



**US Army Corps  
of Engineers®**

**Fort Worth District**

**May 2011**

## **Rusk Permit Area**

# **Final Environmental Impact Statement**



**Cooperating Agencies:**

**U.S. Environmental Protection Agency  
U.S. Fish and Wildlife Service  
Texas Parks & Wildlife Department**



**DEPARTMENT OF THE ARMY**  
FORT WORTH DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 17300  
FORT WORTH, TEXAS 76102-0300

May 20, 2011

Planning, Environmental, and Regulatory Division  
Regulatory Branch

Dear Reader:

The Final Environmental Impact Statement (FEIS) for the Sabine Mining Company – Rusk Permit Area is submitted for your review and comment. The project area is located approximately 1 mile north of Tatum, Texas, in Rusk, Harrison and Panola counties (detailed maps within).

Sabine Mining Company proposes to construct, operate, and reclaim an expansion of the South Hallsville No. 1 Mine. The new 20,377-acre area is located south of the existing mine and across the Sabine River into Rusk and Panola counties. Surface mining operations would continue with conventional open pits excavated by large draglines and supported by standard earth moving equipment such as loading shovels, dozers, end dumps, and scrapers. Infrastructure in support of the operation would include (1) construction of a transportation corridor across the Sabine River, including a haul road, bridge, and a dragline walkway, (2) construction of ponds and diversions to control surface water drainage, (3) placement of groundwater well fields to dewater overburden and relieve underburden pressures, (4) construction of service roads, and (5) closure and/or relocation of numerous public roads to facilitate mine operations and protect public safety.

The FEIS was prepared pursuant to the National Environmental Policy Act (NEPA), as well as other regulations and statutes, to address possible environmental impacts which could result from our permit decision. This FEIS is not a decision document. Its purpose is to inform the public and decision maker of the impacts associated with implementing the proposed project, to evaluate alternatives to the proposal, and to solicit other agencies and the public for comments. An electronic copy of the document is available for review and/or download at: <http://www.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/rusk.asp>.

Please reference the “Rusk Permit Area FEIS – Project No. SWF-2007-00560” when submitting comments. Comments and related personally identifying information will be subject to disclosure under the Freedom of Information Act (FOIA) and comments may be published as part of the Record of Decision (ROD) and/or other documents. Written comments will be accepted up to close of business on July 19, 2011, at the following address:

U.S. Army Corps of Engineers  
Regulatory Branch, CESWF-PER-R  
Post Office Box 17300  
Fort Worth, Texas 76102-0300

For further information, please contact Mr. Darvin Messer, Regulatory Project Manager at (817) 886-1744.

Sincerely,

  
Stephen L Brooks  
Chief, Regulatory Branch

**FINAL  
ENVIRONMENTAL IMPACT STATEMENT  
RUSK PERMIT AREA**

Lead Agency: Department of the Army  
U.S. Army Corps of Engineers  
Fort Worth District

Project Location: Rusk, Panola, and Harrison Counties, Texas

Comments on this EIS  
Should be Directed to: Mr. Darvin Messer, EIS Project Manager  
U.S. Army Corps of Engineers  
Fort Worth District  
819 Taylor Street, Room 3437  
P.O. Box 17300  
Fort Worth, Texas 76102-0300  
(817-886-1744)

Date **Final** EIS Filed with USEPA: **May 20, 2011**

Date by Which Comments Must  
be Received by the USACE: **July 19, 2011**

**ABSTRACT**

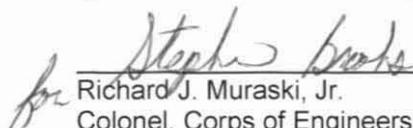
Sabine Mining Company, a wholly owned subsidiary of The North American Coal Corporation, proposes to construct, operate, and reclaim the Rusk Permit Area, which would be an expansion of the existing, South Hallsville No. 1 Mine. The proposed project requires a permit from the Railroad Commission of Texas (RCT) under Title 16, Part 1, Chapter 12 of the Texas Administrative Code. The RCT permit area for the proposed project consists of approximately 20,377 acres in Rusk, Panola, and Harrison counties, Texas; within the permit area, up to a total of 14,392 acres would be disturbed over the 30-year life of the mine.

While the project would utilize existing infrastructure at the South Hallsville No. 1 Mine, it also would include development of new mine pits and construction of the following new facilities: transportation and utility corridor (main haul road, dragline walkway, and 138-kilovolt transmission line) crossing the Sabine River; haul roads; surface water control structures; dewatering wells; equipment fueling and parking area; water truck fill station; temporary lignite and non-lignite storage areas; and dragline workover area.

The proposed project requires an Individual Permit from the United States (U.S.) Army Corps of Engineers (USACE) for the discharge of dredged and fill material into waters of the U.S. under Section 404 of the Clean Water Act **and Section 10 of the Rivers and Harbors Act of 1899 for work in navigable waters of the U.S.** This permit decision is a major federal action with the potential to significantly affect the quality of the human environment; therefore, the USACE has determined that an Environmental Impact Statement (EIS) is necessary. This EIS describes the environmental impacts associated with the alternatives available to the USACE (issuance of a Section 404/Section 10 permit, issuance of a permit with conditions, or denial of the permit application).

***This Final EIS has been prepared in an abbreviated format; the Final EIS must be used in conjunction with the Draft EIS, which was issued October 31, 2010. The Draft EIS and Final EIS together comprise the complete EIS. The Final EIS is organized as follows: The Executive Summary and Chapter 4.0 are reprinted in their entirety. Following the table of contents, text and appendix pages with revisions are reprinted in the Final EIS. Additions and changes to the Draft EIS are indicated in bold italic font. Section 4.6 describes the public comment period. Appendix C, Proposed Conceptual Mitigation Plan, South Hallsville No. 1 Mine, Rusk Permit Area, is reprinted in its entirety. The public comments received during the Draft EIS public review period and the USACE's associated responses are included in Appendix G of this Final EIS.***

Responsible Official for the EIS:

  
\_\_\_\_\_  
Richard J. Muraski, Jr.  
Colonel, Corps of Engineers  
District Engineer

# Executive Summary

## Introduction

The Sabine Mining Company (Sabine), a wholly owned subsidiary of The North American Coal Corporation, proposes to construct, operate, and reclaim the Rusk Permit Area, which would be an expansion of the existing South Hallsville No. 1 Mine, an open-pit lignite mine located in Harrison County, Texas. The proposed Rusk Permit Area encompasses approximately 20,377 acres south of the existing South Hallsville No. 1 Mine and the Sabine River, in Rusk, Panola, and Harrison counties, Texas. The Rusk Permit Area would include the development of sequential mine pits through the removal of soil and rock in order to reach and extract the lignite seams that occur at depths of 30 to 180 feet below the surface. An average of 4.0 million tons of lignite would be mined per year. The lignite would be trucked to an existing central blending facility located at American Electric Power/Southwestern Electric Power Company's (SWEPCO's) Henry W. Pirkey Unit No. 1 (Pirkey) Power Plant, located approximately 6 miles north of the northern boundary of the proposed Rusk Permit Area. The project also would include construction of access and haul roads, a dragline walkway, sediment control ponds, transmission line, temporary lignite storage areas, non lignite storage areas, a truck fueling/parking area, and wells for pit dewatering. Several existing county roads (CRs), farm-to-market (FM) roads, state highways (SHs), oil and gas facilities, and utility lines would be relocated or temporarily closed.

SWEPCO, who owns and operates the Pirkey Power Plant, has contracted with Sabine to mine the lignite reserves within the proposed Rusk Permit Area. SWEPCO currently owns or has leased approximately 50 percent of the Rusk Permit Area; most of the remainder is in small private ownership parcels that would be purchased or leased by SWEPCO in advance of mining. Sabine or SWEPCO would obtain the rights-of-entry, and Sabine would obtain all required permits, prior to mining.

The proposed project requires a permit from the Railroad Commission of Texas (RCT) under Title 16, Part 1, Chapter 12 of the Texas Administrative Code. The RCT permit area for the proposed Rusk Permit Area consists of 20,377 acres; within the permit area, up to 14,392 acres would be disturbed within the mine area and transportation and utility corridor over the 30-year life of the mine for mining and ancillary facilities. Of this total, approximately 500 acres would be disturbed for surface mining at any one time, based on sequential backfilling and concurrent reclamation of the mine pits. Following receipt of all required permits and approvals, construction is projected to begin in 2011, and mining is proposed to begin in 2012.

The proposed project requires an Individual Permit from the United States (U.S.) Army Corps of Engineers (USACE) for the discharge of dredged and fill material into waters of the U.S. under Section 404 of the Clean Water Act **and Section 10 of the Rivers and Harbors Act of 1899 for work in navigable waters of the U.S.** As the permit decision is a major federal action with the potential to significantly affect the quality of the human environment, the USACE has determined that an environmental impact statement (EIS) is necessary. The USACE is the federal agency preparing the EIS; the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, and the Texas Parks and Wildlife Department are cooperating agencies.

The proposed Rusk Permit Area would involve a number of activities, which are described in detail in Chapter 2.0; these activities would result in various environmental impacts, which are identified and described in Chapter 3.0. The basic construction, operations, and reclamation activities include the following:

- Construction of surface water control structures;
- Clearing or vegetation removal;
- Construction of haul roads, public road reroutes, and utility reroutes;

- Excavation of a mine pit to access lignite seams, accompanied by selective overburden stockpiling;
- Groundwater pumping for pit dewatering;
- Lignite removal and transport to lignite stockpiles;
- Selective replacement of overburden and soil materials in the previously mined pits;
- Reshaping and recontouring of the previously mined area to the desired post-mine topography;
- Revegetation of the previously mined area; and
- Final closure and reclamation of ancillary facilities.

These activities, with the exception of the initial construction and final closure and reclamation, would continue repeatedly throughout the life of the mine until the lignite has been removed from the entire mine area. This is the same process that has been occurring at the existing South Hallsville No. 1 Mine since 1984.

The EIS analysis describes the proposed construction, operation, and reclamation of the Rusk Permit Area, including Sabine's proposed environmental protection measures; identifies alternatives to the Proposed Action; and describes the environmental consequences of implementing the Proposed Action and the No Action Alternative.

## Summary of Impacts

The following sections summarize the environmental impacts associated with the proposed Rusk Permit Area, as identified in this EIS. A table summarizing and comparing the impacts of the Proposed Action and the No Action Alternative is provided in **Table 2-13** in Chapter 2.0. Descriptions of the potential direct, indirect, and cumulative impacts of the Proposed Action and No Action Alternative, and the additional monitoring and mitigation measures that are being considered by the USACE, are provided in Chapter 3.0 of this EIS.

## Geology and Mineral Resources

Lignite mining at the Rusk Permit Area permanently would change the topography in the portion of the permit area directly impacted by mining and other disturbance. With reclamation, the disturbed area would be restored to topography similar to pre-mining conditions and appearance. Geologic hazards are not expected to affect the proposed mining, and no hazards would persist after the cessation of mining. Lignite resources would be permanently removed, and the existing geologic strata in overburden and interburden would be permanently altered. Access to oil and gas resources would be precluded during active mining; however, access would not be restricted at the cessation of mining.

Mining of the proposed Rusk Permit Area would have a negligible cumulative effect on total Texas lignite production since the mine essentially would replace production from the South Marshall Permit Area of the South Hallsville No. 1 Mine. No cumulative effects are anticipated to geology and other minerals.

## Water Resources

### Groundwater

The Rusk Permit Area is expected to pump a total of approximately 7,235 acre-feet of water over the life of the mine from the Carrizo-Wilcox aquifer using approximately 129 dewatering wells incrementally installed across the mine areas as needed to achieve the targeted groundwater drawdown. The maximum extent of the mine-related 5-foot groundwater drawdown area generally would be limited to the permit boundary. To the east of the permit boundary, the 5-foot drawdown would extend up to 2,000 feet into Panola County. To the south, the 5-foot drawdown would approach Tatum, Texas; however, it would terminate approximately 2,000 feet north of Tatum. Therefore, mine-related groundwater drawdown would not impact any of the Tatum water supply wells.

During mining, any wells within the boundaries of the proposed mine pits would be removed. Wells outside of the mine pits but within the projected 5-foot drawdown isopleths could experience a decline in water levels; some wells may go dry. Sabine is committed to replacing lost water sources or reduced water availability for all water well owners within the area impacted by groundwater pumpage. In addition to wells, seeps and springs within the projected 5-foot drawdown isopleths that are hydraulically connected to the Carrizo-Wilcox aquifer would be affected; seeps and springs and groundwater-fed perennial waterbodies outside of the projected 5-foot drawdown isopleths are not anticipated to be affected by mine-related groundwater drawdown. The groundwater level of the Carrizo-Wilcox aquifer is expected to recover to near pre-mining levels within 7 to 8 years after cessation of mining.

The proposed Rusk Permit Area is not anticipated to result in cumulative groundwater effects, as the projected groundwater drawdown area for the Rusk Permit Area primarily would be limited to within the permit boundary and, therefore, would not overlap with the projected groundwater drawdown areas associated with other projects in the vicinity.

### **Surface Water**

Construction impacts of the proposed transportation corridor across the Sabine River would include releases of sediments and organic matter into the river or to other surface water features. Short-term temporary increases in turbidity and sedimentation would occur downstream until construction ended and site stabilization completed. Scour and sediment transport would increase along the river channel and within smaller drainages on the floodplain associated with local flow conditions at culverts and at the proposed bridge and dragline walkway. There would be a minor increase in the potential for spills of fuel or other hazardous materials into the river or nearby waterbodies during construction and operations. If a spill should occur, surface water quality could be adversely affected, depending on the nature of a spill and the associated response. This potential impact would be minimized by implementation of Sabine's Spill Prevention, Control, and Countermeasure Plan.

During the life-of-mine, the proposed project would increase runoff and sediment yield as mining moves across the landscape. Watt Creek and unnamed streams temporarily would be eliminated, as would small impoundments within the mine area. Increased runoff and sediment yield would be managed by collection ditches, sediment control ponds, and monitoring in compliance with the RCT permit and Texas Commission on Environmental Quality water quality requirements. If needed, water would be treated prior to discharge. Runoff from undisturbed areas would be kept away from the mining activities. These water management programs would reduce surface water impacts during construction and operations.

Surface water impacts would be reduced with recontouring, growth media replacement, and revegetation. Reconstruction of streams, ponds, and wetlands would proceed with reclamation. Erosion controls, stream stabilization, and permanent drainage features would return runoff and sediment yield conditions to approximately their pre-mining levels or better.

Cumulative surface water effects would be negligible upstream of the confluence of Tatum Creek with Martin Creek. Downstream, contributions to cumulative effects on Martin Creek probably would be similar from all of the lands disturbed by surface mining and reclamation; only minimal contributions are anticipated from the Proposed Action since no disturbance would occur beyond SH 43. However, runoff from the Proposed Action would flow to Caney Branch (receiving stream), contributing to cumulative effects from other mining activity in the Martin Creek watershed. Following reclamation, cumulative runoff and sediment yield would be reduced. Cumulative water quality effects are anticipated to be minor.

### **Waters of the U.S., Including Wetlands**

Mine construction and operation directly would impact a total of 303.1 acres of waters of the U.S., including 151.2 acres of forested wetlands, 62.6 acres of non-forested wetlands, 22.1 acres of ephemeral streams, 13.5 acres of intermittent streams, 5.4 acres of perennial streams, and 48.3 acres of ponds. These impacts would occur incrementally over the 30-year life of the mine; the impacts would be minimized by limiting surface disturbance in mine areas to a maximum of approximately 500 acres at one

time, through implementation of the proposed reclamation program, and through implementation of Sabine's proposed Conceptual Mitigation Plan (**Appendix C**). Based on the proposed Conceptual Mitigation Plan, waters of the U.S. (including wetlands) that would be impacted by mining would be reconstructed within the reclaimed mine area in their approximate pre-mine locations through the use of creation, restoration, enhancement, or preservation techniques. The total proposed mitigation acreage for direct impacts would include restoration of approximately 485.6 total acres of waters of the U.S., including 41.0 acres of streams, 48.3 acres of ponds, 93.8 acres of non-forested wetlands, and 302.4 acres of forested wetlands within the Rusk Permit Area.

It is anticipated that projected mine-related groundwater drawdown would have minor impacts to surface water resources; therefore, it is anticipated that water quantity impacts to waters of the U.S., including wetlands, as a result of mine-related groundwater pumping would be minor.

The loss of 213.7 total acres of wetlands over the life of the mine would result in the loss of the functions associated with each area (e.g., runoff and sediment retention), affecting water quality. This loss would be mitigated through creation and restoration of wetlands incrementally during operations and during final closure and reclamation, resulting in a net increase of approximately 182.5 acres of wetlands following the completion of concurrent and final reclamation.

Past and present operations have resulted in 1,910.2 acres of disturbance to waters of the U.S., including wetlands, with a cumulative direct and compensatory mitigation of 3,464.2 acres. Two reasonably foreseeable future actions (proposed Marshall Lignite Mine and a potential conveyor for the Rusk Permit Area) also occur in the cumulative effects study area; however, specifics relative to the proposed disturbance areas in relation to waters of the U.S., including wetlands, are not available at this time. The proposed Rusk Permit Area incrementally would increase the cumulative disturbance to waters of the U.S., including wetlands, by 303.1 acres (HDR Engineering, Inc. [HDR] 2010a), all of which would be incrementally reclaimed over the life of the mine. Based on Sabine's proposed direct and compensatory mitigation (HDR 2010b), 485.6 acres of waters of the U.S., including wetlands, would be reclaimed. Therefore, the total cumulative disturbance and reclamation acreages for waters of the U.S., including wetlands, within the cumulative effects study area would be 2,213.3 and 3,949.8 acres, respectively. This would result in a net cumulative gain of 1,736.5 acres of waters of the U.S., including wetlands.

## **Soils**

Incremental surface disturbance of up to 14,392 acres would occur over the life of the mine as a result of mine construction and operations; impacts also may occur during reclamation when growth media is redistributed. Potential impacts would include an increase in soil erosion due to the removal of vegetation, alteration of soil structure, and reduction in soil productivity. Reclamation and installation of erosion control measures and devices would minimize erosion and the potential for sediment to leave the mine site. Based on implementation of proposed erosion control measures, the potential for soil erosion as a result of surface water discharge is anticipated to be low.

Due to the poor suitability characteristics associated with some of the native soil materials, Sabine has requested approval to use suitable oxidized overburden as a substitute for topsoil and subsoil. Sabine's investigation indicated that more than sufficient volumes of suitable alternative growth media from overburden sources exist within the proposed mine area.

Past, present, and reasonably foreseeable future actions have resulted, or would result, in approximately 78,316 total acres of disturbance to native soils. Of this total, the approximately 67,697 acres of lignite mining-related disturbance have been, or would be, incrementally reclaimed over the life of these operations. The majority of the remaining approximately 10,619 acres of disturbance represent a long-term loss or conversion of native non-hydric soils to hydric soils. The proposed Rusk Permit Area incrementally would increase the cumulative disturbance to native soils by approximately 14,390 acres, all of which would be incrementally reclaimed over the life of the mine.

## Vegetation

A total of 14,392 acres of vegetation would be directly affected as a result of surface disturbance associated with the Proposed Action. Vegetation would be removed incrementally in advance of mine development over the 30-year life of the mine. The majority of the disturbance would occur in upland forest and pasture areas. The proposed disturbance areas would be reclaimed to achieve RCT-designated post-mining land uses as determined by landowner agreements. Wetlands and aquatic habitats (streams and ponds) would be reclaimed in accordance with Sabine's proposed Conceptual Mitigation Plan (**Appendix C**). Based on total mitigation ratios in this plan for waters of the U.S., including wetlands, there would be a conversion of approximately 182.5 acres of upland vegetation to forested and non-forested wetland vegetation following the completion of reclamation.

Proposed disturbance areas would be prone to establishment of noxious weeds or invasive plant species from adjacent areas. Encroachment of noxious weeds or invasive plant species would be minimized to the extent possible through prompt revegetation of disturbance areas and pesticide (including herbicide) use.

The loss of commercially harvestable herbaceous vegetation and its associated use would be minimal, since reclaimed areas would provide forage for livestock and wildlife several years after reclamation. During reclamation, trees would be replanted in disturbance areas in accordance with the designated post-mining land use; however, commercial value would not be realized for a number of years.

Implementation of Sabine's water management plan for runoff, sediment control, and controlling discharges from the proposed disturbance area would reduce impacts to surface water resources to negligible levels. As a result, no related impacts to wetland vegetation are anticipated as a result of sedimentation.

Project construction and operation could result in direct removal of two state-designated rare plant species (Neches River rose-mallow and Texas trillium), if present in proposed disturbance areas.

Past, present, and reasonably foreseeable future actions have resulted, or would result, in approximately 78,316 total acres of disturbance, inclusive of approximately 1,910.2 acres of disturbance to waters of the U.S., including wetlands. Of this total, the approximately 67,697 acres of lignite mining-related disturbance have been, or would be, incrementally reclaimed. The remaining 10,619 acres of disturbance represent long-term disturbance areas. The proposed Rusk Permit Area incrementally would increase the cumulative disturbance by up to an additional 14,392 acres, inclusive of 303.1 acres of disturbance to waters of the U.S., including wetlands, all of which would be incrementally reclaimed over the life of the mine. Based on the estimated total cumulative disturbance, the compensatory mitigation acreages for past and present actions, and the proposed compensatory mitigation for the Rusk Permit Area, there would be an estimated cumulative net increase of 1,736.5 acres of waters of the U.S., including wetlands, in the cumulative effects study area; this would represent a conversion of upland vegetation to waters of the U.S., including wetlands.

## Fish and Wildlife Resources

Implementation of the proposed project would include the phased (over the 30-year life of the mine) direct disturbance of up to approximately 14,392 acres of vegetation and aquatic resources, most of which currently offers some value as wildlife habitat. Habitat incrementally would be recreated throughout the area as concurrent reclamation proceeds behind mining operations. Potential impacts to wildlife during project construction and operation would include direct mortalities from construction activities, incremental habitat fragmentation, animal displacement, transmission line collisions, increased noise, additional human presence, and the potential for increased vehicle-related mortalities. Incremental short-term habitat loss throughout the life of the mine could affect big game, small mammals, upland game birds, waterfowl, raptors, songbirds, reptiles, and amphibians. The limited amount of habitat affected, relative to that available in the surrounding area, is not expected to result in substantive population reductions of any local wildlife species. These populations would be expected to recover following mine reclamation.

The potential loss of available water and the associated habitats could alter the available habitat for species that depend on these areas resulting in: 1) a reduction of available water for consumption; 2) a reduction in riparian vegetation for breeding, foraging, and cover; 3) reduction in the regional carrying capacity; 4) displacement and loss of animals; and 5) reduction in prey availability. The extent of these effects would depend on the species' use of the affected area and their relative sensitivity, the extent of habitat reduction, and the availability of similar habitats in the area.

A total of 19 federal and/or state-listed terrestrial species, including 1 federal candidate species, potentially occur in the Rusk Permit Area. Project-related impacts for these species are anticipated to be low to minimal, with the following exceptions. The potential for future impacts to the state listed bald eagle are anticipated to be moderate. Impacts primarily would be related to the short-term, incremental loss of habitat as a result of mine construction and operation. Implementation of applicant-committed environmental protection measures would minimize these impacts. Potential impacts to three state listed mussel species as a result of the proposed haul road bridge and dragline walkway crossings of the Sabine River are anticipated to be moderate to high.

Surface disturbance would affect aquatic communities by incrementally removing approximately 151.2 acres of forested wetlands, 62.6 acres of non-forested wetlands, 48.3 acres of open water, and 41.0 acres of perennial, ephemeral, or intermittent streams. Aquatic communities affected by this habitat loss would include macroinvertebrates, periphyton, and fish species that occur in these habitats. Impacts to these areas would be mitigated in accordance with Sabine's proposed Conceptual Mitigation Plan (**Appendix C**) for the proposed Rusk Permit Area.

No direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated; effect to these habitats located within the mine-related 5-foot groundwater drawdown area and outside of the proposed disturbance area may occur where the surface waters are hydraulically connected to the Carrizo-Wilcox aquifer complex. Reduction or loss of riparian and wetland habitats associated with these water sources would impact terrestrial wildlife dependent on these sources, resulting in a possible reduction or loss of cover, breeding sites, foraging areas, and changes in both plant and animal community structure.

The drainages within and immediately around the active mine area would flow primarily in response to local precipitation events, attenuated in lower stream reaches by the presence of sediment control ponds. The Sabine River, the major perennial stream located immediately north of the mine areas, would be the receiving waterbody for water discharged from the mine's Texas Pollution Discharge Elimination System-regulated discharge points. Although runoff volumes would increase during the mining period, releases to the river would be attenuated by the water management system. Therefore, mine-related discharges effects on downstream flows in the river are anticipated to be minimal. As a result, impacts to downstream species are not anticipated.

Potential cumulative effects to wildlife and their habitats from surface disturbance from past, present, and reasonably foreseeable future actions have resulted, or would result, in approximately 78,316 total acres of habitat disturbance, inclusive of approximately 1,910.2 acres of disturbance to waters of the U.S., including wetland habitats. Of this total, the approximately 67,697 acres of lignite mining-related disturbance have been, or would be, incrementally reclaimed over the life of these operations. The remaining 10,619 acres of disturbance represent long-term to permanent loss of habitat. The proposed Rusk Permit Area incrementally would increase the cumulative disturbance by up to an additional 14,392 acres, inclusive of 303.1 acres of disturbance to waters of the U.S., including wetland habitats, all of which would be incrementally reclaimed over the life of the mine. There would be an estimated cumulative net increase of approximately 1,736.5 acres of wetland habitat associated with compensatory mitigation of waters of the U.S., including wetlands.

No cumulative impacts to wildlife are expected from the projected mine-related 5-foot groundwater drawdown area. Similarly, water discharges are not expected to have cumulative impacts to fish or wildlife due to the proposed mine's water management system.

## **Paleontological Resources**

Animal and plant fossils are widespread in the Wilcox Group and Carrizo Formation in Texas and the southeastern U.S. There is a low potential for the presence of unique or high scientific value fossils within the proposed Rusk Permit Area. Based on the prevalence of these resources in the region, the impact to the fossil resources of these geological units is considered minor.

Portions of the cumulative disturbance associated with past, present, and reasonably foreseeable future actions have occurred, or would occur, within the fossil-bearing Wilcox Group and Carrizo Formation with the resulting potential for cumulative impacts to fossil resources. However, the fossils in these geologic units are not anticipated to be unique or of high scientific value; therefore, cumulative impacts to paleontological resources are not anticipated.

## **Cultural Resources**

Impacts to cultural resources would include the loss of 126 identified archaeological sites and historic resources within the initial 6,925-acre cultural resources survey area. Of these sites, 18 are eligible or potentially eligible for listing on the National Register of Historic Places (NRHP), 11 of which are located in the life-of-mine disturbance boundary. Additional archaeological sites and historic resources in as yet unsurveyed portions of the Rusk Permit Area would be identified following future investigations of these areas. In consultation with the Texas Historical Commission (THC), the USACE will determine whether construction and operation of the proposed Rusk Permit Area would have an adverse effect on any properties eligible or potentially eligible for listing on the NRHP. If the USACE and THC determine that a property would be adversely affected, then avoidance would be recommended. If avoidance is not feasible, mitigation would be developed and implemented in accordance with a site protection or treatment plan developed in coordination with the USACE and THC. Potential indirect effects to NRHP-eligible sites as a result of runoff or water discharge are anticipated to be minor based on the proposed water management plan and implementation of erosion control measures.

Although difficult to quantify, cumulative impacts to archaeological sites would include natural impacts (e.g., erosion and dilapidation), as well as direct disturbance and removal of sites that have been, or would be, located within the cumulative effects study area. However, all NRHP-eligible sites located in the project area would be mitigated in accordance with site protection or treatment plans developed in coordination with the USACE and THC. In addition, any previously unknown NRHP-eligible sites that may be discovered during construction or operation would be mitigated in accordance with site protection or treatment plans. Therefore, the proposed project is not expected to contribute to direct cumulative effects to NRHP-eligible sites. Indirect effects, such as illegal artifact collection, have occurred and most likely would continue to occur in the cumulative effects study area.

## **Air Quality**

The primary air quality effects associated with construction and operations of the proposed Rusk Permit Area would be fugitive dust (total suspended particulates and particulate matter of less than 10 microns in diameter) concentrations generated by the draglines, loaders, haul trucks, and temporary stockpiles. Criteria pollutant emission rates from stationary sources (not fugitive sources) would be much less than 250 tons per year (HDR 2010e); therefore, the Rusk Permit Area would not be a "major stationary source" as defined by the U.S. Environmental Protection Agency. Adverse air quality effects would be limited spatially to distances up to approximately 7 kilometers (km) (4 miles) from the active mine disturbance and would not cause or contribute to violations of the National Ambient Air Quality Standards (NAAQS). There are no Class I areas within 100 km (approximately 60 miles) of the proposed Rusk Permit Area; therefore, there would be no measureable air quality impacts on Class I areas.

Due to the rural nature of the region around the Rusk Permit Area and the low density of fugitive dust and combustion sources (e.g., vehicles and other fuel-fired equipment), cumulative effects related to fugitive dust and gaseous air contaminants associated with the Rusk Permit Area and other past, present, and reasonably foreseeable future actions are anticipated to remain well below the NAAQS (levels determined to be detrimental to public health).

## **Land Use and Recreation**

There are no state or local land use plans or regulations that would apply to the Rusk Permit Area. Existing uses of the disturbance area, which are primarily forest and pasture lands, would be interrupted for the life of the mine, although all areas except the area of actual disturbance would remain rural in character. There are no public lands in the disturbance area except for road rights-of-way, which would be mined through and subsequently reconstructed after reclamation. Utilities in the proposed disturbance area would be relocated in advance of mining. Private property would be leased or purchased by SWEPCO for the duration of mining and reclamation.

It is not expected that the proposed project would appreciably restrict growth of Tatum. There are approximately 300 acres of mostly vacant and potentially developable land between developed areas of Tatum and the proposed Rusk Permit Area boundary, in addition to substantially larger vacant acreages to the east, south, and west of the community.

The proposed project would have minimal effects on recreation resources. There are no public recreation facilities in the permit area. The small amount of private recreation that may occur in the area would be precluded from the disturbance area through reclamation. It would be displaced to other public or private lands in the area; however, this would have minimal effect on other recreation resources in the region. Potential effects on the "ecologically significant" segment of the Sabine River would be minor. There is little, if any, recreation use of the river segment because it is bracketed by private land, and the project-related disturbance area would be a minimum of 1.5 miles from the river, except for the corridor where the dragline walkway and haul road would be constructed.

No cumulative effects on recreation or land use would be anticipated. The proposed Marshall Lignite Mine would be outside the land use and recreation study area, so it would have no cumulative effect on land use or recreation with the Rusk Permit Area. The potential future conveyor would be constructed on lands that would be slated for disturbance for development of the Rusk Permit Area.

## **Social and Economic Values**

The Proposed Action would continue direct employment for the existing 260 workers at the South Marshall Permit Area of the South Hallsville No. 1 Mine; it would add approximately 150 contract workers for 1 to 1.5 years of construction and approximately 40 contract operations workers for the life of the mine for the Rusk Permit Area. No measureable effects on study area population are expected. Project-generated personal income would track trends established at the existing mine and would have minimal effect on total study area income except for the fact that it would be continued for approximately 15 years beyond what would be anticipated under the currently permitted operation. The proposed project would increase mine-related tax revenues to Panola and Rusk counties and to Tatum Independent School District (ISD), while closure of the South Marshall Permit Area in approximately 2027 would diminish revenues to Harrison County and the Marshall and Hallsville ISDs. These changes would be accompanied by minimal, if any, changes in demand for public services as the size and location of the local population would not materially change. This would affect local county governments, positively for Panola and Rusk counties, and negatively for Harrison County, but it would have little or no effect on public schools as the changes in local tax revenue to local ISDs would be offset by changes in state financial support.

Current residents in an estimated 256 dwellings within the Rusk Permit Area would be displaced for the duration of disturbance and reclamation in their areas. Residential properties in close proximity to the mine disturbance area, but not acquired for the mine, may experience a short-term decline in value while active mining is taking place nearby; property values should rebound as the mining moves farther from them and reclamation is successfully implemented.

Cumulative effects of the proposed Rusk Permit Area and other reasonably foreseeable future projects would be minor. Employment increases at the proposed Marshall Permit Area Mine would modestly reduce the large number of unemployed persons in the study area. Tax revenue increases would offset to

some degree the anticipated loss of revenue to Harrison County and ISDs from completion of mining at the South Marshall Permit Area of the South Hallsville No. 1 Mine.

## **Transportation**

The Proposed Action would generate an increase in trips to and from the proposed Rusk Permit Area during construction and a smaller increase during the operation of the mine. Similar to existing operations at the South Marshall Permit Area of the South Hallsville No. 1 Mine, essentially all trips to and from the mine would be via FM 2625 to the current site headquarters. Any additional traffic to the Rusk Permit Area via other external routes would be minimal and would occur only on an occasional basis, as needed. The major roadways in the Rusk Permit Area would not experience regular increases in traffic, with the possible exception of some construction traffic during setup of new mining areas. Therefore, the additional light vehicle and truck trips would have only short-term, minimal effects on area roadways.

During construction and operation of the mine, 25 CRs and 1 FM road within the permit boundary would be closed, all of which are local access roads that do not provide effective shortcuts. Most roads that would be closed for the proposed project would be reopened within approximately 7 to 10 years following completion of mining in the affected areas.

The only road closure likely to notably affect public travel would be the closure of FM 782. Closure of this road would require the approximately 2,300 vehicles per day that currently use the route to detour around the mining area, adding approximately 7.5 miles to travel distance and over 8 minutes in time for through travelers. Detours for FM 782 would increase traffic on SH 149, FM 1716, and FM 1798; however, the level of service (LOS) would remain at or above LOS C. SH 149 would remain open throughout the mine life, except for a 24- to 48-hour closure to permit "walking" each dragline across the highway.

A minor increase in accident risk would be expected to occur from the increase in traffic on FM 2625, SH 149, and other roads used by detouring traffic from FM 782, but this expected increase would be offset elsewhere by a reduction in the number of intersections on SH 149 and FM 1797.

Fire and emergency service access to individual homes and businesses would not be affected by the roadway closures. Medical access to hospitals could be marginally affected by the additional travel distance due to the closure of FM 782.

Cumulative transportation effects would be minimal. The Marshall Lignite Mine would have little or no cumulative effect on project area traffic and transportation. Potential future construction of a conveyor system on the Rusk Permit Area would increase traffic modestly during conveyor construction.

## **Noise**

Project-related activities would cause or contribute to an increase in noise in the project area. The anticipated increase would depend on the distance between mining activities and sensitive receptors and on the nature of the intervening terrain. Based on expected maximum project-related noise levels, 54 noise-sensitive receptors, not owned or leased by Sabine, would experience noise levels 10 decibels on the A-weighted scale (dBA) or more above measured ambient levels. Of the 54 receptors experiencing an increase of noise level of 10 dBA or more, 45 also would be expected to experience noise levels exceeding 65 dBA day-night (average sound) level ( $L_{dn}$ ). Exterior noise levels exceeding 65 dBA  $L_{dn}$  are considered to be "normally unacceptable" for residential areas (U.S. Department of Housing and Urban Development 1996). Noise levels increasing by 10 dBA or more above existing noise levels would be perceived to be double the existing levels and generally are considered to be a likely indicator of community annoyance (Texas Department of Transportation 1997). The highest noise levels would likely occur for periods of a few days to a few months at any particular location and would continue for 24 hours per day. No cumulative noise effects would be anticipated from development of the proposed Rusk Permit Area.

## **Visual Resources**

The proposed project would change the visual character of the Rusk Permit Area for the life of the mine. The most noticeable effects primarily would involve changes in landforms, color, and texture. The pits and spoil piles would contrast strongly with the existing flat to gently rolling terrain. Exposed soil, which is a fairly vivid dark red in color, would contrast strongly with existing plant materials, which currently dominate the color palette. There also would be moderate textural contrasts as the generally smooth soil would be exposed in contrast to the more variable vegetative textures ranging from fine grasses to coarse forested areas. These visual impacts would be temporary, lasting until each mined area is progressively reclaimed and revegetated, which would occur over a period of from 2 to 12 years after initiating mining in any particular area. Landforms would be largely returned to pre-mining conditions within 2 years; initial revegetation would mute or eliminate strong color contrast within an additional 1 to 2 years. Final restoration of forested areas would occur as tree stands mature over a longer time frame. There may be cumulative visual effects with the existing Martin Lake Mine along both sides of SH 43, depending on whether Martin Lake is still active during mine years 10 through 15.

## **Hazardous Materials and Solid Waste**

Lignite mining would involve the transportation, storage, and use of hazardous material. Fuels and lubricants would present the largest quantities of hazardous material transported to the site. Other hazardous materials would be present in minor quantities. Fuel would be the material used in the largest quantity and would be expected to present the highest risk of a spill. An analysis of transportation risk indicates that there is a small probability of a spill during the lifetime of the project and a smaller probability of a spill at the proposed Sabine River crossing. Implementation of spill and emergency response plans would minimize potential impacts in the event of an accidental release of hazardous materials. Impacts resulting from the generation of solid wastes are expected to be minimal because handling of those wastes would be conducted in compliance with applicable federal and state regulations.

Cumulatively, the proposed Rusk Permit Area is not anticipated to result in an incremental increase in the amount of hazardous materials that would be transported over the identified transportation routes; the existing South Marshall Permit Area of the South Hallsville No. 1 Mine would be phased out as the Rusk Permit Area begins operating. The Rusk Permit Area would extend the transport and use of hazardous materials at the South Hallsville No. 1 Mine for an additional 15 years.

No cumulative impacts are expected with the storage and use of hazardous materials because of proper implementation of spill and emergency response plans. Cumulative impacts would be minimal regarding the generation and disposal of solid wastes.

## **Public Health**

The proposed Rusk Permit Area is not anticipated to adversely affect the health of local residents. Potential mine-related impacts associated with water quality, air quality, and noise and lighting effects were evaluated. Specifically, the impact assessment addressed the potential effects of chemicals used during mine reclamation, fugitive dust generated during construction and operations, and the effects of increased noise and night lighting from mine operations.

## **Environmental Justice**

Census data indicate that census tracts in close proximity to the proposed Rusk Permit Area have meaningfully higher percentages of Black/African American and/or Hispanic/Latino populations than the four-study area counties as a whole. However, analyses have not identified adverse environmental effects that would disproportionately affect these minority communities. None of the census tracts in close proximity to the proposed project have median family incomes below the poverty threshold; therefore, low-income populations would not be disproportionately affected. An extensive effort was made to disseminate information on the project and solicit public comments from all interested parties in a non-discriminatory manner.

## Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
A&G	administrative and general (expenses)
AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
amsl	above mean sea level
APE	area of potential effect
APLIC	Avian Power Line Interaction Committee
BA	biological assessment
BCF	billion cubic feet
bgs	below ground surface
BMP	best management practices
BNSF	Burlington Northern Santa Fe
Btu/lb	British thermal units per pound
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
cm	centimeter
CNG	CNG Environmental
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalents
CR	county road
CWA	Clean Water Act
dB	decibels
dBA	decibels on the A-weighted scale
EC	electrical conductivity
EIS	environmental impact statement
EMS	emergency medical services
EO	Executive Order
ESA	Endangered Species Act

FEMA	Federal Emergency Management Agency
FGD	flue gas desulfurization
FM	farm-to-market
GHG	greenhouse gas
gpd	gallons per day
gpm	gallons per minute
GWP	global warming potential
H	horizontal
HAP	hazardous air pollutant
HB	House Bill
HDR	HDR Engineering, Inc.
<b>HGM</b>	<b><i>hydrogeomorphic</i></b>
HHS	Health and Human Services
HUD	United States Department of Housing and Urban Development
I-20	Interstate 20
IP	Individual Permit
ISD	Independent School District
ISO	International Standards Organization
KOP	key observation point
km	kilometer
kV	kilovolt
L <sub>dn</sub>	day-night (average sound) level
L <sub>eq</sub>	equivalent noise level
LOS	level of service
MACT	Maximum Achievable Control Technology
mg/L	milligrams per liter
mg/m <sup>3</sup>	milligrams per cubic meter
MGD	million gallons per day
ml	milliliters
MLRA	Major Land Resource Area
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NO <sub>2</sub>	nitrogen dioxide

NO <sub>x</sub>	nitrogen oxide
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NSPS	New Source Performance Standard
NWIS	National Water Information System
OTR	over-the-road
Pirkey	Henry W. Pirkey Unit No. 1
PLS	Pure Live Seed
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter of 10 microns or less
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter of 2.5 microns or less
ppb	parts per billion
ppm	parts per million
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCT	Railroad Commission of Texas
REA	Rural Electrification Administration
RFFA	reasonably foreseeable future actions
ROW	right-of-way
RV	recreational vehicle
Sabine	Sabine Mining Company
SARA	Superfund Amendments and Reauthorization Act
SH	state highway
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
<b>SOP</b>	<b><i>standard operating procedure</i></b>
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan
SPL	sound pressure level
SPP	Southwest Power Pool
SRA	Sabine River Authority
SSURGO	Soil Survey Geographic
SWEPCO	Southwestern Electric Power Company
T/SA	federally threatened by similarity of appearance
TAC	Texas Administrative Code

TCEQ	Texas Commission on Environmental Quality
TDS	total dissolved solids
THC	Texas Historical Commission
THPO	Tribal Historic Preservation Officer
TIFP	Texas Instream Flow Program
TNRIS	Texas Natural Resources Information System
TPDES	Texas Pollution Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
tpy	tons per year
TRB	Transportation Research Board
<b>TRI</b>	<b>Toxic Release Inventory</b>
TSP	total suspended particulate
TSS	total suspended solids
TWDB	Texas Water Development Board
TXDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
V	vertical
VOC	volatile organic compound
vpd	vehicles per day
<b>WRAP</b>	<b>Wetland Rapid Assessment Procedure</b>

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**Table 1-2 Other Requirements, Approvals, and Coordination**

<b>State of Texas</b>	
Texas Department of Transportation (TXDOT)	Approval for Road Closures
Texas Historical Commission	Compliance with National Historic Preservation Act (NHPA), Section 106 Consultation and American Indian Religious Freedom Act
TCEQ	Notification of Open Burning
<b>Local</b>	
Harrison, Panola, and Rusk County <i>Floodplain Managers</i>	Floodplain Construction Authorization
Harrison, Panola, and Rusk County Sheriffs	Notification of Open Burning
Panola County Commissioners Court	Approval for Panola County Road Closures
Rusk County Commissioners Court	Approval for Rusk County Road Closures

## 1.4 Organization of the EIS

This EIS complies with the CEQ EIS requirements (40 CFR 1502.10) and the USACE’s requirements (33 CFR 325, Appendix B). Chapter 1.0 provides descriptions of the purpose of and need for the action, the role of the USACE in the EIS process, and the required regulatory actions for the proposed project. Chapter 2.0 describes the alternatives, including the Proposed Action and the No Action Alternative, as well as the past, present, and reasonably foreseeable future actions (RFFAs) considered in the cumulative effects analyses. Chapter 3.0 describes the affected environment and the potential direct, indirect, and cumulative impacts associated with the project alternatives; possible mitigation to minimize or compensate for impacts; and any residual adverse effects following the implementation of mitigation. Chapter 4.0 summarizes public participation and the scoping process, and the consultation and coordination undertaken to prepare the EIS. Chapter 5.0 presents the list of EIS preparers and reviewers. Chapter 6.0 provides the list of references. Chapter 7.0 contains the glossary. Chapter 8.0 contains the index. Copies of supporting documents are available for public review on the USACE Fort Worth District website at: <http://www.swf.usace.army.mil/pubdate/enviro/regulatory/index.asp>. Technical documents will be available a minimum of 60 days past the date of the USACE’s Record of Decision for this project.

**Table 2-2 Equipment List for Existing and Proposed Operations<sup>1</sup>**

Quantity <sup>2</sup>	Description	Horsepower Rating <sup>3</sup>	Trips/Day (round trip)	Miles/Trip (one-way) <sup>4</sup>
<b>Mobile Fleet</b>				
1	Water Truck (18,000 gallons)	1,050	15	20
1	Water Truck (20,000 gallons)	1,050	15	20
1	Water Truck (33,000 gallons)	1,487	15	20
9	150-Ton End Dump	1,487	15	20
<b>5</b>	<b>240-Ton – Kress <i>Coal Hauler</i></b>	<b>1,700</b>	<b>15</b>	<b>20</b>
2	Van – 15-Passenger	301	4	20
1	Van – 12-Passenger	245	4	20
2	Pick up – 2-Door	300	5	20
27	Pick up – Crew Cab	300	5	20
1	Pick up – Extended Cab	300	5	20
1	Tahoe	320	1	20
2	Suburban	320	1	20
1	Fuel/Lube Truck	408	5	20
2	Ford Welders Truck	300	2	20
1	Ford F600 Mechanics Truck	300	10	20
1	Ford Boom Truck	300	2	20
1	Lowboy w/Tractor (Komatsu 330M)	1,050	--	--
1	Tire Truck	300	--	--
1	Hydromulcher	140	--	--
<b>Non-mobile Equipment</b>				
2	Bucyrus Erie 1570 (92-cubic yard bucket)	Electric	--	--
1	Marion 8200 (85-cubic yard bucket)	Electric	--	--
1	Page 736 (25-cubic yard bucket)	Electric	--	--
2	Easi-Miner	1,200	--	--
1	Komatsu WA-450 (New)	272	--	--
1	Komatsu WA-450	272	--	--
1	Cat 992C	690	--	--
1	O&K Shovel	2,000	--	--
2	PC-1800 Excavator	908	--	--
2	637 Scraper	250	--	--
1	Galeon 850 Grader	165	--	--
2	16G Grader	275	--	--
2	16H Grader	275	--	--
1	Komatsu PC300	246	--	--
1	Komatsu PC400	345	--	--

**Table 2-3 Employment Numbers by Mine Phase**

Mine Phase (Mine Year)	Existing Sabine Employees <sup>1</sup>	New Hires <sup>1</sup>	Contract Workers <sup>2</sup>	Total
Construction (years 1 to 1.5)	260	0	150	316
Operations (years 1 to 30)	260	0	40	266
Closure and final reclamation (years 30 to 35)	100	0	40	160

<sup>1</sup> Sabine's existing work force of approximately 260 employees would remain constant during the transition between existing operations at the South Marshall Permit Area of the South Hallsville No. 1 Mine and proposed operations at the Rusk Permit Area (Sabine 2010a,b).

<sup>2</sup> The majority of the contract workers would be new hires.

Source: Sabine 2010a,b.

Overburden and interburden (the material to be removed above and between the lignite seams, respectively) primarily would be removed using 25- to 92-cubic yard capacity draglines to allow access to the lignite seams. Both highwall and spoil side positions would be used by the draglines. No blasting is proposed. The volume of overburden and interburden production would vary with the depth at which mining would occur. The minimum mineable lignite thickness considered to be recoverable is 0.25 feet. Projected material production by year for the first 5 years and subsequent 5-year periods for the life of the mine is shown in **Table 2-5**, and the projected individual mine blocks by year are shown in **Figure 2-2**.

Once an initial box pit is excavated, overburden and interburden from each subsequent pit would be backfilled into the previous pit to establish a graded surface at approximately the same elevation as the pre-mining surface. Overburden material would be selectively handled to ensure placement of a minimum 4-foot cover of suitable oxide material for use as growth media on top of the backfill. This surface then would be suitable for completion of reclamation procedures including rough and final grading, testing of selectively handled overburden for suitability, seeding and planting, and other final reclamation tasks. The sequence of activities would be implemented to achieve post-mining land uses and long-term reclamation goals as approved by permitting agencies prior to site construction.

The proposed Rusk Permit Area is located north of the community of Tatum. Existing public roads (CR, FM, and SH) and utilities cross the proposed disturbance areas. These road and utility **closures for the 30-year life of the mine** are shown in **Figures 2-3** and **2-4**, respectively. **Road closures for each 5-year time increment are shown in Figure 2-3a through 2-3f**. The mine year during which each road would be closed is identified in **Table 2-6**. Roads would be closed by the jurisdictional agency in advance of mine operations. The roads would be returned to their original alignment as sequential operations and reclamation activities advance. In general, the affected roads would be reopened approximately 7 to 10 years after being mined through and following approval of the appropriate jurisdictional agency. Alternate access routes would be provided prior to road closures.

Utilities (e.g., natural gas pipelines and transmission lines) located within the area of proposed mining would be rerouted and removed in advance of mining (**Figure 2-4**). Utilities would be permanently rerouted at the discretion of the owner in advance of mine operations. Pipelines located within 100 feet of the permit area would be maintained in accordance with RCT regulations.

The land surface within the proposed mining area includes lands currently owned by SWEPCO and private lands that would be leased or purchased by SWEPCO.

An estimated 200 natural gas and oil wells and an estimated 125 groundwater wells exist within the Rusk Permit Area proposed life-of-mine disturbance boundary. All wells within the area of proposed mining

**Table 2-5 Production Schedule**

<b>Mine Year/Period</b>	<b>Overburden/Interburden (million cubic yards)</b>	<b>Lignite (million tons)</b>
1	0	0
2	25.3	2.4
3	23.9	2.0
4	24.9	2.1
5	28.0	2.2
6 to 10	204.6	14.7
11 to 15	296.6	22.8
16 to 20	359.1	26.1
21 to 25	405.9	31.6
26 to 30	446.6	34.2
<b>Total<sup>1</sup></b>	<b>1,815.0</b>	<b>138.2</b>

<sup>1</sup> Slight differences are due to rounding.

Source: Sabine 2009b.

**Table 2-6 Public Roads Within and/or Adjacent to the Proposed Rusk Permit Area**

<b>Road Name</b>	<b>Mine Years Closed/ Relocated or Removed<sup>1,2</sup></b>	<b>Activity<sup>2</sup></b>
<b>Rusk County Roads</b>		
CR 2210	<b>10 to 30</b>	Mining/Closed
CR 2211	NA	None – adjacent to project boundary
CR 2212	<b>20 to 30</b>	Mining/Closed
CR 2213D	<b>15 to 25</b>	Mining/Closed
CR 2214	<b>10 to 35</b>	Mining/Closed
CR 2215	<b>25 to 33</b>	Mining/Closed
CR 2216 <sup>3</sup>	<b>20 to 31</b>	Mining/Closed
CR 2217	<b>12 to 20</b>	Mining/Closed
CR 2218	<b>12 to 20</b>	Mining/Closed
CR 2219D (Hendricks Lake Road)	<b>0 to 20</b>	Mining/Closed
CR 2221D <sup>3</sup>	<b>10 to 15</b>	Mining/Closed
CR 2222D <sup>3</sup>	<b>10 to 15</b>	Mining/Closed
CR 2174	<b>15 to 21</b>	Mining/Closed
CR 2175D <sup>3</sup>	NA	Bridge for haul road crossing

**Table 2-6 Public Roads Within and/or Adjacent to the Proposed Rusk Permit Area**

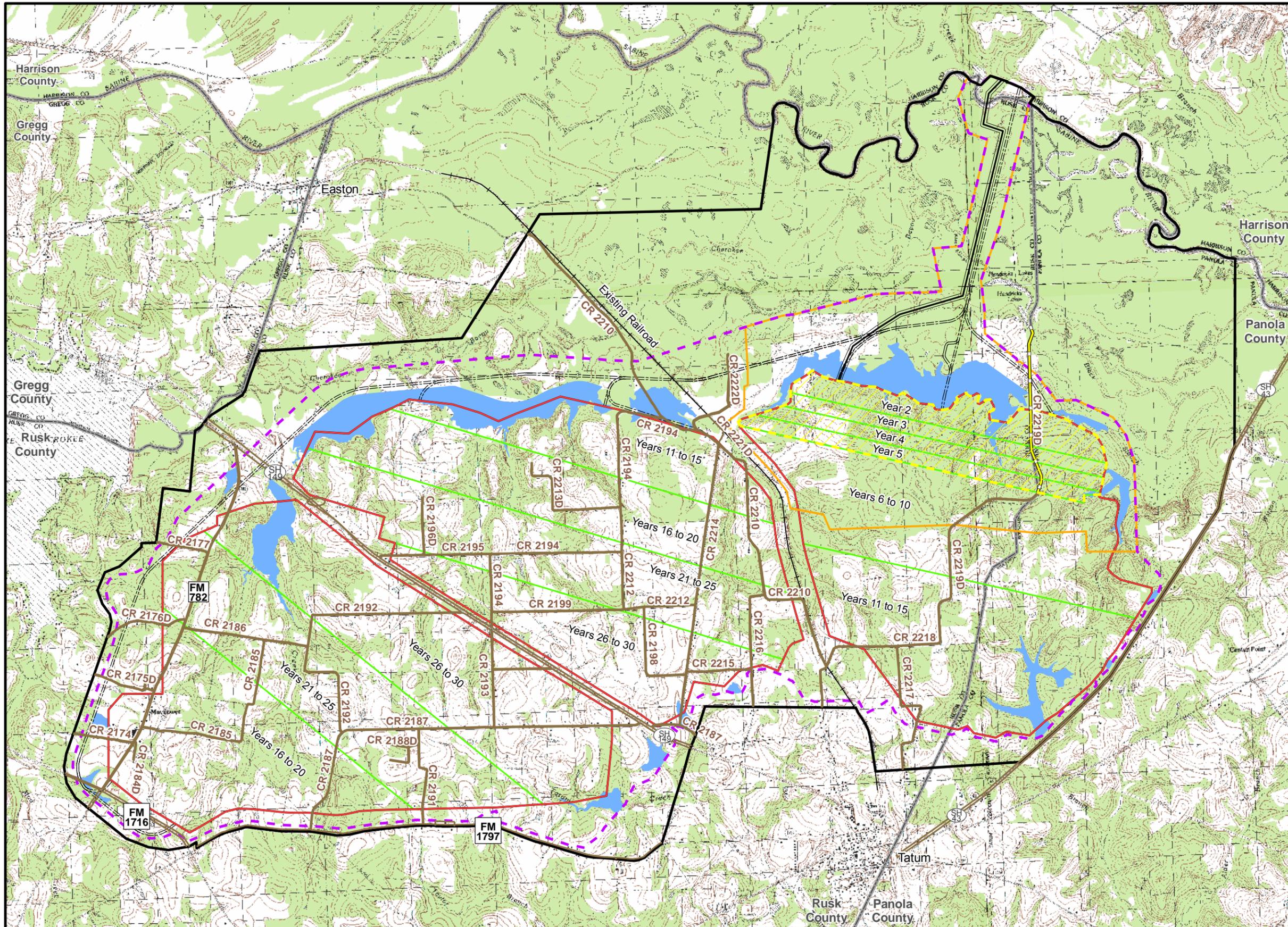
<b>Road Name</b>	<b>Mine Years Closed/ Relocated or Removed<sup>1,2</sup></b>	<b>Activity<sup>2</sup></b>
CR 2176D	<b>19 to 26</b>	Mining/Closed
CR 2177	<b>23 to 30</b>	Mining/Closed
CR 2184D	<b>15 to 21</b>	Mining/Closed
CR 2185	<b>16 to 28</b>	Mining/Closed
CR 2186	<b>20 to 29</b>	Mining/Closed
CR 2187	<b>16 to 32</b>	Mining/Closed
CR 2188D	<b>21 to 28</b>	Mining/Closed
CR 2191	<b>20 to 29</b>	Mining/Closed
CR 2192	<b>20 to 35</b>	Mining/Closed
CR 2193	<b>25 to 35</b>	Mining/Closed
CR 2194 <sup>3</sup>	<b>10 to 22</b>	Mining/Closed
CR 2195 <sup>3</sup>	<b>20 to 31</b>	Mining/Closed
CR 2196D <sup>3</sup>	<b>20 to 31</b>	Mining/Closed
CR 2198	<b>24 to 33</b>	Mining/Closed
CR 2199	<b>24 to 35</b>	Mining/Closed
<b>Panola County Roads</b>		
CR 2219D (Hendricks Lake Road)	<b>0 to 20</b>	Mining/Closed
<b>State Highways</b>		
SH 43	NA	None – on project boundary
SH 149	NA	New overpass construction with associated temporary closures (24 to 48 hours) to allow mining operations to reach mine area X; temporary closure (24 to 48 hours) for dragline crossing
<b>Farm-to-Market</b>		
FM 782	<b>15 to 32</b>	Mining/Closed
FM 1716	NA	Potential bridge for haul road crossing
FM 1797	NA	None – on project boundary

<sup>1</sup> Roads would be closed and re-opened incrementally as mining and reclamation advance.

<sup>2</sup> NA = not applicable.

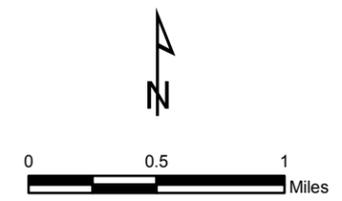
<sup>3</sup> Access for through traffic would extend beyond the indicated closure period, until connection to the county road network is re-established.

Source: Sabine **2011**, 2010a,c, 2009b.



- Legend**
- Proposed Rusk Permit Area Boundary
  - Proposed Mine Areas
  - Proposed First 5-year RCT Permit Term Disturbance Boundary
  - End of Period Mining Extent
  - Proposed Life-of-mine Disturbance Boundary
  - Sediment Control Pond
  - Main Haul Roads
  - Dragline Walkway
  - Existing Road
  - Existing Railroad
  - Active Mining Area Years 1 to 5
  - Road Closed During Mining Period
  - County Boundary

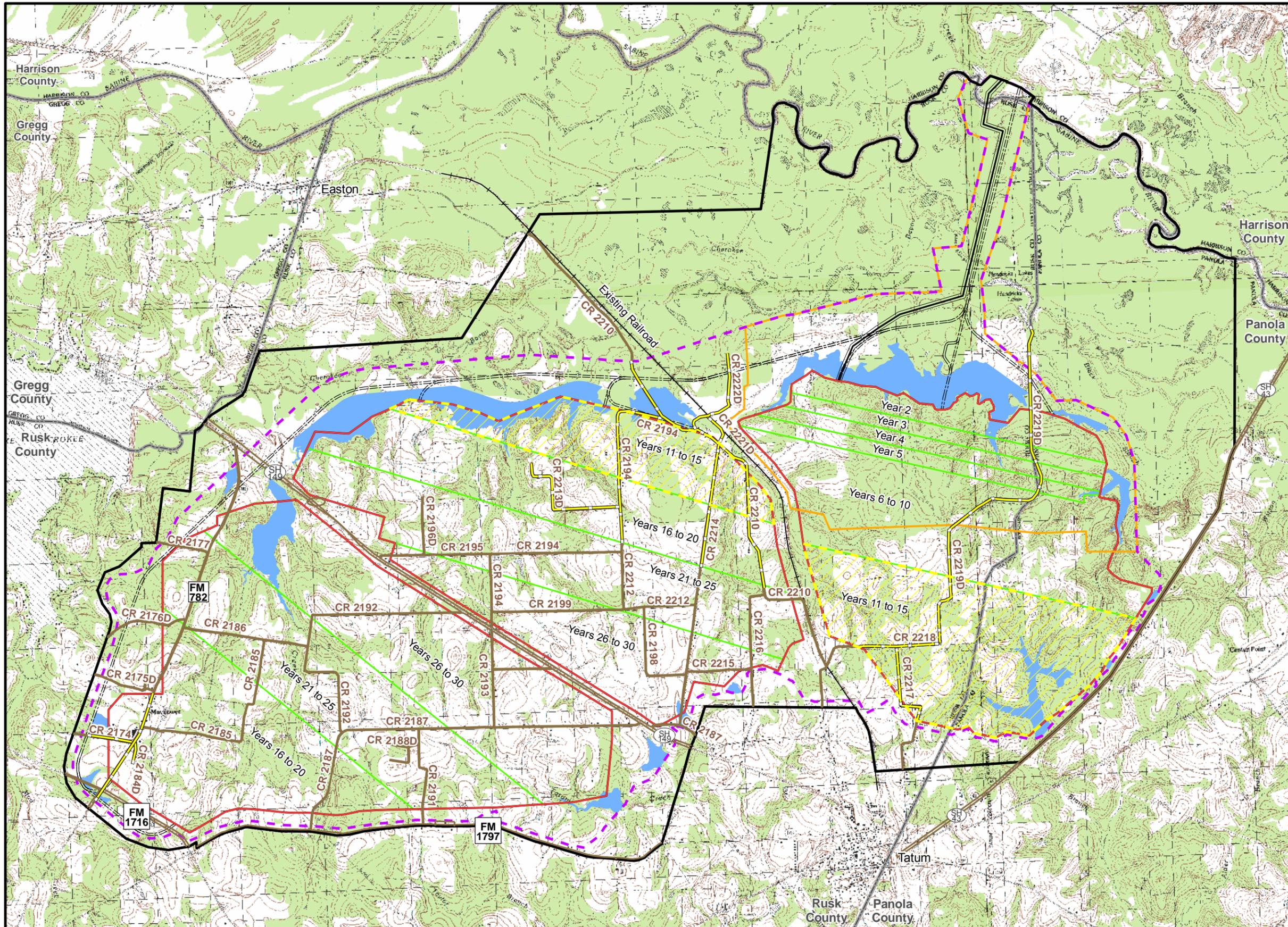
Note: See Table 2-6 relative to timing of road closures.  
 Source: Sabine 2009a,b, 2010c, 2011.



**Rusk Permit Area EIS**

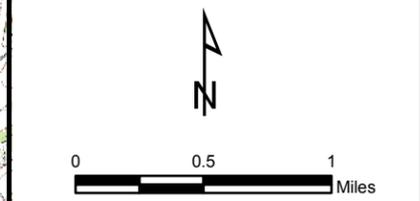
Figure 2-3a  
 Public Road Closures for  
 Mine Years 1 - 5





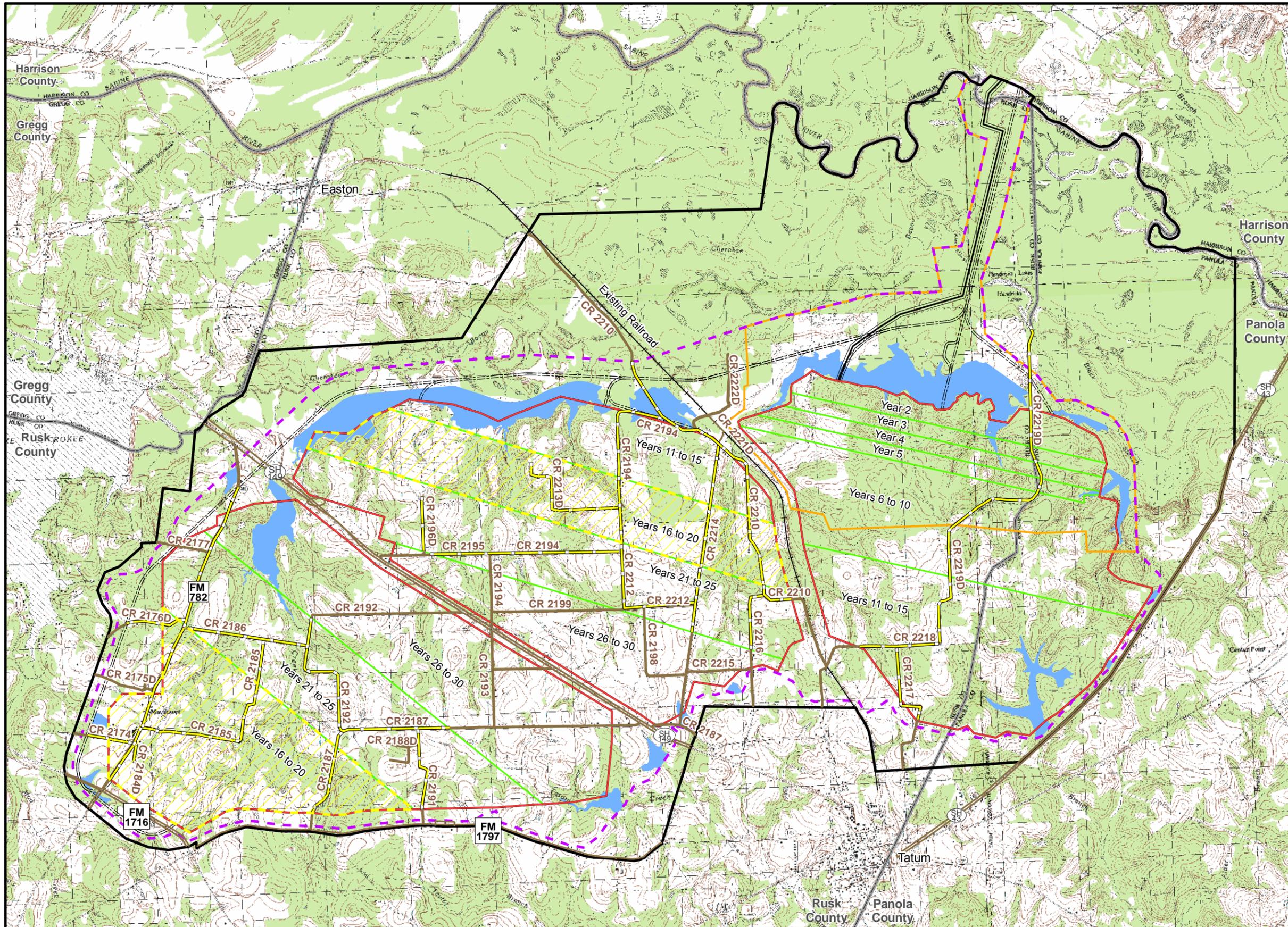
- Legend**
- Proposed Rusk Permit Area Boundary
  - Proposed Mine Areas
  - Proposed First 5-year RCT Permit Term Disturbance Boundary
  - End of Period Mining Extent
  - Proposed Life-of-mine Disturbance Boundary
  - Sediment Control Pond
  - Main Haul Roads
  - Dragline Walkway
  - Existing Road
  - Existing Railroad
  - Active Mining Area Years 11 to 15
  - Road Closed During Mining Period
  - County Boundary

Note: See Table 2-6 relative to timing of road closures.  
 Source: Sabine 2009a,b, 2010c, 2011.



