles. Information regarding the estimated size of these stockpiles is provided. The stockpiled topsoil substitute materials or topsoil salvage materials will be redistributed in a manner that ensures a minimum of four feet over all acid-forming, toxic-forming and combustible materials.

(h). Section 12.139 (SD3) contains a description of the plan for overburden removal using draglines, truck/shovel, dozer, or a combination of the three. Temporary changes to the dragline progression will be implemented, when needed, due to equipment scheduling problems, weather delays or equipment breakdowns. These temporary changes include shortening of a pit; staggered or offset pits; and digging multiple pits. These temporary changes may result in moving a dragline into another part of the pit or opening a separate pit resulting in split or staggered/offset pits to allow room for coal and/or overburden removal to continue uninterrupted. All of these operations will be contained within the approved mining limits. If a pit will be mined out of sequence, the Commission will be notified prior to the initiation of pit sequence changes.

(i). In its quality-control plan, Sabine describes the methods to be used to ensure that sufficient suitable material is placed over unsuitable material. The verification and control of the placement of suitable material is described in the monitoring program provided, meeting the requirements of §12.145(b)(5)(G) of the Regulations.

(j). Three methods of lime application to oxidized overburden material are described. These methods are: (1) applying lime on the cut-side of truck/shovel operations; (2) applying lime on the fill-side in rough graded spoil; and (3) applying lime on the fill-side and incorporating it with a four-foot plow. The objective of lime application is to bring the pH within baseline values.

(k). A discussion of the mining and reclamation of areas addressing risk of seeps is provided, meeting the requirements of §12.146(a)(4) of the Regulations. These areas are proposed to be mined and reclaimed so that the sands remain low enough in the spoil to eliminate the risk of seep occurrence. A source of alkalinity (such as lime or limestone) may be added to neutralize acidic conditions in areas where a risk of acid seeps seems possible.

(l). No permanent overburden storage areas are anticipated. All segregated suitable material will be directly redistributed or temporarily stockpiled for use on regraded areas.

(m). Coal removal, handling, storage, cleaning, and transportation areas and structures are described in Section 12.139 (SD3). The only facility is the adjacent lignite storage area which is a coal barn located in the M Area (shown on Exhibit 8 (SD3)) used to stockpile lignite for use during periods of inclement weather or equipment delay. No lignite preparation or cleaning facilities are operated by Sabine. Lignite will be loaded into off-road, bottom or end-dump trucks and hauled to the truck-dump area on constructed haul roads.

(n). Discussions of Sabine's plan for construction, maintenance, or removal of spoil, coal processing waste and non-coal waste removal, handling, storage, transportation, and disposal areas and structures are provided in Section 12.139 (SD3). A reference is included to the discussion of spoil grading activities found in its response to §12.145(b)(3). Excess spoil within the permit area is not anticipated. The description includes the use of berms and ditches in rough-graded areas to prevent water from entering the pits, as safety features along the highwall edge, and to retain sediment within disturbed areas. All disturbed areas will be returned to approximate original contour in accordance with the performance standard requirements of §12.385 of the Regulations.

(o). Non-coal wastes will be placed in short-term storage at the mine facilities and will be temporarily stored at the mine office facilities and general storage area, shown on Exhibit 8 (SD3). These wastes will be handled in accordance with applicable laws, in such a way that they will not degrade surface and ground water nor create fires. Some of the inert non-coal wastes such as trees, tree byproducts, rocks, and dirt will be disposed in

the mine pits. This material will be compacted and covered with a minimum of four feet of non-toxic and non-acid forming material.

(p). A plan for the construction, maintenance, or removal of mine facilities is included in the Application as supplemented, Section 12.139 (SD3). The existing permanent office, storage, and maintenance facilities are shown on Exhibit 8 (SD3). A list of the existing facilities is provided. Electrical power is supplied throughout the mine via portable substations that are shown on Exhibit 8. Sabine requests a drainage control variance for these substation sites. Transmission of power to the pits is via trailing cables from the substations. Occasionally, Sabine will be required to locate trailing cables within 100 feet or cross an intermittent or perennial stream. A variance for these activities in accordance with §12.344 of the Regulations will be requested as needed for these activities. One electrical substation is located outside surface-water control and continuance of the previously approved small-area exemption for this area is deemed necessary. Continued approval of this previously approved small-area exemption in accordance with § 12.355 of the Regulations is granted.

(q). No modification is anticipated to the coal barn or coal handling areas; spoil, coal processing, and non-coal waste removal, handling, storage, transportation, and disposal areas and structures; and mine facilities, respectively, that would affect the performance of the various facilities. A description of a plan for the construction, maintenance, and removal of coal handling structures is included in section 12.139 (SD3).

(r). Water- and air-pollution facilities are described in Section 12.139 (SD3). The primary water-pollution control facilities to be used are sedimentation ponds and sediment control measures installed within the mine-plan area. In the event that effluent limitations cannot be met, water-treatment facilities will be used in order to meet effluent limitations for discharging water.

(s). There are stationary sources of particulate matter but no lignite preparation facilities, lignite cleaning facilities or dryers.

(t). Sabine will comply with the requirements of §12.382 of the Regulations regarding pipelines.

42. The use, modification or reconstruction of any structures or facilities for which construction began prior to approval of the State program is not planned to take place. Therefore, the requirements of §12.140 of the Regulations do not apply. The information provided in the Application, as supplemented (SD2), is adequate to meet the requirements of §12.140.

43. Blasting operations are not proposed and the requirements of §12.141 of the Regulations do not apply. The information provided in the Application, as

supplemented (SD2), is adequate to meet the requirements of §12.141.

44. Section 12.142 of the Application, as supplemented, and with the adoption of permit provision 7 (Appendix I to this Order) meets the requirements of §12.142 of the Regulations. The Application contains Tale 142-1 (SD4) in response to this section of the Regulations, with the following information:

SECTION	SUBJECT	EXHIBIT NO.	TITLE	LOCATION
12.142(1)	Lands affected and changed by the proposed operations.	Exhibit 8	Life-of-Mine Plan	SD3
12.142(2)	Show the location of the following			
12.142(2)(A)	Buildings, utility corridors, facilities.	Exhibit 7	Premining Land Use	SD3
		Exhibit 8	Life-of-Mine Plan	SD3
		Exhibit 8A	Road Closures and Crossings	SD3
		Exhibit 8B Sheet 1	Oil & Gas	Permit 33H, SD3
		Exhibit 8B, Sheet 2	Oil & Gas	SD4
		Exhibit 8B, Sheet 3	Oil & Gas	SD4
12.142(2)(B)	Sequence of the land to be affected by mining and reclamation	Exhibit 8	Life-of-Mine Plan	SD3
		Exhibit 9B	Five Year Mine Plan - Area M	OMITTED
		Exhibit 9C	Five Year Mine Plan - Areas Sand T	SD3
		Exhibit 9D	Five Year Mine Plan - Area Q	SD3
		Exhibit 9E	Five Year Mine Plan - Area R	SD3
I 2.142(2)(C)	Area of land to be bonded	Exhibit SM-11 Sheet I of 3	Worst Case Bond Calculation	SD2
		Exhibit SM- 11 Sheet 2 of 3	Worst Case Bond Calculation	SD2
		Exhibit SM-11 Sheet 3 of 3	Worst Case Bond Calculation	SD2
12.142(2)(D)	Coal storage, cleaning, and loading areas.	Exhibit 8	Life-of-Mine Plan	SD3

12.142(2)(E)	Topsoil, spoil, coal waste, and non-coal waste storage areas.	Exhibit 8	Life-of-Mine Plan	SD3
		Exhibit 9B	Five Year Mine Plan - Area M	OMITTED
		Exhibit 9C	Five Year Mine Plan - Areas Sand T	SD3
		Exhibit 9D	Five Year Mine Plan - Area Q	SD3
		Exhibit 9E	Five Year Mine Plan - Area R	SD3
12.142(2)(F)	Water diversion, treatment, storage & discharge facilities.	Exhibit 10	Surface Water Control Plan & Premine Topo	SD3
12.142(2)(G)	Air pollution collection and control facilities	NA		
I 2.142(2)(H)	Source of waste and waste disposal facilities.	NA		
12.142(2)(I)	Fish and wildlife enhancement and protection.	Exhibit 10	Surface Water Control Plan and Premine Topo	SD3
		Exhibit 144- I	Fish and Wildlife Enhancement	SD4
12.142(2)(J)	Explosive storage and handling facilities	NA		
12.142(2)(K)	Location of each sediment pond, permanent impoundment, coal processing waste dam and embankment, and fill area for the disposal of excess spoil.	Exhibit 10	Surface Water Control Plan and Premine Topo	SD3
12.142(3)	Certification by a qualified registered professional engineer or geologist.	Individual maps are certified		
12.142(4)	A description of plans and drawings for each support facility to be constructed, used, or maintained within the proposed permit area.	Section .154		

45. Section 12.143 of the Application, as supplemented, meets the requirements of §12.143 of the Regulations.

(a). The South Hallsville No. 1 Mine is located east of the 100th Meridian West Longitude.

(b). The Application as supplemented includes a plan for fugitive-dust control (SD2). Sabine updated its fugitive-dust control plan by committing to promptly mulch and crimp bare ground as needed and to limit agricultural

activities that have the potential to contribute to fugitive dust (i.e., disking and dragging) during high winds.

(c). The fall distance will be reduced, to the greatest extent possible, when dumping material. These fall distances will be dictated by personnel safety, machinery clearances and line-of-sight capabilities of machine operators. Dust emissions from haul roads and equipment work areas will be controlled using water trucks, chemical suppressants and/or slow-curing liquid asphalt. Additional measures will include periodic washing of vehicles, scrapping and packing unpaved roads, minimizing areas of disturbance when practical extinguishing fires, limiting agricultural activities such as disking during high wind periods and reducing the period of time between initial disturbance and revegetation when possible.

46. Section 12.144 of the Application, as supplemented, meets the requirements of §12.144 of the Regulations with the inclusion of Permit Provision 7.

(a). Section 144 of the Application, as supplemented, contains the following: Text, (SD4); Figure 144-1, Typical Postmining Reclamation/ Wildlife Integration Plan (SD2); Figure 144-2, Sedimentation Pond Enhancement for Wildlife (SD2); Figure 144-3, Typical Pastureland/ Grazingland Enhancement for Wildlife (SD2); Figure 144-4, Wetland Enhancement for Surface Mining Retention Ponds (SD2); Figure 2, Section 404 Jurisdictional Waters of the US (SD2); Table 144-1, Species for Revegetation in Fish & Wildlife Habitat Postmine Land Use (SD3); Table 144-2, Consolidation of Wetland Impacts & Mitigation (SD4); Appendix 144-1, Rare, Threatened & Endangered Species Protection Plan (SD4); Appendix 144-2, Section 404 USACE Authorizations (SD3); and Exhibit 144-1, Fish & Wildlife Enhancements (SD4).

(b). Woody plants are planned to be established along reconstructed drainageways, diversions, ponds, roads, and/or fence lines, as depicted in the typical scenarios on Figures 144-1 through 144-4 (SD2).

(c). The species planned for use to revegetate reclaimed land for fish and wildlife enhancement are listed in Table 144-1 (SD3) and in Appendix 145-4 TPW, *Native Plants Recommended for Possible Reclamation and Mitigation Value in Texas*, a Texas Parks and Wildlife Department list of plants in Section 145 of the Application SD2). Preference will be given to the plants listed in Table 144-1TPW (SD2), *Native Plants Recommended for Possible Reclamation and Mitigation Value in Texas*, for areas developed for fish and wildlife enhancement.

(d). Eight State-listed threatened species have been sighted within the permit area: Bachman's Sparrow, Wood Stork, Bald Eagle, Alligator Snapping Turtle, Timber Rattlesnake, Texas Pigtoe, Texas Heelsplitter and the

Sandbank Pocketbook. Sabine will contact a suitably TPWD-permitted person to handle any State-listed threatened and endangered species should the need arise.

(e). Threatened and endangered species surveys of the project area were conducted during 1986/ 1987 and in 1995/ 1996 to update previous information. At that time, no federally-listed threatened or endangered or their critical habitats were observed during the additional field surveys of the mine plan and adjacent areas. On October 11, 2013, the USFWS determined the E1 Pond to be critical habitat for the Neches River Rose-mallow (NRRM) and have identified this pond as designated critical habitat (DCH) Unit 2. Appendix 144-1 (SD4) includes information regarding the ongoing protective measures for this site and the NRRM. The threatened and endangered species that could occur in Harrison County, Texas are listed in Table 133-1 (SD3). Based upon historical sightings and the results of field surveys conducted in the project Area, various species of concern may occur. A protection plan for those rare, threatened or endangered species of potential occurrence is contained in Appendix 144-1 (SD4).

(f). Since the approval of Permit 33H, additional sightings of Bald Eagles have been reported at the mine, including an active nest site. Exhibit 144-1 (SD4) includes a depiction of the buffer zone surrounding the known active nest as part of the fish and wildlife enhancement features. Currently no impacts to the nest site due to mining activities are anticipated. In the event that a threatened or endangered species is observed onsite, the Commission will be notified within 48 hours, by either telephone or email. Written notification will follow within 30 days. Following the initial reporting of a threatened or endangered species observation, additional sightings will be documented and reported annually. Each unique individual species sighting will be reported unless it is clear that the individual was reported earlier.

