

RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

**SMRD DOCKET No. C14-0012-SC-27-C
WALNUT CREEK MINING COMPANY, PERMIT NO. 27G
APPLICATION FOR RENEWAL/REVISION
CALVERT MINE, ROBERTSON COUNTY, TEXAS**

ORDER OF APPROVAL OF APPLICATION FOR RENEWAL/REVISION OF PERMIT NO. 27G AND ISSUANCE OF PERMIT NO. 27H

Statement of the Case

Walnut Creek Mining Company (Walnut Creek), P.O. Box H, Bremond, Texas 76629, has applied to the Railroad Commission of Texas (Commission) for renewal/revision of Permit No. 27G for the Calvert Mine. The application proposes renewal/revision of the permit for the surface coal mining operations at the mine located in northwestern Robertson County, Texas.

The application was filed pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. Ch. 134 (Vernon Supp. 2016) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE Ch. 12 (Thomson West 2016)(Regulations). The permit was last renewed by Commission Order dated February 9, 2010 for the continuation of lignite removal, regrading, and revegetation operations in the permit area for an additional five-year term. The permit area is located in and around the area commonly known as "Tidwell Prairie," which is 5 miles generally south of the community of Bremond, east of the community of Hammond, and north of the community of Calvert. The applicant proposes to change the currently approved permit boundary and reduce the size of the permit area by 648 acres. The new proposed permit area will be 8,040 acres. This reduction area is on the northeast corner of the existing permit area. The reduction is possible due to the release of several tracts from reclamation bond obligation. The Calvert Mine supplies approximately 1.9 million tons per year of lignite to the Twin Oaks Power Plant. Mine activities began in 1988. Approximately 696 acres are proposed for mining during the requested five-year permit term. Walnut Creek proposes that disturbed areas be reclaimed to 4,399 acres of pastureland, 302 acres of developed water resources, and 52 acres to industrial/commercial land uses.

The application was declared to be administratively complete by the Director, Surface Mining and Reclamation Division (SMRD) and transferred to the Hearings Division by letter dated March 6, 2014, received on March 14, 2014. Walnut Creek filed two supplements. Staff reviewed the application and the

supplements in its Technical Analysis document, as amended. After public notice of the application, approximately 40 persons submitted comment letters, but no hearing was requested. The parties to the proceeding are Walnut Creek and the Surface Mining and Reclamation Division (Staff). No other persons sought to intervene in the proceeding. All issues between Walnut Creek and the Staff have been resolved. The Staff certifies compliance with the Regulations and Walnut Creek and Staff have agreed on retaining certain permit provisions, deleting others, and adopting new permit provisions. The permit provisions proposed for adoption in this Order are set out in Appendix I to the Order. Appendix II contains the soil testing plan.

The Commission finds that this Order should be issued renewing and revising Permit No. 27G as Permit No. 27H with the permit provisions contained in Appendix I. The record also reflects that reclamation costs have decreased and recommends that Walnut Creek's reclamation cost estimate, \$39,843,242 be accepted as the accepted reclamation cost estimate.

The accepted bonds are Surety Bond No. SUR60000217 issued by Ironshore Indemnity, Inc. in the amount of \$22,000,000, and Surety Bond No. 800006518, issued by Atlantic Specialty Insurance Company, in the amount of \$21,198,583, totaling \$43,198,583 accepted by Commission Order dated January 27, 2015. No increased performance bond is required for approval and issuance of the renewed and revised permit.

Based upon the application, as supplemented, the Technical Analysis document and addenda, the pleadings filed by the parties, and the Act and Regulations, the application should be approved as set out in the Findings of Fact, Conclusions of Law, permit provisions and soil-testing plan.

FINDINGS OF FACT

Based upon the evidence in the record, the Commission makes the following Findings of Fact:

1. Walnut Creek Mining Company (Walnut Creek) submitted an application for renewal/revision of Permit No. 27G for its Calvert Mine by letter dated March 6, 2014, received on March 13, 2014. Walnut Creek filed two supplements. The application was declared to be administratively complete by the Director, Surface Mining and Reclamation Division (SMRD) and transferred to the Hearings Division by letter dated March 25, 2014. The permit area includes approximately 8,688 acres.

2. Supplement 1 (S1) was filed by letter dated July 21, 2015, and Supplement 2 (S2) was filed by letter dated February 11, 2016. Staff reviewed the application and the supplements in its Technical Analysis (TA) document filed June 24, 2016 reviewing the application and supplements. Staff recommended a total of 16 permit provisions. As set forth in the following table, certain existing permit provisions have been deleted as agreed by the parties, others revised and recommended for adoption as agreed by the parties, and additional permit provisions recommended for adoption.

Staff-Recommended	Page location in Order	Number in Appendix I	Adopted (A); Deleted (X)
1	15-16	1	A
2	58	2	A
3	65-66	-	X
4	57	3	A
5	12	-	X
6	64-65	-	X
7	9 -10	-	X
8	36-37	4	A
9	39	5	A
10	34-35	6	A
11	50	7	A
12	25-26	-	X
13	50-51	8	A
14	58	9	A
15	59	10	A
16	65	11	A

3. Permit No. 27, made up of 2,240 acres, was originally issued on October 3, 1988 to Phillips Coal Company, for Mine Block A (now Pit 1), was transferred as Permit No. 27A, 2,263 acres, to Walnut Creek Mining Company, a joint venture, was subsequently revised in 1990 as Permit No. 27B, was renewed in 1993 as a 5,183-acre Permit No. 27C for mining in Mine Blocks A and B (now Pits 1 and 2), was renewed in 1996 as Permit No. 27D with a 5,320-acre permit area, was renewed on July 11, 2000 as a 5,877-acre permit area for mining in Pits 2 and 3, was renewed in 2003 with a permit area of 8,688 acres for mining in Pits 2, 3, and 6, and was last renewed as Permit No. 27G on February 9, 2010. This application for renewal/revision was filed pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. Ch. 134 (Vernon 2016) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE Ch. 12 (Thomson West 2016) (Regulations). Walnut Creek submitted the application fee (§12.108) and the required verifications of the application and supplements by authorized officers of Walnut Creek.
4. The application has met the requirements set out in § 12.107 for format and content, with adoption of the Findings of Fact, the permit provisions contained in Appendix I to this Order, and the Soil Testing Plan contained in Appendix II to this Order. Form SMRD-1C was filed, and it contains information required by §§12.116-12.154 [§12.107(a)] with the information contained in the permit provisions in Appendix I to this Order. In the application, as supplemented, the information is current, presented clearly and concisely, and is supported by appropriate references [§12.107(b)], as contained in the permit provisions in Appendix I to this Order. Technical data has been submitted as required [§12.107(c) and (e)], and the data were prepared by or under the direction of professionals in the subjects analyzed [§12.107(d)] as contained in Appendices I and II to this Order. Responsible officials of the applicant verified the application, as supplemented, under oath that the information is true and correct to the best of the official's information and belief [§12.107(g)].
5. The application was filed at least 180 days prior to the projected commencement of operations as set out in §12.106(b)(1) of the Regulations.

6. Proper notice of the application was published once a week for four consecutive weeks in the *Robertson County News* on November 19 and 26, 2015 and on December 3 and 10, 2015. The *Robertson County News* is a newspaper of general circulation in the locality of the surface mining and reclamation operations. The application, as supplemented, was filed with the Robertson County Clerk and in the Commission's offices in Austin, Texas. In accordance with its policy, the Commission placed notices of application in first-class mail to owners of interests in lands within the permit boundary and tracts adjacent to the permit boundary on December 3, 2015. The Commission mailed notice of application on to the Texas and Federal agencies listed in §12.207 of the Regulations by first-class mail or interagency mail, as appropriate, to the required divisions of the Texas Commission on Environmental Quality (TCEQ); Texas Historical Commission (THC); University of Texas, Bureau of Economic Geology; Texas State Soil and Water Conservation Board; Texas Parks and Wildlife Department (TPWD); General Land Office; USDA, Natural Resources Conservation Service (NRCS); USDI Fish and Wildlife Service (USFWS); USDI Office of Surface Mining Reclamation and Enforcement; U.S. Department of the Army Corps of Engineers (USACE), to the Robertson County Clerk and County Judge, and to local government agencies. Walnut Creek submitted an original affidavit of publication in Section .123 of Supplement No. 2.
 - (a). The public notice of the application contained all information required by the Act and §12.207(a) of the Regulations.
 - (b). No request for hearing was filed. Comments were made by approximately 53 persons regarding proposed road closures and relocations affecting access to the Nesbitt and Rose Hill Cemeteries from Bremond. Access to these cemeteries from Bremond is currently by way of Farm-to-Market Road (FM) 46 southeastward to County Road 432 with its intersection with CR 429, then south on CR 429 to its intersection with CR 127, then west on CR 127 to the cemeteries. In 2017, County Road 432 will be closed from FM 46 west to its intersection with County Road 429 (approximately 0.6 miles) to reopen in 2026. Also in 2017, County Road 429 will be closed north of its intersection with County Road 127 through its intersection with County Road 432 (approximately 0.7 miles), and will reopen in 2027. If the county, as the designated authority, approves the proposed closures, access to the Nesbitt and

Rose Hill Cemeteries is proposed to be maintained using County Road 129 from the south to County Road 127 West. County Road 127 West currently provides access to Nesbitt and Rose Hill Cemeteries. Using the proposed alternate route will add travel time from Bremond to the cemeteries. The Commission is charged with the responsibility to protect access rights of surface owners and other persons with a legal interest in the land in the area of road closure. Access to the cemeteries is required. The Commission rules permit closure of a public road if the Commission and its designated road authority approve the closure of the road. The Commission has designated Robertson County in which roads are located as the authority for approval of county road closures. Notice in accordance with law is required for decisions by the County Commissioners' Court. In accordance with these requirements the County Commissioners' Court must find that the interests of the public and affected owners are protected.¹ The Railroad Commission's part in approval of the application relative to county road closures is to ensure that the County Commissioners Court order has found that the interests of the public will be protected. A copy of the court order is required as a part of the information provided in the application. In addition to notice provided by the county for its Commissioners Court meetings, the "Coal Mining Regulations" require that if road closures/relocations are proposed in the application, the applicant must include those proposals in its notice of application published by the applicant. The applicant's notice of application included these proposals. The Commission has approval authority over allowing mining through public roads; the designated county's Commissioners Court has jurisdiction over the opening or closing of a county road.

- (c). Essentially, the landowners' and users' concern was their impression that an alternate way of accessing the cemeteries, other than the one proposed to be provided to interested persons was a better alternative, would reduce traveling time and would be safer. During the processing of the application, the examiner allowed time for the parties to confer with all persons filing comments to the application, landowners and others who access Nesbitt and Rose Hill Cemeteries, at a public meeting. All persons filing comments were sent notice of the meeting

¹ §12.72(a)(3), Regulations, §§134.022(a)(2)(B) and 134.022(b), Act, and Commission Advisory Notice AD-AD-072.

and were invited to attend. The meeting was held in Franklin, Texas at the Pridgeon Community Center on January 25, 2016. Attendees at the meeting included representatives of Kiewit Mining Group on behalf of Walnut Creek, Walnut Creek's attorney, and two SMRD Staff representatives, the Interim Director and the Permit Coordinator, and approximately 13 persons who had filed comments.

- (d). Walnut Creek and SMRD Staff responded to these comments at the informal meeting. The roads proposed for closure were clearly depicted on Exhibit 151-1, *County Roads*, in the application. Based upon filed meeting notes in this docket, hereby officially noticed, and Staff review, all comments have been considered. At the meeting, SMRD Staff explained the Commission's authority and the county's authority, including the finding that the Commissioners Court must make that the interests of the public must be protected. Staff also emphasized that the county is responsible for maintenance of county roads. A representative of the mining company explained that alternate routes proposed by commenters were not selected due to the need that would exist for crossing a pond and due to the location of future proposed mining. Other concerns not within Commission jurisdiction were discussed. The status of all proposed closures, relocations, and re-openings of public roads are set out in Finding of Fact No. 38.
- (e). Ms. Birdie Williams submitted comments by letter dated December 27, 2015 regarding the readability of the map included with the public notice, the use of numbers for the public roads rather than names, and that specific pits were not located in detail on the notice. The administrative law judge (ALJ) reviewed the public notice prior to its publication and required that the general location of Pit 6 be indicated on the map. The numbers used for the public roads are county or TxDOT numbers and are appropriate. In addition, the ALJ considers the readability of the map to be acceptable. The surface mining notice of application, when read with the map, meets the requirements of the APA and Commission requirements. Ms. Williams also commented regarding excessive noise and dust. Walnut Creek is meeting the requirements of the permit for dust control. The permit includes all required measures for the control of dust (Finding of Fact No. 24). Ms. Williams also

questioned whether certain water wells were being monitored, but did not specify whether they were Commission monitoring wells or wells monitored pursuant to a lease agreement. The ALJ in writing indicated to Ms. Williams that the wells may be monitored by contract (under a lease) or pursuant to a plan filed with the Commission and included in the application. Ms. Williams was referred to the applicant if she had a lease agreement or other agreement with Walnut Creek. As this agreement would be by contract, the Railroad Commission would not be involved with this monitoring in that the Commission has no jurisdiction over private contracts. There were no damages alleged regarding the wells. The ALJ indicated that if the wells are part of the Commission-approved monitoring plan and that the wells would be subject to Commission inspection. The Commission receives regular reports of monitoring the wells in the groundwater monitoring plan, and copies of such reports are available for view and/or copying. The ALJ referred Ms. Williams to the Surface Mining and Reclamation Division, Inspection and Enforcement, in Austin for information regarding monitoring and inspections. No specific remedies were requested by Ms. Williams. Ms. Williams was notified of the deadline for requests for hearing. No request was filed. Ms. Williams' comments have been adequately addressed.

- (f). The Texas Parks and Wildlife Department also filed comments by letter dated December 14, 2015. Comments were made regarding other potential permits or authorizations to which the applicant might be subject, as well as specific comments regarding § 12.133, Fish and Wildlife Resources Information, and § 12.144, Fish and Wildlife Plan.
 - (i). TPWD commented that other licenses and permits might be needed by Walnut Creek for proposed activities, such as Marl, Sand, Gravel, Shell, or Mudshell Permits. Walnut Creek indicated that no such activities are proposed. Similarly, TPWD noted that disturbances to state-navigable streambeds may require a permit issued pursuant to Chapter 86 of the Parks and Wildlife Code. Walnut Creek indicates that there are no streams within or adjacent to the mine that meet any standard for state-navigable waters. In response to TPWD's comment that persons permitted through TPWD can only relocate, survey, monitor, and research terrestrial state-listed species, Walnut Creek indicate that it holds such a permit and identified the individual who holds the permit (S1, Section 12.144). TPWD also indicated that for introductions of fish, shellfish, or aquatic plants into public waters, a permit would be required. Walnut Creek indicates that there are no such proposed introductions into public waters with

which Staff agrees. TPWD indicated that Walnut Creek should be aware that living specimens of the False spike mussel have been found since 2011 in the Brazos River. Walnut Creek indicated that there is no suitable habitat for the False spike within the permit area or adjacent areas.

- (ii) Walnut Creek provided baseline information with respect to fish and wildlife in the permit and adjacent areas, including a determination that the streams in the permit area are not conducive to serving as habitat for freshwater mussels. SMRD Staff in its TA proposed a new provision it numbered as Permit Provision No. 7:

*Within 45 days of permit issuance, WCMC shall provide for coordination between WCMC, SMRD, and Texas Parks and Wildlife Department (TPWD) Kills and Spill Program Staff to address operations and effects on Walnut and Wilson Creeks with regard to a determination of whether the creeks support aquatic life and habitat in an amount sufficient to require a TPWD permit and a mussel survey. If the Director of the Surface Mining and Reclamation Division (SMRD), in coordination with TPWD, determines that a TPWD permit is necessary, WCMC shall, within 30 days of that determination, submit an application for the required permit to the TPWD. WCMC shall provide a copy of the approved permit to the SMRD within 15 days of receipt from TPWD. If a mussel survey is determined to be needed within the permit and adjacent areas, WCMC shall, within 30 days of that determination, submit a mussel survey plan for the State-listed threatened and federal candidate mussel species [Smooth pimpleback (*Quadrula houstonensis*) and Texas fawnsfoot (*Truncilla macrodon*)] for the Pit 6 and adjacent area creeks for review and administrative approval by the SMRD Director.*

In response to this proposed permit provision, WCMC met with Texas Parks and Wildlife Department (TPWD) to tour the streams in the permit area. TPWD representatives investigated the streams within the permit boundary on July 27, 2016, and confirmed that the ephemeral and intermittent streams within the Permit boundary do not provide the constant water inundation required for the occurrence of freshwater mussels. Accordingly, any further survey for these mussels is unwarranted and no state permits are required. WCMC has requested that this permit provision be withdrawn and SMRD Staff agrees. Accordingly, Permit Provision No.

7 is not adopted.

- (iii). For Section 12.144 of the application pertaining to wildlife, TPWD made recommendations regarding next protections and disturbance zones for bald eagles. Staff has recommended a permit provision [Finding of Fact No. 31(c)] that will sufficiently protect a nest currently within the permit boundaries.
- (iv). TPWD has several recommendations for vegetation, including avoiding non-native species such as Kleingrass and old world bluestem for areas reclaimed as temporary wildlife enhancement. TPWD also recommended that Walnut Creek consider reclamation toward native grazingland where feasible, rather than single species pastureland. TPWD recommended avoiding approximately 15 species in areas where a diverse mixture of species are planted and especially in areas developed as wildlife enhancement areas. TPWD recommended certain native warm season grasses and other species for cool season cover, and recommended against using forbs species that are non-native. TPWD indicated that there appeared to be a lack of connectivity between reclaimed wildlife enhancement areas and wildlife enhancement areas proposed for planting during the requested permit term and recommended wildlife corridors to connect enhancement areas, recommending the use of as much fish and wildlife enhancement as possible, given that no fish and wildlife land use has been proposed within the permit area.
- (v). TPWD recommended against mowing and haying along reclaimed streams and drainageways to promote woody species growth and augmenting these areas with woody species plantings to create corridors. The agency also recommended creating forested riparian enhancement areas along proposed streams and drainageways through active planting at least 50 feet on each side.
- (vi). TPWD noted that one milkweed species was included as an allowable volunteer species in Table 145-14, species for inter/overseeding and numerous flowering

species as volunteer species that may support Monarch butterflies if available. TPWD also recommended that native milkweed be added and nectar plants as funding and seed availability allow in wildlife enhancement areas and pastureland areas to support the Monarch butterfly, and also recommended that maintenance activities occur once the seed from these plants has been released.

(vii). TPWD recommended that a greater number of native forbs species be included in Tables 144-1 and 145-14 and that Walnut Creek should add new species and/or move native forbs from the volunteer list to the planting list to allow for greater diversity in wildlife enhancement areas.

7. Based upon Finding of Fact No. 6, *supra*, the Commission has adequately reviewed and responded to the comments made on the application.

8. The application, as supplemented (S1 and S2), contains required information for ownership and control of the Walnut Creek Mining Company. Walnut Creek Mining Company is a partnership made up of Bighorn Walnut LLC, a Delaware limited liability corporation, and KT Mining, Inc., a Delaware corporation. The resident agent is Ms. Elizabeth Quirk-Hendry.

(a). Bighorn Walnut, LLC, which holds a 50% interest in Walnut Creek Mining Company, is a wholly-owned subsidiary of Black Walnut LLC, which is a wholly-owned subsidiary of Major Oak Holdings, LLC, which is a wholly-owned subsidiary of Lonestar Generation LLC, which is a wholly-owned subsidiary of Viva Alamo Intermediate Holdings LLC, which is a wholly-owned subsidiary of Viva Alamo Holdings, Inc., which is owned by Blackstone Capital Partners VI NQ L.P. (49.875%), Blackstone Family Investment Partnership VI-NQ ESC L.P. (0.125%), Blackstone Energy Partners NQ LP (49.1%), Blackstone Energy Family Investment Partnership NQ ESC L.P. (0.5752%), and Blackstone Energy Family Investment Partnership SMD L.P. (0.3248%).

