

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

**SMRD DOCKET NO. C9-0007-SC-32-C
TEXAS WESTMORELAND COAL COMPANY
APPLICATION FOR RENEWAL/REVISION OF PERMIT NO. 32F,
JEWETT MINE, FREESTONE, LEON, AND LIMESTONE,
COUNTIES, TEXAS**

**ORDER OF APPROVAL AND ISSUANCE OF APPLICATION FOR
RENEWAL/REVISION OF PERMIT NO. 32F**

Statement of the Case

Texas Westmoreland Coal Company (TWCC), 4336 FM 39 South, Jewett, TX 75846, applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for a Renewal/Revision/Expansion of Permit No. 32F for the Jewett Mine located in Freestone, Leon, and Limestone Counties, Texas. The application was filed pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE Ch. 134 (Act) and the Commission's "Coal Mining Regulations," 16 TEX. ADMIN. CODE Ch. 12 (Regulations). The renewal/revision/expansion permit is for a five-year term from the date of issuance.

The permit area comprises approximately 21,575 acres in Freestone, Leon, and Limestone Counties, Texas, located generally north of Jewett, Texas; east of Lake Limestone.

Copies of the application were made available for public review in the required counties (Freestone, Leon, Limestone) and Commission offices and distributed to required local, state, and federal agencies for review and comment. Notice of the application was published in newspapers of generation circulation in Freestone, Leon, Limestone Counties. No comments or objections were made on the application following public notice and notice to agencies and landowners.

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

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

TWCC's existing posted bond amount is \$71,000,000. Staff's reclamation cost estimate was adopted in Revision No.73, approved on September 30, 2015 for the amount of \$56,117,622. No change to the approved posted bond is requested at this time.

FINDINGS OF FACT

1. Texas Westmoreland Coal Company (TWCC) applied under the Texas Coal Mining Regulations by letter dated September 29, 2008, for a renewal/revision/expansion for the Jewett Mine (Permit No. 32F) in Freestone, Leon, and Limestone Counties, Texas (Initial Application). TWCC has also submitted eight supplements (Supplements), identified as Supplements A through H (all references to the Application, hereinafter, unless explicitly noted, also include all Supplements to, and including, the Initial Application). The Application was filed with the Railroad Commission of Texas (Commission) at least six months prior to commencement of operations in compliance with 16 TEXAS ADMINISTRATIVE CODE (TAC) §12.106.
2. The Application meets the requirements of 16 TAC §12.107.
 - (a). The Application was filed in the format required by the Commission at the time of filing, contains the applicable information required under 16 TAC §§12.116 through 12.154 and all other applicable requirements found in 16 TAC Chapter 12, and is in compliance with 16 TAC §12.107(a).
 - (b). The information set forth in the Application is current, presented clearly and concisely, and supported by appropriate references to technical and other written material available to the Commission, in compliance with 16 TAC §12.107(b).
 - (c). The technical data submitted in the Application are accompanied by the information required by 16 TAC §12.107(c) and (e), with adoption of the permit provisions included in this Order.
 - (d). The technical analyses contained in the Application have been prepared under the direction of professionals qualified in the subjects analyzed, as required by 16 TAC §12.107(d), with adoption of the permit provisions.
 - (e). Maps and plans contained in the Application are compliant with the requirements of 16 TAC §12.107(f).
 - (f). The initial Application, Supplement A, and Supplement B, submitted letters dated September 29, 2008, February 28, 2011, and October 3, 2012, respectively, each contain an original completed Form SMRD-1C signed by J. Denny Kingsley, Vice-President, Engineering & Environmental Services, TWCC, indicating that the information contained in each submittal is true and correct to the best of his knowledge and belief, in compliance with 16 TAC §12.107(g). Supplement C, Supplement D, Supplement E, Supplement F, Supplement G, and Supplement H, submitted by letters dated December 3, 2013, September 24, 2014, December 31, 2014, June 16, 2015, July 7, 2015, and July 21, 2015, respectively, each contain an original completed Form SMRD-1C signed by Michael G. Altavilla, Manager, Environmental Services, TWCC, indicating that the information contained in each submittal is true and correct to the best of his knowledge and belief, in compliance with 16 TAC §12.107(g). The original Forms SMRD-1C for the Initial Application and each Supplement is contained in the Commission's files.

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3. The Initial Application for the renewal/revision of Permit No. 32F, filed with the Commission by letter dated September 29, 2008, was accompanied by a check in the amount of \$3,000. The Application was subsequently changed to also be an expansion due to the addition of 72.1 acres. The appropriate application fee has been received by the Commission for this renewal/revision/expansion Application and documentation of this fee payment is contained in the Commission's files.
4. The Application meets the requirements of 16 TAC §12.116.
 - (a). TWCC is a corporation. Information concerning the identification and business nature of the applicant, address, telephone number, resident agent, and identification of the person responsible for paying the Abandoned Mine Land (AML) reclamation fee are provided in Section .116 of the Application. An organizational chart for TWCC and its affiliated companies is found in Section 116 of the Application and a listing, in tabular form, of the officers and directors of TWCC and its owners or controllers is found in Section 116 of the Application. The Mine Safety and Health Administration (MSHA) identification number for the Jewett Mine is listed as #41-03164. A list of the current and previous mining permits held by TWCC and its owners and controllers is contained in the Application.
 - (b). TWCC provided a listing of landowners within the renewal/revision/expansion area in Table 116-1 and lists entities that have easements or other interests within the renewal/revision/expansion area in Table 116-2. A listing of owners of, or interests in, property adjacent to the renewal/revision/expansion area is provided in Table 116-3. For each property inside the renewal/revision/expansion area, TWCC lists the tract number, name and address of owner, type of ownership, and a reference to the location of the legal instrument which conveys the right, if any, to enter the property. TWCC bases its legal right to enter and begin surface mining activities on information contained in Section 117 of the Application. On Exhibit 116-1, Jewett Mine Property Map, TWCC identifies properties within and adjacent to the renewal/revision/expansion area. Tracts for which TWCC does not have legal right of entry are indicated by shading on Exhibit 116-1.
 - (c). The Application contains a statement that the information provided as required by 16 TAC §§12.116 is up to date and correct to best of TWCC's knowledge.
 - (d). The information contained in the Application follows the format required by 16 TAC §12.116.
 - (e). The Application contains a statement that neither TWCC, nor its owners and controllers, have had a Federal or State coal-mining permit suspended or revoked, nor has any entity ever forfeited a performance bond or similar security deposited in lieu of bond.
 - (f). Violations issued to TWCC since June 1, 2005, are listed in Section .116 of the Application. Violations issued to Western Energy Company; Dakota Westmoreland Corporation; Westmoreland Savage Corporation; Basin Resources, Inc; and Westmoreland Resources, Inc. are listed in Section .116 of the Application.

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- (g). Table 116-4 includes a list of the tracts sorted by oil/gas lessees listing the applicable land tracts for each of these oil/gas lessees. The information in Table 116-4 meets the requirements of 16 TAC §12.116.
 - (h). TWCC indicates that, after it is notified that the Application has been approved, but before the permit is issued, it will, as applicable, update, correct, or indicate that no change has been made to the information previously submitted in accordance with the requirements of 16 TAC §12.116.
 - (i). TWCC has listed the two permits that it operates in Texas in compliance with 16 TAC §12.116. TWCC does not operate mines in any other state.
 - (j). TWCC provided a list of the pending permit applications for Permits Nos. 32F and 47A.
 - (k). The ownership or control information for TWCC has been compared to the information in the Applicant Violator System (AVS) database. The AVS database is operated by the federal Office of Surface Mining and Enforcement (OSM) to identify violators across the country. The AVS database has been queried to determine whether TWCC or any owner or controller identified in the Application or found in the database currently has any outstanding violations at owned or operated coal mines in the United States. The system also indicates whether or not TWCC or any controller is delinquent in the payment of AML fees. A copy of the report from the AVS system is included in Appendix VI of the Commission Staff (Staff) Technical Analysis (TA) dated August 6, 2010. No outstanding violations or non-payment of AML fees were found.
 - (l). The requirements of 16 TAC §12.116 have been met.
5. The Application meets the requirements of 16 TAC §12.117. A legal description of the permit boundary was included in Section .117 of the Application. TWCC provided the documents on which it bases its legal right to enter and operate within the renewal/revision/expansion area in Appendix 117A. Document description forms, which TWCC lists for each tract in Table 116-1 of Section .116 of the Application, are included in Appendix 117A. TWCC lists the land tracts for which it has no right of entry (ROE) and/or no right to mine in Table 117A-1 in Appendix 117A.
6. The Application meets the requirements of 16 TAC §12.118.
- (a). The Old Zion Cemetery; Bottoms Cemetery; Spring Seat Church; Evansville Cemetery; Little Flock Church; Patterson Cemetery; and Post Oak Church and Cemetery (both located adjacent to the proposed permit area), and their respective buffer zones, are within the renewal/revision/expansion area but will not be mined. All public roads and lands within 100 feet of rights of way of the roads (except as described in Section .152 of the Application) within the proposed permit area will not be mined. TWCC does not claim any exemptions under 16 TAC §12.216(4)(B).
 - (b). No mining activities will be conducted within 300 feet of an occupied dwelling. Occupied dwellings are depicted on Exhibit 152-1. No waivers are included in the Application. Activities within 100 feet of a public road and public road closures and/or relocations are addressed in Section .152 of the Application.

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7. The Application meets the requirements of 16 TAC §12.119. the permit term is five years, commencing on the permit issuance date. The table titled *Acres by Mining Area* in Section .125 of the Application includes the number of acres to be mined and disturbed from 2009 through 2018 during the remaining life of the mine.
8. The Application meets the requirements of 16 TAC §§12.120 and 12.311. An updated Certificate of Insurance (SMRD-41C) and supportive documentation for Permit No. 32F were submitted to the Commission by letter dated June 30, 2015, and approved by letter dated July 21, 2015. This insurance certificate is in effect from July 1, 2015 to July 1, 2016.
9. The limits of liability are indicated to be not less than for each Permit, as follows:

Bodily Injury:	\$500,000 (Each occurrence)	\$1,500,000 (Aggregate)
Property Damage:	\$500,000 (Each occurrence)	\$1,000,000(Aggregate)

The indicated amounts of liability insurance listed meet the minimum required amounts.

10. The Application meets the requirements of 16 TAC §12.121. TWCC has obtained or will obtain all other permits, licenses, or approvals required for the proposed mining operation prior to engaging in activities governed by such permits, licenses, or approvals. The following are the other permits and licenses needed, as described in Table 121-1, *Identification of Other Licenses and Permits*, in the Application:

TYPE OF PERMIT	ISSUING AUTHORITY	ID NUMBER
Surface Mining and Reclamation	Railroad Commission of Texas (RCT)	Permit No. 32F
Surface Mining and Reclamation	RCT	Permit No. 47
Coal Exploration Registration	RCT	Registration Nos. 18, 150 & 311
NPDES - Storm Water Multi-Sector General Permit	EPA	Included in TPDES permit.
TPDES Permit	Texas Commission on Environmental Quality (TCEQ)	Permit No. WQ02653000
TPDES- Storm Water Multi-Sector	TCEQ	Permit No. TXR050754
Nationwide 21 Permit (NWP 21)	U.S. Army Corps of Engineers (USACE)	No. 199600204 (32E), No. 200000006 (47), No. 200300662 (32F), No. SWF-2008-00409 (47A), No. SWF-2012-00079 (32F Renewal), No. SWF-2012-00080 (47A).
Registration of Public Water Supply System	TCEQ	PWS ID: 1450024, LOG 508/91
Solid Waste Registration	TCEQ	Registration No. 38502 EPA ID: TXD982550774
Mine ID Number	MSHA	ID No. 41-03164
Operating Permit- Air Quality	TCEQ	Permit No. 9407, Account ID No. LG-0019-J
Federal Fish and Wildlife Permit	U.S. Fish and Wildlife Service (USFWS)	Permit No. TE037780-0, Endangered Species Permit
Water Rights Permit	TCEQ	Permit No. 8319, Brazos River Basin,

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TYPE OF PERMIT	ISSUING AUTHORITY	ID NUMBER
		Ponds 001, 004, 005, 006, 007, 008, 009, 010, 011, Stages 1 & 2, 015, 017, 018, 022, and 023
Water Rights Permit	TCEQ	Permit No. 5318, Trinity Basin, Amendment No. 5318A (Trinity Basin), Ponds 019, 020, 021, 024, 025, and 026

11. The Application meets the requirements of 16 TAC §12.122. A copy of the complete permit Application and all supplements were filed with the Railroad Commission of Texas, Surface Mining and Reclamation Division, 1701 North Congress, Austin, Texas, 78711-2967, and a copy of the administratively complete Application and all supplements were filed at the following locations:

Freestone County Courthouse
County Clerk Office
103 E. Main Street, Suite 1
Fairfield, Texas 75840

Leon County Courthouse
County Clerk Office
204 E. St. Mary's
Centerville, Texas 75833

Limestone County Courthouse
County Clerk Office
200 West State Street, Rm. 102
Groesbeck, Texas 76642

The names and addresses of offices where the Application is available have been provided to satisfactorily allow a member of the public to inspect the Application at the Offices of the County Clerk in Freestone, Leon, and Limestone Counties.

12. The Application meets the requirements of 16 TAC §12.123. Notice of Application, with a map, was published once each week for four consecutive weeks in the following newspapers of general circulation in the locality of the surface mining and reclamation operations in the counties where the mine is located and on the dates shown.

Fairfield Reporter	Freestone County	October 8, 15, 22, and 29, 2015
Jewett Messenger	Leon County	September 30, October 7, 14, and 21, 2015
Groesbeck Journal	Limestone County	September 24, October 1, 8, and 15, 2015

The tear sheets and publisher's affidavits providing proof of publication of TWCC's Application for Renewal/Revision/Expansion were submitted to the commission non November 11, 2015.