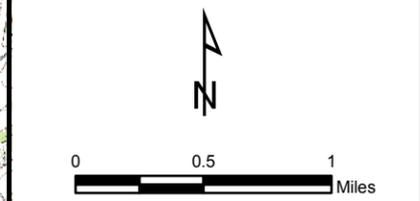
**Rusk Permit Area EIS**

Figure 2-3c  
 Public Road Closures for  
 Mine Years 11 - 15



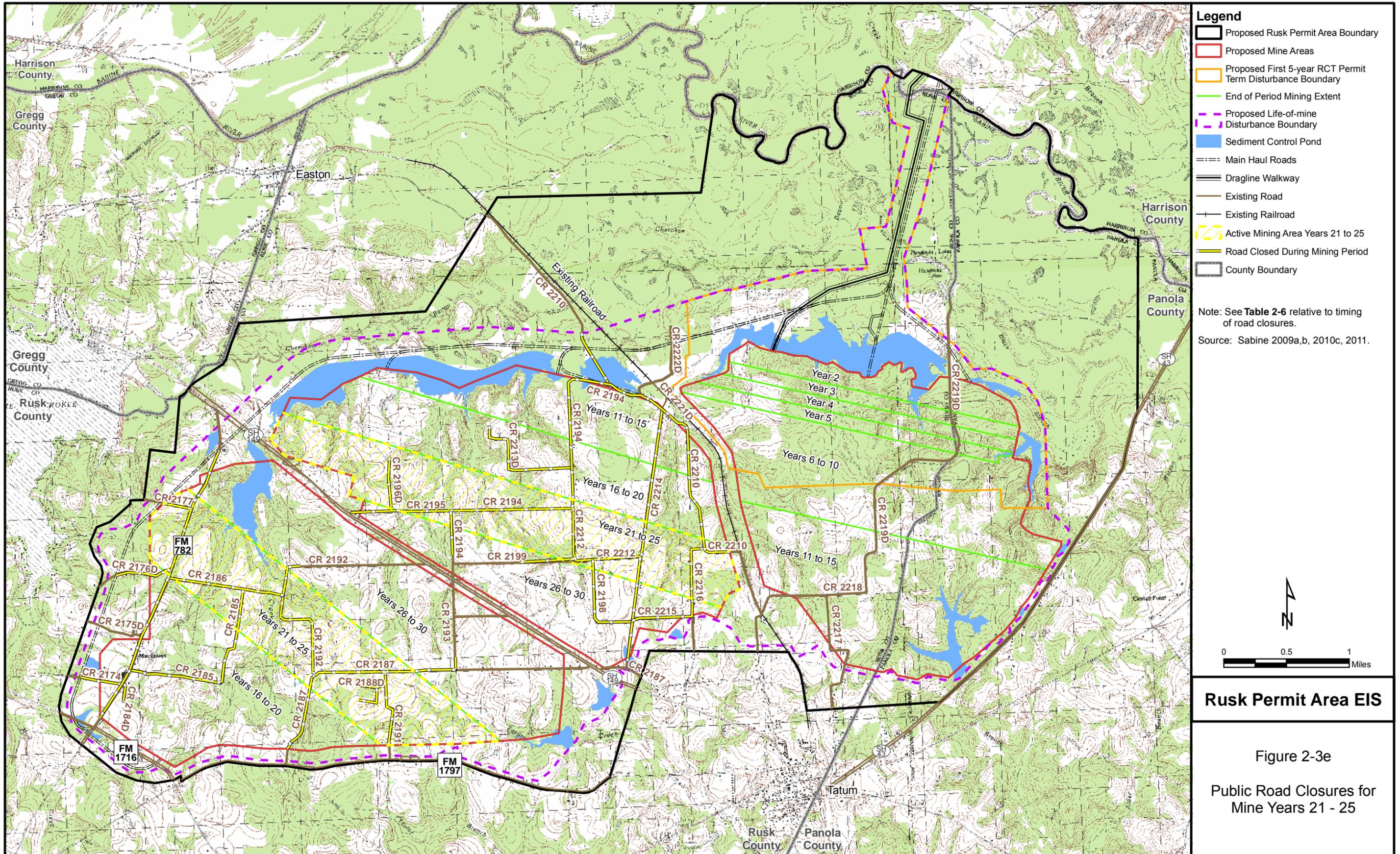
- Legend**
- Proposed Rusk Permit Area Boundary
  - Proposed Mine Areas
  - Proposed First 5-year RCT Permit Term Disturbance Boundary
  - End of Period Mining Extent
  - Proposed Life-of-mine Disturbance Boundary
  - Sediment Control Pond
  - Main Haul Roads
  - Dragline Walkway
  - Existing Road
  - Existing Railroad
  - Active Mining Area Years 16 to 20
  - Road Closed During Mining Period
  - County Boundary

Note: See Table 2-6 relative to timing of road closures.  
 Source: Sabine 2009a,b, 2010c, 2011.



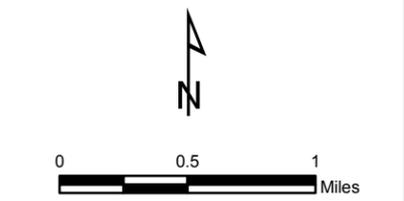
**Rusk Permit Area EIS**

Figure 2-3d  
 Public Road Closures for  
 Mine Years 16 - 20



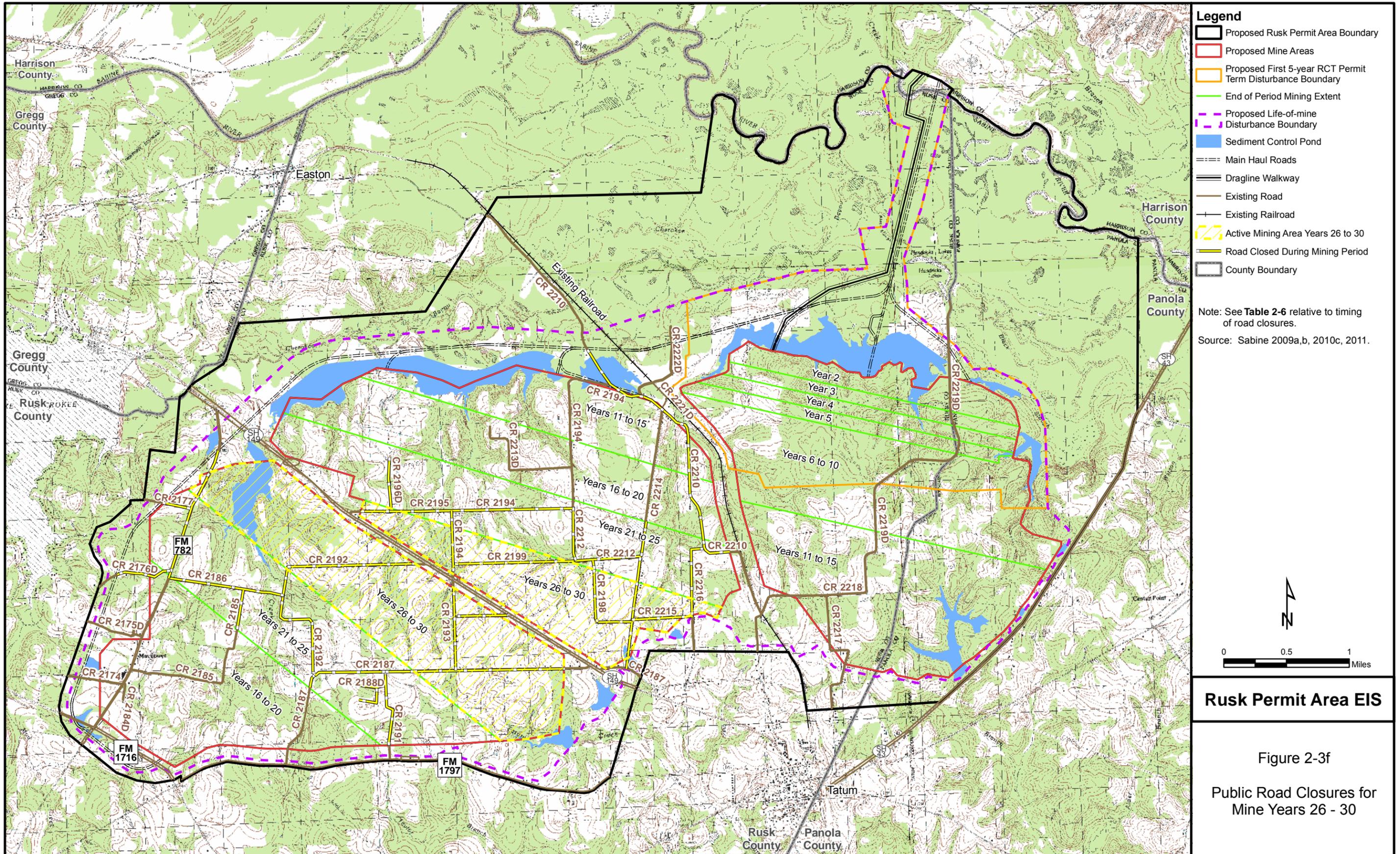
- Legend**
- Proposed Rusk Permit Area Boundary
  - Proposed Mine Areas
  - Proposed First 5-year RCT Permit Term Disturbance Boundary
  - End of Period Mining Extent
  - Proposed Life-of-mine Disturbance Boundary
  - Sediment Control Pond
  - Main Haul Roads
  - Dragline Walkway
  - Existing Road
  - Existing Railroad
  - Active Mining Area Years 21 to 25
  - Road Closed During Mining Period
  - County Boundary

Note: See Table 2-6 relative to timing of road closures.  
 Source: Sabine 2009a,b, 2010c, 2011.



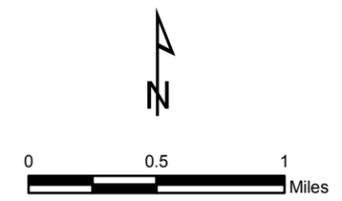
**Rusk Permit Area EIS**

Figure 2-3e  
 Public Road Closures for  
 Mine Years 21 - 25



- Legend**
- Proposed Rusk Permit Area Boundary
  - Proposed Mine Areas
  - Proposed First 5-year RCT Permit Term Disturbance Boundary
  - End of Period Mining Extent
  - Proposed Life-of-mine Disturbance Boundary
  - Sediment Control Pond
  - Main Haul Roads
  - Dragline Walkway
  - Existing Road
  - Existing Railroad
  - Active Mining Area Years 26 to 30
  - Road Closed During Mining Period
  - County Boundary

Note: See Table 2-6 relative to timing of road closures.  
 Source: Sabine 2009a,b, 2010c, 2011.



**Rusk Permit Area EIS**

Figure 2-3f  
 Public Road Closures for  
 Mine Years 26 - 30

## Roads

During operations, Sabine would not conduct general mining or reclamation activities within the 100-foot buffer zone of public roads until the roads have been closed by the jurisdictional authority or a buffer zone waiver has been obtained from the RCT. Public roads that would be closed sequentially over the life of the mine in advance of pit development are identified in **Table 2-6** and shown in **Figure 2-3**.

## Highway and Rail Line Crossing

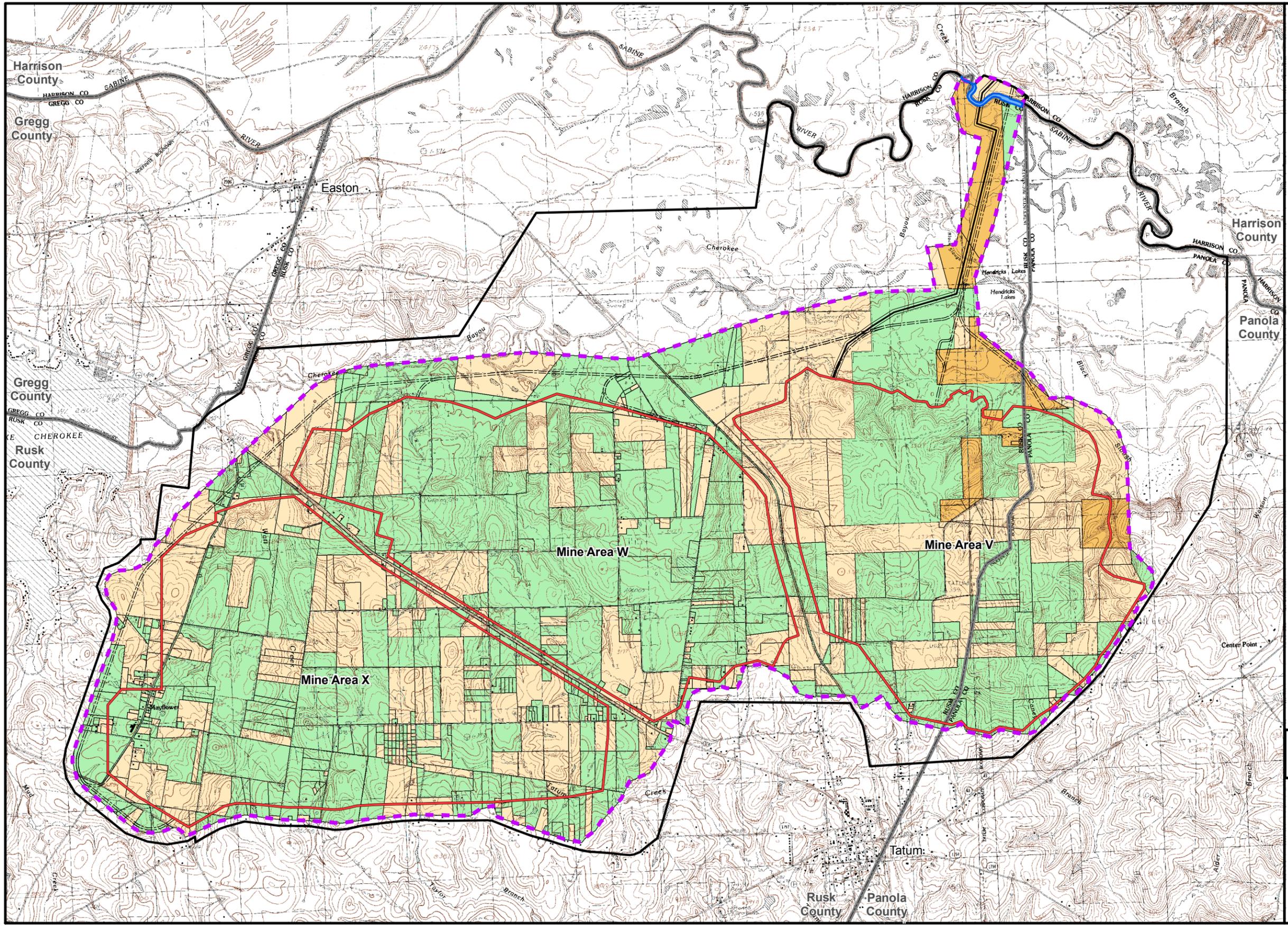
For haul road crossings of state highways, Sabine would construct a bridge over the haul road to convey state highway traffic over the haul road. For haul road crossings of the rail line, and as an alternative for road crossings, Sabine would construct a high arch superspan culvert to accommodate passage of the haul road either beneath or over the rail line or road (see **Figure 2-9**). For dragline crossings of state highways or the rail line, Sabine would build a temporary fill crossing with a minimum of 10 feet of fill and approaches of 8 percent on either side. These crossings would require temporary closure of the road or rail line for a period of 24 to 48 hours (Sabine 2010a).

### **2.5.3 Closure and Reclamation**

Reclamation would be initiated following excavation of the initial mining area and would continue concurrently with mining operations throughout the life of the mine and through final closure. The acreage of lignite mining disturbance at any given time during mining operations would be approximately 500 acres (Sabine 2010a). The short-term reclamation goal for the proposed Rusk Permit Area includes the establishment of a vegetative cover to provide for soil stabilization and erosion control. The long-term reclamation goals include establishing a sustainable vegetative cover that would promote the identified post-mining land uses, returning the disturbed areas to productive post-mining land uses equal to or better than pre-mining conditions, and maintaining drainage and water quality and quantity.

After the lignite has been removed from a mine pit and the pit backfilled with overburden and interburden by the draglines or truck and shovel fleet excavating the subsequent pit, the peaks of the backfilled material (spoil) would be leveled and graded to approximate original contour in compliance with RCT coal mining regulations. Selective handling and placement of overburden and interburden materials during backfilling, as discussed in Section 2.5.2.6, Overburden and Interburden Removal (Operations Phase), would provide for redistribution of a minimum of 4 feet of suitable growth media over the regraded surface. The general sequence of mining and reclamation activities is shown in **Figure 2-8**. The lag that would occur between the time mining commences for a given pit and the rough leveling to approximate original contour of the spoil placed in the same pit would be approximately 24 months. Subsequent placement of suitable growth media would be completed in approximately 15 months, with seeding and planting conducted within 60 days. Overall reclamation activities in a given area, including normal husbandry, would continue for approximately 12 years (Sabine 2010a). The ability of reclaimed land to support the approved post-mining land uses would be evaluated in accordance with the RCT's revegetation success criteria and USACE's permit criteria.

RCT-designated post-mining land uses for the proposed Rusk Permit Area may include pastureland, forest land, fish and wildlife habitat, developed water resources, grazing land, industrial/commercial uses, residential, undeveloped land, and cropland, depending on landowner agreements. Waters of the U.S., including wetlands, would be reclaimed in accordance with final USACE permit criteria; they would be incorporated per landowner agreements as features or fish and wildlife enhancement areas within the RCT-designated post-mining land uses. Section 12.147 of the RCT regulations requires the identification of RCT-designated post-mining land uses for lands that would be disturbed during the initial RCT permit term. Of the 2,840 acres of proposed disturbance within the initial 5-year RCT permit area, approximately **1,165** acres would be reclaimed as pastureland, approximately **1,121** acres reclaimed to forest land, approximately 9 acres reclaimed as developed water sources, and approximately **545** acres reclaimed to fish and wildlife habitat (Sabine **2011**, 2010d). The conceptual post-mining land uses for the life-of-mine disturbance area are shown in **Figure 2-10**. The final post-mining land uses for the proposed disturbance area outside of the initial 5-year RCT permit area would be determined based on landowner agreements.



**Legend**

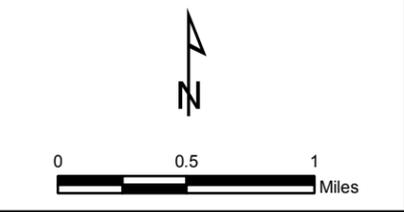
- Proposed Rusk Permit Area Boundary
- Proposed Mine Areas
- Proposed Life-of-mine Disturbance Boundary

**Conceptual Land Uses**

- Forestry
- Pasture
- Wildlife
- Developed Water Resources (see note below)
- Main Haul Roads
- Dragline Walkway
- County Boundary

Source: Sabine 2009b, 2010c, 2011.

Note: Other developed water resources and fish and wildlife habitat post-mining land uses will be incorporated within forestry and pastureland land uses (see Section 2.5.3). Other post-mining land uses will be incorporated per landowner agreements.



**Rusk Permit Area EIS**

Figure 2-10  
Post-mining  
Land Uses  
(Conceptual)

end of reclamation responsibility goals are the same as described above for the forestry land use type. This land use would be interspersed to the extent possible with the other post-mining land uses in the proposed disturbance area, particularly with forest land, pastureland, and developed water resources.

Fish and wildlife habitat also would be provided through mitigation of waters of the U.S., including wetlands, which would be reclaimed in accordance with Sabine's proposed Conceptual Mitigation Plan (HDR 2010b). Forested wetland habitat would be deemed successful with a minimum tree density after 5 years of **250** trees per acre, with no one tree species exceeding 30 percent. Non-forested wetland habitat would be deemed successful with 80 percent ground cover after 3 years, with no non-native, noxious, or invasive species comprising any of the three most dominate species. Riparian zone planting would be deemed successful with establishment of ***the following minimum riparian habitat buffers: 25 feet on either side of ephemeral streams, 50 feet on either side of intermittent streams, and 100 feet on either side of perennial streams.*** In addition, permanent ponds would be designed to ensure successful formation and propagation of wetland and riparian habitats. See the Developed Water Resources subsection below relative to aquatic habitat.

#### Undeveloped Land

The undeveloped land category includes those areas for which long-term management goals and uses have not been identified. These areas would be planted with native grasses, shrubs, and trees. Per the RCT regulations, ground cover must meet or exceed 90 percent of the ground cover technical standards, which require 95 percent cover for sod-forming grasses and 90 percent cover for bunchgrasses. As per the RCT regulations for the fish and wildlife habitat type, woody species stocking rates are required to meet or exceed 90 percent of the identified technical standard developed by the applicant in coordination with the TPWD (a stem count of 100 per acre [Sabine 2009a]). The RCT regulations relative to herbaceous and woody species composition measurements and end of reclamation responsibility goals are the same as described above for the forestry land use type. This land use would be restored per landowner agreements and, therefore, interspersed with other post-mining land uses in the proposed disturbance area.

#### Industrial/Commercial

Under the RCT regulations for the industrial/commercial land use type, sufficient ground cover is to be maintained to control erosion. If woody species stocking is to be implemented, these plantings would be required to meet or exceed 90 percent of a site-specific technical standard developed by the applicant in coordination with the Texas Forest Service. Woody species composition monitoring, where applicable, and end of reclamation responsibility goals are the same as described above for the forestry land use type. This land use would be restored per landowner agreements and, therefore, interspersed with other post-mining land uses in the proposed disturbance area.

#### Residential Land

Under the RCT regulations for the residential land use type, sufficient ground cover is to be maintained to control erosion. If woody species stocking is to be implemented, these plantings would be required to meet or exceed 90 percent of a site-specific technical standard developed by the applicant in coordination with the TPWD. Woody species composition monitoring, where applicable, and end of reclamation responsibility goals are the same as described above for the forestry land use type. This land use would be restored per landowner agreements and, therefore, interspersed with other post-mining land uses in the proposed disturbance area.

#### Developed Water Resources

Sabine, in coordination with the USACE, would identify and inventory appropriate waters of the U.S. (including wetlands) reference sites for use in evaluating reclamation success for developed water resources in the proposed Rusk Permit Area. The reference sites would be specific to the project's Section 404 permit requirements. Based on Sabine's proposed total mitigation ratios (inclusive of direct and compensatory mitigation) as discussed in Section 2.5.3.6, Restoration of Waters of the U.S. Including

**Table 2-11 Committed Environmental Protection Measures and Additional Mitigation Measures Under Consideration**

Environmental Resource	Sabine's Committed Environmental Protection Measures <sup>1</sup>	Additional Mitigation Measures Under Consideration
<p>Fish and Wildlife Resources (Cont.)</p>	<ul style="list-style-type: none"> <li>• Wildlife habitat enhancement projects, including removal of cattle from the mine area and prohibiting hunting of indigenous non-migratory species, would be implemented by Sabine. Enhancement measures related to development of aquatic and riparian habitats would be implemented in accordance with the proposed Conceptual Mitigation Plan for waters of the U.S. (See <b>Table 2-10</b> for proposed mitigation ratios.)</li> <li>• To minimize potential power line- or transmission line-related impacts to raptor species, these facilities would be designed and constructed in accordance with guidelines presented in the Environmental Criteria for Electric Transmission System (USDI, USDA 1970) and/or REA Bulletin 61-10, Powerline Contacts by Eagles and Other Large Birds.</li> <li>• To maximize wildlife use and aesthetics and to minimize soil erosion, timber and brush clearing would be conducted at the minimum critical distance in front of mining and avoided where practical. Brush piles and/or windrows would be constructed for wildlife cover, where possible.</li> <li>• The proposed alignments and river crossings for the main haul road and dragline walkway were located in consultation and review with the USACE, TPWD, and RCT.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>FW-2: TPWD-approved bird flight diverters would be installed on the proposed transmission line in areas of high bird use (e.g., across the Sabine River and its floodplain).</b></li> <li>• <b>FW-3:</b> Prior to construction of the proposed haul road bridge, <b>the proposed</b> dragline walkway crossing of the Sabine River, <b>and subsequent dragline crossings of the Sabine River</b>, mussel surveys would be conducted by a qualified biologist within the proposed disturbance areas and immediately downstream of the crossings. Mussels found during the survey would be relocated to appropriate habitat in coordination with TPWD.</li> <li>• <b>FW-4: Prior to construction of the transportation and utility corridor, a mussel survey would be conducted by a qualified biologist in the affected reach of the perennial tributary to Hendricks Lake and Hendricks Lake. Mussels found during the survey would be relocated to appropriate habitat in coordination with TPWD.</b></li> </ul>

**Table 2-11 Committed Environmental Protection Measures and Additional Mitigation Measures Under Consideration**

Environmental Resource	Sabine's Committed Environmental Protection Measures <sup>1</sup>	Additional Mitigation Measures Under Consideration
Cultural Resources (Cont.)	<ul style="list-style-type: none"> <li>• If construction or other project personnel discover what might be human remains, construction would cease within the vicinity of the discovery, and the THC would be notified of the find. Construction would not resume in the area of the discovery until the THC has issued a notice to proceed.</li> <li>• <b><i>Relocation of marked and unmarked interments in the Ware Cemetery may be necessary.</i></b></li> </ul>	
Air Quality	<ul style="list-style-type: none"> <li>• Fugitive dust emissions from haul roads would be controlled by the application of water sprays, chemical dust suppressants, or slow-curing liquid asphalt as allowed by TCEQ. Other controls would include prompt removal of lignite, rock, or soil from roads; compaction of unpaved roads, as needed; and restriction of travel of unauthorized vehicles on other than established roads.</li> <li>• Fugitive dust emissions from disturbance areas would be controlled by minimizing the acreage of lignite mining disturbance at any given time, prompt revegetation of regraded lands, and restricting fugitive dust causing activities during periods of air stagnation.</li> <li>• Particulate emissions related to potential coal combustion would be minimized by promptly extinguishing areas of burning or smoldering coal and conducting periodic inspections for burning areas whenever the potential for spontaneous combustion is high.</li> </ul>	<ul style="list-style-type: none"> <li>• No additional monitoring or mitigation is being considered.</li> </ul>
Land Use and Recreation	<ul style="list-style-type: none"> <li>• Sabine would continue to provide access to <b><i>undisturbed</i></b> cemeteries during operations.</li> </ul>	<ul style="list-style-type: none"> <li>• No additional monitoring or mitigation is being considered.</li> </ul>
Social and Economic Values	<ul style="list-style-type: none"> <li>• No environmental protection measures are proposed.</li> </ul>	<ul style="list-style-type: none"> <li>• No monitoring or mitigation is being considered.</li> </ul>

- Section 404 of the CWA administered by USACE;
- RCT coal mining performance standards regarding protection of the hydrologic balance (16 TAC 12);
- Water quality regulations from TCEQ pertaining to Section 401 (water quality) certification (30 TAC 279 and related guidelines);
- TPDES program (General Permit TXR050000, Sector H); and
- Water rights administration by TCEQ; **and**
- ***National Floodplain Insurance Program review by county floodplain managers.***

Compliance with these regulations and programs, and agency requirements for project reviews and approvals, would reduce the potential for impacts to water resources. The effectiveness of the proposed project activities for the Rusk Permit Area with respect to these regulatory programs was evaluated in the impact assessment, as applicable, as discussed below.

### 3.2.3 Groundwater

The study area for direct and indirect impacts to groundwater resources includes the proposed permit boundary and the surrounding area within the projected mine-related 5-foot groundwater drawdown zone within the overburden aquifer, which consists of the Carrizo Sand aquifer, water-bearing overlying alluvium, and the upper portions of the Wilcox Group above the lignite coal seams. The groundwater cumulative effects study area encompasses the proposed permit boundary and the surrounding area within the projected cumulative 5-foot groundwater drawdown zone.

#### 3.2.3.1 Affected Environment

##### Regional Groundwater Resources

##### *Hydrogeologic Units*

The main geologic units in Rusk County that are sources of freshwater are identified in **Table 3.2-1**. The lower Paleocene Midway Group acts as an impermeable base, or aquitard, separating the Tertiary aquifers from the underlying Cretaceous units. The Midway Group is approximately 850 to 1,000 feet in thickness and consists of calcareous clay and minor limestone, with silt and glauconitic clay. This unit dips to the south and has an elevation in the northeastern portion of Rusk County of approximately 300 feet below mean sea level. In the southern part of the county, the elevation is approximately 1,600 feet below mean sea level (Sandeen 1987). The unit contains saline water in the upper 200 feet, and it acts as the lower confining unit for the overlying Wilcox Group aquifer.

The Wilcox Group is the main aquifer in Rusk County. It is exposed at the surface in northeastern and east-central Rusk County, and it underlies the proposed project site. The unit consists of fluvial/deltaic sands, with interbedded clays and lignite coal seams. The Wilcox Group is the coal-bearing unit to be mined by the proposed project. This unit ranges in thickness from 625 to 1,550 feet. **Figure 3.2-1** shows the exposure of the Wilcox Group in Rusk County and the structural contours on the top of the Wilcox in Rusk County. The formation dips to the north at approximately 30 feet per mile (Sandeen 1987).

Stratigraphically above the Wilcox Group is the Eocene Claiborne Group that contains the Carrizo Sand aquifer, the Reklaw Formation aquitard, the Queen City Sand aquifer, the Welches Formation aquitard, and the Sparta Sand aquifer at the top of the group. The Carrizo Sand aquifer is an oxidized, cross-bedded, massive, fine-grained sand that lies unconformably on the Wilcox; it is, however, in hydrologic communication with the Wilcox Group (Sandeen 1987). In some parts of east Texas, the Carrizo and the Wilcox are grouped together and referred to as the Carrizo-Wilcox aquifer. Like the Wilcox, the Carrizo is a major source of freshwater, although it is approximately 80 feet thick on average in Rusk County. The Queen City Sand aquifer and the Sparta Sand aquifer are found primarily in the southern part of the county and would not be affected by the proposed project.

As discussed in Chapter 2.0 (Section 2.5.1.6), the dragline walkway would require culvert installations in the old Sabine River channel and floodplain, construction of a by-pass channel, and placement of fill (see **Figure 2-6**). Initial construction of the dragline walkway would require approximately 9 weeks using one shift (Sabine 2010a). The main channel would be diverted to the by-pass for approximately 3 to 7 days during dragline crossings (four total). Following each crossing, fill would be re-excavated in select locations and stockpiled as shown in **Figure 2-6**. For each subsequent dragline crossing, approximately 2 to 3 months would be required to recomplete the walkway, move the next dragline, and re-excavate and stockpile the fill (Sabine 2010a).

At a design flow of 420 cfs based on a 3-month (July 15 to October 15) average from USGS gaging data, flow velocity would be approximately 2.7 feet per second in the bypass culverts. In addition, the other culverts would be installed along the walkway would allow drainage back and forth along the floodplain. The channel diversion structure would be closed but left in place to allow later use of the walkway. Gaps in the walkway would be opened during inactive periods (see **Figure 2-6**), and excavated materials would be placed on top of the remaining walkway sections. With a material borrow approach similar to the haul road, no water quality impacts from geochemical constituents in the fill are anticipated.

The Sabine River segment in the vicinity of the Rusk Permit Area is not used for commercial navigation. Therefore, no impacts to regional commercial shipping would occur. See Section 3.9, Land Use and Recreation, relative to potential impacts to recreational boating and canoeing.

Building the walkway and channel bypass would release sediment into the river from excavation and equipment tracking. As with the proposed haul road crossing, short-term temporary increases in suspended sediment concentrations, turbidity, and sediment deposition would occur from project-related disturbance. Short-term temporary increases in suspended sediment concentrations, turbidity, and sediment deposition would be minimized by implementation of erosion control measures. During the inactive periods, high flows would subject the stockpiled walkway materials to erosion. Flow paths between the walkway openings, and between the remaining material stockpiles and the haul road, would promote additional erosion, turbidity, and sedimentation between the embankments and into the river during overbank flows. These effects may limit the hydraulic performance of relief culverts under the haul road nearby. These flow and water quality impacts would be short-term in nature. Because of the potential for these impacts from excavation, stockpiling, and equipment tracking during wet periods, monitoring and mitigation is being considered as discussed in Section 3.2.4.4, Monitoring and Mitigation Measures (see Mitigation Measures **SW-1**, **SW-2**, and **SW-6**).

Construction effects and the long-term presence of the crossing structures may induce channel migration. Upstream or downstream effects could occur; old channel scars occur in both directions. A relatively straight reach of the river is downstream (see **Figure 2-5**), and with adequate foundations, the proposed bridge and embankment would help anchor the channel. These factors likely would minimize downstream bank shifting and channel migration. The river is strongly meandering upstream of the crossing. Flow acceleration through the bypass culverts or through scoured or constricted channel transitions would encourage additional bar and bank shifts in those meanders. Additional sediment transport, turbidity, and deposition would result. If they occur, these effects would vary widely in their intensity and timing.

As described in Section 3.2.4.1, the Sabine River is dominantly a sand-bed channel underlain by lignite and sedimentary rock outcrops. Soil descriptions in Section 3.3.1 identify grain sizes ranging from sands to clays. Based on general sand sizes and flocculation of smaller particles in the flow, suspended sediments from construction during low flows likely would settle out within a mile or so downstream of the proposed channel crossing. For example, with a flow depth of approximately 4.5 feet and a mean downstream velocity of approximately 1.2 to 1.5 feet per second, a small sand particle will settle out of reasonably calm flow in approximately 100 feet or less. Re-suspension could increase that distance, but it gives a general idea of a potential downstream impact area for sands. Under the same conditions, dispersion and settling of clay aggregates from the water column typically would occur over a much greater river distance. Depending on water chemistry and a concentration criterion, silts and clays in that flow may require 0.5 mile or more to settle out to the criterion or to a background concentration. Changes in flows,

### 3.2.5.2 Environmental Consequences

#### Proposed Action

##### *Physical Disturbance, Removal, and Replacement of Waters of the U.S. Including Wetlands*

Under the Proposed Action, mine construction and operation directly would impact a total of 303.1 acres of waters of the U.S., including 151.2 acres of forested wetlands; 62.6 acres of non-forested wetlands; 22.1 acres of ephemeral streams, 13.5 acres of intermittent streams, **and** 5.4 acres of perennial streams (**approximately 269,047; 73,193; and 2,759 linear feet, respectively**); and 48.3 acres of ponds (HDR 2010a). As reflected in functional assessment of these waters of the U.S., the majority of the non-forested wetlands in the proposed disturbance areas of the Rusk Permit Area have been heavily disturbed, cleared, or cleared and currently used for livestock grazing (HDR 2010g).

The impacts to waters of the U.S., including wetlands, would occur incrementally over the 30-year life of the mine. Waters of the U.S., including wetlands, that would be affected are shown in **Figure 3.2-14**. These impacts would be minimized by limiting surface disturbance in the mine areas to a maximum of 500 acres at one time, through implementation of the proposed reclamation program that would be initiated following backfill of the initial mine pit and would continue concurrent with mine operations, and through implementation of Sabine's proposed Conceptual Mitigation Plan (**Appendix C**) that was developed per the requirements of the USACE's Section 404 permitting process.

Per the proposed Conceptual Mitigation Plan, waters of the U.S. (including wetlands) impacted by mining and mining-related activities would be reconstructed within the reclaimed mine area in their approximate pre-mine locations through the use of creation, restoration, enhancement, or preservation techniques. ***This 1:1 direct mitigation ratio would result in the restoration of 151.2 acres of forested wetlands; 62.6 acres of non-forested wetlands; 22.1 acres of ephemeral streams, 13.5 acres of intermittent streams, 5.4 acres of perennial streams (approximately 269,047; 73,193; and 2,759 linear feet, respectively), and 48.3 acres of ponds within the proposed disturbance area. As discussed in Section 2.5.3.6, Restoration of Waters of the U.S., Including Wetlands, and reflected in Table 2-10, compensatory mitigation ratios of 1:1 and 0.5:1 also would be required for direct impacts to forested wetlands and non-forested wetlands, respectively (HDR 2010a), resulting in the creation of approximately 151.2 additional acres of forested wetlands and 31.3 additional acres of non-forested wetlands. Compensatory mitigation would be implemented within the Rusk Permit Area, to the extent possible, or at an off site location approved by the USACE on a site-specific basis. Total composite mitigation ratios would be 2:1 for forested wetlands and 1.5:1 for non-forested wetlands, resulting in 302.6 acres of forested wetlands and 62.6 acres of non-forested wetlands.*** In addition to the on site aquatic creation and/or restoration at the proposed ratios, enhancement and preservation of existing on or off site resources would be implemented at higher ratios that would be approved by the USACE on a site-specific basis. Mitigation typically would be in-kind for each resource type, since historical lignite mine reclamation and mitigation efforts in the region generally have been successful. Out-of-kind mitigation could be considered a last resort for replacement of aquatic resources (USACE 2010).

The loss of 213.8 total acres of wetlands over the life of the mine would result in the loss of the functions associated with each area (e.g., runoff and sediment retention), affecting water quality. This loss would be mitigated through creation and restoration of wetlands incrementally during operations and during final closure and reclamation at the replacement ratios identified above. The resulting net increase of 182.5 acres of wetlands following reclamation would provide for additional capture of runoff and increased storm water and sediment retention. Additionally, the removal of jurisdictional streams and ponds would reduce the available flow pathways and retention for runoff water. However, implementation of the proposed storm water management plans, including the construction of sediment control ponds and fresh and storm water ditches, likely would provide comparable or greater storm water management capacities than the affected waters of the U.S. In addition, mitigation of impacted streams and ponds incrementally during operations and during final closure and reclamation at the proposed replacement ratios identified above would restore the flow pathways and retention capacity for runoff water in the affected area.

Soil compaction would occur in areas that are heavily trafficked by vehicles and equipment. Soil compaction also could occur during reclamation if equipment travels on, or handles, the soils when they are moist or wet.

***Soil settlement occurs after the salvaged soil is replaced during reclamation. Materials that are recently excavated occupy a volume approximately 25 percent greater than the material prior to disturbance. Vertical settling occurs unevenly at the surface over time. Settlement rates vary based on the physical soil characteristics and soil moisture content. Schneider (1977) evaluated the settlement characteristics of reclaimed surface mined land. Measured settlement rates for one study in Texas indicated that the rate change over time was 0.221 foot/year approximately 2.5 years after reclamation to virtually no settlement after 10 years. Based on the evaluation, it was estimated that within 1 year after reclamation, approximately 75 percent of the expected soil settlement occurs, approximately 80 percent after 5 years, and the remaining settlement occurs over the next 1,000 years (Schneider 1977).*** The native surface soils are loamy to sandy, droughty, moderately to highly erodible by wind and water, and acidic with low fertility. The primary limitations to using the subsoil materials in reclamation are their heavy clay textures (with related structural, crusting and compaction, and permeability limitations) and frequent occurrence of strong acidity. Due to the poor suitability characteristics associated with some of the native soil materials, Sabine has requested approval to use suitable oxidized overburden as a substitute for topsoil and subsoil.

If approved, suitable oxidized overburden would be salvaged during operations as a replacement for topsoil and subsoil. Sabine's selective handling plans for overburden, as described in Section 2.5.2.6, are designed to provide for segregation of sufficient oxidized material to provide a minimum 4-foot cover over all acid-forming, toxic, or combustible materials naturally occurring within the geologic materials. Soil amendments would be applied, if necessary, as determined by a testing program. Revegetation success would be determined in accordance with RCT's 2006 *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas* and Sections 12.395 and 12.399 of the Texas Coal Mining Regulations. Revegetation success would be monitored through evaluation of percent ground cover, tree densities, and productivity, as applicable, in relation to the site-specific post-mining land use. The program then would examine, review, and determine the effectiveness of the reclamation efforts to achieve proposed standards of reclamation success.

Similar to the native soil conditions, the limiting factors that would exclude other overburden and interburden materials from use in reclamation primarily are related to texture (strongly sandy grain sizes) and low pH. Where present, these materials generally comprise the lower portion of the oxidized overburden. The unsuitable materials would be avoided through use of the overburden selective handling techniques.

Sabine's investigation indicated that more than sufficient volumes of suitable alternative growth media from overburden sources exist within the proposed mine area. Based on a review of the drill hole data, the combined thickness of the topsoil and oxidized overburden materials that would be suitable for use as growth media ranges from approximately 15 to 50 feet and averages approximately 30 feet. Based on drilling information and Sabine's geologic model, it is projected that approximately 352.2 million cubic yards of suitable overburden are available within the area proposed to be mined during the life of the project, of which approximately 61.7 million cubic yards (approximately 17.5 percent) would be needed for reclamation purposes (Sabine 2010a). A temporary decrease in soil productivity would occur in association with planned soil replacement activities due to a lack or reduction in microbial activity. However, the balanced particle size distribution of the proposed substitute material would provide increased moisture and nutrient storage capacity and would extend throughout the soil profile. Soil productivity gradually would improve with vegetative growth and decomposition. Acidity of the proposed substitute material could be improved by liming. Infiltration rates would increase due to the balanced particle size distribution and result in reduced runoff and increased groundwater recharge.

Mobile equipment (e.g., trackhoes and end-dumps) would be utilized to allow for selective handling of materials and allow for retrieval of suitable plant growth material and inclusion of some less-suitable

(NatureServe Explorer 2009). Based on the species distribution, the southern hickorynut potentially may occur in suitable habitat within the study area and the cumulative effects study area.

*Louisiana Pigtoe (Pleurobema riddellii)*

The Louisiana pigtoe is listed as a threatened by the TPWD (2010b). This freshwater mussel inhabits streams and moderate-sized rivers, usually in flowing water on substrates of mud, sand, and gravel to depths of 20 feet or less. This species historically was present from the San Jacinto and Trinity rivers eastward to the Neches and Sabine systems within the Lower Sabine watershed. This species was assumed extirpated from much of its former range earlier this century, although extinction of the species was not documented. Aside from historical distributional data for Louisiana and current surveys by the TPWD, there has been little effort to conduct a full inventory within the species' entire range. The biological and environmental tolerances of this species are not fully known; however, absence of the Louisiana pigtoe from previously occupied areas, even when other mussels are still present, suggests low tolerance. Much of the area it inhabits has sandy soils, which are extremely susceptible to disturbance with subsequent negative impacts on regional aquatic ecosystems (NatureServe Explorer 2009). Although unlikely based on the species assumed extirpation through much of its former range, the Louisiana pigtoe potentially may occur in suitable habitat within the study area and the cumulative effects study area.

*Texas Heelsplitter (Potamilus amphichaenus)*

The Texas heelsplitter is listed as threatened by the TPWD (2010b), **and the USFWS currently is reviewing the status of this species to determine if it warrants listing under the Endangered Species Act (USFWS 2010)**. This freshwater mussel inhabits quiet waters (including small to medium rivers and reservoirs) with mud and sand substrates. In Texas, this species is known only from the Sabine, Neches, and Trinity rivers within the Lower Sabine watershed. The 2010 survey recorded three live and six dead individuals (CNG 2010). There is little documented information on the species' biology, including required or preferred habitat, host fishes, and environmental tolerances (NatureServe Explorer 2009). Based on the results of the recent CNG (2010) survey, the Texas heelsplitter occurs in suitable habitat within the study area and the cumulative effects study area.

Species of Special Concern

*Southeastern Myotis Bat (Myotis austroriparius)*

The southeastern myotis bat is designated as a rare species by the TPWD. This species occurs in the southeastern U.S., ranging from coastal North Carolina south into peninsular Florida, west through Louisiana, and into eastern Texas and southeastern Arkansas. In Texas, this species occurs westward to the Pineywoods region of east Texas. The southeastern myotis bat is a colonial species that winters in the vicinity of its summer range. The species hibernates during the winter in northern areas, although southern populations emerge to forage during warm spells. This species inhabits a variety of habitats including caves, mines, bridges, buildings, culverts, and tree hollows, preferring oak-hickory to mixed conifer-hardwood habitats and is often associated with human habitations near streams or lakes. During the winter months, the species typically hibernates in tightly packed clusters in caves and mines in northern regions and in more exposed areas (e.g., bridges and hollow trees) in the south. Beginning in mid-March, females congregate in nursery colonies in relatively warm caves with high domed ceilings or tree hollows not far from water, while the males roost separately. Vandalism in caves is a primary cause of this species' decline. Management practices that change water quality and aquatic insect abundance also are likely to affect this species. Loss of upland roosts leaves the species vulnerable to drowning during floods. (NatureServe Explorer 2009). Based on the species known distribution and the presence of potentially suitable habitat, the southeastern myotis bat potentially may occur within the study area and the cumulative effects study area.

*Plains Spotted Skunk (Spilogale putorius interrupta)*

The plains spotted skunk is designated as a rare species by the TPWD. This subspecies occurs in the eastern half of the state, east of the Balcones Escarpment, westward through north-central Texas, and to

also would result in direct losses of smaller, less mobile wildlife species, such as small mammals and reptile species. It is anticipated that the larger species displaced from the proposed disturbance areas to surrounding habitats during construction and operation would return following reclamation. The proposed disturbance areas would be reclaimed to achieve the post-mining land uses as required by RCT and discussed in Section 2.5.3, Closure and Reclamation. Section 2.5.3.10 more specifically explains monitoring for RCT-designated fish and wildlife habitat. However, if surrounding habitats are already at carrying capacity, these species may be forced to use marginal habitat, migrate, or they may represent indirect mortality impacts related to the project.

As discussed in Section 3.4, Vegetation, up to approximately 14,392 acres of vegetation and aquatic resources would be lost as a result of the Proposed Action. In the mine areas, a related direct loss of wildlife habitat would occur incrementally over the 30-year life of the mine, with approximately 500 acres of mine disturbance at any given time. **Table 2-4** presents the proposed acreages of disturbance by mine year, and **Figure 2-2** shows the surface water features within the Rusk Permit Area that would be temporarily removed. To further minimize impacts to habitats and the species dependent on them, Sabine has committed to limiting disturbance (to the extent possible) within high-value habitat and prompt revegetation of disturbance areas in accordance with the proposed Reclamation Plan, as discussed in Section 2.5.3, Closure and Reclamation, and the proposed Conceptual Mitigation Plan for waters of the U.S. (**Appendix C**),

Land use of the project area is anticipated to be similar before and after mining. As discussed in Section 2.5.3. Closure and Reclamation, RCT-designated post-mining land uses would be similar to existing land uses, primarily including pastureland, forest land, and developed water resources, with fish and wildlife habitats interspersed as features within the RCT-designated land uses. Pending completion of reclamation, habitat impacts in these areas would be considered short-term. **Approximately 545 acres of SWEPCO-owned land would be reclaimed as fish and wildlife habitat (see Figure 2-10)**. Based on the direct and compensatory mitigation ratios presented in Section 2.5.3.6, Restoration of Waters of the U.S., including wetlands, and as discussed in Sabine's proposed Conceptual Mitigation Plan (**Appendix C**), ponds and streams would be reclaimed at a 1:1 ratio, resulting in no net loss of aquatic habitat following reclamation. Non-forested and forested wetlands would be reclaimed at a ratio of 1.5:1 and 2:1, respectively, resulting in a net increase of wetland and riparian habitats following reclamation. In addition, Sabine's Fish and Wildlife Plan includes the restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas as would be implemented under the Proposed Action as well as other habitat enhancements (see Section 2.5.3 and **Figure 2-10**) that would produce long-term benefits to terrestrial wildlife species.

### Game Species

Under the Proposed Action, impacts to white-tailed deer would include the incremental short-term reduction of potential foraging habitat during the 30-year life of the mine and the incremental increase in habitat fragmentation. These impacts may result in a short-term decrease in deer populations; however, based on project area surveys, TPWD data, and conversations with local hunters, the deer population densities in and surrounding the Rusk Permit Area are relatively low (Sabine 2009a). Also, it is anticipated that deer temporarily displaced by project-related activities would be able to relocate to surrounding habitats and incrementally would re-inhabit the project-related disturbance areas following the re-establishment of vegetation. Therefore, it is anticipated that impacts to deer populations would be low.

Impacts to small game species would be similar to impacts to white-tailed deer. Direct impacts would include the short-term loss of potentially suitable breeding, nesting, and foraging habitat; habitat fragmentation; and displacement of species. Direct impacts also may include nest or burrow abandonment or the loss of eggs or young, resulting in reduced productivity for that breeding season. However, clearing operations would be conducted during non-breeding periods to avoid the peak migratory bird breeding season, thereby minimizing the impact to breeding birds to the extent possible. Since most of the small game species observed during baseline surveys are considered habitat generalists, it is anticipated that

displaced species would find suitable habitat surrounding the mine area, and the population density within the mine area would be expected to increase following the re-establishment of vegetation.

### Nongame Species

During baseline surveys, a variety of nongame species were recorded within the study area, including migratory birds (see **Table F-1** in **Appendix F**). Although no nest sites were recorded during the surveys, it is probable that nesting birds could occur within or adjacent to proposed disturbance areas. Potential direct impacts to migratory birds would include the short-term loss of potentially suitable breeding, roosting, and foraging habitat. However, based on the availability of potentially suitable breeding and foraging habitat in the surrounding area, effects to local bird populations are anticipated to be low. If construction or ground-clearing activities were to occur during the breeding season, direct impacts to breeding birds could include the loss of active nest sites or abandonment of a nest site due to increased human presence and noise in proximity to a nest site. Loss of an active nest site, incubating adults, eggs, or young would be in violation of the Migratory Bird Treaty Act. To minimize impacts to breeding birds, Sabine has committed to: 1) clearing vegetation outside of the peak breeding season; 2) minimizing disturbance areas to the extent possible; 3) avoiding rookeries and raptor nest sites during the breeding season to the extent possible; and 4) increasing the availability of surface water resources for breeding or nesting migratory birds away from active mining areas. Mitigation measure FW-1 is being considered to further minimize potential impacts to breeding birds (see Section 3.5.4, Monitoring and Mitigation Measures). Impacts to other nongame species would be similar to impacts to game species.

Construction of the proposed 138-kV transmission line (see **Figure 2-2**) within the transportation and utility corridor incrementally would increase the collision potential for migrating and foraging bird species (e.g., raptors and waterfowl) (Avian Power Line Interaction Committee [APLIC] 1994) and bat species. Collision potential typically is dependent on variables such as the location in relation to high-use habitat areas (e.g., nesting, foraging, and roosting), line orientation to flight patterns and movement corridors (e.g., river corridors), species composition, visibility, and line design. To minimize collision potential for migrating and foraging bird species, the proposed transmission line would be designed and constructed in accordance with the guidelines presented in the Environmental Criteria for Electric Transmission System (USDI, USDA 1970) and/or REA Bulletin 61-10 (Powerline Contacts by Eagles and Other Large Birds). The configuration of power lines greater than 69-kV typically does not present an electrocution potential, based on conductor placement and orientation (APLIC 1996). ***Mitigation measure FW-2 is being considered to further minimize potential impacts to bird species (see Section 3.5.4, Monitoring and Mitigation Measures).***

Feral hogs are considered nongame nuisance species by the TPWD (Taylor 2007). Feral hogs have been documented in the Rusk Permit Area and can reach levels where control may become necessary. In these cases, Sabine would employ several potential methods for control of nuisance animals. These may include trapping, avoidance tactics, or other measures (Sabine 2009a).

### *Human Presence and Noise*

Proposed project activities would result in impacts to terrestrial wildlife species due to increased human presence and noise. The most common wildlife responses to noise and human presence are avoidance or acclimation. The total extent of habitat lost as a result of wildlife avoidance response is impossible to predict since the degree of this response varies from species to species and can vary between different individuals of the same species. However, it is anticipated that most of the terrestrial wildlife species known to occur in the project vicinity already are acclimated to human presence on some level, or that they have the ability to acclimate. During initial development stages, many species most likely would disperse from the area; however, as species become acclimated to human presence and noise, the majority most likely would return to reoccupy undisturbed habitats within and surrounding the proposed disturbance areas.

### *Texas Pigtoe*

Texas pigtoe populations are known within the Rusk Permit Area. Direct impacts to the species as a result of project construction could include the loss of adult and juvenile individuals, the short-term incremental loss of potentially suitable habitat within the Sabine River, and short-term temporary habitat impacts due to increased turbidity and sedimentation. Based on the documented occurrence of this species in the vicinity of the proposed dragline walkway and main haul road bridge crossings of the Sabine River (CNG 2010), there is a high potential for the loss of individuals during construction. Mitigation measure **FW-3**, in Section 3.5.4, Monitoring and Mitigation Measures, is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road. Based on the implementation of Sabine's applicant-committed protection measures and the overall availability of suitable habitat in adjacent watersheds, potential habitat-related impacts for this species as a result of construction would be considered low to minimal.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the Texas pigtoe are anticipated.

### *Sandbank Pocketbook*

One shell of a sandbank pocketbook was found during surveys suggesting the species may be present in the study area, but in very low numbers (CNG 2010). Direct impacts to the species as a result of project construction and operation could include the loss of adult and juvenile individuals, incremental loss of potentially suitable habitat within the Sabine River and its tributaries, and short-term temporary habitat impacts due to increased turbidity and sedimentation. Based on the documented occurrence of this species in the vicinity of the proposed dragline walkway and main haul road bridge crossings of the Sabine River (CNG 2010), there is a high potential for the loss of individuals during construction. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through the implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation

and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road. Based on implementation of Sabine's applicant-committed protection measures and the overall availability of suitable habitat in adjacent watersheds potential habitat-related impacts for this species as a result of construction would be considered low to minimal.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the sandbank pocketbook are anticipated.

#### *Southern Hickorynut*

No known southern hickorynut populations are known within the Rusk Permit Area; however, populations are known within segments of the Sabine River. Potential species occurrence is considered low based on the species' known distribution. Direct impacts to the species, if present, could include the loss of adult and juvenile individuals as a result of construction-related activities. Direct impact also could include the short-term incremental loss of potentially suitable habitat within the Sabine River and short-term temporary habitat impacts due to increased turbidity and sedimentation associated with construction of the dragline walkway and main haul road bridge. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Constructed-related habitat impacts would be minimized through implementation of concurrent mine reclamation and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the southern hickorynut are anticipated.

#### *Louisiana Pigtoe*

No known Louisiana pigtoe populations are known within the Rusk Permit Area. While presumed extirpated, historic records indicate presence within the Lower Sabine watershed. However, potential species occurrence is considered low based on the species presumed low tolerance for habitat alterations and environmental changes (NatureServe 2009). If present, potential impacts to this species as a result of the proposed project would be considered minimal, based on the implementation of Sabine's applicant-committed protection measures.

#### *Texas Heelsplitter*

Texas heelsplitter populations are known within the Rusk Permit Area. Direct impacts to the species as a result of project construction could include the loss of adult and juvenile individuals, short-term incremental loss of potentially suitable habitat within the Sabine River, and short-term temporary habitat impacts due to

increased turbidity and sedimentation. Based on the documented occurrence of this species in the vicinity of the proposed dragline walkway and main haul road bridge crossings of the Sabine River (CNG 2010), there is a high potential for the loss of individuals during construction. Mitigation measures **FW-3 and FW-4** (see Section 3.5.4, Monitoring and Mitigation Measures) **are** being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings ***in the Sabine River and the haul road construction footprint across the perennial tributary to Hendricks Lake and Hendricks Lake.***

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the Texas heelsplitter are anticipated.

#### Species of Special Concern

##### *Southeastern Myotis Bat*

Southeastern myotis bat occurrences would be limited to roosting and foraging individuals within the Rusk Permit Area. Potential species occurrence is considered unlikely based on the species' known distribution. Direct impacts to the species, if present, could include the long-term, incremental loss of approximately 841 acres of potentially suitable roosting and foraging habitat (i.e., floodplain hardwood forests) associated with construction and operation activities over the 30-year life of the mine.

Impacts would be minimized through the implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and Fish and Wildlife Plan. Potential impacts to this species as a result of the proposed project would be considered minimal, as it is assumed that occurrence would be limited to foraging and roosting individuals.

##### *Plains Spotted Skunk*

Occurrences of the plains spotted skunk would be limited to transitory individuals within the Rusk Permit Area. Potential species occurrence is considered unlikely based on the species' known distribution. However, direct impacts to the species, if present, could include the long-term, incremental loss of approximately 8,357 acres of potentially suitable forested habitat and 4,236 acres of potentially suitable grassland/pasture habitat associated with construction and operation activities over the 30-year life of the mine.

Impacts would be minimized through the implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and Fish and Wildlife Plan. Potential impacts to this species as a result of the proposed project would be considered minimal, based on the overall availability of suitable foraging habitat in the vicinity and the unlikely occurrence potential of the species. Also, additional mitigation, as described in Section 3.2.3.3 under Surface Water, is being considered to further minimize the short-term

as a result of the proposed project would be considered minimal, based on the overall availability of suitable habitat in the vicinity.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated; effects to these habitats located within the mine-related 5-foot groundwater drawdown area may occur where the surface waters are hydraulically connected to the Carrizo-Wilcox aquifer. In addition, construction of the proposed dragline walkway and main haul road crossings of the Sabine River may result in increases in sedimentation and turbidity. However, as discussed above, any increase in sediment transport in the Sabine River as a result of these construction activities would be short-term and localized to within a few miles of the crossing. Therefore, potential related impacts to this species are anticipated to be low.

Impacts would be minimized through the implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas.

#### *Rock pocketbook*

Rock pocketbook has been recorded within the Rusk Permit Area. Direct impacts to the species as a result of project construction could include the loss of adult and juvenile individuals, the short-term incremental loss of potentially suitable habitat within the Sabine River, and short-term temporary habitat impacts due to increased turbidity and sedimentation. Based on the documented occurrence of this species in the vicinity of the proposed dragline walkway and main haul road bridge crossings of the Sabine River (CNG 2010), there is a high potential for the loss of individuals during construction. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation Measures) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the rock pocketbook are anticipated.

#### *Wabash Pigtoe*

No Wabash pigtoe populations are known within the Rusk Permit Area; however, populations are known within segments of the Sabine River. Potential species occurrence is considered low based on the

species' known distribution, although suitable habitat is present in the study area. Direct impacts to the species, if present, could include the loss of adult and juvenile individuals as a result of construction-related activities, the short-term incremental loss of potentially suitable habitat within the Sabine River associated with construction of the dragline walkway and main haul road bridge and short-term temporary habitat impacts due to increased turbidity and sedimentation. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation Measures) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the Wabash pigtoe are anticipated.

#### *Wartyback*

No known wartyback populations are within the Rusk Permit Area; however, populations are known within segments of the Sabine River. Direct impacts to the species, if present, could include the loss of adult and juvenile individuals as a result of construction- and operations-related activities, the short-term incremental loss of potentially suitable habitat within the Sabine River associated with construction of the dragline walkway and main haul road bridge and short-term temporary habitat impacts due to increased turbidity and sedimentation.

Construction-related habitat impacts would be minimized through the implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the wartyback are anticipated.

### *Pistolgrip*

The pistolgrip mussel has been recorded within the Rusk Permit Area. Direct impacts to the species as a result of project construction could include the loss of adult and juvenile individuals, the short-term incremental loss of potentially suitable habitat within the Sabine River, and short-term temporary habitat impacts due to increased turbidity and sedimentation. Based on the documented occurrence of this species in the vicinity of the proposed dragline walkway and main haul road bridge crossings of the Sabine River (CNG 2010), there is a high potential for the loss of individuals during construction. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation Measures) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

As discussed above, based on implementation of Sabine's applicant-committed protection measures for water resources, the effects of mine water discharge on the Sabine River and its tributaries are anticipated to be minimal. Also as discussed above, no direct effect to aquatic, wetland, or riparian habitats outside of the projected mine-related 5-foot groundwater drawdown area, including the Sabine River, would be anticipated. Therefore, no related impacts to the pistolgrip are anticipated.

### *Fawnsfoot*

No fawnsfoot populations are known within the Rusk Permit Area. Historic records indicate presence within the Sabine River drainage. Potential species occurrence is considered low based on the species' known distribution. Direct impacts to the species, if present, could include the loss of adult and juvenile individuals as a result of construction- and operations-related activities, the short-term, incremental loss of potentially suitable habitat within the Sabine River associated with construction of the dragline walkway and main haul road bridge and short-term temporary habitat impacts due to increased turbidity and sedimentation. Mitigation measure **FW-3** (see Section 3.5.4, Monitoring and Mitigation Measures) is being considered to minimize impacts to mussels that may be present in the construction footprint of the proposed haul road and dragline walkway crossings.

Construction-related habitat impacts would be minimized through implementation of concurrent and final reclamation in accordance with Sabine's Reclamation Plan and proposed Conceptual Mitigation Plan (**Appendix C**) for waters of the U.S. Sabine's Fish and Wildlife Plan would be implemented to minimize impacts to fish species and aquatic communities including restoration, enhancement, and maintenance of natural riparian habitats associated with streams, lakes, and other wetland areas. As discussed above, any increase in turbidity and sediment transport in the Sabine River as a result of construction activities would be short-term and localized to within a few miles of the crossing. Therefore, spawning habitat alterations that would change the availability of resources for this species are considered to be low to negligible, depending on the distance from the proposed crossings. Additional mitigation, as described in Section 3.2.3.4 under Surface Water, is being considered to further minimize the short-term sedimentation and turbidity effects to the Sabine River during construction of the dragline walkway and main haul road.

### *Water Level Change*

As discussed in Section 3.2.3.3, cumulative effects from groundwater level changes are not anticipated. As a result, no related cumulative effects are anticipated for special status species or species of concern.

### *Water Discharge*

During operations in the Rusk Permit Area, the drainages within and immediately around the active mine area would flow primarily in response to local precipitation events, attenuated in lower stream reaches by the presence of sediment control ponds. Therefore, the proposed project would result in minimal contribution to downstream flows. Additional managed discharges from other mining operations in the cumulative effects study area would not be anticipated to substantially increase downstream flows in the river during the period of water discharges. As a result, no related cumulative effects are anticipated for aquatic species.

## **3.5.4 Monitoring and Mitigation Measures**

Based on the EIS analysis, the USACE is considering the following additional mitigation for wildlife resources:

**FW-1:** If vegetation clearing activities should be required during the migratory bird breeding season (March through July), pre-construction breeding bird surveys would be conducted prior to these activities. A qualified biologist would survey potentially suitable habitat for nesting activity and other evidence of nesting. If active nests are located, or other evidence of nesting is observed, appropriate protection measures, including establishment of buffer areas and constraint periods, would be implemented until the young have fledged and dispersed from the nest area.

Effectiveness: This measure would minimize potential effects to breeding raptor and migratory bird species if construction or vegetation clearing activities should be required during the breeding season.

***FW-2: TPWD-approved bird flight diverters would be installed on the proposed transmission line in areas of high bird use (e.g., across the Sabine River and its floodplain).***

***Effectiveness: This measure would reduce bird collisions with the proposed transmission line in high bird use areas; however, the effectiveness would depend on a number of factors including, but not limited to, the species of bird and the type of diverters selected. This mitigation measure may have an adverse impact on visual resources depending on the type of bird diverters chosen for use and the location in which they are installed.***

**FW-3:** Prior to construction of the proposed haul road bridge, ***the proposed*** dragline walkway crossing of the Sabine River, ***and subsequent dragline crossings of the Sabine River***, mussel surveys would be conducted by a qualified biologist within the proposed disturbance areas and immediately downstream of the crossings. Mussels found during the survey would be relocated to appropriate habitat in coordination with TPWD.

Effectiveness: This measure would minimize potential impacts to individual mussels located in the Sabine River within the construction footprint of the proposed haul road bridge and dragline walkway.

***FW-4: Prior to construction of the transportation and utility corridor, a mussel survey would be conducted by a qualified biologist in the affected reach of the perennial tributary to Hendricks Lake and Hendricks Lake. Mussels found during the survey would be relocated to appropriate habitat in coordination with TPWD.***

***Effectiveness: This measure would minimize potential impacts to individual mussels located in Hendricks Lake and its perennial tributary within the construction footprint of the proposed haul road and dragline walkway.***

(historic), community planning and development, ethnic heritage (African American), exploration/settlement, industry, and transportation.