- (b). KT Mining, LLC, which holds a 50% interest in Walnut Creek Mining Company is a wholly-owned subsidiary of Bighorn Walnut, LLC, which is owned as set out in subparagraph (a).
 - (c). Kiewit Mining Group, Inc. is the operator for Walnut Creek Mining Company. It is not an affiliate of applicant. It is a Delaware Corporation and is a wholly-owned subsidiary of Kiewit Corporation, a wholly-owned subsidiary of Peter Kiewit Sons, Inc. Home offices of these entities are in Omaha Nebraska.
 - (d). The entities listed in subparagraphs (a) and (b), *supra*, have previously operated only one coal mine, the Calvert Mine.
 - (e). Kiewit Mining Group, Inc. holds 100% interests in two mines in Wyoming, the Buckskin Mine, and the Haystack Mine. No other permit applications are pending for Walnut Creek Mining Company or Kiewit Mining Group, Inc.
9. Walnut Creek provided updated information in its application, as supplemented, for its compliance history, management, and ownership and control relationships, other identifying information as required by §12.116 of the Regulations, officers and directors (Table 116-1, S2) organizational charts (Figures 116-1 and 116-2, S2), legal and equitable owners of property within and adjacent to the permit area (Appendix 116-2, S2), and Exhibit 116-1, land tracts (S2). The application, as supplemented, includes all information required by §12.116 of the Regulations. Information on Notices of Violation issued to Walnut Creek during the three years prior to the filing of the application, has been included. There are no outstanding violations based upon the application, as supplemented, and Staff's AVS report (TA, Appendix VI).
10. Walnut Creek has identified all landowners and adjacent landowners and owners of other interests in the lands and adjacent lands for the approved permit area. A list of mineral and surface owners within and contiguous to the proposed permit boundary was included. Representative leases are included in Appendix 117-1 (S2). The application includes all information required for right-of-entry documentation required by §12.117 of the Regulations in Table 116-2 (S2), with the retention of

existing Permit Provision No. 5 that provides for continued access to Tract 6024. WCMC submitted its plan for the relocation of certain county roads during the term to be permitted including County Road 432. Staff proposes that Existing Permit Provision No. 5 be retained. It states:

Prior to the initiation of mining the area beneath County Road 432 approved for closure, the owners of an undivided 1/2 interest in the coal and oil and gas estate (Dickens) and their authorized representatives, contractors, or lessees may access Tract 6024 via County Road 432 for the purpose of exploring, developing, and marketing the coal and/or oil and gas. Walnut Creek Mining Company shall maintain the road so that it will provide appropriate reasonable all-weather access to explore, develop, and market the coal and/or oil and gas. Subsequent to the initiation of mining beneath County Road 432, and upon request to explore, develop, and market the coal and/or oil and gas, Walnut Creek Mining Company must provide and maintain appropriate reasonable all-weather access by either a public road constructed with comparable materials, width, and quality as the portion of County Road 432 to be closed to connect Tract 6024 to the temporary County Road 432. Should this access road become unusable due to mining operations, Walnut Creek must provide appropriate reasonable all-weather access upon request to explore, develop and market the coal and/or oil and gas.

WCMC agrees that this provision should be retained. Accordingly, Permit Provision No. 5 is retained; it is renumbered as Permit Provision No. 4 in Appendix I.

11. The proposed permit area is not within an area designated unsuitable for surface coal mining operations and is not within any area under study for designation (§12.118). Walnut Creek does not claim an exemption for valid existing rights under §12.216(4)(B) and does not propose to conduct surface mining activities within 300 feet of an occupied dwelling as prohibited in §12.71(a)(5). Walnut Creek does not propose additional disturbances that would affect any other protected areas. An existing approved permit provision addressed the requirement for non-disturbance of Tract No. 6333. It was initially recommended by Staff as revised to ensure that Walnut Creek not disturb in or within 100 feet of Tract No. 6333 (Nesbitt Cemetery) and Tract Nos. 6533 and 6533A (Beck Cemetery), as addressed by Staff. Walnut Creek has filed additional information showing that the provision is unnecessary [Finding of Fact No.34(d)]. Tract No. 6333 was formerly a church site; there are no burials or cemetery and Walnut Creek now has a coal lease for the property. No provision is necessary regarding Tract 6333. Walnut Creek will not disturb Tract 6533. Tract 6533A is a part of Tract 6533 and no longer numbered separately. Walnut Creek has undertaken in the permit not to disturb within 100 feet of a cemetery (applicable to Tract No. 6533).

12. Walnut Creek denotes this application as the Seventh Permit Term Renewal/Revision. In Section 119 of the application, responding to the requirements of §12.119 of the Regulations, Walnut Creek provides the life-of-mine information for years 1988 – 2020, including its proposed mining for the requested term, denoted as 2015-2020. The acreage proposed for mining and other disturbances during the proposed permit term constitutes approximately 725 acres. Walnut Creek projects that an average of 1.9 million tons annually will be recovered. Mining and reclamation will continue during this permit term in Pit 6. Reclamation operations will continue in Pit 1 (formerly Mine Block A), Pit 2 (formerly Mine Block B and the Hailey Incidental Boundary Area) and Pit 3.
13. The administrative law judge has officially noticed the Staff letter dated January 27, 2016 stating that Walnut Creek Mining Company has complied with the public liability insurance requirements. Walnut Creek filed a copy of its Certificate of Insurance documenting Walnut Creek's public liability insurance for the Calvert Mine by letter dated January 15, 2016. The certificate states that insurance is provided by Policy No. T32-641-444514-016 issued by Liberty Mutual Fire Insurance Company effective from January 17, 2016 through January 17, 2017 in compliance with §12.311 of the Regulations: personal injury and property damage protection in an amount adequate to compensate all persons injured or property damaged as a result of surface coal mining and reclamation operations, including use of explosives and damage to water wells, and entitled to compensation under the applicable provisions of state law. Minimum insurance coverage for bodily injury is not less than \$500,000 for each occurrence and \$1,500,000 aggregate, and minimum insurance coverage for property damage is not less than \$500,000 for each occurrence and \$1,000,000 aggregate.
14. All information is contained in the approved permit to show the licenses, registrations, permits, and authorizations needed for the operations proposed in the application, as supplemented, and the approved permit in compliance with §12.121 of the Regulations. Walnut Creek included information for federal licenses and permits pursuant to the jurisdiction of the Environmental Protection Agency (Spill Prevention Control and Countermeasure Plan and Multi-Sector Storm Water permit), pursuant to the jurisdiction of the Mine Safety and Health Administration (Department of Labor) including legal identity number, Ground Control Plan, Mine Training and Retraining Plan, and Impoundment Plans for seven impoundments), pursuant to the jurisdiction of the U.S. Army Corps of Engineers (State Program General Permit and Nationwide Permit 21 for various project numbers), and pursuant to the jurisdiction of the Texas Commission on Environmental Quality (TCEQ), permits to appropriate water for four ponds (Permits 5106, 5326, 5482, and 5512 approved and now abandoned), wastewater discharge permit

(Permit No. 02881), air quality permit to construct (C-17992), and air quality permit to operate a facility (now withdrawn). Although current now, additional information will have to be provided prior to the end of the permit term for the USACE authorizations.

15. All information has been presented in accordance with §12.125(1) of the Regulations to describe the size, sequence, and timing of mining sub-areas for the life-of-mine, as supplemented in Staff's evaluation for years subsequent to 2020, as well as the proposed permit term. At least three additional permit terms are intended after the proposed permit term. The life-of-mine areas are shown on Exhibit 125-1, *Term 7 Renewal/Revision Permit Sequences*. Mining is proposed for the permit term through mine year 2020 and is anticipated for the life-of-mine through 2031. Walnut Creek revised the previous designations of the sub-pit areas within the Pit 6 Area to new designations: Pit 6 center, west, north and east are now designated Pit 6A, B, C, and D (Table 125-1). Walnut Creek Mining Company (WCMC) has included information in compliance with §12.125(2) which requires the inclusion of a description and identification of any cultural, historical, and archaeological resources listed on, or eligible for listing on, the National Register of Historic Places (NRHP) and known archaeological sites within the proposed permit area and adjacent areas (Exhibit 125-2 and Table 125-2). Additionally, WCMC has provided information in accordance with §12.151, which requires the inclusion of measures to be used to prevent or minimize adverse impacts on such resources or on the interests of persons who have valid existing rights. There are no cultural resource sites that are eligible for listing on the National Register for Historic Places (NRHP) in the disturbance boundary for this permit term. There are eight cultural resource sites within the proposed permit renewal/revision area that the Texas Historical Commission (THC) has determined to be eligible for listing on the NRHP. Six of these sites have been approved as fully mitigated by the THC and the Commission and thus no longer are protected (41RT93, 41RT260, 41RT267, 41RT275, 41RT302, and 41RT313). WCMC will avoid the two remaining sites, 41RT254 and 41RT285 so that such sites are not disturbed. There are five sites that require additional testing for NRHP eligibility but WCMC will avoid those sites during the permit term. Three additional sites are cemeteries which have been relocated out of the disturbance boundary by WCMC. WCMC's treatment and protection plan is contained on page 151-1 of the permit. WCMC has stated it will protect or mitigate all sites determined to be eligible for NRHP status in accordance with its Programmatic Agreement with the THC, the Environmental Protection Agency (EPA) and the Advisory Council on Historic Preservation. WCMC has likewise agreed to obtain Commission approval prior to engaging in mine-related operations in or near protected cultural resource sites. Staff proposes that Existing Permit Provision No. 1 be retained from Permit 27G. That provision requires that copies of all

correspondence between WCMC and the Texas Historical Commission, and between WCMC and the EPA, be provided to SMRD Staff upon receipt. WCMC agrees that this provision should be retained in the newly issued permit. This information indicates the continued need for the permit provision. The Commission approves Permit Provision No. 1.

16. A general description of hydrology has been included in previous permits for the permit area and surrounding areas (§12.126), and, along with the information filed for Sections 127, 128, and 129 of the application, as supplemented, meets to the requirement for a general description of hydrology.

17. The application, as supplemented, contains necessary geological information required pursuant to §12.127 of the Regulations for the proposed permit term. The information is contained in a report certified by a professional geologist. Geological information provided in the approved permit (27G), as supplemented, includes a description of the thickness and extent of lignite seams and physical and chemical characteristics of the overburden, interburden, and underburden, locations of geological data points and cross sections from ten continuous cores, including portions of the Pit 6 area. Additional geotechnical information is included in the application for the five-year permit term for portions of Pit 6 proposed for mining. Walnut Creek reviewed geologic reports specific to the Pit 6 area that were included in a previous report submitted by Texas Utilities Mining Company using data from 1985-86 for the then proposed Twin Oak-Bremond Mine, other previously submitted permit documents and published information, in addition to site investigations, geologic information from Walnut Creek and its representatives during 1998, 2000, 2002, 2003, 2004, 2005, 2010, and 2011, and geologic information from approximately 70 new drilled sites from exploratory drilling programs conducted during 2013 from which a geological database and model were prepared, exploration drilling and logging information since 2001, lignite and overburden coring (including five continuous core holes) with laboratory analyses, and hydrologic drilling and testing to determine hydrologic characteristics from overburden and underburden water-bearing zones. Sufficient information was presented to provide representative information regarding geologic conditions and overburden lithology of areas proposed for disturbance during the requested permit term. Along with information contained in Appendix 127-1 of the fifth Permit Term Application, the following appendices were included in the application to support Section 127 of the application: Appendix 127-1, Geophysical Logs of Core Holes, 10-6405CC, 10-6406CC, 13-6534CC, and 13-6535CC (for the latter two, no samples were logged for 0-20 feet, but Staff indicated that because the geophysical logs and analytical data were provided in Appendices 127-1 and 127-3, the geological information meets the requirements of the proposed operations during the five-year permit term, with the information included in Appendix 127-2, Core Hole Sample Descriptions, 10-6405CC, 10-6406CC, 13-

6534CC, and 13-6535CC; Appendix 127-3, Laboratory Analytical Reports – Overburden: 10-6405CC, 10-6406CC, 13-6534CC, and 13-6535CC; and Appendix 127-4, Laboratory Analytical Reports – Lignite, 10-6405CC, 10-6406CC, 13-6534CC, and 13-6535CC.

- (a). The Pit 6 area lies on the outcrop of the lower Calvert Bluff Formation of the Wilcox Group, and is bordered by Walnut Creek and South Walnut Creek. The Calvert Bluff is exposed at land surface across the entire Pit 6 Area. Cross sections showing major structural features are shown on Exhibit 127-2 of the application and Exhibits 127-2 and 127-3 of the Sixth Permit Term Application. Drilling has confirmed faulting in the Pit 6 Area. Mining will occur within the lower third of the Calvert Bluff. It overlies the Simsboro Formation which will not be disturbed. Figure 127-1 reflects a typical stratigraphic section for the Pit 6 Area, indicating five lignite seams separated by alternating layers of sand, silt, and clay. Table 127-1 contains a summary of lignite seam thickness and Distribution in the Pit 6 Area. There are seven lignite seams. Mineable seams exist within portions of the Calvert Bluff with lesser sand content, and channel sand; within these portions are less hydrologically significant. Overburden thickness in the Pit 6 area ranges from 50 to 150 feet. The major lignite seams are generally laterally continuous throughout the Pit 6 area (Exhibit 127-2 of the application and Exhibits 127-2 and 127-3 of the Sixth Permit Term Application). The underburden is separated from the lowest lignite seam to be mined by clay and silty clay layers and sand or silty sand units. This confining layer ranges from approximately 30 feet in the westward portion of the Pit 6 Area to more than 200 feet in areas northeastward from Pit 6. A thick silty sand unit within the J Zone of the Pit 6 Area grades laterally into a thick sand unit identified as the J-Sand. Other overburden sand units are generally less than ten feet thick and laterally discontinuous.
- (b). Appendix 127-1 contains geophysical logs of core holes 10-6405CC, 10-6406CC, 13-6534CC, and 13-6535CC (with the limitation indicated *supra*). Two of these core holes were drilled in 2013, 13-6534CC (located within the current mining area), and 13-6535CC (located within the proposed mining area). To meet Commission guidelines for core hole density and spacing for the Pit 6 Area of one core hole per 250 acres and spacing of no more than 4000 feet within the five-year mine plan, Walnut Creek used data from the two holes drilled in 2013, data collected from drilling by former Texas Utilities Mining Company in 1985, data from one core hole drilled by Walnut Creek in 2000, and data from two core holes collected in 2010 were used. The data used meets Commission guidelines. Walnut Creek included information on the procedures used for drilling, logging, and coring that were contained in approved Appendix 145-

3 of the last renewal of the permit. Exhibit 127-1 depicts continuous core hole and drill hole locations, geologic section lines, locations of faulting, and also depicts the approved mine blocks and the proposed mine blocks, identified as dragline operation or truck/shovel operations.

- (c). In addition to geologic conditions, Walnut Creek used the data and information from drilling programs to determine the potential occurrence of acid-forming and toxic-forming (AFM/TFM) and to establish local groundwater background conditions and hydrology. Walnut Creek does not propose to use selected overburden as a topsoil substitute, but did include analyses of overburden materials from proposed mining areas to indicate that spoil would generally contain suitable materials (Appendix 127-3, Table 127-3, and Table 127-4 (areas where suitability limits are slightly exceeded). Near surface, regraded mixed spoil materials from the overburden in the Pit 6 area should result in light clay loam and silty clay loam with pH, electrical conductivity, sodium adsorption ratios, acid-base accounting, and concentrations of boron, selenium, cadmium, and trace elements that will pose minimal risk of the formation of AFM/TFM.

18. Information contained in the approved Permit No. 27G, along with the application for renewal/revision of the permit, as supplemented, is adequate to characterize the groundwater hydrology (§12.128) and the surface water hydrology (§12.129) of the permit area including the Pit 6 area.

- (a). In addition to the information contained in Section 127 of the application, the application includes information from depressurization wells, monitoring wells, aquifer tests, and private wells within the proposed permit area or within one mile of the permit boundaries, an updated water well inventory, and updated water quality data. Overburden consists of sediments of the Calvert Bluff containing generally confined channel sands that are not extensive, other than the J Sand, a thicker extensive sand channel. The Simsboro Formation underlies the Calvert Bluff and is a major aquifer and will not be disturbed. Exhibit 128-1 (S2) is a location map showing monitor well sites developed in 2013, current depressurization wells, current long-term monitoring wells for water quality and current long-term monitoring of water level only, and plugged and previous monitoring wells. Fault lines are also depicted, as well as the approved mine blocks and the proposed mine blocks, identified as dragline operation or truck/shovel operations.

- (i). Lignite in the Calvert Bluff occurs with alternating and vertically repeating sequences of clay, silt, silty sand, and narrow, straight thin sand layers. The mine blocks are typically

located in areas with multiple lignite seams and sediments with lesser sand content. The lone significant sand zone is termed the J Zone sand that occur primarily along the eastern boundary of Pit 6. Depths to the top of the J Zone sands range from 20 feet to more than 130 below ground surface and are shallower. These sands are under artesian conditions over most of the Pit 6 Area. Depths to water range in water wells range from 20-75 feet below ground surface.

- (ii). The D lignite seam is the deepest to be mined during the proposed permit term. It is separated from sands mined by a confining bed of approximately 60-150 feet thick (layers of clay, silty clay, silty sand, and thin lignite seams as indicated on figure 128-3, *Separation Thickness*). Depths to the top of the Upper Simsboro range from 150 -250 feet; the Upper Simsboro sands are generally less than 80 feet thick. Since mining began, water levels have declined by 25-60 feet. Production from the aquifer includes municipal, industrial, and depressurization pumping. The thickness of J Zone sands within the Pit 6 Area ranged from a few feet to more than 50 feet. Exhibit 128-2 shows the occurrence of the J Sand (S1), and water level elevations for the J Zone sand; water levels for the Simsboro sand are shown on Exhibit 128-3 and 128-4, respectively (S1).
- (iii.) Walnut Creek has described the location and ownership of existing wells, springs, and other groundwater sources. Several inventories of existing wells have been conducted and Walnut Creek has updated its listing of wells. Locations and information for wells were compiled using Texas Water Development Board and Texas Department of Licensing and Regulation as well as previously drilled wells and new wells installed for Walnut Creek. The updated water well inventory map is Exhibit 128-5 (S1).
- (iv). The application also includes Appendix 128-1, *Summary of Drilled Holes – Pit 6 Area, 2013*, Appendix 128-2, *Summary of Monitoring/Piezometer Well Completion – Pit 6 Area*, Appendix 128-3, *Water Level and Pumping Test Data – Pit 6 Area*.
- (v). Information indicates that water in the Calvert Bluff sands and Simsboro Formation is generally a calcium carbonate and sodium bicarbonate type. Table 128-1 in the application summarized water quality data, averaging results sampled since 2010 by Walnut Creek and nearby monitor wells. Water from each of the zones included in the

summary is similar, generally meeting drinking water standards; however, iron and manganese concentrations in the Simsboro and underburden often exceed secondary drinking water standards. The locally isolated Calvert Bluff sand channels yield small to moderate quantities of water and are only minor water resources. Private domestic, stock, and irrigation wells in the Pit 6 Area are insignificant as to water availability.

(vi). Neither the Simsboro sands or the J Zone sands crop out within the area to be mined. Walnut Creek estimates that recharge rates within the proposed mine blocks in Pit 6 are probably substantially less than 10 percent (the estimated recharge to outcropping sand zones).

(vii). Based upon groundwater conditions, Walnut Creek indicates that dewatering of the overburden will be required; however the small and isolated water-bearing zones to be disrupted produce small amounts of water. Depressurization pumping from the Simsboro will continue but will be less than previous depressurization and potential effects to water levels will be less [Finding of Fact No. 33(c)].