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13. The information in the Application, as supplemented has been provided to meet the requirements of 16 TAC §12.124. The Application includes a description of the existing, premining environmental resources within the permit area and adjacent areas that may be affected or impacted by the proposed surface mining activities. Pre-mining baseline information is presented in 16 TAC §§12.125 through 12.138. The operation and reclamation plans are discussed in detail in 16 TAC §§12.139 through 12.154.
14. The Application meets the requirements of 16 TAC §§12.125 and 12.151.
- (a). The mine block acreage for the life-of-mine for Permit 32F were provided in the Application. The information is duplicated in the table below and shown on Exhibit 125-1 - *2009-2015, Life of Mine Plan, Permit 32F Renewal/Revision/Expansion*. The areas to be mined in the B and BX mine blocks during 2016 – 2018 are also shown on the Exhibit. The adjacent Permit 47A acreages are shown on the Exhibit for informational purposes only.

PERMIT 32F RENEWAL/REVISION/EXPANSION						
Year	Area B		Area BX		Auxiliary Areas	
	Mined (acres)	Disturbed (acres)	Mined (acres)	Disturbed (acres)	Mined (acres)	Disturbed (acres)
2009	77	459	134	345	27	27
2010	102	75	90	111		
2011	71	60	90	113		
2012	56	66	153	165		
2013	67	90	106	84		
2014	0	0	161		0	
2015	0	0	161		0	
2016	24		161		0	
2017	23		160		0	
2018	23		160		0	
Total	443	750	1,376	818	27	27

- (b). TWCC provides summary information on cultural resources in Sections .125(2) and .151 of the Application. TWCC summarizes the current status of known sites within the permit area in Table 125-1 and Exhibit 125-2 shows the location of the archeological sites listed in Table 125-1. No additional cultural resources have been discovered since the approval of Permit No. 32F and there has been no additional correspondence with the Texas Historical Commission (THC).
- (c). TWCC will not disturb any cultural resource site prior to obtaining written approval from the Director of the Surface Mining and Reclamation Division (Division), and shall concurrently provide to the Commission copies of all correspondence sent to the THC or EPA regarding site eligibility recommendations and determinations.
- (d). Section .151 contains a reference to Section .125 in Permit No. 32F for the Cultural Resource Management Plan (CRMP). This plan is contained in the Division's files.

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- (e). The information provided in the Application is sufficient to meet requirements of 16 TAC §§12.125 and 12.151.
- 15. The Application meets the requirements of 16 TAC §§12.126 – 12.127.
 - (a). Section .126 of the Application was prepared by Sandy Bruce, a professional geoscientist for TWCC, and Section .127 was prepared by Pastor, Behling & Wheeler (PBW) and is certified by Keith A. Wheeler, P.G., a licensed professional geoscientist.
 - (b). The Jewett Mine is located on Highway 39 near the juncture of Freestone, Leon, and Limestone Counties, approximately eight miles north of Jewett, Texas. The permit area lies across the outcrop area of the Eocene Wilcox Group and the Carrizo Formation. Lignite is mined from the upper Wilcox strata (Calvert Bluff Formation). Geologic, hydrogeologic, and overburden geochemistry information is provided in Section .126 and Section .127 of the Application and includes references to prior approved permits.
 - (c). The permit area covers portions of Freestone, Leon, and Limestone Counties. This region is characterized by gently rolling topography with elevations ranging from approximately 350 to 550 feet above mean sea level. A major north-south trending drainage divide occurs near the proposed permit area to the west, separating the Brazos River Basin from the Trinity River Basin.
 - (d). A summary of the regional geology is provided in the Application. Deposition of the Eocene Wilcox Group sediments in the area occurred within the East Texas Basin, which formed as a result of block faulting during the Triassic Period. The sedimentary strata that outcrop and are present in the near surface within the permit area belong to the Wilcox Group in the northwestern half of the proposed permit area, and to the overlying Claiborne Group in the southeastern half. In the vicinity of the permit area, the Wilcox sediments dip to the southeast at 50 to 100 feet per mile. The Calvert Bluff sediments are predominantly thinly interbedded sands, silts, and clays. Lignite deposits occur at regular intervals within the mud-rich sediments and are less common where sand channels comprise a significant part of the stratigraphic section. Maximum thickness of the Calvert Bluff Formation is 1,200 feet.
 - (e). Section .127 of the Application contains the detailed geologic information specific to the proposed permit area and also references geologic information that was presented in Section .127 of Jewett Mine Permit Nos. 15, 32, 32D, 32E, and 32F. Figure 127-1 Application shows the thickness of the Carrizo Sand in the overburden within the permit area. Figure 127-2 shows the thickness of the Calvert Bluff above the C6 lignite seam.
 - (f). The permit area is partitioned into seven mining areas: A, B, BX, C, D, DX, and DE. Two geologic formations are present at the surface and in the shallow subsurface within the proposed permit area: the Calvert Bluff Formation and the overlying Carrizo Sand. The lignite seams that will be mined occur within the Calvert Bluff Formation. Three minable lignite seams (C3, C4 and C6) occur within Area BX and are shown on Plate 127-2. The C3 lignite seam is the

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uppermost seam; the C6 seam is the deepest seam that will be mined in Area BX. The C5 lignite seam is less than a foot thick in Area BX and not recoverable. Lignite Seams C3, C4 and C5 are absent throughout most of Area B as shown on Plate 127-2. In Area BX the C3 lignite seam is up to 3 feet thick, the C4 seam ranges from 2 to 4 feet thick, and the C6 lignite seam ranges from 5 to 13 feet thick. The C6 seam ranges from 7 to 11 feet thick in Area B.

- (g). Baseline geologic reports are included in Permit Nos. 15, 32, and 32D through 32F. Additional geologic information was obtained to support the area proposed to be disturbed during the permit term and to update previous studies for the Jewett Mine. In order to meet the requirements of 16 TAC §12.127(c), TWCC drilled more than 1000 boreholes and 50 continuous cores at the Jewett mine. Data from geophysical logs of the boreholes, continuous core descriptions and chemical analyses were used to identify and correlate the stratigraphic units throughout the approved permit area. Cross sections C' - C'', C'' - C''', D - D', H - H', I - I', and J - J', which are used to describe the geology of Areas B and BX where mining will occur during the renewal permit term, are depicted on Plate 127-2.
- (h). In 2002, an additional continuous core was drilled in Area BX (core 654-286.5) and in 2008, two more continuous cores (cores BCC 2008-2 and BXCC 2008-1) were drilled in Areas B and BX. One additional oxidized overburden core (core 656-278) was obtained to supplement existing core data. The descriptions by depth increments and the geophysical logs of the 3 new continuous cores and the 1 new oxidized overburden core are located in Appendix 127-A. The analytical data for the new cores was provided in Appendix 127-B to meet the requirements of 16 TAC §12.127(b).
- (i). TWCC analyzed continuous cores for the presence of trace metals in the overburden profile. The occurrence of trace metals that exceed Commission suitability criteria are summarized in Table 127-l. The highest concentrations of metals occur within lignitic sediments.

16. The Application meets the requirements of 16 TAC §12.128.

- (a). Ground-water information for the proposed permit area and adjacent areas of the Jewett Mine is contained in Section .128 in the approved permit, Permit No. 32F. A summary of the ground-water information in or referenced in previous Applications was provided in this section by PBW and certified by Leonard J. Mason, P.G., a licensed professional geoscientist. The baseline ground-water hydrologic information was described in the approved permit by Arch Campbell, P.G., a licensed professional geoscientist. The principal sources of shallow ground water (overburden system) are the unconfined sands of the Carrizo Formation, a part of the Claiborne Group of Eocene age, and the confined/unconfined channel sands of the Calvert Bluff Formation, part of the Eocene Wilcox Group. Deeper sources of ground water (underburden system) include the confined lower Wilcox Group sands. The hydrologic properties of these water-bearing units, as discussed in this Application, are the same as those described in the approved permit. Five hydrostratigraphic intervals [Carrizo Sand and S40 (which also includes the S20 and S30 subintervals) through S70] have been designated with separations by lignite seams.

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- (b). More than 100 wells have been installed in and adjacent to the permit area, beginning in 1979, to collect baseline hydrogeologic data and to monitor the hydrologic systems in the proposed mine areas. A typical well completion is illustrated on Figure 128-1. Many of the original installed wells have been plugged or destroyed by mining or related activities. Updated quarterly water-level data for the current long-term ground-water (LTGM) wells are contained in Table 128-1. Construction summary and completion information and geophysical logs for all current LTGM monitoring wells are contained in Table 128-2. Completion information and geophysical logs for wells installed since issuance of Permit No. 32F are contained in Appendix 128-A.
- (c). Water levels in baseline wells completed in the identified overburden and underburden aquifer units have changed primarily as a result of continuing mining activities. Updated water-table and potentiometric- surface maps have been provided in the Application on Plates 128-2 through 128-5 as follows: Plate 128-2, Carrizo overburden; Plate 128-3, Wilcox overburden hydrostratigraphic units (S40, S50 and S60); Plate 128-4, spoil ground water; and Plate 128-5, Wilcox underburden hydrostratigraphic unit (S70).
- (d). An updated inventory of private wells is provided in Table 128-3. Locations of these wells are shown on Plate 128-6 in the Application. Potential impacts to these water users are described in Section .146(d) of the Application.
- (e). A summary of the chemical quality analyses for the hydrostratigraphic units within the permit area are described in Section .128 of the Application. Baseline overburden ground-water chemistry is slightly acidic, with pH values ranging from 4.0 to 7.1. Water type varies but is dominated by sodium and potassium cations and chloride/bicarbonate anions. TDS concentrations in the overburden ground waters range from fresh to saline (51 to 6,722 mg/L). The shallower overburden ground water generally contains high concentrations of iron and manganese.
- (f). Underburden ground-water quality also varies but is typically a mixed cation/mixed anion water type. The pH of the underburden ground water ranges from 5.7 to 7.4. TDS concentrations show less variability and fresher water than that of the overburden, ranging from about 135 to 1,807 mg/L.
- (g). Updated Oil and gas-well information is included in the Application. Appendix 128-B contains a table of 191 oil and gas wells within the permit area, including API number, operator name and well name, well type and status, and well depth. Well locations are depicted on Plate 128-7.
- (h). The updated ground-water baseline information contained in the Application, together with the information referenced and contained in the currently approved permit documents, meets the requirements of 16 TAC §12.128.

17. The Application meets the requirements of 16 TAC §12.129.

- (a). A summary of previously submitted and approved baseline surface-water information, in response to the requirements of 16 TAC §12.129 is provided in

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Section 129 of the Application. PBW prepared the summary and a certification from Leonard J. Mason, P.G., a licensed professional geoscientist, is included.

- (b). Runoff from the Jewett Mine drains to both the Brazos River and the Trinity River. The western portion of the mine drains to Lake Limestone, thence to the Navasota River and finally to the Brazos River (confluence located 70 miles downstream of Lake Limestone). The eastern one-third of the permit area is drained by Alligator Creek, which routes runoff to Buffalo Creek and thence to the Trinity River (confluence located 25 miles downstream of the mine).
- (c). There are more than 400 premine surface impoundments contained within the proposed renewal/revision/expansion area. The locations of these impoundments are shown on Plate 129-1. Lake Limestone is the largest impoundment located in the vicinity, adjacent to the western portion of the mine, at nearly 14,200 acres in surface area and 225,400 acre-feet in volume. This reservoir is owned by the Brazos River Authority.
- (d). Baseline surface-water information was collected by Hall Southwest consultants between October 1986 and September 1987 at stream-monitoring stations SW-1, and SW-10 through I 7 (with watersheds undisturbed by mining); SW-2, and SW-4 through 7 (located downstream of areas disturbed by mining activities) and SW-3a, SW-8 and SW-9 (established on Lake Limestone). Baseline water-quality data for the undisturbed baseline stream-monitoring stations are presented in Appendix B and summarized in Table 129-2. All baseline stream-monitoring stations and their respective watersheds are shown on Plate 129-1. Table 129-1 contains the monitoring area characteristics for each station. TWCC has not collected nor presented baseline surface-water information additional to these 1986 and 1987 data in this pending renewal/revision/expansion Application.
- (e). Stream flow was recorded at baseline stream-monitoring stations between October 1986 and September 1987. One rain gauge also assisted in characterizing baseline information during the premine studies. Field measurements included instantaneous stage height, maximum crest stage since last inspection and instantaneous discharge. The maximum discharges occurred during December and February while decreased flow was recorded March through November. Most stream-monitoring stations experienced base flow throughout the year. Using nine precipitation events (greater than one inch) at station SW-12, rainfall-runoff relationships for Lambs Creek were developed. An average curve number of 66 was determined for the watershed of this creek and estimated runoff for the 24-hour/2-, 5-, 10-, 25- and 100-years storm events was calculated.
- (f). Historical USGS data was used from the most geomorphologically similar USGS stream-gauging station, Station 08064700 at Tehuacana Creek near Streetman, TX (depicted on Figure 129-1). The watershed of this USGS station is indicated to have a similar basin shape ratio, relief, vegetation, and climate as the permit area watersheds. Monthly stream flow for the period of record for USGS Station 08064700 is contained in Appendix 129-A. These data were used to estimate baseflow in the permit area streams. Baseflow at USGS Station 08064700 was 6 cubic feet per second between December and March while little to no baseflow existed for the remainder of the year. The corresponding seasonal stream flow

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(between December and March) was 94 cfs, which indicates that baseflow represents about 6% of average stream flow.