(g). The protection plan for threatened Timber Rattlesnakes includes reporting to the Commission within 48 hours the presence of any Timber Rattlesnakes it encounters in the permit area. Sabine will have a TPWD-permitted person remove and relocate this animal if it occurs in an area to be disturbed. A transplantation/donation protocol is included in the protection plan for the NRRM should it be encountered, along with pre-disturbance surveys for the NRRM.

(h). Appendix 144-2 contains an August 21, 1996, letter from the Surface Mining and Reclamation Division Director to Sabine concerning the results of Staff's consultation with TPWD's Dr. Ray C. Telfair concerning Wood Storks, in which Dr. Telfair stated that there is minimal concern for the protection of these birds so long as activities at the South Hallsville No. 1 Mine are not harming them.

(i). The U. S. Army Corps of Engineers (USACE) permitting history for the South Hallsville No. 1 Mine is provided in Table 144-2 (SD4) and includes USACE wetland impact and mitigation acreage for operations in the five-year permit term and also future permit terms through 2025. The table also includes historical authorizations from the USACE for the Project Area. The total life-of-mine impacts are estimated to be 693.2 acres with 1,470.8 total acres of mitigation. Approximately 777.6 acres of the total mitigation acreage will be located off-site in accordance with the USACE.

(j). Permit Provision No. 7 requires Sabine to provide an updated Exhibit 144-1, Fish and Wildlife Enhancement Features map at a scale of 1-inch to 500-feet, which covers the entire permit area. The revised exhibit must clearly and accurately depict all fish and wildlife enhancement features identified in previous submittals and those identified in the approved Protection and Enhancement Plan required under Rule §12.144. The revised Exhibit 144-1 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

47. The reclamation plan in the Application, as supplemented, meets the requirements of §12.145(a) of the Regulations. The Application as supplemented, contains a plan for reclamation of the lands within the permit area in Sections 12.145 through 12.154.

48. The reclamation timetable in the Application, as supplemented, meets the requirements of §12.145(b)(1) of the Regulations.

(a). The time sequences and seasonal phases of each major step in the reclamation plan are presented in Table 145-1, Reclamation Timetable (SD2).

(b). The major reclamation plan milestones shown in Table 145-2 begin with coal removal and end with Phase III bond release. This table lists the times, based on coal removal, when the following milestones are to be achieved: backfilling and grading, placement of suitable material, establishment of temporary and permanent vegetation, a period of augmentation to ensure vegetation establishment, initiation of the five-year ERP, and submittal of applications for bond release. All leveled areas planted to temporary vegetation during the summer months will be monitored during winter months to ensure that adequate ground cover exist to control erosion. Cool-season temporary vegetation and/or mulching will be utilized as needed to ensure adequate erosion control. The table includes six (6) footnotes (Footnotes 1 through 4, 6, and 7).

49. The information contained in the Application as supplemented meets the requirements of §12.145(b)(2) of the Regulations.

(a). Sabine's detailed reclamation costs are based on the worst-case pit

scenario (SD2). This detailed reclamation cost estimate, with supporting calculations for the work categories of highwall and spoil reduction, subsoil replacement, backfilling and grading, and revegetation, reflects a total cost of $42,636,657. Worst Case Bond Map Calculations, Exhibit SM-11, Sheets 1 through 3 and Pit Cross Sections are included in the Application as supplemented (SD2).

(b). Staff's reclamation cost estimate, based on the worst-case pit scenario, is contained in Appendix II of its TA dated May 29, 2018 and is summarized as the following:

TOTAL MINE RECLAMATION COST SUMMARY

Pit Closure[1]		$12,355,283
Ancillary Facilities Removal[2]		$15,833,616
Revegetation (Active and previously mined areas)[3]		$10,768,154
Revegetation (Phase I Bond Release Areas)[3]		$2,263,534
Revegetation (Phase II Bond Release Areas)[3]		$792,384
	Subtotal	$42,012,971
	Administrative Costs (10%)	$4,201,297
TOTAL RECOMMENDED BOND AMOUNT		**$46,214,268**

[1] From Table II
[2] From Table III
[3] From Table IV

(c). Staff used Sabine's bond maps in the Application, Exhibit SM-11, Sheets 1 through 3, in its reclamation cost estimate (SD2). Based on the worst-case cost scenario, Staff estimates that it will cost $46,214,268 to reclaim the South Hallsville No. 1 Mine. The approved bond amount of $75,000,000 for the South Hallsville No. 1 Mine consists of a $ 65,000,000 self-bond with third-party guarantee (Commission Order dated August 14, 2007) and a $10,000,000 supplemental self-bond with third-party guarantee (Commission Order dated May 8, 2012). Staff's reclamation cost estimate is greater than Sabine's $42,636,657 estimate, and less than the approved $75,000,000 bond. Staff's estimate in the amount of $46,214,268 is the minimum bond amount required for this five-year permit renewal/revision Application.

50. The backfilling and grading plan in the Application, as supplemented, meets the requirements of §12.145(b)(3) of the Regulations.

(a). Backfilling and grading methods of completion are described in Table 145-1 (SD2).

(b). A temporary cessation of operations (TCO) is requested for the R Area for the five-year permit term due to customer demands for lignite. This TCO is

approved by this Order.

(c). A backfilling and grading variance is requested for the Q Area and R Area base on distance from the highwall toe resulting in additional time required for backfilling and grading of a total of fourteen months. This timeframe consists of eight months for spoil placement and six months to fully complete backfilling and grading. This variance is approved by this Order.

(d). Rough backfilling and grading will be performed using a combination of a drag lines, large crawler bulldozers, truck/shovel fleet, or scrapers. This activity will be completed in the "S" area within 180 days after coal removal. As described in FOF 42. (c). above, in the Q and R Areas, a variance is needed based on the distance from the highwall toe, noted in Table 145-1 (SD2). Regrading of ramps may require an additional 1,000 feet, from the toe of the existing highwall, in deep cover, noted in Table 145-1 (SD2).

(e). The placement of suitable material will be completed within 9 months or 1,630 feet from the toe of the existing highwall, in deep cover. In deep cover, the placement of suitable material in and around ramps may require an additional 1,000 feet from the existing highwall. This timeframe allows for seasonally variable site conditions that make it impractical to promptly redistribute substitute materials as required in §§12.336 and 12.337.

(f). Mobile equipment will be used for selective handling of oxidized overburden for placement in the postmine top four feet. The selective overburden handling plan will ensure that all AFM, TFM, and combustible materials will be covered by a minimum of four feet of the best-available non-toxic, non-combustible material, as required at §§12.145(b)(3) and 12.386(a)(l)-(3).

(g). A table of postmining acreages in each slope category is included for each mine are in Table 145-2 (SD2). A comparison for the total Project Area is also included in this table. The following summarizes information for the total Project Area as shown in the table:

Slope Category	Premine	Postmine	Difference
	Acres	Acres	Acres
0 - 3%	6,586.8	9,302.8	2716.04
3 - 5%	5,550.8	5,195.6	(355.19)
5 - 10%	6,903.5	5,030.3	(1,873.22)
10 - 15%	1,595.9	1,324.1	(271.76)
15 - 20%	368.9	369.7	0.81
Over 20%	118.4	141.8	23.42
Total	21,124.2	21,364.3	

51. The soil handling plan in the Application, as supplemented, meets the requirements of §12.145(b)(4) of the Regulations.

(a). The requirements of §12.145(b)(4) are addressed in Section 12.145 (SD3) Additional details are also provided in Section .139 of the Application, as supplemented.

(b). Section 12.145 describes premine soil-sampling programs conducted from 1987 through 2002, the data for which are the basis for the approved native soil base lines and approved postmine soil performance standard s. The five-year permit area contains two approved Soil Baseline Areas (SBAs): SBA Nos. 1 and 2. These SBAs and native soil-sample locations are identified on Exhibit 5, Premining Soils Map (SD2). Laboratory data are included in Appendices 134-5.1 and 134-5.2 (Approved Permit No. 33G). Calculations of the frequency distributions for pH, acid- base accounting, clay and sand for SBA No. 1 and SBA No. 2 are contained in Appendix 134-3 (Approved Permit No. 33H, SD2). These frequency distributions serve as postmine soil performance standards, which are presented in Tables 145-8 and 145-9 for approved SBA Nos. 1 and 2, respectively (SD2).

(c). The continued use of selected oxidized overburden as topsoil/subsoil-substitute material is planned for the five-year permit term. Topsoil/subsoil-substitution areas approved in Permit Nos. 13 and No. 24 (TSRAs) were memorialized in Permit No. 33C. On Exhibits 5A, 5B, and 5C (SD2) identify all previously approved TSRAs (TSRA Nos. I through 24). No new TSRAs are proposed in this Application, as supplemented. Removal of the approved topsoil/subsoil-substitute materials consists of selectively handling the oxidized materials with mobile equipment. Mobile equipment will normally strip topsoil-substitute material from in front of the advance of the dragline. This material is generally routed around or across the active pit and is distributed on graded spoil.

(d). The approved topsoil-substitute materials will be redistributed in a manner that prevents excessive compaction and achieves an approximate uniform, stable thickness consistent with the designated postmining land uses, contours, and drainage patterns. Regraded areas will be scarified or otherwise treated to minimize slippage planes and promote root penetration. Final grading operations will be conducted along the contour to minimize subsequent erosion and instability.

(e). Approved topsoil-substitute materials may be routed to temporary storage locations shown on Exhibit 8 (SD3), when impractical to promptly redistribute or direct placement. The stockpiled materials will be protected from erosion, unnecessary compaction, and contaminants which lessen the capability of these materials to support vegetation when redistributed. Stabilization of stockpiled materials will involve seeding a rapid- growing

annual or perennial cover during the first normal period for favorable planting conditions. The stockpiles will be bush-hogged to maintain suitable ground cover and to provide additional mulch materials for protection of the slopes. The stockpiled materials will be redistributed in a manner that ensures a minimum cover of four feet over all AFM/TFM and combustible materials.

52. The plan for revegetation in the Application, as supplemented, meets the requirements of §12.145(b)(5)(A) through (F) of the Regulations.

(a). The Application as supplemented contains the following items: Text addressing §12.145(b)(A)-(F) (SD3);Table 144-1, Plant Selection List for South Hallsville No. 1 Mine, (Section 12.144 SD3); Table 145-1, Reclamation Timetable, (SD2); Table 145-3, Wildflower Seed Mixture (SD2); Table 145-4, General Reclamation and Revegetation Equipment (SD2); Table 145-5, Typical Pesticide List, (SD2); Appendix 145-3, RCT Memorandum Dated 3-29-90, Mulching of Reclamation Areas, Permit Nos. 13 and 24 (SD3); Appendix 145-4, Planting and Invader Species List by Land Use (SD2); Appendix 145-4TPW, Native Plants Recommended for Possible Reclamation and Mitigation Value in Texas (SD2); Appendix 145-5, Plant Descriptions (SD2); Appendix 145-6, Texas Forest Service Pine Plantation Thinning Guidelines For Northeast Texas (SD2);Table 147-7, Commercial Tree Species (Section 12.147 SD2).

(b). Schedule of revegetation [§ 12.145(b)(5)(A)]: The postmining revegetation stage will be based upon specific site and seasonal conditions in accordance with Table 145-1 (SD2). Implementation of revegetation activities will begin during the first favorable planting period.

(c). Species and amounts per land-use area [§12.145(b)(5)(B)]: The plant species proposed for postmine fish and wildlife enhancement are shown in Table 144-1 (SD3), categorized in accordance with a list of species identified by TPWD as shown in Appendix 145-4TPW (SD2). Bahiagrass, Bermudagrass, kleingrass, tall fescue, black willow, or longleaf pine will not be planted in areas where the primary postmine land use is fish and wildlife habitat or areas developed for wildlife enhancement.

(d). Species will be selected from Appendix 145-4 for areas where the objective is erosion control and ground cover, from Table 144 -1 when the objective is wildlife enhancement, and from Appendix 145-4 for areas where industrial /commercial (I/C)), pastureland, forestland, and grazing land are the objectives. Wildlife enhancement areas may be developed along either side of certain major drainage ways, in which case species listed in Appendix 145-4 and/or Table 144-1 may be planted. Native species listed in Appendix 145-4 will dominate the ground -cover composition of grazingland prior to initiation of the five-year extended responsibility period (ERP) and final

reclamation bond release. In Table 147-7, Commercial Tree Species (SD2), the commercial tree species are listed. Small grains, cool- and warm-season annual grasses, and legumes will be used as a temporary cover prior to the establishment of permanent vegetation in order to provide a stabilizing cover during periods that are unfavorable for permanent revegetation.

(e). Planting and seeding methods [§ 12.145(b)(5)(C)]: Seedbed preparation will include application an incorporation of the required amounts of nutrients and soil amendments in accordance with standard testing procedures and practical field experience. General reclamation and revegetation equipment in are listed in Table 145-4 (SD2).