(b). The approved permit document, with the information provided for the Pit 6 area contained in the application, as supplemented, includes all information required pursuant to §12.129 for surface water. Adequate information was provided in the previous permit applications, with additional information provided, to adequately characterize surface water. The information includes baseline water quality data, preliminary monitoring by former Texas Utilities Mining Company and quarterly sampling for the Twin-Oak Bremond Mine permit application (1984-1987), ongoing periodic monitoring within the Pit 2 Area and the Pit 6 Area, the proposed permit area, and adjacent areas, and new monitoring. This information in the approved permit contains baseline information for the Pit 6 area from six stations (Exhibit 129-1, Permit No. 27F) from April 2000 - May, 2001, including pH, total suspended solids, sulfates, total and dissolved iron, total manganese, acidity, and other parameters (Appendix 129-1, Tables 129-4, 129-5, 129-6, and 129-7, Permit No. 27F). Statistical data and calculations were also included from critical event sampling. Information was included for surface water bodies, discharges, quality and quantity of surface water including seasonal data, water availability and alternative sources, with appropriate geologic data. Small stock tanks and ponds located within the permit were included in the description. Walnut Creek, an intermittent stream, and its tributaries, South Walnut Creek and Wilson Creek, drain the permit area. Walnut Creek drains to the Little Brazos River, thence

to the Brazos River. No springs exist within the permit area. Information for water quality and water quantity is presented to identify and describe the baseline hydrologic conditions and is sufficient to characterize the Pit 6 Area.

19. Walnut Creek provided a summary of alternative water supply information. No changes are proposed to the alternative water supply information. Walnut Creek provided an adequate certification of required portions of the materials submitted to satisfy the requirement to identify alternative sources of water. Alternative water supplies are identified to replace any water supplies affected by diminution, contamination or interruption caused by the mining operations as required by §12.130. The approved permit sets out alternative sources of water. Significant supplies of excellent quality groundwater are noted by Walnut Creek in the permit document and application from Calvert Bluff zones outside of mined areas and from the Simsboro sands. If replacement of water supplies is required, Walnut Creek will use wells drilled into the Simsboro or wells into unaffected sands of the Calvert Bluff. Temporary water sources may be used until mitigation of an affected water supply is accomplished. Walnut Creek shall replace ground and surface water supplies when contaminated, diminished, or interrupted as a result of mining operations as required by the Act and Regulations. Alternative sources include drilling wells into the upper and lower Simsboro sands. Groundwater is abundant in these sands in areas that could be impacted by depressurization or dewatering. Connections to public water supplies may be used. Drilling wells or deepening wells or resetting pumps are possible ways to replace any affected water supplies. Walnut Creek has mitigated a number of wells since mining began. Walnut Creek will meet §134.110 of the Act and §12.352 of the Regulations for replacement of water supplies as required.
20. Walnut Creek provided in the approved permit all required climatological data based on data from College Station, Texas (long-term average monthly climatological data (1910-1980) and Marlin, Texas (1902-1906 and 1932-1986), as well as average annual precipitation (39.1 inches, College Station; 36.4 inches, Marlin) and wind direction. The approved permit document (first permit term and fifth permit term applications) includes baseline information for climatological information required by §12.131.
21. Information for soil resources required by §12.134 and vegetation resources required by §12.132 of the Regulations for the Post Oak Savannah Vegetation Area of Texas was provided in previous permit documents (first permit term and fifth permit term applications); the area includes post oak forest and grasslands. A description of the premine vegetation of the Pit 6 area was included. Walnut Creek supplemented the approved permit in the Sixth Permit Term application (last renewal/revision application) to provide two years' information from the Texas Cooperative Extension Service's Annual

Increment reports and worksheets (Appendix 134-1, Section 134, application) as well as information for crops, livestock, and other related information for years including 2002 – 2007, and harvested acres, yield/acre, volume, unit price, and value of crops and livestock for 2005 – 2007. The information provided is sufficient to characterize the permit area and to provide information sufficient to evaluate the revegetation plan as required by §12.132 and §12.134 of the Regulations, respectively. No changes to this information are required; the 648 acres to be removed from the permit area are lands that were reclaimed and released from bonding.

22. The approved permit and the application, as supplemented, contain required fish and wildlife resource information (§12.133, Regulations). The application contains an updated narrative, replaced in S1 and again in S2, providing this information. Updated wildlife information and proposed vegetation species for wildlife enhancement areas are included in the application, Sections 133 and 144 (Finding of Fact No. 25) and in S1 and S2, including a report on threatened (T) and/or endangered (E) species known or expected to occur in Robertson County, and known or with the potential to occur within the proposed permit area. A revised Table 133-21 (S1) (list of these species) is included in the application. Walnut Creek has also included Exhibit 133-2 (S2) showing a depiction of survey locations for 1989, search locations for the Navasota ladies’ tresses 1999, 2006, and 2012, large fruited sand verbena (*Abronia*), 2007, bald eagle confirmed sightings, Houston toad listening stations and historical Houston toad listening stations (abandoned). As shown by the application, as supplemented, and the Staff review, the following table shows threatened or endangered species indicated as potentially occurring in Robertson County; notes are added for the likelihood within the permit area. As noted in the table, most of the species are not present for lack of suitable habitat or are migrants to the permit area or possible migrants. Bald eagles appear to be the threatened or endangered species most likely to be observed or to nest within the permit area.

Species	Protected Status	Likelihood of Occurrence
Plants		
Navasota Ladies’-Tresses Orchid	Federal and State Endangered	Species found in southern portion of Robertson County in 1983, but none found in repeated surveys for the permit area; unlikely.
Large-Fruited Sand Verbena	Federal and State Endangered	Not Likely; lack of suitable habitat
Mollusks		
Smooth Pimpl: back	State Threatened*	Not Likely; lack of suitable habitat
Texas Fawnsfoot	State Threatened*	Not Likely; lack of suitable habitat

Fish		
Blue Sucker	State Threatened	Not Likely; lack of suitable habitat
Sharpnose Shiner	Federal Endangered	Not Likely; lack of suitable habitat
Smalleye Shiner	Federal Endangered	Not Likely; lack of suitable habitat
Amphibians and Reptiles		
Houston Toad	Federal and State Endangered	Not likely
Texas Horned Lizard	State Threatened	Not Likely
Timber Rattlesnake	State Threatened	Possible in the Walnut Creek floodplain; none have been observed.
Alligator Snapping Turtle	State Threatened	Not Likely; lack of suitable habitat
Birds		
Interior Least Tern	Federal and State Endangered, 2013 review by USFWS recommends delisting due to recovery of species.	Nesting activity has occurred in nearby Kosse Mine. Breeding range includes major rivers and sandbars. Possibly occurs in permit area. Protection and monitoring plan included in application, S2.
Whooping Crane	Federal and State Endangered	Possible Migrant
Bald Eagle	State Threatened; Federally Protected under Bald and Golden Eagle Protection Act (southern subspecies nests in Texas)	Yes, 53 observations from December 2012 through December 2013; visits recorded 38 times in 2014; 62 confirmed visits were recorded during 2015; associated with BW-1 End Lake; one recently found nest
American Peregrine Falcon	State Endangered	Possible Rare Migrant; no suitable nesting habitat
Red Knot	Federal Threatened	Not Likely Except as Possible Stopover Migrant
Wood Stork	State Threatened	Possible Migrant
Mammals		
Louisiana Black Bear	Federal and State Threatened	Not Likely; no suitable habitat

*Federal Candidate species

- (a). The endangered plant, Navasota Ladies' Tresses Orchid (*Spiranthes parksii*), found in Robertson County in 1983, could occur in the permit area; surveys in 1985, 1990, 1994, 1995, 1997, 2000, 2006, and 2012 have not located any specimens in the permit area, although similar species of *Spiranthes* were located. Walnut Creek will conduct a survey in the fall of 2016 [Finding of Fact No. 25(g)]. The Large-fruited Sand Verbena, with potential to occur within the permit area in sandy soils, has not been located in surveys. A revised Exhibit 133-2 (S1) depicts search locations with contour elevations, that also includes locations for searches for the Houston toad [(see subparagraph (c)), bald eagle confirmed sightings [(subparagraph (d))], and large-fruited sand verbena search areas.

- (b). In S1, Walnut Creek updated information regarding the Brown Pelican, Piping Plover, and White-faced Ibis; these species are no longer included in the list of threatened or endangered species with the potential to occur in Robertson County. These species could occur as migrants, as with several other species of birds [American Peregrine Falcon (E), Arctic Peregrine Falcon (T), Whooping Crane (T), Interior Least Tern (T), Wood Stork (T), and Bald Eagle (T)]. Both of the latter two species that may occur as migrants have been documented near the permit area, and one bald eagle nest has been recently found within the permit area.
- (c). Surveys have been conducted for the endangered Houston toad (*Bufo Houstonensis*, which has a distinctive call) within the permit area. It is likely that inadequate habitat exists within the proposed permit area for a viable population. No Houston toads have been observed. In addition to studies by TPWD during the late 1980's and 1990's that expanded the accepted range for the Houston toad from Bastrop and Caldwell Counties eastward to include Robertson County and counties eastward, Walnut Creek conducted a survey for the Houston toad for the Pit 6 expansion in the previous renewal application. The study reflects that three soil series located within the expansion area, Dutek, Robco, and Silstid, are potential suitable sandy soils at the upper end of their 20-40 inch depth range, but these areas are not extensive and much of the area has been cleared and has severely eroded. Surveys were conducted during the 2001 breeding season; no Houston Toads were heard. A listening survey was conducted in 2007; no specimens were heard. Walnut Creek includes information in the application that the USFWS conducted a five-year review of the species in 2011 as required by Section 6 of the Endangered Species Act, the USFWS' first major review of the species since 1984. The species appears to be declining in population. The review indicates that the key for the Houston toad is habitat, deep sandy soils (greater than 40 inches, or 40 inches in conjunction with shallower soils) as well as wooded or forest communities surrounding breeding sites. Suitable habitat has all three types of habitat.
- (i). Walnut Creek has included Exhibit 133-3 in the application as supplemented (S2) that depicts deep sandy soils, mapped wooded (forest) areas and ponds within the permit vicinity, the three important factors in habitat for the Houston toad. No areas with these three factors are shown on Exhibit 133-3 within the permit area. Walnut Creek also indicates that a habitat model has been developed for predicting potential occurrence of the species (Buzo, 2008), the Buzo suitability model, based on soils, canopy cover, and breeding sites. Using this model, a large occupied habitat patch

- east/southeast of Hearne, Texas was substantiated in the southern half of the patch; this is not within the permit area. The northern half is north of State Highway 79 and south of the permit area; if toads are north of Highway 79 they could reach three small patches between FM 979 and the Calvert permit area, but south of the permit area.
- (ii). Using the criteria in the Buzo model Walnut Creek evaluated the permit area to determine if patches of habitat exist that could support the Houston toad. Walnut Creek determined that the habitat was insufficient to support a viable Houston toad population. In the original permit area, there were 162 acres of mapped sandy soils under forest canopy cover in 14 parcels ranging in size from 0.6 acres to 52 acres, with a median parcel size of five acres. There was no contiguous or fragmented habitat units sufficient in extent to support a population of Houston toads based on its habitat requirements. At this time, only 14 units of the original premine permit area remain intact, and none of these in the pit 6 mine area have deep sandy soils under forest cover. Walnut Creek's evaluation covered premine and current conditions. The Pit 6 area specifically had substantial agricultural activity such as tobacco and cotton cropping, cattle grazing, and logging and has experienced significant erosion.
- (iii). Walnut Creek is participating in a research effort for three consecutive annual surveys through the Texas State University-San Marcos Development Foundation Non-Endowed Commitment to Fund Houston Toad Research to determine the westernmost occurrences of the toad in Robertson County, specifically in the proximity of the mine permit boundary. Surveys are continuing that may determine the northern and western extension of the Houston toad population in Robertson County.
- (iv). In Sections 12.133 of its permit application and two supplements, WCMC submitted detailed information about the endangered Houston Toad, including historical background and range, past survey results, characteristics, how the scientific understanding of this species has evolved, why the land in the permit area is not capable of supporting a Houston Toad population and the fact that Houston Toads have never been found in or around the Calvert Mine. As part of WCMC's Supplement 2, WCMC described its contribution to The Texas State University- San Marcos Development Foundation Non-Endowed Commitment to Fund Houston Toad Research (the "Foundation"), which will fund three consecutive annual surveys of the Houston Toad

to define the westernmost occurrences of the species in Robertson County, Texas. Dr. Michael Forstner, the preeminent Houston Toad expert, is the Principal Investigator. Staff has requested that the Commission approve Staff-recommended Permit Provision No. 12:

Within 60 days of permit issuance, WCMC shall: (1) revise Section 12.133 of the permit to provide an attachment summarizing the results of the 2016 Houston toad survey efforts within the permit area (on-site and the surrounding dispersal distance), including a depiction of sampling locations; (2) revise Section 12.144 to include its commitment to survey for the Houston toad, and provide the documentation of WCMC's commitment to the Texas State University-San Marcos Development Foundation Non-endowed Commitment to Fund Houston Toad Research to perform surveys for the toad that includes the mine and adjacent areas; and (3) revise Section 12.144 to commit to annually providing by date certain a copy of the annual report of survey findings. The information required by this permit provision may be reviewed administratively and approved by the SMRD Director.

WCMC has responded that the permit revisions are not necessary because WCMC has already provided to Staff documentation of its commitment to fund the three-year Houston Toad Survey as well as its commitment to provide the results of each year's survey within 30 days of receipt. WCMC in response to the TA states that Dr. Forstner has completed the 2016 surveys and found no Houston Toads in or near the permit area. WCMC discussed in detail in its permit application and supplements the scientific basis of why a viable Houston Toad population would not be found in the Permit Area, and Dr. Forster's work will augment the baseline information on this species that is in the permit application. The Commission determines the application, as supplemented, provides protections for the Houston Toad based on current knowledge and therefore Staff-recommended Permit Provision No. 12, as numbered by Staff, is not adopted.

- (d). Prior to 2012, there were no Bald eagle sightings in the permit area. Walnut Creek has included Table 133-21A, *Eagle Observation Data Annual Comparison - Survey Data – Monitoring Years 2013-2015* in the application, S2. There have been 53 observations from December 2012 through December 2013, and visits have been recorded 38 times in 2014 and 62 confirmed visits during 2015. All historical activity within the permit area is associated with the BW-1 End Lake or nearby ponds. One nest, however, has recently been found within the permit area, but Walnut Creek has no right-of-entry to the tract on which the nest is located. No eagles have been

observed in or near active or proposed mine areas. Staff recommended a permit provision regarding the information contained in the application for bald eagles [Finding of Fact No. 25(c)].

- (e). Bottomland areas, habitat for Timber Rattlesnakes, occurs within the permit area, but no specimens of this species have been found. No Texas Horned Lizards have been documented; this species is unlikely to occur, because of a lack of suitable habitat. No Alligator Snapping Turtles that require large rivers and lakes have been documented.
- (f). The information provided in the approved permit, application, and supplements includes appropriate scope and level of detail to enable the design of a protection and enhancement plan for fish and wildlife required by §12.144 of the Regulations (Finding of Fact No. 31).

23. Walnut Creek has adequately described the soil resources contained in the proposed permit area in the approved permit, Table 134-1 and Exhibit 134-1 of the Fifth Term Permit Renewal/Revision (compiled using the predecessor to the NRCS Web Soil Survey database online), modified as necessary to reflect the premining native soils in areas where the predecessor to WSS data included postmining soil conditions. In the instant application, Walnut Creek includes Appendix 134-1, the Soil Survey of Robertson County, Texas, published in 2007 by the USDA Natural Resources Conservation Service. The Fifth Term Permit Renewal/Revision, as set out in the application and S1, S4, and S5 of that application included an adequately described soil baseline with information on the distributions of pH, percentage of sand, silt and clay in the top four feet, and other physicochemical data, as well as a revised soils map (Exhibit 134-1) showing the distribution of soils series, including prime farmland soils (Table 134-1), data used to develop the soil baseline, a copy of the interim draft soil survey for Robertson County by the USDA Natural Resources Conservation Service, dated June 30, 2001, characteristics and descriptions of each soil series (Appendix 134-1, as updated in the application), and data for soil productivity in Robertson County, 1997-2000 (Appendix 134-2). The native soil baseline was developed from the information previously provided in the permit documents and the information provided from 13 sample sites, including the prime farlands soils, within the Pit 6 area. Site-specific parameters for the permit area for acid/base accounting and pH are used. In S5 of the Fifth Term application, Walnut Creek revised Table 134-2 and Appendix 134-4) to correct pH and ABA values and frequency distributions. The method used to determine pyritic sulfur prior to 2000 often resulted in false positive results. Pyritic sulfur is used to calculate potential acidity, thereby affecting ABA and pH values. The corrected premine frequency distributions are contained in a portion of Appendix II to the Order of approval of the

Sixth Term Permit Term Renewal/Revision (taken from Appendix VII, Staff's TA3 in that proceeding, Soil-Testing Plan and Postmine Soil Performance Standards). Walnut Creek has met the requirements for soil resource information, §12.134.

24. The approved permit, along with information provided by Staff relating to premine land use acreage after reduction of the permit area as proposed, includes all required information regarding premine land use, capability, and production in accordance with the Regulations, §12.135, for the permit area. Primary premine land uses were pastureland and grazingland. Postmine land use classifications and acreages are set out in Finding of Fact No. 34(c).
25. Walnut Creek provided required general maps, and cross-sections, maps and plans as required by §§12.136 and 12.137 of the Regulations, and as required by §12.142 in the application, as supplemented, and in the approved permit.
26. A negative determination for prime farmland has been made for the permit area (§§12.138 and 12.201). No changes were proposed to the information contained in the approved permit for prime farmland soils or prime farmland. The Commission has previously determined that 1,239 acres of prime farmland soils exist within the permit area, but also determined by Orders dated January 26, 1998 and September 9, 2003 that due to the lack of historical use of the 1,239 acres as cropland for five years of the ten years preceding acquisition by the permittee, the acreage did not meet the definition set out in §12.3(83) for "prime farmland." Based upon these orders and no changes proposed in the application, as supplemented, no areas within the permit area constitute prime farmland.
27. All required information has been submitted in the application, as supplemented for the mine plan for the requested permit term in accordance with §12.139. The five-year requested renewal term is denoted in the application as 2016-2020. The applicant proposes no change to the currently approved permit boundary.
 - (a). Mining and backfilling are complete in mine areas denoted as Pits 1, 2, and 3. Final backfilling, regrading, and topsoil replacement operations have been completed in Pit 2. and Pits 1 and 3 have been completely backfilled. Reclamation is ongoing in these areas; however, portions of Pits 1 and 3 will be used for access to Pit 6 and then reclaimed as they are no longer needed. Area strip mining is proposed to continue in Pit 6 during the requested permit term and in future permit terms as approved. The Pit 6 layout is shown on Exhibit 139-6.7 (S2).

- (b). Mining is accomplished with a dragline or hydraulic shovel and backhoes. Some areas require pre-stripping prior to use of the dragline. The lignite is trucked to Lonestar Generation LLC's Twin Oaks Power Plant near the mine. Walnut Creek anticipates maximum annual production of 2,200,000 tons for the proposed permit term.
- (c). Mining is proposed to continue in three subpits of Pit 6 during the requested permit term: in Pit 6A generally northward, in Pit 6C generally eastward, and in Pit 6D beginning in 2018 generally southward. Mining in Pit 6B was completed in 2014 and final regrading accomplished in 2015. The mining limit line for Pit 6 is depicted on Exhibit 125-1. Walnut Creek proposes mining four seams, J, F, E, and D, of seven contained within the life of mine by dragline and auxiliary equipment (dozers, front-end loaders, backhoes, shovels, scrapers), and mining and reclamation methods will be similar to existing methods. Overburden will be pre-stripped by mobile equipment and a truck-shovel operation ahead of the dragline. Walnut Creek describes steps in mining and reclamation and illustrates mining advance and reclamation operations for the years 2015 through 2020 on Exhibits 129-27.7 through 139-32.7 (S2), clearing, grubbing, and topsoil removal, overburden removal and lignite mining, spoil regrading and contouring, and topsoil replacement and revegetation.
- (d). An extension to a variance approved in Permit No. 27G from the time and distance requirements for backfilling and grading is proposed for Pit 6 subpits A, C, and D. [See Finding of Fact No. 32(a) (Section 145)].
- (e). Walnut Creek will use a minimum safety factor for highwall slopes of 1.3 and a minimum safety factor for spoil slopes of 1.1 based on the computer program STABLE, resulting in recommended highwall angles and recommended spoil angles. Design parameters for the highwall and spoil side are set out in Table 139-3 (S2).
- (f). Table 145-6 (S2) lists approved and proposed ponds and sedimentation ponds. One sedimentation pond, SPC-65, and one Diversion Ditch, CDC-74, are proposed for the requested permit term. General design plans are included in the application for these two structures and are approved; however, detailed design plans have not yet been submitted, therefore, the structures are not recommended for approval. These two structures both will divert and abut Wilson Creek, and a stream buffer variance must also be approved prior to construction.