- (g). Water quality was collected from 15 stream-monitoring stations. Data collected at stations SW-1, and SW-10 through 17 are considered to characterize premine surface-water quality information since their watersheds were not previously disturbed by mining activities. The results for each baseline stream-monitoring station are summarized in Table 129-2 for the period of record. All baseline pH values fall within the limits of the standards of the TCEQ wastewater discharge permit while elevated concentrations of TSS were recorded at all stations with exception of Station SW-1. Average concentrations of total iron were below 3.0 mg/L at all stations except stations SW-12 and SW-17. Mean TDS concentration was 336 mg/L, ranging from 80 to 1,568 mg/L. The highest mean concentrations of TDS were recorded along Lynn Creek (Station SW-1) and Buffalo Creek (Station SW-17) where concentrations were 984 mg/L and 715 mg/L, respectively.
- (h). Diffuse seepage from the Carrizo-Wilcox Aquifer is known to occur, conveying runoff to the Navasota and Trinity River basins. No premine seeps or springs existed prior to surface mining activities.
- (i). The information provided, together with information referenced and contained in currently approved permit documents, is adequate to address the requirements of 16 TAC §12.129.

18. The Application meets the requirements of 16 TAC §12.130.

- (a). Section .130 of the Application was prepared by PBW in response to the requirements of 16 TAC §12.130. Potentially impacted water users were identified based on a review of TCEQ Water Rights Master File (updated 2008 information). Five water rights in the vicinity of the proposed permit area were identified in Table 130-1 with locations shown on Figure 130-1. Two water rights were identified within the permit area, both owned by TWCC. The remaining three rights are located between four and 25 miles downstream of the permit area.
- (b). Exempt domestic and livestock water uses are present within the watersheds of the proposed permit area.
- (c). Impacts to small stock ponds used for livestock from the mining operations are unlikely because the runoff to these ponds is not likely to be impacted by the mining disturbance.
- (d). In the event that adverse impacts to surface-water or ground-water users occur as a result of mining operations in the proposed permit area, alternative water supply sources are available, including ground water from deeper, water-bearing sands in the Wilcox Formation. TWCC commits to providing a replacement well should contamination, diminution or interruption of existing wells occur as a result of mining.

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- (e). The information included in Section .130 of the Application is sufficient to demonstrate compliance with the requirements of 16 TAC §12.130.
- 19. The Application meets the requirements of 16 TAC §12.131.
 - (a). PBW prepared a report contained in Section .131 in the Application. The climatological data included with this report replaces data previously submitted with the Permit No. 32D renewal application in 1992.
 - (b). Precipitation and temperature data for the application was obtained from the National Weather Service station in Fairfield, Texas (NWS Station 413047) located about 20 miles north of the permit area.
 - (c). Average monthly precipitation values are summarized in Table 131-1 of this renewal/revision/expansion application. The mean annual precipitation is reported as 42.71 inches from 1975 through 2005.
 - (d). The regional mean annual temperature was 66.6 degrees during the recording period 1975 through 2005. The hottest months of the year are July and August; December, January and February are the coolest.
 - (e). Four wind roses prepared with data obtained from the National Weather Service station in Waco, Texas are provided on Figures 131-1 through 4 in the Application. The prevailing quarterly variations in wind speeds for the period 1996-2005 are shown on these wind roses. Spring is the windiest season and the most frequent wind direction is from the south.
 - (f). The information included in Section .131 of the Application is sufficient to demonstrate compliance with the requirements of 16 TAC §12.131.
- 20. The Application meets the requirements of 16 TAC §12.132.
 - (a). TWCC does not propose to revise the baseline vegetation information in Permit No. 32F, other than updating the premine survey information for the endangered Navasota Ladies'-Tresses Orchid (Navasota Ladies'-Tresses).
 - (b). The permit renewal/revision/expansion area is located within the 8.5-million acre Post Oak Savannah region of Texas. This region was originally dominated by Post Oaks and Blackjack Oaks, but fire suppression and other human activities have allowed Hickory and Oak thickets to become established. The area was extensively cropped until the 1940's, but now most land is managed as pastureland or is undeveloped.
 - (c). Premine vegetation communities are depicted on Exhibit D-1-E, *Aerial Extent of the Vegetation Types in the Jewett Mining Area*, in Volume V of the 5,965-acre October 3, 1983, in approved Permit No. 15.

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- (d). The Application contains a description of the permit-area plant communities. Lists of the flora for the permit area are contained in Appendices A of approved Permits 32E, 32D, 32, and 15.
- (e). There are two dominant vegetation community types in the permit area: upland hardwood forest (approximately 52 percent) and grasslands (approximately 41 percent). The remaining vegetation communities primarily include bottomland/riparian forest (approximately 3 percent) and hydric and aquatic habitats (approximately 4 percent).
- (f). The upland hardwood community is dominated by Post Oak, Blackjack Oak, and Black Hickory, with Winged Elm, Water Oak, and Eastern Red Cedar. Sugar Hackberry, Bumelia, Southern Red Oak, Sassafras, Cedar Elm, Bluejack Oak, and Carolina Basswood also occur. Understory plants include Flowering Dogwood, Eastern Redbud, Flameleaf Sumac, American Holly, Common Persimmon, Honey Locust, Yaupon, Farkleberry, American Beautyberry, Hawthorn, and Coralberry. The herbaceous stratum contains Little Bluestem, Panicums, Broadleaf Woodoats, Threeawns, Rosettegrasses, Texas Bullnettle, Drummond's Waxmallow, Chickweed, Broadleaf Snoutbean, Deer Pea Vetch, Frostweed, Peppergrass, Dillen Oxalis, Goldenmane Tickseed, and Red Gilia. Vines include Greenbriars, Virginia Creeper, Alabama Supplejack, Peppervine, Grape, and Poison Ivy.
- (g). The bottomland/riparian forest community is dominated by Water Hickory, Water Oak, Southern Red Oak, Pecan, Sassafras, Eastern Red Cedar, Winged Elm, Carolina Basswood, Black Gum, and Post Oak. Box Elder, River Birch, and Swamp Privet are minor elements in this overstory. Understory plants include Green Ash, American Holly, Honey Locust, Red Mulberry, Flowering Dogwood, Yaupon, Coralberry, American Beautyberry, Downy Viburnum, Privet Forestiera, Southern Wax-myrtle, and Giant Cane. The herbaceous stratum contains Panicums, Rushes, Sedges, Rosettegrasses, Basketgrass, Broadleaf Woodoats, Silverleaf Nightshade, Common Selfheal, Narrowleaf Sumpweed, Baldwin Ironweed, Wood Sorrel, Pennsylvania Pellitory, Water Pennywort, and Bracken Fern. Vines include Pine-Wood Grapes, Muscadine Grapes, Greenbriars, Virginia Creeper, Trumpet Creeper, and Poison Ivy.
- (h). Hydric habitat typically contains Southern Wax-Myrtle, Cattails, Southern Wildrice, Sugarcane Plumegrass, Rushes, Sedges, Bulrushes, Lizard's Tail, Climbing Hempweed, and Smartweeds. Aquatic habitat contains Black Willow, River Birch, Common Buttonbush, Cattail, Smartweed, Seedbox, Arrowhead, Common Rush, Sedges, Spatterdock Cowlily, and Yellow Nelumbo.
- (i). Grasslands are typically managed for grazing or hay production and dominated by Bermudagrasses, used for livestock forage and hay. Other managed species include Bahiagrass, Rescuegrass, Common Oats, Lovegrass, Sorghum, Johnsongrass, Splitbead Bluestem, and Broomsedge Bluestem. Overgrazed and unmanaged areas characteristically have woody plants growing amidst Woolly Croton, Heart-Wing Sorrel, Ragweed Woolly-White, Groundsel, Goldenmane Tickseed, Nightshades, and Western Ragweed. Oldfield areas contain Oldfield Threeawn, Little Bluestem, Splitbead Bluestem, Broomsedge Bluestem, Common Sixweekgrass, Paspalums, Panicums, Lovegrasses, Hairy Crabgrass, Little Barley, Heartwing Sorrel,

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Juniperleaf, Yankeeweed, Bitterweed, Solf Goldaster, Black-Eyed Susan, Western Ragweed, Asters, Partridge Pea, Wooly Croton, and Goldenmane Tickseed.

- (j). Important plants for wildlife include grasses and sedges; vines (Grapes, Greenbriar, and Trumpet Creeper); shrubs (Dewberry, American Beautyberry, Yaupon, Dogwood, Winged Ehn, and Possumhaw); and trees (Oaks, Pecan, Black Hickory, Black Willow, and Common Persimmon). Bottomland/riparian vegetation communities are important wildlife habitats.
- (k). Vegetation baseline information for the 72.1-acre expansion area is contained in Appendix 133C included in the Application. The replacements update the site location information on the surveys that were conducted from 2012 to 2014 for the expansion area and re-surveys that were conducted in 2013 and 2014 for 14 locations in the mine that had last been surveyed prior to 2004.
- (l). Appendix 133C, contains a Vegetative Species Index for the expansion area.
- (m). Exhibit 3 in Appendix 132E of the Application shows the expansion area Navasota Ladies'-tresses survey habitat types. This information supplements information contained in Permit 32F. Table 132D in Appendix 132D of the Application contains the final compilation of the survey results for the Navasota Ladies' – tresses. Exhibit 132D-1 shows the locations of the survey sites to include the expansion area. TWCC conducted one additional year of monitoring for the Navasota Ladies'-tresses in the Fall of 2015.
- (n). Appendix 132A includes the following additional information:
 - I. April 14, 2015, correspondence from TWCC to the USFWS regarding Navasota Ladies'-Tresses habitat compensation for site M33;
 - II. March 25, 2015, correspondence from TWCC to the Lady Bird Johnson Wildflower Center submitting Navasota Ladies'-Tresses compensation; and
 - III. April 9, 2015 Correspondence from the Lady Bird Johnson Wildflower Center to TWCC acknowledging Navasota Ladies'-Tresses compensation.
- (o). Appendix 133C, Attachment G. Attachment G contains a copy of a consultation letter submitted to the USFWS, dated September 25, 2014, indicating that it was transmitting a Navasota ladies'-tresses survey for the expansion area. The potential Navasota Ladies'-Tresses habitat areas are shown on Exhibit 132D-1.
- (p). The information contained in the Application and the approved permit is adequate to meet the requirements of 16 TAC §12.132(a) to describe the premine plant communities within the permit renewal/revision/expansion area, and is sufficient to predict the re-establishment of vegetation on reclaimed land.

21. The Application meets the requirements of 16 TAC §12.133.

- (a). TWCC committed to provide the Commission with the results of surveys conducted for the USACE. Under current Permit No. 32F, by letter dated

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December 29, 2014, TWCC provided to the Commission copies of a 2014 Houston toad survey, 2014 Large-fruited sand-verbena survey, two 2013 surveys for Navasota Ladies'-Tresses (one per each Project Nos. SWF-2012-00079 and SWF-2012-00080 area), and a combined 2014 Navasota Ladies'-Tresses survey for the USACE permit areas. Also, by letter dated June 29, 2015, TWCC provided the Commission copies of a 2015 Large-fruited sand-verbena (*Abronia macrocarpa*) survey. In Appendix 133C, TWCC commits to keeping the Commission aware of the developments occurring in its ongoing consultations with the USACE and USFWS.

- (b). TWCC has reinitiated consultation with the USFWS for the Houston toad.
- (c). TWCC will provide consultation documents and survey results to the Commission resulting from these ongoing discussions and will improve the survey plan and protective measures for this species in Section .144 of the Application.
- (d). TWCC is developing a survey methodology to address concerns for the Timber/Canebrake rattlesnake with the TPWD and the Texas Forest Service. TWCC indicates that it plans to conduct pre-disturbance surveys and, in Section .144 of the Application, added this commitment and also a commitment to develop an adequate survey protocol with the assistance of TPWD and Texas Forest Service.
- (e). Updated lists of threatened and endangered species with potential to occur in Freestone, Leon, and Limestone counties is contained in Appendix 133B of the Application. Baseline fish and wildlife resources information is located in Sections .132 and .133 of Permit No. 32F.
- (f). Appendix 133B contains updated lists of threatened and endangered species from the Texas Parks and Wildlife Department (TPWD) and U.S. Fish and Wildlife Service (USFWS).
- (g). Exhibit 133-2 contains depictions of endangered Interior least Tern nesting sites in the Permit No. 32F area and adjacent Permit No. 47A area. for following years: 1994, 1995, 1997, 1999 through 2003, and 2005 through 2007. No nesting occurred in 1996, 1998, 2004, and 2008. Exhibit 133-2 also contains depictions of temporary and permanent impoundments, many of which serve as food sources for the terns.
- (h). Fish and wildlife resources baseline information are contained in Section 133 of Permit No. 32E and in section 133 of Permit 32F. PBS&J, prepared a report which is a summary of previous reports dated 1980, 1987, 1992, 1996, and 1998 that are contained in past permit documents. The report is contained in Section .133 of the Application.
- (i). Permit No. 32F contains information about the surveys undertaken in the permit renewal area in 1992, 1994, and 1995 for the endangered Houston Toad. No Houston Toads were found PBS&J indicates that the USFWS determined in 1996 that Houston Toads are unlikely to occur in the permit area. PBS&J notes that the threatened alligator snapping turtle is unlikely to occur in the permit renewal area

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due to the absence of suitable habitats of deep rivers, large streams, and lakes. PBS&J notes that, although the threatened Texas homed lizard may occur in the permit area, none have been found, and that this animal has virtually disappeared east of a line from Fort Worth to Corpus Christi. PBS&J indicates that the threatened Timber Rattlesnake may occur in the proposed permit area in wooded bottomlands with drainages and streams. There are no recorded instances of this animal in the permit area.

- (j). Permit No. 32F contains the following information. The threatened Bachman's Sparrow was recorded in the permit area in 1980 and could potentially occur in the area. Bachman's Sparrows prefer brushy, open- field upland habitat. The threatened White-Faced Ibis could occur as a migrant in ponds and marshes in the permit area. No White-Faced Ibis were observed in the 1980, 1987, 1991-1992, and 1994 studies. Permit No. 32F contains information on the threatened Piping Plover as a potential migrant through the permit area. These birds overwinter along the Gulf Coast, but there are no records of any occurring in the permit area. Information about the central-Texas migratory route of the endangered Whooping Crane, west of the permit area is also included. Whooping Cranes are unlikely to occur in the permit area.