The reconnaissance survey of buildings and structures resulted in the identification of 67 historic-age resources on 37 land parcels (see **Table 3.7-1**). Six property types were represented: agricultural buildings (32), domestic buildings and associated outbuildings (20), transportation properties (7), cemeteries (4), industrial properties (3), and a religious building (1). Following the reconnaissance, archival research was conducted at the Rusk and Panola County Clerk offices, Texas General Land Office, Texas State Library and Archives, Rusk County Depot Museum, Heritage Quest Online, and other relevant internet sites that could provide additional information (e.g., chain-of-title, deeds, property owners, land use) on the identified resources. As a result of the reconnaissance and archival research, four of the historic-age resources were recommended as eligible for the NRHP under criteria A or B, and two resources were recommended as potentially eligible under Criterion A. Four of the six eligible and potentially eligible historic-age resources are located within the proposed life-of-mine disturbance boundary (**Table 3.7-1**).

***The four cemeteries identified during the reconnaissance survey include the Greenwood Cemetery, Hendrick Cemetery, Ware Cemetery, and Cash-Williams Cemetery. Site 41PN234, known as the Greenwood Cemetery, contains the earliest known burials of the Seaborn Jones Hendrick family and is on land that was part of their antebellum plantation. Grave markers primarily consist of cast concrete headstones, many of which have fallen or are broken. Marked headstones have dates of death ranging from 1893 to 1922. Earlier reports estimate that 25 to 35 graves could be present in the cemetery (Dockall et al. 2009). The cemetery is not maintained and is in an overgrown thicket of vegetation. Despite its poor condition, the cemetery retains integrity of location, feeling, association, and to some degree, materials and setting. Therefore, it is considered eligible for the NRHP.***

***The Hendrick Cemetery (41PN235) is on land once part of the Seaborn Jones Hendrick Plantation. Known burials are all African American and date to the twentieth century; however, the cemetery could be the location of earlier burials associated with Hendrick's slaves or their freed descendants (Dockall et al. 2009). Twelve grave markers are present, as well as at least seven depressions representing unmarked graves. Two headstones record dates of death in 1924 and 1956; the remaining headstones are either unmarked or are undecipherable due to weathering. The cemetery is considered potentially eligible for the NRHP due to the possibility of it being a burial ground for slaves at the Hendrick Plantation.***

***Site 41RK572, known as the Ware Cemetery, is located on land that was part of the Ware family's antebellum plantation and consists of two marked graves and possibly two unmarked burials. The two marked graves have intact headstones of cast concrete. The earliest marked grave is that of an unnamed infant son of Levi Hill Ware who died in 1857, while the other is that of Levi Hill Ware who died eight months later (Dockall et al. 2009). Site 41RK572 is overgrown with trees and other vegetation and has been trampled by cattle. Despite its poor condition, the cemetery retains integrity of location, feeling, association, and to some degree, materials and setting. Therefore, it is considered eligible for the NRHP.***

***The Cash-Williams Cemetery (41RK573) is on land Levi Hill and Elizabeth H. Vinson Ware and their heirs owned from 1853 to 1970. Known burials at the cemetery are all African American and date to the nineteenth century; however, the cemetery could be the location of earlier burials associated with Ware's slaves or their freed descendants (Dockall et al. 2009). There are eight known graves and, based on distances between the known graves, an estimated 15 to 20 additional burials. All of the headstones are broken and three graves are represented by concrete bases with no headstones. Marked headstones have dates of death ranging from 1879 to 1898. The cemetery is considered potentially eligible for the NRHP due to the possibility of it being a burial ground for slaves at the Ware Plantation.***

identification of places (i.e., physical locations) of traditional cultural importance to Native American tribes. Places that may be of traditional cultural importance to Native American people include, but are not limited to, locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world; locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice; ancestral habitation sites; trails; burial sites; and places from which plants, animals, minerals, and waters possessing healing powers or used for other subsistence purposes, may be taken. Some of these locations may be considered sacred to particular Native American individuals or tribes.

In compliance with the NHPA and USACE Policy Guidance Letter No. 57, the USACE sent a copy of the Public Notice for the proposed project to the Tribal Historic Preservation Officer (THPO) of the Caddo Tribe of Oklahoma on June 25, 2009. The Public Notice was sent to inform the Tribe of the proposed undertaking and to solicit their comments and information to assist the USACE in making “a reasonable decision on factors affecting the public interest.”

### **3.7.2 Environmental Consequences**

Section 106 of the NHPA requires that federal agencies consider the potential effect of an undertaking on historic properties and provide the ACHP an opportunity to comment. Historic property, as defined by the regulations that implement Section 106, means “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the NPS.” The term includes properties of traditional religious and cultural importance to any Native American tribe or Native Hawaiian organization that meet the National Register criteria.

Under the NHPA, potential impacts to NRHP-eligible sites are assessed using the “criteria of adverse effect” (36 CFR 800.5[a][1]): “An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.” There are five broad categories of effect:

1. Physical destruction or alteration of a property or relocation from its historic location;
2. Isolation or restriction of access;
3. Change in the character of the property’s use or of physical features within the property’s setting, or the introduction of visible, audible, or atmospheric elements that are out of character with the significant historic features of the property;
4. Neglect that leads to deterioration or vandalism; and
5. Transfer, sale, or lease from federal to non-federal control, without adequate and legally enforceable restrictions or conditions to ensure the preservation of the historic significance of the property.

Under NEPA, effects to NRHP-eligible sites can be direct or indirect. Direct effects are caused by an undertaking and occur at the same time and place as the undertaking (40 CFR 1508.8[a]). These types of effects to NRHP-eligible sites include physical damage resulting from surface-disturbing activities and can occur to both known sites and subsurface sites. Indirect effects are caused by an undertaking and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8[b]). These types of effects often are not quantifiable and can occur both within and outside of the APE. Indirect

effects to NRHP-eligible sites include, but are not limited to, changes in erosion patterns due to construction activities, inadvertent damage due to off-road maintenance traffic, and illegal artifact collection due to increased access to an area.

### 3.7.2.1 Proposed Action

#### Potential Effects

Although effects to NRHP-eligible sites are determined on a site-specific basis, certain activities associated with the Proposed Action would have a greater potential to adversely affect these sites. Activities that could result in direct effects to NRHP-eligible sites include ground-disturbance associated with development of the mine area; construction of the transportation and utility corridor; and construction of haul roads, ancillary facilities, and sediment control ponds located peripheral to the mine area (see **Figure 2-2**). These effects could result in the vertical and horizontal displacement of soil containing cultural materials and the resulting loss of integrity, loss of information, and the alteration of the site setting. Vegetation clearing also could directly affect NRHP-eligible sites by compacting soils, crushing artifacts, disturbing historic features, or displacing cultural material from its original context.

Potential indirect effects to NRHP-eligible sites located within or outside of the project APE could include erosional effects from runoff or mine water discharge and illegal collection, inadvertent damage, and vandalism due to increases in both surface disturbance and the number of people in the Rusk Permit Area. Other potential indirect effects could include the introduction of visual or auditory elements that would be out of character with a site and disrupt the site's setting.

The potential for the discovery of unanticipated archaeological deposits during construction activities exists within proposed disturbance areas and could result in direct effects. Unanticipated discoveries could result in displacement or loss (either complete or partial) of the discovered material. Displacement of archaeological deposits affects the potential to understand the context of the site and limits the ability to extrapolate data regarding prehistoric settlement and subsistence patterns.

***Potential effects to historic properties and tribal interests may require development of a Programmatic Agreement (PA) for historic properties under 36 CFR 800.14(1)(i). The specific effects to individual historic properties by the proposed project could be generally predicted, but they would not be specifically known until mining commences. Currently, avoidance would be used to guarantee the protection of the Greenwood Cemetery, the Hendrick Cemetery, and the Cash-Williams Cemetery. Relocation of the marked and unmarked interments at the Ware Cemetery may be necessary. Potential avoidance and protection measures for these sites, as well as the prehistoric sites identified, may be implemented if the proposed project is approved. Sites that are ineligible for the NRHP do not have protection under any proposed PA.***

***The development of a PA, in consultation between the USACE and the Texas Historical Commission, would provide a long-term document that would encompass the issues of unsurveyed tracts in the future proposed mine areas, unanticipated discovery of buried sites, and long-term site protection, where feasible. Tribal involvement, including consultation on any impacts to traditional cultural properties, would be stipulated and coordinated within the development process and the document. Sites eligible for inclusion in the NRHP would be addressed by the steps agreed to in a signed PA, providing a predictable process for all parties.***

#### Resolution of Effects

Cultural resources investigations of the unsurveyed portions of the proposed Rusk Permit Area would be phased according to Sabine's planned schedule for mining. Cultural resources survey, report preparation, and report review would be completed 1 year in advance of any mine disturbance to allow time for additional work that may be necessary to evaluate identified cultural resources for the NRHP and implement mitigation measures, if needed. Prior to the surveys, a files search and literature review would be conducted to identify previous cultural resource surveys and previously recorded cultural resources in

characteristics of a NRHP-eligible site that qualify the site for inclusion in the National Register, the effects would be considered adverse under Section 106 of the NHPA.

In general, cemeteries are not considered eligible for the NRHP; however, they may qualify if they are integral parts of districts or derive their primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events. All four cemeteries (Greenwood, Ware, Hendricks, and Cash-Williams) are recommended as eligible for the NRHP because they were key components of two pre-Civil War plantations, the Seaborn Jones Hendrick Plantation and Levi Hill and Elizabeth H. Vinson Ware Plantation. The Greenwood cemetery includes the earliest known burials of the Hendrick family, while the Ware Cemetery includes the earliest known burials of the Levi Hill Ware family. The two remaining cemeteries, Hendricks and Cash-Williams, were used as burial grounds for slaves at the Hendrick and Ware plantations and, therefore, are considered key components of those plantation landscapes. ***With the exception of the Ware Cemetery, all of the cemeteries would be avoided by project construction.*** Archaeological excavation would be conducted ***at the Ware Cemetery*** to identify the graves, and the graves would be relocated.

In consultation with the THC, the USACE will determine whether construction and operation of the Proposed Action would have an adverse effect on any properties eligible or potentially eligible for listing on the NRHP. If the USACE and THC determine that a property would be adversely affected, then avoidance would be recommended. If avoidance is not feasible, mitigation would be developed and implemented in accordance with a site protection or treatment plan developed in coordination with the THC and USACE.

Potential indirect effects to NRHP-eligible sites located within and outside of the APE as a result of runoff or water discharge are anticipated to be minor based on the proposed surface water control system and implementation of erosion control measures discussed in Section 2.5, Description of Proposed Action. Mitigation is being considered to minimize the potential for indirect effects associated with illegal collection and vandalism (see mitigation measure CR-1 in Section 3.7.4, Monitoring and Mitigation Measures).

In the event previously unknown archaeological deposits are discovered during construction, all construction activities would cease within the vicinity of the discovery, and the THC would be notified of the find. Steps would be taken to protect the site from vandalism and further damage until the THC could evaluate the nature of the discovery. Construction would not resume in the area of the discovery until the THC has issued a notice to proceed.

If construction or other project personnel discover what might be human remains, then construction would cease within the vicinity of the discovery, and the THC would be notified of the find. Treatment of any discovered human remains would be handled in accordance with the NHPA and Chapter 711 of the Texas Health and Safety Code. If the remains were determined to be prehistoric, the Caddo Tribe of Oklahoma would be notified by the THC. Construction would not resume in the area of the discovery until the THC has issued a notice to proceed.

### **3.7.2.2 No Action Alternative**

Under the No Action Alternative, the 126 archaeological sites and historic resources, including the 18 eligible or potentially eligible sites, identified to date in the Rusk Permit Area would not be affected, as the proposed project would not be constructed. However, archaeological sites and historic resources located within the Rusk Permit Area currently are exposed to natural elements (e.g., wind, rain), which would continue to affect these resources. Under the No Action Alternative, ongoing mining operations in the South Hallsville No. 1 Mine (inclusive of the South Marshall Permit Area) would continue to operate under existing permits until the lignite reserves are depleted (in approximately 2027). Prior to construction of the permitted facilities, adverse effects to NRHP-eligible sites located in the approved approximately 17,600 total acres of disturbance were, or would be, fully mitigated in accordance with the NHPA and NEPA. Therefore, no effects to NRHP-eligible sites would occur under the No Action Alternative.

There is the possibility that wells would be re-drilled, or new wells drilled, following the completion of mining. The status of these facilities would be determined between the owner and Sabine. Pasture lands would be temporarily displaced by mining, but would be reclaimed and released to surface owners in approximately 7 to 10 years following completion of mining.

It is not expected that the proposed project would restrict growth of Tatum. There are approximately 300 acres of mostly vacant and potentially developable land between developed areas of Tatum and the proposed Rusk Permit Area boundary. There are substantially larger vacant acreages to the east, south, and west of the community. Considering the modest growth that has occurred in the area in recent years, and that is projected to continue at less than 0.4 percent annually into the foreseeable future for Panola and Rusk counties, there is ample land available to accommodate growth of Tatum during the life of the proposed project (see Section 3.10, Social and Economic Values for past and projected growth).

Of the 609 structures located in the permit boundary, two are churches and as many as 400 are residences, which would be acquired by SWEPCO through purchase or leasing arrangements with the owners. Residents would be relocated. The cemetery adjacent to one of the churches is in an area proposed for disturbance in Area W during mine years 16 through 20. The cemetery would have to be moved in accordance with Texas state law prior to disturbing the area. In general, disinterment of remains would require approval by relatives of each decedent or by a district court (Texas Health and Safety Code 2009). Property acquisition and leasing would occur according to a phasing schedule during the 30-year life of the mine.

Following mining, impacted lands within the mine would be reclaimed to support post-mine land uses according to a plan to be determined in cooperation with individual property owners. **Figure 2-10 shows the conceptual post-mining land use plan for the proposed Rusk Permit Area.** Post-mine land uses are expected to be similar to the existing land uses, primarily including pastureland, forestry, and developed water resources, as these uses would be consistent with those in adjacent areas. **Productivity of these uses would be returned to pre-mining levels or better.** Small acreages of other land uses would be interspersed in accord with agreements with surface land owners.

**Although concerns have been raised about the capacity of reclaimed lands to safely support structures, structures have been built on reclaimed lands in Texas and elsewhere. In some, but not all, cases the slab-on-grade structures have employed thickened slabs with heavier reinforcing steel as a precautionary measure. This would not be considered an unreasonable constraint on the use of reclaimed land as many jurisdictions throughout the country require geotechnical analyses and/or engineered foundations for structures on native soils where there may be concerns about settlement or expansive soil characteristics. In addition, homes in many parts of the country have been built on non-native fill material, which is not dissimilar from reclaimed mine land.**

**Regarding the availability of insurance and mortgage financing for structures on reclaimed land, banking and insurance representatives contacted for the EIS indicated they do not have special or unique policies regarding reclaimed lands. They note that standard homeowner insurance policies do not cover earth movement, settling, or earthquake damage, although some companies do sell "endorsements" to cover non-standard conditions, such as the higher risk of earthquake damage in parts of California, for example. In short, building on fill material is not a unique condition and, although there may be some added cost involved, it should not be feasible.**

### Recreation

The Proposed Action would result in minimal effects on recreation resources. There are no public recreation facilities in the permit boundary. Martin Creek Lake State Park is the only identified public recreation area within 5 miles of the Rusk Permit Area. Private recreation activities, such as hunting or horseback riding, that currently may occur on lands within the proposed permit boundary would be precluded from the proposed disturbance areas for the life of the mine for safety and security reasons. Any

**Table 3.10-10 Property Tax by County (2007)**

County	Total Appraised Property Value	Tax Rate per \$100 of Assessed Value	Revenue Produced
Harrison	\$6,352,340,150	\$0.348500	\$22,137,905
Panola	\$4,612,590,057	\$0.344100	\$15,871,922
Rusk	\$5,116,733,160	\$0.338500	\$17,320,142
Gregg	\$8,055,989,194	\$0.270000	\$21,751,171

Source: HDR 2009d.

**Table 3.10-11 Taxable Sales by County**

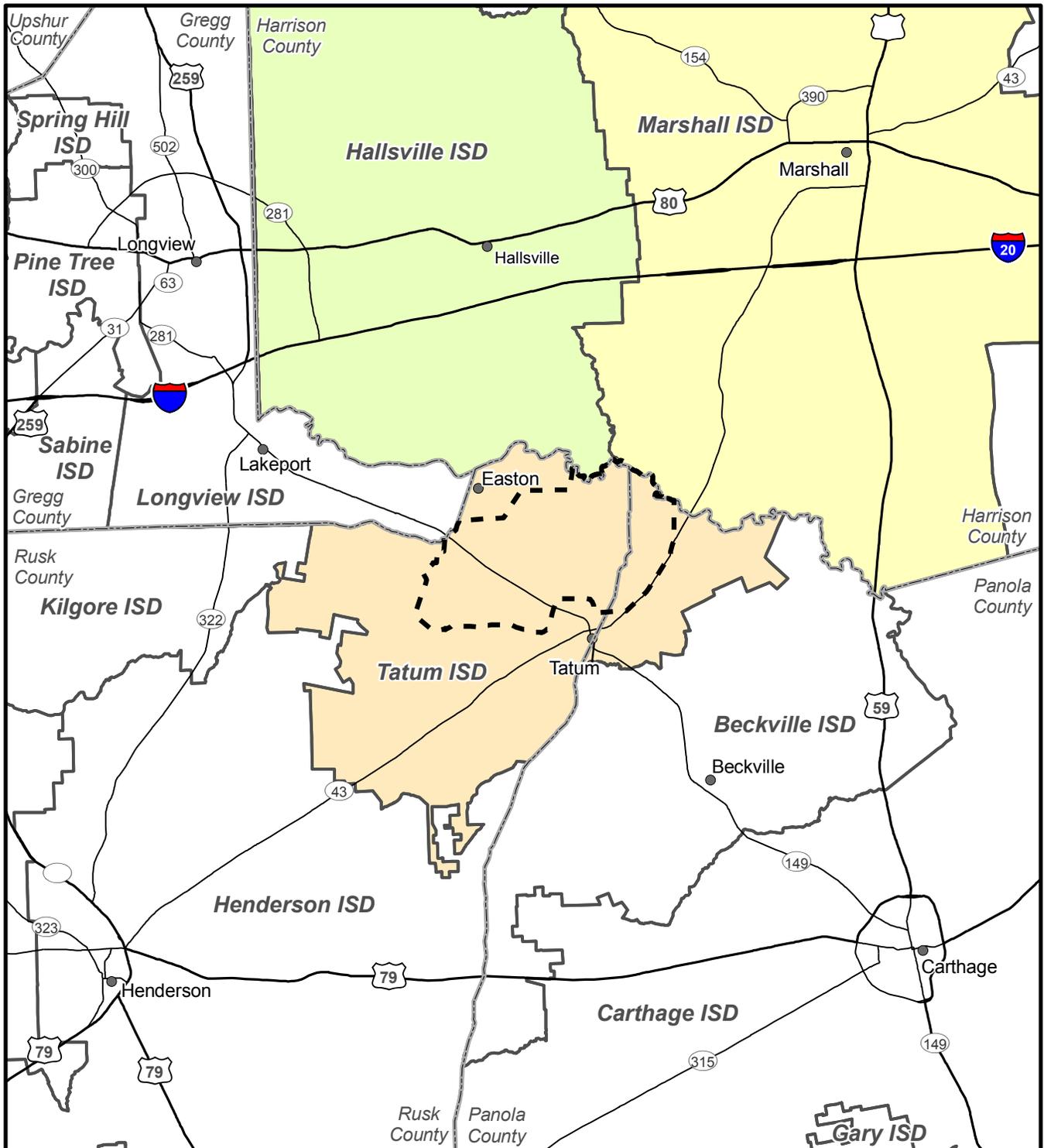
Year	Panola	Rusk	Harrison	Gregg
2002	\$92,443,111	\$184,931,687	\$322,468,779	\$1,537,250,073
2003	\$104,137,722	\$190,622,495	\$341,294,472	\$1,602,878,713
2004	\$134,889,542	\$239,017,580	\$380,239,060	\$1,742,074,508
2005	\$172,502,661	\$251,126,617	\$428,027,916	\$1,917,099,190
2006	\$221,680,362	\$297,956,287	\$521,291,958	\$2,154,212,345
2007	\$269,524,335	\$329,207,893	\$564,137,794	\$2,323,046,146
2008	\$310,888,416	\$380,230,808	\$589,720,617	\$2,576,786,619

Source: HDR 2009d.

### 3.10.1.5 Public Education

Public schools in Texas are funded by a combination of local, state, and federal funds. The percentage of revenue from each source varies by district because of variations in student population and local property wealth. Because of the disparity in property taxing capacity among districts, the state has a revenue balancing or equalization formula by which it redistributes property tax revenues from tax-rich districts to poorer districts. The bulk of school funding derives from local and state funds, with the federal funds being used for special programs or to provide services to a specific group of students.

Public education in the project vicinity is administered by several independent school districts. The most likely to be affected by the project are: Hallsville ISD, Marshall ISD, and Tatum ISD. **School district boundaries in the vicinity of the proposed project are shown in Figure 3.10-2. Table 3.10-12** provides selected information on property tax-related funding for the three school districts, which are in or near existing and proposed South Hallsville No. 1 Mine mining areas. All three of the school districts receive a substantial portion of their funding from local property taxes, indicating their local assessed valuation bases are relatively strong. All three districts are in the top 25 percent of districts statewide in terms of assessed valuation per student, led by Tatum ISD, which is in the top 6 percent (Texas Education Agency 2010).



**Legend**

-  Proposed Rusk Permit Area Boundary
-  Hallsville School District Boundary
-  Marshall School District Boundary
-  Tatum School District Boundary
-  Other School District Boundary
-  County Boundary



**Rusk Permit Area EIS**

Figure 3.10-2  
School District Boundaries

### 3.10.2 Environmental Consequences

#### 3.10.2.1 Proposed Action

Initial construction for development of the Rusk Permit Area would involve substantial costs in the first 2 years of development. An estimated \$27 million would be invested in 2011, most of it for construction of the haul road, the Sabine River bridge, and the dragline walkway, with lesser amounts devoted to sediment control pond construction and a water truck fill station. Major construction activities in 2012 would include ramps, the transmission line extension into Mine Area V, additional sediment control pond development, and construction of a diesel fuel station for an estimated total of \$6.4 million. These costs would be capitalized and depreciated out over the life of the item.

**Table 3.10-14** provides the projected average annual operating costs for Sabine. Between 2012 and approximately 2027, approximately half of the average cost would be associated with the Rusk Permit Area, and after 2027, all mining would take place in the Rusk Permit Area.

**Table 3.10-14 Average Annual Operating Costs**

Description	Average Cost
Mine Site Labor	\$25,728,706
Services/Supplies	\$54,328,408
Mine Site Administrative and General (A&G) (expenses)	\$1,388,417
Capital Costs	\$35,515,312
Corporate A&G	\$810,000
<b>Total Mine Costs</b>	<b>\$117,770,843</b>
Incentive Plans	\$875,603
Management Fee	\$5,041,924
<b>Total Production Costs</b>	<b>\$123,688,370</b>

Source: Sabine 2010c.

#### Population

The population of the study area would not be expected to change measurably as a result of developing the Rusk Permit Area. With permanent employment levels remaining constant during the transition from the existing South Marshall Permit Area of the South Hallsville No. 1 Mine to the Rusk Permit Area, and relatively small numbers of contract workers hired for the project, there would be no impetus for population growth. Also, since the access point to the proposed project would be the same as the current access for the existing South Marshall Permit Area, it is not anticipated that workers would relocate as a result of the Proposed Action.

Current residents in an estimated 256 dwellings within the Rusk Permit Area would be displaced for the duration of disturbance in their areas. Displacement would not occur all at once; it would occur sequentially as mining progresses through each mine area. Displacement would continue for the life of the disturbance plus at least 7 years while reclamation activities would be completed and monitored. It is not known where the displaced families would relocate; however, it is assumed that most would remain in the four-county area because of jobs, family ties, or other reasons for their current choice of location. As noted below under the housing discussion, there are currently an estimated 182 homes for sale in the communities immediately surrounding the permit area. Barring major changes in growth rates in the area, which are not expected to occur, it is assumed that a comparable number of homes would be on the

In addition, current state tax payments include \$30,000 for the Texas franchise fee and \$140,000 for the RCT coal tax. Current federal tax payments include \$400,000 to Office of Surface Mining.

Property taxes are collected by the jurisdiction in which the equipment and mine are located at the beginning of each year. As mining progresses through the Rusk Permit Area, property tax revenue would change as the area being mined and mining equipment move into and out of the various jurisdictions. As the existing South Marshall Permit Area resource is depleted, property tax revenues to Harrison County would decline. Existing office and shop facilities would be maintained at their present Harrison County locations under the Proposed Action, however, so property taxes from those facilities would continue to accrue to Harrison County for the life of the proposed project. The proposed mine areas within the Rusk Permit Area would be located in Panola County (11 percent) and Rusk County (89 percent). It is uncertain how closely mine production and mining activity would track with the proposed mine disturbance areas; however, the percentages provide a rough approximation of distribution of property tax revenues to the two counties under the Proposed Action. Panola County's revenues would accrue entirely in the first 15 years of the project, whereas Rusk County's revenue stream would continue throughout the life of the mine.

The changes in revenue streams would represent a loss for Harrison County, but a net benefit for Panola and Rusk counties because there would be minimal, if any, change to current levels of demand for public services.

Property tax payments to local school districts also would change under the Proposed Action. As noted in **Table 3.10-15**, Marshall ISD is the largest beneficiary of local property tax from the existing South Marshall Permit Area and the existing South Hallsville No. 1 Mine office and shop facilities; these revenues would decline as mine production from the South Marshall Area is completed in approximately 2027. School district property tax payments for the Rusk Permit Area would accrue entirely to the Tatum ISD, as the entire Rusk Permit Area is within that district's boundary. Actual effects on school district budgets would not be as dramatic as the shift in Sabine's property tax payments, however, because state financial support would be adjusted to compensate for gains or losses under Texas' school funding rules.

In addition to property taxes, the South Hallsville No. 1 Mine pays substantial sales taxes to state and local coffers annually. Assuming approximately \$43.3 million in annual equipment parts and supplies would be taxable, the state would receive \$2.7 million annually at the current 6.25 percent tax rate and approximately \$217,000 would accrue to Harrison County at 0.5 percent.

#### Public Education

As previously discussed, the Proposed Action is not anticipated to result in a change in population in the four-county study area. **Consequently, the total number of students in school districts in the South Hallsville No. 1 Mine vicinity would not be expected to change as a result of the Proposed Action. Tatum ISD estimated that there are 215 current district students living in residences that would be displaced by the Proposed Action (Hartt 2010). However, there are fewer than 10 residences in areas that would be disturbed in the first 11 years of the project and a relatively small number of additional residences that would be displaced through the first 15 years of the project. As a result, all but a very few of the current students would complete their K-12 education before they would be displaced by the Proposed Action, and most would have sufficient time to find opportunities to stay with their current schools of choice.**

**As noted in Section 3.9, Land Use and Recreation, there is ample undeveloped land in the project vicinity to accommodate relocated residents and natural growth at rates anticipated for the area, should the market be sufficient to induce development of those lands. In addition, as reclamation is completed, some reclaimed lands would become available for re-use and redevelopment. In the event these nearby lands do not accommodate new housing development, there are a substantial number of homes on the market in communities near the project area, as noted below in the housing discussion. Because of these available options for displaced residents, it is not expected**

***that the Proposed Action would result in major changes to student enrollment levels in Tatum ISD or in other school districts in the vicinity of the proposed Rusk Permit Area. Regarding Tatum ISD, in particular, it is a “district of choice in East Texas with 20 percent of student enrollment being transfer students” because of the quality and breadth of its educational and extra-curricular offerings (Hartt 2010). Therefore, even if some displaced students relocate to residences outside of the district boundaries, it is expected that many would continue to attend district schools as transfer students, at the discretion of the district. For these reasons, it is not expected that the Proposed Action would result in substantial shifts in student enrollment levels in local school districts.***

It is **expected** that revenue received from property taxes **would** change for the school districts, **as noted above in the public finance discussion**; however, Texas has a revenue-balancing formula by which it redistributes property tax revenues to equalize school funding. As a result, no **major** changes in the school districts' abilities to provide services for their students are anticipated.

### Housing

Because a change in population is not anticipated in the four-county study area as a result of the Proposed Action, it is unlikely that housing needs in the study area would change. As previously discussed, less than 1 percent of the Rusk Permit Area is in residential use, and replacement housing exists within the immediate area. According to online real-estate estimates for the ZIP codes surrounding the Rusk Permit Area (75691, 75603, 75650, 75602, and 75670, which include Tatum, Hallsville, Marshall, and Longview), there were approximately 65 homes for sale for less than \$100,000, 66 homes for sale for between \$100,000 and \$200,000, and 51 homes for sale for more than \$200,000 in late 2009 (HDR 2009d).

If some portion of the contract workers were to be hired from outside the local area (beyond a 1-hour commute, for example), there are more than 25 lodging facilities with several hundred rooms in Longview. These facilities would be more than adequate to accommodate the limited number of non-local contract workers that could be needed for the proposed project.

### Property Values within the Study Area

Potential effects to property values associated with the Proposed Action would vary over the life of the mine. Although there is little residential property in the study area, any residences in close enough proximity to mining activities in the Rusk Permit Area to experience disturbance from mining operations (i.e., visual, auditory) would be less in demand and may experience a temporary decline in value. This type of effect would not be anticipated for ranch or farm lands. As mining activities move away from a residential property and as the lands are reclaimed, it would be expected that the property demand and value would return to the level of similar properties in the general vicinity. In the long term, the Proposed Action is not anticipated to result in adverse effects to property values.

### Other Public Services

The Rusk Permit Area would be served by different EMS providers than the existing South Marshall Permit Area. Rusk and Panola counties services, as noted in Section 3.10.1.8, would be the first responder service providers for the new area. The demand associated with the Proposed Action is expected to be minor and would be partially funded by local tax payments to the appropriate jurisdictions. The demand for emergency services in the Rusk Permit Area would be expected to be similar to that of the existing South Marshall Permit Area. Area providers would have sufficient resources to meet this demand (HDR 2009d).

The Proposed Action is not anticipated to affect local electricity costs. The Pirkey Power Plant is designed to use lignite fuel; it is anticipated that electricity costs would remain relatively unchanged.

Based on the modeling results, the highest noise levels anticipated from the proposed mining operations would occur during overburden removal and reclamation. Noise levels associated with those two phases would be similar due to similarities in the processes involved and the equipment used.

**Table 3.12-8 Haul Road Vehicle Sound Levels**

Vehicle Description	Quantity	Trips/Day	Reference Sound Level <sup>2</sup> (dBA)
Water Truck	3	15	74
Dump Truck	9	15	73
Kress Coal Hauler	5	15	<b>84</b>
Passenger	41	5	71
<b>Combined hourly L<sub>eq</sub> at 300 feet<sup>3</sup></b>			<b>35</b>

<sup>1</sup> Usage represents the average number of hours per day equipment would be operated.

<sup>2</sup> SPL measured over a reflecting plane at a distance of 15 meters in accordance with ISO 6393.

<sup>3</sup> Adjusted for usage and distance.

Source: HDR 2010c.

**Table 3.12-9** summarizes noise levels associated with the major mining operations phases of the proposed Rusk Permit Area.

**Table 3.12-9 Distance to Threshold Noise Levels – Mine Operations**

Activity	Sound Level <sup>1</sup> L <sub>dn</sub> (dBA)	Distance to 65 dBA L <sub>dn</sub> (feet)	Distance to 10 dBA Increase <sup>2</sup> (feet)
Clearing and grubbing	44	<300	<300
Overburden Removal	79	1,280	1,444
Lignite Mining	71	591	656
Reclamation	79	1,312	1,444
Haul Road Traffic	42	Less than 15 feet	Less than 15 feet

<sup>1</sup> Based on the modeled maximum noise level at a distance of 300 feet.

<sup>2</sup> Increases over existing noise levels were calculated assuming the lowest average day-night sound level measured for the Rusk Permit Area, 55 dBA L<sub>dn</sub>.

Source: HDR 2010c.

Project-related activities would cause or contribute to an increase in noise in the study area. The anticipated increase would depend on the distance between mining activities and sensitive receptors and on the nature of the intervening terrain. **Table 3.12-10** presents a summary of the modeled effects of operational noise on the nearest noise-sensitive receptors based on the absolute and relative noise impact criteria.

### 3.13.3 Cumulative Impacts

The past and present actions and RFFAs are identified in Section 2.7 and are shown in **Figure 2-12**. The Proposed Action would not result in an incremental increase in the annual amount of hazardous materials shipped along the identified transportation routes; however, it would result in an incremental increase in the duration of hazardous materials transport along the identified routes by approximately 15 years. On I-20 and the major federal highways, the continued transportation of hazardous materials to the Rusk Permit Area would represent a small incremental increase over existing conditions due to the existing high truck transport volume. On FM 968, this increase would represent a larger incremental increase in the risk of a spill during transport since the roads are in a generally rural setting. Although it is not anticipated that the identified past and present actions and RFFAs would use FM 968 for transport of materials, oil and gas activities in the region would be anticipated to have a cumulative interaction with the Proposed Action-related hazardous materials transport on FM 968. Based on the projected low probability of an accident resulting in a release under the Proposed Action, the impact of the incremental increase is anticipated to be small. With proper implementation of spill prevention and/or emergency response plans, cumulative impacts associated with the transport, storage, and use of hazardous substances are not anticipated.

*The USEPA Toxic Release Inventory (TRI) provides information on the amount of chemicals disposed of or released by industries. The data for Rusk, Harrison, and Panola counties in 2009 (USEPA 2010) are presented in Table 3.13-3. Since the Rusk Permit Area would replace production at the South Hallsville No. 1 Mine, it is assumed that the project would not result in an increase in chemical disposal or releases reported by the existing mine; however, it would result in an incremental increase in the duration of chemical disposal or releases from the South Hallsville No. 1 Mine of approximately 15 years. Also, the Rusk Permit Area would provide a replacement, rather than supplemental, fuel source for the Pirkey Power Plant. Therefore, the annual TRI information for the power plant also would not be expected to increase as a result of the Rusk Permit Area.*

**Table 3.13-3 2009 Toxic Release Inventory Data for Rusk, Harrison, and Panola Counties**

<b>County</b>	<b>Reported TRI Data (pounds)</b>
<b>Rusk</b>	<b>6,435,537</b>
<b>Harrison</b>	<b>4,579,614</b>
<b>Panola</b>	<b>37,612</b>

Source: USEPA 2010.

The proposed project would contribute to a small cumulative increase of the amount of solid waste that would be generated in the area; however, impacts would be expected to be minimal.

### 3.13.4 Monitoring and Mitigation Measures

The transportation, storage, and handling of hazardous materials and the disposal of solid wastes would be conducted in compliance with applicable rules and regulations. Due to the historic oil and gas production in the Rusk Permit Area, there is a potential for the presence of historic leaks and spills. Therefore, the following mitigation is being considered to minimize the potential for worker exposure and environmental impacts in the event an unanticipated contaminated site is discovered,

**HM-1:** To minimize the potential for worker exposure or environmental impacts in the event of an unanticipated discovery of a contaminated site during project construction or operation, Sabine would develop a protocol for the handling of contaminated sites to ensure protection of workers and to minimize potential environmental impacts.

## 4.0 Consultation and Coordination

### 4.1 Public Participation and Scoping

Public participation for the Rusk Permit Area began with the scoping process. Scoping is the process of actively soliciting input from the public and interested federal, state, and local agencies about the project. The process provides a mechanism for determining the EIS scope and significant issues (40 CFR 1501.7 and 40 CFR 1508.25) so the EIS can focus the analyses on areas of interest and concern. Therefore, the public's participation during the scoping period is a vital component to preparing a comprehensive and sound NEPA document. The USACE's overall scoping goal for the Rusk Permit Area EIS was to engage a diverse group of public, tribal, and agency participants in the NEPA process, solicit relevant input, and provide timely information during the EIS process.

The USACE initiated the scoping process by publishing the Notice of Intent to prepare an EIS in the *Federal Register* on June 24, 2009. Additionally, a Public Notice was mailed to over 1,010 private landowners that could be affected by the first 5-year phase of mine development; federal, state, and local agencies; and tribes. Public notices were placed in local newspapers (*Marshall News Messenger*, *Longview News-Journal*, *Henderson Daily News*, and the *Panola Watchman*) announcing the public scoping meeting date, time, and location. The USACE conducted a scoping meeting on July 7, 2009, in Tatum, Texas. The meeting was held in an informal, open house format to promote information exchange about the proposed project and to gather public input. A total of 347 meeting participants signed their attendance at the meeting. Display boards showing various aspects (project location, NEPA process, and resource-related information) of the project were presented to facilitate information exchange. A video presentation about Sabine and the mining industry also was presented. Fact sheets about the project, NEPA process, and frequently asked questions as well as comment forms were distributed at the meeting.

The USACE coordinated a meeting with interested agencies on July 8, 2009, to provide detailed technical information about the project and to solicit agency input regarding the scope and analyses for the EIS. Attendees included representatives from TPWD, RCT, USFWS, and USEPA. Agency concerns focused on potential impacts to a mussel sanctuary downstream of the project area; vegetation impacts, including potential replacement of native species with exotic species; potential impacts to a threatened and endangered plant species; economic effects to the City of Tatum; road closures; and potential impacts to recreational use of the Sabine River.

At the end of the comment period, the scoping comments were compiled and analyzed to identify key issues and concerns. Some of the scoping comments were eliminated from consideration in the EIS because they addressed issues outside of the scope of the NEPA analyses, or the comment stated an opinion, rather than a substantive comment that could be addressed in the EIS. A Scoping Summary Report was prepared and distributed to the individuals on the USACE's project mailing list.

The scope of this EIS reflects input received from the public and from government agencies. Key issues identified during the scoping process include the following:

#### **Groundwater**

- Potential loss of the Chalk Hill Special Utility District water service facilities
- Potential impacts to service area of Crystal Farms Water Supply Corporation
- Potential disruption of the hydrologic cycle resulting in soils with lower infiltration rates and limited recharge of the groundwater table
- Potential effects to water rights
- Potential effects to groundwater recharge

- Potential groundwater quality impacts
- Potential impacts to City of Tatum's water supply wells

#### **Surface Water**

- Concerns relative to potential increased flooding in the Elijah Branch area
- Concerns relative to potential effects to existing landowner water rights
- Concern relative to potential flooding effects from bridge construction to the Botter Family Interests
- Rusk, Panola, and Harrison counties approval of project, in compliance with National Flood Insurance Program
- Potential effects to Sabine River water quality
- Potential surface water quantity impacts

#### **Vegetation/Threatened and Endangered Species**

- Potential loss of productivity on reclaimed lands
- Potential displacement of native species by exotic species

#### **Wildlife/Threatened and Endangered Species**

- Impacts to Hendricks Lake, Dean Slough, and other aquatic habitats and resulting potential impacts to migratory waterfowl, American alligator, and other water-dependent species
- Potential impacts to a mussel sanctuary downstream of the project area

#### **Cultural Resources**

- Concerns relative to preservation of the Trammel Trace Pathway near Hendricks Lake
- Potential impacts to Indian burial mounds

#### **Land Use and Recreation**

- Concerns relative to land use conflicts that could limit the City of Tatum's ability to expand northward
- Potential transportation impacts due to road closures and related effects to recreation access to the Sabine River
- Potential loss of pastureland from reduced water supply
- Potential impacts to the historic Original Zion Hill Baptist Church and cemetery

#### **Social and Economic Values**

- Concern relative to displacement of homes, churches, cemeteries, and livelihood
- Potential impacts from mine-related expansion to the community of Mayflower
- Concerns relative to the economic effects to the City of Tatum, the school district, and business development
- Interests in project's provision of affordable energy

#### **Transportation**

- Consideration should be given to protect access roads to Tatum

#### **Public Health**

- Concerns relative to health impacts for those in close proximity to the mine, including the elderly

### **Environmental Justice**

- Concerns that all landowners are treated fairly in the sale/lease of their land, irrespective of race

### **Project Process – Land Acquisition and Development**

- Concerns relative to the timing and process for landowner contacts
- Concerns relative to the process for landowner compensation
- Concerns relative to effects to landowners in proximity of the mine but outside the area of land acquisition

## **4.2 Consultation and Coordination with Federal, State, and Local Government Agencies**

Specific regulations require the USACE to coordinate and consult with federal, state, and local agencies about the potential of the proposed project and alternatives to affect sensitive environmental and human resources. The USACE initiated these coordination and consultation activities through the scoping process. The USACE invited interested agencies to serve as cooperating agencies for preparation of the EIS; the USFWS and TPWD are serving as cooperating agencies.

## **4.3 Tribal Government-to-Government Consultation**

In compliance with NHPA and USACE Policy Guidance Letter No. 57 (Indian Sovereignty and Government-to-Government Relations with Indian Tribes) the USACE is required to establish regular and meaningful consultation and collaboration with Native American tribal governments on development of regulatory policies and issues of permits that could significantly or uniquely affect their communities. As such, the USACE has initiated consultation with Native American tribes.

## **4.4 List of Agency Contacts**

In preparing the EIS for the proposed Rusk Permit Area, the USACE communicated with and/or received input from various federal, state, and local agencies. The following sections identify these contacts.

### **4.4.1 Federal Agencies**

U.S. Environmental Protection Agency, Region 6

***U.S. Department of the Interior, Office of Environmental Policy and Compliance***

U.S. Fish and Wildlife Service

### **4.4.2 State Agencies**

General Land Office

Railroad Commission of Texas

Texas Commission on Environmental Quality, Water Quality Division; Office of Permitting and Registration

Texas Department of Transportation

Texas Historical Commission

Texas Parks and Wildlife Department

Texas Water Development Board

#### **4.4.3 Local Agencies**

Carthage Independent School District

Hallsville Independent School District

Marshall Independent School District

Tatum Independent School District

#### **4.4.4 Tribal**

*Caddo Nation Cultural Preservation Department*

### **4.5 List of Newspapers, Libraries, Organizations, Companies, Elected Officials, and Persons to Whom Copies of this Statement are Sent (in addition to the agencies listed above)**

#### **4.5.1 Newspapers**

*Henderson Daily News*

*Longview News-Journal*

*Marshall News Messenger*

*Panola Watchman*

#### **4.5.2 Libraries**

Tatum Public Library, Tatum, Texas

Marshall Public Library, Marshall, Texas

Sammy Brown Library, Carthage, Texas

Longview Public Library, Longview, Texas

#### **4.5.3 Organizations**

Atchison, Topeka & Santa Fe Railroad

Big Sky Mineral Trust

Boatwright Trust

Chalk Hill Special Utility District

Crystal Farms Water Supply Corporation

***East Texas Council of Governments***

Hacienda Energy, LLC

Hallsville Independent School District

Lake Cherokee

New Jerusalem Church of God in Christ

Rusk Electric Cooperative

Sabine River Authority

Smith Chapel Baptist Church

Sowell Charitable Trust

Tatum Masonic Lodge #1386

Zion Hill Baptist Church

#### **4.5.4 Industry/Business**

Amertex, Inc.

Archaeological Conservancy

B&N Petroleum, Inc.

BNSF Railway Company/Jones Lang LaSalle

Cargill & Co., Ltd.

CCRM Holdings, Inc.

CCRM, Inc.

Cherokee Crossing, LLC

CNG

Frost Oil Partnership

Hayward Paint Company

Horn Properties, LLC

Jackson Walker

JEH Interests

Kangerga Interest Ltd

Mountain Terrace Properties

NACC

New Horizons Oil and Gas

Rosson-Ward Land Company

RVW Properties, LLC

S&C Properties

Samson Lone Star, Ltd.

#### ***Sierra Frac Sand***

Snider Timberlands, Ltd

Southwest Petroleum Company

Steger Energy Corporation

SWEPCO

Texas Timberjack, Inc.

Three Anthony Properties, LLC

Three T Enterprises

Titanium Environmental Services, LLC

Torch Operg Company

Tyler Hendrickson, Velvin & Weeks Consulting  
United Built Homes

#### **4.5.5 Elected Officials**

##### Federal

Senator Kay Bailey-Hutchinson

Senator John Cornyn

Representative Louis Gohmert

##### State

State Senator Kevin Eltiffe

State Representative Chuck Hopson

State Representative Bryan Hughes

State Representative Tommy Merritt

##### County

Harrison County Judge

Panola County Judge

Rusk County Judge

Panola County Commissioners

Doug Cotton

Dale LaGrone

Ronnie LaGrone

Herman Reed, Jr.

Harrison County Commissioners

Emma Bennett

James Greer

Galen McBride

Jeffrey Thompson

Rusk County Commissioners

Bill Hale

Harold Howell

X. Pepper

Patty Sullivan

Freddy Swann

Municipal

City of Tatum, Mayor

City of Tatum, Independent School District

**4.5.6 Individuals**

\_\_\_\_\_, Daren

\_\_\_\_\_, Michael

\_\_\_\_\_, Ricky

Acker, Randy A & Gena

Adams, Jessie L

Adams, Albert & Imogene

Adams, Leatrice & Virtry

Adams, Lawanta Gale

Adams, Jessie L

Adams (Estate), Jessie

Adams, Jr., Everigester & Regina

Akins, Corbett Ervin

Aldridge, Cheryl J

Allen, Cremela

Allen, Brian

Allen, Bert

Allen II, James L

Allen-Ford, Shirley

Anthony, Clark D, Vicky J, and Darin

Ault, Roosevelt

Ayers, Georgia

Bagwell, Wayne & Brenda

Ballard, Jr., George W & Mae L

Barnes, Harry

Barrett, R E

Barrett, Jerry & Cindy

Bartley, Ronnie

Beall, Alton R

Beall, Dene

Beck, Jesse

**Betts, Veronica**

Blackmon, Bobby

Boone, James

Boyd, Okla Sammons

Dartez, James

Boyd (Estate), W Carolyn

Boykin, Gwen

Brazeal, Dorothy Marie

Brazeal, George & Michelle

Brewer, Rudene Glaspie

Brock, Elton

Brown, Jessie

Brown, Mable Wright

Brown, Jamie

Burton, H B

Burton, Harvey A

Burton, Carver D

Butzke, Patricia Ann

Carr, Gary L & Wilda G

Carter, Clara

Cato, Sam & Lue

Cato, Jr., Denison

Chapman, Evelyn

Chatham, Jocelyn

Childres, Dwayne Allen & Tonya

Clark, Stephen A & Cheryl A

Clements, Jane

Clements, Marie

Clemmons, Jack D and Candy

Cofield, Keith

Cole, Betty Faye

Coleman, Robert L and Billy J

Coleman, Curtis

Coleman, Alvester

Coleman, John Wesley  
Coleman, Artie  
Collins, William B & Donaus D  
Conway, Sherron  
Cooper, Richard A & Joanne  
Sammons, Cheryl  
Courtney, Jimmy Don  
Cox, Ricky W & Laura A  
Crawford, Holly  
Crawford, J R, Rosser, and Shirley  
Crump, Darron  
Crump, D R & Mary Beth  
Cruz, Liborio  
Cullen, Justin & Patricia  
Dale, Joe W & June  
Daniels, Jen  
Dartez, Brenda & Boyd  
Dartez, Brenda Cunningham  
Dartez, Brenda  
Davis, Willie  
Daviss, Lemmie R  
Deckard, Jule  
Deckenl, Jerry & Gwen  
DeLeRosa, Rosalio & Martha  
Dixon, Gary L  
Dodson, Helen M  
Duncan, Mary Waldron  
Duran, Jo R  
Edwards, Jessie Mae  
Elder, Lamar  
Elder, Rodney  
Ferguson, Jonny E  
Ferguson, Christine Free  
Ferguson, Richard  
Fields, Lee & Linda  
Fite, Lloyd  
Fite, Steve

Flores etux, Rogelio F  
Fransen, Donnie Jo Ferguson  
Freeman, Joey & Belinda  
Fuller, John L & Karen A  
Gallegos, Manuela  
Garlington, Melvin  
Garrett, W T  
Gibson, Russell & Kryston  
Gipson, Odessa Wright  
Glaspie, Renee  
Glaspie, Emmarine C  
Glaspie et al, Betty Adams  
Glover, Pat  
Gonzalez, Rogelio  
Gonzalez, Rafael  
Gray, Weldon R  
Green, Belton W & Shirley  
Green, Gerry & Bobby  
Greenwood, Richard & Sharonda  
Greenwood, Leatha  
Haden, Michael B & Melissa A  
Hamon, Linda Beall  
Hampton, Christene  
Hardage, Clint & Rebecca  
**Harkins, Ronald & Patricia**  
Harkless (Estate), Thaddeus  
Harper, Dorothy S  
Hartt, Dee  
Hayes, Edna Marie  
Haygood, Bruce and Marilyn  
Hedges, William E & RaNae  
Helvenston, Lois  
Henderson, Sue  
Henry, Walter and Gayle Findley  
Hernandez, Greg & Karen  
Holland, Leonard Gene & Dawn  
Honeycutt, Jim & Peggy

Hood, Virginia	King, Fannie Mae
Horton, Robert W & Gertrude	King (Estate), Eugene
Horton, James F	Kuykendall, Patsy
Horton, James A and Mittie	Land, Karla Austin
Howard, Daryl G	Langlinais, Ryan Edward & Beverly L
Huggins, Betty Kate Pepper	Latham, David E & LaNell B
Hunt, Terry L	Thomas, Charlotte Lee
Hunt, Pamela	Lewis, Aloza & Teri
Huntley, Bobby	Lewis, Jr., Ardrie
Hutchison, Thomas G & Robin E	Liles, Tommy
Hyatt, Dennis R	Lister et al, Tishie Glaspie
Hyde, Douglas and Rick	Livingston, Hattie
Infante, Alejandro & Wendy	Lomas, Luis
Irwin, Jr., James W	Luna, Paleman O, Olivia S, and Bale
<b>Irwin, Jesse</b>	Madison, Shirley
Jackson, Dwayne & Delores Beckworth	Malone, Todd
Jackson, Donald L	Marshall, Katheryn
Jackson, Beverly Lewis	Martin, Charles I
James, Floyd L	Martin, Mary Ann
James, Jr., Henry Alfred	Martin, Patricia Blackmon
Jameson, Juanita	Martin, Ola Charlene
Jameson, Margaret D	Martin, Tony
Janak, Ed	Matthews, Jim T
Jennings, Rex C & Jolene	Matthews, Carla
Jennings, Charles Bennie	Matthews, Richard W
Jernigan (Estate), Willie E	McBride, Galen
Jimmerson, Ruth	McClelland, Pam
Johnson, Johnnie	McClelland, Patsy
Johnson, Evelyn B	McCluer, Kim Inez
Johnson, Mary	McCowin, Opal Shelton
Jones, Melinda	McDowell, Lawrence & Melba
Jones, Errol S	McGee, Mary Wylie
Jones, Cora Adams	McGee IV, Harry W
Jones, Jason M & Christina R	McIlwain, William K & Karen S
Jones, Edward Dean	McIntire, Thomas E & Donell
Jones, Jr., Franklin A	McKee, Chris
Kennedy, C L	McMillan, Roger

McPherson, Robin  
 Medford, Alan & Sharon  
 Menchaca, Eduardo and Ramona  
 Menefee, Melba  
 Merritt, Ronald B and Elizabeth B  
 Metcalf, David G & Shirley  
 Metcalf, John & Connie  
 Middleton, Debora & Gary L  
 Mills et al, Janice J  
 Molpus, Sherry Beall  
 Mooney, Joe K  
 Mooney, Michael Dewayne & Charles Weldon  
 Moore-Molpus, Sherry Beall  
 Morton, John C  
 Morton, Michael  
 Moses, Mary Frances  
 Nail, Mark & Aileen  
 Navarro, Paulo & Juana  
 Nelson, Richard G  
 Nelson, John L  
 Nelson, Hobart & Evelyn  
 Newhouse, Gloria  
 Newhouse, Lucious & Frederick  
 Newhouse, Blynthia  
 Norris, Kathy J & Lorensa  
 Norris, Fannie L  
 Norris, Billy R  
 Norris, Pauline  
 Norris, Willie  
 Ochetto, Michael R Sr & Julie  
 Odom, Nash  
 Orr, David Lee  
 Arhenaten, Enoch  
 Pepper, X  
 Peterie, Patricia Edge  
 Peterie, Andrew  
 Pettit, Bobby & Valerie  
 Pirtle (Trust), George W and James T  
 Pitts, Jeannie Marie  
 Pruitt, Mrs Weaver  
 Pruitt, K W  
 Ramerez, Nerio & Norma  
 Ranigo, Everene C  
 Ray, Kay Helvenston  
 Redding, Ricky  
 Reed, Ronald L  
 Reed, Helen J  
 Reese, Leonard III & Cynthia  
 Reeves, Charles Albea  
 Reeves, Lorenzo Eldon  
 Reeves II, Isaac Isreal  
 Reimer, Teresa  
 Reynolds, Altha  
 Ridge, Verna  
 Roberts, Carl & Dee  
 Robertson, Kendal M  
 Rocquemore, A C & Emma  
 Rodriquez, Pascual  
 Rosborough, Thomas C  
 Ross, Phillip & Denise  
 Ross, LaVerne  
 Russ, Harvey F  
 Sammons, Artimonthy & Shelia  
 Sammons, Dennis  
 Sammons, Kareather  
 Sammons, B L  
 Sammons, Cheryl  
 Sammons, Jr., Willie & Bobbie J  
 Sammons, Sr., Willie E  
 Sanders, James  
 Sanders, Jr., Herbert  
 Sandidge, James & Tina  
 Sellers, Seth Louis  
 Session, Arazola N

Shaw, Roger  
Shaw, Luna  
Shaw, Lambert L and V L  
Shaw, Narvie  
Shaw, Louise  
Shaw, Penny  
Shaw, Rayford L  
Shelton, Johnnie and Sheena  
Shelton, Thelma R and Lurlene  
Simpson, Ruby  
Simpson, Mitchell Lee & Kathy  
Singleton, Tony & Jacqueline  
Sipes, Eddie Ray  
Skinner, Stephen K & Alison B  
Smith, Renae  
Smith, James Robert  
Smith, Bryan & Markisha  
**Smith, Kim**  
Smith, Ozella Lover  
Smith, Travis A & Neicia C  
Smith, Harris R  
Smith, Ruby  
Smith, Becky  
Smith, Curtis Larry  
Spiller, Jason Andrew  
Squires, Opal D  
**Steele-Irwin, Sharon**  
Stowe, Wanda G  
Stowe, William H & Sue  
Stowe, Jimmy E  
Sullivan, Patty  
Sullivan, Buddy C & Ruana  
Tanner, William E & Ruby  
Tatum, Brenda K  
Tatum, Shirley  
Tatum, Billie Ray  
Taylor, Wrey & Debra

Thomas, Venoria  
Thomas, Ashley & Jerale  
Thompson, Wadell & Annie  
Timms, Lonnie Mae  
Turner, Teresa  
Valentine, Carroll, Peggy, Brenda, Jimmy  
Waldron (Estate), B F Frank  
Walker, Alisan  
Walker, Charles R  
Warner, Madison and Luella  
Washburn, Mark & Janelle  
Washyl, John & Dottie  
Watkins, Arvester  
**Watkins, Carl**  
Watt, Jim R  
Watt, John William & Lynn  
Watt, John Lacy  
Watt, Jr., W R & Thomas W  
West, Vernell  
White, Tobey  
Whitten, Jr., Watt and Vernetta  
Whittington, Winifred  
Williams, David  
Williams, Robert  
Williams, Neal & Diann  
Williams, Lois & Lelan  
Williams, June  
Williams, Daryl Glenn and Cristi Lynn  
Williams, Kathy Helvenston  
Williams, Effie Mae  
Williams, Troy Ray & Judy  
Woodard, Cheryl L  
Woods, Larry B & Cheryl  
Wright, Donal W  
Wright, Darrell G  
Wright, Johnny & Billie  
Wright, J T

Wright, Darlene

Young, Jack Emerson

Wright (Joint Rev Liv Trust), Angus D & Judith L

Wyatt, Sammy B

Wylie, Alfred

Wylie, Joe

Ybarra, Martin H & Maria L

York, Jack D

## **4.6 Public Comments and Responses**

***A 60-day public comment period for the Rusk Permit Area Draft EIS commenced on October 29, 2010, with the publication of the Draft EIS Notice of Availability (NOA) in the Federal Register.***

***During the public comment period on the Rusk Permit Area Draft EIS, the USACE received 18 comment letters. The comment letters are reproduced in their entirety in Appendix G of this Final EIS. Each comment letter is assigned an alpha-numeric identifier based on the source of the letter (e.g., federal [F], state [S], or local [L] agency; tribal government [TR]; or individual [I]) and the number of comment letters within each source category. Individual comments or topics within each comment letter are numbered sequentially; for example, comments in federal letter 2 would be numbered F2-1, F2-2, F2-3, etc. The USACE considered each individual comment and prepared a response to each comment. The response to each comment accompanies the comment letter and is identified by the reference number of the respective comment (e.g., response to comment F2-3).***

***The USACE conducted an informal public information meeting on November 15, 2010, and a formal public hearing on November 16, 2010, for the Rusk Permit Area Draft EIS. Both events were held at Tatum High School in Tatum, Texas. A total of 66 people signed in at the November 15 public information meeting, and a total of 45 people signed in at the November 16 public hearing.***

***A court reporter was present at the public hearing to record formal oral comments. Formal oral comments provided at the public hearing are presented in Appendix G with the associated responses. The public hearing transcript (T) comments and responses are labeled with an alpha-numeric identifier for each individual speaker, with sequential numbers for each comment (e.g., T1-1, etc.).***

***Table G-1 in Appendix G lists each of the transcript statements and comment letters. Each transcript statement and letter has been reviewed in its entirety and considered by the USACE in its review of the proposed project.***

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## **Appendix C**

### **Proposed Conceptual Mitigation Plan South Hallsville No. 1 Mine Rusk Permit Area**



## **SABINE MINE**

### **U.S. ARMY CORPS OF ENGINEERS**

**PROPOSED CONCEPTUAL MITIGATION PLAN**

**APPLICATION FOR DEPARTMENT OF THE ARMY  
INDIVIDUAL PERMIT**

**South Hallsville No. 1 Mine – Rusk Permit Area**

**USACE Project No. SWF-2007-00560**

**January 28, 2010**  
***Revised April 21, 2011***

**Prepared for:**  
**The Sabine Mining Company**  
**6501 Farm Road 968 West**  
**Hallsville, Texas 75650-7413**

**Prepared by:**  
**HDR Engineering, Inc.**  
**17111 Preston Rd., Suite 200**  
**Dallas, TX 75248-1232**

**SOUTH HALLSVILLE NO. 1 MINE – RUSK PERMIT AREA**

**PROPOSED CONCEPTUAL MITIGATION PLAN**

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Appendix 3 Functional Assessment

# **SOUTH HALLSVILLE NO. 1 MINE – RUSK PERMIT AREA**

## **PROPOSED CONCEPTUAL MITIGATION PLAN**

### **1.0 BACKGROUND**

The Sabine Mining Company (Applicant), a subsidiary of North American Coal, operates the South Hallsville No. 1 Mine and the South Marshall Mine in northeast Texas. Mined lignite (coal) fuels the Southwestern Electric Power Company (SWEPCO) Henry W. Pirkey power plant in Harrison County, Texas. The Applicant proposes to expand the South Hallsville No. 1 Mine south across the Sabine River to include the proposed Rusk Permit Area. This proposed conceptual mitigation plan is submitted as **Attachment J** and is part of an Application for Department of the Army Individual Permit provided to the Fort Worth District of the Army, Corps of Engineers (USACE) to initiate the process for approval to impact waters of the United States (U.S.), including wetlands, under Section 404 of the Clean Water Act.

Additional detailed background information is contained in a separate permit application for a Surface Mining and Reclamation Permit for the Rusk Permit Area that was submitted to the Railroad Commission of Texas (RCT) Surface Mining and Reclamation Division in May 2009. The RCT permit application details mining for a five-year permit term. The RCT has not approved the permit application; however, it is anticipated that the application will be approved in late 2010 or early 2011. All subsequent references to the RCT permit application refer to the aforementioned document.

Note that cross-references to the 2008 mitigation regulations (FR Vol. 73, No. 70, Thursday, April 10, 2008) are noted throughout the document in section titles or with brackets at specific paragraphs. These cross-references direct the reader to document information corresponding to specific regulatory requirements.

### **2.0 GOALS AND OBJECTIVES [332.4(c)(2)]**

The goal of the Applicant's Proposed Conceptual Mitigation Plan (PLAN) is to provide a comprehensive overview of planned efforts to provide mitigation (including compensatory mitigation) for adverse impacts to waters of the U.S., including wetlands, at the Rusk Permit Area. This goal is supported by the following objectives:

- Objective 1: Vegetation will be established within and around reclaimed areas that will be designated as waters of the U.S., including wetland areas, to minimize erosion and provide sediment retention equal to or better than surrounding non-impacted areas.

Objective 2: Establishment of (and with increased acreage when possible) vegetative corridors (associated habitat buffers), adjacent to replaced streams, with plant communities comparable to those which existed prior to mining.

Objective 3: Restoration of or improvement to, as appropriate, aquatic functions of stream channels. Functions to be restored include floodwater transport and habitat elements (e.g., pools similar to premine conditions in intermittent streams), while sediment transport mechanisms will be improved through reduction of erosion in the reclaimed watershed.

Objective 4: In the future, if necessary to meet mitigation requirements, applicant will work toward providing off-site mitigation by enhancement, restoration, or preservation of previously-impacted bottomland hardwoods, wetlands, and associated aquatic resources and buffer areas, by modifying land use of an off-site property.

In addition, the following project objectives are noted to support the overall goal of the PLAN.

- In accordance with the 2008 mitigation regulations (dated April 10, 2008), the PLAN will provide for a sequential mitigation process of avoidance, minimization, and compensation.
- The PLAN will provide appropriate offset for adverse mining impacts that result in unavoidable permanent and temporary losses of aquatic functions and values and will ensure those losses result in minimal adverse effects on the aquatic environment [332.3(a)(1) and 332.3(m)].
- The PLAN will provide adequate mitigation to meet the requirements addressed in sections 332.3(f) and 332.4(c)(6).
- PLAN development will follow the USACE Regulatory Guidance Letter 02-2 dated December 24, 2002; Mitigation Guidelines developed by the Fort Worth District Regulatory Program, Draft - December 24, 2003; and new mitigation regulations published in the Federal Register dated April 10, 2008.
- The PLAN follows applicable sections of the RCT permit application to support the Memorandum of Understanding Among The U.S. Army Corps of Engineers, The U.S. Office of Surface Mining, The U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service For The Purpose of Providing Concurrent and Coordinated Review and Processing of Surface Coal Mining Applications Proposing Placement of Dredged and/or Fill Material in Waters of the United States.

- The PLAN provides specific information in regard to mining at the Rusk Permit Area in relation to: (1) avoidance and minimization of impacts, (2) reclamation actions that create mitigation, (3) temporal loss, (4) mitigation for adverse impacts to streams and wetlands, (5) detailed methodologies for creation, restoration, enhancement, and preservation, (6) revegetation strategies, and (7) protection of aquatic environments [332.3(a)(3)].

## 2.1 Mitigation

Applicant proposes to provide mitigation (including compensatory mitigation) for adverse impacts to waters of the U.S. by creating, enhancing, restoring, or preserving waters of the U.S. at the ratios shown in **Table 1**. The total acreage of mitigation required to satisfy authorization requirements, with USACE approval, may be in-kind or out-of-kind in reclaimed areas of the mine to meet specific requirements; and may in the future include additional compensatory mitigation at an off-site location. On-site mitigation areas will be within the mine boundary approved by the RCT. No mitigation will be outside the RCT permit boundary without RCT and USACE approval. Mitigation may result from either: (1) creation, (2) restoration, (3) enhancement, or (4) preservation (with USACE approval).

**TABLE 1**

**Proposed Mitigation Ratios for the Proposed Rusk Permit Area**

<b>Waters of the U.S.</b>	<b>Mitigation Ratios*</b>	<b>Compensatory Mitigation Ratios*</b>	<b>Composite** Mitigation Ratios*</b>
Forested wetlands	1.0 to 1.0	1.0 to 1.0	2.0 to 1.0
Non-forested wetlands	1.0 to 1.0	0.5 to 1.0	1.5 to 1.0
Ponds	1.0 to 1.0	---	1.0 to 1.0
Streams	1.0 to 1.0	---	1.0 to 1.0

Notes:

\* Ratios in the table above represent acres of mitigation to acres of impact. For example, a 1.5 to 1.0 ratio is expressed as 1.5 acres of mitigation required for 1.0 acre of impact.

\*\* Composite ratios include both mitigation and compensatory mitigation.

## Basis for Mitigation Ratios

Criteria used to determine the proposed mitigation and compensatory mitigation ratios include: (1) assessment of the quantity and quality of jurisdictional waters impacted by temporary and permanent adverse impacts to waters of the U.S., including wetlands, for the entire life of the mine, (2) temporary versus permanent impacts, (3) the types of mitigation practices used to provide environmental "lift", and (4) local threats to adjacent properties and the aquatic environment.

Mitigation ratio requirements for adverse mining impacts will ultimately follow ratios approved by the USACE Fort Worth District upon issuance of the Individual Permit for the Rusk Permit Area. The ratios proposed in Table 1 are appropriate for these sites and are based on the following:

- Temporal loss of function is minimized by contemporaneous reclamation in a manner compliant with RCT and Surface Mining Control and Reclamation Act (SMCRA) regulatory requirements.
- The proposed establishment (creation and restoration) of adequate acres of higher-quality forested and non-forested (emergent) wetlands that provide "environmental lift" when compared with premine conditions.
- An assessment of premine hydrologic resources with the understanding that with limited premine hydrology, there will be, in most situations, limited postmine hydrology to support higher ratios (e.g., substantially increased wetlands or drainage features).