(f). Broadcast spreaders, grain drills, hydro-mulchers, and spriggers will be used during the majority of the seeding or planting operations. Legume seeds will be inoculated prior to planting in accordance with Table 145-1 (SD2). Trees and shrub seedlings will be mechanically planted or will be planted by hand if necessary, from late winter through early spring. Individual trees and shrubs or clumps of woody plants that will be disturbed by the mining operations may be transplanted in regraded areas with a tree spade or front-end loader.

(g). Sabine may install contour furrows as a surface-stabilization and erosion-control measure, adding that contour furrows are designed to impede runoff, trap sediment, and promote infiltration on reconstructed slopes. Contour furrows are temporary in nature and their longevity depending upon vegetative ground cover and the sedimentation characteristics of an area.

(h). Temporary sediment-control measures may be applied at Sabine's discretion and may include drop structures, terraces, silt fence, and check dams. Drop structure and terrace design plans will be submitted to and approved by the Commission prior to construction.

(i). Mulching techniques [§12.145(b)(5)(D)]: In order to minimize the exposure of disturbed areas to erosion, Sabine proposes to directly plant perennial species into areas with a temporary cover, as provided for under §12.393(c). Straw or hay mulch may not always be applied to areas where perennials are planted into temporary cover, since the stubble will serve as a mulch and control erosion until the permanent vegetation becomes established.

(j). The Application as supplemented, requests a mulching variance in areas where the slope is equal to or less than 5%. Contour plowing will be utilized and planting will be contemporaneous in these areas. Appendix 145-3 (SD3) includes correspondence from Commission staff which indicates that contour plowing in combination with planting activities is successful at the

South Hallsville No. 1 Mine. In areas where the slope is greater than 5% and without a temporary cover, mulch will be distributed over the site following the planting or contour furrowing operations. The variance is approved by this Order.

(k). Irrigation Practices, Pest and Disease Control Measures [§12 .145(b)(5)(E)]: In extreme situations, irrigation may be implemented, however, historically irrigation has not been necessary and is not planned as a common practice. Water from sedimentation ponds where it has obtained water rights from TCEQ will be used for this purpose if necessary.

(l). Pesticides will be used to control undesirable plant growth and insect damage as necessary. Table 145-5 (SD2) contains a list of typical pesticides that may be used for the area however, since chemical-pesticide technology is advancing with new products entering the market, other products may be used that are not listed in Table 145-5. All pesticides will be applied under the direct supervision of a certified applicator and will be applied in accordance with all applicable Federal and State regulations.

(m). Determination of Reclamation Success [§12.145(b)(5)(F)]: The Commission's *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas* guidance document is planned to be used to determine revegetation success on all reclaimed land. For the grazingland and pastureland land uses, Sabine must meet a 95% ground-cover standard for rhizomatous grasses and a 90% ground cover for bunch grasses with at least 75% of the ground cover comprised of approved species and no more than 25% composed of approved and desirable invader species.

(o). Sabine will compare pastureland and grazingland productivity with NRCS standards as described in Appendix 134-2 (SD3). For the forestry and fish and wildlife habitat land uses, Sabine must meet a 78% ground-cover standard with at least 75% of the ground cover comprised of approved species and no more than 25% composed of approved and desirable invader species. Sabine proposes three stem-count standards for the forestry land use: (1) 450 stems/acre (for pine and mixed pine/hard wood stands); (2) 250 stems/acre (hardwoods); and (3) stem densities for pine stands that have been thinned as described in Appendix 145-6 (SD2). A minimum of 75% of the species established on commercial forestland will be commercial tree species listed on Table 147-7 (SD2). All trees to be counted for revegetation success must be commercial tree species. SABINE proposes a standard of 100 stems per acre for the fish and wildlife habitat land use. To promote healthy and viable stands of commercial pine timber thinning may be necessary based on recommendations from the Texas Forest Service as described in Appendix 145-6 SD2).

53. The soil-testing plan in the Application, as supplemented, meets the requirements of §12.145(b)(5)(G) of the Regulations.

(a). The Application, as supplemented, contains narrative (SD3), Table 145-8 (SD2), Table 145-9 (SD2) and Appendix 145-2, Soil Testing Plan (SD3). Tables 145-8 and 145-9 contain postmine soil performance standards for SBA Nos. 1 and 2, respectively, for pH, acid-base accounting, clay content, and sand content. Sabine will conduct minesoil monitoring, sampling, testing, analysis, and reporting within Soil Baseline Area (SBA) Nos. 1 and 2 in accordance with this proposed STP. The maximum total concentrations listed in Table I of SMRD Advisory Notice ER-BA-127(b) will serve as performance standards for boron, cadmium and selenium. Banking-acreage balances for these parameters will be included in soil-testing reports. Exhibits 5A and 5B (SD2) show the areal extent of postmine soils having specific soil reconstruction standards. If requested by the Commission, Sabine will adequately identify with GIS field equipment indicating the grid number any grids that the Commission may deem necessary to audit.

(b). In order to assure proper liming rates required to meet chemical standards, Sabine conducts a random sample of the potential re-spread material prior to liming operations. Laboratory analyses of physical and chemical properties of substitute material are conducted. Lime rates are calculated by a review of pH, ABA, CEC, and texture of the re-spread substitute material. Rates are calculated by a combination of standard texture and ABA methods. Lime rates are calculated from premine oxidized core data and applied on an individual postmine monitoring grid basis. Liming rates will be according to or in excess of the lime recommendation calculated using a published standard method. Sabine will keep records of laboratory results, calculations, the method used to determine lime recommendations and actual liming rates, for inspection by the Commission. Appendix 145-7 (SD2), Justification for Two-Depth Sampling for Minesoil Monitoring in Soil Baseline Area No. 2, provides data detailing the statistical information used to support 0-1 and 1-4 feet sampling increments in SBA No. 2.

(c). The Soil Testing Plan is included in Appendix 145-2 (SD2) and is provided in Appendix VII of Staff's TA dated May 29, 2018. The Soil Testing Plan is included in Appendix II of this Order.

54. The Application, as supplemented, meets the requirements of §12.145(b)(6) of the Regulations.

(a). The South Hallsville No. 1 Mine is designed and operated to recover and use the lignite resource within the available reserve area so that re-affecting the land by future surface mining will be minimized. Cut-off parameters used in delineating the lowest mineable lignite seams generally include:

(1). Minimum lignite thickness of 1.25 feet, depending on overburden depth;
(2). Coal above the depth of initial oxidation may have been weathered to some degree and, if so, recoverability will be dependent on suitability for power plant use;
(3). A maximum overburden depth of approximately 140 feet.

55. The Application, as supplemented, meets the requirements of §12.145(b)(7) of the Regulations.

(a). The Application (SD3) describes methods used to identify and plan for the handling of materials for use in the postmine top four feet as:

(1). Pre-mine Overburden Analyses;
(2). Pre-mine Oxidized Material Sampling and modeling;
(3). Field Staking and Verification;
(4). Training of Supervisory and Operating Personnel;
(5). Verification of Material Placement and;
(6). The Minesoil Monitoring Program

(b). Pyritic materials will be isolated from the top four feet of leveled spoil. Seepage from reclaimed areas can occur when spoil sands end up too near to the top four feet of the reclaimed surface where the potentiometric level of these sands lies above or near the surface topography. When these sands contain oxidized or oxidizing pyrite, the seeps from these sands can be acidic. To prevent the occurrence of acid seeps, areas of the mine where conditions may exist have been identified for the occurrence of seeps (both acid or non-acid). The absence of the Reklaw Formation, a very fine pyrite-bearing sand, in the South Marshall Project Area eliminates the potential for acid seeps there. A source of alkalinity such as agricultural lime or limestone may be added, as needed, to neutralize acidic conditions in areas where a risk of acid seeps appear possible. A discussion on the prevention and management of acid seeps is also included in section 12.146 of the Application, as supplemented.

(c). No significant aquifers exist in the overburden above the lowest mineable lignite seam and the possibility of contamination of any major ground water supply is remote. To protect surface-water drainages, aquatic life, and the revegetation efforts, AFM will be buried beneath at least four feet of the best available non-AFM, TFM, and non-combustible material available.

(d). A description of the short- and long-term methods of storing and disposing of non-lignite wastes is found in section .12.139 of the Application, as supplemented. Overburden removal and spoil grading operations will ensure that acid-forming, toxic-forming, and combustible materials are

buried under a minimum of four feet of suitable cover material. Stray rider seams encountered will be placed low in the spoil so that they will be covered by at least four feet of nonacid- forming, nontoxic-forming, and noncombustible material after final grading.

(e). Sabine will use normal prudent diligence and care in the design, construction, storage, handling, use, and disposal of any combustible equipment, structures, and supplies used in the mining process, in order to prevent uncontrolled combustion and to minimize the effects of any such combustion which may occur. Flammable fluids, such as gasoline or diesel fuel, or any other unused materials classified as toxic or hazardous by the TCEQ and by other applicable regulatory authorities are registered, transported, stored, labeled, and handled in such a manner to meet applicable regulatory requirements.

(f). The use of open stockpile storage of mine-run lignite will only be used to a limited extent. Should combustion occur in lignite uncovered in the active pits or lignite beyond the margins of active pits, earth- moving equipment will be available to excavate or bury any burning material. Pumps will be available to flood any burning material. Unmined lignite beyond the pit margins or ahead of a final pit will be inspected prior to backfilling and grading and buried by at least four feet of non-AFM, non-TFM, and non-combustible materials.

56. The Application, as supplemented, meets the requirements of §12.145(b)(8) and §§ 12.331 – 12.333 of the Regulations.

(a). A plan sealing boreholes and wells is contained in Section 12.145 of the Application (SD2). There are no known underground openings within the five year permit area. The location of all known natural gas and oil wells and pipelines with in the five year permit area are shown on Exhibit 7 (SD3). Details on the identification, status, and schedule for plugging gas wells is included in Table 145-6 (SD2). Any wells that are intercepted by the mining operation will be sealed in accordance with §§ 12.331 and 12.333. If a transfer of ownership of monitoring wells takes place, this will be done in accordance with §12.333 and §12.351.

(b). Sabine plans to conduct exploration programs inside of the permit area but outside of the approved five-year disturbance area. The purpose of these programs will be to further define the lignite deposit as final mining plans are developed. The activities will include, but not be limited to, subcrop definition drilling, lignite coring, overburden coring, aquifer identification, and other development drilling needed for geologic or geotechnical information. No drilling will exceed 300 feet in depth without prior approval from the Commission. Land disturbed during exploration will be returned to approximate original contour promptly after such features are no longer

needed for coal exploration. If necessary, revegetation will consist of varieties native to the disturbed area. Prior to conducting exploration activities within the mine permit area, Sabine will notify the Commission.

(c). Exploration activities will be conducted so as to minimize disturbances of the hydrologic balance and will include sediment-control measures such as those listed in § 12.343 or sedimentation ponds that comply with §12.344. Any toxic- or acid-forming materials encountered during exploration activities will be handled and disposed of in accordance with §§ 12.346 and 12.386.

(d). Exploration holes will have an industry-accepted hole-plugging device set at a depth of 13 feet. A ten-foot cement plug will be set between the depths of 13 and 3 feet, with the remaining three feet to ground-surface filled with drill cuttings or native soil. A ½-inch PVC pipe is inserted through the cuttings into the cement plug to assist in the verification of the plug location by metal probe. If exploration holes encounter flowing water, oil and/or gas, zones of alternating qualities of water or the base of useable quality water, these conditions will be isolated with a cement plug to prevent water flowing from the hole or mixing within the hole. Exploration holes within the permit area that penetrate below the lowest lignite to be mined will have the lithology checked with a geophysical log. When plugging of these boreholes is necessary to protect underlying aquifers from potential lignite mining spoil waters, a cement plug will be set from the base of the lowest minable lignite to the bottom of the boreholes.

(e). Any water wells that penetrate the pit floor and are located in an area scheduled for mining will be sealed following currently accepted practices consistent with §§12.331 and 12.333 and 16 TAC §§76.702, 76.1001, and 76.1009, and will be in compliance with §33.014 of the Texas Water Code. Procedures for the reestablishment of ground-water supply are included in section 12.146 of the Application, as supplemented. The Commission will be provided certified documentation of the pugging performed by the well driller who plugged the wells.

(f). All monitoring wells will be constructed with an annular seal around the casing above the gravel pack placed between the well screen and the formation. This seal will be made of cement grout with four to six percent bentonite addition. When plugging wells where casing is left in place, the inside of the casing will also be filled with cement-bentonite grout as described above. Grouting placed in the annular space, around the casing, and inside the casing, will be placed using a tremie pipe to assure that all voids are filled. Oil and gas wells to be mined through will be plugged in accordance with the Commission's rules at 16 TAC § 3.14. The Commission's Tyler District office will be notified five working days prior to any hole plugging operations

57. The Application, as supplemented, meets the requirements of §12.145(b)(9) of the Regulations. The application (SD3) contains a description of the steps that Sabine will take to comply with the Clean Air Act and the Clean Water Act. The description references Sections 12.121, 12.139, 12.143, 12.144, and 12.146 of the Application for a discussion of the procedures to describe compliance.