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- (k). Permit No. 32F contains information about threatened American Bald Eagles. These birds could occur as a transient species during winter, especially along the shores of reservoirs and large rivers. TWCC found no Bald Eagles during its 1992 and 1994 surveys in the proposed permit renewal area, nor did it find any during its 1980 and 1987 ecological surveys (as noted in Table 133-3). PBS&J indicated that the closest known Bald Eagle nest is approximately six miles away, according to TPWD records. Permit No. 32F, Appendix 133A (pages 133A-6 and 133A-7) contains TPWD records of Bald Eagle nests.
- (l). PBS&J provided a history of the Migratory Bird Treaty Act in Permit No. 32F and Table 133-3 in Permit 32F provides a list of birds protected by this law, as well as notations of whether any of these birds have been recorded in the 1980, 1987, 1991, 1992, and 1994 surveys over the area that includes the Jewett Mine. Wild Turkey, Northern Bobwhite, Rock Pigeon, European Starling, and House Sparrow are not protected by the Migratory Bird Treaty Act, although Wild Turkey and Northern Bobwhite are protected by State game laws.
- (m). TWCC does not propose to revise the baseline fish and wildlife resources information approved in Permit No. 32F, other than updating endangered and threatened species information. Application Section .132 contains a summary of 1991-2003 survey information for the endangered Navasota Ladies-Tresses in Appendix 132D and on Exhibit 132D-I for both the Permit No. 32F and the Permit No. 47A areas. Exhibit 132D-I, certified by Janet Bowman, P.E., a licensed professional engineer, on September 23, 2008, contained depictions of the Appendix 132D-tabulated survey sites in relation to past and future mining disturbances. TWCC has received USFWS approval for its handling of all of the survey sites for endangered Navasota Ladies'-Tresses within the permit area.
- (n). The following is Staff's list of threatened and endangered species of flora and fauna with potential to occur in or around the permit area, based on TPWD's November 17, 2008, annotated county lists of rare species potentially occurring in Freestone and Leon Counties; TPWD's August 8, 2007, list for Limestone County [http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered species/](http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered%20species/); and the USFWS' January 2007 lists of threatened and endangered species potentially occurring in these three counties, <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>. This tabulation also includes an assessment of the likelihood or records of any occurrences based on TWCC's survey results:

PROTECTED-SPECIES	PROTECTED STATUS	PERMIT AREA RECORD OF OCCURRENCE
Navasota Ladies'-Tresses Orchid	Endangered	Yes - Multiple Sites listed in Appendix 132D depicted on Exhibit 132D-1
Interior Least Tern	Endangered	Yes - Annually since 1994 as listed in Table 133a and depicted on Exhibit 133-2

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PROTECTED-SPECIES	PROTECTED STATUS	PERMIT AREA RECORD OF OCCURRENCE
Wood Stork	Threatened	Yes- 2005 and 2006 sightings at Pond 033
Peregrine Falcon	Endangered/ Threatened	Yes- October 17, 1996, sighting, and a possible migrant
Bachman's Sparrow	Threatened	Yes- Sighted in 1980 in the Permit No. 32F area
American Bald Eagle	Threatened	Possible - Nest site recorded along Lake Limestone, 6 miles distance from the permit area, possible migrant
Timber Rattlesnake	Threatened	Possible- TPWD reported in Leon and Freestone Counties, but No Record from 1999 Survey
Large-Fruited Sand Verbena	Endangered	No records from 1994 survey - not likely
Houston Toad	Endangered	No records from 1994 and 1995 surveys - not likely
Alligator Snapping Turtle	Threatened	No records from any permit-area surveys - not likely
Texas Horned Lizard	Threatened	No records from any permit-area surveys - not likely
Whooping Crane	Threatened	No records from any permit-area surveys - not likely but possible migrant
White-Face Ibis	Threatened	No records from any permit-area surveys – possible migrant
Louisiana Black Bear	Threatened	No records from any permit-area surveys - not likely

- (o). Threatened or endangered species of plants or animals that have been encountered in or near the permit area are Navasota Ladies'-Tresses, Interior Least Terns, American Bald Eagles, Wood Storks, Peregrine Falcon, and Bachman's Sparrow. Timber Rattlesnakes may occur. There are no other threatened or endangered species known to occur within the permit or adjacent areas.

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(p). The information contained in the Application meets the requirements of 16 TAC §12.133.

(q). The four types of wetlands and waters and their approximate acreage within the permit area are:

Wetland Category	Acres
Nonforested Wetlands	141
Forested Wetlands	90
Stream Channels	35
On-Channel Ponds	43
Total	309

(r). The following are included in Section .133 of the Application.

- I. Transmittal letter submitted to the USFWS, dated September 25, 2014, requesting consultation on the 2013 Navasota ladies'-tresses survey for the expansion area;
- II. Transmittal letter to the USFWS and the USACE, dated December 29, 2014, indicating the transmittal of the 2012-2014 Navasota Ladies'-Tresses survey report for the expansion area; and
- III. Navasota Ladies'-Tresses survey report for USACE permit Project Nos. SWF-2012-00079 and SWF-2012-00080 areas.

22. The Application meets the requirements of 16 TAC §12.134.

- (a). Table 134-4 reflects the calculated volumes of suitable material remaining. The calculated volumes indicate that suitable material exists in quantities sufficient to cover the area to be mined for the remainder of the life-of-mine period to a depth of four feet. Comparison tables for the three new cores are contained in Tables 134-8 and 134-9. An evaluation of overburden suitability for the cores relevant to the 2009 through 2013 mine blocks in the B and BX areas is provided in Appendix 134AC. Depth-weighted means for all continuous cores in the B and BX areas are contained in Tables 134-5 through 134-14.
- (b). An updated soil map in Exhibit 134-1 is contained in the Application. This map reflects the permit boundary expansion. The core locations are listed in Table 134-2 and shown on Plate 127-1 in Section .127. The three new continuous cores (CC-01-13, CC-02-13 and CC-03-13) are shown on Plate 127-1 and are listed on Table 134-2.
- (c). Table 134-1 summarizes the acreage of the various native soils within the permit area. A detailed description of each map unit within the permit area is contained in Permit 32D and was obtained from the Natural Resources Conservation Service (NRCS).

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- (d). An evaluation of overburden suitability for cores relevant to the 2009-2015 mine blocks and the comparison tables for the cores and native soils are contained in Appendix 134AC. Because the selected overburden substitution materials will come from the oxidized zone free from pyritic sulfur, the low pH and ABB values can be corrected by using acceptable amounts of lime.
- (e). The information provided is adequate to address the requirements of 16 TAC §12.134.

23. The Application meets the requirements of 16 TAC §12.135.

- (a). Exhibit 135-1, sheets 1 and 2 of 2, incorporates or replaces the information depicted on Figure D of Permit No. 32D and Figure 3.1 of the Incidental Boundary Revision for Permit No. 32E. extensions and reductions to the permit area. The new expansion area is also shown on the Exhibit. The premine acreages are shown on Table 135-1, and are as follows:

LAND USE CATEGORY	PREMINE ACRES	PERCENTAGE (%)
Undeveloped Land	1,688	7.8
Grazingland	11,857	55.0
Pastureland	7,509	34.8
Developed Water Resources	97	0.4
Fish and Wildlife Habitat	321	1.5
Industrial/Commercial	102	0.5
Residential	1	0.0
TOTAL	21,575	100

- (b). The information contained in the Application meets the requirements of 16 TAC §12.135 to provide premine information non the land uses and land condition present with the proposed permit area.

24. The Application meets the requirements of 16 TAC §12.136. The Application contains a table in Section .136 identifying the locations of maps that represents TWCC's response to the requirements of 16 TAC §12.136. The information is summarized as follows:

SECTION	SUBJECT	LOCATION
12.136(1)	All boundaries of lands and names of present owners of record of those lands, both surface and subsurface, included in or contiguous to the renewal/revisions/expansion area	Exhibit 116-1 (Supplement E); Table 116-1 (Supplement E); Table 116-2 (Supplement C).
12.136(2)	The boundaries of land within the renewal/revision/expansion area upon which the applicant has the legal right to enter and begin surface mining activities	Exhibit 116-1 (Supplement E)
12.136(3)	The boundaries of all areas proposed to be affected over the estimated total life of the proposed surface mining activities, with a description of size, sequence, and timing of the mining of sub-areas for which it is anticipated that additional permits will be sought	Exhibit 125-1 (Supplement D)

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SECTION	SUBJECT	LOCATION
12.136(4)	The location of all buildings on and within 1,000 feet of the renewal/revision/expansion area, with identification of the current use of the buildings	Exhibit 152-1
12.136(5)	The location of surface and subsurface man-made features within, passing through, or passing over the renewal/revision/expansion area, including, but not limited to major electric transmission lines, pipelines, and agricultural drainage tile fields	Exhibit 136-1 (Supplement C)
12.136(6)	The location and boundaries of any proposed reference areas for determining the success of revegetation	NA
12.136(7)	The locations of water supply intakes for current users of surface water flowing into, out of, and within a hydrologic area defined by the Commission, and those surface waters which will receive discharges from affected areas in the renewal/revision/expansion area	Exhibit 148-1 (Supplement D); Figure 130-1
12.136(8)	Each public road located in or within 100 feet of the renewal/revision/expansion area	Exhibit 152-1
12.136(9)	Location of public parks, cultural, historical, or archeological sites	Exhibit 125-2
12.136(10)	Location of cemeteries and Indian burial grounds in or within 100 feet of the renewal/revision/expansion area	Exhibit 152-1
12.136(11)	Land in the National System of Trails or Wild and Scenic River System	NA
12.136(12)	Other relevant information required by the Commission	NA

25. The Application meets the requirements of 16 TAC §12.137.

- (a). Section .137 of the Application contains information which identifies the locations of cross-sections, maps, and plans that represent its response to the requirements of 16 TAC §12.137. The information is located in the original application, unless otherwise noted, and is summarized as follows:

SECTION	SUBJECT	LOCATION
12.137(a)(1)	Elevations and locations of test borings and core samples	Plate 127-1 (Supplement E); <u>See also:</u> Permit No. 32D (Plates 127-2A through 127-29 in Vol. 3 and Plates 127-58 through 72 in Vol. 5)
12.137(a)(2)	Elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality, if required, in preparation of the application	Plates 128-1 through 128-5 and Exhibit 132D-1 (Supplement F); Exhibit 133-2 (Supplement D) <u>See also:</u> Exhibit 133A-1 (Permit No. 32D, Vol. 6)
12.137(a)(3)	Nature, depth, and thickness of the coal seams to be mined, any	Plates 127-2 and 2A

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	coal or rider seams above the seam to be mined, each stratum of the overburden, and the stratum immediately below the lowest coal seam to be mined	(Supplement A) and Exhibits 127-2A through 127-2-D (Supplement A)
12.137(a)(4)	All crop lines and the strike and dip of the coal to be mined within the proposed permit area	Exhibits 127-2A through 127-2-D (Supplement A)
12.137(a)(5)	Location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed permit and adjacent areas	Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.137(a)(6)	Location and extent of subsurface water, if encountered, within the proposed permit and adjacent areas	Plate 128-1 (Supplement A); Plates 128-2 through 128-5; See also; Permit No. 32D (Plates 128-3 through 5 in vol. 5)
12.137(a)(7)	Location of surface water bodies such as streams, lakes, ponds, springs, constructed or natural drains, and irrigation ditches within and the proposed permit and adjacent areas	Plate 129-1 (Supplement A)

- (b). Exhibit 132D-1 of the Application depicts the monitoring locations for the Navasota Ladies'-tresses to supplement the monitoring areas used to gather data for fish and wildlife information required under 16 TAC §12.137(a)(2). Janet Bowman, licensed professional engineer in the State of Texas, signed and sealed this exhibit on May 29, 2015
- (c). Exhibit 133-2 was signed and sealed on September 11, 2014, by Janet Bowman, a registered professional engineer in the State of Texas, in response to the requirements of 16 TAC §§12.13 7(a)(2) and 12.137(b).
- (d). The information contained in the Application meets the requirements of 16 TAC §12.137 to provide cross sections, maps, and plans on which it depicts premine land uses.

26. The Application meets the requirements of 16 TAC §12.138. Table 138-1 of the Permit was revised to include Tract Nos. 101, 117I, 117J, 117K, and 173 as tracts that contain prime farmland soils. In addition, Tract Nos. 073, 101, 112, 112A, 117, 117I, 117J, 117K, and 173 contain prime farmland. No prime farmland will be disturbed during this permit term. The information provided is adequate to address the requirements of 16 TAC §12.138.

27. The Application meets the requirements of 16 TAC §12.139.

- (a). Section 12.139 provides a description of the mine operations that will occur within the permit area, for years 2009-2015. The mine planning and design criteria developed for this permit are based on an annual production requirement of 4 to 6 million tons of lignite over the remaining life of the mine. Total production over the life of the mine is expected to be 240 million tons of lignite.
- (b). Mining operations will develop and recover the lignite reserves within the mine boundary shown on the detailed operation plan, Exhibit 139-1, during the permit term. Boundaries are approximate to allow for minimal modifications to pit ends due to operational or economic recovery reasons. The mining methods described

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herein allow multiple seam lignite recovery, enable proper placement of overburden materials, allow re-establishment of drainage areas, and ensure successful placement of suitable plant growth material. The major mining equipment is listed in Table 139-1.