- (g). Table 139-5 (S1) lists volumes of approved and proposed temporary topsoil stockpiles and the years that they have been or will be removed. Temporary overburden stockpiles will also be used, although most of the overburden is immediately backfilled into the adjacent pit. The locations of topsoil stockpiles and overburden storage areas are shown on Exhibit 139-6.7 of the application, as supplemented (S1).

- (h). Walnut Creek indicates in Section .139 of the application that non-coal waste (trees and brush) will be burned in accordance with TCEQ requirement and remnants placed in pits. Waste-removal companies will remove all other non-coal waste. Walnut Creek indicates that during the proposed permit term the beneficial use of fly ash and bottom ash as contained in the approved permit may be utilized for the following specific uses: (1) road base material, (2) road surfacing or repair material, (3) traction material on the ramp of the mine pit, (4) on dragline pads to stabilize the pad when saturated with moisture, (5) as a dragline repair pad to provide a stable work surface and to provide a pad to lower the boom to a horizontal surface, (6) in water control ditches and ephemeral drainages as low-water crossing base, (7) as base and surface material on substation pads and groundwater well pads, and (8) as erosion protection material and in any areas where it can be used on place of crushed limestone.

- (i). Walnut Creek describes water pollution control facilities, mine facilities (depicted on Exhibit 125-1 of the application) and air pollution control activities.

- (j). Walnut Creek includes a report (Appendix 139-1 in the application) prepared by a licensed professional geologist that sets out Walnut Creek's dewatering/depressurization operation plan for currently permitted and proposed operations in the Pit 6 area for mine years 2016-2020. Walnut Creek proposes to utilize dewatering of significant and saturated Calvert Bluff sand zones in the overburden during the requested permit term in the Pit 6 area to maintain highwall and spoil stability by preventing pit floor heave and inflow from underlying artesian aquifers and to minimize and/or control pit inflows through pit highwalls from adjacent artesian and/or water table aquifers. The plan included in Appendix 139-1 of the application applies to ongoing dewatering and depressurization activities, modified as appropriate based on mine plan changes and new hydrogeologic data, as well as proposed operations for Pit 6. Staff review of Section .139 indicates that the dewatering and depressurization activities will be similar to ongoing approved operations and that groundwater will be protected.

- (i) The dewatering plan incorporates assumptions based on previous experience at the mine that saturated sand units less than 10 feet thick do not require advance dewatering, that sands zones less than 50 feet below land surface do not have sufficient saturated thickness to require advance dewatering, that overburden sand zones are hydraulically separate from overlying and underlying zones, and that they require independent water control operations, and that sand zones will be dewatered via open pit inflows and, where applicable, will utilize advanced dewatering well fields. The J Zone sands requiring in-pit drainage and removal are the sand zones in the Calvert Bluff in the central portion of Pit 6 within the proposed 2018 mine block; those to the eastern portion of the proposed 2019-2020 mine blocks potentially require in-pit drainage and advance dewatering. The pit inflows and potential pumpage from lines of wells along the perimeter of dewatering areas were based on the analytical model developed by the U.S. Department of the Army, Navy, and Air Force (1971). The report indicates this model as well as volumetric calculations, general hydrologic calculations and MODFLOW, the USGS's model (USGS, 2011) were used to evaluate potential dewatering production and systems. The artesian conditions of the J-Zone sands were also incorporated into the model as well as Pit 6 Calvert Bluff model parameters for hydraulic conductivity, specific yield, saturated thickness, average pit length, height of seepage face, and height of water above base of aquifer (Table 139-1-1). This input was based on the geologic character of the target zones, geophysical logs and data, and results of pumping tests and monitoring of dewatering wells conducted in wells completed in the J-one sands near the 2019-2020 mine pit area, and other factors. Table 139-1-2 summarizes the dewatering schedule for the Calvert Bluff by mine year, number of operating wells, average well discharge, and total volume pumped. Approximate locations of wells are depicted on Figure 139-1-1. They will be able to reduce saturated thickness by about 60 to 70 percent; some pit inflows will occur during mining. With dewatering, pit inflows should range from one to two gallons per minute (gpm) per 100 feet of open pit, or about 25 to 50 gpm for an average pit. Water will be removed by the well fields and by capturing and pumping direct pit inflows. Monitoring will occur by recording pumpage and pit inflows and measuring water levels in piezometers completed in target sands within the pit.

- (ii). Walnut Creek indicates that minimal depressurization of the underlying Simsboro aquifer, the aquifer immediately beneath the lowest lignite mined, will be needed to prevent floor heave in the Pit 6 mining areas. Three wells from three existing depressurization well field located along the perimeter of Pit 2, Wells 5304DS, 5445DS, and 5811DS, will remain operational and will be sufficient for Pit 6 depressurization through 2020. The dewatering/depressurization plans from previous permit terms, based on results from monitoring during the previous permit terms, indicates that the model is effective. Modeling parameters are included in Table 139-1-3 of the application for depressurization of the Simsboro. The report includes Table 139-1-4, a Pit 6 schedule for Simsboro depressurization. The table includes projected water levels for certain control points and includes a comparison between the required depressurization water level at those points and the projected water levels (from total drawdown in the Simsboro since depressurization pumping began in Pit 2. Figure 139-1-2 depicts the locations of the depressurization wells, the mine blocks, and the control points.

- (iii). The depressurization plan was based on geologic data and maps, field drilling programs, geophysical logs, historical and recent water level data, aquifer test analyses and water quality data. Several assumptions were also included in the depressurization modeling, including conservative assumptions. The assumptions included that no significant hydrologic boundaries occur within the mine area, that aquifers to be depressurized are homogeneous confined aquifers with infinite areas extents, that water level declines due to production by others are not considered, that confining pressure greater than 1.76 times the separation thickness of the lignite and the top of the underburden aquifer will cause the floor of the mine pit to heave, that depressurization requirements are based on aquifer water levels prior to any Walnut Creek depressurization pumping, that the hydraulic gradient within the underburden aquifers has no slope prior to pumping, and that Pit 2 pumpage will continue from the three existing wells to be used.

- 28. Walnut Creek does not propose the use of existing structures in surface mining operations; requirements for the use of existing structures set out in §12.140 do not apply.

- 29. Walnut Creek does not proposed blasting within the permit area; therefore, the requirements set out in §12.141 of the Regulations are not applicable.

30. The approved permit contains a fugitive dust control plan in compliance with §§12.143(b) and 12.379 of the Regulations that includes watering haulroads and treating roads annually with a dust suppressant, confining traffic to specific areas when possible, prompt grading for stabilization, controlling vehicle speeds, prompt regrading, topsoiling and revegetation, and compliance with TCEQ guidelines and local requirements for burning of cleared materials and other combustibles. No changes are proposed that would affect these procedures. The permit area is east of the 100th meridian west longitude; no air quality-monitoring plan pursuant to §12.143(a) is required.
31. The application, as supplemented, includes a protection and enhancement plan in accordance with §12.144 of the Regulations to minimize disturbances and adverse effects on fish and wildlife and related environmental values during the proposed operations and reclamation. Premine land uses generally related to livestock production and areas were either pastureland or wooded tracts. Walnut Creek's plan is to reclaim lands to pastureland and as consistent with landowner preference. Sufficient adjacent areas to disturbed areas within the permit area will allow dispersion of species. No direct mining will occur to Walnut Creek, and the creek will be protected by the surface water control plan. The creek was previously disturbed for a transportation corridor; however, revegetation on both sides of that area of the creek has assisted in protecting the water quality of the creek and has provided habitat for wildlife. Previously mined areas west of the creek (the Pit 2 area) are progressing through reclamation and have final plans. Plans for the Pit 6 area in which mining is ongoing are conceptual. Walnut Creek included Exhibit 144-1 in Section .144 of the application, *Conceptual Wildlife Enhancement Plan*. As the mining progresses, more woodlands will be disturbed. These woodlands constitute regrowth of earlier woodlands that were historically timbered or farmed. Remnants of these woodlands should remain upon reclamation. Construction of ponds impacted only small areas. There were no unique species or high value habitats in the premine landscape. Drainages are re-established during reclamation. Enhancements for fish and wildlife are part of the reclamation plan. The reclamation plan will meet the requirements of §12.144.
- (a). No state or federally listed threatened or endangered species' habitat has been found to occur within the permit area, with the exception of bald eagles, and there is no designated critical habitat for such species, although finding certain species is possible, though unlikely, and other species are known to be migrants through or near the permit area. The reclamation plan includes a description of minimization and protective measures for threatened and endangered species, migratory birds, and other species should they occur in accordance with required Commission

consultation with TPWD and USFWS. Should species be observed, the RRC and the TPWD and/or the USFWS will be notified, and the species will be monitored.

- (b). Numerous observations of bald eagles have occurred within the permit area since 2012 (Finding of Fact No. 16), and one bald eagle nest has been found within the permit area but not on land for which Walnut Creek has right-of-entry or access. The first sightings were related to the filling of the BW-1 end lake, and most sightings are near the lake, although the eagles use reclaimed areas of Pits 1 and 2, and Ponds AW-2 and AW-4, have perched on power poles adjacent to the haul road, and appear to accept operational activities nearby. Personnel visit the BW-1 end lake on a limited basis for environmental monitoring, power grid maintenance, pond maintenance, water well maintenance and operation, and agricultural activities. Walnut Creek trains its personnel to identify bald eagles and notifies personnel when eagles are visiting. In addition to notification, Walnut Creek will investigate sightings and determine needed actions to avoid or minimize interaction as much as possible. Steps will be taken to protect Bald Eagles and other migratory birds protected by the Migratory Bird Treaty Act (16 USC 703 *et seq.*) through Walnut Creek's migratory bird protection plan that includes the following protective measures: minimizing activities to those necessary for permit compliance and mine efficiency, including worker safety requirements; if nest building occurs within areas for which Walnut Creek has right-of-entry, Walnut Creek will define a primary occupancy zone and a secondary zone, with the nest serving as a center of activity; minimizing mining related activity as feasible within these zones, specifically areas between nesting and feeding habitats once defined; minimizing the use of fixed wing aircraft or helicopters within the primary occupancy zone; strictly following labeling instructions for chemicals used in both zones and minimizing the use of chemicals labeled as toxic to wildlife as much as feasible; and notifying mine personnel of restricted access to the primary and secondary occupancy zones to minimize unnecessary activity near nesting eagles (application, S2). SMRD Staff recommends the adoption of Permit Provision No. 10, as numbered by Staff, which requires WCMC to avoid vegetation removal, trimming, and grading of pre-mine vegetated areas during the period beginning on February 15 and ending on August 15, until WCMC coordinates with the USFWS and provides written confirmation of alternative migratory bird protections and revises its plan accordingly. Staff emphasizes in its TA, pp. 49-50 that "the Performance Standards in the Regulations require that the applicant minimize disturbance and adverse impacts on fish and wildlife to the extent possible, using the best technology currently available to avoid disturbance to habitats of unusually high value for wildlife." [§12.380(a) and §12.380 (e)(4)], and that avoiding

clearing activities that adversely affect migratory birds and habitat during their breeding season represents the best technology available.

WCMC responded to this proposed permit provision by referencing the wildlife protections, including protections for migratory birds, in Section 12.144 of its permit application, which include a) mining in narrow strips to minimize disturbances and allow habitats to exist as long as feasible; b) allowing “structure” to remain in backwater areas of ponds to create habitats that are expected to be more attractive than were pre-mine conditions which habitats will be attractive to many species, including migratory birds; c) when burning brush piles, burning from one end to provide animals that might be residing in the brush pile a path to escape; and d) locating haul roads to minimize impacts to wildlife, including locating those roads on mined land whenever feasible. WCMC also commits to avoid direct take of migratory birds, as described in Section 12.144 and as defined in the case of *United States of America v. Citgo Petroleum Corporation*, (5th Circuit Court of Appeals No. 14-40128, September 4, 2015).

The Commission finds that avoidance is not the best “technology” currently available in this case. WCMC has described in its permit application and in response to the TA specific protections in addition to prioritized seasonal avoidance, as appropriate, as well as nesting deterrent methods for seasonal clearing. Further protections are unwarranted based on the holding in *U.S. v. Citgo Petroleum Corp.* Additionally, the Regulations require Commission consultations at the level of specific agencies, unless voluntarily agreed to by an applicant. The Commission determines to follow the Fifth Circuit’s opinion in *U.S. v. Citgo Petroleum Corp.* and finds that WCMC’s management plan, as supplemented by its TA Response, is sufficient. The Commission instead adopts the following revised permit provision, renumbered as Permit Provision No. 6 in Appendix I:

WCMC shall prioritize clearing activities to outside of breeding and nesting periods, as appropriate and feasible. If clearing occurs during prime nesting seasons, WCMC will deploy bird diverters to discourage nesting in sites scheduled for clearing.

- (c). Additional protective measures go into effect if nest building occurs, including a biological assessment, notification of the Commission, and development of a nest protection plan also provided to the Commission, and consultation with the TPWD and the USFWS. Sites where eagles have previously visited will be visited at specific observation points for maximum observation with minimal potential disturbance, established during annual monitoring, at a

minimum of three times per week by environmental personnel to determine eagle presence. New observation points will be established for changed behaviors. Should eagles not be observed for three consecutive weeks, monitoring will be curtailed at that point to twice per month (but not more than once per week). Observation point monitoring will be curtailed if eagles are not observed for three consecutive months, but may be resumed if sighted again. The monitoring plan also includes confirmation of observations by trained staff or professionals, verified with binoculars, cataloging of observations and maintenance in a log book in the environmental staff office area, and providing an annual report to the Commission by January 31 for the preceding year, as well as provisions for ceasing monitoring and resuming monitoring. Commission Staff recommended proposed Permit Provision No. 8 as numbered by Staff to supplement the permit:

Within 30 days of permit issuance, Walnut Creek shall revise Section .133 and .144 regarding the Bald Eagle description and protection plan to: (1) remove outdated, invalidated assessments concluding absence of Bald Eagles nesting in the permit area, (2) acknowledge the presence of nesting eagles within the permit area and the protective measures that are applicable to those eagles and (3) revise section .144 to include a commitment to implement measures to protect Bald Eagles and other large birds from electrocution and collision with power lines.

WCMC filed a response to SMRD Staff's TA and has agreed, within ninety (90) days of permit issuance, to:

- Revise Sections 12.133 and 12.144 to update the information regarding the presence of Bald Eagles nesting within the "current" Permit boundary;
- Acknowledge the reported Bald Eagle nest in the revision and describe the protective measures implemented upon discovering the nest, including the fact that WCMC does not have any access or right of entry to the tract where the nest is located; and
- Submit a revision to remove the tract from the Permit boundary where the eagle nest was reported.

With regard to item (3) of the proposed permit provision, WCMC has stated that powerline construction at the Calvert Mine has conformed to the RCT-recognized standards, pursuant to Section 12.380 of the Regulations, during all powerline construction projects and that WCMC remains committed to those standards. WCMC has also acknowledged that there may be obligations under the Bald and Golden Eagle Protection Act outside of the

Regulations and that WCMC will continue to voluntarily evaluate powerline protection measures, as appropriate. WCMC has requested that item (3) of the proposed permit revision be removed. Staff agrees that WCMC's requests and commitments with respect to Permit Provision No. 8 are reasonable and consistent with what is required under the Regulations. Staff has proposed the following revised Permit Provision No. 8, now numbered as Permit Provision No. 4 in Appendix I. The permit provision as revised is approved:

Within 90 days of permit issuance, WCMC shall revise Sections 12.133 and 12.144 regarding the Bald Eagle description and protection plan to: 1) update the information regarding the presence of Bald Eagles within the existing permit boundary; 2) acknowledge the existing Bald Eagle nest and describe the protective measures implemented upon discovery of the nest, including non-right of entry to the affected tract; and 3) revise the permit boundary to remove the tract where the eagle nest has been located. This revision may be approved by the SMRD Director.

- (d). The application, as revised (S2), contains a protection plan for Wood Storks if encountered that includes training to identify the species, reporting, and implementation of a plan of avoidance except for essential environmental and compliance measures, notification to the Commission and consultation with the Commission should prolonged presence in the area occur to formulate a plan to resume operations while completely protecting the birds.
- (e). Walnut Creek will notify the Commission if Timber or Canebrake Rattlesnakes (similar in appearance) are encountered within the proposed permit area. Personnel at the mine will be trained to identify the species and where it may be found. If the sighting is in an area that might jeopardize the snake by mining operations, a pedestrian survey will be conducted by a biologist permitted by TPWD to handle the species, and any individuals located and captures will be relocated to undisturbed areas, if possible within the habitat unit where the snake was located, a suitable distance from disturbance. A survey report will be provided to the Commission within 30 days of the conclusion of the survey. A permitted individual will handle state-listed threatened or endangered species.
- (f). Because of the proximity of nesting interior least terns to the east of the mine at the Kosse Mine, Walnut Creek has prepared a monitoring and protection plan should the terns occur within the Calvert Mine. The plan contains the elements of education of staff, reporting, and avoidance if observed. If a tern is observed, the protection plan will go into effect. Least terns in the area nest beginning in mid-May. Walnut Creek will begin surveys at the end of April on road

corridors and active mine areas such as cleared areas, recently revegetated areas or topsoiled areas, regraded spoil, material storage areas and well pads. Monitoring surveys for the bald eagle will also include least terns. From April through May, the permittee will curtail clearing and grubbing and topsoil removal or other operations that create large bare areas, attractive to terns for nesting. If these activities are necessary and terns are observed at the mine, the affected areas will be roughened to discourage nesting terns. Other deterrents may be used such as placement of hay mulch on the areas or stringing wires with attached flagging; these measures may be used immediately if terns are observed at the site. Sites may be created away from disturbance in Pits 1, 2, or 3 or near pond backwater if nesting behavior is observed, or in newly vegetated sites or other suitable sites. Supplements such as rocks or driftwood may be added to increase the attractiveness of such target areas. If terns nest near active mining advance areas, the area will be marked with a 120-foot buffer and the USFWS will be contacted to determine when and how operations can proceed. The area marked will be avoided. Biologists will assess the area using binoculars and using limited access and will determine number of nesting pairs, egg production, and other data. The USFWS will also be contacted to determine permitting requirements.

- (g). The Navasota ladies' tresses (*Spiranthes parksii*) species, an orchid, as indicated in Finding of Fact No. 16, was found in southern portion of Robertson County in 1983, but none have been found in repeated surveys of the permit area, and none have been found in the southern portion of Robertson County since the original site was discovered. The species can only be found when it is blooming which occurs usually in late October through early November in years with sufficient rainfall and timing of rainfall, but may occur as early as September and as late as December. The USFWS does not have a protocol for surveying for the species. The Texas Mining and Reclamation Association (TMRA) and Staff are currently formulating a survey protocol. Walnut Creek represented in its application (S2) that when the protocol is established, Walnut Creek would survey according to the protocol, and anticipates that the protocol will be based on landform, soils and vegetation and that Walnut Creek would report negative surveys and results will be maintained at the mine office and will be included in the next renewal application. If the species is located in the permit area, the Commission will be notified and the USFWS contacted to formulate an action plan for monitoring and protection. Staff does not believe that Walnut Creek should wait until the protocol is established. Staff states that it is currently using the protocol. Because of the possible presence of the endangered Navasota

Ladies' Tresses in the permit area, SMRD Staff has proposed Permit Provision No. 9 (as numbered by Staff:

Within 30 days of permit issuance, WCMC shall provide a survey plan for the 2016 fall survey seasons to survey for the Navasota ladies' tresses for administrative review and approval by the Director of the SMRD, prior to implementation. Within 90 days of survey completion, WCMC shall provide a survey report for the Navasota ladies' tresses for administrative review and approval by the Director of the SMRD.