58. The Application, as supplemented, regarding Protection of the Hydrologic Balance – Groundwater, meets the requirements of §12.146(a) and (b) of the Regulations with the inclusion of Permit Provision No. 8.

(a). Section 12.146 in the Application, as supplemented, was prepared by Sabine's consultant Pastor, Behling and Wheeler, LLC (PBW) and certified by Keith Wheeler, a licensed professional geoscientist in the State of Texas. No changes other than updated exhibits are proposed to the ground-water hydrologic reclamation plan (HRP) and long-term ground-water monitoring (LTGM) plan in this Renewal/ Revision Application. The approved HRP and LTGM plans are included (SD2 and SD3). The Application contains Exhibit146-1, Proposed Long-Term Groundwater Monitoring Wells (SD3).

(b). The recharge in the reclaimed areas is enhanced (in comparison to the original system) immediately after mining by the increased vertical permeabilities of the mixed overburden materials. Compaction occurring after mining reduces this permeability and aquifer productivity in the reclaimed areas is expected to be somewhat less than that of the original layered system. In the permit area of this mine, the premine overburden aquifer is a poorly permeable system and, therefore, the hydrologic balance is not expected to be greatly affected because of the proposed mining activities.

(c). Postmine LTGM wells will be installed within six months of suitable material replacement. A longer period prior to installation may occur if Sabine determines that a well cannot be installed within the six-month time period and if so, Sabine will notify the Commission.

(d). In addition to quarterly water-level measurements for each LTGM well, quarterly ground-water samples will be collected and analyzed for field pH and temperature, TDS, electrical conductivity, sulfate, chloride, total and dissolved iron, and total and dissolved manganese. Additionally, an annual sample from spoil monitoring wells will be analyzed for aluminum, arsenic, boron, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. Paper and digital copies of the quarterly laboratory reports will be submitted to the Commission within 30 days of the end of each calendar quarter.

(e). Long-Term Ground-Water Monitoring Plan

(1). To demonstrate and quantify any changes to the ground-water hydrologic balance, Sabine will continue the currently approved LTGM plan. The LTGM wells are listed in previously approved Table 146-3, Proposed Long-Term Groundwater Monitoring Wells (SD2). The LTGM wells identified in this list are shown on Exhibit 14 6-1, Proposed Long-Term Groundwater Monitoring Wells (SD3). There are 80 active wells within and adjacent to the permit area to monitor the overburden, underburden and spoil. In addition, two underburden replacement wells (PZ-I73L and PZ-I74L) and three overburden replacement wells (PZ-I73U, PZ-I74U and PZ-I76U) will be installed. Four new LTGM wells (overburden wells PZ-76U and PZ-77U, and underburden wells PZ-76L and PZ-77L), will also be installed at a future date.

(2). Sabine will notify the Commission office five (5) working days prior to any hole-plugging activities. In addition, the approved LTGM plan will not be revised without written approval from the Director of the Surface Mining and Reclamation Division.

(3). Permit Provision 8 requires Sabine to submit a revision application to update Tables 146-2 and 146-3 and Exhibit 146-1 to reflect the current status of the wells in the approved long-term groundwater monitoring plan for review and approval by the Commission in accordance with §12.226 of the Regulations, within 60 day of permit issuance.

59. The application, as supplemented, regarding Protection of the Hydrologic Balance and Surface-Water Monitoring Plan, meets the requirements of §12.146(a) and (c) of the Regulations, with the adoption of the permit provisions contained in Appendix I to this Order.

(a). Pastor, Behling and Wheeler, LLC (PBW) prepared the response to Section 12.146 for the South Hallsville No. 1 Mine, LLC. The information contained in approved Permit No. 33H (SD2) is updated in this Renewal/ Revision application and is certified by Keith A. Wheeler, P.G., a Professional Geoscientist in Texas. Updated text, Tables 146-1 through 11, Appendices 146-A through 146-1 and Exhibits 146-1 through 146-4 are contained in SD2. Revised text pages, Table 146-4, Appendix 146-H, and Exhibits 146-I through 146-3 are contained in SD3. The protection of the hydrologic balance and LTSM are described in accordance with §12.146(a) and (c).

(b). In the hydrologic reclamation plan, contained in Section 12.146 of the Application as supplemented, Sabine indicates that its mining and reclamation operations will utilize acceptable practices to control water pollution and minimize changes to the hydrologic balance. All surface-water

runoff from disturbed areas will pass through sedimentation ponds before discharging from the permit area. Perennial streams will not be disturbed during pond construction and surface-water runoff into disturbed areas will be minimized. Discharge structures will be designed using standard engineering design procedures. In conjunction with sedimentation ponds, water-treatment facilities will be utilized to control surface runoff if necessary. Sabine will monitor final-discharge ponds in accordance with applicable state and federal water-quality permits.

(c). The best practical technology will be utilized in design and construction of ponds to optimize sediment removal, minimize short-circuiting, and prevent erosion. The surface-water control plan is described in sections 12.139 (SD3) and 12.148 (SD2 and SD4) in the Application. Drainage from acid forming materials (AFM) and toxic forming materials (TFM) will be avoided by identifying, burying, and treating, if necessary, spoil that would adversely affect water quality. In the event that burying is necessary, AFM and TFM will be covered with a minimum of four feet of suitable material. A thicker cover may be used when necessary to prevent upward migration of salts, prevent exposure by erosion, prevent formation of acid or toxic seeps, provide an adequate depth for plant growth, or to otherwise meet local conditions, Backfilled materials may be selectively hauled and compacted to prevent leaching.

(d). Surface-water runoff from two unvegetated topsoil stockpiles does not drain into a sedimentation pond. These stockpiles will be used for the reclamation of the truck dump and office facilities. Under § 12.340(a)(3) of the Regulations, an exemption was approved from the requirements of §12.340(a)(1) for these existing stockpiles. The stockpiles are stable, therefore, surface water runoff to a sedimentation pond is not necessary in accordance with §12.340(a)(3). These stockpiles are depicted on Exhibit 8 (SD3). Table 146-1 (SD2) contains water-quality data collected from similarly stabilized areas. Control and minimization of water pollution includes the following acceptable practices (1) plant temporary, quick germinating vegetation, (2) divert runoff and (3) mulching. The exemption continues to remain in effect.

(e). Sabine will replace the water supply of an owner of an interest in real property who obtains all or part of his or her supply of water for domestic, agricultural, industrial or other legitimate use from a surface source, where the water supply has been demonstrated to have been adversely affected by the activities of the mining operation. Section 12.130 of the Application as supplemented discusses compliance with this requirement.

(f). The Application, as supplemented provides a plan for continuing to collect, record and report surface water quality and quantity data as mining activities progress.

(g). The LTSM plan for the South Hallsville No. 1 Mine consists of monitoring point-source discharges from final sedimentation or treatment impoundments and monitoring selected disturbed-area and undisturbed watersheds during mining and reclamation. The proposed LTSM plan is described in Section 12.146 (SD2 and SD3) and summarized in Table 146-4 (SD3) and Table 146-5 (SD2).

(h). A copy of Texas Pollutant Discharge Elimination System (TPDES) Permit No. 02538 is contained in Appendix 146-H (SD3). Effluent limitations for the TPDES permit are listed in Table 146-5 (SD2). Sabine will monitor the outfalls in accordance with the respective wastewater discharge permit(s). Monitoring will continue until data indicate that the quality and quantity of runoff meets applicable State and federal effluent standards. The Commission is provided this information along with individual pond discharge data on a quarterly basis. Sabine has also identified the sampling parameters for each respective outfall type: ponds receiving pit water and water from active areas are sampled for pH, TSS, total iron and total manganese; ponds receiving runoff only from reclamation areas are sampled for pH and SS. Notification will be provided to the Commission of changes in the list of impoundments comprising each TCEQ TPDES outfall. By February 1 each year, a map of revised outfalls and a list of ponds and streams monitored by each outfall will be provided to the Commission. If there are no revisions to the list of ponds or streams during the year, the Commission will be notified by letter in lieu of the annual map submission.

(i). Stream monitoring requires that both disturbed and undisturbed stations be selected for measuring long-term impacts to the hydrologic balance. Sabine currently monitors three undisturbed stations and fifteen disturbed stations, shown on Exhibit 146-2 (SD3). Several LTSM stations have been relocated due to mining and reclamation activities and the locations of former surface-water monitoring stations are shown in Exhibit 146-2 (SD3). Table 146-10 (SD2) provides a summary of the LTSM data for the mine.

(j). Water samples will be collected quarterly for the parameters in Table 146-4 (SD2). LTSM data will be reported to the Commission (in both paper and electronic format) within 30 days following the end of each calendar quarter. Table 146-4 (SD3) indicates that the monitoring stations will be analyzed and reported quarterly for TDS, TSS, pH, Fe, Flow and Mn. Sabine will provide the Commission stream depth, width and velocity measurements used to calculate instantaneous discharge along with the quarterly monitoring data.

(k). Permit Provision 3 requires Sabine to provide a revised Appendix 146-F and corresponding Table 146-10 accurately segregating all LTSM data by both the discrete geographic location and the period of record for each

monitoring station location. The revised Appendix 146-F and corresponding Table 146-10 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

60. The information contained in the Application, as supplemented for Probable Hydrologic Consequences (PHC) Determination - Ground Water, meets the requirements of §12.146(d) of the Regulations.

Section 12.146 in the Application, as supplemented, was prepared by Sabine's consultant Pastor, Behling and Wheeler, LLC (PBW), and certified by PBW's Keith Wheeler, a licensed professional geoscientist in the State of Texas. No changes are included to the ground-water probable hydrologic consequences (PHC) determination in this Application, and Sabine has incorporated the PHC determination that is contained in approved Permit No. 33H. The ground-water PHC determination for mining activities in the life-of-mine period is addressed in Section 12.146 of the Application (SD2, SD3 and SD4). The following summarizes the PHC determination:

(1). The disturbance of the overburden during mining will result in changes to the hydraulic properties of the ground-water system within the proposed permit area. Mining activities are expected to reduce the horizontal hydraulic conductivity of reclaimed areas. Increases in porosity and vertical hydraulic conductivity, however, are expected to improve the postmining recharge characteristics. Ground-water quality may be affected through the dissolution of oxidized mineral constituents in the reclaimed spoil. The mine plan is designed to minimize the time that unoxidized materials are exposed. Anticipated changes in ground-water quality are not significant and should have a minimal effect upon the usefulness of the ground-water resource.

(2). Within Permit No. 33H, the effects of mining will mostly be limited to overburden sediments above the lowermost mineable lignite seam. Identifiable effects are the redistribution of sediments, changes in the hydraulic properties in the reclaimed sediments, oxidation of portions of the overburden, and production of acidity during resaturation. Scattered oxidized pyritic materials within the overburden, primarily found in the Reklaw Formation, are sources of acidity in ground water. This is reflected in low premining pH values measured in some private wells during collection of baseline information.

(3). In the majority of the proposed permit area, the underburden directly beneath the lowermost mineable lignite seam consists of clayey silts, silty clays and silty sands. The presence of these relatively impermeable materials and the lack of sufficient difference in

pressure head between the underburden and overburden should minimize upward leakage into the mine.

(4). Precipitation will likely be the most significant contributor to the resaturation of the spoil, and the contribution to the resaturation of the spoil from adjacent unmined units is expected to be small. The postmining recharge capacity of the spoil is expected to be equal to or slightly greater than the premining recharge capacity. An initial increase in the rate of infiltration of incident precipitation is likely due to an increase in the vertical permeability as a result of mining. This rate of infiltration should decrease with time, as vegetation is established and compaction of spoil occurs, decreasing the vertical hydraulic conductivity.

(5). A seep identification and prevention plan is included in Section 12.146 of the Application (SD2). Sabine indicates that seep formation has historically occurred in the South Hallsville area but not in the South Marshall area. Mining has been ongoing in the South Marshall area for more than a decade and some of the spoil areas have resaturated nearly to premine levels. For the South Marshall area, waters in both long-term overburden monitoring wells and spoil monitoring wells have a pH average of approximately 6.6.

(6). Seepage from both disturbed and undisturbed overburden can exhibit a pH ranging from low to almost neutral. The pH depends largely on the amount of pyrite and degree of oxidation encountered by water as it flows through the soil and subsurface. The water quality data from postmine ponds and the LTSM stations show that no low pH discharges are contributing to water-quality degradation. The seepage rates and the sporadic location of seeps will be insignificant in their impact on the local drainages potentially receiving seep waters.

61. The information contained in the Application, as supplemented, for the Probable Hydrologic Consequences (PHC) Determination – Surface Water meets the requirements of §12.146(d) of the Regulations.

(a). Section 12.146 in the Application as supplemented, addresses the PHC determination. Exhibit 146-3, Surface Water PHC Watershed Boundaries is provided (SD3). Section 12.146 is certified by Keith Wheeler, P.G. The PHC determination is based on baseline hydrologic data collected from monitoring stations established by Sabine for the South Hallsville No. 1 Mine, USGS Station 08022040, and hydrologic modeling performed on watersheds located within the project area.

(b). The surface-water PHC determination addresses life-of mine disturbance.