## Mitigation Planning and Projected Results

The Proposed Conceptual Mitigation Plan, **Attachment J** of this document, provides detailed methodologies related to mine, reclamation, and mitigation planning used by The Sabine Mining Company to create, enhance, restore, or preserve aquatic resources (including wetlands and stream channels). Additional site-specific information is provided in this section to show projected mitigation results.

Reclamation and resulting mitigation will provide an abundance of mitigation acreage and linear feet of stream channels to satisfy mitigation requirements when compared to the quantity and function of premine waters of the U.S. that can potentially be adversely impacted by mine operations. Mitigation areas will be functional, provide offsets above and beyond impacts, and provide ecological lift to local and regional watersheds and aquatic environments.

**Table 2** provides projected outcomes of reclamation and mitigation efforts on the mine. These results are one outcome of mine planning and modeling efforts that predict the final contour of the land and resulting drainage patterns and associated water features. Other reclamation activities, based on this same data, include

planning for postmine forestry and pastureland land use areas and other RCT approved land uses. Mitigation areas fit within these land uses and are advantaged by increased water features as compared to premine conditions. **Where applicable to the restoration of waters of the U.S., including wetlands, post-mine land use will be returned to the documented pre-mine land use.**

**TABLE 2**

**Projected Outcomes of Mitigation Efforts**

<b>Projected Outcome by Category of Waters of the U.S.</b>	<b>Pre-Impact Quantities of Waters of the U.S. (ac)</b>	<b>Projected Adverse Impacts within the Initial Five-Year Area (ac)</b>	<b>Projected Mitigation<sup>1</sup> (ac)</b>
Forested wetlands	389.7	53.3	106.6
Non-forested wetlands <sup>2</sup>	128.3	28.4	42.6
Ponds	223.8	11.4	11.4
Streams <sup>3</sup>	185.5	9.6*	9.6

\* Approximately 69,392 linear feet.

Table 2 Notes:

1. Projected mitigation outcomes are estimated on a 2:1 ratio for forested wetlands, a 1.5:1 ratio for non-forested wetlands, a 1:1 ratio for stream channels, and a 1:1 ratio for ponds.
2. Category includes emergent wetlands and other non-forested wetlands. Examples might include constructed shallow water areas adjacent to stream channels, constructed shallow water areas incorporated in pond designs to create waters < 6.6 feet in depth, or water-holding depressions formed in other land uses.
3. Based on past practice and regulatory requirements, reclaimed stream channels will be sized to meet RCT regulatory requirements. This necessitates a wide channel. Other small stream channels feeding into the above-mentioned stream channels will be created by reclamation; however, at this point in the process, projecting this quantity of linear feet is not practical.

Note 3 above, related to **Table 2**, acknowledges that additional, smaller stream channels will be created by reclamation activities, and history shows that many small stream channels exist and function in a similar fashion to premine ephemeral stream channels. These stream channels are sized as reclamation develops and are designed to move water within small, local watersheds. Watershed size and other RCT regulatory requirements will dictate if the stream channel requires detailed design versus “in the field” construction through the typical leveling and reclamation process. **Figures 1, 2, and 3** in this Proposed Conceptual Mitigation Plan provide cross-section views of typical configurations for bankfull channels designed for low and medium flows inside wide channels. Wide channels with internal bankfull channels combined with wetlands provide stable systems that mimic or enhance premine conditions (fluvial geomorphology). Many smaller stream channels will be included in habitat areas and as a result will be revegetated to include riparian

habitat. Review of postmine contours show many areas where smaller stream channels will collect overland flow and channel this water to impoundments and larger reclaimed stream channels.

Section 4.4 of this Proposed Conceptual Mitigation Plan provides details regarding revegetation of reclaimed areas, including wetlands, riparian areas, and adjacent uplands. Included are projected revegetation species. Additional species may be proposed in the future as revegetation lists are amended and approved by the RCT, TPWD, and USACE.

## **2.2 Other Considerations**

In accordance with the 2008 mitigation regulations, the Applicant's activities and ancillary non-mining, non-RCT regulated activities (such as oil and gas activities, and pipeline and utility relocations) are planned to avoid and minimize, to the extent practicable, adverse impacts to waters of the U.S., including wetlands. Some adverse impacts (both direct and indirect) are expected and understandable based on mining methods, the location of the mine, and types of ancillary impacts. Mining operations and ancillary activities within waters of the U.S., including wetlands, that cannot be avoided, are addressed with mitigation activities through the overall reclamation planning effort. Reclamation efforts consider the entire area in a holistic manner and focus on reestablishing pre-mining hydrogeomorphic conditions when possible. Uplands, wetlands, streams, and open water are considered together to protect local and regional watersheds and aquatic environments [332.3(b)(1) and 332.3(c)(1), (2) and (3)].

Temporal loss of wetland and other aquatic ecosystem functions are considered in the reclamation planning process to allow (1) adequate replacement of functions and (2) creation or enhancement of the required quantity of acreage with and including other physical characteristics in accordance with USACE requirements. At some locations, mitigation may exhibit higher functional value than impacted premine conditions. More or less acreage or stream length may then be required for mitigation depending on whether the mitigation efforts result in higher or lower quality ecosystem function(s). An important factor is the general focus toward restoring or enhancing the function of the local aquatic ecosystem.

Mitigation activities will be concurrent with authorized impacts when feasible; however, due to the large scale, complexity, and sequential manner in which mines operate, some mitigation activities will occur after impacts have taken place. The PLAN considers the above factors in conjunction with the associated temporal loss of functions [332.3(b)(5) and 332.3(m)].

Based on SMCRA and RCT requirements that mined lands must be reclaimed, and for impacts to waters of the U.S. to be mitigated on-site (to the extent that is practicable), Applicant plans to provide compensatory mitigation on-site by reclamation activities (permittee-responsible mitigation); and with the future option of

providing some part of the compensatory mitigation via an off-site, Applicant-owned mitigation area. On-site compensatory mitigation will incorporate elements that take into account local and regional watersheds and aquatic environments. This approach, absent a local watershed plan, ensures the ultimate goal of maintaining, and likely improving, the quality and quantity of aquatic resources within the local watershed will be accomplished [332.3(b)(4) and 332.3(c)(1)].

The use of a significant volume of “entrepreneurial” mitigation bank credits is not proposed in this PLAN. Although mitigation bank credits may be available in the region, the use of credits is not feasible due to the potential volume of credits that would be necessary and the cost per credit based on current mitigation bank pricing [332.3(b)(2)].

### **3.0 BASELINE INFORMATION [332.4(c)(5)]**

#### Mine Specific

Extensive site specific baseline information is not detailed in the PLAN. Details related to specific baseline information and adverse impacts are located in applicable Individual Permit sections and the RCT [Surface Mining Control and Reclamation Act (SMCRA)] permit application. These documents provide extensive environmental data regarding cultural resources, soils, vegetation, aquatic environments, wetlands, fish and wildlife resources, land uses, and threatened and endangered species. This documentation forms the basis of site specific mitigation planning, but is not duplicated due to the volume of information, the large areas impacted by mining and associated mine activities, the dynamic nature of mine planning and operations, and the potential lengthy time frames of adverse mine impacts.

The PLAN and projected outcome (mitigation) will be compatible with historic and current agricultural land uses. Historic land uses included use of the area for silviculture and agriculture—mainly related to timber and crop production, and later for livestock operations. Mitigation created by reclamation of mined lands will be compatible with historic land uses by correcting past impacts to riparian habitats. Similarly, this mitigation will be compatible with the current, landowner-preferred, land uses in the area. The majority of the current land uses are pastureland (approximately 28%) and forestry (approximately 65.8%), with the balance being industrial/commercial (5.1%), developed water resources (0.4%), and residential (0.7%). The proposed postmine land uses within the five-year permit term and at the end of mining include forestry, pastureland, and developed water resources. At the end of mining and reclamation the projected outcome will generally be: forestry (approximately 38.45%), pastureland (approximately 61.23%), and developed water resources (approximately 0.32%).

Incorporated within the postmine forestry and pastureland land uses will be reclaimed habitats for fish and wildlife that will be compatible with these postmine

land uses. These areas will include drainage features with riparian habitats and other aquatic sites that provide mitigation for impacts to waters of the U.S., including wetlands. Associated with the drainages will be increased developed water resources. These areas will provide additional areas for mitigation due to increased hydrology and aquatic resources. Another positive aspect of these land uses is the introduction of enhanced species diversity and travel corridors. Both will be beneficial to wildlife and the overall aquatic environment.

#### Off-Site Mitigation

At the time of application submittal, no off-site mitigation property is available for use to offset future mitigation requirements. Applicant may in the future propose the use of an off-site mitigation area to offset mitigation requirements. Prior to the use of an off-site mitigation area (property), Applicant will provide detailed information to the USACE Fort Worth District for assessment and approval.

### **4.0 MITIGATION PLAN IMPLEMENTATION [332.4(c)(7)]**

Minimization efforts related to mining the five-year mining area, including construction of mining and ancillary non-mining infrastructure projects, are contained in the RCT permit application in Sections .144 (Fish and Wildlife Plan), .145 (Reclamation Plan), and .147 (Postmine Land Uses). These plans contain details related to avoiding waters of the U.S., including wetlands; reclaiming the mined landscape in a contemporaneous manner to reduce temporal loss of function; and planning postmine land uses that support uses equal to premine uses, or higher and better uses, as approved by the regulatory authority. In accordance with 2008 mitigation regulations, created mitigation is planned to be self-sustainable with minimal use of features or structures that require maintenance or long-term management [332.7(b)].

Void areas, where no lignite exists or where no mine-related impacts are projected, are protected from disturbance. These areas are specifically identified by early mine planning efforts and avoided when possible. Some of these areas contain aquatic ecosystems and waters of the U.S., including wetlands. To ensure these areas are not adversely impacted, best management practices (BMPs) are used to control erosion, deposition of water transported sediment, and contact with untreated runoff. BMPs include creation of sediment control ponds, water treatment basins, streams with grade control designs to reduce channel velocities, silt fencing, shallow berms, diversion ditches, grassed waterways, terraces, placement of riprap and natural boulder clusters, placement of geotextile and natural fiber mats, and temporary sediment basins.

#### **4.1 Mitigation for Adverse Impacts to Streams**

Streams identified in the Individual Permit may be adversely impacted by mining activities and other ancillary non-mining activities. Adverse impacts may be direct or

indirect. Direct adverse impacts come from mining or construction actions in streams or wetlands, and indirect impacts may occur when hydrology is reduced and results in impacts to downstream or down-slope waters of the U.S., including wetlands. Mitigation, including compensatory mitigation, if necessary, to account for these adverse impacts will be accomplished by reestablishment of streams or other waterways, drainages, and diversions through the mine reclamation process. Evaluation of premine streams (evaluation of fluvial geomorphology) is conducted, for incorporation into **USACE** and RCT permit applications, to understand whether reestablishment of adversely impacted streams is practicable and ecologically desirable.

Permanent stream diversions will be constructed to mimic premine conditions, if practicable; however, the locations and size of postmining drainage watershed basins may differ from premine watershed basins. For drainage channels that have a drainage basin less than one square mile, the combination of channel, bank, and floodplain will be adequate to safely pass the 10-year, 6-hour precipitation event. For drainage channels that have a drainage basin greater than one square mile, the combination of channel, bank, and floodplain will be adequate to safely pass the 100-year, six-hour precipitation event to meet RCT regulatory requirements. **Appendix 1, Figures 1, 2, and 3** provide cross-section views of typical configurations for bankfull channels designed for low and medium flows inside wide channels. Wide channels with internal bankfull channels combined with wetlands provide stable systems that mimic or enhance premine conditions (fluvial geomorphology). Stream channel designs specific to the PLAN are provided in the RCT permit application and are not duplicated in this PLAN.

The size and configuration of reestablished streams will be a function of the type of system being restored and the size of the reestablished watershed basin. Once established, these areas provide connection between open water areas and wetlands, and are complementary of adjacent vegetated upland areas. All areas together provide important enhancements, in terms of both acreage and function, to local aquatic environments and larger regional watersheds.

Reestablished streams will be revegetated with permanent vegetative cover to create riparian areas (buffer zones). The focus is to manage these areas to enhance aquatic functions and increase overall ecological functioning of mitigation and aquatic resources in the area. This improves the overall mitigation plan and enhances streams by providing functional wildlife habitat, runoff filtration (reduced silt loading to streams), moderation of water temperature changes, and detritus for aquatic food webs. Details regarding revegetation are discussed in Section 4.4.

Stream restoration practices will be used, where practicable, during the reclamation process to reestablish streams into functional aquatic environments. The restoration practices detailed in this PLAN are considered applicable to the Applicant's mining operations based on the nature of mining operations, mining methods, local geology,

regulatory requirements, and other location specific factors. See sub-section 4.2 for details related to stream restoration practices incorporated into the PLAN.

## 4.2 Stream Restoration Practices

Examples of stream restoration practices, civil engineering techniques, and structures used during reclamation actions are provided below from a USACE guidance document and focus on principles of fluvial geomorphology. Implementation of all the listed examples is likely not feasible for each case of stream reestablishment. Each location is assessed and the appropriate practices, techniques, or structures applied as necessary.

- Riparian areas are established as soon as practicable by planting trees, shrubs, and herbaceous vegetation [332.3(i)].
- Re-established streams are constructed with slopes appropriate to soil conditions, engineering design, grade, and as necessary to reduce erosion.
- Re-established stream slopes are mulched, to the extent possible, after planting vegetative species.
- The timing of revegetation is monitored to ensure some form of vegetation is in place in a timely manner. If the season for permanent vegetation has passed, temporary vegetation is planted until the next appropriate planting season for permanent vegetation.
- Geotextile and natural fiber mats, in conjunction with vegetation, are used, when necessary, to protect slopes from overland flow and surface erosion.
- Diversions are terraced where appropriate in order to create broad floodplains for development of streamside vegetation and riparian systems.
- Silt fencing is used to capture silt load before it enters a drainage or stream.
- Grade control structures (concrete drop structures) are used, when necessary, to reduce velocity and dissipate energy in locally steep sloped areas with erosive soils. This technique is a last resort in reestablishment of stream channels and in most cases is used at non-jurisdictional locations (ephemeral or less areas and where sheet flow collects in hillside swales) higher in a watershed.
- Weirs and sills (berms), constructed of natural or inert beneficially reused materials (e.g., concrete riprap), are located to dissipate energy and create microhabitats.
- Boulder clusters using native rock are located to provide reduced flow and microhabitats.
- Anchored vegetative cuttings are used for slope stability, when necessary.

- Wing deflectors are added to help divert flow away from easily eroded areas or other structures.
- Streams are designed to meander, when possible.
- Riprap is used to protect slopes, structures, and the outside curve of stream meanders.
- Sediment basins are constructed on- and off-channel to capture sediment.
- Livestock is excluded or managed to reduce impact to slopes or other sensitive locations to reduce adverse impacts that may occur close to or adjacent to streams.

#### 4.3 Mitigation for Adverse Impacts to Wetlands [332.3(d)]

In accordance with Regulatory Guidance Letter No. 02-2 (RGL 02-2) and 2008 mitigation regulations, mitigation meeting the definition of a wetland will fall into one or more of the following categories: (1) establishment [creation], (2) restoration, (3) enhancement, or (4) protection/maintenance [preservation]. Definitions and plan specific details are provided below [332.3(a)(2)].

... excerpts from 332.2 - Definitions

**Establishment (Creation):** *The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions [332.2].*

**Restoration:** *The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource [332.2].*

**Enhancement:** *The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s) [332.2].*

**Protection/Maintenance (Preservation):** *The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms [332.2].*

Following unavoidable adverse impacts to wetlands, the mitigation plan and reclamation planning process establishes mitigation wetlands in mined and reclaimed, or non-mined areas. These wetlands will be characteristic of premine systems, when possible, or otherwise appropriate for the hydrogeomorphic features

of the watershed. In the event that wetlands cannot be generated to match premine conditions, mitigation will be generated to exceed or be equal to premine wetlands that were lost or damaged. The majority of mitigation wetlands will be established by creation within reclaimed areas of the mine. In some cases, mitigation wetlands may be generated by restoration, enhancement, or preservation of non-mined, "historically" disturbed wetlands. These areas are typically adversely impacted by previous landowners for agricultural or industrial reasons. These areas may or may not be within the boundary of properties covered by USACE authorizations and may be outside the boundary permitted by the RCT. See sub-sections 4.3.1, 4.3.2, 4.3.3, and 4.3.4 for additional details related to creation, restoration, enhancement, and preservation [332.3(e)].

### **4.3.1 Creation**

Mitigation areas may be created along the banks of waterways, drainages, and permanent stream channel diversions, in small depressional areas, and in specially designed areas. Additionally, there will be wetlands created around the perimeter of impoundments that are added to the landscape to support postmine land uses and fulfill regulatory requirements related to the approved postmine land uses.

Wetlands around the perimeter of impoundments are created by providing shallow areas along the margins of these structures. This creates a diverse wetland habitat ranging from emergent vegetation in areas that are continually inundated to shrub and forested wetlands in areas periodically submerged by fluctuating water levels.

The creation of wetlands along the banks of streams and in specially designed areas will focus on replacement of aquatic features that are environmentally preferable to the adversely impacted wetlands. This will be accomplished by using appropriate civil engineering techniques or constructing structures that promote proper hydrology.

Examples of civil engineering techniques and structures are provided below.

- construct wide, flat, or undulating floodplains.
- vary the stream gradient to create stream reaches with low gradients.
- construct constrictions in stream channels (these may be constructed with a low berm across the floodplain upstream of the constriction).
- design and construct mitigation areas to mimic gently sloped or undulating forested wetlands.

The reclaimed surface will be contoured to promote the creation of wetlands, where appropriate, and may include reestablishment of topographic highs and lows that act as micro-ecosystems. These small areas of internal drainage (depressions) will be

created to promote collection of surface water runoff. These areas will enhance recharge of near surface aquifers.

Examples of conceptual plans for wetland reclamation are shown in **Appendix 1**.

### **4.3.2 Restoration**

Restoration of wetlands, for the purpose of mitigation, is an activity undertaken to return a wetland from a disturbed or altered condition with lesser acreage or fewer functions to a previous condition with greater wetlands acreage or functions. Wetlands that may be restored will be identified based on historical information in combination with existing soils, vegetation, and hydrology information. In these areas, several methods may be used to obtain the desired results.

Methods may involve any or all of the following:

- civil engineering techniques to restore topography and hydrology.
- placement of fill material to restore hydrology.
- removal of man-made structures to restore topography and hydrology.
- selective removal of unwanted or invasive vegetative species.
- design and construction of mitigation areas to mimic gently sloped or undulating forested wetlands.
- addition of specific native vegetative species (e.g., oak and other appropriate location-specific species) to achieve appropriate diversity.

The acreage of a restored site that can be used as mitigation will be based on the total restored acreage, the types of restored functions, and the types of wetlands that are involved.

### **4.3.3 Enhancement**

Enhancement of wetlands, for the purpose of mitigation, is any activity that increases the value of one or more functions in existing wetlands. Wetlands that can be enhanced will be identified based on historical information in combination with existing soils, vegetation, and hydrology information. In these areas, several methods may be used to obtain the desired results.

Methods may involve any or all of the following:

- civil engineering techniques to enhance topography and hydrology.
- placement of fill material to enhance hydrology.
- removal of man-made structures to enhance topography and hydrology.
- selective removal of unwanted or invasive vegetative species.
- addition of specific native vegetative species (e.g., oak and other appropriate location-specific species) to achieve appropriate diversity.
- design and construction of mitigation areas to mimic gently sloped or undulating forested wetlands.

The acreage of an enhanced site that can be used as mitigation will be based on the total enhanced acreage, the functions that are being enhanced, and the types of wetlands that are involved.

#### **4.3.4 Preservation**

Mitigation may be established, on-site, in areas where non-mined properties are designated as preservation areas. This type of mitigation would be supplemental to other processes. Nevertheless, they provide overall benefit to local and regional watersheds and aquatic environments due to their proximity to other mitigation areas. Use of this type of mitigation will only be granted by the USACE following discussions with the Fort Worth District.

#### **4.4 Revegetation of Uplands, Streams, and Created, Restored, and Enhanced Wetland Areas [332.4(c)(7)]**

Revegetation of mined lands and areas created, restored, and enhanced for mitigation will be conducted during the first normal period of favorable conditions using approved plant species that are appropriate for the season. Equipment commonly used for seedbed preparation, planting, and maintenance of agricultural lands will be used. Additional details regarding reclamation processes are located in the Reclamation Plan and Fish & Wildlife Plan contained in the RCT permit.

Herbaceous species will include a variety of native species. A variety of selected hardwood and shrub species are proposed in order to provide features that will enhance wildlife habitat, increase diversity, and provide cover and forage. See **Appendix 2, Table 144-1**. The selection of revegetation species will be based on water regime, topography, soils, the intended final species mix, and species availability. Seeds and other propagules and tree/shrub stock will be from local sources when possible. See Section 4.4.1 for detailed discussion regarding species selection for mitigation and reclamation areas.

In some mitigation areas, seed banking will be used as a method to introduce desirable vegetative species to a wetland or stream system. This method will only be used where feasible and when appropriate seed bank materials exist in close proximity to the work area.

#### **4.4.1 Species Selection for Mitigation and Revegetation**

##### **4.4.1.1 Selection of Preferred Species is Based on the Following Criteria**

- Reclamation should emphasize native plant species that occur locally; i.e., in the area to be revegetated. Mast producers, especially a diversity of oaks, walnuts, hickories, persimmon, and plums, are examples. They are important food and cover plants.
- Weedy, native invader species should be limited in the plan (e.g., ash, cottonwood, pine, sycamore, and willow). In general, such species have great capacity for natural dispersal and are adapted to disturbed soil sites. Under special conditions, specific species might be used for erosion control (e.g., creation of a “willow wattle”).
- Oaks, walnuts, and hickories should be planted because they have limited capacity for dispersal. In contrast, trees, shrubs, and woody vines with winged or fleshy fruits are dispersed by wind or animals. Thus, these plants can be provided more sparingly in the plan.
- Native plants are adapted to the local environment and will persist through periods of environmental stress. Most exotic plants cannot similarly persist and are also overrated as wildlife food and cover. However, a few exotic species can establish themselves by out-competing native plants. They then become serious persistent pests, difficult if not impossible to control or eradicate. Exotic species should, therefore, be omitted from permanent revegetation plans.

##### **4.4.1.2 Desirable Characteristics of Native Plants for Erosion Control and Wildlife Use**

Native plants considered for erosion control and wildlife use should possess as many of the following characteristics as possible.

- Thrive under specific climatic and soil conditions.
- Compete with other plant species occurring in these conditions.
- Cover as much area as possible. Desirable characteristics include spreading by stolons, runners, or rhizomes; forming thickets, mats, or coppices; rooting from decumbent or declining branches, or forming root shoots (suckers).
- Produce fertility-enriching litter with high water holding capacity.

- Inexpensive, readily available from local sites or nurseries, and easy to propagate and maintain. Use local seed or propagules.
- Rapid growing and long-lived.
- Possess hardy characteristics such as resistance or adaptability to grazing or browsing, drought, fire, shade, insect damage, and diseases; and grow rapidly on soils with a wide range of fertility and chemical characteristics.
- Produce dense foliage (deciduous and evergreen) stems, or thorns, preferably close to the ground.
- Produce seasonally abundant shoots, leaves, buds, and fruits that have high nutritive value for many species of animal life.
- Produce annual, persistent fruits that have high seed germination ratios.
- For tall-growing plants, they should not produce inhibitors that prevent other plant species from growing beneath them.
- Preferably, non-poisonous to man and livestock.

#### **4.4.1.3 Desirable Characteristics of Native Plant Associations for Erosion Control and Wildlife Use**

- Selected plants should be of the same local climatic and ecological region, topography, and soil conditions.
- Selected plants should be noncompetitive, i.e., compatible.
- The association should cover as much area as possible (overlapping canopies).
- The association should form at least two canopy layers above the soil surface.
- Selected plants should include a mixture of physical and habit forms (e.g., deciduous, evergreen, tree, shrub, vine, forb, grass).
- The association should provide annual, all-season fruits.
- The association should provide areas of adequate cover.
- Some components of the association should establish quickly and provide rapid growth.
- Selected plants should include at least one nitrogen-fixing species, if feasible.
- Planting should be arranged in irregular groups rather than uniform rows so that the association will produce a more natural form.

#### **4.4.1.4 Notes Related to Section 4.4.1 and Appendix 2 of the PLAN**

1. The information provided has been developed by the Texas Parks and Wildlife Department—Wildlife Division in conjunction with various mine operators within Texas. Special thanks to Kathy Boydston for her help and guidance in development of this information.
2. Species selection should emphasize plants native to the local area. Other factors important to the selection of plant species and their establishment and success include:
  - a) Physiographic features,
  - b) Land management considerations,
  - c) The amount of area to be developed,
  - d) Planting methods,
  - e) Plant material availability, and
  - f) Intended management during the period of extended responsibility.
3. Information provided in the species lists is not intended as a restrictive listing of species to be planted in reclamation. Other species may be planted as allowed by the regulatory authorities. Some of the listed species may not be planted due to plant material availability and propagation limitations.
4. Section 4.4.1 provides general guidance related to criteria and characteristics related to species selection for mitigation and revegetation. In keeping with the fact that this is general guidance, strict adherence with parts of this information may be difficult in some situations. This is due to factors such as: (1) the actual species planted; (2) species availability; (3) the type of mitigation proposed; or (4) the feasibility of implementing specific guidance. In some cases, the Applicant's past experience with large reclamation and mitigation projects provides methodologies that are proven to provide (1) better species survival, (2) the ability to meet the intent of regulations and permits, and (3) cost effectiveness.

#### **4.5 Erosion Repair [332.4(c)(7 and 8)]**

Erosion of landscapes is a naturally occurring process. The rate and extent of its occurrence are dependent on factors such as amount/intensity of rainfall, roughness of the land surface, slope length/steepness, soil type, vegetative cover, and erosion control practices. These factors are taken into consideration during regrading of disturbed areas to minimize erosion problems. Rills and gullies that may form in reclaimed areas and which either disrupt the reestablishment of the permanent vegetative cover, disrupt the land use, or cause/contribute to a violation of water

quality standards for receiving streams will be filled, regraded, or stabilized. The affected area will then be reseeded or replanted. Erosion control practices as described in Section 145 (included in the RCT permit) will be applied as needed.

#### **4.6 Implementation Schedule [332.3(m)]**

Implementation of actions covered by this Conceptual Mitigation Plan will be initiated, when possible, concurrently with the mine operation activities that impact waters of the U.S., including wetlands. In some instances immediate action is not possible due to SMCRA regulatory requirements; although these actions are typically implemented in a timely manner to maintain compliance with contemporaneous reclamation requirements [332.3(m)].

#### **5.0 SUCCESS CRITERIA AND PERFORMANCE STANDARDS FOR ANTICIPATED FUNCTIONS [332.4(c)(9) AND 332.5(a) AND (b)]**

The following information provides discussion of success criteria and performance standards for anticipated functions that result on reclaimed areas used for mitigation. These criteria and standards are provided by specific categories of waters of the U.S. or generally when applied to all categories. Details of anticipated functions are provided in Section 5.1 below, and a summary of functional assessment work is provided in Section 5.2.

##### Stream Channels

Success Criteria -

1. Stream channels will not exhibit adverse impacts from erosion, head cutting, and excessive silt accumulation.
2. Planted riparian zones will be measured to ensure ***they exhibit the following:***
  - ***a minimum of 25 feet on either side of created ephemeral streams***
  - ***a minimum of 50 feet on either side of created intermittent streams***
  - ***a minimum of 100 feet on either side of created perennial streams***
3. Stream restoration practices discussed in Section 4.2 will be utilized when necessary.

Variations to the above criteria may be necessary, if justified by local conditions during the five-year monitoring period. Plantings will be monitored and deficiencies rectified by replanting, controlling competing vegetation, guarding against herbivory, or installing temporary water control structures.

## Forested Wetlands

### Planting Success Criteria -

#### Tree and shrub plantings:

1. Five years after planting, a minimum density of **250** trees per acre will be established.
2. Eligible trees will be species detailed in Section 4.4 and **Appendix 2** of the PLAN.
3. If the density is less than the minimum five years after planting, the area will be replanted as necessary to achieve the minimum density five years after the most recent remedial planting.
4. Volunteer growth that meets the species and size criteria is eligible for counting.
5. Of the most dominant tree species in the planted area, three must be native species typically dominant in the local landscape.
6. No one species may constitute more than 30% of the surviving planted trees.

Variations to the above criteria may be necessary, if justified by local conditions during the five year monitoring period. Plantings will be monitored and deficiencies rectified by replanting, controlling competing vegetation, guarding against herbivory, or installing temporary water control structures. No water control structures are planned at this time beyond those typically used in the reclamation process.

## Non-forested Wetlands

### Planting Success Criteria -

#### Herbaceous plantings:

1. Planted areas will exhibit an 80% ground cover three years after planting.
2. If the ground cover is less than the minimum three years after planting, the area will be replanted as necessary to achieve the minimum density three years after the most recent remedial planting.
3. None of the three most dominant species may be non-native, noxious, or invasive species.

## Ponds

### Success Criteria -

1. Ponds proposed as permanent structures will not exhibit excessive bank erosion or silt accumulation.
2. Ponds proposed as permanent structures will be designed to meet RCT regulatory requirements.

## Shared Functions

### Success Criteria Related to -

Aesthetics  
Sediment retention  
Water storage  
Groundwater recharge  
Nutrient cycling  
Vegetation  
Wildlife habitat  
Water quality

1. Reclaimed areas will be aesthetically pleasing with no excessive erosion or bare soils.
2. Sediment retention in stream channels, ponds, and associated non-forested wetlands will not accumulate beyond levels that would impair water quality or aquatic life movements.
3. Water storage and groundwater storage will not be impaired by unnecessary water control structures.
4. Vegetation will be healthy and contribute to nutrient cycling, water quality, and wildlife habitat.
5. Water quality will meet regulatory standards of the RCT and the Texas Commission on Environmental Quality, if required for specific impoundments under regulatory control.

### Performance Standards

The permittee shall be responsible for maintaining the mitigation areas to comply with conditions above until such time as the permittee provides documentation to, and receives verification from the USACE, that areas within the property (designated as compensatory mitigation) meet the following requirements:

1. Waters of the U.S. meet the definition of a water of the U.S. under the Regulatory Program regulations applicable at the time the project is authorized.
2. Wetlands that are waters of the U.S. will meet the definition of a wetland under the Regulatory Program regulations applicable at the time the project is authorized.
3. Waters of the U.S. are functioning as the intended type of waters of the U.S., and at the level of ecological performance prescribed in the mitigation plan.
4. Buffer and riparian zones and other areas integral to the enhancement of the aquatic ecosystem are functioning as the intended type of ecosystem.

## **5.1 Anticipated Functions of On-Site Minimization Activities**

Detailed discussion of functions related to mitigation areas, resulting from reclamation, is provided for specific categories of waters of the U.S.

### **5.1.1 Stream Channels**

Mitigation areas designated as stream channels function to divert overland flow of rainfall, or in some cases, groundwater. Once reestablished or created, stream channels provide connections between open water areas and wetlands, and are complementary of adjacent vegetated upland areas. All areas together provide important enhancements, in terms of both acreage and function, to local aquatic environments and larger regional watersheds. Ultimately, the size and configuration of streams will be a function of the type of system and the size of the reestablished watershed basin.

The majority of areas bordering streams will be revegetated with permanent vegetative cover to create riparian areas. The goal of this revegetation effort is to enhance aquatic functions and increase overall ecological functioning of mitigation and aquatic resources in the area. This improves the overall mitigation plan and enhances streams by providing functional wildlife habitat, wildlife forage resources, runoff filtration (reduced silt loading to streams), moderation of water temperature changes, and detritus for aquatic food webs. Trees planted in riparian areas will be predominately hard mast bearing species that are limited or absent from the premine landscape.

### **5.1.2 Forested Wetlands**

Mitigation acreage categorized as forested wetlands includes designed wetlands. The function of these areas is related to tree species and can be short- and long-term. Short-term function relates to trees such as black willow and eastern cottonwood that fringe ponds or cover areas where appropriate hydrology exists. In these cases, the important function is to serve as short-term nurse trees for slower-

growing tree species. In appropriate areas, trees such as water oak, willow oak, and pecan (examples) will be planted with longer-term function as the goal.

### **5.1.3 Non-forested Wetlands**

Functions related to this wetland type are dependent on water depth, vegetation, and position in the landscape. Some of this created mitigation acreage is associated with ponds where water depth ranges from zero to 6.6 feet in depth. These areas are typical of shallow emergent wetland systems and function as wildlife habitats for terrestrial and aquatic species. Some non-forested wetlands consist of isolated depressional features in postmine reclamation. Many of these areas are small and only contain water during the spring and winter. Their main function is to provide habitat diversity in reclaimed areas. Other locations where these wetlands occur are adjacent to stream channels where a designed diversion of water occurs in areas that can contain overflows from rainfall events. These areas function as wildlife habitats by adding diversity to adjacent stream channels and land uses.

### **5.1.4 Ponds**

Ponds with water deeper than 6.6 feet function in a similar manner as existing premine ponds. Waterfowl use these areas for loafing and feeding. Aquatic vertebrates use them for feeding and reproduction. The larger ponds provide permanent water coverage and may function as livestock watering features in the future.

### **Shared Functions**

Functions shared by each category of water of the U.S. discussed above include (1) aesthetics, (2) sediment retention, (3) short- and long-term water storage, (4) groundwater recharge, (5) nutrient cycling, (6) accelerated succession of vegetation, and (7) wildlife habitats. In regard to water quality, each type of water of the U.S. functions to improve water quality.

## **5.2 Functional Assessment**

The Fort Worth District is working toward completing “Functional Assessment” evaluation tools (methodologies) for streams and wetlands using quantitative methodologies. The Fort Worth District has approved the use of “interim” methodologies for The Sabine Mining Company until the process to finalize their “functional assessment” methodologies is complete in the future. The interim methodologies are based on the WRAP—Wetland Rapid Assessment Procedure and Mobile SOP—Mobile District Compensatory Stream Mitigation Standard Operation Procedures and Guidelines that are existing (and in use) methodologies. Some modifications to the two procedures were implemented to adapt the methodologies to local conditions. Further, the methodologies will be used to quantify function of mitigation areas (created from reclamation) at the South

Hallsville No. 1 Mine. The data from the functional assessment of impacted waters of the U.S. and the mitigation areas will be used to evaluate the future projected potential of proposed compensatory mitigation for the project. The results of this effort, related to impacts within the Rusk Permit Area, will be final and will not be redone when the Fort Worth District's methodologies are finalized. However, given the interim nature of the "functional assessment" methodologies, through consultation with Fort Worth District, Sabine Mining Company requests the ability to implement any permanent "functional assessment" methodologies that may be adopted post approval of this application.

Note: Due to delays in finalizing the interim methodologies, the data summary and report is not complete at the time of submittal of this IP application. With Fort Worth District approval, this information will be allowed to be submitted at a later date and will be included in Appendix 3 of this Conceptual Mitigation Plan.

## **6.0 SITE PROTECTION [332.4(c)(4) AND 332.7(a)]**

***Applicant will provide site protection for reclaimed lands designated as mitigation in accordance with regulatory requirements and the 2008 mitigation rule titled, Compensatory Mitigation for Losses of Aquatic Resources. Site protection would be accomplished when mitigation acreage requirements projected in Section 2.1 of this mitigation plan are complete and have met performance standards discussed in this mitigation plan. Site protection cannot be fully implemented since these mitigation areas are not in place, have no exact dimensions, and no surveyed locations. The only exceptions to site protection for mitigation areas shall be easements in existence prior to authorization of the Individual Permit or new areas where owners of oil and gas mineral rights exercise drilling rights in the future.***

***Aquatic resources (mitigation areas) will be established in accordance with the reclamation timeline detailed below. Following completion of these activities, and upon meeting performance standards, a conservation easement (when possible) or deed restriction will be approved and in place within 365 days following Phase III release of property from the RCT performance bond for the entire RCT permit area or incremental parts of the permit area containing compensatory mitigation. Conservation easements may not be possible due to the limited number of willing third parties to hold binding contracts necessary for in perpetuity protection. Site protection restrictions shall not be removed from any established instruments, or modified, without written approval of the USACE, and conveyance of any interest in the property must be subject to the established instruments.***

### **Reclamation Timeline**

**The following is a description of reclamation milestones and associated timing as permitted through Railroad Commission of Texas Surface Mining and Reclamation Division for the Rusk Permit Area:**

- 1. Coal Removal – final coal removal initiates the timing sequence**
- 2. Backfilling and Grading – accomplishes approximate original contour, to be completed within 24 months of final coal removal**
- 3. Placement of suitable plant growth material – establishes growth medium, to be completed within 36 months of final coal removal**
- 4. Seeding and planting – establishes permanent vegetation in reclamation areas, to be completed during favorable planting period (March – June) or temporary vegetation to be established within 60 days of placement of suitable plant growth material**

**As mining and reclamation progress across the mine during the approximate 25-year life of the mine, mitigation areas will be designed and constructed. These areas are projected to be in the same general location of jurisdictional waters of the U.S., including wetlands, which existed prior to the mining operations. A large percentage of the mitigation to be created will be on-site and designated, by the 2008 mitigation rule, as permittee-responsible mitigation. Some of the on-site mitigation areas will occur on properties owned in fee by SWEPCO. As the owner in fee, SWEPCO will provide site protection in the form of conservation easements (when possible) or deed restrictions. The use of conservation easements will be pursued; however, this may not be a viable option in the short- or long-term if willing third-party conservation groups or other approved entities cannot be engaged. Drafts of both conservation easement and deed restriction documents will be provided to the Fort Worth District for review and approval and final executed documents will be provided to the Fort Worth District upon completion.**

**Additional mitigation may occur on lands for which only a “coal and lignite lease” is in place and for these lands SWEPCO does not own fee title to the land. The coal and lignite leases used for this proposed mine are typical for the region and do not authorize SWEPCO, the lessee, to impose on the land any sort of permanent use restriction, such as a conservation easement or deed restriction governing mitigation areas (such as might be appropriate for fee-owned land). SWEPCO does not have any legal right to leverage against a lessor; therefore, any formal requirements placed on Sabine/SWEPCO by the Fort Worth District that would mandate long-term site protection on leased properties (through conservation easements or protective covenants) would be imposing on Sabine/SWEPCO an obligation which Sabine/SWEPCO could not ensure would be met, due to the inability of Sabine/SWEPCO to unilaterally**

***force landowners to accept long-term site protection obligations on their property. In essence, formal requirements placed on leased properties compromise private property rights of landowners, cannot legally be placed on leased properties without landowner permission, and are not warranted for leased properties.***

***For mitigation areas located on lease properties, the Fort Worth District has the latitude, via permit conditions, to require additional mitigation as compensation for the lack of site protection that meets Fort Worth District requirements.***

### Liens and Encumbrances

There are no liens, restrictions, or other encumbrances that would preclude the Applicant from completing the proposed work.

### **7.0 ADAPTIVE MANAGEMENT [332.4(c)(12) AND 332.7(c)]**

Mitigation and compensatory mitigation areas that result from this PLAN are vulnerable (but no more so than any other reclaimed areas) to acts of nature such as wildfires, climatic instability, wildlife activities, and disease as well as unauthorized human activities that may cause the site to become non-compliant with the PLAN. Occurrence of such acts of nature following attainment of performance standards may require changes to the PLAN to allow for maintenance activities to offset and counteract negative impacts. Depending upon the circumstances, however, it may be appropriate to let nature take its course, particularly when wetland vegetation is expected to reestablish due to continued existence of seed sources, wetland hydrology, hydric soils, and restrictions on incompatible land uses. As appropriate, the Applicant will discuss options and management decisions on such issues with the USACE.

### **8.0 MONITORING AND LONG-TERM MANAGEMENT [332.4(c)(10-11); 332.6; AND 332.7(d)]**

The Applicant will ensure that sufficient financial resources are allocated to perform monitoring activities. Additionally, the Applicant will provide site protection, initially by deed restriction, for SWEPCO-owned property tracts associated with compensatory mitigation. Future long-term site protection is addressed in Section 6.0 of the PLAN. Long-term management practices conducted by The Sabine Mining Company following attainment of the performance standards may include such activities as:

1. Mechanical vegetation control,
2. Selective herbicide treatments,
3. Use of selected prescribed fire to mimic pre-settlement summer burns,

4. Planting nurse crops to suppress or compete with weed species,
5. Planting native herbaceous vegetation,
6. Selective tree removal to control insect-damaged, diseased, or storm-felled trees, (Although generally discouraged, these activities may be conducted in coordination with the USACE. In some instances, felling trees in place and leaving them on the ground will be acceptable to the USACE.),
7. Water regime management, and
8. Visual monitoring of activities (i.e., hunting, hiking, etc.) on the mitigation site.

### **8.1 Self-Monitoring and Reporting**

Applicant plans to establish and implement a self-monitoring program that includes the following actions:

1. Designation, in writing, of a responsible party or position, who shall coordinate with the USACE related to on-site inspections and compliance with permit conditions; and
2. Implementation of a reporting program ***that includes submittal of written compliance reports to the USACE, due October 1 each year. These reports will outline compliance with the special conditions, summarize all activities that occurred during the reporting period, and provide notification of completion of all authorized work. These reports will document the activities that have occurred from June 1 of the preceding year to May 31 of the reporting year.***

Compliance reports shall include at a minimum:

- a. The approximate acreage, location, type, and description of waters of the U.S. impacted during the reporting period;
- b. The approximate acreage, location, type, status, and completion date (actual or projected) of the ongoing mitigation that occurred during the reporting period;
- c. A description of the configuration of completed mitigation areas, including a topographic map showing the location and acreage of vegetation planted or waters of the U.S. created and supporting documentation including vegetative species and planting rates or stems per acre;
- d. Representative photographs of the progress and success of mitigation work accomplished under this permit; and
- e. A cumulative summary of impacted and created waters of the U.S., categorized into the following classes:

- 1) Forested Wetlands
- 2) Non-Forested Wetlands
- 3) Streams within Ordinary High Water Marks (OHWM)
- 4) Ponds within OHWM

## **9.0 FINANCIAL ASSURANCES [332.3(n) AND 332.4(c)(13)]**

***To ensure mitigation can be completed successfully, Applicant will develop sufficient financial assurance to meet regulatory requirements and guidance provided in the 2008 mitigation rule titled, Compensatory Mitigation for Losses of Aquatic Resources. The appropriate legal instrument, in the form of a performance bond, will be submitted to and approved as adequate by the Fort Worth District prior to construction or mining impacts to waters of the U.S. approved by the permit decision. The performance bond will be updated incrementally, when necessary, with the mine's progression across the permitted area. This will ensure new impacts are accounted for and other older mitigation areas meeting the required performance standards are removed from the bond calculation. Development of the financial assurance for mitigation areas will consider costs related to the following:***

- 1. Incremental impacts in five-year blocks matching the RCT permit process.***
- 2. Engineering design.***
- 3. Earth moving and construction.***
- 4. Vegetative plantings.***
- 5. Monitoring of mitigation areas in accordance with performance standards called out in Section 5.0 of this mitigation plan.***
- 6. Release from financial assurance requirements as performance standards are achieved.***

## **10.0 COMPENSATORY MITIGATION ALTERNATIVES**

In accordance with the 2008 mitigation regulations, the use of various forms of compensatory mitigation may be used to satisfy mitigation requirements. In special situations the need may arise to use mitigation bank credits, in-lieu fee arrangements, or separate activity-specific projects to fulfill all compensatory mitigation requirements. Use of these alternatives will only be considered following discussion with the USACE, Fort Worth District, and following a thorough investigation of potential on-site (defined as mitigation created by reclamation actions) and off-site compensatory mitigation opportunities. The proposed use of off-site locations for compensatory mitigation will not exempt the Applicant from reclamation requirements detailed in the RCT application or permit sections .144 and .145. Further, it is understood that reclamation activities will result in the creation of all or part of the mitigation, including compensatory mitigation, requirements of USACE permit authorizations for adverse impacts to waters of the U.S., including wetlands.

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## 11.1 Supporting Documentation

The following documents were used in preparation of the Individual Permit and Conceptual Mitigation Plan.

1. National Historic Preservation Act of 1966 (amended through 2000), Section 106.
2. Surface Mining Control and Reclamation Act of 1977 (Revisions through 1993).
3. USACE *1987 Wetlands Delineation Manual*.
4. Nationwide Permit 21 Guidance, October 6, 1999 [Fort Worth District].
5. Army Corps of Engineers Standard Operating Procedures for the Regulatory Program, dated October 15, 1999 [HQ].
6. Government Accounting Office (GAO) report entitled “Wetlands Protection—Assessments Needed to Determine Effectiveness of In-Lieu-Fee Mitigation”, published May 2001.
7. National Research Council (NRC) report entitled “Compensating for Wetland Losses Under the Clean Water Act”, published August 2001.
8. Regulatory Guidance Letter 02-02, December 24, 2002 [HQ].
9. Nationwide Permit 21 (Surface Coal Mining Activities), effective date March 18, 2002.
10. Nationwide Regional Conditions for the State of Texas, March 2002 and December 2007 [Fort Worth District].
11. National Wetlands Mitigation Action Plan, December 24, 2002.
12. Mitigation Guidelines, Regulatory Program, draft dated December 24, 2003 [Fort Worth District].
13. Standard Operating Procedures for NWP 21 Processing, March 19, 2004.
14. Guidance on compensatory mitigation, May 7, 2004 [Fort Worth District].
15. Joint Procedures Framework Memorandum of Understanding, effective date February 8, 2005 [Signatory agencies USACE, FWS, OSM, and EPA].
16. Regulatory Guidance Letter 05-03, August 4, 2005 [HQ].
17. The White House Council on Environmental Quality’s April 2006 document entitled “Conserving America’s Wetlands 2006: Two Years of Progress Implementing the President’s Goal”.
18. Proposed rule by the EPA and Corps of Engineers, “Compensatory Mitigation for Losses of Aquatic Resources”, March 28, 2006.
19. Regulatory Guidance Letter 06-03, Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Creation, Restoration, and/or Enhancement of Aquatic Resources, August 3, 2006.
20. Nationwide Permit 21 (Surface Coal Mining Operations), effective date March 19, 2007.
21. Federal Register (FR Vol. 72, No. 47, Monday, March 12, 2007, Notices) Notice of Reissuance of Nationwide Permits. The effective date for all NWPs, General Conditions, and Definitions is March 19, 2007.

22. Railroad Commission of Texas permit application submitted May 2009, for the Rusk Permit Area and subsequent “supplemental” documents submitted by Applicant.
23. Railroad Commission of Texas—Coal Mining Regulations (16 Texas Admin. Code §12.1 et seq.).
24. Federal Register (Vol. 73, No. 70, Thursday, April 10, 2008, Rules and Regulations) Compensatory Mitigation for Losses of Aquatic Resources.

## **APPENDIX 1: FIGURES**

### **Figure 1**

**Conceptual Plans for Wetland Reclamation [332.4(c)(7)]**

### **Figure 2**

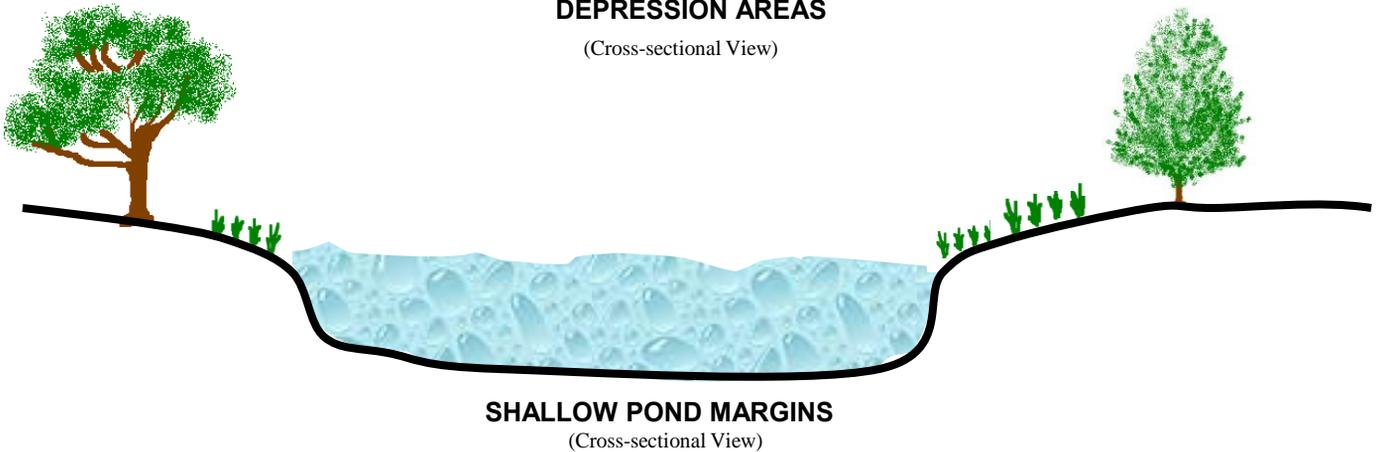
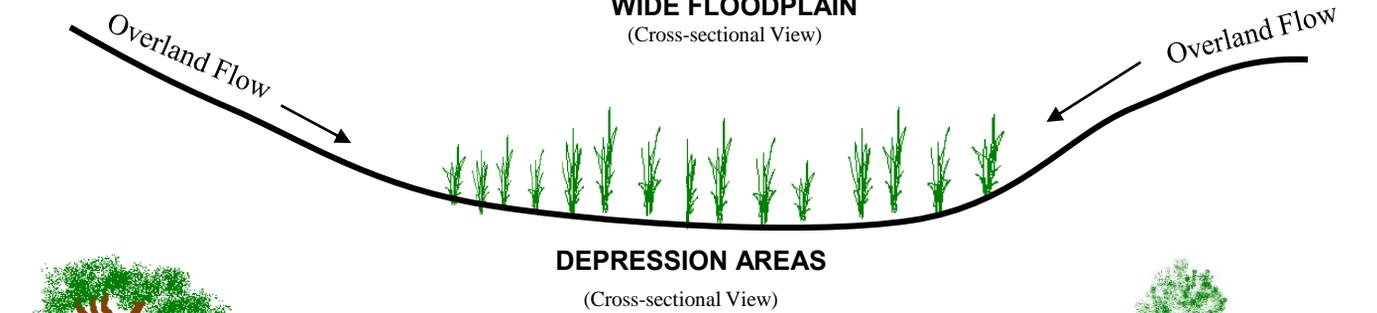
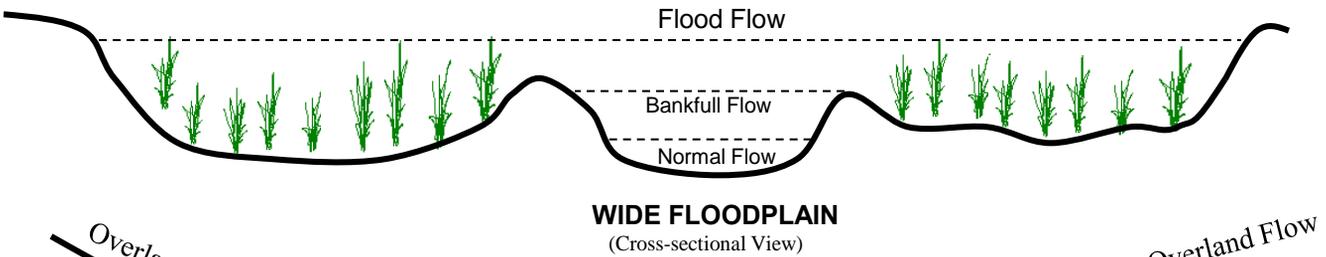
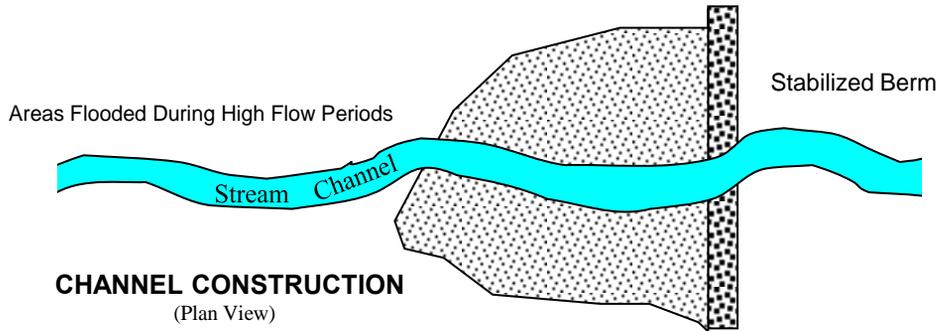
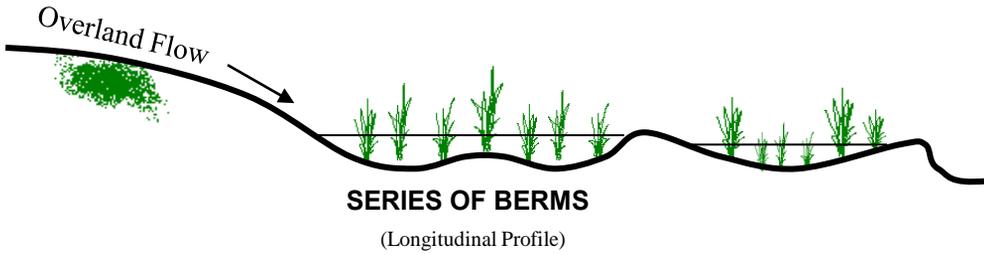
**Typical Cross-Sections for Reclaimed Stream Channel With and Without  
Wetland Area [332.4(c)(7)]**

### **Figure 3**

**Typical Section Restored Stream [332.4(c)(7)]**

# Figure 1

## Conceptual Plans for Wetland Reclamation



# Figure 2

## Typical Cross-sections for Reclaimed Stream Channel

### With and Without Wetland Area

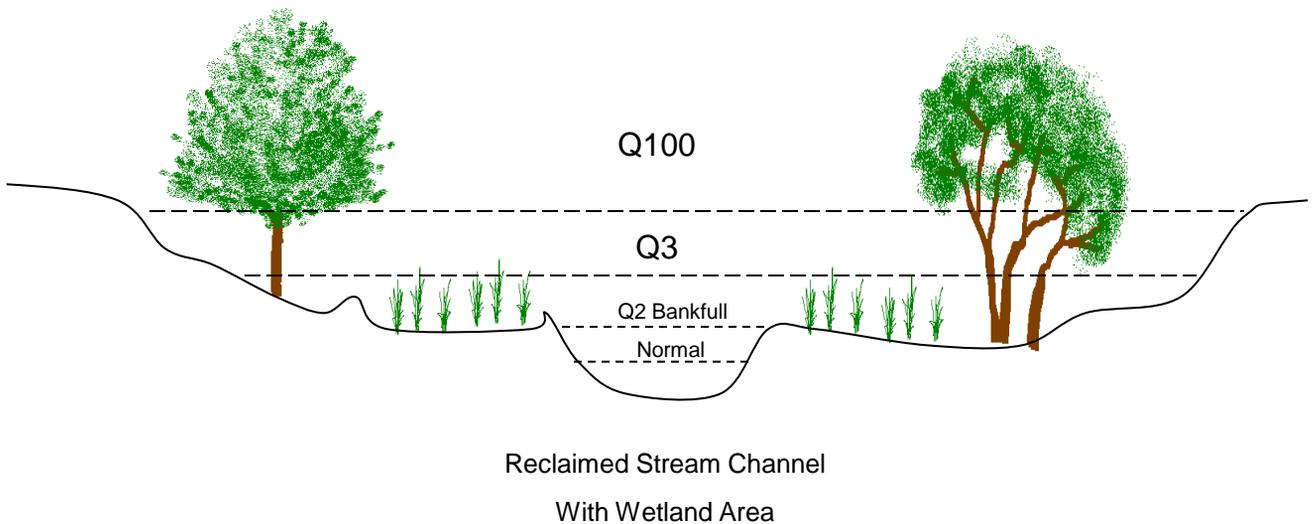
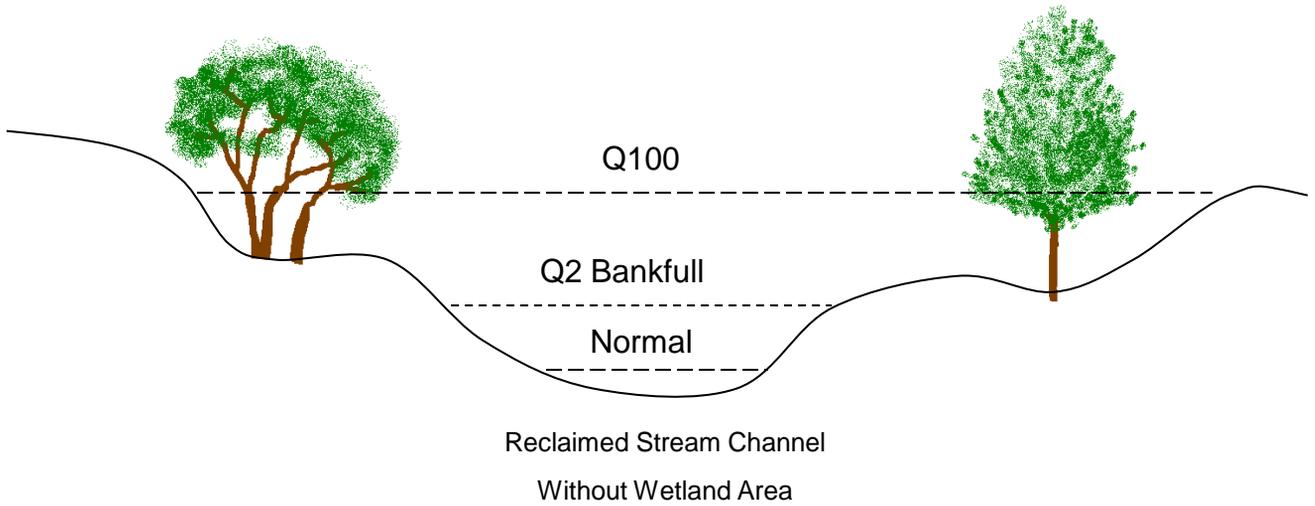
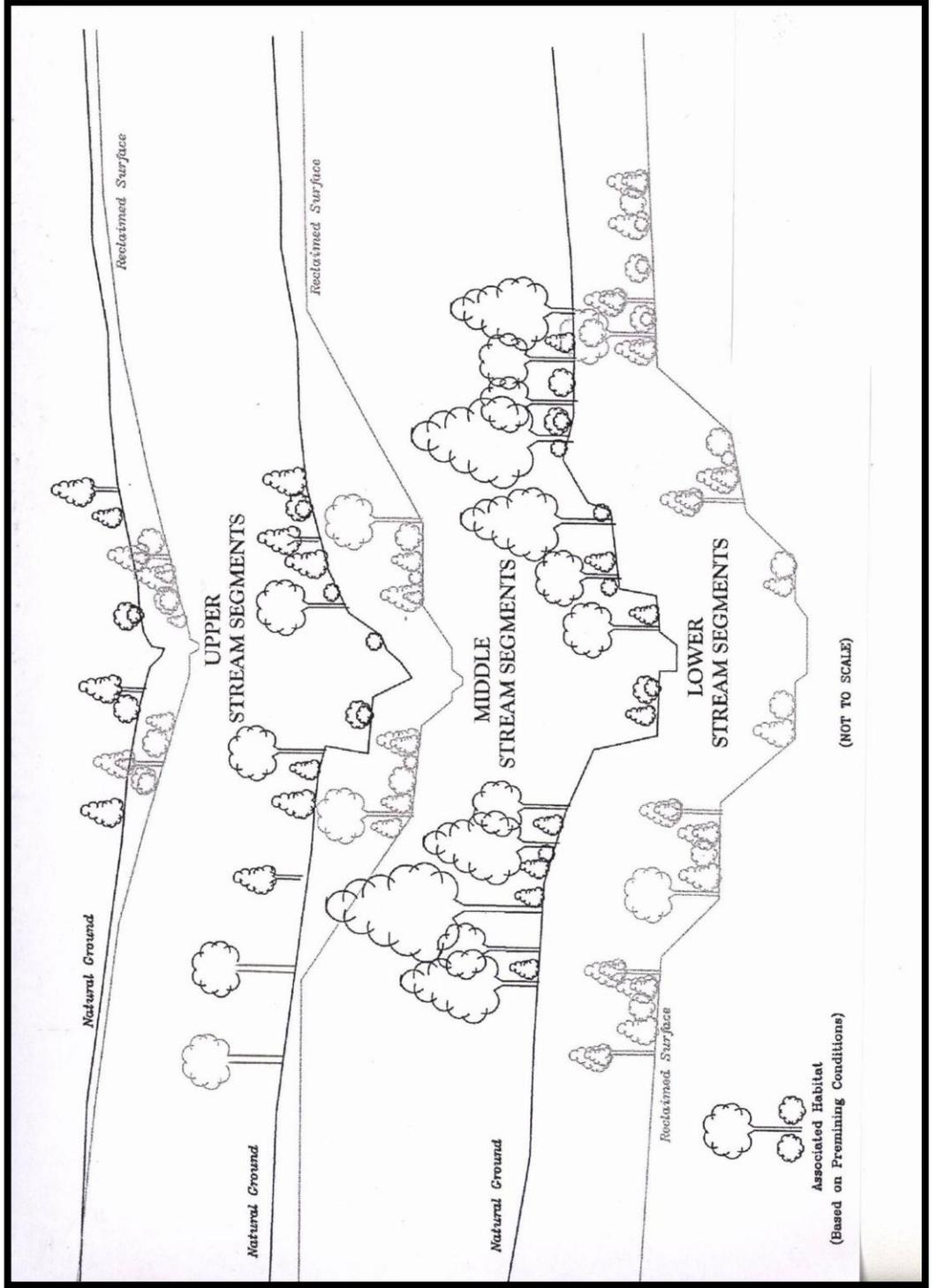


Figure 3  
Typical Section Restored Stream



## **APPENDIX 2: REVEGETATION LISTS**

Lists are from the South Hallsville No. 1 Mine—Rusk Permit Area Railroad Commission of Texas permit application (submitted May 2009), Sections .144 and .145.

**Table 144-1 Wildlife Value of Selected Plant Species [332.4(c)(7)]**

**Appendix 145-2 Planting and Invader Species List by Land Use [332.4(c)(7)]**

**Appendix 145-3 Native Plants Recommended for Possible Reclamation and Mitigation Value in Texas [332.4(c)(7)]**

**Table 144-1**  
**South Hallsville No. 1 Mine – Rusk Permit**  
**Wildlife Value of Selected Plant Species**

<u>Common Name</u>	<u>Food Value Rating<sup>a</sup></u>	<u>Cover Value Rating<sup>a</sup></u>
<i>Woody Species</i>		
Black Walnut	1	2
Persimmon	1	2
Texas Sugarberry	1	2
Hawthorn	1	1
Post Oak	1	1
Water Oak	1	1
Willow Oak	1	1
Southern Red Oak	1	1
Blackjack Oak	1	1
Bur Oak	1	1
Overcup Oak	1	1
Shumard Oak	1	1
Pecan	1	2
Red Mulberry	1	2
Sumac	1	1
Sweetgum	2	2
Wild Plum	1	1
Yaupon	1	1
River Birch	3	2
Hickory	1	2
Red Bud	2	2
Wild Cherry	1	1
Sassafras	1	1
American Elm	2	2
Cedar Elm	2	1
Dogwood	1	1
American Holly	1	1
Osage Orange	3	1
Arrow-Wood	1	2
American Beautyberry	1	2
Buttonbush	1	1
Possumhaw	1	1
Elderberry	1	1

Table 144-1  
(Continued)

<u>Vines</u>		
Pepper Vine	1	3
Virginia Creeper	1	1
Dewberry	1	1
Grape	1	1
Trumpet Creeper	2	1
Coralberry	1	1
<u>Grasses</u>		
Indiangrass	2	3
Switchgrass	1	2
Sideoats Grama	2	3
Green Sprangletop	3	3
Big Bluestem	3	2
Little Bluestem	3	2
Buffalo Grass	3	4
Eastern Gama Grass	3	3
Dropseed	2	3
<u>Forbs</u>		
Oats *	1	2
Winter Wheat *	1	3
Maximilian Sunflower	1	1
Illinois Bundleflower	2	2
Western Indigo	2	2
Common Sunflower	1	1
<u>Aquatic Species</u>		
Cattail	4	1
Rush	3	1
Millet *	1	2
Japanese Millet *	1	2
Smartweed	1	1
Pondweed	1	4
Sesbania	2	3
Cordgrass	4	1
Common Reed	4	1

<sup>a</sup> 1 = Excellent; 2 = Good; 3 = Fair; 4 = Limited

Source: Dickson and Vance (1981) Revegetating Surface Mined Lands for Wildlife in Texas and Oklahoma. USFWS. FBS/OBS-81/25.