WCMC has agreed to survey for the NLT and will submit its survey protocol to the SMRD for discussion before survey implementation. WCMC has also agreed to submit its survey results to the SMRD Director by the end of the first quarter of 2017. WCMC's commitments are reasonable and consistent with the Regulations. This permit provision is adopted as revised to read as follows and is renumbered as Permit Provision No. 5 in Appendix I:

WCMC shall provide a presence/absence survey plan for the 2016 fall survey season for Navasota Ladies' Tresses to the SMRD Director. Results of the 2016 survey shall be reported to the SMRD Director by the end of the first quarter of 2017.

- (h). Measures are included related to the removal of surface features, location of roads and other facilities, proper design of diversions and stream channel restoration, and timely revegetation of stream disturbances. Walnut Creek includes vegetation lists for species for wildlife habitat and mitigation areas and will use appropriate species with proven nutritional value for fish and wildlife for planting and distribution that are appropriate to reclaimed lands. Species are listed in Table .144-1 (S2). Appropriate depictions of wildlife enhancement and wetland mitigation areas appear on revised Exhibit 144-1). Specific operational activities are included in S2 to ensure protection of wildlife. Commission standards for power line construction will be met to ensure minimal danger to eagles or other large birds. Roads will be located to minimize disturbances. No toxic or hazardous materials will be collected in sediment ponds, and pesticide use will be limited. Range, forest, and coal fires will be prevented/controlled/ suppressed; any prescribed burning related to reclamation will be in accordance with NRCS guidelines and coordinated with local authorities. Additional measures will be taken to enhance or protect wildlife. Clearing and grubbing will be scheduled and will be conducted to allow habitats to remain intact as long as feasible. Brush piles may be left to benefit species for short periods. Burning of brush piles will be accomplished when needed so that animals will have a way of

escape. Water control ponds will leave existing vegetation in water storage areas that are not disturbed for dam construction or sediment pool construction (Figure 144-1, S2). Walnut Creek prohibits guns or other weapons in all mine areas that could be used to intentionally take a migratory bird. There are other temporary measures that may benefit wildlife, such as temporary reclamation near water control ponds use of long-term diversion ditches, topsoil storage areas, temporary reclamation of power line rights-of-way, borrow areas, roads or roadside ditches. Temporary reclamation may include temporary cover in various disturbed areas. Many areas can be revegetated with species to provide some wildlife benefit such as food, cover, or structural diversity. Cattle will not be allowed on temporary disturbed and reclaimed areas. If allowed in reclamation, they will be monitored and managed to ensure that wildlife enhancements are not damaged.

- (i). Certain final reclamation activities will be used to enhance wildlife. Enhancement features within pastureland will be based on establishing in certain areas a vegetative base that will be self-sustaining and provide a plant community of equal or higher quality than premine, such as planting trees and shrubs that have a high wildlife value for food and cover for wildlife and use of grazing rotation, and/or disking for forb production. Native species of woody plants will be planted for final reclamation for wildlife enhancement areas; they will break up extensive areas of less diverse pastureland. The landscape will contain small stands of woody vegetation with an occasional motte of trees, including a majority of hard mast trees (hickories and oaks) with a reasonable mix but lesser amount of soft mast (fleshy/fruited mast) and a small amount of wind-blown seeded species.
- (j). Walnut Creek includes aquatic resource reconstruction for enhancement of fish and wildlife values including channels and drainages, permanent ponds, and wetlands. Walnut Creek has had minor impacts from a transportation corridor, and South Walnut Creek and Willow Creek have been avoided. Intermittent and ephemeral drainages that have been impacted will be reconstructed. Some permanent ponds will be used for wildlife enhancement. Some vegetation species used for wetlands are rated for wildlife value as listed in Table 144-1. Section 145 of the application, as supplemented, contains a complete list of aquatic and wetland plants proposed for use. Reconstructed drainages will be intermittent or ephemeral as were premine drainages, and premine flow rates will be achieved, or reconstructed channels will be sized to carry the design storm event required. Channels and side slopes will be revegetated with grass and legume species that can tolerate streamflow with minimal erosion. When feasible, woody plants will be

planted, and volunteer woody species will be allowed, when not invasive or damaging to the land use, along main stems of restored channels. Aquatic biota will not be re-stocked, but will be allowed to develop naturally from other stream areas. Exhibit 144-1 (application) sets out the locations of developed water resources; these resources vary in size, shape, and suitability for wildlife enhancement. Conceptual enhancement planning is shown on the exhibit. Vegetation plantings will synchronize with the specific aquatic-related habitat. Ponds may be stocked with fish in accordance with landowner wishes or for wildlife enhancement. Wetlands will occur occasionally within pastureland use, for example, in depressions, and will occur in conjunction with developed water resources.

- (k). The wetlands mitigation plan contained in the application, as supplemented (S1), meets the requirements of §§ 12.144 and 12.380 of the Regulations. Walnut Creek has a U.S. Army Corps of Engineers (USACE) Nationwide Permit No. 21 authorization and mitigation plan (set out in the approved permit, Appendix 144-1). Authorization under a new permit will be requested for activities proposed in the renewal/revision, and Walnut Creek shall provide the Commission a confirmation of USACE's preliminary re-verification of the USACE jurisdictional waters and authorization under the new Individual Permit that will be provided to the Commission when received by Walnut Creek. In the re-verification of the jurisdictional waters, no changes from the original determination are requested. Table 144-2 of the application (S1) contains a summary of impacts to delineated waters of the U.S. (jurisdictional waters) as well as proposed restorations and mitigation (in acres) for compliance with §12.380 of the Regulations. The mitigation rates are the minimum required by USACE in its most recent authorization. As part of the Individual Permit requested, the USACE may require different mitigation for the jurisdictional waters that are impacted. The USACE authorized mitigation for the permit is located in the South Walnut Creek floodplain, below Pond SPC-66, inside the permit boundary but outside the disturbance boundary. The approved mitigation is a shallow channel connecting the undisturbed portion of a long narrow pond to an existing non-forested wetland that is to be expanded to a minimum total of 2.5 acres in size. A woody riparian corridor is required along this mitigation channel (Exhibit 144-1 *Conceptual Wildlife Enhancement Plan*).

The following table from the application, S1, is approved that sets out the mitigation plan.

TABLE 144-2
 WALNUT CREEK MINING COMPANY – TERM 6 RENEWAL/REVISION
 CUMULATIVE IMPACTS-RESTORATIONS-MITIGATION
 FOR WETLANDS AND WATERS OF THE U.S. (ACRES)

	Permit 27F	Proposed Impacts and Mitigation, Pit 6 Area	Project Totals
<u>On-Channel Ponds</u>			
Baseline	22.6	---	22.6
Impacts	5.7	1.8	7.5
Mitigation	5.7	---	5.7
<u>Channels</u>			
Baseline	30.3	---	30.3
Impacts	11.5	1.8	13.3
Mitigation	11.5	1.8	13.3
<u>Unforested Wetlands</u>			
Baseline	164.4	---	
Impacts	5.0	---	
Mitigation	5.9	---	
<u>Forested Wetlands</u>			
Baseline	116.3	---	116.3
Impacts	7.0		7.0
Mitigation	10.5		10.5
Baseline Total	333.6		333.6
Impacts Total	29.2		29.2
Mitigation Total	33.6		33.6

Note: Acres presented in on-channel ponds (0.9), channels (0.1), unforested wetlands (0.4), and forested wetlands (2.0) include those associated with the transportation system across Walnut Creek and therefore reflect higher numbers than USACE authorized impacts, in accordance with 33 CFR §323.4. The higher numbers have been included for the Railroad Commission for tracking impacts. Mitigation of these areas will follow that required by the Railroad Commission under §12.380(e)(5).

32. Walnut Creek has submitted all information required for the reclamation plan in accordance with §12.145. The application, as supplemented, contains a reclamation plan that will restore the mined and disturbed areas to predominantly pastureland. Pit Areas 1, 2, and 3 have been topsoiled and revegetated or are in the process of revegetation. Walnut Creek proposes the use of topsoil replacement for Pit 6; for the depth interval below the topsoil to four feet in depth, Walnut Creek proposes the use of a subsoil substitute [subparagraph (a)(i)-(iii)]. Topsoil will be removed, stored, and replaced following the backfilling. For Pit 6, topsoil replacement will consist of all topsoil, and if topsoil is less than six inches, Walnut Creek will remove, segregate, and redistribute a six-inch layer that includes the A-horizon and the unconsolidated materials immediately below the A-horizon. Walnut Creek proposes a minimum 7 inch topsoil replacement thickness in Pit 6. A grade-stake method will be used to ensure that the topsoil is distributed as uniformly as possible over regraded areas. Some areas will be reclaimed to developed water resources. Section 145, Application, as supplemented, also includes the species to be

planted, planting procedures, and postmine soil monitoring and standards to be used for determining revegetation success. The reclamation plan is set out in §§12.145 - 12.154 of the application and Supplements 1 and 2. Walnut Creek has submitted all information required for the reclamation plan in accordance with §12.145 for reclamation during the proposed permit term.

(a). The Regulations at §12.384(b)(4) provide that rough backfilling and grading shall occur in accordance with the time schedule approved by the Commission on the basis of a detailed written analysis by the permittee. Mining and backfilling of pits in the Pits 1, 2, and 3 Areas are complete. Pit 1 Area is permanently revegetated except for the haul road, and approximately half of the Pit 1 Area has been released from bond and removed from the permit area. Pit 2 is in the process of permanent revegetation. Temporary structures will be reclaimed when no longer needed. The Pit 3 area has been permanently revegetated. Operations in Pit 6A are ongoing. Mining in Pit 6B was completed in 2015; backfilling and regrading is continuing, and revegetation is ongoing. Walnut Creek indicates that no variance from the time and distance requirements for backfilling and regrading is requested for Pit 6B. Mining in Pit 6C is ongoing in an easterly direction. Mining in Pit 6D is scheduled to begin in 2018 and will be completed in 2019. For the areas proposed for mining in the application, as supplemented, Walnut Creek proposes topsoil replacement. Topsoil will take up to eight months to complete after the achievement of approximate original contour, and the extended responsibility period (ERP) for vegetation will be initiated within one year after completing permanent revegetation. Final bond release will be requested after completion of the ERP.

(i). The application includes the specific mining and reclamation operations for the subareas of Pit 6 (Pit 6A, 6B, 6C, and 6D), depicted on Figure 145-1a (Pit 6A West Half), Figure 145-1b (Pit 6C North Area), Figure 145-1c (Pit 6A East Half) (S1), Figure 145-2 (Pit 6D), and in Table 145-2 (General Reclamation Table)[§12.145(b)(1), showing the sequence and timing of mining and reclamation operations within Pit 6 with approved and proposed variances from the distance and timing requirements. Some areas will require a selective subsoil handling plan to ensure that no acid-forming and toxic-forming materials (AFM/TFM) will be present in the top four feet [subparagraph (d) of this Finding of Fact]. Walnut Creek has also requested the timeframe of 24 months from coal removal to complete rough backfilling and grading in subareas 6A, 6C, and 6D and a distance of within 1,500 feet from the toe of the highwall. The application, as supplemented, includes a request for approval of a reclamation timetable for backfilling,

regrading, accomplishment of approximate original contour (AOC), topsoil replacement, revegetation (temporary and permanent), initiation of the extended responsibility period (ERP), and application for bond release. The reclamation timetable of 24 months and 1500 feet from the toe of the highwall for backfilling and regrading is approved as set out in the application as supplemented for Pits 6A, 6C, and 6D [§12.145(b)(3)] (S2), and will result in reclamation efforts occurring as contemporaneously as practicable as required by §12.383.

- (ii). Staff reviewed Walnut Creek's request for a variance from the time and distance requirements. Four lignite seams will be recovered in the Pit 6 Area. Specific operational techniques will be used based on a study of the Pit 6 Area soils present and depth of mining, location of AFM/TFM materials that must be placed below the top four feet of reclaimed soils, and operational sequencing necessary that will require additional time and distance for three areas of Pit 6. The timetable contained in the application for Pits 6A, 6C, and 6D has been demonstrated to be necessary for the proposed operations.

 - (iii). Permanent reclamation schedules for the requested permit term are provided that support Walnut Creek's request for variance. Table 145-3 shows the anticipated annual disturbance and reclamation schedule for the seventh permit term (S1). The following exhibits were filed that show the sequence and timing of mining and reclamation operations within Pit 6 with approved and proposed variances from §12.384. For Pit 6A, Exhibits 139-27.7 – 139-32.7 (S1); for Pit 6B, 139-27.7 – 139-28.7 (S1); and for Pit 6C, Exhibits 139-27.7 (S1) and 139-28.7 (S1); and for Pit 6D, Exhibits 139-29.7 – 139-32.7 (S1). In addition, Figure 145-1c (Pit 6A East Half) (S1), Figure 145-1a (Pit 6A West Half), Figure 145-1b (Pit 6C-North Area) and Figure 145-2 (Pit 6D) (S1) illustrate the systematic and chronologic sequence of reclamation milestones and objectives will be attained through release of reclamation obligations that, with the soil testing plan contained in Appendix VII of Staff's TA (Appendix II to this Order), will meet the requirements of §12.145(4).
- (b). A detailed reclamation cost estimate is included in the application, S2, as required by §12.145(b)(2) of the Regulations. Staff also calculated reclamation costs, and recommends that the Commission adopt the estimate contained in the application by Walnut Creek. The

Commission adopts Walnut Creek's estimate of reclamation costs as more conservative in that it is in a larger amount and therefore more appropriate for reclamation by a third party in the event of forfeiture. The accepted reclamation performance bonds are Surety Bond No. SUR60000217 issued by Ironshore Indemnity, Inc. in the amount of \$22,000,000, and Surety Bond No. 800006518, issued by Atlantic Specialty Insurance Company, in the amount of \$21,198,583, totaling \$43,198,583 accepted by Commission Order dated January 27, 2015. This amount is greater than the recommended reclamation cost estimate, \$39,843,242. No additional bond is required.

- (1). Walnut Creek's estimate is based on Exhibit 142-2, *Term 7 Permit Renewal Bonding Changes*, dated February 8, 2016 (S2) showing areas proposed for removal from bond and bond category change areas. The proposed bond map is Exhibit 142-1, *Term 7 Permit Renewal Bond Map*, dated February 8, 2016 (S2). Acreage figures for various disturbances are listed in Appendix 145-3 (S2), *Projected Reclamation Acreage and Costs*. Staff verified in an inspection on March 8, 2016 that no mining activity or mining related activity was observed in areas requested for a bond-rate reduction. Walnut Creek's estimate totals \$39,843,242 is a more conservative estimate than Staff's, \$39,716,788. Staff recommended that Walnut Creek's estimate should be adopted. Walnut Creek's estimate is adopted.
- (2). The last Staff cost estimate was \$40,027,698 dated January 5, 2016. For the renewal/revision application, Staff estimated reclamation costs for the mine based on the information contained in the application, as supplemented. Staff's estimate, included in Appendix II to the Staff's TA, includes reclamation costs per acre at the mined rate, disturbed rate, and ancillary rate based on the disturbance categories shown on Exhibit 142-1. Staff's estimate was revised from its reclamation cost estimate approved in Revision No. 14 for the permit dated January 5, 2016 and incorporates the latest equipment costs, revised equipment productivity for a 772 dump truck instead of an obsolete 773E truck, and the changes proposed in the renewal/revision application, including revised topsoil depths and a cost for well plugging. Staff provided a summary of its costs on page 56-7 of the Technical Analysis document:

Disturbance Level¹	Acres	Cost/Acre	Total
Pit 1: Mined	302	\$8,713	\$ 2,631,326
Disturbed	257	\$3,633	\$ 933,681
Ancillary	0	\$1,327	\$ 0
Phase II Release	64	\$1,327	\$ 84,928
Pit 2: Mined	955	\$8010	\$ 7,649,550
Disturbed	201	\$3,633	\$ 730,233
Ancillary	4	\$1,327	\$ 5,308
Pit 3: Mined	77	\$8,713	\$ 670,901
Disturbed	18	\$3,633	\$ 65,394
Ancillary	0	\$1,327	\$ 0
Pit 6: Mined	20,799	\$50	\$ 1,039,950
Disturbed	9	\$7,500	\$ 67,500
Ancillary			
		Sub-Total	\$36,106,171
		Administrative Costs (10%)	\$ 3,610,617
		Total Costs	\$39,716,788

¹ **Mined Areas:** Any area where spoil is deposited and the active pit and highwall reduction areas.

Disturbed Areas: Includes construction activities for sedimentation ponds, diversions, access roads, haul roads, and facilities where topsoil is removed but the area is not mined.

Ancillary Areas: Includes disturbance areas on which soil preparation and seeding are the only required reclamation activities.

² All acreage figures were taken from Table 145-4. *Projected Reclamation Acreage and Costs* and Exhibit 142-1, *Term 7 Permit Renewal Bond Map*, dated revised February 8, 2016, ins Supplement 2.

³ The reclamation costs per acre are taken from the Staff Reclamation Cost Analysis.

- (c). Postmine contours are depicted on Exhibit 145-1 (Pits 1, 2, and 3) (*Conceptual Postmine Topography Pits 1, 2 and 3 Area*) (S1) and on Exhibit 145-2 (*Conceptual Postmine Topography Pit 6 Area*); premine and postmine slopes are depicted on Exhibits 145-3 and 145-4, respectively. Walnut Creek will backfill and regrade to approximate original contour in accordance with §12.145(b)(3) of the Regulations. The application, as supplemented, includes revisions to slope categories with percentages of acreage revised from the approved permit to address changes due to the progression of mining. The following slope category percentages were calculated by Staff in its table (p.62, TA) based on Table 145-5 of the application (S1): Slopes of less than 1%, 30.1% of acreage, compared to the premining percentage, 22.4%; slopes of 1-3%, 32.0 % compared to the premining percentage of 22.4%; slopes of 3-5%, 21.1% of

acreage, compared to a premining percentage of 18.1%; slopes of 5-10%, 13.8% of acreage, compared to 13.2 % of premining acreage; slopes of 10-15%, 2.0% of acreage, compared to 2.2% of premining acreage; slopes of greater than 10%, 1%, the same as the premine percentage.

The changes constitute increases in slope for more acreage in the less than 1% range, the 3-5% range, and the 5-10% range, and decreases in slope for more acreage in the 1-3% and 10-15% slope categories. All changes are slight; the greatest percent changes are an increase of 7.7 percent in the lowest slope category and a decrease of 11.1 acres in the next to lowest slope category. No significant changes will occur in the higher slope categories. The resulting slope percentages are similar to the approved postmine slope percentages. The changes in slope categories are approved.