Fourteen watersheds (BB-1, BB- 2, C-1, C-2, CC- 7, CC-8, CC-16, CC-17 (Hardin Creek), CC-17 (Clarks Creek), EM- I, H-9, H-10, H-11, H-2, P-1, P-3, P-4 (Potters Creek), P-4 (Starkey Creek), P-7, P-8, SC-I, SR- I, UTCC-1, UTC-1, UTC-2, UTH-1, UTS-1 and UTS-2) are located within the proposed permit area as shown on Exhibit 146-3, Surface Water PHC Watershed Boundaries (SD3). The fourteen watersheds were modeled for storm runoff response for pre-, during-, and postmine watershed conditions. Several of the larger watersheds were subdivided for storm-routing purposes and the subwatersheds are also shown on Exhibit 146-3. The hydrograph stations shown on Exhibit 146-3 were used in the storm-response runoff models for calculation of peak flow rates and total runoff volume.

(c). Hydrograph/watershed station designations are as follows: CC = Clarks Creek; UTCC = unnamed tributary of Clarks Creek; H = Hatley Creek; UTH = unnamed tributary of Hatley Creek; SR = surface runoff area; BB = Brandy Branch; SC = Spring Creek; P = Potters Creek; UTS = unnamed tributary of the Sabine River; UTC = unnamed tributary of Colliers Creek; C = Colliers Creek; and EM = tributary of Eight Mile Creek.

(d). Watershed delineations are based on existing topography using 7.5-minute USGS topographic maps and the same watershed boundaries were used for pre, during and postmine runoff scenarios. Insignificant differences in watershed areas due to changes between premine and postmine topography are expected. Land use and soil composition changes due to mining disturbances tare expected to have a larger influence on peak runoff rates and volumes.

(e). Sabine modeled storm runoff for the anticipated life-of-mine disturbances based on multi-year mine blocks for the years of 2014-2023. Annual mine blocks mined prior to this renewal year of 2009 were assumed to be undergoing reclamation for the during mine scenario and the mine blocks from 2009 or later that resulted in the greatest curve number (CN) and sediment loss were used in the during mine calculations.

(f). The hydrologic response of a watershed is dependent on topography, surface soils, land cover and the antecedent moisture content of soil. Mining and reclamation activities will result in disturbance of the native soil conditions. Stratified overburden materials will be removed and replaced in an unstratified and unconsolidated condition. During this process the overburden material expands in volume and becomes initially more porous with vertical permeability greater than in its premine state. During mining, runoff from bare soil surfaces is expected to be greater than in premine or postmine reclaimed conditions.

Before the reclamation vegetation is established, the bare soil left by the backfilling and grading operations will produce a substantially large sediment load in the surface-water runoff. During the mining and

reclamation phases, the runoff will be detained and treated in sedimentation ponds. As vegetation is being reestablished peak flow and runoff volumes will likely return to premine conditions in some areas once vegetation has been permanently reestablished. Other areas may experience a slight increase in runoff due to less vegetative cover and lower evapotranspiration rates caused by a change in vegetation from primarily undeveloped woodland and pastureland to predominantly pastureland as to the reclaimed land use.

(g). A discussion of runoff volume calculations is provided. The NRCS Curve Number Method and SEDCAD4 were used to determine the peak flow rates and runoff volumes for the 14 watersheds shown on Exhibit 146-3 (SD3). The watersheds were modeled for the 10-yr/24-hr, 25-yr/24-hr, and 100-yr/24-hr precipitation events and for premine, active-mine, and postmine hydrologic and sedimentologic conditions. The soil group and land use are considered the calculations for premine, active-mine and postmine conditions are provided in Appendix 146-C (SD2).

(h). All 14 watersheds will be affected by mining within the permit area except for six subwatersheds draining to four hydrograph stations (CC-7, CC-8, H-9 and P-8) that will not be affected. Mining disturbance for each watershed is provided in Appendix 146-C (SD2) and is based on the mine blocks within each respective watershed. Runoff volumes and peak flow rates for each individual watershed are summarized in Table 146-8 (SD2). Although the results from SEDCAD4 models indicate an increase in peak flow during mine and postmine conditions, the increase in peak flows is expected to be mitigated by postmine ponds and other surface depressions. The increase in peak flow of the Sabine River due to land use and soil changes within the permit area will be insignificant.

(i). Increases in runoff and peak flow are directly related to increases in curve numbers because of the change in land use. The surface-water modeling that was performed does not include the mitigating effects of the sedimentation ponds that are designed to retain and treat runoff. Use of sedimentation ponds may slightly increase evaporation rates; however, since postmine runoff volumes are greater than premine runoff volumes, the net effect of the use of sedimentation ponds is not projected to significantly affect runoff volume from the proposed permit area.

(j). Sediment yield will increase during the active mine period and will subsequently decrease in the postmine period. Table 146 -9 (SD2) is the annual average yield for premine conditions and the 10-yr/24-hr storm event sediment yields for premine, active-mine and postmine conditions. Addition al sediment load calculations are contained in Appendix 146-D (SD2). Average annual and 10-yr/24-hr storm yields are provided in Appendix 146-E (SD2).

(k). Mining is expected to increase the suspended and dissolved-solids concentrations in the storm-water runoff. During mining, all storm-water runoff from the disturbed area will be routed through sedimentation ponds and will not be released before it meets TCEQ discharge standards. The sedimentation ponds capture and treat runoff from disturbed areas and are designed to detain runoff from a 10-yr/ 24-hr storm event providing an attenuation mechanism to control peak flows and sediment concentrations downstream of the disturbed areas.

(l). LTSM data in Appendix 146-F (SD4) is referenced to support that mining and reclamation activities at the South Hallsville No. 1 Mine have not adversely impacted the water quality of receiving streams. Using water-quality data collected at upstream and downstream LTSM stream-monitoring stations for the existing periods of record, Sabine summarized the maximum, minimum and average of values of pH, TDS, TSS, total and dissolved Fe and Mn in Table 146-10 (SD4). The information indicates that the listed constituents are relatively similar in the upstream and downstream stations. An assessment of the average concentrations of constituents at the disturbed stations compared to the concentrations for the samples collected during the baseline period, indicates that average pH values were 7.0, while the average baseline surface-water stations is 6.7. The average TDS concentrations were lower at the disturbed area stations (209 mg/L) compared to the average TDS concentrations at the baseline stations (394 mg/L). The average TSS concentration is greater at the disturbed area stations (58 mg/L) compared to the average TDS concentrations at the baseline stations (27 mg/L). The surface water impoundments and current reclamation activities are protecting down-stream impacts on surface water quality.

(m). The estimate of postmine evaporative losses is based conservatively on 1,000 acres of developed water resources and a mean annual lake evaporation of approximately 52 inches. The annual evaporative loss is estimated to be approximately 4,300 ac-ft/yr. However, the anticipated reduction in flow will be offset by the slightly higher runoff anticipate from postmine soils.

(n). The estimated evaporative loss from the impoundments was compared to the estimated annual streamflow of the Sabine River at USGS Station 08022040 located on the Sabine River near Beckville, Texas. The annual streamflow, shown in Appendix 146-G (SD4), of the Sabine River through USGS Station 08022040 is estimated to be 1,805,444 acre-ft/year; the average annual net evaporative loss represents approximately 0.3% of the average annual discharge of the Sabine River through USGS Station 08022040.

(o). Based on these assessments, continued mining and subsequent reclamation activities will not adversely impact water-quality constituents of the receiving streams.

62. As reflected in Appendix I of the TA, a previous Staff's Cumulative Hydrologic Impact Assessment (CHIA) for surface water and ground water systems was prepared for the Marshall Mine on November 16, 2012, for the mining activities subsequently issued as Permit No. 59 under Docket No. C12-0001-SC-00A, approved by Commission Order dated February 12, 2013. Other mines located within the Sabine River Basin included in the CHIA are the Marshall Facilities Permit, operated by Marshall Mining LLC, the Martin Lake, Martin Lake AIV South, Liberty, and Oak Hill Mines operated by Luminant Mining Company LLC, the Darco Mine, formerly operated by Cabot Norit Americans, Inc., and the South Hallsville No. 1 and Rusk Mines operated by SMC, all located in the northeast Texas counties of Rusk, Harrison and Panola. Staff contends that no new CHIA is necessary for this Application and that any changes proposed in this application are not expected to affect the currently approved CHIA.

63. The Application, as supplemented, meets the requirements of §12.147 of the Regulations.

(a). The Application contains the following items in Section 12.147: Text (SD3); Table 147-1, Soil Interpretations Record (SD2);Table 147-2, Fertilization Rates for Hay Production (SD2);Table 147-3, Management Guidelines for Harvesting Hay (SD2); Table 147-4, Fertilization Rates for Pasture/and Coastal Bermudagrass (SD2); Table 147-4A, Establishment/Maintenance Fertilization Rates for Native Grass Areas (SD2); Table 147-5, Management Guidelines for Grazing (SD2); Table 147-6, Postmine Land Use by Area Mined Acreage (SD3); Table 147-7,Commercial Tree Species (SD2);Exhibit 15, Postmine Land Use; Sheet 1 of 2 (SD3); Sheet 2 of 2 (SD4).

(b). Table 147-6, Postmining Land Uses by Area Mined (SD3) shows the following postmine land-use acreage:

Postmine Land Use	Composite Previously Affected and Permit Term Area to be Disturbed and Mined	
	Acres	% Area
Forestry	11,776	56.65%
Grazingland	5,417	26.05%
Industrial/Commercial	1,036	4.98%
Pastureland	1,682	8.09%
Residential	0	0%
Undeveloped	0	0%
Developed Water Resources	648	3.12%
Cropland	0	0%
Fish and Wildlife Habitat	229	1.10%
TOTAL	**20,788**	**100.0%**

(c). Mr. Andrew V. LaGrone, a professional engineer licensed in the State of Texas, certified the postmine land-use plans depicted on Exhibit 15, Sheet 1 of 2 (SD3) and Sheet 2 of 2 (SD4), and on Table 147-6, *Postmine Land Use by Area Mined* (SD3), by his signature and seal on these maps.

64. Section 12.148 of the Application, as supplemented, meets the requirements of §12.148 of the Regulations with the inclusion of Permit Provision No. 6.

(a). The Application contains a narrative description (SD2, Table 148-1, "Sedimentation Pond Design and Construction Schedule" (SD4), Table 148-2, "Permanent Impoundment Design and Construction Information" (SD4), Table 148-3, "Permanent Pond Monitoring Report" (SD2), Figure 148-1, "Typical Sediment Pond Plan View" (SD2) and Exhibit 10, "Surface Water Control Plan" (SD3).

(b). All approved and proposed sedimentation ponds are shown on Exhibit 10 (SD3). There are no new proposed sediment ponds shown described or depicted for the five-year permit term. Existing sediment ponds made be made permanent during the five-year permit term.

(c). The Application (SD2) provides a discussion regarding the design, construction, operation, maintenance, and retention/removal of all sedimentation ponds.

(d). No coal processing waste banks, dams, or embankments are proposed or planned for construction during the five-year permit term.

(e). Exhibit 10, Surface Water Control Plan (SD3) is certified by Andrew V. LaGrone, P.E.

(f). All sediment ponds are designed in accordance with Section 12.344 to detain surface water runoff for 24 hours or until the water quality meets the effluent discharge limitations in accordance with the TPDES Permit. In the even that effluent limitations cannot be met due to the nature of the mine drainage, water treatment facilities will be installed to provide adequate water treatment prior to discharge. These treatment facilities may consist of a variety of chemical additives for iron removal and pH adjustment, or a flocculent addition system for small particle sediment removal. Therefore, no hydrologic impacts are projected to occur.

(g). No new sedimentation ponds are planned to be constructed during the five-year permit term.

(h). Table 148-1 shows the approximate dates on which the detailed designs for

sediment ponds have been or will be, submitted and approved for construction, removal or made permanent. Construction activities for ponds will not commence prior to approval by the Commission.

(i). All permanent impoundments will be designed to meet the requirements of Section 12.347 of the Regulations, and, when applicable, the requirements of the Mine Safety and Health Administration, found in 30 CFR 77.216. A stability analysis required for sedimentation ponds meeting the criteria of 30 CFR 77.216 will be included in the design package submitted to the Commission.

(j). Permit Provision No. 6 requires Sabine to provide a revised Exhibit 12, "Post-mining Topography" and Table 148-2, "Permanent Impoundment Design and Construction Information." The revised Exhibit 12, and Table 148-2 must include all currently approved and proposed permanent impoundments. The revised Exhibit 12, and Table 148-2 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

65. Section 12.149 of the Application, as supplemented, meets the requirements of §12.149 of the Regulations.

(a). Lignite has been mined in the vicinity of the Darco Mine and the South Marshall Project Area since the early 1900's. Mining at Darco was conducted by underground methods until the mid-1940's when surface mining commenced Exhibit 11 (Initial Application) delineates the approximate location of the pre-existing underground mines.

(b). Permit 33G, Attachment 149-1 (SD1) contained a letter from MSHA dated January 29, 2009, with the subject line, "Ground Control Addendum, Mining Near Underground Workings". This document provides MSHA approval of mining near an underground mine, when needed by Sabine. The Commission approved mining within 100 feet of an abandoned underground mine by letter dated May 29, 2009, as part of Revision No. 68 to Permit 33G.