- (c). Prior to any surface mining activity, all surface improvements including fences and buildings will be removed or relocated from the immediate area, as well as utilities, oil/gas wells, county roads, railroads and public highways. The relocation, removal, or setback variance as related to utilities, oil/gas wells, county roads, railroads, and public highways will be negotiated with the owners(s) of the facility and/or the appropriate state or county agency.
- (d). A combination stripping system using dozers, scrapers, trucks, backhoes, loaders, and draglines is planned for overburden removal to maximize lignite recovery. Walking draglines will be utilized as primary overburden removal equipment. Operating strategy, stratigraphy, and geotechnical conditions will determine dragline bench heights and operating modes. Pit bottom widths general range from 100 feet to 200 feet varying with overburden depth and operating conditions.
- (e). Exhibit 139-1 shows annual mine blocks and the estimated sequence of the draglines. The dragline is expected to operate in the following digging modes (or some variation thereof): simple sidecast, simple sidecast with chopcut, two pass spoilsides with chopcut, and three pass spoilsides with chopcut (Figures 139.1, 139.2, 139.3, and 139.4 respectively).
- (f). Mine equipment will selectively handle suitable material. The thickness of this material is determined by overburden coring and varies from 4 feet to 50 feet. This material will be transported to the regraded areas of the spoil and placed with a minimum thickness of 4 feet.
- (g). Suitable Plant Growth Material volume data is derived utilizing the Carlson mine modeling software. Information on SPGM volumes is located in Section 12.134. Mine planning engineers create detailed active pit diagrams specific to field operations. These diagrams detail the modeled SPGM depths, as well as depth of overburden above the coal seam. Utilizing these diagrams, the location is first staked in the field by surveying. Then the prebenching operation removes the SPGM in benches primarily using mobile equipment. Benches will vary within the pits due to the variability in SPGM thickness as detailed on the diagram. Draglines may be utilized for handling SPGM where SPGM thickness is greater than 20 feet. This SPGM material will either be directly placed on regraded spoil areas within the dump radius of the dragline or in a stockpile or staging area for loading and final placement by the mobile equipment fleet. In the event that a question arises as to the suitability of any material, operators will also have contact information for mine personnel trained in soils identification who can provide assistance in the field. SPGM placement to a depth of four feet will be accomplished as described in Section 12.145(b)(4).
- (h). Overburden removal is scheduled for continuous operation, seven days per week.

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- (i). During the course of mining, potentially five seams will be exposed. The recoverable lignite seams are C3, C4, C51, C52 and C6 (seam information may be found in Section 12.127). Surface acres mined by year are provided in Section 12.125 of this Application.
- (j). Backhoes and front end loaders will be the primary lignite loading equipment. Lignite and parting may be ripped prior to loading. Lignite loading is scheduled for continuous operation seven days per week.
- (k). Lignite may be removed from multiple locations at any time. The lignite will be transported from the pit areas by either bottom dump haulers or end dump trucks using highwall, endwall, and/or spoil side ramps out of the pit. Exhibit 139-1 shows the anticipated haulage network that will be in place during the permit term.
- (l). The haulers will deliver the lignite to the existing crushing facility or to existing coal stockpile locations (as shown in Exhibit 139-1).
- (m). Interburden (parting) material separated from the seams in the loading operation will be spoiled in various pit areas or used in road/ramp construction. The interburden may be handled by either draglines or mobile equipment.
- (n). Justification for additional time required to complete rough backfilling and grading operations on a 66.8-acre area along the interface between a previously mined area and the area to be mined in Area B is included in the Application. This area was reclaimed as the active pits advanced south with lignite removed from 2009 through 2011.
- (o). A narrative and Exhibit 139-1 are included in Section .139 of the Application.
- (p). Concrete rubble deemed suitable under TCEQ guidelines may be placed in mined-out pits.
- (q). Application contains a discussion of mine areas that now includes the mined-out Areas A, DX, and DE, in addition to B and BX, and includes annual lignite production during the proposed permit term.
- (r). A narrative which describes the mining of an auxiliary area is also include in the Application. The Auxiliary area is suitable for mining with either auxiliary equipment of a dragline. This areas has a depth of between approximately 30 and 50 feet. Approximately half of this areas projected to affect part of the nearby abandoned underground mine workings.
- (s). The extent of overburden removal for each year is delineated on Exhibit 139-1, Sheets 1 through 7.
- (t). Clearing and grubbing will take place 750 to 1,000 ft ahead of SPGM removal, depending on the projected advance rate of the dragline. Dewatering wells will be drilled one year in front of the pit advance. No dewatering wells will be located outside surface water control.

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- (u). Construction activities associated with impoundments and diversions may extend within 100 ft of the outside right-of-way of a public road. No coal removal is planned within 100 feet of the outside right-of-way of a public road. A variance is granted in accordance with 16 TAC §12.71(4) to perform the construction and maintenance of activities associated with impoundment and diversion structures. The variances granted are listed in Section .152 of the Application and shown on Exhibit 152-1.
- (v). Water pollution control facilities for the mine consist of a system of sedimentation ponds and their associated collector ditches. The facilities will be regularly inspected and certified as required in Section 12.347(a), and maintained in a safe and environmentally sound condition. These inspection report forms will be submitted to the Commission on a quarterly basis and pond certifications will be done on an annual basis. When these water pollution control facilities are no longer needed for the mining operations, they will be reclaimed or design plans will be submitted to the appropriate Federal and State authorities for approval of the facility as a permanent structure.
- (w). Some existing temporary sedimentation ponds listed in Table 148-2 will be modified and proposed as permanent when no longer needed for sediment control. Table 148-2 includes the date each sediment pond will either be reclaimed or be proposed as a permanent impoundment.
- (x). Planned location of stockpiles will be submitted to the Commission prior to construction.
- (y). All non-coal wastes will be disposed of off the mine site.
- (z). Postmine slopes will be constructed to a slope of 7h:1v, or flatter.
- (aa). The following maps and figures were provided in the Application:

MAP	TITLE	LOCATION
Exhibit 139-1 (Sheet 1 of 7)	<i>Operation Plan</i>	Supplement A
Exhibit 139-1 (Sheet 2 of 7)	<i>Operation Plan</i>	Supplement C
Exhibit 139-1 (Sheet 3 of 7)	<i>Operation Plan</i>	Supplement C
Exhibit 139-1 (Sheet 4 of 7)	<i>Operation Plan</i>	Supplement C
Exhibit 139-1 (Sheet 5 of 7)	<i>Operation Plan</i>	Supplement A
Exhibit 139-1 (Sheet 6 of 7)	<i>Operation Plan</i>	Supplement A
Exhibit 139-1 (Sheet 7 of 7)	<i>Operation Plan</i>	Supplement A
Figures 139.1	<i>Typical Simple Sidecast</i>	Initial Application
Figures 139.2	<i>Typical Simple Sidecast with Chopcut Single Seam</i>	Initial Application
Figures 139.3	<i>Typical Two Pass Spoilside with Chopcut</i>	Initial Application
Figures 139.4	<i>Typical Three Pass Spoilside with Chopcut</i>	Initial Application

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- (bb). The Application includes a list of mine facilities to be used during the proposed permit term and now includes a discussion of the use and maintenance of the listed existing facilities. The lignite handling facility will be removed in 2019. This is the year after the last year of mining shown in Section .125 of the Application. A TCEQ Operating Permit was granted for the lignite handling facility. The facility is used daily and is maintained to operate in an efficient manner.
- (cc). The following Table 139-1 list the major equipment required for mining operations:

TABLE 139-1
Jewett Mine – Major Equipment List

Walking Draglines	Bottom Dump Trucks
Backhoes	Tractor/Trailer Transport
Dozers	Front end Loaders
Scrapers	Water Trucks
End Dump Trucks	Motor Graders

- (dd). Table 139-2 is a list of the names of the existing and proposed stockpiles, anticipated volume to be contained in each stockpile, and the estimated dates of reclamation. These stockpiles will be used in the reclamation of facilities and final pits. The locations of SPGM stockpiles shown on Exhibit 139-1 are for use in facility reclamation and final pit reclamation. They will be built with side slopes not to exceed 7h:1v using a variety of mobile equipment. These stockpiles will be used during final reclamation of the pond or road, or approval obtained to leave them as permanent structures. Erosion control measures will be taken to minimize material loss. Drainage will be routed through sediment ponds. The areas will be regraded and revegetated following redistribution of material.
- (ee). The information provided is adequate to meet the requirements of 16 TAC §12.139.
28. The Application meets the requirements of 16 TAC §12.140. No existing structures or facilities as defined by 16 TAC §12.3 occur within the permit renewal/revisions/expansion area.
29. The Application meets the requirements of 16 TAC §12.141. No blasting is proposed in the renewal/revision/expansion area; therefore, the requirements of 16 TAC §12.141 are not applicable.
30. The Application meets the requirements of 16 TAC §12.142.
- (a). Section .141 of the Application identifies the locations of maps for the requirements of 16 TAC §12.142. The information is located in the original application, unless otherwise noted, and the table is summarized as follows:

SECTION	SUBJECT	LOCATION
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12.142(1)	Lands affected and changed by the proposed operations	Exhibit 139-1 (Sheets, 5, 6, and 7 of 7) (Supplement A) Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.143(2)	Show location of the following:	
12.142(2)(A)	Buildings, utility corridors, and facilities;	Exhibit 136-1 (Supplement C) Exhibit 152-1 (Supplement A)
12.142(2)(B)	Sequence of land to be affected by mining and reclamation;	Exhibit 139-1 (Sheets, 5, 6, and 7 of 7) (Supplement A) Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.142(2)(C)	Area of land to be bonded;	This map will be submitted annually with the reclamation cost estimate
12.142(2)(D)	Coal storage, cleaning and loading areas;	Exhibit 139-1 (Sheets, 5, 6, and 7 of 7) (Supplement A) Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.142(2)(E)	Topsoil, spoil, coal waste, and non-coal waste storage areas;	Exhibit 139-1 (Sheets, 5, 6, and 7 of 7) (Supplement A) Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.142(2)(F)	Water diversion, collection, conveyance, treatment, storage, and discharge facilities;	Exhibit 139-1 (Sheets, 5, 6, and 7 of 7) (Supplement A) Exhibit 139-1 (Sheets 2, 3, and 4 of 7) (Supplement C)
12.142(2)(G)	Air pollution collection and control facilities;	None proposed
12.142(2)(H)	Source of waste and waste disposal facilities relating to coal processing or pollution control;	None proposed
12.142(2)(I)	Fish and wildlife enhancement and protection;	Exhibit 133-2 (Supplement D); Exhibit 142-1 (Supplement F)
12.142(2)(J)	Explosive storage and handling facilities; and	None proposed
12.142(2)(K)	Location of each sediment pond, permanent impoundment, coal processing waste dam and embankment, and fill area for the disposal of excess spoil.	Exhibit 139-1, Sheets 1, 5, 6 & 7 (Supplement A) Exhibit 139-1, Sheets 2, 3 & 4 (Supplement C)

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		Exhibit 148-1 (Supplement D)
12.142(3)	Location of Certifications	Certifications located on each instrument
12.142(4)	Support facilities	No new support facilities planned during the proposed permit term. Existing facilities are found in Permit No. 15

(b). The information contained in the Application meets the requirements of 16 TAC §12.142.

31. The Application meets the requirements of 16 TAC §12.143.

- (a). The Application contains a plan to control fugitive dust using the following methods: (1) watering of unpaved roads; (2) chemical stabilization of unpaved roads where necessary; (3) prompt removal of lignite, rock, soil, and other dust-forming debris from roads; (4) frequent grading and compaction of unpaved roads; (5) revegetating, mulching, or otherwise stabilizing areas adjoining roads; (6) minimizing the areas of disturbed land; (7) prompt revegetation of regraded lands; (8) contemporaneous reclamation; (9) extinguishing lignite fires; (10) monitoring lignite stockpiles when the potential for spontaneous combustion is high; and the operation of the Wendon System for dust suppression in the hoppers of the crushers.
- (b). Best management practices will be used during high wind conditions. Dragline operations will be instructed to dump at low height and regrade; plowing and mulching operations will be restricted
- (c). The permit area is not located west of the 100th Meridian West Longitude and a mandatory air-quality monitoring plan is not required, per 16 TAC §12.143(a).
- (d). The TCEQ (a portion of which was formerly the Texas Air Control Board) granted an operating permit for the lignite crushing facilities in 1985. An open burning exemption has also been obtained for the burning of brush and trees cleared ahead of construction and mining operations.
- (e). In response to a request for non-applicability determination submitted by TWCC to EPA Region VI, the EPA determined that its Prevention of Significant Deterioration, PSD, rules did not apply to the Jewett Mine.
- (f). The information provided is sufficient to meet the requirements of 16 TAC §12.143 for air-pollution control plans.

32. The Application meets the requirements of 16 TAC §12.144 and 12.380(e).

- (a). A protection plan is included in Section 144 of the Application.
- (b). The most current protocols for surveying for threatened and endangered species will be used. Pre-disturbance surveys for the timber/Canebrake rattlesnake will be conducted, and an appropriate species-specific protocol for the Timber/Canebrake

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rattlesnake will be developed. TWCC is working with the TPWD and other species experts to develop the protocols. TWCC is in the process of conferring with the USFWS regarding surveys and protection plans for endangered species concerns. An outline is included for the initial time frames and the steps to improve and revise the protection plan for listed species during the proposed permit term in Section .144 in the Application.