\* Denotes species used only for temporary reclamation.

**APPENDIX 145-2  
PLANTING AND INVADER SPECIES LIST  
BY LAND USE**

**GRAZING:**

***Planting List***

- Green sprangletop - *Loptochioa dubia*
- Side oats grama - *Bouteloua curtipendula*
- Big blue stem - *Andropogon gerardii*
- Indiangrass – Cheyenne - *Sorghastrum nutans*
- Illinois bundleflower - *Desmanthus illinoensis*
- Partridge pea - *Cassia fasciculata*
- Switchgrass - *Panicum virgatum*
- Sunflower – black peredovik - *Helianthus Annuus*
- Iron clay cowpea - *Vigna unguiculata*
- Bluestem, Little - *Schizachyrium scoparium*
- Bluestem, Silver - *Bothriochloa laguroides*
- Fall panicum - *Panicum dichotomiflorum*
- Herbaceous mimosa - *Mimosa strigillosa*
- Buffalo grass - *Buchloe dactyloides*
- Indian paintbrush - *Castilleja sp.*
- Purple prairie clover - *Dalea purpurea*

***Approved Invaders and Volunteers***

- Crimson clover - *Trifolium incarnatum*
- Eastern baccharis - *Baccharis halimifolia*
- Hairy Vetch - *Vicia villosa*
- Sericea lespedeza - *Lespedeza cuneata*
- ***Can include approved pasture grasses from planting list***

**PASTURE:**

***Planting list***

- Bermudagrass, coastal - *Cynodon dactylon*
- Bermudagrass, common - *Cynodon dactylon*
- Bahiagrass – *Paspalum notatum*
- Crimson clover - *Trifolium incarnatum*
- ***Can include approved grasses from grazing planting list***

***Approved invaders and volunteers***

- Arrowleaf clover - *Trifolium vesiculosum*
- Hairy vetch - *Vicia villosa*
- ***Can include any grass from grazing approved invader list***

## FORESTRY:

### *Planting List*

#### Grasses

- Big blue stem - *Andropogon gerardii*
- Bluestem, Little - *Schizachyrium scoparium*
- Bluestem, Silver - *Bothriochloa laguroides*
- Buffalo grass - *Buchloe dactyloides*
- Fall panicum - *Panicum dichotomiflorum*
- Green sprangletop - *Loptochioa dubia*
- Green sprangletop (*Loptochioa dubia*)
- Herbaceous mimosa - *Mimosa strigillosa*
- Illinois bundleflower - *Desmanthus illinoensis*
- Indian paintbrush - *Castilleja sp.*
- Indiangrass – Cheyenne - *Sorghastrum nutans*
- Iron clay cowpea - *Vigna unguiculata*
- Partridge pea - *Cassia fasciculata*
- Purple prairie clover - *Dalea purpurea*
- Side oats grama - *Bouteloua curtipendula*
- Sunflower – black peredovik - *Helianthus Annuus*
- Sunflower – maximillian prairie gold - *Helianthus maximilianii*
- Switchgrass - *Panicum virgatum*

#### Trees

- Hickory, bitternut - *Carya cordiformis*
- Hickory, black - *Carya texana*
- Hickory, mockernut- *Carya tomentosa*)
- Hickory, shagbark - *Carya ovata*
- Hickory, water (Pecan, bitter) - *Carya aquatica*
- Maple, red - *Acer rubrum*
- Oak, black - *Quercus velutina*
- Oak, blackjack - *Quercus marilandica*
- Oak, bur - *Quercus macrocarpa*
- Oak, laurel - *Quercus laurifolia*
- Oak, overcup - *Quercus lyrata*
- Oak, post- *Quercus stellata*
- Oak, Shumard - *Quercus shumardii*
- Oak, southern red- *Quercus falcata*
- Oak, swamp chestnut - *Quercus michauxii*
- Oak, water- *Quercus nigra*
- Oak, white - *Quercus alba*
- Oak, willow - *Quercus phellos*
- Pecan - *Carya illnoensis*
- Pine, loblolly - *Pinus taeda*
- Pine, longleaf - *Pinus palustris*

- Pine, shortleaf - *Pinus echinata*
- Walnut, black - *Juglans nigra*

### **Approved Invaders and Volunteers**

#### Grasses

- **Can include approved invader grazing and pasture grasses**

#### Trees

- Basswood, Carolina (Linden)- *Tillia caroliniana*
- Beech, American - *Fagus grandifolia*
- Birch, river - *Betula nigra*
- Black-gum (Tupelo, black) - *Nyssa slyvatica*
- Boxelder - *Acer negundo*
- Cherry, black - *Prunus serotina*
- Coma (Bumelia, Chittamwood) - *Bumelias lanuginosa*
- Cypress, Bald - *Taxodium distichum*
- Dogwood, flowering - *Cornus florida*
- Dogwood, roughleaf - *Cornus drummondii*
- Elm, American - *Ulmus americana*
- Elm, cedar - *Ulmus crassifolia*
- Elm, slippery - *Ulmus rubra*
- Elm, winged - *Ulmus alata*
- Hackberries - *Celtis spp.*
- Holly, American - *Ilex opaca*
- Hornbeam, American (Beech, blue) - *Carpinus caroliniana*
- Hornbean, eastern hop- *Ostrya virginiana*
- Magnolia, southern - *Magnolia grandiflora*
- Mulberry, red - *Morus rubra*
- Osage Orange (horse-apple, bois d'arc) - *Maclura pomifera*
- Persimmon, common - *Diospyrus virginiana*
- Red Cedar, eastern - *Juniperus virginiana*
- Redbud, eastern - *Cercis canadensis*
- Sassafras - *Sassafras albidum*
- Sweetgum - *Liquidambar styraciflua*
- Tupelo, water - *Nyssa aquatica*
- Water Elm (Planetree) - *Planera aquatica*

#### **FISH AND WILDLIFE:**

- See Table 144-1 for a list of planting species approved by Texas Parks and Wildlife. SMC may plant any of these species for the purpose of developing fish and wildlife habitat.

#### **INDUSTRIAL/COMMERCIAL:**

- Plants may be selected from any of the above planting list for the purpose of controlling erosion.

## **APPENDIX 145-3**

# **NATIVE PLANTS RECOMMENDED FOR POSSIBLE RECLAMATION AND MITIGATION VALUE IN TEXAS**

## APPENDIX 145-1TPW

### Native Plants Recommended for Possible Reclamation and Mitigation Value in Texas (Erosion Control and Wildlife Use)

#### Trees

<i>Acer negundo</i>	Boxelder
<i>A. rubrum</i>	Maple, red
<i>Betula nigra</i>	Birch, river
<i>Bumelias lanuginosa</i>	Coma (Bumelia, Chittamwood)
<i>Carpinus caroliniana</i>	Hornbeam, American (Beech, blue)
<i>Carya tomentosa</i>	Hickory, mockernut
<i>C. aquatica</i>	_____, water (Pecan, bitter)
<i>C. cordiformis</i>	_____, bitternut
<i>C. illnoensis</i>	Pecan
<i>C. ovata</i>	Hickory, shagbark
<i>C. texana</i>	_____, black
<i>Celtis spp.</i>	Hackberries
<i>Cercis canadensis</i>	Redbud, eastern
<i>Cornus drummondii</i>	Dogwood, roughleaf
<i>C. florida</i>	_____, flowering
<i>Diospyrus virginiana</i>	Persimmon, common
<i>Fagus grandifolia</i>	Beech, American
<i>Ilex, opaca</i>	Holly, American
<i>Juglans nigra</i>	Walnut, black
<i>J. virginiana</i>	Red Cedar, eastern
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Maclura pomifera</i>	Osage Orange (horse-apple, bois d'arc)
<i>Magnolia grandiflora</i>	Magnolia, southern
<i>Morus rubra</i>	Mulberry, red
<i>Nyssa aquatica</i>	Tupelo, water
<i>N. sylvatica</i>	Black-gum (Tupelo, black)
<i>Ostrya virginiana</i>	Hornbeam, eastern hop
<i>Pinus echinata</i>	Pine, shortleaf
<i>P. palustris</i>	_____, longleaf
<i>P. taeda</i>	Pine, loblolly
<i>Planera aquatica</i>	Water Elm (Planetree)
<i>Prunus serotina</i>	Cherry, black
<i>Quercus alba</i>	Oak, white
<i>Q. falcata</i>	_____, southern red
<i>Q. laurifolia</i>	_____, laurel
<i>Q. lyrata</i>	_____, overcup
<i>Q. macrocarpa</i>	_____, bur
<i>Q. marilandica</i>	_____, blackjack
<i>Q. michauxii</i>	_____, swamp chestnut

<i>Q. nigra</i>	_____ , water
<i>Q. phellos</i>	_____ , willow
<i>Q. shumardii</i>	_____ , Shumard
<i>Q. stellata</i>	_____ , post
<i>Q. velutina</i>	_____ , black
<i>Sassafras albidum</i>	Sassafras
<i>Tilia caroliniana</i>	Basswood, Carolina (Linden)
<i>Toxodium distichum</i>	Baldcypress
<i>Ulmus alata</i>	Elm, winged
<i>U. americana</i>	_____ , American
<i>U. crassifolia</i>	_____ , cedar
<i>U. rubra</i>	_____ , slippery

### Shrubs

<i>Alnus serrulata</i>	Alder, hazel
<i>Asimina parviflora</i>	Pawpaw, dwarf
<i>A. triloba</i>	_____ , common
<i>Ascyrum hypericoides</i>	St. Andrew's cross
<i>Callicarpa americana</i>	Beautyberry, American
<i>Cephalanthus occidentalis</i>	Buttonbush, common
<i>Crataegus spp.</i>	Hawthorns
<i>Euonymus americanus</i>	Strawberrybush
<i>Foresteria acuminata</i>	Privet, swamp
<i>Ilex decidua</i>	Possum-haw (Holly, deciduous)
<i>I. vomitoria</i>	Yaupon
<i>Lindera benzoin</i>	Spicebush, common
<i>Myrica cerifera</i>	Wax-myrtle, southern
<i>Prunus angustifolia</i>	Plum, chicksaw
<i>P. umbellata</i>	Plum, flatwood
<i>Rhamnus caroliniana</i>	Buckthorn, Carolina
<i>Rhododendron spp.</i>	Azaleas
<i>Rhus spp.</i>	Sumacs
<i>Sambucus canadensis</i>	Elderberry, American
<i>Symphoricarpos orbiculatus</i>	Coralberry
<i>Vaccinium spp.</i>	Huckleberries, blueberries
<i>V. arboretum</i>	Farkleberry (Huckleberry, tree)
<i>Viburnum acerifolium</i>	Viburnum, mapleleaf
<i>V. dentatum</i>	Arrowwood, southern
<i>V. nudum</i>	Viburnum, possumhaw
<i>V. prunifolium</i>	Blackhaw
<i>V. rufidulum</i>	Viburnum, downy (Blackhaw, rusty)
<i>Zanthoxylum clava-herculis</i>	Hercules Club (Pricklyash)

### Vines

<i>Ampelopsis arborea</i>	Peppervine
<i>Berchemia scandens</i>	Supplejack, Alabama (Rattanvine)
<i>Bignonia carpreolata</i>	Crossvine
<i>Campsis radicans</i>	Trumpet-Creeper, common

*Cocculus carolinus*  
*Gelsemium sempervirens*  
*Lonicera sempervirens*  
*Parthenocissus quinquefolia*  
*Rubus* spp.  
*Smilax* spp.  
*Vitis* spp.

Snailseed, Carolina  
 Jessamine, Carolina (Jessamine, yellow)  
 Honeysuckle, trumpet  
 Creeper, Virginia  
 Blackberries, Dewberries  
 Greenbriars  
 Grapes

### Forbs

*Chamaecrista fasciculata*  
*Commelina* spp.  
*Coreopsis* spp.  
*Croton* spp.  
*Desmanthus illinoensis*  
*Desmodium sessilifolium*  
*Gaillardia* spp.  
*Helianthus* spp.  
*Laitris* spp.  
*Lupinus* spp.  
*Mimosa strigillosa*  
*Oenothera speciosa*  
*Rudbeckia* spp.  
*Ruellia* spp.  
*Schrankia nuttallii*  
*Strophostyles* spp.  
*Tephrosia virginiana*

Partridge Pea, (Senna, prairie)  
 Dayflowers  
 Coreopsis (Tickseeds)  
 Crotons  
 Bundleflower, Illinois (Mimosa, prairie)  
 Tickclover, sessileleaf  
 Indian blanket (Firewheels)  
 Sunflowers  
 Gayfeathers  
 Bluebonnets (Lupines)  
 Herbaceous mimosa  
 Evening Primrose, Mexican  
 Coneflowers (Brown-eyed Susans)  
 Ruellias (Wild-petunias)  
 Sensitivebriar, catclaw  
 Wildbeans  
 Tephrosia (Goat's rue)

### Grasses

*Andropogon gerardii*  
*A. virginicus*  
*Arundinaria gigantea*  
*Bothriochloa laguroides*  
*Bouteloa curtipendula*  
*B. gracilis*  
*B. hirsuta*  
*Buchloe dactyloides*  
*Chasmanthium latifolium*  
*C. sessiliflorum*  
*Dichantherium obligosanthes*  
*Elymus virginicus*  
*Leptochloa dubia*  
*Panicum anceps*  
*Panicum, obtusum*  
*P. virgatum*  
*Paspalum floridanum*  
*P. plicatulum*  
*Phragmites australis*

Bluestem, big  
 \_\_\_\_\_, broomsedge  
 Cane, giant  
 Bluestem, silver  
 Grama, sideoats  
 \_\_\_\_\_, blue  
 \_\_\_\_\_, hairy  
 Buffalograss  
 Oats, wild  
 Spikegrass, longleaf  
 Panicum, Scribners  
 Wildrye, Virginia  
 Sprangletop, green  
 Panicum, beaked  
 Vine-Mesquite  
 Switchgrass  
 Paspalum, Florida  
 \_\_\_\_\_, brownseed  
 Reed, common

*Schizachrium scoparium*  
*Sorghastrum nutans*  
*Tripsacum dactyloides*

Bluestem, little  
 Indiangrass, yellow  
 Gamagrass, eastern

### Marsh Plants

*Brasenia schreberi*  
*Cyperus esculentus*  
*Enchinochloa spp.* (natives)  
*Elocharis spp.*  
*Leersia oryzoides*  
 Lemnaceae  
*Leptochloa fascicularis*  
*Ludwigia spp.*  
*Najas quadalupensis*  
*Panicum dichtotomiflorum*  
*Paspalum boscianum*  
*Polygonum ssp.*  
*Potamogeton foliosus ssp.*  
*Sagittaria spp.*  
*Scirpus acutus ssp.*  
*S. americanus (S. olneyi)*

Watershield, Schreber  
 Nutgrass, yellow (Chufa)  
 Barnyardgrasses  
 Spikerushes  
 Cutgrass, rice  
 Duckweeds  
 Spangletop, bearded  
 Water Primrose  
 Naiad, southern  
 Panicum, fall  
 Paspalum, bull  
 Smartweed  
 Pondweed, leafy  
 Arrowheads  
 Bulrush, hardstem  
 \_\_\_\_\_, Olney

## **APPENDIX 3: FUNCTIONAL ASSESSMENT**

**Note:** Refer to **Functional Assessment** Section 5.2, pages 22-23 of this document (Attachment J, Conceptual Mitigation Plan) for the following:

“Due to delays in finalizing the interim methodologies, the data summary and report is not complete at the time of submittal of this IP application. With Fort Worth District approval, this information will be allowed to be submitted at a later date and will be included in Appendix 3 of this Conceptual Mitigation Plan.”

***Functional Assessment Report provided March 2010***

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# Functional Assessment of Waters of the U.S. Report

## Sabine Mine – Rusk Permit Area

Prepared for:

The Sabine Mining Company



Prepared by:



HDR Engineering, Inc.  
17111 Preston Road, Suite 200  
Dallas, Texas 75248

March 2010

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### Appendices

Appendix A: WRAP and Stream Data Sheets  
Appendix B: Representative Site Photographs  
Appendix C: Map

## 1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Fort Worth District, Regulatory Branch has required the Sabine Mining Company (SMC) to perform a functional assessment of the waters of the U.S. in The Rusk Permit Area in conjunction with the individual permit application number SWF-2007-00560. The USACE Fort Worth District is currently developing functional assessment models for wetland and stream resources within the boundaries of the Fort Worth and Tulsa Districts in Texas. These models will allow the USACE to quantify the functional condition of waters of the U.S. and aid calculation of adverse impacts and mitigation compensation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The Fort Worth District has approved the use of “interim” methodologies for The Sabine Mining Company until the “functional assessment” methodologies for use in the Fort Worth District are complete.

The interim methodologies are based on the Wetland Rapid Assessment Procedure (WRAP) and Mobile District Compensatory Stream Mitigation Standard Operation Procedures and Guidelines (Mobile SOP) that are existing methodologies being utilized in other USACE districts. Some modifications to the two procedures were implemented to adapt the methodologies to local conditions. Further, the methodologies will be used to quantify function of reference mitigation areas (created from reclamation) at the South Hallsville No. 1 Mine. The data from the functional assessment of impacted waters of the U.S. and the reference mitigation areas will be used to evaluate the projected compensatory mitigation for the project.

The purpose of this report is to describe the interim methodologies used for the functional assessment at the Rusk Permit Area and present the results from this functional assessment.

## 2.0 METHODS

### 2.1 Wetlands

The interim methodology selected for assessing wetlands for this project is the WRAP (Miller and Gunsalus 1999). This method was selected based on a review and evaluation of existing available methods, the needs of SMC, and the prior use at a North American Coal project in Mississippi. SMC proposed and the USACE Fort Worth District approved using WRAP as the interim methodology for assessing wetlands at the Rusk Permit Area.

WRAP is a rating index for individual ecological and anthropogenic factors that provides a combined score (between zero and one) used to evaluate current wetland condition. The six variables assessed in the WRAP methodology are:

- Wildlife Utilization,
- Wetland Overstory/Shrub Canopy,
- Wetland Vegetative Ground Cover,
- Adjacent Upland Support/Wetland Buffer,
- Field Indicators of Wetland Hydrology, and
- Water Quality Input and Treatment System.

Each variable is scored between zero (0) and three (3) based on a set of calibration descriptions. Additionally, the scores for the Adjacent Upland Support/Wetland Buffer and Water Quality Input and Treatment System variables are calculated from the sum of subtotals for the

percent of the area with each particular score (see WRAP data sheet in Appendix A). The overall score is calculated by summing the scores for the six variables and dividing by the total possible score (18 unless one of the variables is not applicable, then 15). Even though the WRAP was developed in Florida, the scoring descriptions are general enough to apply to the project area.

For assessing conditions of reference wetlands (created from reclamation) at the South Hallsville No. 1 Mine, the Water Quality Input and Treatment System variable was refined to give the “reclamation” land use and pre-treatment category a score of 2.5 based on the condition of these areas. A score of 2.5 is justified for reclamation areas due to the high standards for bond release of mine reclamation areas and the healthy condition of vegetation that ensure storm-water runoff quality is moderately high and nearly that of natural undeveloped areas.

The WRAP was performed in the field for a representative sample of the pre-mine wetlands (both forested and non-forested) in the Rusk Permit Area. The WRAP was also performed on reference mitigation wetlands (post-mining wetlands created from reclamation) at the South Hallsville No. 1 Mine. The assessment of reclamation wetlands consisted of non-forested, forested, and potential forested (likely to become forested based on presence of healthy seedlings/saplings) wetlands of various ages (time since completion of reclamation). Within this report the reference wetlands are labeled with a prefix of WR- for the wetland ID.

For the representative and reference wetlands, each WRAP variable was evaluated and scored in the field with observations documented on the WRAP data sheet (see Appendix A). In the office, the percent of the buffer type, land use category, and pre-treatment category surrounding each wetland was confirmed using GIS and recent aerial photography. The overall WRAP score was then calculated for each representative and reference wetland.

In the Rusk Permit Area, each wetland that was impacted (based on Table E-1 in the individual permit application) was assigned a WRAP score from a representative wetland based on the similarity to that representative wetland from on-site observations and aerial photography. The functional impact to each wetland was calculated by multiplying the acres of impact (based on Table E-1 in the individual permit application) by the sum of one plus the WRAP score.

$$\text{Functional Impact} = \text{Acres of Impact} \times (1 + \text{WRAP Score})$$

This formula is used to standardize the functional impacts based on the WRAP score and is not a mitigation multiplier. This formula would not over-compensate for low quality wetlands that should be compensated at a one-to-one ratio since a similar formula (shown below) is used to calculate the projected acres of wetland reclamation needed to compensate for the functional impacts. This formula also follows the example of other assessment methodologies (e.g., the Hydrogeomorphic [HGM] approach and Habitat Evaluation Procedures [HEP]) that use an overall assessment score or index multiplied by a spatial measure to generate units (e.g., functional capacity in HGM or habitat in HEP).

The total functional impacts for forested and non-forested wetlands in the Rusk Permit Area were calculated from the sum of the functional impacts to the individual wetlands.

The average WRAP score was calculated for the non-forested and forested reference wetlands. The average WRAP score for the reference forested wetlands included the scores for the

potential forested wetlands since these wetlands are likely to become forested wetlands based on the density and vigor of tree seedlings and saplings present in the wetland.

The average WRAP score for reference forested and non-forested wetlands was used to calculate the projected acres of wetland reclamation needed to compensate for the total functional impacts by wetland type.

$$\begin{aligned} &\text{Projected Acres of Wetland Reclamation} \\ &= \text{Total Functional Impacts by Wetland Type} / (1 + \text{Average Reference WRAP Score}) \end{aligned}$$

This formula has an inverse relationship to the formula used to calculate the functional impacts (shown above) and provides an acreage that allows comparison with the acres of impact. This comparison can be used to evaluate the projected functional replacement for the impacted wetlands. However, this analysis does not consider temporal or other mitigation factors that may be considered by the USACE in determining mitigation requirements.

## 2.2 Streams

The interim methodology selected for assessing streams for this project is the Mobile SOP (USACE 2009). This method was selected based on a review and evaluation of existing available methods, the needs of SMC, and the prior use at a North American Coal project in Mississippi. SMC proposed and the USACE Fort Worth District approved using the Mobile SOP as the interim methodology for assessing streams at the Rusk Permit Area.

The Mobile SOP is a method for assessing stream impacts as well as the projected stream mitigation. The functional impacts (i.e., debits) are determined by multiplying linear feet by a total multiplier derived from the following factors: stream type, priority area, existing channel condition, impact duration, dominant impact type, and cumulative impact. The existing channel condition was evaluated in the field based on observations of a stream's bank erosion, degree of incision, channel widening, sediment deposition, access to the floodplain, and bank vegetation (see stream data sheets in Appendix A). Based on these characteristics a stream was assigned an existing channel condition of fully functional, somewhat impaired, or impaired. For streams that could not be evaluated in the field due to lack of property access, the existing channel condition was inferred based on aerial photography, watershed characteristics, and the condition of similar resources in the region. The stream type and priority area factors for each stream were assigned in the office based on the guidance in the Mobile SOP. The Mobile SOP specifies that "impacts to ephemeral streams will be addressed as wetland impacts." Therefore, this functional assessment using the Mobile SOP will not evaluate ephemeral streams, and the impacts to and mitigation for ephemeral streams will be based on total acreage.

The values used for the impact duration and dominant impact factors have been revised to reflect the type of impact and mitigation timing that is specific to surface coal mining operations. For example, the Mobile SOP contains categories of temporary, recurrent, or permanent for duration of the impact. The Mobile SOP defines temporary as meaning "impacts will occur within a period of less than 6 months and recovery of system integrity will follow cessation of the permitted activity" and permanent as meaning "project impacts will be permanent or will occur during spawning or growth periods for Federal and/or State protected species." During typical coal mining operations a stream with a watershed greater than 640 acres that would be impacted would be relocated/diverted around the mine block before beginning operations and would result in only a brief (temporary) interruption to stream flow. Although some stream

functions would be lost for a period of time in the newly constructed streambed, the mining and reclamation of a block may go on for as long as five to ten years, so it is likely that a stream relocated in accordance with the Mobile SOP to “reflect the dimension, pattern, and profile of natural reference stable conditions” would provide for recovery of system integrity and many stream functions. Studies at the Red Hills Mine in Mississippi have shown that the water and habitat quality in relocated/diverted streams achieve functional quality similar to natural streams in the area that have been impaired by forestry, transportation, and agricultural development. The majority of the streams in the Rusk Permit Area are somewhat impaired due to past land use, oil/gas activities, and crossings for county roads and highways, whereas streams created in reclamation at the South Hallsville No. 1 Mine are fully functional to slightly impaired (depending on the stage of reclamation) with comparable in-stream and riparian habitat to streams in the area. Impacted streams that are not diverted would be restored during the reclamation process following the impacts due to mining activities. Thus the “recovery of system integrity” and functional replacement is anticipated following reclamation. Since the duration of impact is greater than 6 months (i.e., “long-term”), but is not permanent, the factor used for duration is the average of temporary (0.05) and permanent (0.3) which is 0.175.

The dominant impact factor used under this approach is morphologic change. The Mobile SOP defines morphologic change as “to channelize, dredge, or otherwise alter established or natural dimensions, depths, or limits of a stream corridor.” The Mobile SOP also notes that the “relocation of a stream is considered fill under these guidelines when the relocation is conducted to allow development of the area where the stream previously was located.” The Mobile SOP defines fill as “permanent fill of a stream channel due to construction of dams or weirs, relocation of a stream channel (even if a new stream channel is constructed) or other fill activities.” Use of morphologic change as the dominant impact factor as opposed to fill is appropriate in the context of this coal mining operation primarily because the streams are not permanently relocated “in order to allow development” (surface coal mining does not constitute “development” in the usual sense), and the dominant impacts to the existing streams would not constitute “permanent fill” as defined in the Mobile SOP. The Mobile SOP defines impoundment as “to convert a stream to a lentic state with a dam or other detention/control structure that is not designed to pass normal flows below bankfull stage.” Some stream segments are impounded during mining activities for sediment control and water quality measures; however, these impoundments are not permanent, and most would be removed (or significantly downsized) during the reclamation process following mining activities. Thus the stream impacts associated with mining activities in the Rusk Permit Area do not constitute permanent fill, and the dominant impact is morphologic change.

The cumulative impact factor used in the Mobile SOP must also be revised to reflect surface coal mining operations. The Mobile SOP assumes that “the greater the linear distance affected by the impact the greater the impact.” However, it is inappropriate to calculate a value for the cumulative impact factor based on the entire length of a stream that will be impacted over the life of the mine since mining activities will impact streams incrementally. Mining activities that begin in the lower portion of a watershed will not cause a cumulative impact to the upstream reach of a stream. A given mine block may have a duration of five years, during which streams outside the mine block and its associated infrastructure will not be impacted. Reclamation will also be occurring on streams as mining progresses, so a portion of the stream will be restored as impacts to other portions of the stream are occurring. Impacted streams that are relocated/diverted around the mine block would not cause a cumulative impact to the upstream or downstream portions of the stream since the upstream portion would not be impacted and the downstream portion would experience only a temporary interruption to stream flow. Stream impacts beyond the first five-year permit term have not been calculated by each five-year mine

block, so calculating the cumulative impact factor for these stream impacts is not warranted. Calculating the stream impacts by mine block would also overly-complicate the calculation of the cumulative impact factor and the impacts associated with each 404 permit term. Given the incremental nature of surface coal mining operations through the use of mine blocks and the reclamation process, the cumulative impact factor will not be used outside of the first five-year disturbance boundary.

Reference streams restored in the reclamation area at the South Hallsville No. 1 Mine were evaluated using the Mobile SOP for net benefit of mitigation related to channel condition, bank stability, in-stream habitat, and riparian habitat to demonstrate the projected stream mitigation credit that would be generated by reference reclamation streams. Within this report the reference streams are labeled with a prefix of SR- for the stream ID. The Mobile SOP calculates mitigation credit separately for in-stream work and riparian buffer work. The in-stream credits are determined by multiplying linear feet by a total multiplier derived from the following factors: stream type, priority area, existing condition, net benefit, bank stability, in-stream habitat, and timing of mitigation. The riparian buffer credits are determined by multiplying linear feet by a total multiplier derived from the following factors: stream type, priority area, net benefit for stream side A, net benefit for stream side B, system protection credit, timing of mitigation for stream side A, and timing of mitigation for stream side B. For this projection of mitigation credit, a 1,000 linear-foot reach of each reference stream was evaluated and utilized for the calculations. The projected mitigation functional credit and functional impacts may be compared using the ratios of functional credit to linear feet reclaimed/restored and functional impacts to linear feet of impact.

The existing condition factor used in the calculation of in-stream functional credit is not the existing condition of the reference streams at the South Hallsville No. 1 Mine since these streams have already been restored during reclamation. Rather, the existing condition factor used in the mitigation calculations is the channel condition prior to restoration. For this projection of mitigation credit, the somewhat impaired factor is used for the condition of the streams that existed prior to mining and reclamation based on the assessment of the predominant channel condition of the streams in the Rusk Permit Area as well as similar streams in the region.

The Mobile SOP includes a mitigation factor that reduces mitigation credits by 50 percent for stream mitigation that is located within one mile of the upstream end of an existing or proposed man-made lake and flows into the lake. The only justification for this reduction that is provided in the Mobile SOP is that stream mitigation should be conducted on free flowing streams. Although this mitigation factor may be appropriate in some regions, it is not justified for the aquatic systems found in East Texas and in the Rusk Permit Area. The streams in the Rusk Permit Area as well as those found in the South Hallsville No. 1 Mine reclamation area have a gradient that is high enough that the influence of impoundments on stream flow does not extend beyond the immediate vicinity of the upstream end of the impoundment. In addition, impoundments can serve as a refuge for aquatic organisms (e.g., invertebrates, fish, and frogs) during extended periods of drought and allow faster re-colonization of streams once flow returns. Therefore, downstream impoundments would not have an overall negative impact to the function of stream restoration in mine reclamation areas and may provide enhancements for aquatic species. Thus the use of the mitigation factor from the Mobile SOP is not justified and will not be applied in the projection of mitigation credits generated by reclamation using reference streams at the South Hallsville No. 1 Mine.

### 3.0 RESULTS

#### 3.1 Wetlands

The results of the functional assessment for wetland waters of the U.S. at the Rusk Permit Area and for the reference reclamation wetlands at the South Hallsville No. 1 Mine are reported below. The WRAP data sheets for the representative and reference wetlands can be found in Appendix A. Representative site photographs are located in Appendix B, and a map is located in Appendix C.

The WRAP scores for the representative forested wetlands at the Rusk Permit Area ranged from 0.61 to 0.93. The WRAP scores for the representative non-forested wetlands at the Rusk Permit Area ranged from 0.37 to 0.78. Table 1 below depicts the score for each WRAP variable as well as the overall WRAP score for the representative forested and non-forested wetlands in the Rusk Permit Area.

**Table 1. WRAP Scores for Representative Wetlands in the Rusk Permit Area**

Wetland ID	Type	Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)	Habitat Support/ Buffer	Field Hydrology (HYD)	Water Quality Input and Treatment (WQ)	WRAP Score
WF-102	Forested	2	1	2	2	2	2.9	0.66
WF-129	Forested	3	3	3	2.3	2.5	2.2	0.89
WF-134	Forested	2.5	3	3	2.9	2.5	2.8	0.93
WF-137	Forested	2.5	2.5	3	2.75	2.5	2.65	0.88
WF-143	Forested	2	1.5	2	2.9	2	2.73	0.73
WF-151	Forested	2.5	3	2	2.95	2.5	2.6	0.86
WF-169	Forested	2.5	2.5	2.5	2.8	1.5	2.6	0.80
WF-174	Forested	2.5	2.5	2.5	3	2	2.93	0.86
WF-202	Forested	2	1	2	2	2	1.98	0.61
WF-206	Forested	2.5	2	1.5	2.85	2	2.8	0.76
WN-34	Non-forested	1.5	N/A	1	0.5	2	0.6	0.37
WN-35	Non-forested	2	1	1	0.85	1.5	1	0.41
WN-37	Non-forested	2	2	2	1.7	2.5	2.3	0.69
WN-38	Non-forested	2	N/A	3	1.9	2	2.73	0.78

The functional impacts were calculated from the acres of impact to each wetland and the WRAP score for that wetland using the functional impact formula described in section 2.1 above. A table of the acres of impact, WRAP score, and functional impact for each individual wetland is included in Table 2 below. As depicted in the WRAP scores in Table 2, the majority of the non-forested wetlands in the Rusk Permit Area are heavily disturbed, cleared areas or areas that were cleared in the past and are now used for livestock grazing. The functional impacts calculated for forested wetlands is 269.58, and the functional impacts calculated for non-forested wetlands is 92.17, for total functional impacts in the Rusk Permit Area of 361.75.

**Table 2. Functional Impact by Wetland in the Rusk Permit Area**

Wetland ID	Type	Acres of Impact	WRAP Score	Functional Impact*
WF-8	Forested	0.02	0.61	0.03
WF-13	Forested	0.05	0.73	0.09
WF-14	Forested	0.10	0.73	0.17
WF-15	Forested	0.21	0.80	0.38
WF-17	Forested	0.02	0.89	0.04
WF-18	Forested	0.13	0.89	0.25
WF-19	Forested	0.23	0.89	0.43
WF-20	Forested	0.24	0.93	0.46
WF-21	Forested	0.06	0.93	0.12
WF-22	Forested	0.18	0.89	0.34
WF-23	Forested	0.12	0.93	0.23
WF-24	Forested	0.13	0.89	0.25
WF-25	Forested	0.03	0.89	0.06
WF-26	Forested	0.10	0.80	0.18
WF-27	Forested	0.37	0.80	0.67
WF-28	Forested	0.22	0.80	0.40
WF-29	Forested	0.09	0.88	0.17
WF-30	Forested	0.17	0.88	0.32
WF-31	Forested	0.12	0.80	0.22
WF-32	Forested	0.06	0.66	0.10
WF-33	Forested	0.75	0.73	1.30
WF-34	Forested	0.14	0.76	0.25
WF-74	Forested	0.28	0.80	0.50
WF-80	Forested	0.22	0.80	0.40
WF-81	Forested	0.10	0.76	0.18
WF-91	Forested	0.33	0.80	0.59
WF-102	Forested	1.33	0.66	2.21
WF-103	Forested	0.37	0.73	0.64
WF-104	Forested	0.09	0.61	0.14
WF-105	Forested	1.54	0.76	2.71
WF-106	Forested	0.33	0.76	0.58
WF-128	Forested	6.74	0.89	12.74
WF-129	Forested	17.79	0.89	33.62
WF-130	Forested	1.42	0.89	2.68
WF-131	Forested	2.62	0.88	4.93
WF-132	Forested	17.74	0.76	31.22
WF-133	Forested	29.92	0.76	52.66
WF-134	Forested	2.71	0.93	5.23
WF-137	Forested	1.07	0.88	2.01
WF-140	Forested	0.65	0.88	1.22
WF-142	Forested	6.25	0.61	10.06
WF-143	Forested	8.67	0.73	15.00
WF-150	Forested	0.37	0.66	0.61
WF-151	Forested	6.36	0.86	11.83
WF-154	Forested	0.31	0.86	0.58
WF-157	Forested	1.21	0.86	2.25
WF-158	Forested	0.20	0.86	0.37
WF-169	Forested	8.54	0.80	15.37
WF-189	Forested	2.05	0.86	3.81

Wetland ID	Type	Acres of Impact	WRAP Score	Functional Impact*
WF-190	Forested	1.56	0.86	2.90
WF-191	Forested	0.46	0.76	0.81
WF-192	Forested	0.04	0.88	0.08
WF-193	Forested	0.08	0.86	0.15
WF-194	Forested	0.08	0.88	0.15
WF-195	Forested	0.15	0.76	0.26
WF-196	Forested	0.09	0.88	0.17
WF-197	Forested	0.05	0.88	0.09
WF-200	Forested	11.44	0.76	20.13
WF-202	Forested	6.71	0.61	10.80
WF-203	Forested	0.41	0.61	0.66
WF-204	Forested	0.77	0.61	1.24
WF-205	Forested	0.39	0.61	0.63
WF-206	Forested	6.20	0.76	10.91
WN-3	Non-forested	0.19	0.41	0.27
WN-5	Non-forested	0.20	0.41	0.28
WN-7	Non-forested	0.07	0.41	0.10
WN-8	Non-forested	0.04	0.41	0.06
WN-9	Non-forested	0.001	0.41	0.001
WN-10	Non-forested	0.10	0.41	0.14
WN-11	Non-forested	0.08	0.41	0.11
WN-12	Non-forested	0.05	0.41	0.07
WN-13	Non-forested	0.02	0.41	0.03
WN-14	Non-forested	0.03	0.41	0.04
WN-15	Non-forested	0.32	0.41	0.45
WN-16	Non-forested	0.16	0.41	0.23
WN-17	Non-forested	0.20	0.41	0.28
WN-18	Non-forested	0.18	0.41	0.25
WN-19	Non-forested	0.10	0.41	0.14
WN-21	Non-forested	2.58	0.41	3.64
WN-22	Non-forested	0.12	0.41	0.17
WN-23	Non-forested	0.07	0.41	0.10
WN-24	Non-forested	0.67	0.41	0.94
WN-25	Non-forested	7.17	0.41	10.11
WN-26	Non-forested	1.13	0.41	1.59
WN-27	Non-forested	3.88	0.41	5.47
WN-28	Non-forested	4.91	0.69	8.30
WN-29	Non-forested	0.19	0.41	0.27
WN-30	Non-forested	1.59	0.41	2.24
WN-31	Non-forested	4.22	0.41	5.95
WN-34	Non-forested	2.57	0.37	3.52
WN-35	Non-forested	20.58	0.41	29.02
WN-36	Non-forested	0.004	0.41	0.01
WN-37	Non-forested	6.48	0.69	10.95
WN-38	Non-forested	2.45	0.78	4.36
WN-40	Non-forested	1.85	0.41	2.61
WN-41	Non-forested	0.33	0.41	0.47
<i>Forested subtotal</i>		<i>151.18</i>	-	<b>269.58</b>
<i>Non-forested subtotal</i>		<i>62.54</i>	-	<b>92.17</b>
<b>TOTAL</b>		<b>213.72</b>	-	<b>361.75</b>

\* Calculated using the functional impact formula on page 2.

The WRAP scores for the reference reclamation forested wetlands at the South Hallsville No. 1 Mine ranged from 0.64 to 0.77. The WRAP scores for the reference reclamation potential forested wetlands at the South Hallsville No. 1 Mine ranged from 0.67 to 0.82. The average WRAP score for reference forested and potential forested wetlands at the South Hallsville No. 1 Mine is 0.72. The WRAP scores for the reference reclamation non-forested wetlands at the South Hallsville No. 1 Mine ranged from 0.57 to 0.66. The average WRAP score for reference non-forested wetlands at the South Hallsville No. 1 Mine is 0.61. Table 3 below depicts the score for each WRAP variable as well as the overall WRAP score for the reference reclamation forested, potential forested, and non-forested wetlands at the South Hallsville No. 1 Mine.

**Table 3. WRAP Scores for Reference Wetlands at the South Hallsville No. 1 Mine**

Wetland ID	Type	Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)	Habitat Support/ Buffer	Field Hydrology (HYD)	Water Quality Input and Treatment (WQ)	WRAP Score
WR-1	Non-forested	1	N/A	2	1	2	2.5	0.57
WR-2	Potential Forested	2	1.5	2	2	2	2.5	0.67
WR-3	Forested	2	2	2	2.5	2	2.44	0.72
WR-4	Forested	2	1	2	2	2	2.5	0.64
WR-5	Non-forested	2	N/A	1.5	2.2	2	2.2	0.66
WR-6	Forested	2.5	2.5	2	2.3	2	2.5	0.77
WR-7	Potential Forested	2.5	2	1.5	2.9	3	2.9	0.82

Based on the total functional impacts at the Rusk Permit Area and the average WRAP score for reference forested and non-forested wetlands at the South Hallsville No. 1 Mine, the projected acres of wetland reclamation needed to compensate for the functional impacts was calculated using the projected acres of wetland reclamation formula described in section 2.1 above. The results are presented in Table 4 below.

**Table 4. Functional Impacts and Projected Acres of Wetland Reclamation Needed**

Type	Acres of Impact	Functional Impacts	Average Reference (Reclamation) Wetland WRAP Score	Projected Acres of Wetland Reclamation to Compensate for Functional Impacts*
Forested Wetland	151.18	269.58	0.72	156.76
Non-Forested Wetland	62.54	92.17	0.61	57.27
<b>Total</b>	<b>213.72</b>	<b>361.75</b>	<b>-</b>	<b>214.02</b>

\* Calculated using the projected acres of wetland reclamation formula on page 3.

Based on the average WRAP score of reference wetlands in reclamation at the South Hallsville No. 1 Mine, the total acres of wetland reclamation needed to compensate for the functional impacts is nearly equal to the acres of impact at the Rusk Permit Area. Conceptually, this demonstrates that the projected reclamation could provide functional replacement for the wetland impacts.

Note that the analysis above does not consider temporal or other mitigation factors that may be considered by the USACE in determining mitigation requirements.

### **3.2 Streams**

The results of the functional assessment for streams at the Rusk Permit Area and for the reference reclamation streams at the South Hallsville No. 1 Mine using the Mobile SOP are reported below. The stream data sheets can be found in Appendix A. Representative site photographs are located in Appendix B, and a map is located in Appendix C.

The functional impacts to streams in the Rusk Permit Area using the Mobile SOP as revised for surface coal mining operations described above are 11,364 debits of perennial stream and 230,198 debits of intermittent stream for a total of 241,562 debits (see Table 5). The perennial streams (Sabine River and Cherokee Bayou) have an existing condition of fully functional, whereas the majority of the intermittent streams have an existing condition of somewhat impaired due to past land use, oil/gas activities, and crossings for county roads and highways. The Sabine River and Cherokee Bayou were classified as secondary priority areas because of their large watersheds and moderate importance to the biodiversity of stream ecosystems. These streams did not meet any of the criteria for designated primary priority areas as defined in the Mobile SOP. The remaining intermittent streams were classified as tertiary priority areas because they did not meet the criteria for designated primary or secondary priority areas and lack importance to the biodiversity of stream ecosystems.

The well-established reference reclamation streams at the South Hallsville No. 1 Mine are fully functional with stable banks and comparable in-stream and riparian habitat to natural streams in the area. The reference streams that are recently restored have an existing condition of somewhat impaired with moderately stable banks, but are anticipated to reach fully functional and develop in-stream and riparian habitat comparable to natural streams within five to ten years as reclamation and vegetation establishment of the watershed progresses. As shown in Table 6, the total projected in-stream functional credit generated by the five reference streams assessed at the South Hallsville No. 1 Mine is 11,100 credits. As shown in Table 7, the total projected riparian buffer credit for the five reference streams assessed at the South Hallsville No. 1 Mine is 6,850 credits. The total projected mitigation credit for the five reference streams assessed at the South Hallsville No. 1 Mine is 17,950 credits (see Table 8).

**Table 5. Functional Impacts to Streams in the Rusk Permit Area using Mobile SOP (Revised)**

Stream ID	Stream Type Impacted	Stream Type Factor	Priority Area	Priority Area Factor	Existing Condition	Existing Condition Factor	Duration*	Duration Factor*	Dominant Impact**	Dominant Impact Factor**	Cumulative Impact Factor***	Sum of Factors	Linear Feet of Stream Impacted	Functional Impact
<b>Impacts in First Five-Year Permit Term</b>														
Sabine River	Greater than Second Order Perennial	0.4	Secondary	0.4	Fully Functional	1.6	Long-term	0.175	Morphologic Change	1.5	0.2	4.275	603	2,578
S3-C1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	2.4	5.075	12,187	61,849
S3-C2	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	0.7	3.375	3,367	11,364
S3-G1	Intermittent	0.1	Tertiary	0.1	Fully Functional	1.6	Long-term	0.175	Morphologic Change	1.5	0.6	4.075	3,080	12,551
<b>Impacts Projected Beyond the First Five-Year Permit Term</b>														
Cherokee Bayou	Greater than Second Order Perennial	0.4	Secondary	0.4	Fully Functional	1.6	Long-term	0.175	Morphologic Change	1.5	-	4.075	2,156	8,786
S3-A1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	12,315	32,943
S3-A1	Intermittent	0.1	Tertiary	0.1	Impaired	0.1	Long-term	0.175	Morphologic Change	1.5	-	1.975	2,160	4,266
S3-B1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	9,353	25,019
S3-B2	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	11,720	31,351
S3-C1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	9,963	26,651
S3-D1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	5,367	14,357
S3-E1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	1,938	5,184
S4-B1	Intermittent	0.1	Tertiary	0.1	Somewhat Impaired	0.8	Long-term	0.175	Morphologic Change	1.5	-	2.675	1,743	4,663
<i>Perennial subtotal</i>													2,759	<b>11,364</b>
<i>Intermittent subtotal</i>													73,193	<b>230,198</b>
<b>TOTAL</b>													75,952	<b>241,562</b>

\* Long-term used for impact duration since the streams impacted by mining activities will be reclaimed/restored following mining. Since the impact duration is greater than 6 months but not permanent, factor used is 0.175, the average of temporary (0.05) and permanent (0.3) factors in SOP.

\*\* Dominant Impact characterized as Morphologic Change since impacts do not constitute permanent fill as defined in the Mobile SOP.

\*\*\* Cumulative Impact Factor was only calculated for the first five year permit term due to sequencing of mining operations.

**Table 6. In-Stream Functional Credit for Reference Streams at South Hallsville No. 1 Mine using Mobile SOP**

Stream ID	Stream Type	Stream Type Factor	Priority Area	Priority Area Factor	Existing Condition*	Existing Condition Factor*	Net Benefit	Net Benefit Factor	Bank Stability	Bank Stability Factor	In-stream Habitat	In-stream Habitat Factor	Timing of Mitigation	Timing Factor	Sum of Factors	Linear Feet of Stream**	Functional Credit
SR-1	Intermittent	0.05	Tertiary	0.05	Somewhat Impaired	0.05	Stream Restoration (Good)	2.0	Stable Banks	0.4	Four Cover Types	0.15	After	0	2.70	1,000	2,700
SR-2	Intermittent	0.05	Tertiary	0.05	Somewhat Impaired	0.05	Stream Restoration (Good)	2.0	Stable Banks	0.4	Three Cover Types	0.1	After	0	2.65	1,000	2,650
SR-3	Intermittent	0.05	Tertiary	0.05	Somewhat Impaired	0.05	Stream Restoration (Good)	2.0	Stable Banks	0.4	Four Cover Types	0.15	After	0	2.70	1,000	2,700
SR-4	Intermittent	0.05	Tertiary	0.05	Somewhat Impaired	0.05	Stream Restoration (Moderate)	1.0	Moderately Stable Banks	0.2	One Cover Type	0	After	0	1.35	1,000	1,350
SR-5	1st Order Perennial	0.4	Tertiary	0.05	Somewhat Impaired	0.05	Stream Restoration (Moderate)	1.0	Moderately Stable Banks	0.2	One Cover Type	0	After	0	1.70	1,000	1,700
<b>TOTAL</b>																5,000	<b>11,100</b>

\* Existing Condition is what existed prior to reclamation/restoration and is assumed to be somewhat impaired based on the condition of the majority of streams in the area.

\*\* Linear Feet of Stream is a reference 1,000 linear foot reach.

**Table 7. Riparian Buffer Restoration and Enhancement Credit for Reference Streams at South Hallsville No. 1 Mine using Mobile SOP**

Stream ID	Stream Type	Stream Type Factor	Priority Area	Priority Area Factor	Net Benefit Stream Side A	Net Benefit Side A Factor	Net Benefit Stream Side B	Net Benefit Side B Factor	System Protection Credit	Timing of Mitigation Stream Side A	Timing Side A Factor	Timing of Mitigation Stream Side B	Timing Side B Factor	Sum of Factors	Linear Feet of Stream*	Functional Credit	
SR-1	Intermittent	0.05	Tertiary	0.05	Riparian Restoration (100')	0.8	Riparian Restoration (100')	0.8	0.8	After	0	After	0	2.5	1,000	2,500	
SR-2	Intermittent	0.05	Tertiary	0.05	Riparian Restoration (50')	0.4	Riparian Restoration (50')	0.4	0.4	After	0	After	0	1.3	1,000	1,300	
SR-3	Intermittent	0.05	Tertiary	0.05	Riparian Restoration (50')	0.4	Riparian Restoration (50')	0.4	0.4	After	0	After	0	1.3	1,000	1,300	
SR-4	Intermittent	0.05	Tertiary	0.05	Riparian Enhancement (50')	0.2	Riparian Enhancement (50')	0.2	0.2	After	0	After	0	0.7	1,000	700	
SR-5	1st Order Perennial	0.4	Tertiary	0.05	Riparian Enhancement (50')	0.2	Riparian Enhancement (50')	0.2	0.2	After	0	After	0	1.05	1,000	1,050	
<b>TOTAL</b>																5,000	<b>6,850</b>

\* Linear Feet of Stream is a reference 1,000 linear foot reach.

**Table 8. Total Projected Mitigation Credit for Reference Streams at South Hallsville No. 1 Mine**

Stream ID	Stream Type	Linear Feet of Stream Reclaimed	In-stream Functional Credits	Riparian Buffer Credits	Total Credits	Ratio of Total Credits to Linear Feet Reclaimed
SR-1	Intermittent	1,000	2,700	2,500	5,200	5.2
SR-2	Intermittent	1,000	2,650	1,300	3,950	4.0
SR-3	Intermittent	1,000	2,700	1,300	4,000	4.0
SR-4	Intermittent	1,000	1,350	700	2,050	2.1
SR-5	Perennial	1,000	1,700	1,050	2,750	2.8
<b>TOTAL</b>	<b>-</b>	<b>5,000</b>	<b>11,100</b>	<b>6,850</b>	<b>17,950</b>	<b>Average* = 3.6</b>

\* Average ratio is calculated by dividing total of total credits column by total of linear feet of stream reclaimed column.

**Table 9. Summary of Functional Impacts to Streams in the Rusk Permit Area**

	Linear Feet of Stream Impacted	Functional Impacts	Ratio of Functional Impacts to Linear Feet of Impact
<b>Perennial Stream</b>	2,759	11,364	4.1
<b>Intermittent Stream</b>	73,193	230,198	3.1
<b>TOTAL</b>	<b>75,952</b>	<b>241,562</b>	<b>Overall* = 3.2</b>

\* Overall ratio is calculated by dividing total functional impacts by total linear feet of stream impacted.

Based on the projected mitigation credit for reference streams in reclamation at the South Hallsville No. 1 Mine, the average ratio of mitigation credit to linear feet of stream reclamation is 3.6 (see Table 8). This exceeds the overall ratio of functional impacts to linear feet of impact which is 3.2 (see Table 9). Conceptually, this demonstrates that the streams restored in mining reclamation areas could functionally replace the impacts to the somewhat impaired streams in the Rusk Permit Area.

#### **4.0 CONCLUSIONS**

The interim methodologies approved by the USACE Fort Worth District (WRAP for wetlands and Mobile SOP for streams) were used to assess the function of the waters of the U.S. at the Rusk Permit Area as well as reference mitigation areas (created from reclamation) at the South Hallsville No. 1 Mine.

Based on the results of this functional assessment, the total functional impacts for forested and non-forested wetlands at the Rusk Permit Area are 361.75 (Table 4). The average WRAP score for reference forested and non-forested wetlands assessed at the South Hallsville No. 1 Mine were used to project the acres of wetland reclamation needed to compensate for the functional impacts. Table 4 also indicates the acres of reclamation needed for forested wetland (156.76) are slightly higher than the acres of forested wetland impact (151.18), whereas the acres of reclamation needed for non-forested wetland (57.27) are slightly lower than the acres of non-forested wetland impact (62.54). Overall, the total acres of wetland reclamation (214.02) is nearly identical to the acres of wetland impact (213.72), which demonstrates conceptually that projected mitigation can provide the functional replacement for the wetland impacts at the Rusk Permit Area.

The total functional impacts to streams at the Rusk Permit Area based on this functional assessment are 241,562 (Table 9). The overall ratio of functional impacts to linear feet of impact is 3.2 (Table 9). Based on the projected mitigation credit for reference streams restored in

reclamation at the South Hallsville No. 1 Mine, the average ratio of functional credits to linear feet reclaimed is 3.6 (Table 8). The higher ratio for projected mitigation as compared to the ratio for impacts demonstrates conceptually that streams restored in reclamation can provide the functional replacement for streams impacted at the Rusk Permit Area.

In summary, this functional assessment evaluates the functional impacts to wetlands and streams of mining at the Rusk Permit Area as well as the projected functional replacement by mitigation wetlands and streams created and/or restored in reclamation using the South Hallsville No.1 Mine as a reference. The results of the functional assessment demonstrate that the functional impacts to wetlands and streams at the Rusk Permit Area can be compensated for by the projected function of wetlands and streams created and/or restored in reclamation based on the reference wetlands and streams at the South Hallsville No.1 Mine. The ultimate totals of functional replacement will be dependant upon the acres of wetlands and length of streams created and/or restored through the mine planning and reclamation process at the Rusk Permit Area.

## **5.0 REFERENCES**

Miller, R.E., Jr., and B.E. Gunsalus. 1999. Wetland Rapid Assessment Procedure. Updated Second Edition. Technical Publication REG-001. Natural Resource Management Division, Regulation Department, South Florida Water Management District.

U.S. Army Corps of Engineers, Mobile District. 2009. Compensatory Stream Mitigation Standard Operation Procedures and Guidelines.

## **Appendix G**

### **Draft EIS Public Comments and Responses**

**Table G-1 Draft EIS Public Comments**

	<b>Name</b>	<b>Title</b>
	Hearing Transcript	Steve Clark
		Sharon Irwin
		Jesse Irwin
		Veronica Betts
		Cheryl Sammons-Cooper
F1	Stephen R. Spencer	Regional Environmental Officer, DOI
F2	Rhonda M. Smith	EPA
S1	Michael Segner	NFIP State Coordinator, Texas Water Development Board
S2	John E. Caudle	Director, Surface Mining and Reclamation Division, RCT
S3	Charles W. McGuire	Director, Water Quality Division, TCEQ
S4	Ross Melinchuk	TPWD
L1	Phil Cory	Mayor, Tatum, TX
L2	Dee W. Hartt	Tatum ISD, Superintendent
L3	David A. Cleveland	Executive Director, East Texas Council of Governments
TR1	Robert Cast	Tribal Historic Preservation Officer, Caddo Nation
I1	Leatrice Adams	~
I2	Veronica Betts	~
I3	Lloyd E. Fite	~
I4	Carl Watkins	~
I5	Helen M. Dodson	~
I6	Sharon Steele-Irwin	~
I7	Kim R. Smith	Sierra Frac Sand
I8	Erma Rocquemore	~

# Public Hearing T1 - T5

BEFORE THE UNITED STATES ARMY CORPS OF ENGINEERS

FORT WORTH DISTRICT **SWF-2007-560**

IN THE MATTER OF )(  
SABINE MINING COMPANY )(  
RUSK PERMIT AREA )(  
PERMIT APPLICATION NO.  
SWF-2007-00560

Tatum High School Auditorium  
510 County Road 2187  
Tatum, Texas 75691

Tuesday, November 16, 2010

The above-entitled matter came on for hearing,  
pursuant to notice, at 5:00 p.m.

BEFORE: Lieutenant Colonel Matthew S. Orenstein,  
Deputy District Commander  
United States Army Corps of Engineers  
Fort Worth District  
Regulatory Branch  
CESWF-PER-R  
P. O. Box 17300  
819 Taylor Street, Room 3A37  
Fort Worth, Texas 76102-0300

APPEARANCES:

Ms. Jennifer Walker, Chief Permits Section  
United States Army Corps of Engineers  
Fort Worth District  
Regulatory Branch  
CESWF-PER-R  
P. O. Box 17300  
819 Taylor Street, Room 3A37  
Fort Worth, Texas 76102-0300

**SWF-2007-560**

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CESWF-PER-R

**ORIGINAL**

SWF-2007-560

# Public Hearing T1 - T5

APPEARANCES CONTINUED:

Mr. David Messer, Regulatory Project Manager  
United States Army Corps of Engineers  
Fort Worth District  
Regulatory Branch  
CESWF-PER-R  
P. O. Box 17300  
819 Taylor Street, Room 3A37  
Fort Worth, Texas 76102-0300

Mr. Eric Anderson, Reclamation Specialist  
Sabine Mining Company  
6501 Farm Road 968 West  
Hallsville, Texas 75650

Ms. Valerie Randall, Senior Program Manager  
AECOM

SPEAKERS:

1. Mr. Steve Clark
2. Mrs. Sharon Irwin
3. Mr. Jesse Inman
4. Ms. Veronica Betts
5. Ms. Cheryl Cooper-Sammons

## Public Hearing T1 - T5

1 P R O C E E D I N G S

2 (5:10 p.m.)

05:10PM 3 LIEUTENANT COLONEL ORENSTEIN: Good

05:10PM 4 evening, Ladies and Gentlemen, and welcome. Thank you  
05:10PM 5 for attending this evening. I am Lieutenant Colonel  
05:10PM 6 Matthew S. Orenstein, the Deputy District Commander of  
05:10PM 7 the United States Army Corps of Engineers, Fort Worth  
05:10PM 8 District. For the record, let me state that this hearing  
05:10PM 9 is being convened at 5:10 p.m. on November 16th, 2010, at  
05:10PM 10 the Tatum High School Auditorium, 510 County Road 2187,  
05:10PM 11 in the City of Tatum, Rusk County, Texas.

05:10PM 12 The Corps released a Draft Environmental  
05:10PM 13 Impact Statement on October 29th, 2010, on the  
05:10PM 14 application for a United States Army Corps of Engineers  
05:10PM 15 permit to discharge dredged and fill material into the  
05:10PM 16 waters of the United States associated with the  
05:10PM 17 construction, operation and reclamation of the Rusk  
05:10PM 18 Permit Area proposed by Sabine Mining Company. We are  
05:11PM 19 holding this public hearing to accept comments on the  
05:11PM 20 Draft Environmental Impact Statement, which will be  
05:11PM 21 referred to as EIS successively in this discussion, and  
05:11PM 22 associated permit action. We have a court reporter here  
05:11PM 23 tonight who will prepare a word-for-word transcript --  
05:11PM 24 transcript so that we will have an accurate record of  
05:11PM 25 this hearing. Your comments here tonight and any written

## Public Hearing T1 - T5

05:11PM 1 statements submitted through December 28th, 2010, which  
05:11PM 2 is the close of the comment period, will be reviewed and  
05:11PM 3 incorporated, as appropriate, into the Final EIS.

05:11PM 4 Sabine Mining Company proposes to  
05:11PM 5 construct, operate, and reclaim a surface lignite mine  
05:11PM 6 known as the Rusk Permit Area which would be an expan --  
05:11PM 7 expansion of the existing South Hallsville No. 1 Mine.  
05:12PM 8 The proposed 20,377-acre mine expansion would be located  
05:12PM 9 approximately one mile north of Tatum, Texas. Mining of  
05:12PM 10 the Rusk Permit Area is proposed to provide a local fuel  
05:12PM 11 source to the Henry W. Pirkey Unit -- Unite -- Unit No. 1  
05:12PM 12 (Pirkey) Power Plant.

05:12PM 13 Before I discuss the ground rules, there  
05:12PM 14 are a few things I'd like to say to help people  
05:12PM 15 understand the purpose of tonight's proceedings. Tonight  
05:12PM 16 we are conducting a Public Hearing associated with the  
05:12PM 17 Draft Environmental Impact Statement. Sabine Mining  
05:12PM 18 Company has applied to the Corps of Engineers for a  
05:12PM 19 permit under Section 404 of the Clean Water Act to  
05:12PM 20 discharge dredged and fill material into approximately  
05:12PM 21 300 acres of waters in the United States, in conjunction  
05:12PM 22 with the construction, operation and reclamation of the  
05:13PM 23 Rusk Permit Area. Section 404 of the Clean Water Act  
05:13PM 24 requires the Corps to conduct a public interest review to  
05:13PM 25 determine the potential impacts of our decision on the

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

5

05:13PM 1 public interest. In addition, the National Environmental  
05:13PM 2 Policy Act, or NEPA, requires all Federal agencies  
05:13PM 3 undertaking an action that could significantly impact the  
05:13PM 4 quality of the human environment to evaluate the  
05:13PM 5 potential impacts of the proposed project and document  
05:13PM 6 those potential impacts in an Environmental Impact  
05:13PM 7 Statement. A public notice on the proposed project was  
05:13PM 8 issued on June 25th, 2009, and a public notice announcing  
05:13PM 9 the availability of the DEIS, Draft Environmental Impact  
05:13PM 10 Statement, was issued on October 29th, 2010. The Corps  
05:13PM 11 is neither a proponent nor an opponent of this project.  
05:14PM 12 It is our role ultimately to decide if issuing a permit  
05:14PM 13 for the proposed project is contrary to the public  
05:14PM 14 interest. As such, we're trying to gather as much  
05:14PM 15 relevant information as possible in a timely manner, to  
05:14PM 16 allow us to make an informed decision. Tonight we are  
05:14PM 17 soliciting comments on the Draft EIS and on the permit  
05:14PM 18 application.

05:14PM 19 I would like to introduce the following  
05:14PM 20 persons: Ms. Jennifer Walker, Chief of the Permits  
05:14PM 21 Section of the Fort Worth District Regulatory Branch, Mr.  
05:14PM 22 Darvin Messer, the Regulatory Project Manager for the  
05:14PM 23 proposed Rusk Permit Area, Mr. Eric Anderson, Reclamation  
05:14PM 24 Specialist with Sabine Mining Company, and Ms. Valerie  
05:14PM 25 Randall, Senior Pro -- Program Manager with AECOM, the

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

6

05:15PM 1 third party contractor responsible for assisting the  
05:15PM 2 Corps with preparation of the Draft EIS. There are also  
05:15PM 3 other Corps staff members and technical consultants here  
05:15PM 4 this evening, I'd ask them to stand, and they are  
05:15PM 5 available to assist you if you have -- to assist you as  
05:15PM 6 well as the folks that I've intro -- introduced if you  
05:15PM 7 have any questions.

05:15PM 8 All of you should have signed in at the  
05:15PM 9 table located near the entrance. If you have not, please  
05:15PM 10 do so, so that we can maintain an accurate record of  
05:15PM 11 attendees at this hearing. If you wish to speak, you  
05:15PM 12 should also have filled out a speaker request card.  
05:15PM 13 These speaker request cards will be used to determine the  
05:15PM 14 order of speakers this evening in accordance with the  
05:15PM 15 order in which the completed cards were received. We are  
05:16PM 16 here to listen to your comments and we appreciate every  
05:16PM 17 one of them.

05:16PM 18 The format of tonight's hearing will  
05:16PM 19 begin with some brief opening remarks describing the  
05:16PM 20 proposal from Mr. Anderson, Reclamation Specialist with  
05:16PM 21 Sabine Mining Company, the permit applicant -- applicant.  
05:16PM 22 Then Ms. Randall of AECOM will give a brief presentation  
05:16PM 23 on the NEPA process and the Draft EIS. I will then turn  
05:16PM 24 the program over to Ms. Jennifer Walker and Mr. Darvin  
05:16PM 25 Messer. As a courtesy, you will receive -- we will first

## Public Hearing T1 - T5

05:16PM 1 receive comments in the order in which they were received  
05:16PM 2 from Federal and State elected officials, County Judges,  
05:16PM 3 Mayors, and other elected officials who wish to speak,  
05:16PM 4 which I don't believe we have any here with us this  
05:16PM 5 evening. Then, after that, which will not apply in this  
05:16PM 6 instance, we will have Ms. Walker and Mr. Messer to begin  
05:17PM 7 calling on the public to make comments. We will call  
05:17PM 8 five people up at a time to speak. Once your name is  
05:17PM 9 called, please proceed to the front over here to my  
05:17PM 10 right. There's some open seats in front. And when it is  
05:17PM 11 your turn, we will have -- you will be called to the  
05:17PM 12 microphone. Each speaker will be given three minutes to  
05:17PM 13 make their presentation. The timekeeper will be  
05:17PM 14 monitoring the time and will let you know when you have  
05:17PM 15 one minute left and when your time is up. When your time  
05:17PM 16 ends, please step down to allow the next person the  
05:17PM 17 opportunity to speak. Once all five have spoken, the  
05:17PM 18 next five will be called on and so on. Everyone who has  
05:17PM 19 indicated a desire to speak will have the opportunity to  
05:17PM 20 do so. Please keep your time to three minutes or less.  
05:17PM 21 If you don't need the full three minutes, help us to move  
05:17PM 22 the process along by only taking the time you need. Let  
05:17PM 23 me remind you we have a court reporter recording a  
05:18PM 24 transcript -- a transcript of tonight's proceedings to  
05:18PM 25 ensure that everything presented is included in the

## Public Hearing T1 - T5

05:18PM 1 official record. So when we call your name, please come  
05:18PM 2 to the microphone, state your name and clearly -- speak  
05:18PM 3 clearly and distinctly. I would also ask that you  
05:18PM 4 address your comments to me so the court reporter can get  
05:18PM 5 an accurate account of your statement.  
05:18PM 6  
05:18PM 7 A couple of additional ground rules: You  
05:18PM 8 may make comments or ask questions about information  
05:18PM 9 presented in the Draft EIS; however, we will not be  
05:18PM 10 addressing your questions here tonight. Yesterday  
05:18PM 11 evening, an informal -- an informational meeting was held  
05:18PM 12 during which technical professionals addressed attendees'  
05:18PM 13 specific questions. We will respond to tonight's  
05:18PM 14 comments and questions in the Final EIS. You may not  
05:18PM 15 defer your time to others. If you have additional  
05:18PM 16 comments that you -- you'd like to submit beyond what  
05:18PM 17 you're able to address during your time, please submit  
05:19PM 18 those in writing or to the court reporter located at the  
05:19PM 19 front of the room. You should understand that written  
05:19PM 20 comments, whether received tonight or any time during the  
05:19PM 21 comment period, are just as valid and count the same as  
05:19PM 22 verbal comments presented this evening. You may submit  
05:19PM 23 written comments this evening by dropping them in the  
05:19PM 24 comment boxes at the back of the room or you may also  
05:19PM 25 submit written comments to our office at the following  
address: Regulatory Branch, CESWF-PER-R, U.S. Army Corps

## Public Hearing T1 - T5

05:19PM 1 of Engineers, P. O. Box 17300, Fort Worth, Texas  
05:19PM 2 76102-0300, attention Mr. Darvin Messer, or via  
05:19PM 3 electronic mail to Rusk, R-U-S-K, underscore  
05:20PM 4 comments@us -- USACE -- usace.army.mil.