(c). None of the past underground mining activities are located within the five-year disturbance area and Sabine does not plan to conduct any mining activities within 500 feet of the past underground mines in the five year permit term.

66. Section 12.150 of the Application, as supplemented, meets the requirements of §12.150 of the Regulations.

(a). The Application, as supplemented contains the following items in Section 12.150 (SD2): Narrative; Figure 150-1, "Typical Temporary Stream

Diversion Cross-Section"; Figure 150-2, "Standard Ditch for Diversion Miscellaneous Flows"; Figure 150-3, "Starkey Creek Buffer Zone Variance Request Area"; Table 150-1, "Diversion Design Status"; Table 150-2, "Diversion of Miscellaneous Flows, Ditch Sizing Data"; Attachment 150-1, "Typical Sizes of Ditches for the Diversion of Miscellaneous Diversion Flows."

(b). Figure 150-1 (SD2) and Table 150-1 (SD2) are certified by Charles E. Ettinger, an engineer licensed in Texas.

(c). Temporary stream channel diversions are currently used to divert overland flow and shallow ground water flow from undisturbed areas around disturbed areas. Table 150-1 (SD2) lists the diversions and status. No new diversions are planned to be constructed in the five-year permit term.

(d). A typical design for temporary stream diversions is presented on Figure 150-1 (SD2). All temporary stream-channel diversions will be removed when no longer needed and the affected land regraded and revegetated in accordance with the applicable performance standard requirements. Plans for permanent stream-channel diversions will be submitted as they become necessary.

(e). Miscellaneous flow diversions (MFD) will continue to be used by Sabine. Typical MFD sizing information is shown in in Table 150-2 (SD2) and Attachment 150-1 (SD2). An approximate location for an MFD will be provided to the Commission within five days of initiating construction.

67. The Application, as supplemented meets the requirements of §12.151 of the Regulations.

(a). Evaluation of Sabine's response to Section 12.151 has been combined with its evaluation in Section 12.125 in Findings of Fact No. 28.

(b). All areas to be disturbed within the permit term area have been surveyed for the presence of cultural resource sites. Areas that have not been surveyed will not be disturbed by mining-related activities. The treatment and mitigation plan contained in Section 12.151 (SD2) adequately affords timely treatment of these sites.

68. Section 12.152 of the Application, as supplemented, meets the requirements of §12.152 of the Regulations.

(a). Section 12.152 of the Application, as supplemented (SD4) describes the closure and relocation of public roads proposed during the permit renewal/revision term.

(b). As mining progresses, it will be necessary to temporarily close all/or portions of public roads. Sabine will ensure that the interests of the public and private landowners are protected for these road closures. Such approvals will be obtained prior to conducting surface mining operations within 100 feet (measured horizontally) of the outside right-of-way of closed public roads within the permit area. Sabine will not conduct mining operations within 100 feet of the outside right-of-way of public roads until they are closed by the proper road authority or a buffer-zone waiver is obtained from the Commission.

(c). Table 152-1 (SD2) describes the status of closure, relocation and reconstruction of public roads within the permit area. The roads located within or adjacent to the mine plan area are shown on Exhibit 8A (SD3). Table 152-2 (SD2) describes mining operations to be conducted within 100 feet of the outside right-of-way of several public roads. The previously approved road buffer variances shown on Table 152-2 (SD2) continue to be approved by this Order for the permit term.

(d). Exhibit 8A (SD3) also shows locations of proposed road closures within the permit area, roads which have been reconstructed, and haul roads that cross active public roads. These crossings allow for transportation of mine vehicles through the various mine areas. Section 12.152 (SD4) provides a description of the existing road crossings and indicates that closed public roads will be reopened when approved by the Harrison County Commissioners Court.

(e). Sabine has relocated a portion of Red Oak Road which is identified on Exhibit 8A (SD3). This relocation is intended to afford a safer route by reducing sharp curves that existed in the original route and decrease the amount of useful property displaced by the original route. The new alignment was approved by the Harrison County Commissioners' Court.

(f). A portion of Boards Ferry County Road has been relocated permanently in order to allow construction of the S-7 Pond. The new alignment was approved by the Harrison County Commissioners' Court. The relocation is shown on Exhibit 8 (SD3).

(g). No new public road closures, relocations, or crossings other than at grade crossing will be initiated without prior written approval from the SMRD Director.

69. Section 12.153 of the Application, as supplemented, meets the requirements of §12.153 of the Regulations. Sabine does not plan to produce any excess spoil. All spoil will be used to achieve approximate original contour. The requirements of §12.153 do not apply.

70. Section 12.154 of the application, as supplemented, meets the requirements of §12.154 of the Regulations.

(a). A narrative description of the transportation system and support facilities is included in the Application (SD2).

(b). Table 154-1, "Haul Road Design Status" (SD4) contains a listing of all haulroads and ramp designs that have been approved for construction or submitted for approval by the Commission. For each existing road or ramp, Table 154-1 includes the identification number and/or name, stations, and the dates of submittal, approval and certification.

(c). Table 154-2, Primary Road Design Status (SD4) describes the status of primary roads. The approximate location of the haulroads, ramps and roads within the area to be disturbed during the five-year permit term are shown on Exhibits 8, 9C and 9D (SD3).

(d). Prior use of coal combustion products is described in Table 154-3 (SD2), Coal Combustion Products Utilization Summary (SD2). Exhibit 16 (Initial Application) shows the locations of past coal combustion products utilization. Sabine does not plan to use coal combustion products during the five-year permit term.

(e). Typical cross-sections for primary and ancillary roads are shown on Exhibit 14, "Typical Road Cross Sections" (SD2).

(f). Sabine describes the assumptions used to determine approximate culvert sizes for haul roads in Section 154 of the Application. The soil in the mine area is typically 20 percent hydrologic soil group HSG B, 75 percent HSG C, and 5 percent HSG D. Assuming a post grading land cover of pasture/range, contoured in fair condition, a weighted average runoff curve number of 72.2 was calculated. Based on this calculation, a curve number of 75 for culvert sizing is appropriate. An average slope of 2 percent was determined to be representative of the area. Peak discharges were then determined from ES-1027 of the NRCS's Engineering Field Manual, Chapter 2, for watersheds of varying acreages using a 10 year/24-hour and 25 year/24-hour storm event rainfall amount of 7.1 inches and 8.25 inches, respectively. Culvert capacities for culvert sizes ranging from 36-inch diameter to 96-inch diameter were then determined from Federal Highway Administration design charts. Appropriate culvert sizes were then assigned to watershed sizes by comparison of approximate discharges and culvert capacities, as shown in the table entitled "Culvert Sizing" in Section 12.154 (SD2). This table was used to determine appropriate culvert sizes for the installations proposed during the five-year permit term.

(g). General specifications used for the primary roads constructed within the

mine-plan area are as follows:

(1). To minimize erosion, a primary road will be located, insofar as practicable, on the most stable available surface;

(2). Each primary road will be constructed or reconstructed, and maintained to have adequate drainage control, structures such as bridges, ditches, cross drains, and ditch relief drains. The drainage control system will be designed to safely pass the peak runoff from a 10-year/6-hour precipitation event, or greater event as specified by the Commission;

(3). Drainage pipes and culverts will be installed as designed, and will be maintained in a free and operating condition so as to prevent or control erosion at inlets and outlets;

(4). Drainage ditches will be constructed and maintained to prevent uncontrolled drainage over the road surface and embankment;

(5). Culverts will be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles on the road;

(6). Natural stream channels will not be altered or relocated without the prior approval of the Commission;

(7). Structures for perennial or intermittent stream-channel crossings will include bridges, culverts, low-water crossings, or other structures designed, constructed and maintained current, according to prudent engineering practices. Low-water crossings will be designed, constructed and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to streamflow;

(8). Primary roads will be surfaced with material approved by the Commission as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles on the road.

(h). Sabine plans to use rock sediment traps, earth berms, sumps, filter pipes, and/or silt fences in the ditches of primary and ancillary roads. These sediment control measures are intended to minimize erosion and retain sediment within disturbed areas as required under §12.343 of the Regulations. The type, size, and location of the sediment control measures used will be determined so as not to interfere with the design capacity of the ditches or the drainage characteristics of the roads. Since the rock sediment traps, earth berms, sumps, filter pipes, and/or silt fences will be used in

conjunction with sedimentation ponds to meet the performance standard requirements of §12.343, these sediment control measures will be installed, as needed, using the best technology currently available.

(i). Haul roads in the active mining areas will be extended as the mining operations advance. The design and construction of the haul-road extensions will be consistent with the previously approved specifications and the performance standard requirements for primary roads.

71. The Application, as supplemented, and subject to the recommended permit provisions in Appendix I to this Order, meets the requirements of §12.215 of the Regulations.

(a). The application has been reviewed by Staff as indicated in the TA and TAA. By memorandum dated April 25, 2018, Commission Administrative Law Judge (ALJ) Steven Leary approved the publication of the public notice. Publication of the public notice was filed with the Commission.

Staff sent a courtesy electronic copy of the three-volume application and one-volume Supp. I to the Texas Parks and Wildlife Department (TPWD) and to the U.S. Fish and Wildlife Service (USFWS) on August 15, 2016. On October 21, 2016, TPWD replied to the Administrative Law Judge (ALJ), Marcy J. Spraggins, with three recommendations based on its review of the initial application and SD1. Staff sent an electronic copy of SD2 to TPWD and to USFWS on August 25, 2017. On October 17, 2017, TPWD replied to the ALJ Spraggins, with seven recommendations and one comment based on its review of SD2.

On March 26, 2018, ALJ Spraggins provided notification to Sabine and SMRD that ALJ Steven R. Leary would be the assigned ALJ on this docket after March 29, 2018. On April 25, 2018, ALJ Steven Leary approved the public notice. Staff sent electronic copies of SD3 and 4 to TPWD and to USFWS on April 26, 2018 (SD3), and June 8, 2018 (SD1). TPWD's recommendations and Staff's responses thereof, are captured in Appendix III of the TA.

A public hearing was held in accordance with all requirements of the Act and Regulations. Notice of hearing was provided as required. A written transcript was made of the proceeding and is in the record of the docket. [§12.215(a)(1)].

(b). With the adoption of Permit Provision 7, contained in Appendix I to this Order, the proposed Fish and Wildlife Plan has been determined, in consultation with state and federal fish and wildlife management and conservation agencies, to be adequate to satisfy the requirements of

§12.144 of the Regulations. [§12.215(a)(2)].

(c). The information provided in the supplemented application pursuant to §12.116(b), (c) and (e) has been entered into OSM's Applicant/Violator System (AVS) database. The resulting AVS report (dated June 7, 2018) is provided in Appendix VI of this TA addendum. The report identifies no current violations. [§12.215(a)(3)-(4)].

72. The Application, as supplemented, and with the adoption of the permit provisions stated in Appendix I to this Order, meets the requirements of §12.216 of the Regulations, as set forth below and elsewhere in these Findings of Fact.

(a). The Application is accurate and complete and demonstrates compliance with all requirements of the Act and Regulations. [§12.216(1)].

(b). Sabine has demonstrated that surface coal mining and reclamation operations, as required by the Act and this Chapter, can be feasibly accomplished under the mining and reclamation plan contained in the application, as supplemented. [§12.216(2)].

(c). Staff's assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance is contained in Appendix I to the TA (May 29, 2018). No changes to the approved CHIA, approved by the Commission by Order dated February 12, 2013 in Docket No. C12-0001-SC-00A, are warranted. [§12.216(3)].

(d). The proposed permit area is: (A) not included within an area designated as unsuitable for surface coal mining operations under §§12.78 through 12.85, (B), not within an area under study for designation as unsuitable for surface coal mining operations in an administrative proceeding begun under §§12.78 through 12.85 of the Regulations, (C) not on any lands subject to the prohibitions or limitations of §§12.71(1), (6), or (7) of the Regulations, (D) not within 100 feet of the outside right-of-way line of any public road, except as provided for in §12.72(e); and (E) not within 300 feet of any occupied dwelling, except as provided for in §§12.71(a)(5) and 12.72. [§12.216(4)]

(e). The proposed operations will not adversely affect any publicly owned parks or places included in or eligible for listing in the National Register of Historic Places. [§12.216(5)].

(f). For operations involving surface mining of coal where the private mineral estate to be mined has been severed from the private surface estate, the information has been provided to the Commission in the application documentation required under §12.117(b). [§12.216(6)].

(g). The report of the Applicant/Violator System (operated by the Office of Surface Mining Reclamation and Enforcement) is contained in Appendix VI of the TAA. The report indicates that there are no pending violations which remain uncorrected; or, the violations are in the process of being corrected or are subject to a valid, good faith appeal of the alleged violation. Sabine has demonstrated compliance with §12.215(e) and has satisfied the requirements for submissions and demonstrations under this paragraph. [§12.216(7)].

(h). The Applicant/Violator System report has been reviewed. If reclamation fees had not been paid the report would so indicate. No such indication was found. [§12.216(8)].