- (c). The information contained in the Application meets the requirements of 16 TAC §§12.144 and 12.380 to protect and enhance fish and wildlife resources and related values within the proposed permit area.
- 33. The Application meets the requirements of 16 TAC §§12.145, 12.331, 12.332 and 12.333.
 - (a). General Requirements. Figure 145-2 includes a footnote indicating that, even though a specific time frame is indicated in the timetable, the listed events will take place as soon as possible to expedite submittal for bond release and ERP. The figure also includes a footnote indicating that “Regrading” begins after lignite removal as shown on Figure 145-1. The backfilling and grading time frames for Areas B and BX are depicted on Figure 145-1. Also a footnote states that requests for Phase II or III bond-release applications will be submitted no later than October 12 of a given year (30 days prior to the average first frost date). The information included in the Application is adequate to meet the requirements of 16 TAC §12.145(b)(1).
 - (b). Reclamation Timetable. A Reclamation Timetable is shown on Figure 145-2 in the Application.
 - (c). Detailed Reclamation Cost Estimate.
 - I. Section 12.145 includes a copy of the summary of Staff's current reclamation cost estimate is contained in Revision No. 73, approved administratively on September 30, 2015. TWCC's reclamation cost estimate in that revision was \$56,117,623. Revision No. 73 was approved administratively by letter dated September 30, 2016. In that revision, Staff's reclamation estimate was \$54,878,643. TWCC's reclamation estimate was adopted as the minimum required bond amount. TWCC's reclamation cost is summarized as follows:

Pit Closure

AreaB	\$4,025,419
Area BX	\$6,791,464
AreaC	\$114,127
AreaD	\$3,907,353

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Final Cover (all areas)	\$19,751,478
Subtotal	<hr/> \$34,589,841

Ancillary Facility Removal

Areas A, B, BX, C, D, DX, and DE (including Dewatering Wells and Removal and Disposal of Road Base Material)	\$9,734,029
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Previously Mined Areas (Final Grading and Revegetation)

Area B	\$1,834,314
Area BX	\$114,708
Area C	\$1,615,752
Areas D, DX, and DE	\$3,127,377
Subtotal	<hr/> \$6,692,151
Total Bond Amount (before Administrative Costs)	<hr/> \$51,016,021
Administrative (10%)	<hr/> \$5,101,602
TOTAL	<hr/> \$56,117,623

- II. Staff's reclamation cost estimate of \$54,878,643 was not used to determine the minimum required bond amount. TWCC currently has an approved total posted bond amount of \$71,000,000 for Permit No. 32F. The approved reclamation cost estimate, and associated bond maps, are adequate to ensure that there will be sufficient money to reclaim the activities included in the proposed operation plan. The reclamation cost estimate and bond maps approved in Revision No. 73 include the costs associated with the operations proposed in the renewal/revision/expansion Application and no changes are required.
- III. The information contained in the Application meets the requirements of 16 TAC §12.145(b) (2).
- (d). Backfilling and Grading and Soil Handling Plan.
- I. Additional time was requested to complete rough backfilling and grading operations on a 64.2-acre area in Area B because the mining sequence in the area will not be completed. The subject was regraded along with the adjacent area. This request is proposed to avoid re-disturbance of the area when mining progresses through the south pits of Area B and is granted. The Application contains a listing of existing variances.
- II. TWCC proposes to utilize topsoil substitute materials within the permit renewal/revision/expansion area. Regraded spoil material will be covered with four feet of suitable oxidized overburden material. Section .134 of the

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Application demonstrates the suitability of topsoil substitute materials selected for placement in the surface four feet of reclaimed areas and includes information on the areal extent of soil series. The proposed topsoil substitute material was evaluated using the State criteria outlined in Advisory Notice ER-BA-127(b). All regraded spoils will be covered with four feet of suitable oxidized material. Handling of this material during the pre-bench phase of operations is outlined in Section 139.

- III. Following regrade operations, placement of suitable plant growth material will be accomplished using end dumps or scrapers entering and dumping on the regraded spoil or dozers spreading Suitable Plant Growth Material (SPGM) stockpiles over regraded spoil. Most areas will utilize dozers with GPS grading controls to ensure compliance with post-mine topography design and the four-foot thickness standard. GPS-equipped dozers operate on a 3-dimensional model, which presents the final grade in x, y, and z coordinates, enabling them to place the proper depth of SPGM to final grade. When GPS-equipped dozers are not available, the area will be staked to ensure proper depth of top cover. Stakes will be placed wherever the grade changes significantly to affect SPGM placement, or at minimum where one stake is easily visible from one to the next.
 - IV. Spoils that have been backfilled and graded and are ready for SPGM placement are left in a rough condition. Equipment tracks from the larger regrade dozers and other dirt moving equipment are not smoothed-up prior to the placement of SPGM. These conditions fulfill the purpose of scarifying prior to placement of top cover.
 - V. Typically, SPGM is placed in piled by end dumps and then, the tops of the piles are leveled by dozers. This process does not create excessive compaction in the SPGM. If it is necessary to place SPGM by scrapers or if it is necessary for end dumps to travel on top of SPGM, the compacted areas will be ripped prior to planting to remedy any compaction that may occur. As lime and fertilizer are added and tilled in to the soil, breaking and fluffing of the SPGM occurs.
 - VI. Exhibit 139-1 shows the location of suitable material stockpiles. These stockpiles will be protected from wind and water erosion by planting with season grasses to promote vegetative cover. If necessary, terraces and berms will be utilized to control erosion and sediment.
 - VII. Table 145-1 shows the premine slope and postmine categories.
 - VIII. Table 134-4 indicates that the only area with a shortfall of SPGM is Area D. The footnote to the table indicates that the material will come from Area E in Permit No. 47A, which contains an excess of material.
 - IX. The information provided in the Application is adequate to meet the requirements of 16 TAC §§12.145(b) (3) and 12.145(b) (4).
- (e). Plan for Revegetation.

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- I. The seeding and planting of all mined/disturbed areas will be conducted during the first normal period for favorable planting conditions after final preparation as designated in 16 TAC §§ 12.384 and 12.392. Prior to planting operations, all areas designated for temporary and permanent vegetation, will be sampled for fertility and pH. In these pre-plant areas, lime, nutrients, and soil amendments in the amounts determined by soil analysis will be applied as needed to the redistributed suitable plant growth material. The nutrient and soil amendments for these areas will follow normal husbandry guidelines and the soil analysis recommendations in accordance with the Commission guidance document, *Normal Husbandry Practices for Surface-Mined Land in Texas*. Outlined below is a schedule of normal planting periods for temporary and permanent vegetation. Areas regraded and stabilized between June and November will be reclaimed to temporary vegetation until planting season for permanent vegetation.
- II. Areas regraded and stabilized between December and February will be mulched and crimped in order to control erosion and obtain further stabilization until it is possible to plant a permanent or temporary vegetation.
- III. Temporary vegetation will be planted for stabilization or as a nurse crop as necessary and will be planted on areas that are regraded and have received seedbed preparation from June to December. Permanent vegetation may be interseeded into the temporary vegetation stubble or may be planted on areas that are regraded and have received seedbed preparation from January through June. The following is a proposed schedule of revegetation:

Revegetation Schedule

<u>Vegetation</u>	<u>Planting Period</u>
Tame Pastureland	January 15 to June 15
Native Grazingland	January 15 to June 15
Wetland/Aquatic Species	March 1 to June 15
Cover crops	June 15 to December 1
Ancillary Disturbance Cover	January 15 to December 1
Woody/ Half Shrub/Shrub	September 1 to March 15

- IV. Maintenance of the reclaimed lands will consist of fencing, burning, mowing, baling, grazing, liming and fertilizing as appropriate for the intended postmine land use. This will occur throughout the year as weather, soil and vegetation conditions dictate. Hay production and shredding operations of reclaimed areas will meet the minimum plant residue height guidelines as set forth in the Commission guidance document, *Procedures and Standards for Determining Revegetation Success on Surface-mined Lands in Texas*. Hay production of

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reclaimed areas may occur as many as to three times per year, and shredding operations of native and improved pasture vegetation will be managed based on the maintenance requirements of the specific vegetative species and on field conditions.

- V. Maintenance of ERP areas and reporting of vegetation data will follow the criteria outlined in the Commission guidance document Fertility requirements for these land uses will be based on a soil analysis and applied in accordance with the Commission guidance document, *Normal Husbandry Practices for Surface-Mined Land in Texas*.

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- VI. Tables 145-3, Table 145-4 and Table 145-5 detail the species of vegetation to be established in the reclaimed and disturbed areas of the mine. Stocking rates and spacing will conform to the standards developed in The Procedures and Standards for Revegetation Success in Surface Mined Lands of Texas document and any applicable mitigation plans. Certain invader species are expected to colonize reclaimed areas where sufficient habitat conditions exist and can provide horizontal and vertical structure quickly and can serve as soil stabilizers. Widespread control measures for invasion of these species will not be used unless they become an infestation, negatively impacting the land use through ground cover or productivity.
- VII. Affected landowners will be notified, as required by the Commission, of postmine land use changes to the reclamation plan. Any comments received will be considered in developing the final reclamation plans. These comments will be reviewed and, to the extent practical, will be incorporated into reclamation plans. All comments will be provided to the Commission.
- VIII. Enhanced areas for wildlife will be planned as a secondary land use.
- IX. Vegetation planted for aquatic or wildlife areas will depend upon the target species and wildlife habitat criteria. Seedlings or transplanted species will generally be planted at random throughout the acreage and/or along hedgerows, shelterbelts, fencelines and creek channels. Spacing will reflect suitable habitat criteria and may vary as necessary. Table 145-5 shows typical wetland species to be planted in depressions or around pond margins. Other species may be used for reclamation of specific types of wetland communities.
- X. Grasses, forms and other seeded vegetation will be planted using a conventional seed drill, sprigger, or a broadcast seed spreader. This permanent vegetation may be seeded directly onto the reclaimed area, interseeded into stubble, or interseeded into a stabilizer/nurse crop. Permanent woody vegetation will be planted into a cover crop or into a permanent crop by hand or with a seedling planter. Transplanted species will be planted using a tree spade and auger or will be transferred from pots.
- XI. Mulch will be applied to all 5% or greater slopes and to all areas of high potential erosion. This procedure will apply except when interseeding a permanent cover into an established temporary crop. On flat areas, mulch may or may not be applied as necessary to hold soil moisture and add organic matter. Where the regraded area is flat or at less than a 5% slope, mulch may not be necessary. If a temporary cover is to be planted, rapid growth of the crop will be sufficient to protect against erosion. Mulch, mulch and crimp, green manure, stubble, temporary crops or incorporation of stubble will be used either solely or in some combination.
- XII. As needs arise, TWCC may implement a portable irrigation system to be used in establishment of vegetation but not as a maintenance practice. Irrigation of tree motts, existing as features in pastureland, may be continued for several seasons until the trees have developed an adequate root system to survive without irrigation. Irrigation of trees will not invalidate the acceptance of the

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surrounding pastureland into the Extended Responsibility Period. Pastureland that has been accepted into the Extended Responsibility Period that does not contain woody plantings will not be irrigated. Pesticides may be used periodically to control or suppress undesirable vegetation and insect damage. Guidelines outlined in the Commission guidance document, *Normal Husbandry Practices for Surface-Mined Land in Texas*, will be followed when applying pesticides.

- XIII. Ground cover success and vegetative productivity will be estimated utilizing the approved Technical Standard in the Commission guideline document *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas*. A list of Desirable Volunteer Species can be found in Appendix 145C in the Application. Once productivity has been estimated, data will be compared to the NRCS developed productivity standards for the Jewett Mine. The NRCS productivity standards are contained in Tables I and II in Appendix 145B. Complete backup and documentation for these standards is contained in Permit 32-D, Vol. 10, Section 145, Appendix 145B. Methodologies for determining reclamation success for woody plantings will follow the Commission guideline document *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas*.
- XIV. The information provided in the Application is adequate to meet the requirements of 16 TAC §12.145(b)(5)(A) through (F)
- (f). Soil-Testing Plan. Exhibit 145-2, the Grid Location Map, shows the areas to be affected by mining activities by year. Acreages to be disturbed are shown in Section .125 of the Application and correspond to the blocks delineated on Exhibit 145-2. The boundary on Exhibit 145-2 includes affected areas incidental to surface mining operations such as dewatering areas, sediment ponds, dragline walkways, service roads, and substations. The top four feet of the postmine area will consist of oxidized overburden, which is approved topsoil substitute material. This suitable plant growth material will be mixed material taken from oxidized overburden, contained in Section .134 of the Application. This premine, mixed, suitable material will be hauled to the post mine areas and placed on the surface of regraded spoils. After these activities are complete, the surface four feet of the post mine area will be monitored according to the plan contained in Section .145 of the Application. The soil-testing plan is contained in Appendix I of this Order. The information provided in the Application is adequate to meet the requirements of 16 TAC §12.145(b)(5)(G).
- (g). Coal Recovery. Lignite seams greater than 1.5 feet in thickness will be recovered over all mine blocks. The overburden depth ranges from 20 feet to 260 feet. This includes C3, C4, C51, C52 and C6 seams. The information provided in the Application is adequate to meet the requirements of 16 TAC §12.145(b)(6).
- (h). AFM/TFM.
- I. Non-coal wastes (Class II and Class III as defined by the Texas Commission on Environmental Quality) generated at the mine are disposed of offsite at approved contracted landfills.