05:20PM 5                   In order for your comments to be  
05:20PM 6 considered, they must be received no later than  
05:20PM 7 December 28th, 2010.

05:20PM 8                   Let me emphasize that we're not here this  
05:20PM 9 evening to take a vote on the merits of this application.  
05:20PM 10 We're here to gather -- gather as much new information as  
05:20PM 11 we can to help us in making our decision. Once someone  
05:20PM 12 has made a particular point regarding the Draft  
05:20PM 13 Environmental Impact Statement or the permit application,  
05:20PM 14 there's no need to repeat the same point again.

05:20PM 15                   One final ground rule -- please be  
05:20PM 16 courteous. Everyone deserves the opportunity to be heard  
05:20PM 17 this evening and I ask for your help in doing that.

05:20PM 18                   We will have a 10-minute break at 7:00  
05:20PM 19 and every hour thereafter, depending on the number of  
05:21PM 20 speakers that are -- are asked to come forward.

05:21PM 21                   At this point, I'm going to introduce Mr.  
05:21PM 22 Eric Anderson, Reclamation Specialist, who will provide a  
05:21PM 23 brief overview of this project.

05:21PM 24                   MR. ANDERSON: Thank you, Colonel. Good  
05:21PM 25 evening. On behalf of North American Coal Sabine Mining,

## Public Hearing T1 - T5

05:21PM 1 I'd like to thank each of you for coming out tonight to  
05:21PM 2 provide comments regarding our Rusk Permit Area Draft  
05:21PM 3 Environmental Impact Statement. The NEPA process  
05:21PM 4 responsible for the subject EIS is running concurrently  
05:21PM 5 with permitting actions for Railroad Commission of Texas  
05:21PM 6 surface mining permits and U.S. Army Corps of Engineers  
05:21PM 7 individual permit for the discharge of dredged and fill  
05:21PM 8 material into waters of the U.S. These permits, along  
05:21PM 9 with numerous other permits, are being pursued to allow  
05:22PM 10 North American Coal Sabine Mine to construct, operate and  
05:22PM 11 reclaim the Rusk Permit Area as an expansion of the  
05:22PM 12 existing South Hallsville No. 1 Mine. The mine would  
05:22PM 13 provide lignite to American Electric Power Southwestern  
05:22PM 14 Electric Power Company, Henry W. Pirkey Power Plant. The  
05:22PM 15 proposed permit area includes approximately 20,377 acres  
05:22PM 16 of which up to 14,932 acres will be disturbed  
05:22PM 17 incrementally over the 30-year life of mining. The  
05:22PM 18 proposed Rusk Permit Area is being developed because  
05:22PM 19 Sabine needs a new source of lignite in order to full --  
05:22PM 20 fulfill its contractual obligations to Pirkey Power  
05:22PM 21 Plant. The proposed project is needed because Sabine is  
05:22PM 22 nearing the limit of the lignite reserves that can be  
05:22PM 23 safely and economically recovered at South Hallsville No.  
05:22PM 24 1 Mine -- No. 1 Mine. The electricity generated at  
05:23PM 25 Pirkey Power Plant is a significant portion of the

## Public Hearing T1 - T5

05:23PM 1 capacity that AEP Swepeco provides to the Southwestern  
05:23PM 2 Power Pool. The lignite reserves in a proposed  
05:23PM 3 approximately 20,377-acre Rusk Permit Area area would  
05:23PM 4 dependably supply lignite to meet the needs of the  
05:23PM 5 South -- Southwestern Power Pool until at least 2035.  
05:23PM 6 The project would use existing infrastructure at the  
05:23PM 7 South Hallsville No. 1 -- No. 1 Mine, but would require a  
05:23PM 8 new dragline walkway, haul roads and power lines crossing  
05:23PM 9 the Sabine River, along with the construction of fueling  
05:23PM 10 stations, storage areas and multiple mines -- multiple  
05:23PM 11 ponds. As proposed, initial construction would begin in  
05:23PM 12 the summer of 2011 with construction of the drag --  
05:23PM 13 dragline walkway and the haul road. The walkway would  
05:23PM 14 initially allow two of Sabine's four draglines to cross  
05:23PM 15 the Sabine River in the summer of 2012. The haul road  
05:23PM 16 would facilitate the movement of mobile equipment between  
05:23PM 17 South Hallsville No. 1 Mine and the Rusk Permit  
05:24PM 18 Area in approximately 2018 and 2027. The Rusk Permit  
05:24PM 19 Area is divided into three mine areas, V, W and X.  
05:24PM 20 Initially, mining would take place in Mine Area V, north  
05:24PM 21 of Tatum, and subsequently expand into Mine Area W, west  
05:24PM 22 of Tatum, and Mine Area X, south of Highway 49 as  
05:24PM 23 reserves in South Hallsville No. 1 Mine are depleted.  
05:24PM 24  
05:24PM 25

## Public Hearing T1 - T5

05:24PM 1 Mining operations and disturbances at any given time, but  
05:24PM 2 approx -- would -- would be approximately 500 acres with  
05:24PM 3 contemporaneous reclamation activities occurring  
05:24PM 4 simultaneously with mining. Rough leveling to return  
05:24PM 5 disturbed lands to approximate original contour would be  
05:24PM 6 completed in approximately 24 months following coal  
05:24PM 7 removal. Placement of suitable plant growth material  
05:24PM 8 would be completed within 15 months of backfilling and  
05:24PM 9 grading, and vegetation will be established to meet  
05:25PM 10 post-mine land use. As required by the Railroad  
05:25PM 11 Commission of Texas, the post-mine land use would be  
05:25PM 12 monitored and evaluated during the five-year  
05:25PM 13 responsibility period. This process assures that  
05:25PM 14 post-mine conditions are as good as or better than  
05:25PM 15 pre-mine conditions. In accordance with the proposed  
05:25PM 16 Railroad Commission of Texas permit, the land would be  
05:25PM 17 released from reclamation bond and returned to individual  
05:25PM 18 landowners within -- within 12 years after initial  
05:25PM 19 disturbance. As a result of the proposed action, Sabine  
05:25PM 20 would invest an estimated \$27 million in 2011 and an  
05:25PM 21 additional \$7 million in 2012 with completion of  
05:25PM 22 construction projects. These projects would employ  
05:25PM 23 approximately 150 local contract workers during the  
05:25PM 24 initial construction phase and an approximate 40 contract  
05:25PM 25 workers long-term during the life of the mine. In

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

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05:25PM 1 addition, Sabine employs 300 workers that would no longer  
05:25PM 2 be needed without the proposed Rusk Permit Area. At  
05:25PM 3 current tax rates, the State of Texas would receive  
05:25PM 4 approximately \$3 million annually. An additional  
05:26PM 5 \$250,000 or more would be received by the Rusk County  
05:26PM 6 annually during the life of the mine. Because of this  
05:26PM 7 information, there is no doubt that Sabine would have a  
05:26PM 8 positive economic impact on Rusk County and the  
05:26PM 9 surrounding areas.

05:26PM 10 In closing, I'd like to reiterate that we  
05:26PM 11 are pleased to have your participation in tonight's event  
05:26PM 12 and look forward to continued discussions of our proposed  
05:26PM 13 operation as we move forward during the coming months and  
05:26PM 14 years. Thank you.

05:26PM 15 LIEUTENANT COLONEL ORENSTEIN: Now I'd  
05:26PM 16 like to introduce Ms. Valerie Randall, Senior Program  
05:26PM 17 Manager for AECOM.

05:26PM 18 MS. RANDALL: Thank you. I'm going to  
05:26PM 19 present a very brief overview of the NEPA process, which  
05:26PM 20 can be an alphabet soup of acronyms which I'll attempt to  
05:27PM 21 define during the presentation.

05:27PM 22 First of all, the purpose of EIS. The  
05:27PM 23 Rusk Permit Area Environmental Impact Statement, or EIS,  
05:27PM 24 was prepared in compliance with the National  
05:27PM 25 Environmental Policy Act, or NEPA. Established in 1969,

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## Public Hearing T1 - T5

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05:27PM 1 NEPA requires agencies to, No. 1, take a hard look at the  
05:27PM 2 environmental consequences of their actions, in this  
05:27PM 3 case, the U.S. Army Corps of Engineers' decision relative  
05:27PM 4 to the permitting of the proposed Rusk Permit Area, and,  
05:27PM 5 No. 2, ensure that environmental information is available  
05:27PM 6 to the public for review and comment. These goals are  
05:27PM 7 accomplished through preparation and distribution of the  
05:27PM 8 EIS.

05:27PM 9 Key steps in the NEPA process. Please  
05:27PM 10 know that there are several opportunities in the NEPA  
05:27PM 11 process for you, the public, to provide input. First,  
05:27PM 12 the Applicant, in this case the Sabine Mining Company,  
05:27PM 13 submitted a Rivers and Harbors Act, Section 10, and Clean  
05:28PM 14 Water Act, Section 404, permit application to the U.S.  
05:28PM 15 Army Corps of Engineers. Second, as the Corps permit  
05:28PM 16 decision is a major federal action with the potential to  
05:28PM 17 significantly effect the quality of the human  
05:28PM 18 environment, the Corps determined that an EIS was  
05:28PM 19 required. The Corps has issued a notice of intent to  
05:28PM 20 prepare an EIS in the Federal Register and notified  
05:28PM 21 agencies and the public, initiating the EIS public  
05:28PM 22 scoping process. Public scoping is the first key step in  
05:28PM 23 soliciting public input and agency input on the specific  
05:28PM 24 issues and concerns to be addressed in the EIS. The  
05:28PM 25 Corps held a public scoping meeting in July 2009 and

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## Public Hearing T1 - T5

05:28PM 1 subsequently distributed a Scoping Summary Report to  
05:28PM 2 agencies and the public. This document summarized the  
05:28PM 3 input received during the scoping process.

05:28PM 4           Based on the Applicant's permit  
05:28PM 5 application and the results of the Public Scoping  
05:29PM 6 Process, the Corps of Engineers and their third party  
05:29PM 7 contractor, AECOM, prepared the Preliminary Draft EIS  
05:29PM 8 which was reviewed by the cooperating agencies. And the  
05:29PM 9 cooperating agencies in this particular case include the  
05:29PM 10 U.S. Environmental Protection Agency, U.S. Fish and  
05:29PM 11 Wildlife Service, and Texas Parks and Wildlife  
05:29PM 12 Department.

05:29PM 13           Following preparation of the Draft EIS,  
05:29PM 14 the Corps issued a Draft EIS Notice of Availability in  
05:29PM 15 the Federal Register on October 29th and notified  
05:29PM 16 agencies and the public that the Draft EIS is available  
05:29PM 17 through various public notices and advertisements.  
05:29PM 18 During this current 60-day Draft EIS public comment  
05:29PM 19 period, agencies and the public have the opportunity to  
05:29PM 20 comment on the adequacy of the Draft EIS. Note that you  
05:29PM 21 may comment verbally and in writing during tonight's  
05:29PM 22 public hearing, as well as in writing during this -- the  
05:29PM 23 continuation of the public comment period through  
05:30PM 24 December 28th.

05:30PM 25           Following the close of the 60-day public

## Public Hearing T1 - T5

05:30PM 1 comment period, the Corps will review all comments and  
05:30PM 2 will prepare responses to substantive comments on the  
05:30PM 3 Draft EIS. The Corps will prepare the Final EIS, which  
05:30PM 4 will include the responses to these comments and any  
05:30PM 5 necessary revisions to the EIS itself. After a 30-day  
05:30PM 6 public review period on the Final EIS, the Corps will  
05:30PM 7 issue their decision with publication of what's called  
05:30PM 8 the Record of Decision. And the Corps has three choices  
05:30PM 9 relative to this decision: No. 1, to issue the permit;  
05:30PM 10 2, issue the permit with special conditions; or, 3, deny  
05:30PM 11 the permit. And, as Eric indicated, the Applicant is  
05:30PM 12 also responsible for obtaining numerous other agency  
05:30PM 13 permits and approvals prior to construction and operation  
05:30PM 14 of the proposed project. And all of these approvals are  
05:30PM 15 identified in Table 1-2 in the Draft EIS.

05:31PM 16           A summary of the EIS itself. An EIS is a  
05:31PM 17 comprehensive document, the size and content of which is  
05:31PM 18 sometimes intimidating to reviewers. Therefore, I wanted  
05:31PM 19 to provide a brief overview of the content of the EIS.

05:31PM 20           First of all, the EIS describes the  
05:31PM 21 purpose and need of the proposed project. Next, the EIS  
05:31PM 22 identifies and describes alternatives, including the  
05:31PM 23 Applicant's proposed action, the "no action" alternative,  
05:31PM 24 and other alternatives. The EIS describes the existing  
05:31PM 25 environment, which is sometimes referred to as baseline

## Public Hearing T1 - T5

05:31PM 1 conditions, that would be effected by development of the  
05:31PM 2 Applicant's proposed action or other alternatives, if  
05:31PM 3 approved. The impact assessment analyzes and describes  
05:31PM 4 the anticipated direct, indirect and cumulative impacts  
05:31PM 5 of a proposed project and the alternatives. The impact  
05:31PM 6 assessment includes mitigation measures currently being  
05:32PM 7 considered by the Corps to mitigate anticipated impacts  
05:32PM 8 if the project is approved.

05:32PM 9                   So, in closing, we invite you to review  
05:32PM 10 the EIS and provide comments on the adequacy of the  
05:32PM 11 document, particularly the assessment of impacts to  
05:32PM 12 individual resources. Thank you.

05:32PM 13                   LIEUTENANT COLONEL ORENSTEIN: I will now  
05:32PM 14 turn the floor over to Ms. Walker and Mr. Messer who will  
05:32PM 15 facilitate the comments.

05:32PM 16                   MS. WALKER: I appreciate everyone's time  
05:32PM 17 tonight. I thank you for coming out. I will call five  
05:32PM 18 people up at a time to speak. Once your name is called,  
05:32PM 19 please proceed to one of the five seats to the front  
05:33PM 20 left. When it is your turn to speak, I will call you to  
05:33PM 21 the microphone. Please state your name and speak clearly  
05:33PM 22 so that we can get an accurate account of what you have  
05:33PM 23 to say this evening.

05:33PM 24                   As a friendly reminder, each speaker will  
05:33PM 25 be given just three minutes to make their presentation.

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

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05:33PM 1 Our timekeeper, who is located right here, will hold up a  
05:33PM 2 green card when it is time to speak, then a yellow card  
05:33PM 3 to let you know when you have one minute remaining, and  
05:33PM 4 then a red card when your time is up. When your time  
05:33PM 5 ends, please step down so that we can allow others to  
05:33PM 6 speak.

05:33PM 7                   At this time we only have two speakers,  
05:33PM 8 and I will ask both of those speakers to come forward.  
05:33PM 9 If we don't have any other speakers at the point in time  
05:33PM 10 when the first two have completed speaking, what we will  
05:33PM 11 do is we will take a recess. You all are -- will be  
05:34PM 12 welcome to get up, review maps, and talk with any of the  
05:34PM 13 experts here this evening, and we would be happy to  
05:34PM 14 answer your questions. At a such time that we have more  
05:34PM 15 individuals who are interested in speaking, we will sign  
05:34PM 16 them in and we will reconvene the formal part of our  
05:34PM 17 presentation this evening.

05:34PM 18                   So I'd like to first call Steve Clark up  
05:34PM 19 to the front to one of the seats, and Sharon Irwin. And  
05:34PM 20 actually, Steve, you don't even need to sit down. I will  
05:34PM 21 just call you right up here. So let's do that.

05:34PM 22                   MR. STEVE CLARK: Thank you very much. I  
05:34PM 23 appreciate the opportunity to speak tonight and share my  
05:34PM 24 comments on this -- the permit request. I guess what I  
05:34PM 25 want to do is address a couple of comments that were made

## Responses to Public Hearing T1 - T5

T1-1 The newspaper quote was from a local resident. The EIS does not attempt to anticipate or dictate where displaced residents would choose to relocate. As discussed in Section 3.10.2 of the EIS, there are housing vacancies in the area that would be sufficient to accommodate the gradual displacement of mine area residents, should they choose to relocate into available housing, and there is a substantial amount of undeveloped land in the vicinity.

T1-1

## Public Hearing T1 - T5

## Responses to Public Hearing T1 - T5

T1-1  
(cont'd)

05:34PM 1 in the Longview News Journal on Friday, November 5th.  
05:35PM 2 The first comment was, "Someone is going to build a  
05:35PM 3 subdivision where these people can build another house.  
05:35PM 4 I think it's going to be all right once they move closer  
05:35PM 5 to the city." Let me address this by saying that I don't  
05:35PM 6 live in the country because I have to. I live there  
05:35PM 7 because I want to. I choose to live in the country.  
05:35PM 8 I've lived in the cities; I've lived in towns. I've  
05:35PM 9 lived in very nice subdivisions, and I can afford to live  
05:35PM 10 where I want, but I like to live in the country.  
05:35PM 11 There's a -- there's a difference between  
05:35PM 12 stupidity and ignorance. Stupidity is defined as the  
05:35PM 13 inability to learn. And ignorance is -- so I don't get  
05:35PM 14 this -- this wrong here -- ignorance is lacking knowledge  
05:35PM 15 or comprehension of a subject. Ignorance is not bad.  
05:36PM 16 We're all ignorant on something. I certainly am ignorant  
05:36PM 17 on the hydraulics and everything involved in this impact  
05:36PM 18 statement. But the statement that the people that are  
05:36PM 19 displaced will move to a subdivision is incredibly  
05:36PM 20 ignorant because he just doesn't understand the  
05:36PM 21 situation. He's probably a very nice person and not at  
05:36PM 22 all stupid. I don't know him. But I would say that his  
05:36PM 23 house is probably not one that's going to be torn down in  
05:36PM 24 this. Okay?

T1-2

05:36PM 25 The second thing I'd like to talk about,

T1-2 Comment noted. As indicated in the response to comment T1-1, the EIS does not, and cannot, address each individual relocation situation; that is beyond the scope of the analysis in the NEPA process.

## Public Hearing T1 - T5

05:36PM 1 the quote is, "It's assumed that most displaced families  
05:36PM 2 would remain in the four county area because of jobs,  
05:36PM 3 family ties or other reasons for the current choice of  
05:36PM 4 location. Under these assumptions there would be  
05:36PM 5 sufficient housing available to accommodate the displaced  
05:36PM 6 locally if they choose to remain in the area."

05:36PM 7                   So I don't know who wrote this, but I  
05:36PM 8 would like to give you some specs to be -- be looking for  
05:36PM 9 a house for me. The specifications are: One-story brick  
05:37PM 10 house on five acres, 3,000 square feet, four bedrooms,  
05:37PM 11 four baths, 2-1/2 car garage, 2-1/2 acres fenced with  
05:37PM 12 high tensile fencing and cross-fenced, a guest house, an  
05:37PM 13 equipment barn, and a shelter built for my animals.

05:37PM 14                   So, whoever made this comment, when you  
05:37PM 15 find that house, let me know and I will trade you in a  
05:37PM 16 second. Thank you very much.

05:37PM 17                   MS. WALKER: Thank you. And I would like  
05:37PM 18 to call Sharon Irwin.

05:37PM 19                   MS. SHARON IRWIN: I'd like to say I'm  
05:37PM 20 happy to be here, but I'm not. It is very difficult  
05:37PM 21 times for all of us, but not getting the information that  
05:37PM 22 we need in its entirety to protect our health, our  
05:37PM 23 property, our livelihoods -- we're going to be displaced.

05:38PM 24 And, no, we cannot go to a housing tract that has  
05:38PM 25 300 acres where we can continue -- my husband can

## Responses to Public Hearing T1 - T5

T2-1 The USACE notes this concern. Please see Sections 3.14.1, 3.9.2, and 3.10.2 of the EIS for discussions relative to potential project-related impacts associated with public health, land use, and social and economic values, respectively. Also see the following responses to specific related comments.

T2-2 Comment noted. Please see the responses to comments T1-1 and T1-2 above.

T1-2  
(cont'd)

T2-1

T2-2

## Public Hearing T1 - T5

T2-2  
(cont'd)

05:38PM 1 continue to run a cattle operation that's been there for  
05:38PM 2 70 years. But that's aside from the fact because I was  
05:38PM 3 basically told, "You shouldn't build on a leased land."  
05:38PM 4 I don't think 60, 70 years ago the people who leased  
05:38PM 5 these lands, my -- my husband's father, or any of our  
05:38PM 6 families realized that the business eth -- ethics then --  
05:38PM 7 wouldn't be -- that they would be the same then as they  
05:38PM 8 are today. They're not. But my major concern is, is

T2-3

05:38PM 9 that nowhere in this study or anybody has -- has come up  
05:38PM 10 with is that Rusk County is labeled as one of the United  
05:38PM 11 States' dirtiest, toxic coun -- counties in the U.S.  
05:38PM 12 We're at 90 -- 90 to 100 percent waste generation,  
05:39PM 13 chemical releases. These lists go on and on and on. And  
05:39PM 14 nowhere in this study has it been mentioned. And I'd

T2-4

05:39PM 15 like to know why, and I can't get answers. You talk  
05:39PM 16 about the ground water, what it's going to do to the  
05:39PM 17 ground water, but nobody is talking about the air  
05:39PM 18 quality. These -- there's document after document. It's  
05:39PM 19 all available to us on-line. We are in the red zones and  
05:39PM 20 yet nobody is saying anything about it. And I really  
05:39PM 21 have questions as to why. It says, "air quality, won't  
05:39PM 22 have an impact." How can that possibly be when we're  
05:39PM 23 already in the red zone 90 to 100 percent of -- of waste  
05:39PM 24 generation and pollutants in this area? I don't  
05:39PM 25 understand how you can say it would not have an impact.

## Responses to Public Hearing T1 - T5

T2-3

It is not clear what the commenter meant by the reference to "90 to 100 percent waste generation, chemical releases"; the commenter also did not disclose the source of the information regarding Rusk County as one of the dirtiest in the United States. The latest information from the U.S. Environmental Protection Agency (USEPA) Toxic Release Inventory (TRI) (USEPA 2010) indicates industries in Rusk County disposed of or released a total of 6,435,537 pounds of chemicals, the largest generator being Martin Lake power plant and lignite mine at 6,407,481 pounds. In Harrison County, 4,579,614 pounds of chemicals were disposed of or released by industries in 2009, of which the Pirkey Power Plant was responsible for 1,664,144 pounds. In Panola County, a total of 37,612 pounds of chemicals were disposed of or released. For comparison, over 37 million pounds were disposed of or released in 2009 in Harris County, Texas (Houston).

For operations at the Martin Lake and Pirkey power plants, most of the material was disposed of in on site landfills. The TRI summarizes the wastes by chemical composition rather than type of waste or process generated. However, the on-site disposal of these amounts at power plants indicates that the waste is probably coal combustion waste. Since the proposed Rusk Permit Area would provide a replacement, rather than supplemental, fuel source for the Pirkey Power Plant, the annual TRI information would not be expected to change substantially.

The TRI information for the local counties has been added to the text in Section 3.13.3 (Cumulative Impacts) of the Final EIS.

T2-4

The USACE is unaware of the EIS location of the commenter's statement that "air quality, won't have an impact." As discussed in Section 3.8.1.3 of the EIS, primary National Ambient Air Quality Standards (NAAQS) set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. As discussed in Section 3.8.2 of the Draft EIS, air emissions would be localized near the mining activities and would be unlikely to cause a violation of NAAQS with implementation of the proposed control measures to reduce emissions. As discussed in Section 3.8.3, the Rusk Permit Area would not result in cumulative air quality impacts based on the localized nature of the emissions and the distance from other sources.

While it is not entirely clear what is meant by the "red zone" in the comment, the USACE believes that the comment refers to the Air Quality Index (AQI) ([http://www.airnow.gov/index.cfm?action=topics.about\\_airnow](http://www.airnow.gov/index.cfm?action=topics.about_airnow)), which is graphically indicated by the color red if the air quality in a region is in the unhealthy range. In general, if the AQI in the vicinity of the proposed Rusk Permit Area is rated as unhealthy, the cause most likely is related

## Public Hearing T1 - T5

T2-5

05:39PM 1 You say we don't have a financial impact. We will have a  
05:39PM 2 financial impact. My husband and I personally will have  
05:39PM 3 a huge financial impact. Who was it that said that the

T2-6

05:39PM 4 post-mine operation will be as good as the pre-mine? If  
05:39PM 5 that would be the case, then why would we not be able to  
05:39PM 6 get insurance on homes built on that property? We can't.  
05:39PM 7 We cannot build. It's useless. We can run cattle on it,  
05:40PM 8 maybe, but we can't build on that. Have you talked to  
05:40PM 9 insurance adjusters to see what -- what -- how we can  
05:40PM 10 rebuild and be insured? We can't build a slab, we can't  
05:40PM 11 build a -- a pier and beam. They're not even authorizing  
05:40PM 12 mobile homes. I'm -- Thank you. But I do -- we do need  
05:40PM 13 answers for this community.

05:40PM 14 MS. WALKER: Since we do not have any  
05:40PM 15 other speakers at this time signed up to speak, we will  
05:40PM 16 adjourn the formal part of this presentation until such  
05:40PM 17 time as we have other individuals who wish to speak.  
05:40PM 18 However, we will be here until 7:30 this evening. And if  
05:40PM 19 everyone would like to just get up -- and we have maps  
05:40PM 20 available and we have a number of Corps of Engineers,  
05:40PM 21 experts, a couple of people from Sabine Mine, and our  
05:41PM 22 third party contractor with AECOM would be happy to  
05:41PM 23 answer your questions as best we can. Thank you.

06:01PM 24 (A recess was held.)

06:01PM 25 MS. WALKER: It's now 6:00 o'clock and we

## Responses to Public Hearing T1 - T5

to elevated levels of ozone. A high ambient concentration of ozone is a regional issue and would be unrelated to local emissions from the mine.

T2-5

Section 3.10.2 of the EIS notes that there would be temporary effects on residential property values near the mining activity, although ranch and farm land values should not be similarly affected. Section 3.10.2 also notes that the residents residing within the Rusk Permit Area incrementally would be displaced for the life of the disturbance plus at least 7 years for reclamation and monitoring. As discussed in Section 2.5, the private lands within the proposed disturbance area would be leased or purchased by SWEPCO. However, the EIS does not, and cannot, address each individual financial situation; that is beyond the scope of the analysis in the NEPA process.

T2-6

The proposed disturbance areas would be reclaimed in accordance with USACE and RCT permit criteria and would be required to meet each agency's reclamation standards. With successful reclamation, productivity on reclaimed mine land, including pastureland and grazing land, would be returned to at least pre-mining levels.

Structures have been built on reclaimed mine lands in Texas and elsewhere. In addition, homes and other types of buildings throughout the country have been built on non native fill material, which is not dissimilar from reclaimed mine land. Site-specific geotechnical requirements for foundations would be based on site-specific conditions (e.g., nature of the reclaimed soils, local climatic conditions, etc.). Jurisdictions throughout the country require geotechnical analyses and/or engineered foundations for structures on native soils where there may be concerns about settlement or expansive soil characteristics. Assuming implementation of appropriate engineering design for site-specific conditions, redevelopment on reclaimed lands is considered feasible.

Banking and insurance representatives contacted to date have indicated they do not have special/unique policy guidance regarding reclaimed lands. They also have indicated that a standard homeowner's insurance policy does not cover earth movement or settlement. Some, if not all, insurance companies will sell an "endorsement" to cover non-standard conditions. For example, California homeowners may purchase coverage for earthquake damage, and parts of the state certainly have a higher risk of such damage than most of the rest of the country. There may be some added cost involved, but building on fill material is not unique and is not anticipated to be prohibitively expensive.

## Public Hearing T1 - T5

06:01PM 1 will, again, resume our more formal part of our  
06:01PM 2 presentation this evening. I would like to call the next  
06:01PM 3 three individuals to the seats up front. Jesse Inman,  
06:01PM 4 Veronica Betts and Cheryl Cooper-Sammons.

06:02PM 5                   Again, if you haven't yet signed in, we'd  
06:02PM 6 encourage you to do so. We really want to get an  
06:02PM 7 accurate accounting of who all is here tonight. Again,  
06:02PM 8 understand that we, the Corps, are on a fact finding  
06:02PM 9 mission. We are interested in determining what issues  
06:02PM 10 may be out there. This is your opportunity to become  
06:02PM 11 involved in this public process, so I would encourage you  
06:02PM 12 all who are interested to either make written or verbal  
06:02PM 13 comments. And, again, we will be receiving comments  
06:02PM 14 until December 28th.

06:02PM 15                   And at this time I would like to call  
06:02PM 16 Jesse Inman.

06:02PM 17                   MR. JESSE INMAN: Hello, I'm Jesse Inman.  
06:02PM 18 I'm with Crystal Farms Water Supply here in Tatum. I'm  
06:02PM 19 not no good speaker, and I get nervous, so excuse me.

06:02PM 20                   We have got approximately 340 customers  
06:02PM 21 in our area, and this mining is going to just wipe us  
06:03PM 22 out. The paper reported we had 256 houses in this area  
06:03PM 23 that it's going to effect. I've got 300 customers  
06:03PM 24 myself, so I don't know where they're getting this  
06:03PM 25 figure. There's a number of other people that's effected

## Responses to Public Hearing T1 - T5

T3-1 As indicated in Section 3.2.3.2 of the EIS, the mine may affect existing water supply facilities in the Crystal Farms water supply district depending on the specific location of the facilities relative to the mine disturbance area. Sabine is required, in compliance with RCT regulations, to replace water supply wells damaged or removed by mining. The EIS also contains a mitigation measure (GW-1) requiring Sabine to coordinate with the potentially affected water district(s) to ensure the mitigation is implemented in a timely manner.

T3-1

## Public Hearing T1 - T5

T3-2

06:03PM 1 that's not in my system. And, as far as having impact on  
06:03PM 2 this area, it's going to have a dramatic impact. A lot  
06:03PM 3 of -- of us will not relocate here. There's no land to  
06:03PM 4 be available except, like you said, subdivisions. And  
06:03PM 5 right now I understand they're offered starting with  
06:03PM 6 2,000 an acre. You can't find land around here for --  
06:03PM 7 for less than \$5,000 to \$9,000 an acre. I've got  
06:03PM 8 37 acres, and I'm not going to move to the city. So, I  
06:03PM 9 wished y'all would consider how many people you're  
06:04PM 10 effecting, how it's going to effect Tatum. And, of  
06:04PM 11 course, I've got a lot of answers that I can't get  
06:04PM 12 answers to. And I will -- would like to have some.  
06:04PM 13 Thank you.

06:04PM 14 MS. WALKER: Thank you. I'd like to now  
06:04PM 15 call Veronica Betts.

T4-1

06:04PM 16 MS. VERONICA BETTS: I had to finish that  
06:04PM 17 sentence. I'm a thorough person. Sorry about the mode  
06:04PM 18 of dress, I just came from work. One thing I would like  
06:04PM 19 to know, as he mentioned with the water. Well, if his  
06:04PM 20 company goes down, I'm on Crystal Farms Water, I'm in the  
06:04PM 21 11- to 15-year, where is my water going to come from?

T4-2

06:04PM 22 The noise. I've just found out I'm only going to be  
06:04PM 23 about two miles from the first project. They say I'm  
06:05PM 24 going to be in the second mode of destroying. Absorbed  
06:05PM 25 is what I'm told it's called, not destroyed. But I would

## Responses to Public Hearing T1 - T5

- T3-2 The USACE notes this concern. Please see the responses to comments T1-1 and T1-2. Relative land values would be a matter for negotiation between the surface owner and SWEPCO.
- T4-1 Please see the response to comment T3-1 relative to the potential loss of water supply facilities.
- T4-2 Comment noted regarding noise.

## Public Hearing T1 - T5

T4-2  
(cont'd)

06:05PM 1 like to say destroyed, not absorbed. The noise, which  
06:05PM 2 won't bother us too much, I've heard it's supposed to be  
06:05PM 3 really quiet. But the dust is going to bother me. They  
06:05PM 4 said there's going to be an awful lot of dust. We've got  
06:05PM 5 asthma. What are we going to do about that? If I'm not  
06:05PM 6 projected to be moved for another 11 years to -- eight to  
06:05PM 7 11 years, I'm going to be having that dust in my lungs  
06:05PM 8 for eight years? You're not even going to offer me  
06:05PM 9 anything until five to ten years from now, so I can't  
06:05PM 10 move. My land, 16 acres, is bought and paid for. My  
06:05PM 11 home, two homes on that land is bought and paid for. Two  
06:05PM 12 ponds, everything.

T4-3

T4-4

06:05PM 13 I'd also like to comment on the picture  
06:05PM 14 taker. It's wonderful that the -- the speakers who are  
06:05PM 15 going to absorb, destroy, our homes are having their  
06:05PM 16 pictures taken. (Speaker claps.) The concerned citizens  
06:05PM 17 that we are where our land is going to be destroyed,  
06:05PM 18 absorbed, gee, where's our pictures? Thank you for my  
06:06PM 19 life.

06:06PM 20 MS. WALKER: Thank you. And our next  
06:06PM 21 speaker is Cheryl Cooper-Sammons.

06:06PM 22 MS. CHERYL COOPER-SAMMONS: Good evening,  
06:06PM 23 everyone. I'm Cheryl Cooper-Sammons. I'm a member of  
06:06PM 24 Original Zion Hill Baptist Church. I'm also a trustee of  
06:06PM 25 the church. And I come here today with very much concern

T5-1

## Responses to Public Hearing T1 - T5

- T4-3 Potential air quality impacts are addressed in Section 3.8.2 of the EIS; also see the response to comment T2-4. As discussed in Section 3.8.2.1, fugitive dust emissions would be localized near mining activities. With implementation of Sabine's committed measures to reduce fugitive dust emissions (see Table 2-11 in the EIS), violation of the NAAQS would be unlikely; therefore, impacts to public health are not anticipated. Potential air quality-related public health effects are addressed in Section 3.14.1.2 of the EIS.
- T4-4 Comment noted. SWEPCO typically would acquire land approximately 3 to 5 years in advance of mining; a private landowner could approach SWEPCO to initiate earlier negotiation.
- T5-1 If the church is to remain, access to the church would have to be maintained. Also, the data indicate there would be sufficient housing available near the project area to accommodate displaced families, so most church members would have the option of remaining within relatively short commuting distance of the church if they choose to do so.

## Public Hearing T1 - T5

T5-1  
(cont'd)

06:06PM 1 over this process, this mining project. The church will  
06:06PM 2 be celebrating its 137th year of existence in two weeks.  
06:06PM 3 We have a lot of members who are residents of the Tatum  
06:06PM 4 community who are right directly in the mining area.  
06:07PM 5 Although we have been told that our church, which is  
06:07PM 6 adjacent to the cemetery, will not be disturbed, there  
06:07PM 7 are plans to mine very much close to the church and the  
06:07PM 8 cemetery. So the members of our church who will probably  
06:07PM 9 be relocated will be gone, but the church will still be  
06:07PM 10 there with very few members. So we are very much  
06:07PM 11 concerned about plans for the church, for the cemetery  
06:07PM 12 and our membership.

06:07PM 13                   And as was stated by the other two  
06:07PM 14 speakers, there's very little land available in Tatum.  
06:07PM 15 And so while our membership will be relocated and the  
06:07PM 16 church edifice and cemetery may still stand, it may be in  
06:08PM 17 an area all by itself.

06:08PM 18                   So I come here with comments of concern  
06:08PM 19 and really seeking answers as to how we can maintain our  
06:08PM 20 membership while our church members are relocated out of  
06:08PM 21 the area of which they've known for most of their lives.  
06:08PM 22 Thank you.

06:08PM 23                   MS. WALKER: And, again, at this time we  
06:08PM 24 do not have any additional speakers, so we will take  
06:08PM 25 another break. And at such time as we have others enter

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

27

06:08PM 1 and sign up to speak, we will reconvene the formal part  
06:08PM 2 of our presentation this evening.  
06:08PM 3                   So if y'all would like to get up, look at  
06:08PM 4 maps, talk to some of the people here, we will remain in  
06:09PM 5 the auditorium here until 7:30 this evening. Thank you.  
07:29PM 6                   (A recess was held.)  
07:29PM 7                   LIEUTENANT COLONEL ORENSTEIN: Okay. We  
07:29PM 8 have our last registered speaker. Is there anyone else  
07:29PM 9 that we have missed who would like to speak? In closing,  
07:29PM 10 I would to reiterate you may deposit written comments --  
07:29PM 11                   UNKNOWN SPEAKER: Sir, excuse me. You  
07:29PM 12 need to turn the mic on. I think the Court --  
07:29PM 13                   THE REPORTER: Sorry. I'm sorry.  
07:29PM 14                   LIEUTENANT COLONEL ORENSTEIN: I -- Okay.  
07:29PM 15 I'll start over for you.  
16                   THE REPORTER: You don't have to start  
17 over.  
07:29PM 18                   LIEUTENANT COLONEL ORENSTEIN: That was  
07:29PM 19 our last registered speaker. Is there anyone else that I  
07:29PM 20 may have missed who would like to speak? In closing, I  
07:30PM 21 would like to reiterate, you may deposit written comments  
07:30PM 22 into the comment boxes at the back of the room or you may  
07:30PM 23 submit comments to our office through December 28th,  
07:30PM 24 2010. I'd like to thank everyone for attending the  
07:30PM 25 hearing this evening. I would also like to thank all the

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

28

07:30PM 1 people who offered their comments and be sure that every  
07:30PM 2 comment will be fully considered and become a part of the  
07:30PM 3 public record for this permitting decision. Let the  
07:30PM 4 record show that this hearing was adjourned at 7:29 on  
07:30PM 5 the 16th of November 2010. Thank you.

6                   (Proceedings concluded.)  
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25

## Public Hearing T1 - T5

PUBLIC HEARING ON THE DEIS FOR SABINE MINING COMPANY

29

1 THE STATE OF TEXAS ) (

2 COUNTY OF PANOLA ) (

3 This is to certify that I, Karen S. Bagley, a  
4 Certified Shorthand Reporter and Notary Public in and for  
5 the State of Texas, reported in shorthand the proceedings  
6 had at the time and place set forth in the caption  
7 hereon, and that to the best of my ability the above and  
8 foregoing contains a full, true and correct transcript of  
9 the said proceedings.

10 Certified to on this the 22nd day of November,  
11 2010.

12

13

14

15



-----  
KAREN S. BAGLEY, CSR  
STATE OF TEXAS NO. 3167  
EXPIRES DECEMBER 31, 2010

16

17

18

JOHN FOSTER, CSR, RPR  
FIRM NO.: 109  
P. O. Box 68  
Henderson, Texas 75653-0068  
(903) 657-8626

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21

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25

# Public Hearing T1 - T5

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SWF-2007-560

## Letter F1



### United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
1001 Indian School Road NW, Suite 348  
Albuquerque, New Mexico 87104



ER 10/932  
File 9043.1

December 21, 2010

Mr. Darvin Messer, EIS Project Manager  
U.S. Army Corps of Engineers  
Fort Worth District  
Regulatory Branch, CESWF-PER-R  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

Dear Mr. Messer:

The U.S. Department of the Interior has reviewed the Draft Environmental Impact Statement (DEIS) – Project No. SWF-2007-00560, for the Sabine Mining Company Rusk Permit Area to construct, operate, and reclaim a 20,377-acre expansion of the South Hallsville No.1 Mine (proposed project) and has the following comments.

#### GENERAL COMMENTS

F1-1 We believe impacts to fish and wildlife resources, including impacts to migratory birds, have not been adequately addressed in this DEIS. Proposed mitigation for impacts to waters of the United States, wetlands, and fish and wildlife resources is insufficient and the proposed conceptual mitigation plan inadequate and incomplete.

#### Proposed Conceptual Mitigation Plan

F1-2 The U.S. Fish and Wildlife Service has concerns regarding the proposed conceptual mitigation plan, found in Appendix C. At this stage of the proposed project, we believe it is incomplete and not adequate for an undertaking of this scope and magnitude. The proposed project would permanently impact and remove 151.2 acres of forested wetlands, 62.6 acres of non-forested wetlands, and over 13 miles of jurisdictional streams plus smaller non-jurisdictional ephemeral and intermittent streams.

F1-3 As noted in the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule, dated April 10, 2008, a final mitigation plan, approved by the district engineer, must be part of an individual permit (33 CFR Parts 325 and 332). Section 332.3(f)(1) also states that where available, functional assessment methods be applied to characterize baseline pre-impact conditions and determine mitigation for wetland and habitat loss. The FWS recommends the

## Responses to F1

- F1-1 Please see the following responses to specific comments relative to fish and wildlife resources and waters of the U.S., including wetlands.
- F1-2 Comments noted; please see responses to specific comments relative to the proposed Conceptual Mitigation Plan.
- F1-3 The USACE Fort Worth District did not have a single recommended aquatic resource functional/conditional assessment methodology at the time of pre-application consultation and Individual Permit (IP) application development for the Rusk Permit Area (2007-2009). The Texas Rapid Assessment Method (TXRAM) has yet to be published for testing and use, and the Hydrogeomorphic (HGM) East Texas Regional Guidebook only became available in October 2010. The applicant proposed the use of the Wetland Rapid Assessment Procedure (WRAP) and the USACE Mobile District Stream Mitigation Standard Operating Procedures (SOP) in the preparation of the IP application and Conceptual Mitigation Plan. The USACE reviewed the proposed methodology and approved its use in assessing baseline ecological conditions and determining appropriate compensatory mitigation. Although differences exist in vegetative species composition, only minor differences were noted in scoring comparisons of similar aquatic resource types. Sabine's Conceptual Mitigation Plan is in accordance with the 404 IP format requirements of the USACE Fort Worth District.

## Letter F1

## Responses to F1

F1-3 (cont'd) U.S. Army Corps of Engineers' guidebook, ERDC/EL TR-10-17, A Regional Guidebook for Applying the Hydrogeomorphic Approach to the Functional Assessment of Forested Wetlands in Alluvial Valleys of East Texas and the Stream Module of the Texas Rapid Assessment Method (TXRAM), *Draft Work Product*, be used to assess the pre-mine function and condition of waters of the United States, including wetlands. The use of the guidebooks would also aid in calculation of adverse impacts and compensatory mitigation under Section 404 of the Clean Water Act (CWA). The use of "interim" and Rapid Assessment Procedures derived from the South Florida Water Management District or Mobile District of the Corps is of questionable value and unnecessary.

### Threatened, Endangered, or Rare Species

F1-4 The FWS provides the following comments to assist in minimizing and/or avoiding impacts to threatened, endangered, and rare species. The DEIS indicates that impacts to the Louisiana black bear (*Ursus americanus luteolus*) are unlikely due to the transient nature of all Louisiana black bear sightings in Texas. The DEIS also indicates that impacts to Earth fruit (*Geocarpon minimum*) are unlikely due to a lack of suitable soil in the action area, lack of observations during study area surveys, and the distance from any known population of this species. The FWS believes, given the description of the habitat in the footprint of the proposed mine, effects to the Louisiana black bear and Earth fruit would be negligible.

F1-5 However, the FWS does have concerns regarding the potential impact the mine and the Sabine River crossing may have on rare mussels. The status of several freshwater mussel species that may occur in the proposed project area is currently being reviewed. In 2010, CNG Environmental conducted surveys in the proposed project area and found three live and six dead individuals of the Texas heelsplitter (*Potamilus amphichaenus*). The FWS is reviewing the status of the Texas heelsplitter and will publish a 12-month finding to determine if the species warrants listing under the Endangered Species Act (ESA). The DEIS indicates that prior to construction of the haul road bridge and dragline walkway crossing, mussel surveys will be conducted in the disturbance areas and immediately downstream of the crossings. It further states that any mussels discovered would be relocated; however, this may negatively affect their ability to survive and reproduce. According to the DEIS, dragline walkway crossing projects are proposed to occur in 2012, 2018, and 2027. It is possible that this species may become federally listed under the ESA before these actions occur. Therefore, if the Texas heelsplitter becomes listed, the FWS recommends additional coordination with the FWS Arlington Ecological Services Field Office to ensure compliance with the ESA.

### Migratory Birds

F1-6 On August 8, 2007, the bald eagle was delisted from the ESA. However, bald eagles are still afforded protection under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act. All construction activities should be conducted in accordance with the FWS's National Bald Eagle Management Guidelines. The guidelines may be accessed at: <http://www.fws.gov/migratorybirds/baldeagle.htm>.

F1-7 All migratory birds (see Title 50 Code of Federal Regulations (CFR), Part 10, Section 10.13) are protected by the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). A fundamental difference between the MBTA and the ESA is that the ESA provides for the unintentional take of

- F1-4 Comments noted relative to the Louisiana black bear and earth fruit.
- F1-5 The text in Section 3.5.1.5 of the Final EIS has been revised to indicate the Texas heelsplitter status is being reviewed by the USFWS.
- F1-6 Please see proposed mitigation measure FW-1 in Section 3.5.4 of the EIS as well as applicant-committed environmental protection measures presented in Table 2-11 of the EIS and Section 144 (Fish and Wildlife Plan) of SMC's RCT application. As Sabine has committed to reporting any confirmed eagle siting to TWPD and RCT, it is anticipated that these agencies would ensure compliance with the referenced guidelines.
- F1-7 Comments noted. Please see proposed mitigation measure FW-1 in Section 3.5.4 of the EIS.

## Letter F1

## Responses to F1

F1-7 (cont'd) endangered species if it can be mitigated; the MBTA simply does not allow the unintentional take of non-endangered migratory birds.

Unintentional take often occurs when land clearing activities, etc., destroy active nests or otherwise kill birds. This type of unintentional take is best avoided by conducting bird surveys to determine if actively nesting birds are present within the project area and avoiding habitat disturbance if they are. While MBTA permits are available to allow the deliberate take of migratory birds for specific types of activities (see Title 50 CFR, Part 21), there is no permit available for the unintentional take of migratory birds.

### SPECIFIC COMMENTS

#### Appendix C: Proposed Conceptual Mitigation Plan

F1-8 Section 2.1 Mitigation, Page C-6. The Sabine Mining Company proposes mitigation and compensatory mitigation based on acreage of impacts without regard to the quality of the resources or ecological functions and services lost. Mitigation should be based on restoration of those lost functions and services. Therefore, the FWS recommends a Hydrogeomorphic (HGM) functional assessment of wetlands and conditional assessment of streams before impacts occur.

F1-9 Section 2.1 Mitigation, Page C-7. The impacts to wetlands, streams, and terrestrial habitats which would result from the proposed project are not temporary. Removing and replacing these habitat's up to 150 feet below grade to access lignite would completely destroy all aquatic and terrestrial habitats and would result in long term adverse impacts to these ecosystems until their functions are fully restored. Therefore, the FWS recommends no separate mitigation category for "temporary" impacts.

F1-10 Environmental "lift" from reconstruction and reclamation efforts can only be assessed if pre-mine conditions are known. There will be no "lift" until the pre-mine functions and conditions are exceeded and there is compensation and mitigation for temporal loss of functions. Therefore, the FWS recommends pre-impact HGM assessments of waters of the United States replace the physical and temporal HGM functions and ecological services lost.

F1-11 Section 2.2 Other Considerations, Page C-10. There are 12 operational or "in the approval process" mitigation banks with service areas that include the proposed project. Therefore, the FWS recommends use of these banks to provide mitigation in advance of project impacts to prevent temporal losses to forested wetlands.

F1-12 Section 5.0 Success Criteria and Performance Standards, Page C-21. In accordance with the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (33 CFR §332.5), performance standards must be based on attributes that are objective and verifiable. Objective and verifiable attributes do not include "aesthetically pleasing," "no excessive erosion," and "functioning as the intended type of waters." The FWS recommends Success Criteria and Performance Standards be based on variables or measures of functional capacity as described in published functional assessment methodologies or HGM comparisons to reference pre-mine, aquatic resources of similar type, and landscape position.

F1-8 Please see the response to comment F1-3 relative to the USACE-approved methodology. Section 2.1 of the proposed Conceptual Mitigation Plan (Appendix C of the Final EIS) provides the basis for the proposed mitigation ratios.

F1-9 Temporary impacts are discussed in Sabine's 404 IP and associated Conceptual Mitigation Plan in accordance with the USACE Fort Worth District guidance. As discussed in Attachment E of Sabine's 404 IP, temporary impacts have been identified for the Sabine River and associated floodplain, and the length of the temporal loss has been evaluated to determine mitigation requirements. Direct impacts, potential water quantity-related impacts, and potential water quality-related impacts (e.g., temporary increases in sedimentation in the Sabine River) are discussed in Section 3.2.5.2 of the Draft EIS.

F1-10 Please see the response to comment F1-3 relative to USACE-approved methodology.

F1-11 The USACE Fort Worth District has determined that on-site, permittee-responsible mitigation is environmentally preferable for large-scale lignite mining projects pursuant to 33 CFR 332.3(a)(1). This determination is based on the relatively large amount of surface and watershed disturbance impacted and reclaimed/restored by mining activities and a documented record of success, both locally and regionally, by the applicant and other companies in constructing compensatory mitigation. Requiring the purchase of mitigation bank credits effectively would discourage the replacement of resources that have proven to be as good as, or better than, pre-mine conditions, at or near their pre-mine location, which supports a watershed approach to mitigation.

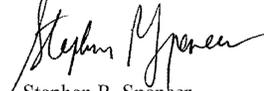
F1-12 Please see the response to comment F1-3 relative to USACE-approved methodology.

## Letter F1

- F1-13 We also believe the success criterion for forested wetland restoration is inadequate. One hundred trees per acre (24 foot spacing), 1 inch in diameter or 6 feet tall, are not comparable to the pre-mine forested wetlands. Other mitigation situations in the South Central Plains Ecoregion of the Sabine River watershed have required 435 trees per acre as their success criteria for initial planting and survival. This assumes some mortality of planted vegetation until acceptable survival is achieved. The FWS recommends success criteria for forested wetlands be based on achievement of functional and conditional assessment scores related to pre-mine assessments.
- F1-14 Section 5.2 Functional Assessment, Page C-25. The TXRAM and East Texas HGM guidebooks are available. The FWS recommends the Sabine Mining Company use these guidebooks to aid in the calculation of adverse impacts and compensatory mitigation under Section 404 of the CWA.

We appreciate the opportunity to provide comments on this project in the pre-planning stages. FWS representatives would be willing to meet with Corps, Sabine Mining Company, representatives from responsible agencies, and interested stakeholders to discuss our comments and concerns. If you have any questions, or require further coordination, please contact Sidney Puder, Fish and Wildlife Biologist, FWS Ecological Services Field Office, Arlington, Texas, at 817-277-1100.

Sincerely,



Stephen R. Spencer  
Regional Environmental Officer

## Responses to F1

- F1-13 Current USACE Fort Worth District policy for success criteria for trees on forested wetlands is 250 trees per acre at the conclusion of the required monitoring period. Text in Section 2.5.3.10 of the EIS and the Conceptual Mitigation Plan has been revised accordingly (see Appendix C of this Final EIS).
- F1-14 As discussed in the response to comment F1-3, TXRAM and the HGM East Texas Regional Guidebook were not available during pre-application and IP application development for this proposed project.

## Letter F2

SWF-2007-560

CESWF-PER-R  
S. Brooks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

December 17, 2010

Richard J. Muraski, Jr.  
Colonel, Corps of Engineers  
Fort Worth District  
819 Taylor Street, Room 3437  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

Dear Colonel Muraski:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Draft Environmental Impact Statement (DEIS) prepared by the Fort Worth District Corps of Engineers for the Rusk Permit Area Expansion of the existing South Hallsville No. 1 Mine. The Sabine Mining Company, a subsidiary of the North American Coal Corporation, proposes to construct, operate, and reclaim the Rusk Permit Area.

The proposed action requires an Individual Permit from the U.S. Army Corps of Engineers for the discharge of dredged and fill material into waters of the U.S. under Section 404 of the Clean Water Act. The Corps of Engineers is the lead Federal agency preparing the DEIS. The U.S. Fish and Wildlife Service, the EPA, and the Texas Parks and Wildlife Department are cooperating agencies.

EPA rates the DEIS as "EC 2," i.e., EPA has "Environmental Concerns to the Proposed Permitting Action and Requests Additional Information." EPA's concerns are specific to wetland functional assessment methodology and mitigation. Our enclosed detail comments are offered to explain our concerns and to insure full compliance with the requirements of NEPA and the CEQ regulations. EPA asks that these comments be addressed and responded to in the Final EIS (FEIS).

Our classification will be published on the EPA web site: [www.epa.gov/compliance/nepa/index.htm](http://www.epa.gov/compliance/nepa/index.htm), according to our responsibility under Section 309 of the Clean Air Act to inform the public of our views on proposed Federal actions. If you have any questions, please contact Mike Jansky of my staff at (214) 665-7451 or by e-mail at [jansky.michael@epa.gov](mailto:jansky.michael@epa.gov) for assistance.

EPA appreciates the opportunity to review the DEIS. Please send our office five copies of the FEIS when it is sent to the Office of Federal Activities, EPA (Mail Code 2252A), Ariel Rios Federal Building, 1200 Pennsylvania Ave, N.W., Washington, D.C. 20004.

Sincerely yours,

Rhonda M. Smith, Chief  
Office of Planning and  
Coordination 6ENXP

Enclosure

RECEIVED

DEC 30 2010

CESWF-PER-R

## Letter F2

**DETAILED COMMENTS  
ON THE  
U.S. ARMY CORPS OF ENGINEERS  
FORT WORTH DISTRICT  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR THE  
SABINE MINING COMPANY RUSK PERMIT AREA  
RUSK, HARRISON, AND PANOLA COUNTIES, TEXAS**

**BACKGROUND:** Sabine Mining Company proposes to construct, operate, and reclaim an expansion of the South Hallsville No. 1 Mine. The new 20,377 acre-area is located south of the existing mine and across the Sabine River into Rusk, Harrison and Panola counties, Texas. Surface mining operations would continue with conventional open pits excavated by large draglines and supported by standard earth moving equipment such as loading shovels, dozers, end dumps, and scrapers.

**COMMENTS:** The following are now offered for your agency's consideration in finalizing the DEIS:

1. Proposed Conceptual Mitigation Plan, South Hallsville No. 1 Mine Rusk Permit Area: Functional Assessment.

The DEIS utilizes the term "functional assessment" to describe the methods utilized for assessing impacts and mitigation requirements. However, neither method is a functional assessment in that neither provides an assessment of independent functions. Instead, the methods are more representative of Level II conditional assessment that utilizes various metrics to derive a single score typically referred to as a condition score. Typically Level II assessments are utilized for smaller or less controversial projects. Level III assessments are meant for larger or more controversial projects where detailed information is required. The Regional "Guidebook for Applying the Hydrogeomorphic Approach to the Functional Assessment of Forested Wetlands in Alluvial Valleys of East Texas" is a more appropriate method for assessing functional impacts proposed by the project. Also available, is the Regional "Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Forested Wetlands in the West Gulf Coastal Plain Region of Arkansas", which is also more appropriate.

The two interim methods described as previously approved by the Fort Worth District Corps of Engineers for use by the applicant for this project, are unfamiliar to EPA Region 6. EPA is unaware of any work by state or federal agencies or any academic validation of these methods for use in the South Central Plains Ecoregion of Texas. Additionally, the DEIS states that both methods were modified to adapt them to local conditions. It appears that the changes made favor lower compensation ratios, which without a scientific validation study or review by appropriate experts, those changes appear questionable.

## Responses to F2

F2-1 Please see the response to comment F1-3 relative to the USACE-approved methodology.

F2-1

## Letter F2

2

F2-2 2. Another major concern is that the applicant utilized in its assessments "Reference Condition" based on reclaimed wetlands and streams at the South Hallsville No. 1 Mine. EPA disagrees with this approach, as it does not reflect the natural ecological conditions found in undisturbed/least disturbed sites of the region. A fundamental requirement for developing or adopting an assessment method in a particular area is that reference condition for specific wetland/stream types be identified and the method calibrated to that range of disturbances. It is not apparent that such efforts were made to adopt the two assessment methods to this region. Furthermore, utilizing recently created wetlands and streams at the South Hallsville Mine No. 1 as reference standard creates a false standard. The goal of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Without identifying the Reference Condition, the condition at sites able to support and maintain a balanced, integrated, and adaptive biological system having the full range of elements and process expected for a region, no valid assessment in regards to meeting the goal of the CWA can be made.

F2-3 3. A major concern of this mitigation proposal is the suitability of post mining soils. No discussion was made as to how the hydric soils would be handled and it is assumed that they will be removed and incorporated into the oxidized overburden described as "growth media". Without appropriate soils capable of supporting hydric conditions the risk of mitigation failure is high. The applicant has proposed a 2:1 and a 1:1.5 mitigation ratio for forested and non-forested wetlands respectively. Historically, creation ratios are much higher due to the inherent risk for failure. As proposed, the amount of mitigation and the basis for which they were derived are in EPA's opinion inappropriate and would likely result in a net loss of wetland function.

F2-4 Additionally, EPA disagrees with the notion that incremental mining activity (five year phases) limits the impacts to waters of the U.S. Rerouting streams via drainage channels and interrupting streams with on-channel detention ponds effectively disconnects the ecological process in those systems. No mitigation credit for incremental mining is warranted. Temporal loss should be calculated from the first interruption of the project site until complete reclamation is achieved and mitigation sites are considered successful.

F2-5 4. The DEIS provides little in the way of identifying the location and design of stream and wetland mitigation only citing the proposed amounts of each and depicting a general set of design profiles. EPA understands that landowner agreements will dictate the type of land that is ultimately put back. Without specific details as to stream and wetland locations and appropriate design based on fluvial geomorphology principles, EPA cannot fully evaluate compliance with Section 404 of the CWA. More detail in the way of verifiable and enforceable location and designs are needed.

F2-6 5. Sabine River Crossing/Transportation and Utility Corridor: The applicant proposes to cross the Sabine River and its associated floodplain by construction of a river bypass channel and constructing a walkway on which to move the large draglines. The applicant has proposed to leave the material in the floodway, but modify it so that approximately 60 percent of it is re-excavated and placed on top of the remaining roadway above the 100 year floodplain. According to the DEIS the anticipated dates for moving the draglines will be; 2012 for the first

## Responses Letter F2

F2-2 The Conceptual Mitigation Plan has been revised in response to this comment to remove the use of the word "reference" relative to mitigation areas (see Appendix C of this Final EIS).

F2-3 Hydric soils would be handled along with oxidized overburden for use as suitable growth media in general reclamation activities.

The mitigation ratios proposed for the Rusk Permit Area were based on Sabine's reclamation procedures and success at the existing South Hallsville No. 1 Mine. These ratios are consistent with the USACE Fort Worth District's previous authorizations of similar ratios at adjacent lignite mine operations that also have demonstrated reclamation success for waters of the U.S. using salvaged growth media.

F2-4 As clarification, no mitigation credit is provided for incremental mining or contemporaneous reclamation. Rather, temporal loss of waters of the U.S., including wetlands, is accounted for in the application of the USACE Mobile District Stream Mitigation SOP, which includes a temporal loss factor.

F2-5 Relative to the potential location and design of wetlands mitigation, a percentage of the wetlands mitigation to be undertaken by Sabine would be on-site permittee-responsible wetland restoration in the general location of jurisdictional waters of the U.S., including wetlands, which existed prior to the mining operations. Of the on-site wetland mitigation, a portion would occur on properties owned in fee by SWEPCO. As landowner, SWEPCO is willing to commit to long-term site protection to waters of the U.S., including wetlands, on fee properties through a conservation easement or restrictive covenant, to the degree practicable that a willing third-party conservation group or other approved entity can be engaged. Additional wetland restoration would occur on lands for which only a "coal and lignite lease" is in place and for which SWEPCO does not own fee title to the land. The coal and lignite leases used for this project are typical for the area and do not authorize SWEPCO, the lessee, to impose on the land any sort of permanent use restriction, such as a conservation easement or deed restriction governing the restored wetlands areas (such as might be appropriate for fee-owned land).

Sabine does not have the power of eminent domain to use as leverage for such purposes. Therefore, any formal requirements placed on Sabine by the USACE that would mandate long-term site protection on leased properties (through conservation easements or protective covenants) would be imposing on Sabine an obligation which Sabine could not ensure would be met, due to the inability of Sabine to unilaterally force landowners to accept such long-term site protection obligations on their property. In essence, formal requirements placed on leased properties compromise private

## Letter F2

3

F2-6  
(cont'd)

two, 2018 for the next one and the last one in 2027. Being that the walkway would serve no project purpose during the 15 or more years it sits idle between walks, EPA recommends all fill material be removed as it may have a disruptive influence on the floodplain and associated waters of the U.S.

F2-7

6. Restoration of Waters of the U.S., Including Wetlands: The linear feet of each type of stream impact should be listed in addition to the acreage. If the acreage is used, the calculation should use 100 ft. of riparian buffer plus the stream.

F2-8

7. Site Protection: Long term protection of wetland and stream mitigation sites need to be addressed. As it now stands, the applicant is deferring to the CWA 404 permit to serve as protection of mitigation sites. In that it may take more than 20 plus years for forested wetlands to become fully functional and mitigation to reach its full ecological lift, protection should be afforded at least until that point.

## Responses to Letter F2

F2-5  
(cont'd)

property rights of landowners, cannot legally be placed on leased properties without landowner permission, and are not warranted for leased properties.

Nevertheless, once wetland areas are restored on leased land, those wetland areas are subject to the same protections as wetlands that existed on the property prior to mining. Those protections include all protections under Section 404 of the Clean Water Act (CWA), and protections provided relative to future land development under the USACE's nation-wide permits or individual permits. Under those programs, any development of the land is required to: 1) seek to avoid impacting wetlands, 2) seek to minimize any impacts, and 3) seek to mitigate unavoidable impacts on wetlands.

The conceptual locations of post-mining land uses (Figure 2-10) have been revised in the Final EIS. This map indicates areas to be reclaimed as forestry, pasture, fish and wildlife habitat, and developed water resources.

F2-6

The engineering analysis performed for the construction of the transportation and utility corridor, including the dragline walkway, included a review of the impacts of stockpiled dragline walkway material on floodplain hydraulics. As discussed in the Sabine River and Floodplain Crossing subsection of Section 3.2.4.2 of the EIS, a reasonable design event (the 100-year flood) has been investigated and incorporated into the proposed bridge and walkway designs and associated drainage infrastructure (H and H Resources 2009; Sabine 2010a). USGS gaging data were used to determine the mean daily peak flow for design, and standard hydraulic engineering tools were applied to determine mean daily peak water surface elevations for the design flood. In keeping with common floodplain management practice, the draft crossing designs were developed to limit increases in water surface elevations to within 1 foot of the pre-project values for the 100-year event (H and H Resources 2009). As a result, minimal impacts are anticipated to floodplain boundaries or to existing structures in or near the Sabine River floodplain.

Also as discussed in Section 3.2.4.2 of the EIS, during the periods between dragline crossings, high flows would subject the stockpiled walkway material to erosion. Flow paths between the walkway openings, and between the remaining material stockpiles and the haul road, would promote additional erosion, turbidity, and sedimentation between the embankments and into the river during overbank flows. These effects may limit the hydraulic performance of relief culverts under the haul road nearby. These flow and water quality impacts would be short-term in nature. Because of the potential for these impacts from excavation, stockpiling, and equipment

## Responses to Letter F2

F2-6 tracking during wet periods, monitoring and mitigation is being considered (cont'd) by the USACE. These include Mitigation Measures SW-1, SW-2, and SW 6 as presented in Section 3.2.4.4 of the EIS.)

Complete removal of the dragline walkway material between the periods of transport of up to four draglines from the South Marshall Permit Area to the Rusk Permit Area would require the redisturbance, rehandling, and storage of 100 percent of the material comprising the entire walkway, and additional disturbance associated with the temporary stockpiling of the material. Under the Proposed Action, the material removed from 60 percent of the walkway would be stockpiled on top of the remaining portion of the walkway to minimize additional disturbance, and 60 (versus 100) percent of the walkway would be redisturbed during subsequent dragline moves. Repeated disturbance of the floodplain could increase the impacts to floodplain geometry and surface water quality.