- (d). Because of concerns regarding acid-forming and toxic-forming (AFM/TFM) materials in some depth intervals of the overburden, usually associated with lignite seams, Walnut Creek requests approval of subsoil substitution with selective handling of overburden in the construction of subsoil (depth of topsoil to four feet in depth). Walnut Creek demonstrated that certain materials are the best available for construction of the subsoil portion of reclamation and that they may be selectively handled for placement in the subsoil. The approved permit contains Appendix 145-SSRA No. 1 (Subsoil Request Area 1) in Permit No. 27F, Supplement 5, and in Appendix 145-SSRA No. 2 in Permit No. 27G, Supplement 7. In this application, as supplemented in S1 and S2, Appendix 145-SSRA 3 is included. Based on the information provided in the application, as supplemented, and the soil monitoring plan, the subsoil substitution plan for the Pit 6 area is approved.
- (i). Materials filed in the approved permit and in this application, as supplemented, indicate that acid-forming and toxic-forming materials may exist in overburden zones associated with the D, F, G, and J lignite seams. Because of this, and after examination of zones containing suitable materials, Walnut Creek will use only overburden materials above the F seam, above the E seam, and/or between the E and D seams in reclamation of the top four feet of the reclaimed surface.
- (ii). The data for materials to be used in the top four feet were then examined to determine the intervals that were appropriate for subsoil reclamation. In Appendix 145-SSRA 3, Walnut Creek has identified and characterized areas from which proposed substitute material from selected overburden by dragline and selected overburden by truck/shovel

(or other machinery) will originate. Exhibit 127-1 identifies the mine areas where each will be utilized, identified as “dragline operation” and “truck shovel operation” or with other machinery as “truck shovel assist” or “truck/shovel overburden.” Figure SSRA 3 depicts the areas from which the overburden for subsoil replacement is located. Data for overburden cores within or influencing SSRA No. 3 were used to characterize the 509-acre area proposed for mining during 2016-2020. Review of the materials to be selectively handled and a comparison with the baseline soil characteristics and frequency distributions and weighted mean values for pH, acid-base account (ABA), and clay and sand percentages shows that the proposed subsoil substitute material will be equal to or better than the native soils and is the best available material for subsoil substitution. Table SSRA 3-2 sets out the native subsoil weighted mean values for pH and ABA, and the percentages of clay and sand. Also set out are the frequency distributions by percentage of specific concentrations of pH (≥ 5.0 , 4.5 - 4.9, and 4.0 - 4.4 standard units) and ABA (≥ 0 , -1, -2, and ≤ -3) based on data contained in Appendices 134-3 and 134-4 of approved Permit 27G, and the frequency distributions by percentage for native subsoil with a clay percentage $\leq 40\%$ and $>40\%$ soils and for native subsoil with a sand percentage of $\leq 80\%$ and $>80\%$. Table SSRA-3-3 provides the same for the truck/shovel material (truck/shovel assist and truck/shovel overburden) and for the selected overburden material handled by the dragline. Table SSRA 3-5 provides a comparison of the native soil baseline to the selected overburden and truck/shovel material. Selective handling of overburden and subsoil replacement is approved as set out in this Finding of Fact, subparagraph (a), and should result in a slightly less clay percentage in the truck/shovel material and slightly better pH values in the selected overburden. The lesser clay particles in the postmine soils reclaimed with subsoil substitute should also result in a more balanced particle size distribution that will provide increased moisture and nutrient storage and availability for plant production than the native subsoil.

- (iii). Walnut Creek’s approved postmine soil monitoring plan includes sampling to evaluate the postmine Pit 6 area to ensure compliance with requirements for the quality of the postmine top four feet and incorporates a contingency plan for proposed remedial measures should AFM/TFM occur [Section 145(b)(6)]. The soil testing plan includes sampling of composite soil samples of the bottom of topsoil to four-foot depth for various constituents including total selenium and total boron, as well as a random 10%

sampling of this interval for various constituents including cadmium. Walnut Creek will use soil amendments and fertilizer based on soil testing results should remedial measures be required prior to revegetation. The soil testing plan setting out all parameters for which testing will be performed is set out in Staff's TA Appendix VII contained in Appendix II to this Order.

- (e). The revegetation plan is contained in the application, S2. Walnut Creek proposes the following postmine land uses: pastureland, developed water resources, and industrial/commercial. The application, as supplemented, includes all required information for a revegetation plan as required by §12.145(b)(5)(A)-(F) of the Regulations for mined and disturbed areas including a general timetable for revegetation (Table 145-2), proposed planting periods (Table 145-11) temporary vegetation/cover crops (Table 145-12), grasses for revegetation (Table 145-13), including volunteer species, forb species for inter/over seeding (Table 145-14), including volunteer species, woody vegetation species (Table 145-15) including volunteer species, aquatic and wetlands plants (Table 145-16) including volunteer species.
 - (i). Planting procedures and methods, mulching techniques, seeding rates (in Tables 145-12 through 145-15), and irrigation and pest control measures, and evaluation of cover and productivity. The use of pastureland is based on landowner preference and premine land uses. Pastureland areas will primarily be revegetated with coastal Bermudagrass or other improved bermudagrasses. Bunchgrasses may also be used. Non-native forb species may be used to benefit local wildlife. Woody vegetation will be used in association with developed water resources or in shelterbelts, in mottes, and for wildlife enhancement such as in wetlands and depressions. Woody species will be planted at a minimum rate of 30 stems per acre or at a higher rate for wetlands if required by the USACE. Generally, aquatic plants will range between 1 to 20 plants per 100 square feet of planting zone. Select areas will be seeded with grasses, forbs, and tree species for wildlife benefit.
 - (ii). Mulching and the planting of cover crops will be used for stabilization during reclamation to prevent erosion when areas are not ready for permanent revegetation. Hay or straw mulch will be used with cover crops for stabilization. Cover crops may be disked under and used as mulch. Seeding may be used as a mulch technique in standing cover crops. Mulch with permanently revegetated areas will be applied at one ton per

acre on areas of less than 10% slope, and two tons on areas of greater than 10% slope. Irrigation will be used to establish woody plants and in the event of drought.

- (iii). SMRD Staff proposed Permit Provision No. 11, as numbered by Staff, which requires WCMC to coordinate jointly with TPWD and Staff during the first 12 months following permit issuance to correct inconsistencies between the planting lists contained in Section 12.145, correct errors, and annotate and update the planting lists to improve their applicability with regard to fish and wildlife enhancement. WCMC responded to Staff's TA by noting that its planting lists have been in place for multiple permit terms, and consequently may need updating to include new varieties or developed species. WCMC supports reviewing and updating planting lists, if appropriate, in Section 12.145 and submitting a proposed revision to make any necessary changes to the relevant tables for administrative review by the SMRD Director during the first 12 months of the new permit term. WCMC and Staff have consulted on this provision and agree that Permit Provision No. 11 should be revised to read as follows:

WCMC shall coordinate with Commission Staff to determine if changes to the planting lists in Section 12.145 are needed. Any changes identified shall be submitted in a revision to the permit within 12 months of permit issuance for administrative review and approval by the SMRD Director.

The Commission adopts Permit Provision 11 as revised, renumbered as Permit Provision No. 7 in Appendix I.

- (iv). Success of revegetation will be determined as adapted from the Commission's August 1999 *Procedures and Standards for Determining Revegetation Success of Surface-Mined Lands in Texas*. Ground cover for pastureland will be at least 90% of the technical standard of 95%. Productivity will be measured by harvesting of plots (using sample points and use of multiple harvests to determine production for a growing season) or whole field harvest (with 15-day prior notification to the Commission) using cut and cured hay bales. Productivity must equal or exceed 90% of the U.S.D.A.

Natural Resources Conservation Service technical standard developed for the Calvert Mine (Appendix 12.145-2 of the Fifth Permit Term Application). For enhancement features, the standard used will be the standard of the associated land use in that no fish and wildlife land use is proposed. The revegetation portion of the reclamation plan is in compliance with §12.145(b)(5)(A-F).

- (v). WCMC provided a plan for reclamation of the disturbed lands within the permit area contained in Sections 12.145 through 12.154 of its permit application and Supplements 1 and 2. In response to the same, Staff has proposed Permit Provision No. 13 as follows:

Within 30 days of permit issuance, WCMC shall submit for administrative review and approval by the SMRD Director a revision to provide revised text regarding the standards for success that it will use for woody vegetation in developed water resources and pastureland land-use areas.

WCMC has responded to this permit provision by stating that neither the Regulations nor the published “Procedures and Standards for Determining Revegetation Success on Surface- mined Lands in Texas” require performance standards for woody vegetation in Developed Water Resources or Pastureland land uses. Within ninety (90) days of permit issuance, WCMC has agreed to submit a revision to delete any text in Section 12.145 of the permit application that could suggest that such standards exist and requests 90 days from permit issuance to submit its revision. Staff agrees to this approach, and sponsors the Revised Permit Provision No. 13:

Within ninety (90) days of permit issuance, WCMC shall submit a revision to Section 12.145 to remove text referring to success standards for woody vegetation in developed water resources and pasture land use area. The revision may be approved administratively by the SMRD Director.

The Commission adopts this permit provision as revised and as renumbered Permit Provision No. 8 in Appendix I.

- (f). The selective handling plan and soil testing plan set out in Appendix II to this order (from Staff’s TA3) will ensure that the top four feet of reclaimed soils are free of acid-forming and toxic-forming materials (AFM/TFM) and provide an appropriate soil medium for revegetation in

accordance with §§12.145(b)(5)(G) and 12.145(b)(7) of the Regulations. Walnut Creek has also described its methods to adequately dispose of debris and combustible materials. Overburden and topsoil will be sampled to a depth of four feet on 5.7-acre grids with two sample intervals, surface to replaced depth of topsoil and replaced depth of topsoil to 4 feet. Depth of topsoil will be reported with soil monitoring reports. Composite samples from each grid will be tested for the parameters set out in the soil-testing plan to determine soil quality. A random ten percent will be sampled and tested for the following trace elements, in their total form: cadmium, selenium, and boron (hot-water extractable). Sample results will be reported to the Commission. Topsoil will also be sampled during the fourth year of the ERP. Sampling times during productivity assessment periods are also set out in the plan. Walnut Creek will use remediation techniques for any problem areas located based on sampling and testing results. The soil-testing plan also includes additional sampling, testing, and reporting (no later than the second month of the fifth year of the ERP) of a random 10% of the 5.7-acre grids during the fourth year of the five-year ERP. The soil-testing plan includes all measures required to ensure that AFM/TFM is identified and remediated if necessary and to ensure that an appropriate soil medium is present for revegetation. Staff noted that the postmine soil performance standards included in Walnut Creek's S4 provided to correct ABA values that had been analyzed prior to 2000 that contained false positive pyritic sulfur values were incorrect; Staff provided Appendix VII Soil Testing Plan and Postmine Soil Performance Standards that includes accurate pH and ABA values. This appendix is included as Appendix II to this Order and is hereby approved.

- (g). Walnut Creek has designed its operations plan to maximize the recovery of coal in accordance with §12.145(b)(6) to the extent geologically possible consistent with fuel requirements, efficiency of equipment, and compliance with environmental laws [pp.145-76-77 (S1)] by its operations plan, by mining to all depths to retrieve all seams that are consistent with safety, minimizing in-pit losses, and use of an efficient loading operation.
- (h). Appropriate methods will be used to bury, segregate or dilute AFM/TFM and to appropriately dispose of materials by recycling, disposal, and storage as required by the Regulations §12.145(b)(7) by its topsoil salvage and subsoil substitution plan, and disposal of debris and fire hazard materials such as lignite fragments and carbonaceous clays.
- (i). Walnut Creek provided acceptable drill hole casing and sealing procedures required by §12.145(b)(8) and §§12.331-333 (Application and S1, Appendix 145-1). Existing water wells

will be plugged as required by the Commission regulations and regulations administered by the Texas Department of Licensing and Regulation (16 TEX. ADMIN. CODE §76.1 *et seq.*) promulgated pursuant to the Texas Water Well Drillers Act, TEX. WATER CODE Chs. 32 and 33 [§12.145(b)(8)]. Walnut Creek will notify the Commission prior to undertaking a drilling program within the permit area but outside the disturbance boundary and that drilling will occur in bonded areas. Walnut Creek has demonstrated the procedures it will use for sealing and reclaiming boreholes and water wells, as well as reclamation procedures around drilling sites. There are two inactive oil and gas wells in the northern portion of the permit area; no disturbance is planned around these wells during the requested permit term.

- (j). Walnut Creek has undertaken to comply with federal and state air quality laws, water quality laws, and other health and safety standards applicable to proposed disturbances. Sufficient information is presented in the application that reflects compliance with applicable laws administered by the Commission, the Texas Commission on Environmental Quality, the Mine Safety and Health Administration, and the U.S. Army Corps of Engineers. The application is in compliance with §12.145(b)(9).

- 33. The approved permit and application for renewal/revision, as supplemented in S1 and S2, include a description as required by §12.146 of measures to be taken to protect the hydrologic balance of the surface and groundwater systems within the permit area and adjacent areas and to prevent damage outside the permit area, to meet water quality laws, and to protect groundwater and surface water users. This includes the requirements of §12.146(a), general requirements for surface water and groundwater, including preventative measures, §12.146(b), an adequate monitoring plan for groundwater, §12.146(c), an adequate monitoring plan for surface water, and §12.146(d), and a determination of probable hydrologic consequences (PHC) as required by §12.146(d). The approved permit and application include a probable hydrologic consequences determination (PHC) in Section 146 of the application, including computer modeling of potential drawdown of aquifers within and near the permit area to determine impacts to groundwater users of Calvert Bluff sands and Simsboro sands. The application, as supplemented, requests approval of new water control structures for the permit term requested. Walnut Creek does not propose to increase the permit boundaries. The geologic setting of the permit and surface water and groundwater conditions are similar to those that have been reviewed in previous permit applications. Changes proposed relate to documentation of current conditions through the data compiled by monitoring, changes to the monitoring plans, and slight modification of the probable hydrologic

consequences determination made by Walnut Creek. Alternative water supplies have been identified (Finding of Fact No. 19).

- (a). Walnut Creek has provided information to protect the hydrologic balance of groundwater in accordance with §§12.146(a) and (b). To date, only insignificant or minimal changes have occurred to the quantity and quality of groundwater and have been as predicted in previous reports contained in Walnut Creek applications, including artesian pressure declines and water level declines in local and insignificant Calvert bluff sands. The application includes a summary of groundwater monitoring data for Pit 6 (Table 146-1), indicates that monitoring will continue, and indicates that depressurization pumping will continue.
 - (i). Walnut Creek includes a list of wells and monitoring schedules for long-term groundwater monitoring of the permit area (LTGM) in Table 146-2 (S2). Locations of monitoring wells are depicted on Exhibit 128-1, S2, *Location Map*. There are 37 Simsboro wells, eight Calvert Bluff wells, and three spoil wells. The table includes the frequency of monitoring, quarterly or annually. Five Simsboro wells are sampled for water quality quarterly. Six Calvert bluff wells are sampled for water quality quarterly, and three spoil wells are sampled for water quality quarterly. Water levels in eleven Simsboro wells are monitored annually subject to the landowner's permission, and nine are measured quarterly with the landowner's permission. Seventeen Simsboro wells, seven Calvert Bluff wells, and three spoils wells are monitored quarterly and are not subject to the landowner's permission. No new monitoring wells are proposed. Staff indicates that adequate monitoring of groundwater will occur.
 - (ii). Walnut Creek indicates that depressurization pumping will be less than in previous permit terms. Drawdown resulting from depressurization pumping will decrease, so that some recovery of Simsboro water levels is anticipated. Because of the decline in pumping by about half, mitigation due to decline in water levels is not likely to be required. No mitigation due to changes in water quality has been required. Any decline in water levels in underburden aquifers, which is not predicted, may reduce the rate at which water can be produced from a specific well or location. Mitigation in these instances may be accomplished by setting pumps deeper or by recompleting or drilling new wells so that pumps are set sufficiently deep.

- (iii). Walnut Creek indicates that LTGM sampling and monitoring procedures will not change significantly for the proposed permit term. These include submittal of quarterly monitoring results (field parameters for specific conductance and pH) and analytical laboratory results of water quantity and quality [total dissolved solids (TDS), total iron and manganese, dissolved iron and manganese, chloride, and sulfate] within 60 days of sample collection (or 30 days from the end of the quarter, whichever is earlier), as well as any plugging and replacement of wells.

- (iv). Walnut Creek proposes continuing dewatering and depressurization operations to control pit inflow and to improve highwall stability in the Pit 6 area. Results of computer modeling of the effects from the dewatering or removal by mining of the overburden Calvert Bluff sands for the Pit 6 area that generally produce insignificant volumes of variable quality water show that the dewatering drawdown effects will have little impact generally in that the sands are small isolated overburden sands that have little hydraulic conductivity to productive parts of the Calvert Bluff. Groundwater flow is toward the mine pits and effects will be generally limited to areas near the mine pits. Groundwater quality impacts are not expected to surrounding aquifers such as the Simsboro, because of poor hydraulic connection. Resaturation may take many years through the mixed clay, silt, and sand. Long-term use of this aquifer is expected to be minor, and similar to the premine aquifer. Depressurization of the Calvert Bluff underburden sand and the Simsboro aquifer were modeled for the proposed permit term. The areas to be depressurized were modeled to determine the maximum and minimum amount of pumping needed for the Pit 6 area as proposed and to develop plans for depressurization. Artesian pressure in the Simsboro will be affected. Walnut Creek predicts, based on maximum pumpage that increases in declines of artesian pressure in Simsboro water levels will be small. Walnut Creek indicates that drawdown due to depressurization changes will result in few occasions of mitigation. Walnut Creek will continue to submit an annual depressurization report during the first calendar quarter indicating the total volume of water pumped per well and collectively and pumping rates and water levels in monitoring wells, along with a map showing total water level changes since depressurization began. Exhibit 146-1 of the application, S1, depicts the simulated extent of five feet of drawdown through 2020. Water levels are expected to recover to premine levels, and no long-term adverse impact to water quality is expected. Walnut Creek also included Table 146-1, *Ground-water Quality Monitoring summary*

for the Pit 6 Area for Calvert Bluff and Simsboro Wells, and Table 146-2 (S2), Proposed Long-term Groundwater Monitoring Program, identifying these long-term monitoring wells and spoils wells, including water sampling results and water level recovery. These wells will be used to assess any changes in water quality or water levels. Walnut Creek indicated that little depressurization will be necessary and that three existing wells along the perimeter of Pit 2 will continue to be used for monitoring and will be sufficient to monitor depressurization effects through 2020. Artesian declines should be less than previously experienced because depressurization pumping will be less during the proposed permit term. Surface mining has not resulted in any effects on local water quality. Although discharge of depressurization water may increase flows, the streams within the permit area and adjacent areas are intermittent. No springs have been located within the permit area that might be affected. The water from depressurization will not contain excess suspended solids, and typically it will dilute the total amount and reduce suspended solids. Water pumped from depressurization wells is expected to be of good quality and will be discharged to streams at outfall structures and treated, if necessary, prior to discharge. Staff review indicates that the groundwater monitoring plan will be sufficient to ensure that effects on groundwater resources are minimized.

- (b). Walnut Creek included in the approved permit, application, and S1 an updated plan to protect the surface water hydrologic balance in accordance with §12.146(a) and (c). Walnut Creek proposes to affect approximately 7.4 square miles of the Walnut Creek watershed (138 square miles). As indicated in the Findings of Fact, ponds and diversions are proposed to control and discharge surface water pursuant to TCEQ permitting in accordance with water quality parameters, and appropriate discharge as well as stream monitoring will be conducted. Walnut Creek indicates in its evaluation of the PHC for surface waters that any impacts will be minor.
 - (i). Measures are included to ensure that no problems exist from acid-forming and toxic-forming materials. Final discharges from ponds will be monitored, and water can be routed to treatment ponds should acid and/or toxic-forming drainage, or excess suspended solids exist.
 - (ii). Water quality permit requirements will be met. Existing and proposed ponds will be adequate to handle runoff. Appropriate sediment control is proposed through the use of

diversions, detention ponds, sedimentation ponds, and treatment ponds. Drainage systems upstream and downstream of the permit area will be monitored; permitted outfalls as set out in Walnut Creek's TCEQ water quality permit will be monitored as required to ensure that effluents meet water quality requirements or that treatment occurs if necessary to ensure that mining related permitted discharges contributed to Segment 1242 of the Brazos River will not affect stream segment criteria.

- (iii). The surface water protection and monitoring plan is provided in the application, pp. 146-45 through 146-123 and appendices, as supplemented, and in Table 146-4 of the application. Long-term monitoring site locations, sampling and reporting frequency are included in Table 146-4; locations are depicted on Exhibit 146-6, *Surface Water Monitoring Stations and Discharge Outfalls*, as well as Exhibit 146-7, *Surface Water Monitoring Stations and Topography*. The plan has been revised to update the location of outfalls (Exhibit 146-6 and 146-7 and pp. 146-71 and 72). Sources of water for the outfalls and receiving streams are included, along with water quality data obtained from ongoing stream monitoring (Application, Appendix 146-3) and discharge water quality from groundwater sources in Summary Table 146-5 (application) for flow, pH, total suspended solids, total iron, total selenium, and settleable solids, total aluminum, and dissolved aluminum. A copy of the TPDES Permit No. 028881 is included in Appendix 146-4.