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- II. All waste oil, grease lubricants, flammable liquids and other non-coal waste materials are disposed of offsite.
 - III. Sustained combustion of coal in stockpiles and in the pits will be prevented by isolating any fires that may occur. The isolated material is re-compacted to extinguish the fire, and then (a) added to the material going to the crusher for blending and transport to the electric generating power plant if it occurs in the stockpiles or (b) treated as spoil if it occurs in the mining pits.
 - IV. Sustained combustion of other materials constituting a fire hazard is prevented through the use of proper ventilation in storage and usage areas. Fire extinguishers are placed and maintained according to MSHA requirements. Under EPA regulations, a spill prevention contingency plan is also in place which dictates the handling of non-coal hazardous wastes.
 - V. If a spill does occur, the hazardous fluid will be removed via vacuum truck for processing, and the contaminated soil will be excavated and taken to an off-site bioremediation site. The sludge from the wash rack pond is bioremediated onsite and non-contaminated soil will be placed in a mine pit.
 - VI. Prior to the overburden removal operations the land to be mined will be cleared and grubbed. The trees and brush will then be burned in accordance with the authorization by the TCEQ.
 - VII. The top four feet of regraded areas and reconstructed drainages will consist of suitable overburden materials free from AFM/TFM. Following final grading of the topsoil substitute material, the area will be cored to verify the depth of the suitable material. Any areas with substitute material not meeting the Native Soils Baseline, will be covered with additional material to achieve four feet of suitable material and recorded or treated for the parameter in question based on the results of the reconnaissance cores, in accordance with the alternative soil testing plan in Section 145(b)(5)(G).
 - VIII. The information provided in the Application is adequate to meet the requirements of 16 TAC §12.145(b)(7).
- (i). Drill Hole Casing and Sealing.
- I. Additional crop, sub-crop, geotechnical, overburden, soil, groundwater, or other data collection may occur within the permit boundary. Exploration activities to obtain this data may require the use of backhoes, dozers, and other construction equipment, to clear access routes for drilling with mud-rotary drilling rigs or auger rigs, testing, and surveying equipment. Before implementation of any exploration activities within the permit boundary, the area will be bonded at the correct rate. Notification of the proposed activity will be provided to the Commission at least five business days prior to commencement of drilling. Surface runoff in the exploration area will be contained within controlled areas or a Surface Water Pollution Prevention Plan will be implemented.

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- II. All boreholes will be plugged immediately after geophysical logging operations are completed with a bentonite slurry. The slurry will be pumped by tremmie pipe from bottom of hole to 13 feet below ground level then a cement plug will be placed from 13 feet to 3 feet the remaining 3 feet will be filled with local soils to ground level.
- III. If the abandoned well is located in an area to be mined, is completed above the deepest recoverable lignite seam and will have its full length removed by the mining operation, the well need not be plugged but should be adequately covered or capped. Shallow, large diameter hand-dug wells to one hundred (100) feet in depth, may be plugged by back filling with compacted clay or caliche to the ground surface and mounded to compensate for subsequent settling. All known domestic water wells which are not deteriorating and/or are abandoned, and are located within the permit area, will be covered or capped so as to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, wildlife, and machinery. The Commission regional office will be notified five (5) working days in advance of any well plugging operations occurring within the permit and exploration areas.
- IV. All abandoned monitor/dewatering wells that will not be mined through will be plugged in accordance with the Texas Department of Licensing and Regulation rules. If possible, the well casing will be removed and the well bore plugged with cement, bentonite (slurry or pellets) or other abandonment material that may be approved by the Commission in the future. If the abandoned monitor/dewatering well is located within an area to be mined and the entire length of the well will be removed by mining operations, then the well need not be plugged. However, if the well is completed below the deepest recoverable lignite seam, the well casing will be plugged from the base of the deepest recoverable seam to the bottom of the well.
- V. The Commission will be notified five (5) working days in advance of any well plugging operations occurring within the permit area. An annual report listing all plugging for that year will be provided to the Commission within 30 days after the end of the year.
- VI. An annual report listing all drilling for that year will be provided to the Commission within 30 days after the end of the year. The report will include well name, location, hole depth, type of well, and completion information. All existing mining related water wells are shown on Exhibit 145H – Mining Related Water Well Data.
- VII. Oil and gas wells destined to be mined through, will be plugged by the operator. Plugged and abandoned oil and gas wells are shown on Exhibit 136-1. There are no abandoned oil or gas wells in the permit renewal area that have not been plugged.
- VIII. The information provided in the Application is adequate to meet the requirements of 16 TAC §§12.145(b)(8) and 12,331, 12,332, and 12,333

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- (j). Compliance with the Clean Air Act and Clean Water Act. TWCC will continue to comply with the Clean Air Act. The Texas Commission on Environmental Quality has reviewed the plans and issued a statement that the emissions will be less than 250 tons per year and therefore not subject to the provisions of the act or its amendments. TWCC obtained a TPDES water quality permit (WQ02653) from the Texas Commission on Environmental Quality in order to comply with the Clean Water Act. A wetland determination has been conducted and is described in Section .133 of the Application. The information provided in the Application is adequate to meet the requirements of 16 TAC §§12.145(b)(9).

34. The Application meets the requirements of 16 TAC §12.146.

- (a). Protection of Hydrologic Balance (Groundwater). An LTGM plan is contained in Table 146(d)-3 and on Plate 146(d)-2. Information for six LTGM wells is included in the table and on the plate. These six wells were plugged due to faulty original construction and re-drilled in approximately the same location with revised well names. Plate 146(d)-2 depicts the proposed approximate locations for two new overburden monitoring wells in the BX and DX mine areas.

- I. LTGM wells PD12-3 and PD12-7 are removed from the proposed LTGM plan, both in Table 146(d)-3 and on updated Plate 146(d)-2. These wells were plugged and removed from the LTGM plan in Permit No. 32F in September 2013 due to structural failure of the wells. These two wells have been plugged and abandoned and, for the monitored areas, are no longer needed to demonstrate that the ground-water hydrologic balance has been protected.
- II. All remaining LTGM wells will be sampled and reported on a quarterly basis in accordance with accepted standard practices and analyzed for pH (field and laboratory), temperature (field), EC (field and laboratory), TDS, total and dissolved iron and manganese, sulfate, chloride, sodium, potassium, magnesium, calcium, and bicarbonate. Water levels (depth from top-of-casing to water surface) will also be measured and reported quarterly for all LTGM wells. The analytical data will be provided to the Commission within 30 days following the end of each calendar quarter in digital format, and will provide paper copies of the laboratory reports along with the digital data.

III. The Application meets the requirements of 16 TAC 12.146(a) and (b).

- (b). Protection of the Hydrologic Balance (Surface Water). Portions of Section .146 have been updated and are contained in the Application. PBW prepared the supplemental information on behalf of TWCC and a certification from Leonard J. Mason, P.G., a licensed professional geoscientist, is provided.

- I. With the exception of Pond 9, all sedimentation pond discharge pipes have in-line flow meters. When discharging, pipes will be opened completely to ensure full-pipe flow. A stage-discharge relationship has been developed for the stream channel immediately downstream of the Pond 9 spillway and is provided in new Appendix 146(d)-J. The stream cross section will be resurveyed annually or following a 10-yr/24-hr storm event, whichever occurs first.

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- II. Monthly flow data and cross section measurements will be provided to the Commission with its quarterly reports.
 - III. All sedimentation ponds will be outfitted with in-line flow meters with exception of Pond 9. When discharging, pipes will be opened completely to ensure full-pipe flow. A stage-discharge relationship has been developed for the stream channel immediately downstream of the Pond 9 spillway and is provided in new Appendix 146(d)-J. The stream cross section will be resurveyed annually or following a 10-yr/24-hr storm event, whichever occurs first.
 - IV. The information provided in the Application satisfies the requirements of 16 TAC §12.146(a) and(c).
- (c). Probable Hydrologic Consequences Determination (Ground Water). A revised qualitative and quantitative assessment of the ground water impacts due to the mining activities in the permit renewal/revision/expansion area is included in the Application. This revised assessment was prepared by PBW and is certified by Len Mason, P.G., a licensed professional geoscientist in Texas.
- I. The quantitative assessment of the expected changes to ground-water quality in the area as a result of the proposed mining activities includes an evaluation in the form of a general mass balance of the mixing of waters from the spoil mass and the adjacent aquifers as represented by the parameter TDS. The mass-balance result yielded a median TDS concentration of the adjacent overburden aquifer at a point in the postmine period of 191 mg/L. This represents an increase of 19 percent over the premine median concentration of 160 mg/L. The result meets the State drinking-water standards for a fresh water aquifer.
 - II. The seeps in Area A are no longer present as a result of the implemented remediation plan. A general plan for identification, investigation and mitigation of any acidic seeps that develop on the reclaimed surface within the mine is contained in Section .146 of the Application. For any initial visual indicators of seeps, the permittee will investigate whether low pH conditions are present and will submit the results of such investigation to the Commission within 90 days of initial observation. The investigative report will include an identified strategy for further action.
 - III. Sufficient information has been provided in the Application, to demonstrate compliance with the ground water PHC determination requirements of 16 TAC §12.146(d).

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- (d). Probable Hydrologic Consequences Determination (Surface Water). An updated PHC determination of the proposed mining operation on the surface-water component of the hydrologic balance for the life of the Jewett Mine is contained in Section .146 of the Application. The determination was based on baseline hydrologic data collected from monitoring stations established in earlier permits and hydrologic modeling performed for the proposed renewal/revision/expansion area.

- I. The potential for impacts to the hydrologic balance are summarized in the following table:

Parameters Used for Surface-Water PHC Determination for the Jewett Mine			
Impact Parameter	Premine Condition	Active-Mine Estimate	Postmine Estimate
Predicted 10-yr/24-hr Storm Sediment Yield	0.0 - 2.4 ac-ft/yr	0.0 - 8.6 ac-ft/yr	0.0 - 3.8 ac-ft/yr
Flooding or Streamflow Alteration	Non-applicable	Reduced peak flows and increased base flow due to attenuation of peak discharges in ponds	Peak flows slightly increased due to change from pasture/woodlands to pasture
Average 10-yr/24-hr Storm Runoff Volume	0.12 - 0.37 ac-ft/ac	0.04- 0.06 ac-ft/ac	0.02 - 0.06 ac-ft/ac
Developed Water Resources (DWR) -Surface Area Acreage	0 ac	650 ac	500 ac
Consumptive Loss of Surface Water	0 ac-ft/yr	3,033 ac-ft/yr	2,333 ac-ft/yr

- II. The results of the model indicate that although peak discharge and runoff volumes are expected to increase in the active-mine phase for each sub-watershed, the postmine peak discharges and runoff volumes are anticipated to be less than those in the active-mine phase.

- III. Sufficient information has been provided in the Application to demonstrate compliance with the surface water PHC determination requirements of 16 TAC §12.146(d) in the Application.

35. The Application meets the requirements of 16 TAC §§12.147 and 12.399(c).

- (a). The Application contains a postmine land use map in Exhibit 147-1, and postmine land use acreages in Table 147-1. The acreage changes listed in Table 147-1 are consistent with Exhibits 147-1.

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- (b). The following is a summary of changes to the postmine land use in the Application:

Land-Use Category	Postmine Land Use Acres		
	Permit No. 32F	Proposed	Difference
Pastureland	14,051	14,365	314
Industrial/Commercial	1,055	983	-72
Developed Water Resources	441	434	-7
Total	15,547	15,782	235

- (c). Areas to be reclaimed to their premine land-use type and areas to be reclaimed to an alternative postmine land-use type are distinguished from each other on the postmine land-use map and identify the postmine land use. The disturbance boundary extent is increased by 235 acres.
- (d). The Application contains sufficient postmine land-use information to demonstrate compliance with the requirements of 16 TAC §§12.147 and 12.399.
36. The Application meets the requirements of 16 TAC §§12.148. Proposed and existing temporary and permanent sedimentation ponds are shown on Exhibits 148-1 and 148-2. The exhibits were signed and sealed by Janet D. Bowman, P.E., on October 25, 2013. All temporary ponds with design parameters, detailed design plan submittal and approval dates and current status are shown on Table 148-2. A list of all permanent ponds is shown on Table 148-3. TWCC has sufficiently addressed the requirements of 16 TAC §12.148.
37. The Application meets the requirements of 16 TAC §12.149. The Application contains a reference to information related to compliance with 16 TAC §12.367(a) in Permit No. 32D in Volume 11 of 11 (submitted in October 1997). The information contained in the Application is sufficient to meet the requirements of 16 TAC §§12.149 and 12.367(a).
38. The Application meets the requirements of 16 TAC §§12.150 and §12.341(c).
- (a). Ten diversions are planned for construction in the permit renewal/revisions/expansion term. The design information, in accordance with Advisory Notice EN-PS-341 for diversions of miscellaneous flow, is included in Appendix 150A. TWCC indicates in revised text on page 150-1 that miscellaneous flow diversions which do not meet the requirements of Advisory Notice EN-PS-341 are not planned in the proposed five-year permit renewal term. The design characteristics and construction schedule are listed in Table 150-1 on page 150-1.
- (b). Exhibit 148-2 shows permanent divisions.
- (c). Table 150-2 lists preliminary designs for the restoration of perennial/intermittent streams (Cottonwood Springs and Lambs Creek). All proposed diversions will be designed in accordance with the requirements of 16 TAC §12.341. The location of the temporary diversions are shown on Exhibit 148-1. Three diversions are planned in Area BX and two in Area C. The Temporary Diversions BX-1 and BX-

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2 will be approximately 8,295 feet and 3,900 feet long, respectively, and will direct runoff from a portion of Area C to the existing Sedimentation Pond 018. An approximately 8,650-foot long Temporary Diversion BX-3 will also divert surface-water runoff from a portion of Area C into Sedimentation Pond 018. The Permanent Diversions C-7 and C-8 are approximately 5,250 and 2,500 feet long, respectively. Diversion C-7 will carry discharge from Pond RP-C12 to Lambs Creek and Diversion C-8 will divert flow into Pond RP-C12.

- (d). The information contained in the Application satisfies the requirements of 16 TAC §12.150.
39. The Application meets the requirements of 16 TAC §12.151 (See FOF No. 14).
40. The Application meets the requirements of 16 TAC §12.152.
- (a). Mining operations will be conducted within 100 feet (but outside) of the outside right-of-way of several public roads within the permit renewal/revision/expansion area. A list of these variances for public roads is included in Table 152-1.
 - (b). Table 152-1 includes notations that the mining related activities anticipated within the buffer zones of the listed public roads include erosion control and repair, reclamation, regrading, diversion repair and maintenance, road construction, sedimentation pond maintenance, dewatering activities, and mining disturbance. Exhibit 152-1 shows the affected road locations.
 - (c). Several roads will be relocated and/or closed during the permit renewal term and are shown on Table 152-2, including closing and/or relocation years. The public notice included the information required for closing and/or relocating public roads.
 - (d). The information provided in the Application is adequate to address the requirements of 16 TAC §12.152.
41. The Application meets the requirements of 16 TAC §12.153. No excess spoil will be produced within the renewal/revision/expansion areas. The requirements for 16 TAC §12.153 have been satisfied.
42. The Application meets the requirements of 16 TAC §12.154. No new roads support facilities will be constructed during the permit renewal/revision/expansion term. The existing haul roads and access roads and their reclamation schedule are listed in table 154-1 in the Application. No conveyors or rail systems will be constructed in the permit renewal/revision/expansion term. The requirements of 16 TAC §12.154 have been met.
43. The Application meets the requirements of 16 TAC §12.215. The administratively complete Application, as supplemented, has been reviewed by the Commission No written comments or objections to the permit Application have been submitted to the Commission. Notice of the Application has been published. The proposed fish and wildlife plan satisfies the requirements of 16 TAC §12.144.
44. The Application meets the requirements of 16 TAC §12.216.