F2-7 The linear feet of perennial, intermittent, and ephemeral streams in the Rusk Permit Area are detailed in Appendix E (Table E-1) of Sabine's 404 IP. The IP previously was distributed to the USEPA and other agencies for review and comment. The linear feet of stream impacts by stream type has been added to Section 3.2.5.2 of this Final EIS.

F2-8 Please see the response to comment F2-5 regarding site protection.

# Letter S1

# Responses to Letter S1

SWF-2007-560



James E. Herring, *Chairman*  
Lewis H. McMahan, *Member*  
Edward G. Vaughan, *Member*

J. Kevin Ward  
*Executive Administrator*

Jack Hunt, *Vice Chairman*  
Thomas Weir Labatt III, *Member*  
Joe M. Crutcher, *Member*

November 3, 2010

Mr. Darvin Messer  
Regulatory Branch  
CESWF-PER-R  
U.S. Army Corps of Engineers  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

Re: Application Number: SWF-2007-00560  
Sabine Mining Company

Dear Mr. Messer:

S1-1

This is in response to your Public Notice of October 29, 2010, concerning the referenced project. After a review of the information you provided for an Application for Approval of Reclamation Project, our findings indicate that as participants in the National Flood Insurance Program (NFIP), Rusk, Harrison and Panola Counties have approval authority for projects within their jurisdiction. Please ensure that you coordinate with the communities for any specific details concerning development within the Special Flood Hazard Area.

Thank you for bringing this matter to our attention.

Sincerely,

  
Michael Segner, CFM  
NFIP State Coordinator

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SWF-2007-560

S1-1

The requirement for county approval of activities in the floodplain is noted in Chapter 1.0 of the EIS, Table 1-2, under Local Requirements, Approvals, and Coordination. It also is discussed in Section 3.2.4.2 of the EIS, Environmental Consequences – Proposed Action – *Sabine River and Floodplain Crossings* (second full paragraph on page 3.2-37). The text has been modified in Table 1-2 of the Final EIS to reflect approval by the county floodplain managers rather than the county clerks, and in Section 3.2.2 of the Final EIS, to add the National Flood Insurance Program requirements to the list of water resources-related regulations.

## Letter S2

VICTOR G. CARRILLO, CHAIRMAN  
ELIZABETH A. JONES, COMMISSIONER  
MICHAEL L. WILLIAMS, COMMISSIONER



JOHN E. CAUDLE, P.E., DIRECTOR

### RAILROAD COMMISSION OF TEXAS SURFACE MINING AND RECLAMATION DIVISION

November 23, 2010

SWF-2007-560

Mr. Stephen L. Brooks  
Chief, Regulatory Branch  
U.S. Army Corps of Engineers, Fort Worth District  
Regulatory Branch, CESWF-PER-R  
P O Box 17300  
Fort Worth, Texas 76102-0300

RE: Draft Environmental Impact Statement for the Proposed Rusk Mine  
The Sabine Mining Company (SMC)  
USACE Project No. SWF-2007-00560

Dear Mr. Brooks:

I have received a copy of your October 29, 2010, letter transmitting the Draft Environmental Impact Statement (DEIS) regarding the USACE's Individual Permit for The Sabine Mining Company (SMC) to dredge and fill waters and wetlands of the U.S. in its 20,377-acre proposed Rusk Mine in Rusk, Panola, and Harrison counties, USACE Project No. SWF-2007-00560.

As a regulatory representative of the Railroad Commission of Texas (RCT), the surface mining and reclamation permitting authority for SMC's proposed Rusk Mine, RCT Docket No. C9-0021-SC-00-A, I appreciate the opportunity to participate in the USACE's review of the affects of its Individual Permit for waters and wetlands impacts and mitigation under USACE Project No. SWF-2007-00560. My comments on this DEIS follow my June 24, 2010, comments on the June 4, 2010, proposed DEIS, and my March 23 and February 10, 2010, comments on SMC's January 28, 2010, Individual Permit application to the USACE.

S2-1

As in my past correspondence, my primary and continuing comment concerns SMC's proposed mitigation plan, which is inconsistent with the lease agreements with affected landowners, and is not supported by SMC's proposed bonded reclamation plan to reclaim leased land to pastureland and commercial forestry land use. Although the USACE's October 29, 2010, EIS contains a great deal of information, it does not contain this information about the contractual, lease-agreed commitments to affected landowners for SMC to only reclaim their land with grasses and pine trees (see the attached copy of a sample lease document in SMC's RCT application, Volume 1, Appendix 117-1, Article 11).

S2-2

Consequently, although SMC proposes to the USACE and the RCT to mitigate and re-establish impacted waters and wetlands in their original locations by planting a variety of native grasses, forbs, shrubs, and trees along the banks of restored streams, ponds, and wetlands, the lease agreements contractually require SMC to reclaim these affected leased areas with pine trees and grazing grasses. This currently affects 26 leased tracts. These landowners have agreed to lease their land for mining with the expectation that SMC will reclaim it with grazing grasses and pine trees, which, although consistent with SMC's approved

S2-3

SWF-2007-560

NOV 29 2010

CESWF-PER-R

1701 NORTH CONGRESS AVENUE • POST OFFICE BOX 10627 • AUSTIN, TEXAS 78711-0627 • PHONE: (512) 463-6900 FAX: (512) 463-6700

## Responses to Letter S2

- S2-1 The USACE acknowledges receipt of the RCT's earlier comments. USACE responses to RCT's June 24, 2010, comments on the preliminary draft EIS were provided to the RCT on September 7, 2010, and were resubmitted to the RCT on April 6, 2011. USACE will address the RCT's February 10, 2010, comments on Sabine's 404 IP application in the EIS Record of Decision.
- S2-2 Please refer to the response to comment S4-9 regarding reclamation of waters of the U.S., including wetlands.
- S2-3 Please see the response to comment S4-9 regarding reclamation of waters of the U.S., including wetlands.

## Letter S2

Stephen L. Brooks  
USACE Project No. SWF-2007-00560  
November 23, 2010  
Page 2

S2-3 (cont'd) | reclaim it to postmine pastureland and forestry land uses, is not consistent with SMC's plan for wetland mitigation plan.

S2-4 | To protect these landowners and ensure that SMC implements its mitigation plan, it is imperative for SMC to obtain landowner agreement for SMC to restore wetlands on leased property. SMC has not done this; in fact, SMC indicates on page 23 of its proposed mitigation plan that it will not do this. As it stands, if SMC were to implement its proposed wetland mitigation plan on leased land, it will create landscape conditions that conflict with the terms of the controlling lease agreements and proposed postmine land-use plans. This flaw in SMC's mitigation plan in both its USACE and RCT permit applications limits SMC's ability to achieve mitigation, and I believe it merits consideration in the EIS, as well as resolution prior to approval of either application.

Please provide me a copy of the Environmental Impact Statement for Project No. SWF-2007-00560, as well as any USACE correspondence and approval for this project.

Sincerely,



John E. Caudle, Director  
Surface Mining and Reclamation Division

JEC/RB/flj  
Attachment

xc: Mr. Phil Berry, Environmental Manager  
The Sabine Mining Company  
6501 Farm Road 968 West  
Hallsville, Texas 75650-7413

File Ref. No. 1029801

## Responses to Letter S2

S2-4 Please see the response to comment S4-9 regarding reclamation of waters of the U.S., including wetlands.

Letter S2

# APPENDIX 117-1

## SAMPLES OF LEASE DOCUMENTS

Letter S2

### APPENDIX 117-1

**Note: This form is used for new leases at a set amount per acre-foot**

"NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER."

#### COAL AND LIGNITE LEASE

THIS LEASE, dated the \_\_\_\_\_ day of \_\_\_\_\_ between

"Lessor" (whether one or more) whose address is \_\_\_\_\_

and **Southwestern Electric Power Company**, "Lessee", whose address is 2396 FM 3251, Hallsville, Texas, 75650,

WITNESSETH:

For TEN DOLLARS and other valuable consideration, receipt of which is acknowledged, and the covenants and agreements of Lessee herein, Lessor grants, leases and lets unto Lessee the land described below and all lignite and coal and their constituent products, and substances contained therein or found in association therewith, and substances encountered in mining operations conducted hereunder (collectively called "lignite"), in, on or under the land described below for the purposes described in this lease, and with the exclusive right to enter upon, investigate, explore, prospect by core drilling, excavating or otherwise, to mine (by any method now or hereafter known), conduct mining operations, surface mine, produce, transport, store and remove such lignite, and the right to accessory privileges and easements, and other rights useful to mining operations conducted by Lessee thereon, or on any other lands, the following land (herein called "said land") in Rusk County, Texas:

{Description of Land}

For calculating all payments hereunder, said land shall be treated as comprising \_\_\_\_\_ acres, whether more or less. All land and lignite (as above described) owned by Lessor adjacent or contiguous to said land is included herein as a part of said land. Lessor excepts its oil, gas and mineral rights except lignite, as defined above. Future leases and conveyances are hereby subordinated to Lessee's rights herein, and Lessee herein shall have exclusive surface possession during mining operations.

1. The terms "mine," "mining operations," and similar terms and rights herein granted include, but are not limited to, the filing of a Mine Plan or other permitting documents for the removal of lignite; the reclamation of said land and subsequent release of reclamation bond; operations for opening, reworking, deepening, extending or repairing a mine; the removal, gasification and/or any other use, treatment or handling of lignite; all other operations incidental to mining or recommenced mining operations in an effort to obtain or re-establish the removal of lignite; all construction work, studies, reports and other activities necessary to obtain approval of mining and reclamation activities; the immediate and continuing right to enter said land and explore, test and mine by methods Lessee deems reasonable to ascertain environmental conditions and the quantity and quality of lignite; the right to construct, operate and use on said land such buildings, equipment, machinery, power, telephone and utility lines, haul roads, storage facilities, sedimentation ponds, roadways, railways, pipelines, conveyors, water wells and all other facilities and equipment necessary or desirable for mining, producing, treating, storing, processing and transporting lignite from, across, or to said land and/or other lands mined or to be mined by Lessee; the right to relocate all utilities, pipelines, roads or other hindrances to mining operations to other locations on said land, or to or from other lands within the

Form No. 3-1 (6% Royalty)

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## Letter S2

general area; the right to construct all excavations, canals, dams, ponds, lakes, changes in water courses and other alterations and improvements on said land or within the general area as are necessary or desirable for mining or mining operations; the right to store, use, stockpile, remove, market or sell lignite and dispose of waste materials on said land resulting from mining on said land and/or on other lands mined or to be mined by Lessee, or from power plant operations; the right to use, store, remove or deposit rocks, sand, clay, soil, gravel, timber, surface or underground water developed or hereafter discovered, in or upon said land or other land in connection with mining operations within the general area without further compensation except as provided in this lease; the right of ingress and egress, to and from adjoining lands; and the right to abandon, assign, convey or relocate easements as are convenient to the exercise of the rights in this lease; and the right in Lessee's discretion by any methods now or hereafter known, to exercise all rights which are desirable in conducting activities permitted or required by this lease.

2. Lessee shall pay Lessor as annual rental for this lease, on or before the first anniversary date hereof, a sum of money equal to TEN DOLLARS per acre for each acre of Lessor's lignite (meaning lignite as to which Lessor owns the leasing rights and the right to receive rentals therefor) covered hereby at the time such payment is due, and an amount calculated in the same manner on or before each succeeding anniversary date thereafter unless mining operations for lignite have been commenced on said land, or until this lease is released in whole or in part, as hereinafter provided. So long as this lease is in effect, Lessee shall pay Lessor the annual rental herein specified. When mining operations on said land commence, Lessee may cease said annual rental payments. So long as mining operations are being conducted on said land, or this lease is otherwise extended, this lease shall remain in full force and effect until released.

Notwithstanding anything to the contrary herein, if mining operations have not been commenced (or if heretofore commenced, such operations or renewed or additional operations are not hereafter conducted), by or for Lessee or any optionee or successor owner of this lease in whole or in part, on said land or within a six-mile radius of the northwest, corner of the John A. Gray Survey A-343, Harrison County, Texas, on or before the 15th anniversary date of this lease, this lease shall terminate.

3. Lessee shall pay Lessor as royalty the sum of EIGHT HUNDRED DOLLARS (\$800) per acre foot for every acre foot of Lessor's lignite mined and removed from said land.

Such royalty shall be due within thirty days after the end of each calendar quarter within which lignite has been mined and removed from said land.

When mining operations commence or continue, involving any part of said land, all advance royalties paid pursuant to this lease may be deducted by Lessee commencing with first production from said land from one-half of the amount due as royalty for lignite actually mined from said land, until such time as all amounts thus credited and deducted shall equal the amount of all advance royalty payments made pursuant to this lease, including those made to the original Lessor and its heirs, successors and assigns.

4. Lessee agrees to pay, or cause to be paid, to Lessor as a minimum royalty, surface damage and surface use payment, SIXTEEN HUNDRED DOLLARS for each surface acre of said land owned by Lessor within any mine or surface mine from which lignite is removed pursuant to this lease. Within four months after the mining and removal of lignite has been completed on one of the tracts of land described in this lease (as evidenced by certificate of the mining company conducting the mining), the surface acres so utilized shall be measured, and if Lessor has not theretofore been paid or credited, from royalty, advance royalty, and/or the surface use and damage payment provided for in the next succeeding paragraph, an amount equal to at least SIXTEEN HUNDRED DOLLARS for each such surface acre within any such mine or surface mine, Lessee will pay to Lessor the difference between the amounts theretofore so paid or credited and said SIXTEEN HUNDRED DOLLARS per acre.

For each surface acre of said land owned by Lessor which was not within a mine or surface mine from which lignite was removed, Lessee agrees that it will pay, or cause to be paid, to Lessor THREE HUNDRED DOLLARS for each such surface acre utilized by Lessee for any stock pile, equipment, storage, building, dump, road, railway, lake or other facility utilized by Lessee in mining operations, and for each such surface acre which Lessee's mining or use of other lands effectively deprives Lessor of the use thereof. Within four months after the mining and removal of lignite has been completed on one of the tracts of land described in this lease (as evidenced by certificate of the mining company conducting the mining), the surface acres so utilized shall be measured, and if Lessor has not theretofore been paid or credited from the surface damage and surface use payments provided for in this ¶ 4 an amount equal to at least THREE HUNDRED DOLLARS for each such surface acre so utilized, Lessee will pay Lessor the difference between the amount theretofore so paid or credited and said THREE HUNDRED DOLLARS per acre. Lessor agrees that the minimum royalty, surface damage and surface use payments provided in this ¶ 4 (herein called "surface use payments") shall be complete compensation for the damage, if any, to and use of each and every acre mined or utilized and/or any damage for depriving Lessor of the use of each such acre, either before, during, or after said mining operations, but this shall not relieve Lessee of the obligation to comply with ¶ 11 hereof.

## Letter S2

A Lessor that owns both the surface of a tract of land described in this lease and the right to receive advance royalty payments and production royalty payments hereunder shall have the option to request and be paid, in lieu of and in substitution for said THREE HUNDRED DOLLARS per acre portion of the "after mining" surface use payments, an advance royalty payment (prior to mining, use or possession of said land by Lessee) of THREE HUNDRED DOLLARS per acre for each surface acre owned by Lessor and described in the written notice to Lessor provided for in ¶ 6 hereof, provided that such Lessor executes a recordable amendment or memorandum of amendment specifying that said advance payment shall be an advance royalty payment to be applied, credited and recouped in accordance with ¶ 3 and ¶ 4 of this lease, and shall be full compensation for the damage to, and use of each acre described in such written notice to Lessor to be mined, utilized or occupied, and as damage for depriving Lessor of the use of each such acre, either before, during or after said mining operations.

In addition to other payments, Lessee shall pay Lessor the reasonable fair market value of any house, barn and other fixtures owned by Lessor situated on said land, presently or hereafter, that are destroyed or rendered useless by Lessee's operations hereunder, except those placed thereon after Lessee has mailed or delivered to Lessor written notice that mining operations hereunder are proposed as provided for in ¶ 6 herein.

5. Lessee may release this lease at any time as to all or part of said land, provided that Lessee pays to Lessor any money then due and payable under the terms hereof to Lessor, and Lessee is thereafter released from all further payments and obligations (including without limitation payments of rentals and advance royalty) insofar as the land surrendered is concerned, and the rental, advance royalty, production royalty, or other payments herein provided to be paid Lessor shall thereafter be calculated on the number of acres remaining subject to this lease. Such release shall be recorded in the Rusk County Deed Records. Lessee may thereafter release additional acreage. Any advance royalty attributable to land released shall nevertheless be deductible from and credited against any future royalty due for production from any land remaining subject hereto as provided herein.

Notwithstanding anything to the contrary in this lease, and even if mining and removal of lignite from said land has ceased, or not commenced, Lessee shall have the right to surface use of said land for mining operations on other lands under control of Lessee upon paying Lessor, or the recommencing of the payment to Lessor, of the annual rentals provided in ¶ 2 and the appropriate payment provided for in ¶ 4 hereof, in proportion to the amount of surface so used.

6. Lessor acknowledges that mining of lignite on said land may never take place, and if conducted may be deferred or interrupted for many years. Mining operations may require that Lessee take exclusive possession of all or part of said land. At such time, or from time to time, Lessee shall give Lessor written notice of its intent to take possession of all or part of said land, and such notice shall not be less than 120 days in advance of actual needs, so as to provide Lessor time to salvage or remove growing crops, timber, sand, gravel, clay and improvements then located thereon.

7. Notwithstanding anything to the contrary in this lease, neither party intends that this lease will terminate or be cancelled because of any clerical error, oversight, unintentional mistake or other default in the administration, operation, or maintenance of this lease and/or said land and/or any payments due hereunder, including, but not limited to, rentals, advance royalty, production royalty, and other payments provided for in this lease. This lease shall not terminate because of any such default, and Lessor shall give Lessee written notice of any default it believes has occurred, whereupon Lessee shall have 60 days after receipt of such notice to make or tender such payment that is found to be due and/or begin such operations or take such action to cure any default that is found to exist. There shall be no obligation or implied covenant for Lessee to begin mining operations on said land, nor to mine, remove or sell lignite therefrom, nor to continue the mining, removal or sale of lignite once operations have begun. If Lessee mines lignite from said land, it shall have the right to mine such lignite that in its opinion can be mined and utilized at a cost competitive with other fuel sources for Plant or other plants, and it shall have no duty to mine, utilize or pay royalty on lignite which Lessee does not mine or utilize because Lessee deems it to be uneconomical or unsuitable.

If, after mining operations have begun on said land, mining operations shall cease for any period of 180 consecutive days, Lessee may resume the payment of said annual rental, or mining operations, on or before the rental payment date next ensuing after the expiration of 30 days following such 180 day period. The exercise by Lessee of this right to recommence mining operations, or rental payments, may be exercised on each occasion that mining operations shall so cease.

Mining and mining operations shall not be deemed to have ceased if mining or mining operations are suspended for any period of less than said 180 days, or are prevented or rendered impractical by law, governmental regulation, restraint, war, insurrection, terrorism, or court order, by inability to obtain permits, equipment, material, power or fuel, by strike, lock-out or industrial disturbance, by failure of carriers to transport or furnish facilities for transportation, by

## Letter S2

operation of force majeure (including, without limitation, flood, lightning, earthquake, fire, storm or washout), by breakage or accident of machinery or facilities or by any cause beyond Lessee's control.

If any of said land is now or hereafter subject to conveyance, lease or other instrument entitling others to mine said land for lignite, or to claim such right or there is a dispute as to such right or as to title, or right to rental, royalty, advance royalty and/or other payments, any such payments may be deposited in escrow with the depository bank herein specified or in the Southwestern Electric Power Company's insured non-interest bearing escrow or suspense account, or, at Lessee's election may be interpleaded in the proper court of Rusk County, Texas, in an appropriate interpleader action, in each event to be held until such lease, conveyance or other instrument has been released, expired or canceled as to said land, and/or until such dispute is resolved; any sums so deposited in escrow or in suspense or interpleaded by Lessee shall be deemed payment of rental, advance royalty, royalty, or other sums due hereunder.

8. The rights of either party may be assigned in whole or in part and the provisions hereof shall extend to their heirs, executors, administrators, successors and assigns, but no change or division in the ownership of said land or any payments provided for hereunder, however accomplished, shall operate to enlarge the obligations or diminish the rights of Lessee.

9. Lessor warrants and agrees to defend the title to said land and agrees that Lessee at its option may discharge any tax or other lien against said land and if Lessee does so, it shall be subrogated to such lien with the right to enforce same and apply any payments accruing hereunder towards satisfying same. Without impairment of Lessee's rights under the warranty in the event of failure of title, it is agreed that if Lessor owns less than the entire undivided interest in all or part of said land or the lignite, lignite royalty or lignite leasing rights, whether such interest is herein specified or not, then the rental, advance royalty, minimum royalty, production royalty and other payments herein provided for shall be reduced proportionately and paid to said Lessor only in the proportion that his interest bears to the whole and undivided fee title to said land, lignite royalty and leasing rights to said lignite, and all outstanding royalty and other rights to receive payments shall be deducted from those herein provided. Failure of Lessee to reduce rentals, advance royalty, or other payments shall not affect Lessee's right to reduce production royalties.

In this lease, references to "each acre of Lessor's lignite" and/or to "lignite leasing rights" mean, for example, that if Lessor owns all lignite and all lignite leasing rights under a 100 acre tract, it owns 100 acres of lignite and lignite leasing rights thereunder, and if Lessor owns 1/2 or an undivided 1/2 of the lignite and lignite leasing rights under a 100 acre tract, it owns 50 acres of lignite and lignite leasing rights thereunder. The owner of lignite leasing rights is a party that has the right to execute lignite leases (and to receive rentals from said lease) granting mining rights to a lessee whereby such lessee shall have the legal right to mine lignite. The owner of lignite and the royalty attributable thereto is the party entitled to advance royalty and production royalty.

10. No assignment, transfer, conveyance or change of ownership of any interest of Lessor in said land and/or under this lease shall be binding upon Lessee until 60 days after Lessee has received the recorded documents or certified copies thereof evidencing such change of ownership and constituting the chain of title from the original Lessor, and a transfer order executed by the former owners and then present owner, which documents evidence to Lessee's satisfaction the agreement of the then former and present owners as relates to their respective rights to payments, notices, and other rights under this lease. Lessee shall have the right to either withhold payments due hereunder until 60 days after it receives such documentation, or to continue to make all such payments due under this lease either to Lessor or to Lessor's account in the depository bank, or to such other depository bank as designated in a subsequent recordable instrument acceptable to Lessee, or at the discretion of Lessee to pay or tender same for deposit in Southwestern Electric Power Company's insured non-interest bearing escrow or suspense account any payments due under this lease jointly and/or to the joint account of the parties to such change of ownership without apportionment or allocation, and such joint payments shall be deemed as proper discharge of Lessee's payment obligations hereunder.

11. Within 24 months after completion of all mining and mining operations on a tract of land described in this lease (as evidenced by certificate of the mining company conducting such mining) Lessee shall commence and thereafter continue with diligence to fill and level any excavation or pit resulting from mining and shall grade all deposits of earth, rock and other material resulting from mining, but shall not be required to bring in fill material from other land and shall not be required to return the premises to its original contour or elevation. Lessee agrees that as a part of said work, it will either

- (a) reseed the surface of said land that is back-filled and leveled with grass suitable for grazing, and of a type of no less quality than the kind thereon at the time mining commenced thereon; or
- (b) plant pine seedlings on the surface of said land that is back-filled and leveled.

## Letter S2

During or within 12 months after this lease is released, Lessee may remove all machinery, buildings, equipment and other facilities of Lessee or its contractors from said land.

12. All payments provided for herein may be made by check or draft of Lessee or any agent of Lessee mailed or tendered to Lessor at the address shown above, or at the \_\_\_\_\_ BANK at \_\_\_\_\_ (or any alternate bank designated in writing by all Lessors), or its successor, which bank is Lessor's agent and shall continue as the depository for all payments and notices to Lessor hereunder regardless of changes in ownership of said land or the payments accruing hereunder. Regardless of how ownership may change, the said mailing, payment or tender of rentals, advance royalty, production royalty and/or surface use and other payments herein provided shall be binding on Lessors and their heirs, devisees, executors, administrators, successors and assigns and there shall be no duty of Lessee to allocate payments to respective successors or assigns of Lessor.

All notices to be given to Lessor may be mailed or delivered to Lessor either at the above address or said bank named above, or its successor, as agent for Lessor, and said bank shall continue as Lessor's agent regardless of changes of ownership. The mailing or delivery of notices to Lessor in such manner shall be binding on the Lessor, its heirs, successors and assigns.

If such bank (or successor bank) should fail, liquidate or refuse to accept any payment or notice tendered hereunder, Lessee shall not be required to make such payments or give such notice until 60 days after Lessee has received from Lessor a recordable instrument naming another bank as agent to receive such payments and notices.

Lessor grants unto Lessee the preferential right and option to purchase any lignite rights and/or surface rights affecting said land on the same basis and for the same price as contained in a good-faith acceptable offer by a third party while this lease is in effect. If Lessor receives such acceptable offer, Lessor shall notify Lessee in writing of all details including identity of the offering party, price and terms, and Lessee shall have 30 days after receipt thereof to exercise such right and option. This option shall be binding upon, and inure to the benefit of the parties hereto, their heirs, successors and assigns, but shall not apply to any intra-family estate planning transfers.

13. Unless Lessee consents thereto in writing, Lessor agrees that any partition of the surface of said land and/or the lignite and/or lignite royalty and/or leasing rights therein shall not partition the rights of Lessee to mine lignite from said land, nor otherwise adversely affect or increase the burden on Lessee's lignite mining rights and lease maintenance thereto or prevent Lessee from mining any part of said land, and said land is so restricted during the time that this lease is in force.

14. This lease merges all prior negotiations and understandings and embodies the entire agreement of the parties. There are no other agreements, representations, conditions or other understandings with respect to the subject matter hereof, and this lease binds and shall inure to the benefit of Lessor and Lessee and their respective heirs, representatives, successors and assigns, whether or not named above, without regard to whether this lease is executed by any of the other persons named as Lessor, and this lease may be executed in any number of counterparts with the same effect as if all parties signed the same document.

EXECUTED the date first set out above.

\_\_\_\_\_  
\_\_\_\_\_

STATE OF

COUNTY OF

This instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by

# Letter S2

(Seal)

\_\_\_\_\_  
Notary Public for the State of

My Commission Expires:

\_\_\_\_\_  
Notary's Printed Name

STATE OF

COUNTY OF

This instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by

(Seal)

\_\_\_\_\_  
Notary Public for the State of

My Commission Expires:

\_\_\_\_\_  
Notary's Printed Name

SWF-2007-560

SWF-2007-560

# Letter S3

SWF-2007-560

Bryan W. Shaw, Ph.D., *Chairman*  
Buddy Garcia, *Commissioner*  
Carlos Rubinstein, *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

December 22, 2010

Mr. Stephen Brooks, Branch Chief  
CESWF-PER-R  
U.S. Army Corps of Engineers  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

Attention: Mr. Darvin Messer

Re: USACE Permit Application Number SWF-2007-00560 Draft Environmental Impact Statement

Dear Mr. Brooks:

As described in the Public Notice for the expansion of the South Hallsville No. 1 Lignite Mine, dated October 29, 2010, the applicant, Sabine Mining Company, proposes to construct, operate, and reclaim a new 20,377-acre expansion known as the Rusk Permit Area of the South Hallsville No. 1 Mine. The proposed project is located north of Tatum, in Rusk, Panola, and Harrison counties, Texas.

In addition to the information contained in the Public Notice, the following information is needed for review of the proposed project. Responses to this letter may raise other questions that will need to be addressed before a water quality certification determination can be made.

1. Title 30, Texas Administrative Code (TAC), Chapter 279.11(c)(1), states that "No discharge shall be certified if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, . . ." The DEIS describes various proposed major activities (e.g., multi-year groundwater drawdown, transportation corridor construction across the Sabine River, increased surface water runoff and turbidity as a direct result of mining) and concludes in the Executive Summary that "Cumulative water quality effects are anticipated to be minor." As described in subsequent chapters of the DEIS, each of these activities would have potential significant impacts on groundwater and surface water quantity and quality. The DEIS states that control and monitoring of increased runoff and turbidity would be in compliance with Railroad Commission of Texas (RCT) and Texas Commission on Environmental Quality (TCEQ) permits and water would be treated prior to discharge, if needed. No additional information is provided in the DEIS documenting the location of the discharge outfalls or the control and monitoring requirements in the referenced permits. Please provide additional information that details the measures that will be implemented to ensure that the proposed discharges would have the least adverse impact on aquatic resources and water of the United States.

S3-1

WF-2007-560

P.O. Box 13087

Austin, Texas 78711-3087

512-239-1000

Internet address: [www.tceq.state.tx.us](http://www.tceq.state.tx.us)

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DEC 28 2010

CESWF-PER-R

# Responses to Letter S3

S3-1

The analysis of potential project-related impacts to surface water resources and waters of the U.S., including wetlands, is presented in Sections 3.2.4.2 and 3.2.5.2 of the EIS, respectively. This analysis reflects Sabine's proposed project, as described in Section 2.5, including Sabine's committed environmental protection measures (see Section 2.5.4); Sabine's RCT coal mine operations permit application, including probable hydrologic consequences; Sabine's proposed Conceptual Mitigation Plan prepared for Sabine's 404 IP application to the USACE, inclusive of the Functional Assessment that describes Sabine's proposed measures to avoid, minimize, or mitigate the adverse impact of the proposed Rusk Permit Area to waters of the U.S., including wetlands (see Appendix C of the Final EIS); and implementation of other required permits, as identified in Table 1-1. Specifically, the proposed TPDES-regulated outfalls are discussed in Section 2.5.1.1 and shown in Figure 2-5. The monitoring requirements of the TPDES permit also are discussed in Section 2.5.1.1.

Water quality regulations for surface water resources are discussed in Section 3.2.4.1 of the EIS. In addition to the Clean Water Act and the Texas Clean Rivers Program, major aspects of water quality regulation and compliance are set forth in the Texas Administrative Code, as described under the EIS subsection for Surface Water Quality. Sabine would comply with regulations as well as permit conditions approved by TCEQ and RCT. Discharges to regulated receiving waters would be through the controlled TPDES outfalls, as described in Section 2.5.1.1 of the EIS. Additional storm water control practices during the operations phase are described in the RCT permit application and Section 2.5.2.1 of the EIS. TCEQ has specified monitoring requirements in the approved TPDES permit for the existing mine operations (TPDES Permit No. WQ0002538000). Required monitoring parameters include flow and a number of water quality constituents and conditions. Reporting requirements and other permit conditions also are specified. Similar requirements and conditions are anticipated for the proposed project; however, additional monitoring requirements or permit conditions may be stipulated during the RCT permit review, the TPDES permit review, or the CWA Section 401 review.

Based on the results of the EIS analysis, no significant impacts to water resources have been identified. However, to further minimize potential impacts, the USACE has identified additional monitoring and mitigation measures, as applicable, that are being considered to further minimize potential impacts (see Section 3.2.4.4). These measures are not part of Sabine's proposed project but could be added as special conditions to any Section 404 permit that may be issued by the USACE or as stipulations of approval or authorizations of other regulatory agencies.

## Letter S3

Mr. Stephen Brooks, Branch Chief  
U.S. Army Corps of Engineers  
Permit No. SWF-2007-00560  
Page 2  
December 22, 2010

- S3-2 2. If the aquatic resources cannot be avoided, appropriate and practicable steps should be taken to minimize potential adverse impacts (30 TAC §279.11(c)(2)). Please provide more detailed information on what options were considered to minimize impacts and why they were eliminated. According to the DEIS, construction of the proposed transportation corridor and subsequent re-routing of the Sabine River, loss of hydrologic connectivity for streams and wetlands adjacent to the proposed project, and the direct loss of onsite aquatic resources would be major impacts to aquatic resources. The Texas Parks and Wildlife Department (TPWD) and National Park Service (NPS) recognize this reach of the Sabine River as having scenic, ecological significant and historical values. Please include in the DEIS other options for impacts to the Sabine River which would substantially minimize the proposed impacts related to the construction of the proposed transportation corridor. In addition, the DEIS identifies approximately 110 miles of oil and gas pipelines that will have to be relocated. The secondary impacts to aquatic resources from pipeline, utility, and road relocations should also be identified in the DEIS.
- S3-3
- S3-4
- S3-5 3. Mitigation of impacts is considered for "...all unavoidable adverse impacts that remain after all practicable avoidance and minimization has been completed..." (30 TAC §279.11(c)(3)). The proposed mitigation ratios for forested wetlands, non-forested wetlands, ponds, and streams are presented in Table 2-10. The proposed ratios are also provided on Table 1 in the Proposed Conceptual Mitigation Plan (Appendix C) of the document. Projected results of the mitigation efforts for the first five-year period of the proposed mine expansion are presented in Table 2 of Appendix C. The criteria used to determine the proposed mitigation and compensatory mitigation ratios assume minimization of temporal aquatic resource functions and the creation and restoration of higher quality hydrologic and wetland resources compared to pre-mine conditions. However, these assumptions are only hypothetical and generally unsubstantiated. Minimizing the time period between complete removal of an aquatic resource (e.g., stream or wetland removal) and the creation of the replacement resource may be of limited value, but the restoration of the aquatic resource function is independent of the time frame between destruction and recreation. The appropriate time frame for the establishment of the functional value of these aquatic resources is, at a minimum, five to ten years and should be appropriately reflected in the mitigation ratios and success criteria for the project. Please provide a revised compensatory mitigation plan and success criteria proposal that adequately assesses the value and function of existing aquatic resources and specifies the time frame required to assess the level of environmental or ecological lift obtained through the creation and restoration proposals.
- S3-6 4. The functional assessment section of the Proposed Conceptual Mitigation Plan (Appendix C) assumes that the proposed stream impacts are not considered permanent and that a calculated average factor for impacts of 0.175 is appropriate. The proposed functional assessment also assumes, in general, that existing streams (perennial, intermittent, and ephemeral) are at least marginally impacted under current conditions and that the newly created or enhanced streams will provide complete, if not additional, compensatory mitigation for adverse impacts to aquatic resources. The functional assessment also assumes that the dominant impact factor to streams is morphological change. It is recommended that this section of the mitigation plan be revised to include a detailed assessment of all potential impacts to the physical, chemical, and biological integrity of the existing streams and their functions.

## Responses to Letter S3

- S3-2 Alternatives to Sabine's Proposed Action, including alternatives considered to avoid or minimize impacts to aquatic resources, are presented in Section 2.3 of the EIS. Based on the USACE's evaluation, these alternatives have been considered but subsequently eliminated from detailed analysis in this EIS; this section describes the rationale for their elimination.
- S3-3 As discussed in the first paragraph under Section 2.5.1.6 of the EIS, the corridor alignment and river crossing location were determined in coordination with the USACE, TPWD, and RCT during a May 6, 2008, site visit and subsequent evaluation. Also see Section 2.3.1 relative to alternate river crossing locations considered and the rationale for their elimination from further consideration.
- As discussed under Surface Water Flow in Section 3.2.4.1 of the EIS, the NPS recognized this section of the Sabine River as having significant scenic, wildlife, and historical values in its Nationwide Rivers Inventory (NRI) (NPS 2010). Under a 1979 Presidential Directive and related CEQ procedures, federal agencies must seek to avoid or mitigate actions that would adversely affect the listed NRI segments (NPS 2010). In parallel, the Texas Parks and Wildlife Department (TPWD) has identified part of the upper Sabine River as an "Ecologically Significant River Segment" within the Region D Water Planning Area of Texas (TPWD 2009b). As such, the reach is a candidate for protection under the Texas State water planning program administered by the TWDB and its designated regional planning groups. The candidate river reach extends from approximately the Village of Easton upstream of the study area, to U.S. Highway 59 downstream of the study area.
- Also, the USACE is considering additional monitoring and mitigation to further minimize potential impacts of the proposed transportation and utility corridor to the aquatic resources (Sabine River and its floodplain) (see Section 3.2.4.4 of the EIS) and specific aquatic species (see Section 3.5.4).
- S3-4 Oil and gas and utility pipelines, transmission lines, and roads would be removed and rerouted in advance of the removal of lignite from each mine segment (see pages 2-13 and 2-29 of the EIS). The direct impacts to aquatic resources from pipeline, utility, and road relocations would occur as described in the EIS, as part of the impacts of lignite mining within the active mining areas. Potential impacts from mining disturbance would be controlled by the mine water management system as described in EIS Section 2.5.2 of the EIS.
- If utilities were re-routed to locations outside the mine areas, such disturbance would involve actions by utility owners/operators subject to storm water regulations for construction activities as administered through

## Responses to Letter S3

- S3-4 (cont'd) the memorandum of understanding between RCT and TCEQ, as described in Texas Administrative Code Title 16, Part 1, Chapter 3, Rule 3.30, or similar regulations.
- S3-5 In accordance with the reclamation timetable enforced by the RCT, reclamation activities would occur within approximately 3 years following final coal removal (see Figure 2-8 in the Draft EIS). Within this timeframe, backfilling and grading, placement of suitable plant growth material, and planting of permanent vegetation would be completed. By year 6 following coal removal, all augmented plantings, fertilization, and irrigation would be completed, and the vegetation would meet post-mine land use as defined by the RCT. Re-establishment of aquatic resources, either as fish and wildlife land uses or as features within another land use, would be established to meet criteria detailed in the Conceptual Mitigation Plan (Appendix C of this Final EIS).
- S3-6 Please see the response to comment F1-3 regarding the USACE-approved methodology for the Conceptual Mitigation Plan.

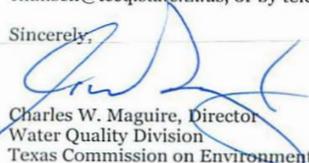
## Letter S3

Mr. Stephen Brooks, Branch Chief  
U.S. Army Corps of Engineers  
USACE Permit Application No. SWF-2007-00560  
Page 3  
December 22, 2010

- S3-7 5. Both Texas Parks and Wildlife Department (TPWD) and National Park Service (NPS) recognize this reach of the Sabine River as having scenic, ecological significant and historical values and, therefore, a candidate for protection under the Texas State Water Planning Program. However, the DEIS categorizes the Sabine River and Cherokee Bayou as secondary priority areas with only moderate importance to the biodiversity of the stream ecosystem. TCEQ does not agree with the DEIS assessment of the importance of these perennial streams as presented in the DEIS and recommends a more extensive evaluation of the functions and values associated with both the Sabine River and Cherokee Bayou. It is also recommended that natural stream channel design be used for the creation and restoration of all intermittent and perennial stream impacted by the project.
- S3-8 6. The success and performance criteria for streams, wetlands, and ponds as presented in Section 5.0 of the DEIS is inadequate. Simply stating that stream restoration practices will be utilized when necessary is not sufficient to ensure that the impacted aquatic resource functions are replaced and will continue to function, at a minimum, to premine standards. For forested wetland success criteria, a minimum tree survival of 100 trees per acre with a minimum DBH of only 1 inch after a period of five years is not sufficient. Success criteria for forested wetland trees should be at least 3 inches DBH after five years of planting and non-native invasive species growth in both forested and non-forested wetlands should be limited to less than 10% of the total coverage. In addition, simply stating that ponds proposed for permanent structures will not exhibit excessive bank erosion or silt accumulation is not adequate. Pond banks should be vegetated and stabilized to minimize erosion and siltation. Section 5.0 should be revised for streams, wetlands, and ponds with measurable, quantifiable metrics and monitoring frequency for compliance.

The Texas Commission on Environmental Quality (TCEQ) looks forward to receiving and evaluating other agency or public comments. Please provide any agency comments, public comments, as well as the applicant's comments, to Mr. Robert Hansen of the Water Quality Division MC-150, P.O. Box 13087, Austin, Texas 78711-3087. Mr. Hansen may also be contacted by e-mail at rhansen@tceq.state.tx.us, or by telephone at (512) 239-4583.

Sincerely,

  
Charles W. Maguire, Director  
Water Quality Division  
Texas Commission on Environmental Quality

CWM/RSH/evm

Enclosure

cc: Mr. Phil Berry, Environmental Manager, Sabine Mining Company, 6501 Farm Road 968  
West, Hallsville, Texas 75650-7413

F-2007-560

## Responses to Letter S3

- S3-7 Please see the response to comment S3-3 regarding protection of Sabine River values. With respect to the important resource values recognized along the Sabine River by NPS in the Nationwide Rivers Inventory, and the ecological importance of the river segment identified by TPWD, potential hydrologic impacts are discussed in Section 3.2.4.2; potential impacts to waters of the U.S. are discussed in Section 3.2.5.2; and other resource considerations for the river (i.e., biological function and aesthetic [visual] values) are discussed in Sections 3.4.2, 3.5.2, and 3.12.2. Based on these analyses, no adverse impacts to the Sabine River have been identified. Further evaluation of the function and values of the Sabine River and Cherokee Bayou are presented in Sabine's 404 IP application previously submitted to the TCEQ and other agencies, inclusive of the Functional Assessment that also is presented in Appendix C of the Final EIS.
- As clarification, natural stream channel design is proposed in Sabine's Conceptual Mitigation Plan for stream restoration.
- S3-8 Please see the responses to comments F1-3 and F1-13.

## Letter S4

## Responses to Letter S4



December 28, 2010

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Mr. Darvin Messer  
Regulatory Branch  
U.S. Army Corps of Engineers  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

401 Coordinator  
MSC-150  
TCEQ  
P.O. Box 13087  
Austin, Texas 78711-3087

Re: SWF-2007-00560  
Rusk Permit Area Draft Environmental Impact Statement  
Sabine Mining Company, South Hallsville No. 1 Mine – Rusk, Panola, and Harrison  
Counties, TX

The proposed project, a 20,377-acre expansion immediately south of the existing South Hallsville No. 1 Mine, is located approximately one mile north of Tatum in Rusk, Panola, and Harrison counties, Texas. The Draft Environmental Impact Statement (DEIS) for the proposed Rusk Permit Area proposes to directly impact approximately 303.1 acres of waters of the United States, including 151.2 acres of forested wetlands, 62.6 acres of non-forested wetlands, 22.1 acres of ephemeral streams, 13.5 acres of intermittent streams, 5.4 acres of perennial streams, and 48.3 acres of impoundments. The proposed impacts would occur in conjunction with the construction, operation, and reclamation of the Rusk Permit Area, a lignite surface mine.

The attached comments outline issues and concerns identified by Texas Parks and Wildlife Department (TPWD) with the Draft Environmental Impact Statement for the proposed project described above. TPWD's primary concern focuses on the compensatory mitigation plan, which in our opinion does not meet the standards specified in the Final Rule for Compensatory Mitigations for Losses of Aquatic Resources (33 CFR Parts 325 and 332). In addition to providing inadequate compensation, the compensatory mitigation plan lacks suitable site protection, appropriate financial assurances, acceptable assessment methods, and the legal ability to provide mitigation on lands contained within the project area. In the event the specific deficiencies outlined in the attached comment letter cannot be adequately addressed by the applicant, TPWD recommends that off-site mitigation or mitigation bank options be considered.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency on or after September 1, 2009 may be required by state law. For further guidance, please see Texas Parks and Wildlife Code Section 12.0011 at <http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm>.

We appreciate the opportunity to comment on the proposed project. If you have any questions, please contact Ms. Beth Bendik, TPWD Conservation Ecologist, at (512) 389-8521.

Sincerely,

  
Ross Melinchuk  
Deputy Executive Director, Natural Resources

RM:BB:bb

Attachment: Staff Comments – Review of Draft EIS for Sabine Mining Company – Rusk  
Permit Area

4200 SMITH SCHOOL ROAD  
AUSTIN, TEXAS 78744-3291  
512.389.4800  
[www.tpwd.state.tx.us](http://www.tpwd.state.tx.us)

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

S4-1 Please see the following responses to specific comments relative to Sabine's proposed Conceptual Mitigation Plan.

S4-1

## Letter S4

### Attachment Texas Parks and Wildlife Department Staff Comments

Review of Draft EIS for Sabine Mining Company – Rusk Permit Area

#### 2.3 Alternatives Available to the Applicant

S4-2 Full consideration should be given to the range of options for the dragline crossing and the environmental impacts of each. The full alternatives analysis of the dragline walkway should include discussion of the environmental impacts of full removal of the walkway after the initial crossing versus the impacts of the proposed 60 percent removal. These should be compared to the dragline disassembly and reassembly option.

#### 2.5 Description of Proposed Action

S4-3 Page 2-26 indicates that in addition to the clearing for culvert installation for the main haul road, approximately 48 additional acres upstream and downstream will be cleared to provide unobstructed conveyance of water. The applicant should evaluate alternative methods to convey floodwater beneath the haul road.

S4-4 Page 2-49 indicates that fish and wildlife habitat would be provided through mitigation of waters of the U.S. including wetlands, which would be reclaimed in accordance with Sabine Mining Company's (SMC) proposed Conceptual Mitigation Plan (CMP; Appendix C). Riparian zone planting would be deemed successful with establishment of riparian habitats measuring 25 to 50 feet on either side of streams. Permanent ponds would be designed to ensure successful formation and propagation of wetland and riparian habitats.

TPWD recommends riparian buffer distances measuring 100 feet on each side of streams in order to protect the stream and provide additional enhancement for fish and wildlife. The Mobile Standard Operating Procedure (Mobile SOP) assessment method proposed to be used for this project requires a minimum 50 ft buffer, with potentially more buffer width depending on the slope.

S4-5 Page 2-70, Table 2-13 *Impacts Summary and Alternatives Comparison* is misleading. The No Action Alternatives column refers to the ongoing operations of the South Marshall Permit Area of the South Hallsville No. 1 Mine. Those operations continue whether or not the new Rusk Permit area is permitted. The comparison should evaluate the impacts to the new area with and without the proposed permit.

#### 3.2 Water Resources

S4-6 The EIS presents additional surface water mitigation measures to be considered that would benefit surface water quality, and thus protect fish and aquatic resources within the Sabine River. TPWD supports all additional surface water quality mitigation measures SW-1 through SW-7.

S4-7 SW-3 includes a surface water quality monitoring plan to be developed for the Sabine River in coordination with TPWD and USACE. TPWD recommends additional mitigation measure SW-3 in particular be adopted to measure potential project-related

## Responses to Letter S4

S4-2 As discussed in Section 2.5.1.6 of the EIS, the proposed transportation and utility corridor alignment and river crossing location were determined in coordination with the USACE, TPWD, and RCT during a May 6, 2008, site visit and subsequent evaluation. As discussed in Section 2.3.1, alternative crossing locations were evaluated in coordination with the USACE and TPWD. As stated in that section, the alternative crossing locations were eliminated from further consideration due to cost, geomorphological issues, property ownership issues, as well as the associated additional environmental impacts. As discussed in Section 2.3.2, a split transportation corridor was eliminated from consideration at the direction of the USACE and TPWD due to the potential for increased habitat fragmentation. As discussed in Section 2.3.3, in addition to cost considerations, the dragline disassembly and reassembly alternative was eliminated from consideration as it would preclude Sabine from meeting their existing contractual obligations with SWEPCO's Pirkey Power Plant due to the associated time requirements. Please see the response to comment F2-6 relative to partial versus full removal of the dragline walkway material between dragline crossings.

S4-3 As clarification, the additional clearing of vegetation upstream and downstream of the proposed main haul road crossing of the Sabine River floodplain would result in a total of 48 additional acres of disturbance. The majority of the clearing would be upstream of the crossing and would need to be cleared anyway to allow for construction of the dragline walkway. The area cleared downstream of the crossing would have to be cleared regardless of the method used to convey floodwater beneath the haul road.

S4-4 The USACE Fort Worth District stream mitigation policy requires the following minimum buffers for reclaimed streams: 25 feet on either side for ephemeral streams, 50 feet on either side for intermittent streams, and 100 feet on either side for perennial streams. The proposed Conceptual Mitigation Plan and Section 2.5.3.10 of the EIS have been revised to reflect these minimum buffer requirements.

S4-5 As discussed in Chapter 1.0 of the EIS, the proposed Rusk Permit Area would be an expansion of the existing South Hallsville No. 1 Mine. Sabine's Proposed Action and the No Action Alternative are described in Sections 2.5 and 2.6, respectively. As discussed in Section 2.6, under the No Action Alternative, the USACE would deny Sabine's application for an individual Section 404 permit for the proposed Rusk Permit Area. As a result, the proposed Rusk Permit Area would not be developed, and the potential impacts to the natural or human environment identified for the Proposed Action would not occur. However, existing operations and associated impacts at the South Marshall Permit Area of the South Hallsville No. 1

## Letter S4

S4-7 (cont'd) water quality impacts that could affect important aquatic resources, including state-threatened mussels of the Sabine River.

S4-8 Page 3.2-50 summarizes impacts to waters of the U.S. The summary characterizes impacts to streams in terms of acres of impact instead of linear feet. Stream impacts should be characterized and compensated on a linear foot basis as acreage is not an adequate representation of the loss of stream functions. If stream mitigation must be calculated in acres, the stream plus a 100-foot buffer on each side should be used in calculating area.

### 3.4 Vegetation

#### *Surface Disturbance*

The DEIS indicates direct disturbance would occur to approximately 14,392 acres within the permit area including:

- 841 acres floodplain forest
- 6,235 acres upland forest
- 1,281 acres pine plantation
- 297 acres clear cut areas
- 1,064 acres improved pasture
- 4,236 acres pasture
- 148 acres disturbed/residential
- 76 acres aquatic streams and ponds, 151 acres forested wetlands
- 63 acres non-forested wetlands.

S4-9 These disturbances would occur incrementally over the 30-year life of the mine. The DEIS indicates the proposed disturbance areas would be reclaimed to the post-mine land uses presented in Section 2.5.3. The intended post-mine land uses are presented in Figure 2-10 as conceptual life-of-mine post-mine land uses. The 2,840 acres proposed to be disturbed within the initial 5-year permit term would be reclaimed to pastureland (1,602 acres), forestry (1,092 acres), wildlife habitat (137 acres), and developed water resources (9 acres). The DEIS on page 3.4-10 indicates that although the designated post-mining land uses would not be directly comparable to the existing vegetation communities, the disturbance areas primarily would be reclaimed as forestland and pastureland, which are the primary vegetation types in the existing pre-mine area. SMC plans to reclaim 59 percent of the disturbance area with forestry. The DEIS indicates that landowner agreements would determine other post-mine land uses and would determine land uses beyond the initial 5-year permit area. The DEIS does not identify which portion, if any, of the proposed post-mine forestry land use is committed to be planted with hardwood species.

S4-10 TPWD would like to clarify that forestry land use involves land used primarily for the long-term production of wood, wood fiber, or wood-derived products. Forestry land use areas are typically planted with pine trees for the sole purpose of timber production and appear to mimic pine plantation cover type. No commitment has been made by SMC to create a specified number of acres planted with mixed pine/hardwood upland forest species. Unless a specified number of acres is committed by SMC to establish a mixed pine/hardwood upland forest community within the post-mining forestry land use or within a designated fish and wildlife post-mine land use, then the majority of the 6,235

## Responses to Letter S4

S4-5 (cont'd) Mine would occur under existing authorizations until the lignite reserves are depleted. Therefore, the resource-specific impact analyses for the No Action Alternative in Chapter 3.0 and the summary of impacts in Table 2 13 appropriately reflect the potential impacts associated with the currently authorized ongoing operations at the South Hallsville No. 1 Mine.

S4-6 Comment noted regarding TPWD support for mitigation measures SW-1 through SW-7.

S4-7 Comment noted regarding TPWD support for mitigation measure SW-3.

S4-8 The linear feet of perennial, intermittent, and ephemeral streams in the Rusk Permit Area are detailed in Appendix E (Table E-1) of Sabine's 404 IP. The IP previously was distributed to the USEPA and other agencies for review and comment. For EIS impact analysis purposes, the potential impacts to streams are presented in acres. For reference, the linear feet of stream impact by stream type also has been added to Section 3.2.5.2 of this Final EIS. Also see the response to comment S4-4 regarding the USACE Fort Worth District stream mitigation policy.

S4-9 Under Title 16, Part 1, Chapter 12 of the Texas Administrative Code (TAC), coal mine operators are required to obtain a coal mine operations permit from the RCT. As part of the permit application, the operator is required to include a proposed reclamation plan for the proposed mine site (Sections 12.145 through .149 of the application). An operator's proposed reclamation plan must be developed in accordance with guidelines outlined in the Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas (RCT Surface Mining and Reclamation Division 2006). This document describes procedures and standards for determining revegetation success on reclaimed surface mined lands in Texas as required by, and in accordance with, Texas Natural Resources Code §§134.041, .092(a)(19) & (20), and .104 (Vernon's Supp. 1997), and TAC §§12.390 through 12.395 and 12.399. This guidance document specifies the vegetation evaluation process, revegetation success evaluation and measurement methods, revegetation success standards for the nine RCT-designated post-mine land uses (pastureland, cropland, grazingland, forestry, residential, industrial/commercial, recreation, fish and wildlife habitat, and undeveloped), and conditions for bond release. Considered in these standards are the TPWD's recommendations for the development of success standards for woody-plant stocking rates and standards (e.g., hardwood stocking rate for East Texas of 100 stems per acre) and the Texas Forest Service's recommendations for reforestation of pine and hardwoods on reclaimed commercial forestland (Attachments 2 and 3, respectively, of the guidance document).

## Letter S4

## Responses to Letter S4

- S4-10 (cont'd) acres of mixed pine/hardwood upland forest communities disturbed by mining activities would be converted to pastureland or forest containing species composition that do not mimic pre-mine conditions. TPWD is concurrently reviewing the SMC permit application to the RRC. Because the landowner agreements found in the RRC permit application currently indicate that pine trees would be used for planting within forestry land use, TPWD is concerned over the loss of upland mixed pine/hardwood forest which typically provides greater species diversity and habitat for wildlife than pine plantations.
- To mimic pre-mine conditions, TPWD recommends that SMC commit to planting a mixed pine/hardwood upland forest within either a forestry or fish and wildlife post-mine land use category. Planting hardwood species should be required within the forestry and fish and wildlife land use plans to offset the loss of approximately 6,235 acres of mixed pine/hardwood upland forest. Landowner agreements should be revised or updated to allow such commitments.
- S4-11 To create open areas beneficial for wildlife while also providing grass for forage production, TPWD recommends that SMC commit to planting native grasses within post-mine pastureland use or utilizing the grazing land use for its native component. To create forests beneficial for wildlife while also providing timber for wood production, TPWD recommends planting shortleaf pine (*Pinus echinata*) with hardwoods periodically interspersed. A maximum basal area of 65-70 square-feet per acre is recommended for forestry to provide greater beneficial use for wildlife. Shortleaf pines are of more benefit to wildlife than Loblolly pine (*Pinus taeda*) because Shortleaf pine is capable of producing open pine savannah stands that are very fire and insect resistant similar to the longleaf pine (*Pinus palustris*) savannahs further south.
- Dragline Walkway, Haul Roads, and Utility Corridor*
- S4-12 Figure 3.4-1 shows that the majority of the transportation corridor across the Sabine River and floodplain consists of floodplain forest with interspersed areas of aquatic and wetland land cover.
- TPWD's review of aerial imagery of the four county area, including Gregg, Harrison, Panola, and Rusk counties, reveals that Sabine River floodplain forest is a prominent feature visible across the landscape with forested corridor widths of approximately one mile to more than four miles. Wooded riparian corridors, and in this case the large forested floodplain of the Sabine River, generally provide nesting habitat for birds, soil stabilization for enhanced water quality, and food, cover, and travel corridors for wildlife. Bottomland hardwood habitat is considered a high priority habitat type for conservation by TPWD across the state, and the Sabine River corridor is no exception.
- Pages 2-37 Figures 2-10, 2-46, and 3.4-11 address the dragline walkway, haul road, and utility corridor vegetation impacts, reclamation, and post-mining land use. The transportation corridor across the Sabine River and associated floodplain would disturb almost 1,000 acres of floodplain forest, aquatic, and wetland land cover. The conceptual post-mine land use for this area is proposed as pasture.
- With the exception of the Sabine River, Figure 2-10 does not identify any post-mine developed water resources, such as locations of proposed fish and wildlife habitat enhancement or areas of proposed reclaimed streams and wetlands. A notation on the figure states that other developed water resources and fish and wildlife habitat post-mining land uses will be incorporated within forestry and pastureland uses, and that other
- S4-9 (cont'd) Section 404 of the Clean Water Act (CWA) requires an applicant to obtain a permit from the USACE authorizing discharge of dredged or fill material into waters of the U.S. In accordance with these permit requirements, Sabine has prepared and submitted an IP application, including a proposed Conceptual Mitigation Plan, to the USACE; the proposed Conceptual Mitigation Plan, inclusive of the Functional Assessment, is included as Appendix C of this Final EIS. This plan describes Sabine's proposed measures to avoid, minimize, or mitigate the adverse impact of the proposed Rusk Permit Area to waters of the U.S., including wetlands. Streams and wetlands reclaimed in accordance with USACE permit criteria would be incorporated as features within the RCT post-mine land use categories, based on landowner agreements.
- The description of the proposed reclamation procedures in Section 2.5.3 of the EIS is based on Sabine's proposed reclamation plan that was submitted with their RCT permit application and the proposed Conceptual Mitigation Plan that was submitted with their 404 IP application to the USACE. As noted in Section 2.5.3.5, specific reclamation and revegetation plans for the Rusk Permit Area would be at the direction of individual landowners (i.e., per landowner agreements). Therefore, the EIS identifies general post-mine land uses (see revised Figure 2 10 in the Final EIS) based on the RCT's conceptual land use categories. Specific measures can be identified at this time only on tracts owned by SWEPCO; post-mine land uses proposed for these tracts are fish and wildlife habitat.
- S4-10 The plant species (including hardwood species) proposed for use in the wildlife and undeveloped post-mine land use categories are presented in Table 2-8 in the EIS. These species were selected in coordination with the NRCS, USACE, USFWS, TPWD, and RCT, as stated in Section 2.5.3.5 of the EIS. Plant species (including hardwood species) designed for the other post-mine land use categories are presented in Table 2-9. Table B-1 in Appendix B of the EIS presents the native species recommended by the NRCS, TPWD, and USFWS for possible inclusion for erosion control and wildlife use. The post-mine land use designations reflect the requirements of the RCT, and mining-related disturbance areas would be reclaimed at the direction of individual landowners (i.e., per landowner agreements). Please see the response to comment S4-9 for additional information.
- S4-11 The grass species identified for use in the post-mine grazing land category in Table 2-9 of the EIS include primarily native species. As noted in the table, these species also may be used in the pastureland category. The shortleaf pine (*Pinus echinata*) is identified for potential use in the forest land category (see Table 2-9) and wildlife habitat (see Table B-1 in Appendix B of the EIS). As discussed in Section 2.5.3.5, species selection for use

## Letter S4

## Responses to Letter S4

- S4-12 (cont') post-mining land uses will be incorporated per landowner agreements. The EIS indicates waters of the U.S. impacted by mining-related activities would be reconstructed within the reclaimed mine area in their approximate pre-mine locations.
- Based on review of the SMC permit application to the RRC, it appears that the landowner lease agreements contradict proposals by SMC to reclaim stream and wetland habitat and fish and wildlife habitat enhancement areas. The lease agreements currently only allow for pasture and forestry land uses that would be planted only with grazing grasses and pine trees. If SMC is granted permission from landowners to reclaim waters of the U.S., including wetlands within the transportation corridor area for mitigation credit, the remaining approximately 840 acres of pre-mine floodplain forest area would still be designated as post-mine pastureland use. This would inhibit any restoration of bottomland forest within non-jurisdictional areas unless landowner agreements are revised to allow planting of appropriate species.
- A post-mine land use of pasture is not appropriate for the transportation corridor across the Sabine River floodplain. All temporarily impacted floodplain areas should be reclaimed through a fish and wildlife land use designation with wetlands incorporated to meet mitigation plans. Reclamation should be aimed at establishing quality habitat by planting bottomland forest and wetland species. Planting bottomland hardwood species should be required within the floodplain area. The landowner lease agreements should be revised to coincide with the mitigation plan and to allow fish and wildlife land uses. If lease agreements cannot be revised, the constructed walkway should not be considered a viable alternative. Ancillary features of the project, e.g. the walkway, should not be permitted if they result in loss of a high priority habitat type.
- S4-13 Because bridge structures are usually taken over by the county and not removed following mine use, impacts to the forested wetlands cannot be recovered in the haul road footprint during mine reclamation. Mitigation for permanent impacts associated with the haul road needs to be accounted for in the mitigation plan.
- S4-14 Page 3.4-6 of the DEIS identifies potential occurrence of two rare plants within suitable habitat in the permit area: the Neches River rose-mallow (*Hibiscus dasycalyx*), a federal candidate species and state species of concern, and the Texas trillium (*Trillium texanum*), a state species of concern. TPWD supports additional mitigation measure V-1 to ensure that impacts to rare plant species are minimized.
- ### 3.5 Fish and Wildlife Resources
- S4-15 Other than the 137 acres of fish and wildlife post-mine land use identified for the initial 5-year permit term, no quantifiable areas are designated for reclaiming terrestrial wildlife habitat. With approximately 6,235 acres of mixed pine/hardwood upland forest being converted to pasture or pine-dominated forest, TPWD is concerned that there would be potential long-term effects on terrestrial wildlife.
- TPWD recommends the final EIS consider additional mitigation measures for fish and wildlife that include SMC designating and quantifying areas of proposed wildlife habitat that more closely mimic pre-mine conditions.
- S4-16 SMC conducted an inventory of freshwater mussels in the Sabine River in 2010, although the DEIS does not indicate if other tributaries and ponds in the remainder of the permit area were surveyed for mussels. Through review of the permit application to the RRC, it
- S4-11 (cont'd) in revegetation would be based on the reclamation stage, site-specific conditions, and proven success capabilities of the plant species selected, as well as contractual agreements with landowners. Where compatible with approved post-mine land uses, woody plantings designed to enhance fish and wildlife habitat and related environmental values would be established along reconstructed drainage ways, ponds, roads, and fence lines. Also see the response to comment S4-9.
- S4-12 Leasing agreements require Sabine to return private lands to the post-mine land use preference of the land owner. Where possible, Sabine has designated post-mine land use as fish and wildlife habitat. Fish and wildlife habitat primarily would be limited to lands owned by SWEPCO. As shown in revised Figure 2-10 in the Final EIS, additional fish and wildlife habitat has been identified for SWEPCO-owned properties along the transportation and utility corridor. As a result, the primary post-mine land use for the transportation and utility corridor would be fish and wildlife habitat.
- As clarification, the post-mine land uses shown in Figure 2-10 and discussed in the EIS reflect the post-mine land uses required by RCT for coal mined lands. Specific mitigation locations for waters of the U.S., including wetlands, would be developed based on the Conceptual Mitigation Plan and would be incorporated as features within the RCT post-mine land use categories where provided for in landowner agreements. Also see the response to comment F2-8.
- S4-13 As discussed in Section 2.5.3.8 of the EIS, the bridge structure across the Sabine River would be removed and the transportation corridor reclaimed following the completion of mining.
- S4-14 Comment noted.
- S4-15 Please see the response to comment S4-12.
- S4-16 As indicated in the comment, the 2007 mussel survey did not identify mussels to the species level. Suitable habitat for state-listed mussel species likely is limited to perennial stream reaches and lakes. Water bodies in these categories within the proposed project boundary include the Sabine River and Hendricks Lake. Mitigation measure FW-3 in Section 3.5.4 of this Final EIS (formerly FW-2 in the Draft EIS) is being considered by the USACE to minimize potential project-related impacts to individual mussels in the Sabine River. Mitigation measure FW-4, which has been added in Section 3.5.4 of the Final EIS, is being considered by the USACE to minimize potential project-related impacts to individual mussels (e.g., heelsplitter), if present, in Hendricks Lake.