- (A). Existing Permit Provision No. 4 provides:

In accordance with the requirements of 40 CFR 434, WCMC must monitor all final discharge ponds weekly when discharging for the parameters listed in TPDES Permit No. 02881 and report these data to the Commission quarterly, within 30 days of the end of each calendar quarter.

This permit provision had been adopted to ensure that Pond SPC-4 would continue to be monitored until the pond was removed as an outfall from the TPDES permit and the corresponding watershed was released from reclamation obligations. The permit provision is no longer needed in that these have been accomplished. Accordingly, Permit Provision No. 4 is not retained.

- (B). Staff has recommended an additional permit provision, numbered by Staff as permit Provision No. 14. WCMC has provided its plan for protecting and monitoring the surface water resources in the permit area in Section 12.146 of its permit application and supplements. Staff has proposed Permit Provision 14 to supplement the information previously provided by WCMC:

WCMC shall report to the Commission via email or facsimile transmission (FAX) ponds with discharges that exceed the effluent parameter limits in TPDES Permit No. 02881 within 24 hours of becoming aware of the non-compliant discharge.

WCMC has indicated its agreement to this provision and will incorporate this commitment into the text of the permit in a subsequent revision to be filed within ninety (90) days of permit issuance. The Commission adopts Permit Provision No. 14, renumbered as Permit Provision No. 9 in Appendix I.

- (C). SMRD Staff has requested that existing Permit Provision No. 2 be retained. That provision provides:

The Commission shall be notified promptly of any changes in the list of impoundments and groundwater discharge points comprising each TCEQ and EPA outfall. The Commission shall be provided annually, within 30 days of the anniversary date of permit issuance, a revised outfall map identifying the impoundments and groundwater discharge points in each outfall. If there are no revisions to the impoundments or ground-water discharge points listed during the year, the Commission may be notified by letter in lieu of the annual map submission.

WCMC agrees that this provision should be retained. This information indicates the continued need for the permit provision. The Commission approves Permit Provision No. 2. The permit provision will ensure that the lists will remain current and that appropriate monitoring will occur.

- (iv). Data from monitoring of the eight stream stations are contained in Appendix 146-3 (application) and are summarized in Table 146-6 (application). Walnut Creek collected data from Stations 6-4 and 6-5S during the last permit term to monitor the Pit 6 area. Three new stations are proposed to be added. Station 6-3, located on Wilson Creek at

the Highway 46 crossing, used in the original baseline study for the Pit 6 area, is proposed to be reinstated. Two other new LTSM stations will be added [6-6 (Walnut Creek at the Highway 46 crossing)] and 6-7 (Walnut Creek, just downstream of the Haulroad HR-60 crossing, between the Pit 2 and Pit 6 mining areas). Station 4 on Walnut Creek will be removed due to the addition of proposed Station 6-7. The approved and proposed stations will adequately monitor the disturbances proposed for the renewal term, with the addition of the following proposed permit provision. Staff has offered proposed Permit Provision No. 15 to augment WCMC's surface water protection and monitoring plans in order to account for changes in stream channel geometry in the event of a 10-year/24-hour storm event:

Stream channel cross-sections shall be resurveyed after a 10-year/24-hour storm event, if any changes in channel geometry are observed during routine inspections or annually if a 10-year/24-hour storm event did not occur during the previous year. The resurveyed cross-sections and updated rating curves will be submitted to the Commission within 30 days of a 10-year/24-hour storm event, after significant changes in flow conditions or annually with the first quarter monitoring data.

WCMC has responded by proposing that Permit Provision 15 be revised as follows:

Stream channel cross-sections shall be inspected after a 10-year/24-hour storm event and resurveyed if measurable changes in channel geometry that might reasonably modify the rating curve are noted during these inspections. The resurveyed cross-sections and updated rating curves will be submitted to the Commission within 60 days of a 10-year/24-hour storm event or if significant changes are noted during routine inspections. If a 10-year/24-hour storm event does not occur and changes in channel geometry are not observed during the previous year, this will be noted annually with the first quarter monitoring data.

After consultation with Staff, Staff agrees to WCMC's revisions to Permit Provision No. 15. Accordingly, the Commission adopts the revised permit provision, renumbered as Permit Provision No. 10 as set out in Appendix I.

- (v). Discharge criteria are being met. No effects are anticipated to Walnut Creek downstream of the mine.

- (c). The application, as supplemented includes information to update the PHC for surface water impacts. Information is included indicating that concentrations of suspended and dissolved solids, total iron, total manganese, dissolved iron, dissolved manganese, and pH may increase slightly during mining but will approach premine levels following mining. Walnut Creek estimated sediment yields, runoff rates and volumes, and water chemistries from premine to postmine. Walnut Creek calculated peak flows before, during, and after mining, for the five-year permit term proposed and for the life of mine, as well as evaporation totals from proposed ponds for the 10-year/24-hour and 25-year/6-hour storm events. It is estimated that total peak discharges will be reduced from premine; rates of runoff will increase, but they should be attenuated by evaporation from impoundments and routing of water through spillways. Minor changes in the volume of runoff and runoff rates should occur. Flow regimes in Bee Branch, Big Willow Creek, Wilson Creek and Walnut Creek will be changed, but baseflow in these streams is expected to increase slightly. Changes in topography and drainage characteristics will change slightly and may affect basin size, shape, slope, and channel sinuosity. Changes may arise from reduced sediment, reduced flow, and increased baseflow. Evaporative losses of water are anticipated to increase from 291 acres of proposed postmine ponds from premine conditions of 42 acres, resulting in an increase from evaporative losses of approximately 208 acre-feet per year to postmine conditions of 1,408 acre-feet per year (S1). Walnut Creek indicates that when compared to approximately 21,210 acre-feet of runoff at monitoring station 3, a reduction of approximately 6% of average annual runoff or streamflow may be realized. Increases in consumptive losses are expected to have only minor impacts to receiving streams and no impact to downstream users. Increased TDS concentrations, chlorides, and sulfates that have been noted appear to be due to activities upstream of mining. Walnut Creek indicates that trace metals may leach from oxidation of spoil material, especially in mine pits but that mine water in the pits will be routed to sedimentation ponds prior to discharge. Walnut Creek monitors for aluminum concentrations in that the natural stream water and in discharges from sedimentation ponds in that the natural stream water contains moderate concentrations of particulate aluminum; however, these concentrations are not predicted to have a negative impact on receiving streams. They are below the upper limits for protection of aquatic life. All projected impacts to surface water were considered by Walnut Creek to be minor.
- (e). On September 1, 2016, SMRD Staff filed its Addendum No. 1 to its TA, which contained its opinion of the probable Cumulative Hydrologic Impact Assessment (CHIA) on surface and groundwater systems by proposed and anticipated mining operations within a defined

Cumulative Impact Area (CIA). WCMC's permit renewal approval is dependent on the CHIA illustrating that mining operations at the Calvert Mine have been designed to prevent material damage to the hydrologic balance outside the Calvert Mine permit area. SMRD Staff has prepared 2 previous CHIA for the Calvert Mine- on April 19, 1993 for Permit No. 27B (Docket No. C2-0111-SC-27C) and on October 14, 2008 for Permit No. 27F (Docket No. C7-0025-SC-27-C, Staff's TA Addendum No.1) due to the increase in surface water acreage from 118.8 acres to 264 acres. The 1993 CHIA and 2008 CHIA were limited to the life of mine operations proposed at the time and did not include the areas proposed for mining in the upcoming permit term that WCMC's Renewal/Revision addresses. In this pending application, WCMC proposes to decrease the permit area by 648 acres. The current CHIA is a comprehensive update for the entire Walnut Creek watershed. Based upon the information provided by the applicant, Staff analysis of information contained in the application, as supplemented, and the Staff-prepared CHIA, the proposed surface mining and reclamation operations have been designed to minimize effects on surface waters and groundwater.

- (i). The existing mines in the Walnut Creek watershed are WCMC's Calvert Mine (Permit No. 27G) and Luminant's Bremond Mine (Permit 49A). The Walnut Creek watershed is a tributary to the Little Brazos River. Walnut Creek and the Little Brazos River are part of the Brazos River Basin. Walnut Creek is an intermittent stream with a watershed of approximately 138 square miles and is a subwatershed of the Little Brazos River basin, which covers 329 square miles. The Little Brazos River flows into the Brazos River approximately 25 miles downstream of the Calvert Mine.
- (ii). The Staff described the potential effects of the mining activities of the Calvert and Bremond Mines on the surface and ground water in the CIA by a) delineating two mass-balance calculation points in the CIA; b) evaluating baseline water quantity and quality; c) for surface water, evaluating chemical and physical changes in receiving stream flow, as well as geomorphic changes within the CIA; d) for ground water, evaluating potential aquifer-head drawdowns and declines as well as the physical and chemical changes in the reclaimed spoil areas, including chemical changes in the spoil groundwater.

- (iii). For surface water, total dissolved solids (TDS) was used as the indicator parameter in the mass- balance analysis to project changes to the chemical quality of surface water. Although Mass- Balance Location No. 1, on Walnut Creek immediately upstream of its confluence with Little Brazos River, showed the largest potential of TDS concentrations at 31.3% (from 240 mg/L to 315 mg/L), this value is significantly below the threshold value of 750 mg/L TDS for TCEQ Stream Segment No. 1202. Further downstream at Mass-Balance Location No. 2 on the Little Brazos River at identified irrigation Water Rights 4363A and 4364A, the cumulative effects are also predicted to remain significantly less than 750 mg/L. The cumulative impacts are also softened by the dilution caused by substantial runoff within the Brazos River Basin drainage area. TDS concentrations post mining are also predicted to be in an acceptable range.
- (iv). The physical changes expected within the mines' reclaimed areas will cause small changes in the quantity of surface water available for downstream users. Changes to be expected include attenuation of storm events due to surface water impoundments and longer sustained flows in receiving streams. This is insignificant when compared to the amount of storm water runoff originating within the CIA and the Brazos River Basin. In addition, it is not expected that post mine soils loss will be less than pre-mine due to the construction of surface water control and treatment structures.
- (v). For ground water, the Staff found that the projected aquifer-head drawdowns and declines due to mining activities were found to be insignificant within the CIA. This is due primarily to the limited extent of sand bodies and the usually unconfined conditions within isolated watershed areas in the Wilcox's overburden.
- (vi). Mining will cause physical changes in the spoil areas which will alter the spoil resaturation rates and change the geometry of the groundwater flow. However, the cumulative effects of mining on these values are insignificant.
- (vi). Mass balance analyses were also employed to project the impacts to water quality in the spoil area groundwater. These analyses showed measurable cumulative effects throughout the CIA for both mines, but these were significantly less than threshold values established for TDS concentrations in TCEQ Stream Segment No. 1202 and are

acceptable. The same is true for the effects of spoil-area groundwater on streamflow water quality in critical reaches outside the mine areas. The material damage is deemed insignificant because of the dilution effects of surrounding aquifers and from substantial runoff within the large drainage areas.

34. In the application, Walnut Creek proposed alternative land uses on tracts that it owns, on tracts that it leases or for which it has an easement or license agreement. The proposed changes to the tracts and acreage relate to lands proposed for removal from the disturbance area that were never disturbed (100 acres) and are as proposed for disturbance in the Pit 6A and 6D areas (674 acres). After supplementation of the application, Walnut Creek has provided a sufficiently detailed description to determine the acreage and locations of the proposed postmining land uses.
- (a). The changes proposed are to increase pastureland by 623 acres, increase industrial /commercial land use by four acres, and to decrease developed water resources by 24 acres. The changes are located in the Pit 6 area are to expand the disturbance boundary further east to encompass additional portions of Pit 6. Changes are also proposed for the Pits 1, 2, and 3 areas. Walnut Creek also proposes to increase the disturbance boundary to extend Pond SPC-29 and associated adjacent areas, to extend Pond AW-4, and associated adjacent areas, and miscellaneous areas adjacent to Pond SPC-27, as larger backwater areas. Walnut Creek proposes to reduce the disturbance boundary near Pond SPC-63B, temporary Pond SPC-66, the rights-of-way for rerouted CR 227 (Rose Hill Road), Williamsville Road, and miscellaneous areas adjacent to Pond SP-27. These changes will affect 44 tracts. Walnut Creek has depicted all land tracts on Exhibit 116-1 in Supplement 1, and tract sheets documenting ownership appear in Appendix 116-B of Supplement 1.
 - (b). Of the 44 tracts, Walnut Creek owns the surface of 29. Walnut Creek provided signed landowner consultations for two leased tracts proposed for disturbance during the proposed permit term. Changes on 11 tracts, including 10 leased tracts occur because of a reduction in the permit boundary, and changes on three tracts result from a contraction of the disturbance boundary.
 - (c). The application, as supplemented, meets the requirements of §§12.147 and 12.399(c) for alternative postmine land uses. The application includes evidence of landowner consultation for changes to the approved postmine land uses. Appropriate agencies were provided the

opportunity to review the application and to provide comments. The proposed uses will not result in unreasonable delays in reclamation. The areas are bonded and will remain bonded until release of reclamation obligations is determined to be appropriate by the Commission. Plans were designed under the general supervision of a registered professional engineer who will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, vegetative cover, and aesthetic design appropriate for the proposed land use. No cropland alternative land uses are proposed for which other requirements would be applicable. The application, as supplemented, and approved permit describe how the proposed alternative postmining land use is to be achieved and the necessary support activities that may be needed to achieve these uses. The application and approved permit include the consideration given to making the surface mining and reclamation operations consistent with surface owner plans and applicable land use plans and programs. The application and approved permit have identified the steps to be taken to comply with applicable water quality laws, rules, and regulations. The proposed uses will be compatible with adjacent land uses. The alternative land uses as proposed are approved. Walnut Creek consulted with all landowners for tracts proposed for alternative land uses that are proposed for disturbance during the requested permit term. Based on the last approved revision to postmine land uses (Revision No. 12), the following is a comparison between the approved postmine land use acreages of disturbed lands and that proposed in the application:

Postmine Land Use Category	Approved Permit No. 27G, Rev. No. 12 Disturbance (acres)	Proposed Renewal/Revision Supplement 2 Disturbance (acres)	Proposed Change (acres)
Pastureland	3,776	4,399	623
Grazingland	0	0	0
Industrial/Commercial	48	52	4
Undeveloped	0	0	0
Developed Water Resources	326	302	-24
Total	4,150	4,753	603

- (d). The Regulations require that cemeteries be protected and mining cannot occur within 100 feet of a cemetery. Staff initially proposed that existing Permit Provision No. 6 should be retained as revised:

WCMC may not disturb in or within 100 feet of Tract No. 6333 (Nesbitt Cemetery) and Tract Nos. 6533 and 6533A (Beck Cemetery) until WCMC provides documentation to demonstrate that the site(s) is no longer a cemetery.

Walnut Creek responded with verification that Tract No. 6333 is a former church site and has never been used as a cemetery. WCMC also has a coal lease on the tract which gives it right of entry. Walnut Creek's Post Mine Land Use plan shows that Tract Nos. 6533 and 6533A will not be disturbed. Walnut Creek and Staff now agree that the permit provision should not be retained. The permit provision has been eliminated.

- (e). Staff recommended an additional requirement regarding the postmine land map as described in Staff-proposed Permit Provision No. 16:

Within 30 days of permit issuance, WCMC shall either revise the postmine land-use map to depict CR 427 Alternate or provide for administrative review and approval of the SMRD a signed landowner consultation approving the proposed postmine land use for the tract.

WCMC responded by requesting 90 days to obtain the requested signed landowner consultation approving the post-mine land use for the tract. Staff has agreed that this request is reasonable. The Commission adopts Permit Provision No. 16 as revised and as renumbered in Appendix I as Permit Provision No. 11 in Appendix I:

Within 90 days of permit issuance, WCMC shall either revise the post-mine land-use map to depict CR 427 Alternate or provide for administrative review and approval of the SMRD a signed landowner consultation approving the proposed post-mine land use for the tract.

35. Section .148 of the application, as supplemented, includes a water control plan (depicted on Exhibits 148-1 and 148-2) and information in the application, as supplemented, identify one sedimentation pond (SPC-65), two control ditches (CDC-73 and CDC-74), and two detention ponds (DP-60 and DP-61) to be constructed in the Pit 6 Area during the requested permit term. The information meets the requirements of §12.148 (ponds and impoundments) and §12.150 (diversions) for the proposed permit term. No coal-processing waste banks, dams, or embankments are proposed. No permanent sedimentation ponds or permanent impoundments are proposed in this application, as supplemented. General design plans have been submitted for SPC-65 in accordance with §12.148 and CDC-74, in accordance with §12.150, each certified by a registered professional engineer. Both structures will divert Wilson Creek and will also abut the creek; therefore a stream buffer variance will also be required prior to construction. Details regarding the general design plans are set out on pages 100-101 of Staff's TA. The general plans contain a description, map, and cross section of the structures and

locations, preliminary hydrologic and geologic information as required by §12.148(a) and are approved. Detailed design plans for SPC-65 and CDC-74 will be submitted 2015-2016 for construction in 2017-2018. Detailed design plans must be submitted and approved prior to construction. No general or detailed design plans were submitted for CDC-73 or DP-60 or DP-61, and construction is not approved. An existing permit provision related to Ponds SPC-27 and SPC-28. The permit provision is no longer needed. Approved Permit Provision No. 3 provided that construction of modifications to approved Ponds SPC-27 and SPC-28 could not begin until documentation of MSHA approval of an abandonment plan and TCEQ's acceptance of the ponds' dams had been provided to and acknowledged in writing by the Director, SMRD. It also required that any modifications must be provided to the Commission for review and written approval prior to construction. In Staff's TA, this permit provision was proposed to be retained as Permit Provision No. 3 as revised:

Construction modifications to Ponds SPC-27 and SPC-28 may not commence until documentation of the Mine Safety and Health Administration's (MSHA) approval of an abandonment plan has been provided and acknowledged in writing by the Director of the Surface Mining and Reclamation Division. Additionally, the permittee must provide any modifications to the design plans of the ponds as a result of MSHA comments must to the Commission for review and receive written approval by from the Director prior to initiation of construction.

In response to the above proposed provision, WCMC provided letters from the SMRD Director dated August 27, 2010, November 9, 2010 and February 11, 2011, indicating the Commission's receipt of the MSHA final abandonment approval letter for both ponds. WCMC also indicated that Ponds SPC-27 and SPC-28 have been removed from water control and SPC-28 has been reclaimed. Based on this documentation, SMRD Staff has accepted and agreed to WCMC's request that this permit provision be deleted. Accordingly, Permit Provision No. 3 will not be adopted.

36. No underground mines exist within the proposed permit area or within 500 feet of the proposed permit boundary (§12.149).
37. One diversion, control ditch CDC-74 (Wilson Creek Diversion) is proposed in the application. Information was provided in Section 148 of the application and is set out in Finding of Fact No. 35.

The requirements set out in §12.150 of the Regulations have been met in the approved permit and in the application, as supplemented.

38. Walnut Creek proposes that mining and related operations will impact the public road system during the requested five-year term. Exhibit 152-1 is included depicting county roads. Walnut Creek indicates that the public and affected landowners will be protected from proposed mining operations and traffic flow will be maintained through alternative routes within the existing road system. Although Walnut Creek proposed closure of all of County Road 434 and 429 and portions of County Roads 127 and 432, as well as the reopening of County Road 127 during the requested permit term (Table 152-1), Walnut Creek has not filed proof of approval from the designated road authority (Robertson County) for these proposed closures, reopening, and relocations. These proposals are denied, without prejudice, in that documentation of required county approval has not yet been provided to the Commission.
39. Walnut Creek proposes no disposal of excess spoil (§12.153).
40. The application includes a revised Exhibit 154-1 (S1), *Transportation Plan*, containing depictions of existing and proposed roads as defined in the Regulations, 12.3(153) associated with mining, reclamation, or exploration including county roads. No new roads that are outside of the immediate mining area and water control (that are exempt from the definition of “road”) are proposed for the requested permit term; no design plans have been submitted for approval. Table 154-1 contains a summary of approved roads within the permit area: Haulroad HR-1, Service Road SR-4, as revised, Service Road SR-6, Haulroad HR-3, as revised, Haulroad HR-TNP, Service Road SR-9, as revised, Haulroad HR-60, and Service Road 66. Previously approved permits contained detailed information regarding approved roads. Walnut Creek has presented required information for its transportation system within the proposed permit area for the proposed permit term as required by §12.154 of the Regulations. No support facilities are proposed.
41. No public parks occur in or adjacent to the proposed permit area. No land in the National System of Trails or Wild or Scenic Rivers System occurs in or adjacent to the proposed permit area.