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- (a). The Application has been determined to be accurate, complete, and compliant with all requirements of the Act and this Chapter.
- (b). No permit provisions are included in this permit renewal/revisions/expansion and no permit provisions are retained from Permit.32F
- (c). The Application, as supplemented, demonstrates that surface coal mining and reclamation operations, as required by the Act and this Chapter, can be feasibly accomplished under the mining and reclamation operations plan.
- (d). A summary of the assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance was provided in Appendix I of Staff's TA Addendum No. 1.
- (e). The renewal/revision/expansion area is:
 - I. Not included within an area designated as unsuitable for surface coal mining operations under 16 TAC §§12.74-12.85 and 12.71(a);
 - II. Not within an area under study for designation as unsuitable for surface coal mining operations in an administrative proceeding begun under 16 TAC §§12.78-12.85;
 - III. Not on any lands subject to the prohibitions or limitations of Paragraphs 16 TAC §12.71(a)(1), (a)(6), or (a)(7);
 - IV. Not within 100 feet of the outside right-of-way line of any public road, except as provided for in 16 TAC §12.72(a); and
 - V. Not within 300 feet of any occupied dwelling, except as provided for in 16 TAC §12.71(a)(5) and 12.72(b).
- (f). The operations will not adversely affect any publicly owned parks or places included on or eligible for listing on the National Register of Historic Places except as provided for in 16 TAC §12.71(a)(3).
- (g). Documentation has been provided to the Commission as required under 16 TAC §12.117(b) for operations involving surface mining of coal where the private mineral estate to be mined has been severed from the private surface estate. Additional documentation was included in Appendix VII of Staff's TA Addendum No. 3.
- (h). No violations precluding approval and issuance of the permit requested in this Application were identified in the report of the Applicant/Violator System [operated by OSM] contained in Appendix VI of Staff's TA Addendum No. 3. The report indicates there are no pending violations that 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. TWCC has demonstrated compliance with 16 TAC §12.215(e) and satisfied the requirements for submissions and demonstrations under this paragraph.

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- (i). The Applicant/Violator System report has been reviewed. Non-payment of reclamation fees is not indicated.
 - (j). Existing performance bonds for Permit No. 32F are in the amounts of \$57,500,000 and \$13,500,000 for a combined amount of \$71,000,000. A minimum required bond amount of \$56,117,623 was adopted as part of Revision No. 73 that was approved administratively by letter dated September 30, 2015. The bond maps approved in Revision No. 73 that remain in effect are as follows:
 - I. *2015 Reclamation Cost Estimate, Areas A and B* (certified by Commission Staff on 9/30/2015);
 - II. *2015 Reclamation Cost Estimate, Areas BX and C* (certified by Commission Staff on 9/30/2015); and
 - III. *2015 Reclamation Cost Estimate, Areas D, DE and DX*(certified by Commission Staff on 9/30/2015).
 - (k). The currently approved reclamation bond maps and reclamation cost estimate is adequate to ensure that there is sufficient bond coverage to reclaim the area in accordance with the proposed operation and reclamation plans.
 - (l). The proposed postmining land uses in this Application, as supplemented, are in accordance with the requirements of 16 TAC §12.399.
 - (m). All specific performance-standard approvals required under Subchapter K of this Chapter have been met.
 - (n). The activities, as described in the Application, as supplemented, will not affect the continued existence of endangered and threatened species, and will not result in the destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.).
 - (o). The requirements for approval, as applicable, of a long-term, intensive agricultural postmining land use in accordance with 16 TAC §12.390 have been met.
45. The Application meets the requirements of 16 TAC §12.217. The Application, as supplemented, adequately addresses the requirements of Section 12.140 regarding the use of existing structures. Regarding the use of existing structures, no existing structures are present within the permit renewal/revision/expansion area and the Applicant does not propose the use of existing structures within the permit renewal/revisions/expansion area.

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

CONCLUSIONS OF LAW

1. The Commission has jurisdiction under §134.051 of the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE Ch. 134 (Act) and 16 TEX. ADMIN. CODE Ch. §12.216 of the Commission's "Coal Mining Regulations" (Regulations) to approve this renewal/ revision/ expansion application for permit as contained in this Order, and as set out in Appendix I to this Order.
2. Proper notice of the application was provided in accordance with the requirements of the Act, §134.058 and 134.059, 16 TAC §12.207, the Commission's *Practice and Procedure*, 16 TEX. ADMIN. CODE §1.1 *et seq.* and the Administrative Procedure Act (APA), TEX. ADMIN. CODE CH. 2001 (Vernon Supp. 2014).
3. No public hearing is warranted.
4. Based upon the Findings of Fact, the application for a permit renewal/revision/expansion was submitted to the Commission by Texas Westmoreland Coal Company and was processed, circulated, and reviewed in accordance with requirements that ensure public participation and that comply with the Act, Regulations, the Commission's *Practice and Procedure*, and the APA.
5. The Application, as supplemented, with the Soil Testing Plan in Appendix I of this Order, complies with the reclamation standards set out in the Act and Regulations.
6. Texas Westmoreland Coal Company's existing posted bond amount is \$71,000,000. No change to the bond amount or additional approval is necessary prior to issuance of this permit renewal/revision/expansion.
7. Based upon the updated compliance history filed by Texas Westmoreland Coal Company and in accordance with 16 TAC §§12.116 and 12.215(g), this requested renewal/revision/expansion permit may be issued for Texas Westmoreland Coal Company.

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

BE IT FURTHER ORDERED that this application for a renewal/revision/expansion permit for surface coal mining and reclamation operations is approved as set out in the Order and for a term of five years from the date of issuance; and

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BE IT FURTHER ORDERED that the permit is hereby numbered Permit No. 32G; and

BE IT FURTHER ORDERED that Texas Westmoreland Coal Company's existing posted bond in the amount of \$71,000,000 remains in effect.

DONE AT AUSTIN, TEXAS this 29th day of March, 2016.

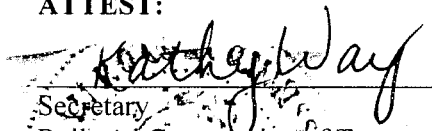
RAILROAD COMMISSION OF TEXAS

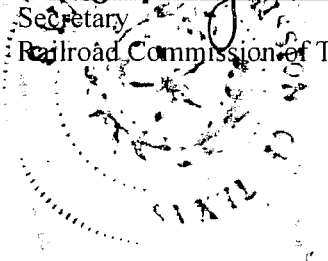

CHAIRMAN DAVID PORTER


COMMISSIONER CHRISTI CRADDICK


COMMISSIONER RYAN SITTON

ATTEST:


Secretary
Railroad Commission of Texas



**APPENDIX I
SOIL TESTING PLAN**

1. There will be an initial sampling within two years of finished regrade. These grids will be submitted in an Annual Minesoil Monitoring Report to the RCT, according to the description outlined in (b)(5)(G) part 3, below. The samples will be on 5.7 acre grids (delineated on Exhibit 145-2). Grids with less than 2 acres in disturbance will be monitored with an adjacent grid, or adjacent partially disturbed grids may be combined for testing if the total acreage does not exceed 7.7 acres. Combined grids will be sampled at the density of no less than one core per acre, at the two composited depths specified below. In each 5.7 acre grid, adjacent soil samples shall be taken at no less than 200 feet from each other. Six soil samples per 5.7 acre grid will be mixed to make one composite sample per depth interval. Partial grids will be sampled at a density of no less than one core per acre. There will be two sample intervals, a composite of 0" to 12" and 12" to 48". The samples will be analyzed according to the procedures outlined in RCT Advisory Notice ER-BA-127(b) Guidelines issued July 27, 1987 and will include the following parameters:

Initial Sampling Parameters for Postmine Grids	
0 to 12 Inches	12 to 48 Inches
pH	pH
texture	texture
cation exchange capacity	cation exchange capacity
exchangeable acidity	exchangeable acidity
inorganic carbonates	inorganic carbonates
potential acidity	potential acidity
acid/base (reference method)	acid/base (reference method)
sulfur forms	sulfur forms
nitrate-nitrogen	
plant available phosphorous	
plant available potassium	
plant available calcium	
plant available magnesium	

2. A random ten percent of these grids will be analyzed for the following trace elements: electrical conductivity (EC), sodium adsorption ratio (SAR), hot water extractable boron, total cadmium and total selenium. These will be reported to the RCT in the annual soil report. However, TWCC will conduct additional studies to evaluate and possibly eliminate some parameters.

3. An Annual Minesoil Monitoring Report will be submitted to the RCT on the samples taken within two years after an area is regraded, and prior to proposing the area to be placed in ERP and bond release. The annual report will be provided in paper and electronic formats and will include:

- a) Analysis results of the initial sampling for the parameters listed in part 1
- b) An 1"=1000' or 1"=2000' map with 5.7 acre grids. The map will include:

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- i) the location of the reported grids
 - ii) the regrade line corresponding to two years prior to the soil reporting year
 - iii) the location of any partial grids greater than 2.0 acres that are included in the report
 - iv) the location of the ten percent random trace element analysis grids
 - v) the location of any combined grids, with land hooks indicating which grids are in combination
 - vi) the delineations of surface water features representing the normal pool level
- c) a list of the grids and acreage, to the nearest tenth of an acre, of any combined grids sampled as per (b)(5)(G) – 1
 - d) a list of the grids and acreage, to the nearest tenth of an acre, of the partial grids
 - e) a native soil baseline frequency distribution summary table
 - f) a frequency distribution summary table of the reported analysis
 - g) trace element analysis for the random ten percent grids outlined in part 2
4. For each land management unit within ERP areas, the 0 to 1 foot increment of postmine soils will be analyzed for pH, nitrate-nitrogen, plant-available P, K, Ca and Mg in the year prior to productivity assessment, and in the first and second years of productivity assessment. The soil samples will be taken at the end of the growing season, which ends on September 30. The samples will be taken at a rate of no less than one sample for every ten acres and composited to represent the management unit. The management units will not exceed 100 acres in size. Management units for the purpose of soil fertility sampling will be divided along existing soil grid lines and the division will be made along a northing or easting, whichever is appropriate. The results of the analysis and a map showing the location of each management area will be provided to the Commission during the first quarter of the year following the reporting period.
5. A random ten percent of the grids will be resampled in the fourth or subsequent year of ERP and analyzed for the initial list of parameters in part 1. These sample results along with a map showing the location of each sampled grid will be reported to the RCT.

Postmine monitoring results will be compared to the Native Soils Baseline as a standard. The 5.7-acre grids are based on the Texas State Plane Coordinate system and the grids are referenced by their center coordinates for ease in tracking and record keeping. The center points of the 5.7-acre grids are identified in the field with a permanent grid pole. The coordinates of the grid's center point are written on this pole with a permanent marker. Baseline summary tables for each area are included in revised Appendix 145G in Supplement C.

In the event TWCC or the Commission identifies soil-related problems in the field, the alternative STP will be implemented.

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1. TWCC will notify the Commission prior to sampling so that the Inspection and Enforcement Staff may attend the sampling event. Samples will be collected from the affected area at an average of one sampled per acre at one-foot depth increments.
2. The samples will be analyzed for the parameters in question or probable cause for the in-situ identified issue in order to assess the extent of the problem.
3. Once the problem has been identified, TWCC will develop a remediation plan and submit it to the Commission for approval.
4. Upon approval of a remediation plan, TWCC will remediate the area to resolve the problem.
5. Following remediation, the area will be sampled from the 0 to 1-ft, 1 to 2-ft, 2 to 3-ft, and 3 to 4-ft increments at a density of one sample per acre for each remediated grid and the samples will be analyzed for the identified problem parameter.
6. Analysis results and a map identifying the affected area will then be submitted, both paper and digital copies, to the Commission to verify successful correction of the problem. Based on the results of the reconnaissance cores, any areas with substitute material not meeting the Native Soils Baseline, will be covered with four feet of suitable material and recored or treated for the parameter in question.

If an area 0.5 acre or larger within a previously submitted and approved grid is redisturbed due to erosion repair or any other form of mine-related disturbance, the redisturbed area will be sampled according to the approved soil-testing plan. Samples will be collected from the 0-1' and 1'-4' intervals at a rate of one sample per acre and composited by like interval. Samples will be analyzed for the required initial parameters and submitted to the RCT with the next annual soil report.

In areas affected by mining activities but from which coal has not been extracted, more than two adjacent grids may be combined for sampling purposes as long as the aggregate affected acreage in these grids does not exceed 7.7 acres.

Sampling density, intervals and frequency for both affected areas and mine soils will follow the RCT guidelines that were in effect when this permit was submitted. However, studies may be conducted to evaluate the density and intervals with the purpose of proposing alternative horizontal and vertical sampling.

The proposed substitute material for the 1 to 4 feet increment will be on the same origin as the proposed topsoil substitute material. As a result, the root growth qualities of the subsoil substitute material will be similar to the topsoil substitute material. Postmine productivity will serve as the final demonstration that the subsoil substitute material is suitable.