(i). The surface coal mining and reclamation operations to be performed under the permit will not be inconsistent with other such operations anticipated to be performed in areas adjacent to the proposed permit area. [§12.216(9)].

(j). The approved bond amount of $75,000,000 for the South Hallsville No. 1 Mine consists of a $65,000,000 self-bond with third-party guarantee (Order dated August 14, 2007) and a $10,000,000 supplemental self-bond with third-party guarantee (Order dated May 8, 2012). The minimum recommended bond amount (based on Staff's reclamation cost estimate) is less than the approved bond and no changes to the bond instruments are required. [§12.216(10)].

(k). Sabine has, with respect to prime farmland, satisfactorily addressed the requirements of §12.201. The proposed permit area is located east of the 100th Meridian West Longitude and contains no alluvial valley floors; therefore, the requirements of §12.202 are not applicable. [§12.216(11)].

(l). The proposed postmining land uses in this application are in accordance with the requirements of §12.399. [§12.216(12)].

(m). All specific performance-standard approvals required under Subchapter K of the Regulations have been made, with adoption of the proposed permit provisions contained in Appendix I to this Order. [§12.216(13)].

(n). The Commission finds that the proposed activities will not affect the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.). [§12.216(14)].

(o). The requirements for approval, as applicable, of a long-term, intensive agricultural postmining land use have been satisfied in accordance with §12.390 of the Regulations. [§12.216(15)].

73. The Application meets the criteria of Section 12.217 of the Act. No existing structures or facilities, as defined by §12.3, exist within the permit renewal area, and the use of existing structures for the proposed operations is not proposed.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction under §134.051 of the Act and §12.216 of the Regulations to approve this Application for permit as contained in this Order, and as set out in Appendices I and II to this Order.

2. Proper notice of the application was provided in accordance with the requirements of the Act, §134.058 and 134.059, the Regulations, §12.207, the Commission's Practice and Procedure Rules, 16 Tex. Admin. Code §1.1 et seq. and the Administrative Procedure Act (APA), Tex. Gov't Code Ch. 2001 (Vernon Supp. 2018).

3. Proper notice of the public hearing in this case was provided in accordance with §134.062 of the Act, the Regulations, §12.211 of the Regulations, the Commission's Practice and Procedure Rules, 16 Tex. Admin. Code §1.1 et seq., and the Administrative Procedure Act (APA), Tex. Gov't Code Ch. 2001 (Vernon Supp. 2018).

4. The Protestant is an owner of land within the proposed permit area and is an affected person, within the meaning of Section 134.004(1) of the Act and §12.211(a) of the Regulations.

5. The Protestant has not established, under Section 134.075(b) of the Act, that: the terms of the existing permit are not being satisfactorily met, the present surface coal mining and reclamation operation does not comply with the environmental protection standards of the Act, the requested renewal substantially jeopardizes the operator's continuing responsibility for existing permit areas, the operator has not provided evidence that the required performance bond will continue in effect for the renewal requested in the Application, or that additional revised or updated information required by the Commission has not been provided.

6. Based upon the Findings of Fact, the Application for permit was submitted to the Commission by Sabine and was processed, circulated, and reviewed in accordance with requirements that ensure public participation and that comply with the Act, Regulations, the Commission's *Practice and Procedure*, and the APA.

7. The Application, as supplemented, with the Permit Provisions set out in Appendix I to this Order and the Soil-testing Plan and Postmine Soil Performance Standards set out in Appendix II to this Order, complies with the reclamation standards set out in the Act and Regulations.

8. A reclamation bond in the total amount of $75,000,000 has been previously approved for the South Hallsville No. 1 Mine and complies with the requirements for

issuance of the renewed and revised permit.

9. Based upon the updated compliance history filed by Sabine, and in accordance with §§12.116(a)(2) and 12.215(g) of the Regulations, this requested renewal and revision of the permit may be issued for the South Hallsville No. 1 Mine.

IT IS THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the Findings of Fact and Conclusion of Law, Permit Provisions, and Soil Testing Plan contained in this Order.

IT IS FURTHER ORDERED that the renewed and revised permit is hereby issued for a term of five years from the date of Commission approval; and

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

IT IS FURTHER ORDERED that the permit is hereby renumbered Surface Mining and Reclamation Permit No. 33I; and

IT IS FURTHER ORDERED that Permit 33I is hereby issued to The Sabine Mining Company; and

IT IS FURTHER ORDERED that the currently accepted Bond in the aggregate amount of $75,000,000 remains sufficient for operations approved in this Order; and

IT IS FURTHER ORDERED by the Commission that this order shall not be final and effective until 25 days after the Commission's Order is signed, unless the time for filing a motion for rehearing has been extended under Tex. Gov't Code §2001.142, by agreement under Tex. Gov't Code §2001.147, or by written Commission Order issued pursuant to Tex. Gov't Code §2001.146(e). If a timely motion for rehearing is filed by any party at 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 is 100 days from the date the Commission Order is signed.

SIGNED this 26th day of February 2019.

RAILROAD COMMISSION OF TEXAS

Christi Craddick

CHAIRMAN CHRISTI CRADDICK

COMMISSIONER RYAN SITTON

COMMISSIONER WAYNE CHRISTIAN

ATTEST:

Kathy Way

Secretary, Railroad Commission of Texas

APPENDIX I
PERMIT PROVISIONS

1. No disturbance is authorized on the following non right-of-entry tracts until Sabine demonstrates to the Commission its right to enter and provides documentation of its consultation with affected landowners concerning its proposed postmine land-use plans, and upon review by the Surface Mining and Reclamation Division, the Director finds the information satisfactory and authorizes surface mining and reclamation operations to proceed on Tract Nos. 1037-023, 1126-002, 1135-020.1, 1233 -004.1, 1391-016.2, 1391-018.1, 1399-002, 1446-006, 1446-008, and 1447-003.

2. Oil and gas wells shall not be disturbed by surface mining and reclamation activities until documentation of right-of-entry to mineral-estate leasehold interests has been documented, submitted to the Commission and written approval to impact these sites is obtained from the Commission in accordance with §12.226 of the Regulations. Oil and gas pipelines shall not be disturbed by surface mining and reclamation activities until submittal of information sufficient to comply with §§12.382 and 12.402 and documentation of approval or accommodation agreement with the pipeline owner have been filed with the Commission and approval obtained from the Commission in accordance with §12.226 of the Regulations. If a change in the mine plan is necessary, Sabine will request appropriate revisions to the mine plan that will be reviewed by the Commission in accordance with the requirements of §12.226 of the Regulations. Sabine must visibly mark pipe lines within 100 feet of the nearest point to mining-related construction activities as measured from the centerline of the pipeline nearest to mining- related construction activities every 25 feet in both directions for a total distance of 100 feet, or if any pipeline is located within 50 feet of the nearest point to mining -related construction activities, Sabine must visibly mark pipelines within 50 feet of the nearest point to mining- related construction activities as measured from the centerline of the pipeline nearest to mining-related construction activities every 10 feet in both directions for a total distance of 100 feet.

3. Within 90 days of permit issuance, Sabine shall provide a revised Appendix 146-F and corresponding Table 146-10 accurately segregating all LTSM data by both the discrete geographic location and the period of record for each monitoring station location. The revised Appendix 146-F and corresponding Table 146-10 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

4. Sabine shall submit a revised Exhibit 8B, Oil and Gas map at a scale of 1-inch to 500-feet which depicts the entire permitted area. The revised Exhibit 8B shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with§12.226 of the Regulations.

5. Sabine shall submit a revised Exhibit 6, Pre-mining Vegetation and Fish/Wildlife map at a scale of 1-inch to 500-feet. which depicts the entire permitted area and corrects

the labeling issues identified in Staff's Technical Analysis Addendum. The revised Exhibit 6 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

6. Sabine shall submit a revised Exhibit 12, "Post-mining Topography," and Table 148-2, "Permanent Impoundment Design and Construction Information." The revised Exhibit 12 and Table 148-2 must include all currently approved and proposed permanent impoundments. The revised Exhibit 12 and Table 148-2 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

7. Sabine shall submit an updated Exhibit 144-1, Fish and Wildlife Enhancement Features map, at a scale of 1-inch to 500-feet, which covers the entire permit area. The revised exhibit must clearly and accurately depict all fish and wildlife enhancement features identified in previous submittals and those identified in the approved Protection and Enhancement Plan required under Rule §12.144. The revised Exhibit 144-1 shall be submitted within 90 days of permit issuance for review and approval by the Commission in accordance with §12.226 of the Regulations.

8. Sabine shall submit a revision application to update Tables 146-2 and 146-3 and Exhibit 146-1 to reflect the current status of the wells in the approved long-term groundwater monitoring plan for review and approval by the Commission in accordance with §12.226 of the Regulations, within 60 days of permit issuance.

APPENDIX II

SOIL-TESTING PLAN AND POSTMINE PERFORMANCE STANDARDS

The following are key elements of the Soil Testing Plan:

(1) topsoil replacement areas are to be monitored according to the depths 0-6 inches (approximate depth of topsoil), 6 to 24 inches and 24 to 48 inches;

(2) maintenance grids will be defined by postmine land use management unit boundaries (as modified by minesoil monitoring grid boundaries where necessary to maintain a maximum grid size of 100 acres);

(3) fertility testing is to be conducted in the year prior to productivity assessment and in the year of productivity assessment; and

(4) the postmine-soil performance standards are to apply to three distinct areas - topsoil salvage areas, topsoil substitute areas in Soil Baseline Area (SBA) No. 1 and topsoil substitute areas in SBA No. 2.

SOIL-TESTING PLAN

I. For topsoil-replacement areas mined from the beginning of mining in 1982 to June 12, 1989, the minesoil-monitoring plan contains the following elements:

A. Sampling depths are O - 6 inches, 6 - 24 inches and 24 - 48 inches. Six cores per 5.5-acre grid (400 ft x 600 ft) will be drilled prior to compositing samples by like depth. Cores shall be at least 200 ft apart.

B. Samples will be analyzed according to the following parameters:

1. Chemical

a. 1:1 soil water extract:

i. pH

ii. EC (salinity in mmhos/cm @ 25 degrees Celsius)

b. Standard soil-testing procedures for surface 6" for plant available:

i. nitrate-nitrogen

ii. phosphorus

iii. potassium

iv. trace elements (Zn, Fe, Mn)

c. Standard test procedures for the 6 - 24" and 24 - 48" increments for total sulfur.

2. Physical: standard soil-test procedures for texture as percent sand, silt, and clay USDA- NRCS classification.

3. The analysis results and a l"= 400' postmining topographic map showing the area represented by each composite sample will be submitted to the Commission within six months of the completion of sampling.

4. During the fourth year of the ERP, a random ten percent of the 5.5-acre grids will be sampled and analyzed according to the initial sampling requirements. The analytical results for the final samples and a 1"=400' postmining topographic map showing the area represented by each composite sample will be submitted to the Commission no later than the fifth year of the ERP.

II. Areas disturbed by mining activities during permit terms stating on June 12, 1989 or later will be monitored according to the minesoil-monitoring plan described in Technical Release SA-4 and supplemented as follows:

Maps

The soil monitoring report shall include a map of the area under review. This map shall be on a scale of 1" = 1000' and illustrate the following information:

A. A grid system of the mine area consisting of blocks not exceeding 5.5 acres each. The permittee may monitor on a larger grid size if it can be demonstrated to the Commission by site-specific studies that a larger grid size is justified. Each grid shall be labeled for identification;

B. Index marks identifying the Texas coordinate numbering system;

C. The disturbance boundary will be submitted with all soil monitoring reports in both paper and electronic format.

III. Initial Sampling

a. Timing of Initial Sampling

1. An initial composite soil sample shall be obtained on each grid. The samples shall be collected, analyzed and the results reported to the Commission within two years following rough backfilling and grading, and prior to submission of an application for Phase I bond release.

2. Initial soil sampling shall consist of composite samples from each 5.5-acre grid as may be delineated by the advance of soil leveling. For grids partially bounded by disturbance limits and/or permanent structures, smaller grids will be combined to form a sampling unit, the upper size limit of which will not exceed 5.5 acres. Adjacent soil samples shall be taken at no less than 200 feet from each other. Six soil samples per grid will be mixed to make one composite sample per depth increment. Composite samples in topsoil-substitute scenarios shall be representative of the 0-1 ft and 1-4 ft layers for Soil Baseline Area No. 1 and for Soil Baseline Area No. 2. Representative samples for zero to 6 inches (topsoil replacement depth), 6 to 24 inches and 24 to 48 inches in topsoil redistribution scenario s will be supplied to the Commission. The samples shall be collected by using standard techniques for sampling soils.

3. For Soil Baseline Area No. 1 and No.2, the following timing conditions apply:

Collect initial soil samples prior to the placement of the land into the extended responsibility period (ERP) and prior to submission of a Phase I bond release application, with results reported to the Commission by the end of the first quarter of the year following each sample-collection period.