42. The application as supplemented reflects no outstanding notices of violation. Walnut Creek has not had a surface coal mining permit suspended or revoked, or reclamation bond forfeited. All notices of violation (NOVs) have been terminated or are within the time period set for appeal, in the appeal process, or are otherwise being resolved to the satisfaction of the issuing entity. Appendix VI, TA2 contains the Applicant Violator System Report prepared by Staff. No outstanding violations or unpaid fees are indicated. There are no outstanding enforcement matters that would prevent issuance of the renewed and revised permit (TA, Addendum No 2, Appendix VI).
43. The application, as supplemented, meets the requirements of §12.216.
- (a). The permit application is accurate and complete and demonstrates compliance with all requirements of the Act and 16 TEX. ADMIN. CODE CH. 12 as noted in the Findings of Fact in this Order and with the adoption of the permit provisions contained in Appendix I and the soil-testing plan contained in Appendix II of this Order.
 - (b). With the adoption of the permit provisions contained in Appendix I and the soil-testing plan contained in Appendix II of this Order, Walnut Creek has demonstrated that surface coal mining and reclamation operations, as required by the Act and Regulations, can be feasibly accomplished under the mining and reclamation plan set out in the supplemented application.
 - (c). A Cumulative Hydrologic Impact Assessment (CHIA), dated September 1, 2016 was filed for this application, as supplemented. Staff reviewed the impacts from operations to determine whether they have been designed to prevent material damage to the hydrologic balance outside the permit area. Staff assessed the aggregate effects of existing and proposed surface-mining activities on the hydrologic environment within the affected watershed systems. Staff indicates that in accordance with its Cumulative Hydrologic Impact Assessment (CHIA), no long-term adverse impacts are anticipated to occur in the underburden aquifer systems adjacent to the mined areas, to the overburden aquifer systems adjacent to the permit area, or to streamflow outside the permit area as set out in Finding of Fact No. 36, *supra*.
 - (d). The permit area is:

- (i). Not included within an area designated as unsuitable for surface coal mining operations under §§12.74 - 12.85;
 - (ii). Not within an area under study for designation as unsuitable for surface coal mining operations in an administrative proceeding begun under §§12.78 - 12.85;
 - (iii). Not on any lands subject to the prohibitions or limitations of §12.71(a)(1), (6), or (7);
 - (iv). Not within 100 feet of the outside right-of-way line of any public road, except as provided for in Subsection 12.72(a) and as otherwise approved by the Commission and transportation authority; and
 - (v). Not within 300 feet of any occupied dwelling, except as provided for in Paragraph 12.71(a)(5) and Subsection 12.72(f).
- (e). Walnut Creek's proposed reclamation and monitoring operations will not adversely affect any publicly owned parks or places included in or eligible for listing on the National Register of Historic Places, except as provided for in Paragraph 12.71(a)(3) of the Regulations.
- (f). Walnut Creek has provided to the Commission documentation required under Regulation §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.
- (g). The report of the Applicant/Violator System (AVS) operated by OSM is contained in Appendix VI of the Staff TA. As to the applicant or those who own or control the applicant, the AVS report indicates no pending violations which remain uncorrected; or, the violations are in the process of being corrected or are subject to a valid, good-faith appeal of the alleged violation. Walnut Creek has demonstrated compliance with §12.215(e) and satisfied the requirements for submissions and demonstrations under this paragraph.
- (h). If reclamation fees had not been paid by Walnut Creek, the AVS report would so indicate. Staff found no such indication (TA, Appendix VI).

- (i). The surface coal mining and reclamation operations to be performed in the renewal/revision of Permit No. 27G for the Calvert Mine will not be inconsistent with other operations anticipated to be performed in areas adjacent to the permit area.
 - (j). The reclamation performance bond remains sufficient [Finding of Fact No. 32(b)].
 - (k). Walnut Creek has satisfactorily addressed the requirements of §12.201 regarding prime farmland, as described in Section 12.138 of the application, and Finding of Fact No. 29 of this Order. The permit area is located east of the 100th Meridian West Longitude and contains no alluvial valley floors; therefore, the requirements of §12.202 are not applicable.
 - (l). Proposed postmining land uses in this application, as supplemented, are in accordance with the requirements of §12.399.
 - (m). All specific performance-standard approvals required under Subchapter K of this Chapter have been met. No deficiencies remain for the permit renewal/revision application.
 - (n). The proposed activities will not affect the continued existence of endangered and threatened species or result in the destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 *et seq.*).
 - (o). Walnut Creek has satisfied the requirements of §12.390 for approval, of a long-term, intensive agricultural postmining land use if proposed. None is proposed.
44. KT Mining LLC and Bighorn Walnut LLC are each authorized to transact business in Texas. Both are current in the payment of franchise taxes.
45. Open Meeting notice of the Commission meeting to consider the application has been made.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction under §134.075 of Chapter 134 of the TEX. NAT. RES. CODE (the Act) and §12.216 of the “Coal Mining Regulations,” 16 TEX. ADMIN. CODE CH. 12, to approve this application for permit renewal/revision as contained in this Order.

2. Proper notice of the application was provided in accordance with the requirements of the Act, the Regulations, 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. 2016).
3. No public hearing is required or was held.
4. All county road closures in Robertson County must be approved by the county and the Railroad Commission of Texas prior to closure or relocation [(§12.72(a)(3), Regulations, §§134.022(a)(2)(B) and 134.022(b), Act, and Commission Advisory Notice AD-AD-072].
5. The permit provisions contained in Appendix I are necessary to ensure the accuracy of the application or compliance with Regulations. The Commission may adopt the permit provisions contained in Appendix I to this Order pursuant to §§134.011(4) and 134.013(c) of the Act.
6. Based upon the Findings of Fact, the application for renewal/revision of the permit was submitted to the Commission by Walnut Creek and was processed, circulated, and reviewed in accordance with requirements that ensure public participation and that comply with the Act, Regulations, the Commission's *Practice and Procedure*, and the APA.
7. The application, as supplemented, with the permit provisions, soil-testing plan, and postmine soil performance standards set out in this Order, complies with the reclamation standards set out in the Act and Regulations.
8. The accepted reclamation performance bonds total \$43,198,583, an amount in excess of reclamation costs [Finding of Fact No. 32(b)]. No increased performance bond is required for approval and issuance of the renewed and revised permit.
9. The Commission may approve the renewal/revision of the permit with the Permit Provisions contained in Appendix I and the soil-testing plan contained in Appendix II.

IT IS THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the Findings of Fact and Conclusions of Law, Permit Provisions (Appendix I) and Soil Testing Plan (Appendix II) contained in this Order are hereby adopted;

IT IS FURTHER ORDERED that this application for renewal/revision of surface coal mining and reclamation permit is approved as set out in this Order and Appendices I and II;

IT IS FURTHER ORDERED that no additional bond is required;

IT IS FURTHER ORDERED that the permit as renewed and revised is hereby issued and renumbered as Permit No. 27H; and

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

IT IS FURTHER ORDERED by the Commission that this Order shall not be final and effective until 25 days after the Commission's Order is signed, unless the time for filing a motion for rehearing has been extended under TEX. GOV'T CODE §2001.142, by agreement under TEX. GOV'T CODE §2001.147, or by written Commission Order issued pursuant to TEX. GOV'T CODE §2001.146(e). If a timely motion for rehearing of an application is filed by any party at interest, this order shall not become final and effective until such motion is overruled, or if such motion is granted, this order shall be subject to further action by the Commission. Pursuant to Tex. Gov't Code §2001.146(e), the time allotted for Commission action on a motion for rehearing in this case prior to its being overruled by operation of law is hereby extended until 90 days from

Walnut Creek Mining Company
Docket No. C14-0012-SC-27-C

the date Commission Order is signed.

SIGNED IN AUSTIN, TEXAS this 11th day of October, 2016.

RAILROAD COMMISSION OF TEXAS



CHAIRMAN DAVID PORTER



COMMISSIONER CHRISTI CRADDICK



COMMISSIONER RYAN SITTON

ATTEST:



Secretary, Railroad Commission of Texas



**APPENDIX I
PERMIT PROVISIONS**

1. Copies of all correspondence between the permittee and the Texas Historical Commission, and the permittee and the U.S. Environmental Protection Agency, shall be provided by the permittee to the Commission, concurrently or in as timely a manner as possible.
2. The Commission shall be notified promptly of any changes in the list of impoundments and groundwater discharge points comprising each TCEQ and EPA outfall. The Commission shall be provided annually, within 30 days of the anniversary date of permit issuance, a revised outfall map identifying the impoundments and groundwater discharge points in each outfall. If there are no revisions to the impoundments or groundwater discharge points listed during the year, the Commission may be notified by letter in lieu of the annual map submission.
3. Prior to the initiation of mining the area beneath County Road 432 approved for closure, the owners of an undivided 1/2 interest in the coal and oil and gas estate (Dickens) and their authorized representatives, contractors, or lessees may access Tract 6024 via County Road 432 for the purpose of exploring, developing, and marketing the coal and/or oil and gas. Walnut Creek Mining Company shall maintain the road so that it will provide appropriate reasonable all-weather access to explore, develop, and market the coal and/or oil and gas. Subsequent to the initiation of mining beneath County Road 432, and upon request to explore, develop, and market the coal and/or oil and gas, Walnut Creek Mining Company must provide and maintain appropriate reasonable all-weather access by either a public road constructed with comparable materials, width, and quality as the portion of County Road 432 to be closed or a private road constructed with comparable materials, width, and quality as the portion of County Road 432 to be closed to connect Tract 6024 to the temporary County Road 432. Should this access road become unusable due to mining operations, Walnut Creek must provide appropriate reasonable all-weather access upon request to explore, develop, and market the coal and/or oil and gas.
4. Within 90 days of permit issuance, WCMC shall revise Sections 12.133 and 12.144 regarding the Bald Eagle description and protection plan to: 1) update the information regarding the presence of Bald Eagles within the existing permit boundary; 2) acknowledge the existing Bald Eagle nest and describe the protective measures implemented upon discovery of the nest, including non-right of entry to the affected tract; and 3) revise the permit boundary to remove the tract where the eagle nest has been located. This revision may be approved by the SMRD Director.
5. WCMC shall provide a presence/absence survey plan for the 2016 fall survey season for Navasota Ladies' Tresses to the SMRD Director. Results of the 2016 survey shall be reported to the SMRD Director by the end of the first quarter of 2017.
6. WCMC shall prioritize clearing activities to outside of breeding and nesting periods, as appropriate and feasible. If clearing occurs during prime nesting seasons, WCMC will deploy bird diverters to discourage nesting in sites scheduled for clearing.

7. WCMC shall coordinate with Commission Staff to determine if changes to the planting lists in Section 12.145 are needed. Any changes identified shall be submitted in a revision to the permit within 12 months of permit issuance for administrative review and approval by the SMRD Director.
8. Within ninety (90) days of permit issuance, WCMC shall submit a revision to Section 12.145 to remove text referring to success standards for woody vegetation in developed water resources and pasture land use area. The revision may be approved administratively by the SMRD Director.
9. WCMC shall report to the Commission via email or facsimile transmission (FAX) ponds with discharges that exceed the effluent parameter limits in TPDES Permit No. 02881 within 24 hours of becoming aware of the non-compliant discharge.
10. Stream channel cross-sections shall be inspected after a 10-year/24-hour storm event and resurveyed if measurable changes in channel geometry that might reasonably modify the rating curve are noted during these inspections. The resurveyed cross-sections and updated rating curves will be submitted to the Commission within 60 days of a 10-year/24-hour storm event or if significant changes are noted during routine inspections. If a 10-year/24-hour storm event does not occur and changes in channel geometry are not observed during the previous year, this will be noted annually with the first quarter monitoring data.
11. Within 90 days of permit issuance, WCMC shall either revise the post-mine land-use map to depict CR 427 Alternate or provide for administrative review and approval of the SMRD a signed landowner consultation approving the proposed post-mine land use for the tract.

Walnut Creek Mining Company
Docket No. C14-0012-SC-27-C

APPENDIX II – SOIL TESTING PLAN
(Taken from Staff's TA, Appendix VII)

APPENDIX VII - SOIL-TESTING PLAN AND POSTMINE PERFORMANCE STANDARDS

The top four feet of the regraded surface will be free from coal, rider seams, carbonaceous clays associated with these seams, and any other acid forming/toxic forming material. A line demarking the extent of completed rough backfilling and grading will be provided to the Commission annually to identify the grading extent for required postmine soil testing.

All mine soils will be sampled and analyzed in accordance with the following procedures to determine reclamation compliance and success.

Soil and spoil sampling will take place upon completion of topsoil replacement. The initial sampling will be conducted one time unless laboratory results indicate further sampling is warranted. The regraded area will be divided into 5.7-acre grids measuring 500 ft. by 500 ft. (Exhibit 145-5). Partially reclaimed grids will be sampled at a rate of one core per acre. For grids partially bounded by disturbance limits and/or permanent structures, WCMC proposes to combine smaller grids to form a sampling unit, the upper size limit of which will not exceed 5.7 acres. By maintaining the same sampling density (approximately one sample per acre), this change will allow the same level of monitoring while reducing the volume of data that must be analyzed. The southeast corner of each grid will be marked with a permanent identification marker. Six cores will be collected from random locations within each grid. Samples will be collected to a depth of four feet, allowing for topsoil replacement. Cores will be placed no closer than 200 feet from each other. Two sample intervals will be used as follows: surface to replaced depth of topsoil and replaced depth of topsoil to 48 inches.

A composite of all the samples from the grid will be made for each of the two sample intervals. The composite sample for the surface to depth of topsoil interval will be analyzed in the laboratory for:

- 1) pH
- 2) Texture
- 3) Cation exchange capacity
- 4) Acid/base accounting
- 5) Nitrate-Nitrogen
- 6) Phosphorous
- 7) Potassium
- 8) Calcium
- 9) Magnesium

The composite sample for the depth of topsoil to 48 inches interval will be analyzed in the laboratory for:

- 1) pH
- 2) Electrical conductivity

- 3) SAR
- 4) Texture
- 5) Neutralization potential
- 6) Inorganic carbonates (only in calcareous samples)
- 7) Sulfur forms (organic, pyritic, sulfate)
- 8) Exchangeable acidity (if pH <5.5)
- 9) Cation exchange capacity
- 10) Acid/base accounting
- 11) Potential acidity
- 12) Total Selenium
- 13) Total Boron; Hot-water extractable method

The results will be reviewed to determine whether they are representative of the sampling grids. The information will then be used to determine the quality of the top four feet, in particular, acid-base accounts, acid-base balances or lime requirements, if any, for pH corrections. Grid sampling for additional toxic forming materials (TFM) will be done only where TFM is predicted to be found based upon premining overburden data. This mine soil sampling program will be conducted one time, not on an annual basis.

Should AFM/TFM be found, steps will be taken to remediate the problem areas. These steps may include, but are not limited to; chemical treatment, covering the material with four feet of suitable plant growth material; or removing and replacing the material to a depth of four feet. The specific correction method will depend on the type of problem, the size of the area, and the type and location of available replacement material.

The mine soil monitoring program information will be reported to the RCT within two years following backfilling and grading, and prior to lands being accepted into the extended responsibility period (ERP) and bond release. For pH and acid/base accounting, the banking method of acreage accounting will be used to compare the top four feet of postmine mine soil quality to the top four feet of premine native soil quality, as summarized in Table 145-17. Postmine soil monitoring parameters other than pH and ABA will not exceed the suggested maximum total concentrations listed in Table I of Advisory Notice ER-BA-127(b). The soil banking report will include a postmine topographic map with index marks identifying the Texas coordinate numbering system. The map will show the location of the sampled grids, a line indicating the extent of rough backfilling and grading two years prior to the sampling year and the disturbance boundary. The average depth of replaced topsoil will also be reported within the monitoring report. Soil amendments including fertilizer and lime and their application rate will be included in the soil fertility monitoring reports. Both paper and electric forms of the soil monitoring report will be submitted to the RCT.

Table 145-17

**Walnut Creek Mining Company - Term 7 Renewal/Revision
Postmine Soil Performance Standards - pH and ABA
(Percentage of Disturbance Area)**

pH range	pH	
	4.0 - 4.4	4.5 - 4.9
0 - BT	1.1	13.3
BT - 48"	0.3	5.2

ABA (t/kt)	Acid Base Accounting			
	-4	-3	-2	-1
0 - BT	0	0	0	5.0
BT - 48"	0.2	1.3	1.0	4.1

In the event AFM/TFM problems are identified either during or following postmine soil monitoring, an alternate soil-monitoring program will be initiated. Soil samples will be collected 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 affected grid and will be analyzed for those parameters identified by the SMRD and/or WCMC in the postmine monitoring program as a potential problem. This intensified sampling scheme will assist in identifying the extent of the soil problem. WCMC will notify the Commission of its re-sampling schedule to allow members of the Commission Staff to be present during this sampling. The results of these analyses and a remediation plan will be submitted to the Commission. Once WCMC remediates the affected area in accordance with section .145(b)(7) of the application, WCMC will again collect soil samples 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 that will be analyzed for the identified problem parameter. WCMC will submit results and a map showing the impacted areas to the Commission to verify the successful correction of any soil problems previously identified in the postmine-soil monitoring program.

The alternate soil monitoring plan will be implemented only when AFM or TFM is identified according to SMRD Advisory Notice ER-BA-127(b) and normal mine soil monitoring procedures will resume at such time as alternate soil testing plan data indicate AFM or TFM (as defined in SMRD Advisory Notice ER-BA-127(b)) is no longer present.

Results from the topsoil sampling program will be utilized to identify necessary amendments prior to revegetation. The following parameters will be used:

Nitrate-nitrogen

Phosphorus

Calcium

pH

Potassium

Magnesium

The base of topsoil to 48 inch increment of ten percent of the (5.7 acre) grids will be randomly sampled and analyzed for the following trace elements, in their total form, except as indicated:

Cadmium

This list is reduced from that shown in the second term permit application as a result of SMRD's agreement with the Texas Mining And Reclamation Association's document entitled: "Position Paper on Trace Element Analysis in the Wilcox Sediments, May 4, 1993" and its June 1, 1994 Addendum. The findings in this paper showed that Arsenic, Chromium, Copper, Manganese, Molybdenum, Nickel, Lead, and Zinc generally do not occur in the Wilcox Formation at levels that exceed the SMRD suggested maximum allowable concentrations. The trace metal analyses will be reported to the Commission as part of the spoils monitoring program. The grids sampled will be identified on a map accompanying the report.

During the penultimate year of ERP, ten per cent of the (5.7 acre) grids will again be randomly sampled, at each of the two sampling depth interval for pH, neutralization potential, potential acidity, exchangeable acidity, acid/base accounting, CEC, and texture. The results from the penultimate year sampling along with a map showing the grids sampled will be submitted to the RCT no later than the second month of the final year of the ERP.

Composite samples will be taken from the surface to depth of topsoil interval within grids defined by postmine land use management unit boundaries (as modified by minesoil monitoring grid boundaries where necessary to maintain a maximum grid size of 100 acres). These samples will be analyzed for pH, nitrate-nitrogen, and plant-available phosphorus, potassium, calcium and magnesium. Sample collection will be conducted during the dormant period of the year immediately prior to the first year of productivity assessment and during the dormant period following the first and second years of productivity assessment.

If the first and second years of productivity assessment are not consecutive, samples will also be collected during the dormant period of the year immediately prior to the second year of productivity assessment. Analytical results and a map showing the grids will be submitted to the Commission by March 31 of the year following each sample collection period.

All mine soil analyses will be conducted in accordance with SMRD Advisory Notice ER-BA-127(b) and Texas Agricultural Extension Service Soil Testing Procedures, and any subsequent amendments.