IV. Analyses and Reporting

a. Topsoil-Replacement Scenarios

1. The 0-topsoil depth composite samples shall be analyzed for:
   a. pH
   b. Plant-available nitrate-nitrogen, phosphorus, potassium, calcium, and magnesium
   c. Depth of topsoil replacement
2. The topsoil depth to 24-inch, and 24 to 48-inch composite samples shall be analyzed for:
   a. pH
   b. Potential acidity (PA)
   c. Exchangeable acidity (EA)
   d. Neutralization potential (NP)
   e. Acid/base accounting (ABA) = NP - (PA+ EA)
   f. Texture: sand, silt and clay (USDA-NRCS)
   g. Cation exchange capacity (CEC)
   h. Sulfur forms (pyritic, organic, total and sulfate)

b. Topsoil-Substitute Scenarios

1. The 0-1 ft composite samples shall be analyzed for:
   a. pH
   b. PA
   c. EA
   d. NP
   e. ABA
   f. Texture: sand, silt and clay
   g. Nitrate-nitrogen
   h. Plant-available phosphorous, potassium, calcium, and magnesium
   1. CEC
   j. Sulfur forms (pyritic, organic, total and sulfate)

2. The composite sample s for the 1-4 ft layer for SBA No. 1 and SBA No. 2 and for composite sample s from 1-2, 2-3 and 3-4 ft layers from January 10, 2006, through approval of Permit No. 33H shall be analyzed for:

   a. pH

   b. PA

   C. EA

   d. NP

   e. ABA

   f. Texture: sand, silt and clay

   g. Cation exchange capacity

   h. Sulfur forms (pyritic, organic, total and sulfate)

3. Ten percent (10%), randomly selected by the laboratory, of the 5.5-acre grids sampled, shall be analyzed for Cd, Se, and hot water-extractable B for all depth intervals.

4. Laboratory results will be provided to the Commission within two years of rough backfilling and grading and prior to the land being considered for placement into the extended responsibility period. The increments for analysis in topsoil replacement scenarios are 0 to 6 inches, 6 to 24 inches, 24 to 48 inches. In topsoil substitute scenarios, the increments for analysis are 0-1 ft and 1-4 ft for SBA No. 1 and SBA No. 2. Whole and partial grid acreage will be provided for all topsoil-replacement and topsoil-substitute areas depicted on Exhibit SA with the submittal of minesoil-monitoring results.

Alternative Soil Testing Plan - Negative Banking Acreage Balance

V. In soil baseline areas where postmine soil-monitoring data indicate a negative banking acreage balance(s), the following will be performed:

   a. collect samples from grids no larger than 5.5 acres in size on a four-interval basis (0-1, 1-2, 2-3 and 3-4 ft)

   b. provide a split to the Commission

   c. analyze these samples for initial postmine soil parameters

   d. provide results and a map depicting all tested and impacted areas; and

   e. provide post-remediation analyses demonstrating that the negative banking-acreage has been balanced.

VI. Postmine Soils Affected by Acid Seeps

SABINE commits to revise Appendix 145-2 to provide a site-specific testing plan appropriate to the size and configuration of the area to be affected by remediation of each seep at the time of submittal of the respective remediation plan.

VII. Postmine Soils Affected by Acid Seep 6 - Subsurface Drain No. 15 (SSD-15)

The actual area to be affected by the proposed remediation is less than 0.1 acre, thus normal grid sampling and soil banking procedures are not applicable. For postmine soil-monitoring data for soils affected by Seep 15, the following will be performed:

A. Collect samples at two (2) location s within the portion of the area impacted by seep remediation above the normal pool elevation of K3 Upper Permanent Impoundment on a four-interval basis (0-1, 1-2, 2-3, and 3-4 ft). Samples will be collected and analyzed individually, i. e., not composited.

B. Provide a split to the Commission;

C. Analyze these samples for initial postmine soil parameters as described in the above "Topsoil- Substitute Scenarios";

D. Provide results in the form of a standalone report demonstrating that the upper four feet of the soils within the portion of the area impacted by seep remediation above the normal pool elevation of K3 Upper Permanent Impoundment meet the following performance standards:

- pH $\geq$ 5.0 and $\leq$ 8.4 s.u.
- ABA $\geq$ O
- Sand content $\leq$ 80 %
- Clay content $\leq$ 40 %
- Boron $\leq$ 5.0 ppm
- Cadmium $\leq$ 0.7 ppm
- Selenium $\leq$ 2.0 ppm

a. Provide a map depicting the impacted and tested areas, and the soil-monitoring grid(s) containing the imp acted and tested areas;

VIII. Maintenance Soil Sampling

a. Composite samples will be taken from maintenance grids defined by postmine land use management unit boundaries (as modified by minesoil monitoring grid boundaries where necessary to maintain a maximum grid size of 100 acres). Management units exceeding 100 acres will be zoned accordingly so as to not exceed 100 acres in total. A sampling intensity of 1 sample per 10 acres will be used to collect and composite samples to represent a maximum of 100 acres. The intent of fertility sampling is to identify fertility augmentation for the purpose of enhanced production. Forestry, industrial commercial and fish and wildlife land use tracts will not be sampled for fertility given that they are evaluated by stem density rather than production.

b. These samples will be analyzed for pH, nitrate-nitrogen, and plant-available P, K, Ca, and Mg. Samples will be collected within the period October 1 to December 31 of the year immediately prior to the first year of productivity assessment and within the October 1 to December 31 period following the first and second years of productivity assessment. If the first and second years of productivity assessment are not consecutive, samples will also be collected within the period October 1 to December 31 of the year immediately prior to the second year of productivity assessment. Analytical results and a map showing the grids will

be submitted to the Commission in conjunction with forage-production reports for management units.

c. The Commission may require additional analyses contingent on overburden-core data and the material to be placed within the top four feet.

IX. Final Sampling

a. No earlier than the fourth year of the ERP, a random ten percent of the 5.5-acre grids (or approved larger-size grids) will be sampled and analyzed according to the initial sampling requirements.

The analysis results and a map showing the grids sampled shall be provided to the Commission no later than the second month of the year following said sampling.

b. In the event that chemical and physical properties of the overburden warrant further investigation, the Commission may require additional testing. Procedures for the analyses of the above-mentioned parameters will be in accordance with Attachment A, *Overburden Parameters and Procedures,* and Attachment B, *Soil Testing Procedures,* March 1980, Texas Agricultural Extension Service, for plant-available nutrients.

c. Success of postmine-soil quality will be based on a comparison of the values of the attached postmine parameter-frequency distributions and the distribution of premine soils contained in the statistical soil baseline supplemented with the criteria described in Technical Release SA-2 (shown below).

ATTACHMENT I

THE SABINE MINING COMPANY, SOUTH HALLSVILLE NO. 1 MINE
POSTMINE-SOIL PERFORMANCE STANDARDS FOR TOPSOIL REPLACEMENT AREAS
1982-1989 DISTURBANCE AREA (1,386.3 ACRES)

SOIL DEPTH	3.6	3.7	4.0	4.5	4.7	4.8	5.1	pH not to exceed Area (ac)
				---------- Acreage ----------				
0 - 6"	-*	-	-	535.7	-	-	850.6	1,386.3
6 - 24"	-	433.4	379.8	102.2	355.6	51.4	63.9	1,386.3
24 - 48"	813.2	-	-	573.1	-	-	-	1,386.3

EC<= 4 mmhos/cm

SOIL DEPTH	- % area-
0 - 6"	100
6" - 24"	100
24" - 48"	100

SODIUM ADSORPTION RATIO (SAR) <= 13

SOIL DEPTH	-% area -
0 - 6"	100
6" - 24"	100
24" - 48"	100

B <= S ppm

SOIL DEPTH	- % area-
0 - 6"	100
6" - 24"	100
24" - 48"	100

Cd <=0.7 ppm

SOIL DEPTH	- % area-
0 - 6"	100
6" -24"	100
24" - 48"	100

Se<= 2 ppm

SOIL DEPTH	- % area-
0 - 6"	100
6" - 24"	100
24" - 48"	100

† Source of data: Table 134-4
* A dash (-) indicates an absence of a value.

ATTACHMENT II

THE SABINE MINING COMPANY, SOUTH HALLSVILLE NO. 1 MINE
POSTMINE-SOIL PERFORMANCE STANDARDS FOR TOPSOIL SUBSTITUTE AREAS
SOIL BASELINE AREA NO. 1
(PERCENTAGE OF DISTURBANCE AREA)

pH< 5.0

SOIL DEPTH	3.5 - 3.9	4.0 - 4.4	4.5 - 4.9
		---- % area ----	
0-1 ft	*	8.3	22.5
1-4 ft	1.0	27.3	31.3

ACID-BASE ACCOUNTING
FREQUENCY DISTRIBUTION< 0 tons/1000 tons

SOIL DEPTH	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
					---- % area ----					
0-1 ft	-	-	-	-	-	1.0	-	3.6	3.6	18.0
1-4 ft	1.0	-	4.7	5.1	2.6	4.1	6.1	8.1	13.6	24.0

SAND > 80%

SOIL DEPTH	81%-84%	85%-89%
	----- % area -----	
0-1 ft	1.6	0.0

CLAY>40 %

SOIL DEPTH	41% - 44%	45% - 49%	50% - 54%	55% - 59%	60% - 64%
			---- % area ----		
0-1 ft	2.6	1.6	-	1.0	1.0

Maximum Allowable Values, 0-4 ft

Boron	5.0 ppm
Cadmium	0.7 ppm
Selenium	2.0 ppm

* A dash (-) indicates an absence of a value.

Soil-testing data from areas disturbed mining-related activities in SBA No. 1 will be compared against the standards listed in this attachment.

ATTACHMENT III

THE SABINE MINING COMPANY, SOUTH HALLSVILLE NO. 1 MINE
POSTMINE-SOIL PERFORMANCE STANDARDS FOR TOPSOIL SUBSTITUTE AREAS
SOIL BASELINE AREA NO. 2, FOUR DEPTH INTERVALS (0-1, 1-2, 2-3, and 1-4 ft)
IN EFFECT FROM JANUARY 10, 2006 THROUGH THE APPROVAL OF PERMIT NO. 33H
(PERCENTAGE OF DISTURBANCE AREA)

pH < 5.0

SOIL DEPTH	3.5 - 3.9	4.0 - 4.4	4.5 - 4.9
		---- % area ----	
0-1 ft	1.0	10.1	22.6
1-2 ft	2.0	24.8	21.4
2-3 ft	3.0	41.4	26.2
3-4 ft	2.0	37.5	39.3

ACID-BASE ACCOUNTING
FREQUENCY DISTRIBUTION < 0 tons/1000 tons

SOIL DEPTH	-6	-5	-4	-3	-2	-1
			---- % area ----			
0-1 ft	-*	-	-	-	4.1	15.3
1-2 ft	-	-	1.0	5.7	13.5	17.7
2-3 ft	1.3	2.4	2.3	8.2	13.0	19.1
3-4 ft	-	4.7	5.8	11.2	15.4	25.8

SAND > 80%

SOIL DEPTH	81% - 84%	85% - 89%
	- % area -	
0-1 ft	1.7	1.7

CLAY > 40%

SOIL DEPTH	41% - 44%	45-49%	50-54%
		- % area -	
0-1 ft	1.0	-	-

Maximum Allowable Values, 0-4 ft

Boron	5.0 ppm
Cadmium	0.7 ppm
Selenium	2.0 ppm

* A dash (-) indicates an absence of a value.

Soil-testing data from areas disturbed mining-related activities in SBA No. 2 from January 10, 2006 until the approval of Permit No. 33H will be compared against the standards listed in this attachment.

ATTACHMENT IV

THE SABINE MINING COMPANY, SOUTH HALLSVILLE NO. 1 MINE
POSTMINE-SOIL PERFORMANCE STANDARDS FOR TOPSOIL SUBSTITUTE AREAS
SOIL BASELINE AREA NO. 2, TWO DEPTH INTERVALS (0-1 and 1-4 ft)
IN EFFECT PRIOR TO JANUARY 10, 2006, AND SINCE APPROVAL OF PERMIT NO. 33H
(PERCENTAGE OF DISTURBANCE AREA)

pH < 5.0

SOIL DEPTH	3.5 - 3.9	4.0 - 4.4	4.5 - 4.9
		---- % area ----	
0-1 ft	1.0	10.1	22.6
1-4 ft	2.0	30.4	26.6

ACID-BASE ACCOUNTING
FREQUENCY DISTRIBUTION < 0 tons/1000 tons

SOIL DEPTH	-6	-5	-4	-3	-2	-1
			---- % area ----			
0-1 ft	-*	-	-	-	4.1	15.3
1-4 ft	-	1.0	2.6	7.0	14.5	27.7

SAND > 80%

SOIL DEPTH	81% - 84%	85% - 89%
	- % area -	
0-1 ft	1.7	1.7

CLAY > 40%

SOIL DEPTH	41% - 44%	45-49%	50-54%
		- % area -	
0-1 ft	1.0	-	-

Maximum Allowable Values, 0-4 ft

Boron	5.0
Cadmium	0.7
Selenium	2.0

* A dash (-) indicates an absence of a value.

Soil-testing data from areas disturbed by mining-related activities in SBA No. 2 from January 10, 2006 and since approval of Permit No. 33H will be compared against the standards listed in this attachment.