## Letter S4

## Responses to Letter S4

- S4-16 (cont'd) appears that mussels were found at some tributary and pond sampling sites within the permit area during 2007 surveys. However, the mussels were not reported to the species level, so the presence of special status species or species of concern cannot be determined.
- TPWD recommends the final EIS include the 2007 survey results for mussels found within permit area tributaries and ponds. If the mussels cannot be identified to the species level, then suitable habitat for special status species or species of concern with the potential to occur in Harrison, Rusk, or Panola counties should be delineated within the permit area. TPWD also recommends that SMC conduct additional surveys for state-threatened mussels within suitable habitat areas of the permit area to obtain a baseline inventory. If species level surveys are not conducted, SMC should assume that special status mussels or mussels of concern potentially occur within the permit area where suitable habitat exists. If state-threatened or rare mussels or suitable habitats are found within the permit area tributaries or ponds, then the final EIS should include these findings and protection plans should be developed and incorporated into the final EIS.
- S4-17 Page 3.5-16 indicates that construction of the proposed 138-kV transmission line within the transportation and utility corridor would incrementally increase the collision potential for migrating and foraging bird and bat species. Page 2-58, 2-75, and 3.5-16 of the DEIS indicates that in order to minimize collision potential for migrating and foraging birds, the transmission line would be constructed in accordance with the guidelines presented in a 1970 U.S. Department of Interior and U.S. Department of Agriculture publication, *Environmental Criteria for Electric Transmission System*, and a 1974 Rural Electrification Administration (REA) Bulletin 61-10, *Powerline Contacts by Eagles and Other Large Birds*. TPWD recommends that bird flight diverters be used to mark the lines in areas of potential high bird use, such as across the Sabine River and floodplain. Additional measures to avoid or minimize electric powerline and transmission line impacts to birds are outlined in the following publications:
- Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.
- APLIC 1994. *Mitigating Bird Collisions with Power Lines: the State of the Art in 1994*. Edison Electric Institute. Washington D.C.
- S4-18 The DEIS presents two additional mitigation measures to consider for wildlife, FW-1 and FW-2. FW-1 involves pre-construction breeding bird surveys to be conducted if clearing would occur during the migratory bird breeding season. FW-2 involves mussel surveys to be conducted prior to construction of the proposed haul road bridge and dragline walkway crossing of the Sabine River. Mussel surveys would be conducted within the crossing areas and immediately downstream, and include relocation to appropriate habitat in coordination with TPWD. TPWD supports adoption of this additional mitigation measure with a provision to indicate that pre-construction surveys and relocation would be conducted prior to each dragline walk event. TPWD defers comment regarding additional mitigation measure FW-1 to the U.S. Fish and Wildlife Service (USFWS) as they have authority protection of migratory birds under the Migratory Bird Treaty Act.
- S4-17 Mitigation measure FW-2, which has been added in Section 3.5.4 of the Final EIS, is being considered by the USACE to reduce bird collisions with the proposed transmission lines in areas of potential high bird use (e.g., across the Sabine River and floodplain.)
- S4-18 Mitigation measure FW-3 (formerly FW-2 in the Draft EIS) has been clarified in Section 3.5.4 of the Final EIS to include each dragline crossing event.

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## Responses to Letter S4

- S4-19 **3.8 Air Quality**  
TPWD concurs with SMC's committed actions to minimize effects of fugitive dust.
- 3.9 Land Use and Recreation**
- S4-20 Noise and trucking activity during the construction of the dragline walkway and haul road bridge will interrupt the solitude and natural beauty boaters value on the Sabine River. Canoeing and boating will be blocked for up to two months and for brief periods during operation when crews walk the draglines. These impacts would be temporary, and boaters would be unaffected over the 30-year life of the mine except during the three construction periods at the river. No mitigation measures are considered in the DEIS for interruption of recreational river use.
- TPWD recommends additional mitigation measures for lost recreational opportunities. To inform boaters of potential disruption to their planned activity, TPWD recommends that signs be posted at nearby public boat ramps prior to and during each construction activity at the Sabine River. The location of the construction activity relative to the boat ramp should be provided so boaters can plan to avoid the construction area.
- 3.12 Noise and Visual Resources**
- S4-21 No SMC-committed environmental protection measures are proposed for noise. The DEIS recommends additional mitigation measures including N-1 and N-2. N-1 includes minimizing the simultaneous operation of major noise sources near occupied residences and operating equipment in good condition. N-2 includes, where feasible, using temporary spoil piles and stockpiles as berm-type noise barriers near residences.
- TPWD supports the additional mitigation measures N-1 and N-2 for noise, and further recommends that these measures be used when operation of major noise sources occurs near the permit boundary. This would aid in mitigating noise impacts to neighboring landowners who utilize their property for outdoor activities, including hunting and fishing recreation.
- S4-22 No SMC-committed environmental protection measures are proposed for visual resources. The DEIS recommends additional mitigation measure VR-1 which includes visual screening when active mining would be near the permit boundary and where there are potentially sensitive public viewpoints nearby, such as along SH149 to Martin Creek Lake State Park. VR-1 includes preserving and augmenting existing vegetation for a screen near Tatum, Easton, and along SH 149 by retaining groves of trees and planting trees where needed.
- TPWD supports VR-1 as an additional mitigation measure to minimize visual impact to visitors of Martin Creek Lake State Park who utilize SH 149 when traveling to the park.
- 3.18 Irreversible and Irrecoverable Commitment of Resources by the Proposed Action**
- S4-23 The DEIS indicates that there would be an irreversible commitment of 182.5 acres of upland habitat to wetland habitat associated with wetland compensatory mitigation. The DEIS does not capture the irretrievable commitment of approximately 6,235 acres of mixed pine/hardwood upland forest to forestry that would likely comprise only pine
- S4-19 Comment noted regarding TPWD's concurrence with Sabine's committed environmental protection measures for fugitive dust.
- S4-20 The EIS has been modified to include the recommended mitigation measure; see Section 3.9.4 of the Final EIS.
- S4-21 The suggested revision to the mitigation measure is unnecessary because the buffer area between the proposed mine area and the proposed permit boundary should be sufficient to protect active outdoor recreation from excessive noise levels.
- S4-22 Comment noted regarding TPWD support for mitigation measure VR-1.
- S4-23 Section 2.5.3.10 of the EIS presents a summary of the proposed site-specific reclamation success criteria for each of the applicable RCT post-mine land use categories (pastureland, cropland, grazingland, forestry, residential, industrial/commercial, fish and wildlife habitat, and undeveloped). These criteria were developed in accordance with the guidelines outlined in *Procedures and Standards for Determining Revegetation Success on Surface-Mined Lands in Texas* (RCT 2006). As discussed in Section 2.5.3.10 of the EIS under Forestry, tree species would be required to meet or exceed 90 percent of the site-specific technical standard developed by the applicant in coordination with the Texas Forest Service. A stem count of 450 per acre for pine species and 250 per acre for hardwood species is proposed by Sabine for the Forestry technical standard (Sabine 2009a). Also as discussed, current plans would restore the forestry land use on a maximum of 59 percent of the total disturbance area. As discussed in Section 3.4.1.1 of the EIS under Upland Forest, the upland forest vegetation type, which consists of a mixed hardwood/pine community, currently comprises approximately 34 percent of the Rusk Permit Area. Based on this information, no irreversible commitment of mixed pine/hardwood upland forest was identified in the EIS.

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S4-23 (cont'd) species. The DEIS does not identify which portion of the proposed post-mine forestry land use is committed to be planted with hardwood species. Without a committed acreage to be planted with hardwood species, recovery of losses to pre-mine mixed pine/hardwood upland forest cannot be determined. The final EIS should indicate that there may be an irretrievable commitment of up to 6,235 acres of mixed pine/hardwood upland forest to pine forest.

### Appendix C Proposed Conceptual Mitigation Plan (PLAN)

S4-24 The Proposed Conceptual Mitigation Plan is listed as Appendix C, but is also referred to as Attachment J. This should be revised for consistency.

S4-25 The plan indicates reclaimed habitats for fish and wildlife will be incorporated into compatible areas within post-mine forestry and pasture land uses. The fish and wildlife areas would include drainage features within riparian habitats and other aquatic sites that provide mitigation for impacts to waters of the U.S., including wetlands. The final EIS and Conceptual Mitigation Plan should provide a map that identifies the locations of proposed stream, wetland, and riparian mitigation areas, and fish and wildlife habitat enhancement areas.

### 2.0 Goals and Objectives

#### 2.1 Mitigation

S4-26 TPWD has several concerns regarding the applicant's proposed mitigation plan. TPWD recommends that out-of-kind mitigation not be used as this approach does not adequately compensate for resources lost. A 3:1 ratio is more appropriate to account for temporal loss and uncertainty of success. Also, the applicant proposes to use functional assessment methods, in which case, the compensation calculations should not be based on acres. Instead, calculations should be based on functional units with a multiplier to account for the temporal loss of those aquatic functions and the difficulty of restoring or establishing the desired aquatic resource type and functions. The DEIS states that the applicant plans to provide environmental lift with the mitigation areas. The applicant justifies the low mitigation ratio by the expectation that the mitigation may exhibit higher functional value than pre-mine conditions. If this occurs, it would be accounted for in the functional unit calculations.

S4-27 Page C-8 states that mitigation areas will fit within the post-mine forestry and pasture land use areas. This is not necessarily a compatible use. If leases specify post-mine land uses of forestry and pastureland, those areas will be required to meet strict RRC performance standards that would conflict with the construction of wetlands and riparian areas.

S4-28 The applicant should project quantity of linear feet of stream to be created by reclamation. It is not appropriate to calculate stream impacts or mitigation in acres.

### 3.0 BASELINE INFORMATION

S4-29 Mine-specific baseline information should be included in the DEIS and final EIS. It is not appropriate to reference the RRC permit application. If this information is included in other sections of the DEIS, those specific sections should be referenced in the PLAN.

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S4-24 The proposed Conceptual Mitigation Plan presented in Appendix C of the Final EIS, was excerpted from Attachment J of Sabine's 404 IP application (HDR 2010a), as reflected in the footers of the Plan. Within the context of the EIS, the reader is correctly referred to Appendix C of the EIS for a copy of the Plan.

S4-25 Please see the response to comment S4-12.

S4-26 Out-of-kind mitigation is proposed only as a last resort, and no specific site is proposed in Sabine's 404 IP application. Also see the response to comment F1-3 regarding the USACE approved methodology for the Conceptual Mitigation Plan.

S4-27 If the permit is issued, mitigation to satisfy the 404 IP requirements would be established within RCT-approved post-mine land uses of forestry and pastureland, since the RCT regulations do not have a designated land use for mitigation of waters of the U.S., including wetlands. The resulting streams, wetlands, and ponds would be considered features within the RCT post-mine land uses and would be tied to topography and hydrology in those areas. This approach encourages development of post-mine aquatic resources of similar condition and distribution to pre-mine conditions.

S4-28 The linear feet of perennial, intermittent, and ephemeral stream that would be impacted by the proposed project are detailed in Appendix E (Table E-1) of Sabine's 404 IP. The IP previously was distributed to the TPWD and other agencies for review and comment. As shown in Table 2-10 of the EIS, the proposed mitigation ratio for streams is 1.0:1.0. Also see the response to comment S4-4 regarding the USACE Fort Worth District stream mitigation policy.

S4-29 Baseline information presented in Sabine's RCT permit application has been incorporated into the EIS in part or by reference, as appropriate for the analysis and in accordance with CEQ guidelines. The RCT permit application and environmental baseline reports are included in the administrative record for the EIS. In addition, RCT distributes the permit application to applicable regulatory agencies during the permit review process.

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S4-30 Page C-10 states that the “mitigation will be compatible with the current, landowner-preferred, land uses in the area.” The majority of the current land uses are pastureland (28%) and forestry (65.8%). These land uses have specific reclamation standards with the RRC which would preclude mitigation if these land use classifications are not changed on the leases. Pine plantations and Bahia grass are not appropriate for wetland or stream mitigation areas.

### 4.0 MITIGATION PLAN IMPLEMENTATION

#### 4.1 Mitigation for Adverse Impacts to Streams

S4-31 Stream channel designs specific to the PLAN should be included in the DEIS. Referencing the RRC permit application is not sufficient because the DEIS should be a stand-alone document. The 404 process is separate from the RRC application process.

#### 4.2 Stream Restoration Practices

S4-32 TPWD agrees that grade control structures (concrete drop structures) should only be used as a last resort in the reestablishment of stream channels. Riprap, concrete or otherwise, should not be used in stream restoration. On-channel sediment basins are not appropriate for stream restoration. Natural channel design methods should be used to eliminate the need for these types of structures and materials. TPWD agrees that livestock should be excluded from riparian areas to protect stream mitigation. The applicant should indicate how this will be assured once the leased land is returned to the landowner.

#### 4.3 Mitigation for Adverse Impacts to Wetlands

##### 4.3.1 Creation

S4-33 On-channel impoundments should not be constructed on mitigation areas. These impoundments cause excess sediment deposition and bank erosion, impede fish passage, and contribute to scour downstream by releasing sediment-starved water.

##### 4.3.4 Preservation

S4-34 Preservation credit should only be granted for unique, exceptional areas.

#### 4.4 Revegetation of Uplands, Streams, and Created, Restored, and Enhanced Wetland Areas

S4-35 Additional details of the reclamation process relevant to revegetation and fish and wildlife habitat enhancement should be included here. The PLAN again refers to the RRC permit for details that should be included in the DEIS.

### 5.0 SUCCESS CRITERIA AND PERFORMANCE STANDARDS FOR ANTICIPATED FUNCTIONS

S4-36 For stream channels, TPWD recommends that riparian zones be at least 100 feet wide on each stream channel; the Mobile SOP recommends at least 50 feet on each side of the stream channel. The proposed 25-50 feet indicated in the DEIS is not adequate.

S4-37 For forested wetlands, a minimum density of 100 trees per acre is not appropriate for five years after planting. The density should be at least 200 trees per acre of five-year old trees. One-inch DBH or 6-feet tall are not appropriate success criteria; the criterion

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S4-30 Please see the response to comment S4-27.

S4-31 Please see the response to comment S4-29. Representative stream restoration designs are included in the proposed Conceptual Mitigation Plan (Appendix C of the Final EIS).

S4-32 There is no established guidance stating that on-channel basins are not appropriate for stream restoration. Channel design includes evaluation of fluvial geomorphology and factors in Surface Mining Control and Reclamation Act (SMCRA) design criteria.

The Functional Assessment considered that cattle would be excluded from riparian buffer areas during mining and final reclamation as specified by the Mobile District Stream Mitigation SOP. However, in the post-mining period, no assurance of livestock exclusion is possible on leased properties. Sabine would make an effort to exclude cattle from mitigation areas to the fullest extent possible.

S4-33 Please see the response to comment S4-32.

S4-34 As clarification, preservation credit is not proposed. As stated in the Conceptual Mitigation Plan (Appendix C of the Final EIS), preservation would be supplemental to other processes with USACE Fort Worth District approval following review, discussion, and coordination.

S4-35 The Conceptual Mitigation Plan (see Appendix C of this Final EIS) is a required attachment of the larger Individual Permit application, which is paired with the SMCRA permit application. With this in mind, the Conceptual Mitigation Plan is designed to reflect the requirements of both Section 404 of the Clean Water Act (CWA) and SMCRA. These documents should be reviewed together since various parts of each document rely on the information in the other. References between documents is warranted, acceptable, and expected due to the size of the individual documents in question. Reproduction of all applications within an EIS is not practical and is not required under NEPA.

S4-36 Please see the response to comment S4-4 regarding the USACE Fort Worth District stream mitigation policy.

S4-37 Please see the response to comment F1-13 regarding USACE's success criteria for forested wetlands.

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S4-37 (cont'd) should be trees that have been in the ground for five seasons. It is important to demonstrate that the trees are established.

### 5.2 Functional Assessment

S4-38 The applicant is proposing to use interim assessment methods based on the Wetland Rapid Assessment Procedure (WRAP) and Mobile SOP. A locally-developed and calibrated functional assessment method is available for riparian wetlands in this region and should be used.

Williams, H. M., Miller, A. J., McNamee, R.S., and Klimas, C.V. (2010). "A Regional Guidebook for Applying the Hydrogeomorphic Approach to the Functional Assessment of Forested Wetlands in Alluvial Valleys of East Texas," ERDC/EL TR-10-17, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

### 6.0 SITE PROTECTION

S4-39 A reclamation performance bond is not an adequate form of site protection, nor is it an adequate financial assurance. It does not ensure that compensatory mitigation is completed according to Section 404 standards.

S4-40 Section 404 of the Clean Water Act will not adequately protect areas that are considered mitigation. Many activities that can adversely affect mitigation quality, such as clear-cutting, are not adequately precluded by current regulations. The applicant should either renegotiate mitigation options in the leases to allow the use of a conservation easement or compensate off-site at an area that can be protected in perpetuity by a conservation easement. Under the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources, permittee-responsible mitigation is to be held to the same standards as mitigation banks.

### 8.0 MONITORING AND LONG-TERM MANAGEMENT

S4-41 The applicant proposes to use deed restrictions for site protection of compensatory mitigation on Southwestern Electric Power Company (SWEPCO) owned property. A deed restriction is not an adequate form of site protection as they are not normally enforced. A conservation easement should be used.

S4-42 Water regime management should not be necessary because the mitigation project should be designed to be self-sustaining.

#### 8.1 10-Year Incremental Reporting (Self-Monitoring)

S4-43 Ten years is too long between monitoring reports. Mitigation progress should generally be reported on an annual basis at least until success criteria are achieved.

### 9.0 FINANCIAL ASSURANCES

S4-44 As stated previously, the reclamation performance bond is not an adequate assurance that compensatory mitigation will be completed. It is not written to cover compensatory mitigation.

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S4-38 Please see the response to comment F1-3 regarding USACE-approved methodology.

S4-39 Please see the response to comment F2-8 regarding site protection.

S4-40 Please see the response to comment F2-8 regarding site protection.

S4-41 Please see the response to comment F2-5.

S4-42 Water regime management is an established long-term management practice. Water regime management primarily would be accomplished during the final grading phase of reclamation when topography, landscape locations, and watersheds of aquatic resources are established. Afterward, only minor adjustments would be made to the water regime, as needed, to accomplish mitigation success criteria.

S4-43 Current USACE Fort Worth District policy requires mitigation monitoring reports to be submitted annually in October.

S4-44 Surface Mining Control and Reclamation Act reclamation performance bonds are not sufficient financial assurance for aquatic resource mitigation. As such, the Conceptual Mitigation Plan has been revised to include a proposal to provide additional financial assurance for aquatic resource mitigation. Evaluation of this proposal will be documented in the Record of Decision.

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### Appendix 3 – Functional Assessment of Waters of the U.S. Report

#### 2.1 METHODS – Wetlands

S4-45 The Functional Assessment Report in Appendix 3 of the Plan is not complete. It is lacking the WRAP and stream data sheets, representative site photographs, and map listed on page C-55. The missing WRAP datasheet prevents TPWD from conducting an adequate evaluation of suitability of the WRAP method for this purpose.

S4-46 The applicant has not presented an adequate justification for forcing the water quality variable in WRAP to give “reclamation” land a score of 2.5. An appropriate justification should be provided or the actual score should be used. Also, a detailed description of the “high standards for bond release of mine reclamation areas” should be provided.

#### 2.2 METHODS – Streams

S4-47 The stream data sheets referred to in the stream assessment are missing, along with the rest of Appendices A, B, and C.

S4-48 A stream channel condition assessment conducted from aerial photography is unlikely to be accurate. If an adequate assessment cannot be conducted, the stream should be assumed to have the best quality and be compensated as such.

S4-49 It is not appropriate to address ephemeral stream impacts based on acreage as a wetland, therefore linear feet should be used.

S4-50 Several improper modifications have been made to adapt the Mobile SOP to the site. It is not appropriate to average the scores for temporary and permanent to obtain the impact duration factor for the stream assessment. Mining and reclamation are not temporary or recurrent impacts, and should therefore be classified as permanent. Also, the Mobile SOP defines permanent impacts as “project impacts that will be permanent or will occur during spawning or growth periods of Federal and/or State protected species.” State protected mussel species have been found in the Sabine River by the applicant’s surveys and the potential exists for several other state-protected species, such as paddlefish and alligator snapping turtles, to be found if more surveys were conducted. For mussels, the spawning/growth period can be considered as encompassing the entire year, especially for the bradyctictic (long-term brooder) mussel species. These species spawn over summer and hold the larvae through winter, releasing them the following spring/summer. Successful reproduction is also dependent on the presence of appropriate glochidial host fish species, so impacts to fish could also affect mussels.

S4-54 The dominant impact factor should be classified as permanent fill, not morphological change. Mining through or placing on-channel impoundments on streams clearly constitutes fill. The Mobile SOP defines fill as “permanent fill of a stream channel due to construction of dams or weirs, relocation of a stream channel (even if a new stream channel is constructed), or other fill activities.” In this case, the stream channels are being relocated and a new stream channel is being built. The Mobile SOP also states “relocation of a stream is considered fill under these guidelines when the relocation is

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S4-45 Appendix C of the EIS presents excerpted sections of Sabine’s Functional Assessment for reference in the EIS analysis. The entire Functional Assessment is included in Sabine’s 404 IP application that previously was distributed to the TPWD and other agencies for review and comment.

S4-46 As clarification, WRAP does not contain a water quality land use score for reclamation land; therefore, the score for the nearest land use category (unimproved pasture/rangeland) was used. WRAP allows for adjustment of scores.

“High standards for bond release” include adequate ground cover with desirable species (based on RCT technical standards), no suspended solids contribution to streams, and control of erosion, which contribute to the moderately high water quality in the reclamation areas and justify a score of 2.5.

S4-47 Please see the response to comment S4-45.

S4-48 Aerial photography is useful for measuring riparian buffers and watershed characteristics, which in turn can be used to determine the similarity of streams. Inferring condition scores for similar streams when a representative subset has been adequately sampled is an acceptable assessment practice. Both perennial streams and seven of the nine intermittent streams were assessed on site; thus, scores only were inferred for two intermittent streams. Also see the response to comment F1-3 regarding USACE-approved methodology.

S4-49 As discussed in Section 2.2 of the Functional Assessment (see Appendix C of the Final EIS), the Mobile District Stream Mitigation SOP specifies that “impacts to ephemeral streams will be addressed as wetland impacts.” Therefore, impacts to, and mitigation for, ephemeral streams have been based on total acreage. However, as discussed in the response to comment S4 28, the linear feet of perennial, intermittent, and ephemeral stream that would be impacted by the proposed project are detailed in Appendix E (Table E-1) of Sabine’s 404 IP. Also see the response to comment F1-3 regarding USACE-approved methodology.

S4-50 Adaptation of the Mobile District Stream Mitigation SOP for surface coal mine operations at the Rusk Permit Area was performed based on professional judgment, similar adaptations at other surface coal mine sites, and the prior approval of the USACE Fort Worth District before implementation of the evaluation.

S4-51 As discussed in Section 2.2 of the Functional Assessment (see Appendix C of the Final EIS), since mining impacts do not fit the definition of permanent duration, and recovery of stream functions is anticipated following relocation

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S4-54 (cont'd) conducted to allow development of the area where the stream was previously located.” If this SOP is applied, mining should be considered a type of development.

S4-55 The stream impacts beyond the five-year term should be calculated for the cumulative impact factor (AKA scaling factor) because the permit is looking at all the impacts over the life of the mine. If the entire stream will be impacted over the course of the project, then the cumulative impact should be considered, even if the impacts will be staggered.

S4-56 The Mobile SOP mitigation factor that reduces mitigation credits for stream mitigation upstream of an existing or proposed man-made lake should be used. Impoundments have negative effects upstream and downstream and artificial impoundments are not considered an enhancement.

### 3.1 RESULTS – Wetlands

S4-57 The majority of the non-forested sites in Table 2 appear to use the representative WRAP score from Wetland ID WN-35 to calculate the functional impact to all 29 sites. Separate scores should be determined for each site.

S4-58 Table 3 presents the WRAP scores for the reference wetlands at the South Hallsville No. 1 Mine. The applicant should explain how a “potential forested” wetland can score higher than any of the “forested” wetlands. The applicant should also provide the missing data sheets to demonstrate how the scores were calculated.

### 3.2 RESULTS – Streams

S4-60 The existing condition classification of “somewhat impaired” for the intermittent streams needs to be justified with the appropriate data sheets.

S4-61 As mentioned previously, the applicant’s proposed revisions to the Mobile SOP for surface coal mining operations are not appropriate. The priority classifications for the Sabine River and other perennial waters should be revised to “primary priority” due to the state listed mussel species found during the CNG baseline survey and the likelihood that those waters may contain other state-listed species, such as the creek chubsucker, paddlefish, and alligator snapping turtle. Also, a copy of the mussel survey report should be provided.

S4-62 The applicant is proposing instream credit and riparian buffer credit. The Mobile SOP separates credit on this basis. Credit for instream and riparian buffer improvements is only appropriate if riparian buffer impacts are included in the impact calculations. Page 9 of 34 of the Mobile SOP states that mitigation may be required for clearing streambank vegetation if it occurs in conjunction with an activity requiring a permit. The applicant should be required to compensate for any riparian impacts.

S4-63 Mitigation credit should not be given for areas that are not covered under a perpetual site protection instrument, such as a conservation easement (33CFR332.7(a)(1)).

S4-64 A multiplier (ratio greater than 1:1) will need to be applied to the compensation credit required to account for the temporal loss of those aquatic functions and the difficulty of restoring or establishing the desired aquatic resource type and functions (33CFR332.3(f)(2)).

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S4-51 (cont'd) and/or reclamation, it was necessary to adapt a “long-term” duration factor, for which the average of the temporary and permanent factors is appropriate. While the duration of impacts could be 5 to 10 years, the reclamation process requires that natural and aquatic resources be replaced per the SMCRA and Section 404 guidelines; therefore, considering the impacts to be permanent is neither accurate nor supported by existing regulatory guidelines and requirements.

S4-52 Project-related impacts would not be considered permanent based on the Mobile District Stream Mitigation SOP definition since the recovery of system integrity and functional replacement is anticipated following relocation and/or reclamation. Also see the response to comment S4-51.

S4-53 Please see the response to comment S4-16 regarding potential impacts to state-protected mussel species.

S4-54 As discussed in Section 2.2 of the Functional Assessment (see Appendix C of the Final EIS), under the Mobile District Stream Mitigation SOP, relocation of a stream is considered fill when the relocation is conducted to allow development of the area of the previous stream location. The impacts associated with surface coal mining do not allow development (e.g., residential, commercial, or industrial uses) of the area where the stream was located; rather, the stream is functionally replaced during the reclamation process. Also, the Mobile District Stream Mitigation SOP defines impoundment as “to convert a stream to a lentic state with a dam or other detention/control structure that is not designed to pass normal flows below bankfull stage.” Some stream segments would be impounded during mining activities for sediment control and water quality measures; however, these impoundments would not be permanent, and most would be removed (or substantially downsized) during the reclamation process following mining activities. Thus, morphologic change is a more appropriate impact factor than permanent fill for evaluating impacts of the surface mining operations at the site.

S4-55 As discussed in Section 2.2 of the Functional Assessment (see Appendix C of the Final EIS), reclamation would occur contemporaneously as mining progresses, so functional replacement of stream impacts in one portion of the Rusk Permit Area would occur as impacts occur in another portion. Also, impacted streams that are relocated/diverted around the mine block would not cause a cumulative impact to the upstream or downstream portions of the stream since the upstream portion would not be impacted and the downstream portion would experience only a temporary interruption to stream flow. Thus, the Mobile District Stream Mitigation SOP cumulative impact factor does not apply beyond a particular mine block that is being impacted.

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- S4-56 As discussed in Section 2.2 of the Functional Assessment (see Appendix C of the Final EIS), the Mobile District Stream Mitigation SOP reduction of mitigation credits for streams located within 1 mile of the upstream end of an impoundment is inappropriate for the Rusk Permit Area, as well as the South Hallsville No. 1 Mine area, because the gradient is high enough that the influence of impoundments on stream flow currently does not, and would not, extend beyond the immediate vicinity of the upstream end of the impoundment. In addition, properly designed impoundments can provide for sediment retention and energy dissipation and serve as a refuge for aquatic organisms (e.g., invertebrates, fish, and frogs) during extended periods of drought and allow faster recolonization of streams once flow returns. Therefore, downstream impoundments would not have an overall negative impact on the function of stream restoration in mine reclamation areas and may provide enhancements for aquatic species. Thus, the use of the Mobile District Stream Mitigation SOP mitigation factor that would reduce mitigation credits is not applicable in this setting.
- S4-57 As discussed in Section 2.1 of the Functional Assessment (see Appendix C of the Final EIS), WRAP was performed for a representative sample of pre-mine wetlands, including non-forested wetlands. Each impacted wetland was assigned a WRAP score from a representative wetland based on the similarity to that representative wetland. Many of the non-forested wetlands were assigned a score from representative wetland WN-35 based on their similarity to that non-forested wetland, as confirmed on-site for 26 of the 28 wetlands with that inferred score. Inferring condition scores for similar wetlands based on a representative sample is an acceptable assessment practice, and each wetland does not require a separate assessment to determine its score.
- S4-58 As discussed in Section 2.1 of the Functional Assessment (see Appendix C of the Final EIS), potential forested wetlands are likely to become forested based on the presence of healthy seedlings/saplings. The overall WRAP score for a wetland is based on the scores for six variables, which may be lower, similar, or higher for potential forested wetlands compared to forested wetlands depending on the particular variable and the wetland's characteristics. For example, a potential forested wetland may score higher than a forested wetland for the overstory/shrub cover variable if it has a higher diversity of tree species (even though they have not reached maturity), and with other variables being equal, the potential forested wetland would have a higher overall score. Specific details for the scoring of each reference potential forested wetland are included in the data sheets in Appendix A of the Functional Assessment presented in the 404 IP application. Please see the response to comment S4-45 regarding the Functional Assessment.

## Responses to Letter S4

- S4-59 Please see the response to comment S4-45 regarding the Functional Assessment.
- S4-60 Appendix C of the Final EIS presents excerpted sections of Sabine's Functional Assessment for reference in the EIS analysis. The entire Functional Assessment, including the data sheets, is included in Sabine's 404 IP application that previously was distributed to the TPWD and other agencies for review and comment. Justification for classification of an intermittent stream as somewhat impaired is present in the data sheet for that stream. As discussed in Section 3.2 of the Functional Assessment (see Appendix C of the Final EIS), the majority of the intermittent streams have an existing condition of somewhat impaired due to past land use, oil/gas activities, and crossings for county roads and highways that have caused erosion, incision, or sediment deposition in the stream.
- S4-61 Appropriate justification for the adaptations to the Mobile District Stream Mitigation SOP for the proposed project is provided in the Functional Assessment. Section 3.2 of the Functional Assessment (see Appendix C of the Final EIS) also provides the justification for the priority area classification of the streams that would be impacted by the project. Although a primary priority classification is appropriate for waters with state-listed species according to the Mobile District Stream Mitigation SOP, state protected mussel species had not been found at the Sabine River crossing at the time of the draft Functional Assessment. This only applies to the Sabine River crossing, and not the vast majority of streams in the Rusk Permit Area. The other perennial stream is a small portion of Cherokee Bayou to which the primary priority definition does not apply. Sabine has submitted a copy of the mussel report with the RCT permit application.
- S4-62 The Mobile District Stream Mitigation SOP does not include a separate calculation for riparian buffer impacts, nor does it specify that credits for riparian buffer improvements only are appropriate if these are included in the impact calculations. The clearing of stream bank vegetation referred to on page 9 of the Mobile District Stream Mitigation SOP is in reference to the dominant impact factor. Only one dominant impact factor can be used, in this case morphologic change, which is higher (1.5) than clearing (0.05) and, thus, accounts for any riparian impacts.
- S4-63 Please see the response to comment F2-5 regarding site protection. The Functional Assessment provides a projection of functional replacement and mitigation credits; however, it is not intended to address site protection for the approved mitigation credits, which is addressed in the Conceptual Mitigation Plan. 33 CFR 332.7(a)(1) specifies that long-term protection should be provided by real estate instruments or other available mechanisms, as appropriate.

## Letter S4

- S4-65 [ According to the Mobile SOP, the relocated stream is required to have at least the minimum buffer width of natural vegetation on both sides of the stream in order to receive mitigation credit. The minimum buffer width is at least 50 feet but may be more depending on the buffer slope. The Mobile SOP also specifies that “cattle are not allowed to access riparian buffers within compensatory mitigation sites.” Measures will need to be taken to ensure permanent cattle exclusion from the riparian areas.
- S4-66 [
- S4-67 [ According to the Mobile SOP, the applicant should specify the natural reference reaches that will be used for the stream restoration. The final EIS should also specify the current Rosgen stream condition/type for the impacted streams, the current stage in the Stream Channel Evolution Model, and the target stream type for the recreated stream design.
- S4-68 [ For upland riparian buffer restoration, the final EIS should specify the Reference Forested Ecosystem that the applicant proposes to use as a guide to mimic species composition and diversity.
- S4-69 [ Monitoring and contingency plans should be provided for the mitigation. The parameters that will be monitored for baseline and restoration need to be specified. Appendix D of the Mobile SOP states that “parameters to be measured include stream pattern, profile, and dimension metrics at sites above, within, and below the restored reach, water temperature, dissolved oxygen, turbidity, pH, stream substrate characteristics, erosion patterns, and biological parameters...”
- S4-70 [ Tables 5 through 9 in the Functional Assessment of Waters of the U.S. Report should be recalculated to correct the improper modifications to the Mobile SOP.

## Responses to Letter S4

- S4-64 As discussed in the response to comment S4-55, reclamation would occur contemporaneously as mining progresses, so functional replacement of impacts in one portion of the permit area would occur as impacts occur in another portion, thus limiting the temporal loss.
- S4-65 Please see the response to comment S4-4 regarding the USACE Fort Worth District’s stream mitigation requirements.
- S4-66 Please see the response to comment S4-32 regarding cattle exclusion.
- S4-67 Page 10 of the Mobile District Stream Mitigation SOP states that restoration should be based on a reference condition/reach of the same stream valley type or other analog or analytical methods; however, it does not require identification of natural reference reaches. Also, RCT standards for channel design apply. The specification of the Rosgen stream type, stage in the stream channel evolution model, and target stream type is not relevant to the Functional Assessment report.
- S4-68 The reference forested ecosystem for riparian buffer restoration is not required by the Mobile District Stream Mitigation SOP and is not relevant to the Functional Assessment report. Revegetation information is provided in Section 4.4 of the Conceptual Mitigation Plan (see Appendix C of the Final EIS).
- S4-69 Monitoring and contingency plans are components of the Conceptual Mitigation Plan and are not relevant to the Functional Assessment report. Parameters to be monitored also are not relevant to the Functional Assessment report.
- S4-70 As discussed in the Functional Assessment report and the responses above, the adaptations of the Mobile District Stream Mitigation SOP for the local conditions and surface coal mine operations at the proposed project site are appropriate. Therefore, no recalculation for Tables 5–9 of the Functional Assessment report is required. Also, note that the application of this factor would result in a change of less than 1 percent.

# Letter L1

# Responses to Letter L1

Mayor, City COMMENT FORM

- L1-1 Will Sabine Mining consider the following?"  
Assuming that eventually land being mined will be RECLAIMED, i.e. returned as much as possible to its original condition, I am requesting that as part of your plans to either return that land to previous owners by original agreement, or dispose of that land by sale, that you would set aside lands contiguous to the City of Tatum to be given to the City for purposes of future City expansion. If so, I request that preliminary negotiations might begin within the near future.
- L1-2 Will Sabine Mining also consider...  
Widening the 149 Corridor from Tatum to Lakeport? I am asking for a setback of a minimum of ¼ mile on each side of state highway 149. That corridor is Tatum’s most likely area of business expansion. As you might notice, the City of Longview ISD is moving south down that corridor as they also understand its importance.
- L1-3 I am concerned that as county roads are closed, access to City businesses will be restricted, resulting in economic damages to those businesses, and subsequently to the City itself.
- L1-4 I am also concerned about the water supply of the City. We depend exclusively on wells to supply our citizens with water. Although I have heard that our water supply will not be affected, I am concerned that in a project of this magnitude there are ALWAYS unintended consequences. If our water supply is affected or damaged in any way, I request that we be supplied with documentation that assures us that Sabine Mining will be held responsible for any effect that might occur as a result of the mining operations.
- L1-5 I am also requesting that as the mining operations advance, that Sabine Mining will be open to any further negotiations with the City as the social environmental and economic impact of the mines become more apparent. With very limited resources I would hope that Sabine Mining would operate in Good Faith to negotiate with the City, avoiding the necessity of legal fees that the City would be pressed to pay.

I request that the foregoing comments be included in the remarks that are submitted as my Comment Form to the Rusk Permit Area Draft Environmental Impact Statement.

Sincerely  
Phil Cory  
City of Tatum, TX

- L1-1 SWEPCO and Sabine have been in contact with Mayor Cory and have verbally committed to work with the City of Tatum to facilitate growth of the city and to address socioeconomic impacts, where practical.
- L1-2 The width of the corridor along State Highway 149 and the type of development is determined by the private landowners on each side of the highway. The individual landowners can determine whether they want to lease or sell all or part of their land along the highway to Sabine for purposes of mining.
- L1-3 All major routes into Tatum would remain open throughout the project life. No business access is likely to be affected unless the business is within a proposed mine area.
- L1-4 Please see the response to comment T3-1 relative to potential water supply impacts.
- L1-5 Please see the response to comment L1-1.

## Letter L2

**Dee W. Hartt, Ed. D.**  
Superintendent  
**Kathy Baumgardner**  
Director of Curriculum, Instruction &  
Assessment  
**Cliff Harkless**  
Director of Human Resources  
**Pat Parks**  
Director of Business Services

TEA RECOGNIZED DISTRICT – 2007, 2008, 2009 & 2010



P.O. Box 808  
Tatum, Texas 75691  
Phone: (903) 947-6482  
Fax: (903) 947 - 3295

December 17, 2010

Mr. Darvin Messer  
Regulatory Branch, CESWF-PER-R  
U.S. Army Corps of Engineers  
Post Office Box 17300  
Fort Worth, Texas 76102-0300

Mr. Messer,

The Tatum Independent School District (TISD) is submitting these public comments in reference to the "Rusk Permit Area DEIS – Project No. SWF-2007-00560." Thanks in advance for your consideration of the comments listed and the possible negative impact of this permit on TISD in contrast to the statements contained in the DEIS.

L2-1

The Tatum Independent School District (TISD) has experienced a 5% per year growth in student enrollment over the past five years, has received four consecutive Recognized ratings for academic performance, is highly competitive in all extra-curricular activities, has passed five facility expansion bond issues since 2000 at an 84% approval rating and consistently receives high survey rating responses from all constituents pertaining to the quality of educational programs being offered to the students of TISD. Due to this success, TISD is a district of choice in East Texas with 20% of student enrollment being transfer students. At the same time the City of Tatum has experienced a population growth of 3.7% percent and average home value increase of 98.5% since 2000. These factors indicate the support and satisfaction that the TISD community has with the school district and the positive growth that the Tatum community has experienced over the past several years.

L2-2

The DEIS states in section 3.10.2.1, Public Education, that "the Proposed Action is not anticipated to result in a change in population in the four-county study area. As a result, no change in the number of students in any of the school districts in the vicinity of the existing South Hallsville No. 1 Mine would be anticipated. As a result, no changes in the school districts' abilities to provide services for their students are anticipated."

L2-3

The report analyzes housing available in a four county area but TISD boundaries reside inside parts of Rusk and Panola County only. Housing opportunities within the boundaries of TISD is very limited to non-existent and the current available housing will not sustain the displacement of 256 homes and the rate of existing enrollment increases. With no housing available inside the boundaries of TISD those families will have to relocate outside of TISD boundaries, creating a loss of student enrollment and funding, reducing services being provided to students.

L2-4

In addition, the 20,377-acre area of this permit is located within the boundaries of TISD representing 28% of the total acreage of TISD. Thus, leaving 72% of the existing land to sustain the displaced students and increased enrollment that TISD has been experiencing over the past 5 years.

*"The mission of the Tatum Independent School District is to produce graduates, each having attained high levels of academic achievement, a respect for all people and a belief in their own ability to be successful in a rapidly changing world."*

## Responses to Letter L2

L2-1

Comment noted. It does not necessarily follow that an enrollment growth rate greater than the growth rate of the surrounding community is essential to sustain the educational quality of a school district. However, the high regard for the Tatum ISD, its success in many areas of endeavor, and the large numbers of transfer students suggest future enrollment would remain strong, and current students likely would elect to stay in Tatum schools, if possible, regardless of whether they are able to relocate within the district boundary.

L2-2

Comment noted.

L2-3

A status check in late 2010 identified 10 homes for sale in the Tatum ISD ranging in price from under \$100,000 (1 unit) to over \$200,000 (4 units), and data from a year earlier indicated many more available homes within commuting distance. The U.S. Census Bureau estimated there were several hundred vacant units in Rusk and Panola counties in 2009, as noted in Section 3.10 of the EIS. It is important to note that residential displacements would occur incrementally over a period of 20 to 30 years, not all at one time. There are relatively few residences that would be displaced from Mine Area V during the first 15 years, for example, which would provide ample time for the market to adjust to the project-related changes. Also see the response to comment L2-1.

L2-4

If the concern of this comment is for financial resources to support Tatum ISD schools, it should be noted that property taxes would continue to be levied on all property within the proposed mine area throughout the life of the mine, and that displacement of existing uses would occur incrementally over a period of 20 to 30 years, rather than all at one time. Taxable property within the mine area would include mining equipment, which would result in property tax payments to Tatum ISD from the proposed project, as discussed in Section 3.10.2.1 of the EIS.

## Letter L2

**Dee W. Hartt, Ed. D.**  
Superintendent  
**Kathy Baumgardner**  
Director of Curriculum, Instruction &  
Assessment  
**Cliff Harkless**  
Director of Human Resources  
**Pat Parks**  
Director of Business Services

TEA RECOGNIZED DISTRICT – 2007, 2008, 2009 & 2010



P.O. Box 808  
Tatum, Texas 75691  
Phone: (903) 947-6482  
Fax: (903) 947-3295

L2-5

A TISD analysis indicates approximately 215 students reside in the 256 dwellings listed in the planned disturbance area. For discussion purposes, if these 215 students were evenly displaced over the six five year mining increments in the next 30 years, would result in the loss of 36 students every five years. The current target revenue per student in TISD is approximately \$7,350 or a loss of \$264,600 for each set of 36 students every year and would grow by \$264,600 every five years, compounded over the 30 year period. The resulting impact would be changes to staffing and programs that are being offered to the students of TISD.

L2-6

Section 3.11.2.1, Proposed Action, identifies “the 25 county roads subject to closure do not provide effective shortcuts...Therefore, the closure of county roads would not be anticipated to adversely affect the traveling public.” It is the opinion of TISD that county road closures will increase total bus route mileage creating additional cost to TISD, earlier start time and longer bus rides for students.

L2-7

In summation, it is inaccurate for the DEIS to conclude that there will be no change in the number of students in any of the school districts in the vicinity of the mining operation or in the school districts’ abilities to provide services for their students. To the contrary, it is expected that TISD will lose students in three ways, limited housing opportunities for those being displaced and a corresponding reduction in available housing for continued enrollment growth. There will also be additional costs associated with longer bus routes. The resulting impact in a loss of student enrollment would be a loss of school funding and changes to the staffing and programs that are currently being offered to the students of TISD prior to Sabine Mining displacing 28% of the acreage within the district and 14% of the student population. At the same the reduction of programs will create an atmosphere where TISD will not be as an attractive option for transfer students, creating the third opportunity for lost enrollment by reducing transfer students, reducing the corresponding funding and compounding the resulting loss of programs and services.

L2-8

The citizens of TISD have worked to support a growing school district and the benefits it provides to their children. These mining operations could have an impact of reducing the educational opportunities being provided to the children of the TISD community. TISD requests that the U.S. Army Corps of Engineers consider modifying or further study of the conclusions reached in the DEIS in respect to the possible impact on public schools.

Respectfully,

Dee W. Hartt, Ed. D.  
Superintendent  
Tatum ISD

## Responses to Letter L2

L2-5

The concern expressed in this comment is based on incorrect assumptions. It is likely that current students in such a highly desirable school system would exercise the option to continue to attend Tatum ISD schools, even if their replacement housing is outside the district. The available data indicate there should be ample replacement housing available within reasonable commuting distance of the district, if not within the district itself, over the life of the project. It is similarly unlikely that there would be a cumulative loss of students for the 30-year life of the project without other students “backfilling” many, if not most, of the available spaces.

L2-6

Comment noted. Roads would only be closed, however, after residences were acquired and vacated, so most bus routes would not be needed in areas with closed roads. Any added costs from more circuitous routing would be at least partially offset by reduced routing in proposed mine areas.

L2-7

Comments noted. The issues summarized in this comment are addressed above in responses L2-1 through L2-6.

L2-8

Comments noted. The issues summarized in this comment are addressed above in responses L2-1 through L2-6.

## Letter L2

**Resolution of Acknowledgment  
Sabine Mining Company  
Rusk Permit Area DEIS – Project No. SWF-2007-00560**

**Whereas,** *the Tatum Independent School District has experienced an increase in student enrollment over the past 5 years; and*

**Whereas,** *the Tatum Independent School District has experienced increases in student academic and extra-curricular achievement; and*

**Whereas,** *the Tatum Independent School District has experienced enhancements to school facilities and support in the community; and*

**Whereas,** *the DEIS is inaccurate in the conclusion that there will be no changes to the number of students in any of the school districts or in the districts' ability to provide services for their students; it is therefore*

**Resolved,** *that a responsible community of educational leaders should respond to the inaccurate statements contained in the DEIS; and be it*

**Resolved,** *that Tatum ISD believes that both current students will be displaced outside the boundaries of TISD and future enrollment growth will be restricted; and be it*

**Resolved,** *that Tatum ISD believes that the resulting loss of enrollment will create losses in school funding; and be it*

**Resolved,** *that Tatum ISD believes that educational opportunities being provided to the children of the TISD Community will be negatively impacted; and be it*

**Resolved,** *that Tatum ISD asks the U.S. Army Corps of Engineers to consider the contrary opinions being offered as to the impact to public education of the Sabine Mining expansion Rusk Permit Area DEIS – Project No. SWF-2007-00560.*

**On Behalf of the Tatum Independent School District Board of Trustees**

---

Dee W. Hartt, Ed. D.  
Superintendent

# Letter L3

# Responses to Letter L3



SWF-2007-560

3800 STONE ROAD  
KILGORE, TEXAS 75662 • 903/984-8641 • FAX 903/983-1440

SERVING A FOURTEEN COUNTY REGION

October 27, 2010

Denise S. Francis, State single Point of contact  
Governor's Office of Budget and Planning  
P.O. Box 12428  
Austin, TX 78711

**RE: Rusk Permit Area Draft Environmental Impact Statement**

Dear Ms. Francis:

L3-1

The East Texas Council of Governments has reviewed the Department of the Army, Fort Worth District Corp of Engineers' application for review of the Draft Environmental Impact Statement. The purpose of the project is to allow discharge of dredged and fill material into rivers and streams in the permit area as a result of surface mining operations. The project is intended to provide additional resources in the form of lignite coal to the Pirkey Power Plant operated by SWEPCO.

L3-2

The Draft Environmental Impact Statement puts forth two proposals. The first is to allow for the expansion and reuse of the existing mine resources and the alternative which is to do nothing. The summary impact statements show that the expansion of the mine will have some impact on the environment as is to be expected with surface mining. Should this project be rejected the fuel sources will have to be derived from other locations which would offset this environmental impact to other areas. However, a review of Draft Environmental Impact Statement shows that the impact would be minimized once reclamation takes place at a later date.

L3-3

Three East Texas Counties, Rusk, Harrison and Panola, will be impacted by the expansion of this mine. The total cost of this project was not disclosed with the Draft Environmental Impact Statement; therefore no financial impact for these counties has been determined at this time. The proposed project is consistent with the adopted regional policies, goals and objectives set forth in the East Texas Council of Governments Land Use Plan; and I recommend approval as submitted.

Sincerely,

David A. Cleveland  
Executive Director

DAC/CLK

cc: Mayor Phil Cory, City of Tatum  
Judge Richard Anderson, Harrison County  
Judge David Anderson, Panola County  
Judge Sandra Hodges, Rusk County  
Commissioner Emma Bennett, Harrison County  
Mayor Carson Joines, City of Carthage  
Commissioner Bill Hale, Rusk County  
Mr. Stephen A. Brooks, Army Corps of Engineers

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- L3-1 Comment noted.
- L3-2 Comment noted.
- L3-3 The USACE notes the consistency of the project with the adopted regional policies, goals, and objectives of the East Texas Council of Governments Land Use Plan and the Council's recommendation concerning the proposed project.

## Letter TR1



### **Caddo Nation** Cultural Preservation Department



December 13, 2010

Mr. Stephen L. Brooks  
Chief, Regulatory Branch  
Department of the Army  
Fort Worth District, Corps of Engineers  
P. O. Box 17300  
Fort Worth, Texas 76102-0300

Re: Rusk Permit Area Draft Environmental Impact Statement

Dear Mr. Brooks:

TR1-1

We have had an ongoing relationship with representatives of the Sabine Mining Company for several years in relation to the protection of the Pine Creek Mound location on Sabine Mining Company land. Part of this Caddo mound complex was eventually donated to The Archaeological Conservancy. Our office has traveled to Hallsville and attended several meetings in relationship to the protection of important Caddo cultural resources and sacred site locations.

TR1-2

As the lead federal agency, I don't recall the presence of any Fort Worth COE representatives at any of these meetings. On the one hand, the Fort Worth COE states that they will consult on a government-to-government level (section 3.7.1.4 pg. 3.7-10) even though we've never been contacted directly about this, and then states that no one from the Caddo showed up at a public meeting (pg. 3.7-11). Further, there is again, no such thing as a "potentially eligible" site location (pg. 3.7-7). These mound sites and campsites on Sabine Mining land are sacred sites under 13007 to the Caddo people.

TR1-3

Thank you for this opportunity. Should you have any questions for us, please do not hesitate to call our office at 405-656-2901. My email is: [rcast@caddonation.org](mailto:rcast@caddonation.org).

Sincerely,

Robert Cast  
Tribal Historic Preservation Officer  
Caddo Nation

PO Box 487  
Binger OK 73009.0487

SWF-2007-560

## Responses to Letter TR1

TR1-1 Protection of the Pine Tree Mound location was conducted under the South Marshall Programmatic Agreement (PA) among EPA, THC, ACHP, and Sabine. The USACE Fort Worth District was not involved in the South Marshall PA or the work to protect the Pine Tree Mound location.

TR1-2 The meetings referenced in this letter were conducted as part of the South Marshall PA and protection of the Pine Tree Mound location. The USACE Fort Worth District was not involved in the South Marshall PA, and therefore did not attend the meetings.

On June 25, 2009, the USACE sent the Caddo Nation a copy of the Public Notice that provided notification of the proposed Rusk Permit Area EIS and upcoming public scoping meeting. As a follow-up to the Public Notice, the USACE phoned the Caddo Tribal Historic Preservation Officer to inform him of the upcoming public scoping meeting on July 7, 2009. No one from the Caddo Nation attended the public scoping meeting.

TR1-3 Under Section 106 of the National Historic Preservation Act, properties of traditional religious and cultural importance to an Indian Tribe may be determined "eligible" for inclusion on the National Register of Historic Places (NRHP). Section 106 provides the regulatory framework for evaluating sites for the NRHP, determining if NRHP-eligible sites would be adversely affected, and resolving the adverse effects. Executive Order (EO) 13007 requires federal land managing agencies to avoid adversely affecting the physical integrity of sacred sites, which are defined under EO 13007 as "specific, discrete, delineated locations identified by an Indian Tribe as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion." It is understood that the mound sites and campsites are considered sacred by the Caddo people and would be protected as such in accordance with EO 13007.

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Ph 405.656.2901  
Fax 405.656.2386

SWF-2007-560



## Letter I2



**US Army Corps  
of Engineers®**  
Fort Worth District

### Comment Form Rusk Permit Area Draft Environmental Impact Statement

We are requesting your comments on the adequacy of the Draft Environmental Impact Statement for the Rusk Permit Area. Please complete this comment form today or mail to Mr. Darwin Messer, U.S. Army Corps of Engineers, Regulatory Branch, CESWF-PER-R, P.O. Box 17300, Fort Worth, Texas 76102-0300. All comments must be received on or before **December 28, 2010**, which is the close of the comment period. Comments also may be submitted to: [rusk\\_comments@usace.army.mil](mailto:rusk_comments@usace.army.mil)

**Please provide your comments below:**

11-16-10 Tatum Meeting - THS 5 pm

I2-1

I would like a copy of the transcribed meeting, requesting as the Freedom of Information Act (FOIA).  
Send to address below please. Thank you

**Contact information.** If you would like to receive future project-related announcements, please complete the following and check the appropriate box on the reverse side of this form. **(Please print clearly.)**

Name: Neonica L. Betts Company/Organization: Self  
Mailing address: 16175 CR 2194 N  
City, State, Zip code: Tatum TX 75691  
Phone: 903-947-2885 Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

**Thank you for your interest and participation!**

## Responses to Letter I2

I2-1

In response to this comment, the USACE Office of Counsel provided the official procedure for initiating a request under the Freedom of Information Act (FOIA) to the commenter. Note that a complete copy of the transcript of the public hearing, with responses to the individual comments, is included in Appendix G of this Final EIS (see Public Hearing T1 – T5 above).

## Letter I3

## Responses to Letter I3



US Army Corps  
of Engineers®  
Fort Worth District

### Comment Form Rusk Permit Area Draft Environmental Impact Statement

We are requesting your comments on the adequacy of the Draft Environmental Impact Statement for the Rusk Permit Area. Please complete this comment form today or mail to Mr. Darvin Messer, U.S. Army Corps of Engineers, Regulatory Branch, CESWF-PER-R, P.O. Box 17300, Fort Worth, Texas 76102-0300. All comments must be received on or before **December 28, 2010**, which is the close of the comment period. Comments also may be submitted to: [rusk\\_comments@usace.army.mil](mailto:rusk_comments@usace.army.mil)

Please provide your comments below:

13-1

SINCE I LIVE AT HENDRICKS  
LAKE, I AM CONCERNED ABOUT  
THE NOISE AND DIRT POLLUTION  
RESULTING FROM HAUL ROAD AND  
LIGNITE STORAGE AREA CLOSE  
TO EAST SIDE OF THE PERMIT  
AREA.

Contact information. If you would like to receive future project-related announcements, please complete the following and check the appropriate box on the reverse side of this form.  
(Please print clearly.)

Name: LILOYD E. FITE Company/Organization: RETIRED  
Mailing address: P.O. BOX 562  
City, State, Zip code: TATUM, TX 75691  
Phone: (903) 947-3258 Fax: 2 E-mail: 2

Thank you for your interest and participation!

13-1

The nearest proposed lignite storage area would be approximately 3,000 feet from Hendricks Lake, so noise levels would be very low from that source. Haul road construction noise would be of short duration, and noise emissions from haul road traffic during operations are projected to be at or below background levels at 300 feet or more from the haul road. As discussed in Section 3.8.2.1 of the EIS and in the response to comment T4-3, fugitive dust emissions would be localized, transitory, and limited in duration. Public health effects are not anticipated.

## Letter I4



US Army Corps  
of Engineers®  
Fort Worth District

SWF-2007-560  
**Comment Form**  
Rusk Permit Area  
Draft Environmental Impact Statement

We are requesting your comments on the adequacy of the Draft Environmental Impact Statement for the Rusk Permit Area. Please complete this comment form today or mail to Mr. Darvin Messer, U.S. Army Corps of Engineers, Regulatory Branch, CESWF-PER-R, P.O. Box 17300, Fort Worth, Texas 76102-0300. All comments must be received on or before **December 28, 2010**, which is the close of the comment period. Comments also may be submitted to: [rusk\\_comments@usace.army.mil](mailto:rusk_comments@usace.army.mil)

Please provide your comments below:

*Carl Watkins*

*I am a resident of Easton TX  
and would like to know how the  
city of Easton is going to be affected  
I've been a resident of Easton all my life  
How are we going to live with the noise,  
dust, & light, that will be a big thing  
for the people in Easton, the plant says  
you will be two miles from Easton  
How do the people live with all the  
noises. Easton is a peaceful place and  
we would like to keep it that way  
So you tell me, how are we going to  
live with all that, and what are we  
going to do, we live in the country and would  
like to keep it this way*

Contact information. If you would like to receive future project-related announcements, please complete the following and check the appropriate box on the reverse side of this form.  
(Please print clearly.)

Name: *Carl Watkins* Company/Organization: \_\_\_\_\_  
Mailing address: *P.O. Box 51*  
City, State, Zip code: *EASTON TX 75641*  
Phone: *903-631-8761* Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

Thank you for your interest and participation!

SWF-2007-560

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## Responses to Letter I4

I4-1

Easton is more than 1 mile from the nearest proposed project disturbance and has the added benefit of a low ridge that would be a barrier to noise. Easton would rarely, if ever, be likely to experience noise from the proposed project. Some night lighting may be visible from Easton, but levels would be expected to be low to moderate at a distance of over 1 mile. See Section 3.12.2.1 of the Draft EIS for additional information. Please see the response to comment I3-1 relative to potential fugitive dust emissions.

## Letter I5

## Responses to Letter I5



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SWF-2007-560

### Comment Form Rusk Permit Area Draft Environmental Impact Statement

We are requesting your comments on the adequacy of the Draft Environmental Impact Statement for the Rusk Permit Area. Please complete this comment form today or mail to Mr. Darwin Messer, U.S. Army Corps of Engineers, Regulatory Branch, CESWF-PER-R, P.O. Box 17300, Fort Worth, Texas 76102-0300. All comments must be received on or before **December 28, 2010**, which is the close of the comment period. Comments also may be submitted to: [rusk\\_comments@usace.army.mil](mailto:rusk_comments@usace.army.mil)

Please provide your comments below:

15-1 [ Just wanted to know the noise  
& air quality will be. # 2194 N.  
15-2 [ the tracks to carry the coal is not  
to from here.

Contact information. If you would like to receive future project-related announcements, please complete the following and check the appropriate box on the reverse side of this form. (Please print clearly.)

Name: Helen M. Dodson Company/Organization: \_\_\_\_\_  
Mailing address: 14407 @ R 2194 N  
City, State, Zip code: Tatum TX, 75691  
Phone: 817-947-2360 Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

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Thank you for your interest and participation!

## Letter I6

## Responses to Letter I6

### Schlangen, Jamelle

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**From:** Messer, Orville Darvin SWF [Darvin.Messer@usace.army.mil] on behalf of Rusk\_Comments [Rusk\_Comments@usace.army.mil]  
**Sent:** Monday, January 03, 2011 10:21 AM  
**To:** Randall, Valerie; Koontz, Dolora; Schlangen, Jamelle; Anderson, Eric; Tanner, Matt  
**Subject:** FW: Rusk Permit Area DEIS- Project No. SWF-2007-00560 (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: FOUO

Second....

-----Original Message-----

From: Sharon Steele-Irwin [mailto:sirwin@tatumtel.net]  
Sent: Monday, December 27, 2010 5:24 PM  
To: Rusk\_Comments  
Subject: RE: Rusk Permit Area DEIS- Project No. SWF-2007-00560

Mr. Darvin Messer, EIS Project Manager

Department of the Army

U.S. Army Corps of Engineers

819 Taylor Street, Room 3437

P.O. Box 17300

Fort Worth District, Texas 76102-0300

(817) 886-1744

RE: Rusk Permit Area DEIS- Project No. SWF-2007-00560

From: James and Sharon Irwin

21623 County Road 2219-D

Tatum, Texas

(903) 241-2087

Email - sirwin@tatumtel.net

16-1 The State of Texas operates an air monitoring station in Harrison County identified as Karnack C85/AFHP303; these air quality data were used to establish baseline conditions. The station monitors NO<sub>x</sub>, NO<sub>2</sub>, nitric oxide, PM<sub>2.5</sub>, ozone, visibility, wind speed and direction, temperature, and solar radiation.

16-2 Air quality monitoring results can be accessed on USEPA's AirData website at: <http://www.epa.gov/air/data/repstst.html?st~TX~Texas>. The station designation is Karnack C85/AFHP303. The station also is designated as: Station number 482030002, Location Hwy 134 & Spur 449, Harrison County, Texas.

16-1 1. What testing was performed on "existing" air quality in the proposed Sabine mine area of Tatum, Texas and who was responsible for this testing?

16-2 2. How will the prior air quality and ongoing air quality testing results be made available to the residents of Tatum, Texas?

## Letter I6

- 16-3 3. If no "prior" air quality testing was performed what will be used as a "baseline" for all future air quality monitoring of the mining area?
- 16-4 4. What will be the locations of the air quality monitors to be located in Tatum, Texas and what regulatory agency is responsible for their maintenance and reporting?
- 16-5 5. Will USEPA be actively involved in field management during the entire project? If so will USACE provide contact information in its final EIS?
- 16-6 6. How will Pyrite and HAP fugitive dust particulates affect humans, animals and plant life? And, at what distance from active mining would be considered safe or "risk free" of HAP's and fugitive dust particulates that may increase respiratory distress? A previous USEPA EIS finding for the Henry W. Pirkey Power Plant Unit-1/ South Hallsville Surface Lignite Mine Project states; "Experiments have never been performed to determine if the pyrite fraction of coal will generate \*OH spontaneously. Earlier work has shown that \*OH is formed as a result of Fenton chemistry (eq. 1) when exogenous H2O2 is added to a coal sample that contains iron [46 <<http://www.particleandfibretoxicology.com/content/3/1/16#B46>> ] . However, based on our earlier work we hypothesize that the pyrite fraction in coal will generate \*OH spontaneously (i.e., without addition of H2O2) and that coal samples containing higher levels of iron, i.e., more pyrite, will generate more \*OH. We speculate that pyrite-induced ROS may play an important role in creating and sustaining an imbalance in ROS within lungs of coal miners, which leads to chronic inflammation and increases the risk for diseases associated with inhalation of coal dust. In addition to ROS formed by particle/aqueous reactions, cells may also form ROS (e.g, H2O2) as a result of exposure to particles" [47 <<http://www.particleandfibretoxicology.com/content/3/1/16#B47>> ] .
- 16-7 7. What percentage of fugitive dust particulates will fall within the PM 2.5 ranges? And at what distance will this size particulate be found from the active mining area? Will wind conditions affect fugitive dust?
- 16-8 8. What measures are planned for fugitive dust abatement? Will chemical measures be used?
- 16-9 9. As cattle are extremely sensitive to excessive amounts of dust, what provisions have been made for farm animals exposed to excessive fugitive dust, which can produce pink eye and respiratory distress?

## Responses to Letter I6

- 16-3 Please see the response to comment I6-1 regarding baseline air quality data.
- 16-4 As discussed in Section 3.8.4 of the EIS, TCEQ has not required air quality monitoring. However, the State of Texas air quality monitoring station is located in Harrison County at the intersection of Highway 134 and Spur 449. Also see the response to comment I6-2.
- 16-5 The USEPA, based on its current authority, would not be involved in field management during construction, operation, and closure of the proposed Rusk Permit Area.
- 16-6 Naturally occurring coal, and therefore coal dust generated during mining, may contain iron sulfide. Although iron sulfide is not one of the 187 HAPs identified by the USEPA (2010a) and, therefore, was not specifically analyzed in the EIS, the EIS analyzed the potential impacts of fugitive dust, potential impacts of increased airborne movement of trace elements in soils during mining, and the associated potential health impacts. Potential air quality impacts and associated potential health effects of fugitive dust are discussed in Sections 3.8.2 and 3.14.1.2, respectively, of the EIS. Based on that analysis, the total amount of dust (including coal dust) at the Rusk Permit Area fence line is projected to be less than the concentration that is found to be harmful to the general population since the levels are within the NAAQS.
- As discussed in Section 3.8.1.3 of the EIS, the criteria for impacts to air quality are the lowest concentrations at which adverse human health effects from exposure to air pollution are known or suspected to occur. The USEPA has developed national emission standards for HAPs, which are known as MACT standards; none of the MACT standards proposed or promulgated to date apply to lignite mining operations. However, as discussed in Section 3.14.1.2, some trace elements in lignite are classified as HAPs. Although these trace element concentrations are comparable to those in soils, there would be an increase in the airborne movement of these materials during construction, operations, and reclamation; however, any impacts are expected to be localized near mining activities and, therefore, would be temporary and transitory in nature.
- As clarification, the reference in the comment was specific to iron sulfide in coal dust exposure for coal mine workers and was not related to the general population. The health effects of this compound have been implicated in lung diseases encountered by coal mine workers, and the comment includes a reference to associated research. According to the referenced material *Iron sulfide enhances formation of hydroxide radicals...* and this could be related to Chronic Obstructive Pulmonary Disease (COPD) in miners.

## Letter I6

- 16-10 10. The USACE October 2010 DEIS states that the expected maximum noise levels to be 65dBA. At what distance were these levels measured from the source? What are the calculated dBA levels with respect to the nearest residence? Note; USEPA EIS findings for the Henry W. Pirkey Power Plant Unit-1/ South Hallsville Surface Lignite Mine Project appears to not coincide or agree with what are termed as "acceptable" noise levels in USACE October 2010 DEIS noise statements. Can you explain the discrepancy between the two findings? Has the USEPA and USACE relaxed their "acceptable" noise levels over the past 20 years?
- 16-11 11. Will ground vibrations from drag lines have any effects cement slab foundations close to the active mining area? If so, at what distance will these structures be affected?
- 16-12 12. With the removal of overburden and dewatering efforts, what impact will the forced migration of wildlife have on neighboring farms, with respects to their own limited water resources reserved for commercial livestock?
- 16-13 13. Statements have been made by USACE that "post mining land will be as good if not better than pre-mined land." Yet none of the insurance companies we have contacted will insure any structure built on post mined land. Nor will any banks grant home loans for homes built on post mined land. What provisions have been made to insure land owners can rebuild on reclaimed land?
- 16-14 14. What is the availability of comparable housing/land, within a 50 mile radius, for homeowners being displaced by the proposed mine?
- 16-15 15. What are the soil settlement rates, after reclamation, for years 1 through 5?
- 16-16 16. Our current private water well flow rate is 48 gal. per minute. How will the proposed water drawn down affect our current flow rate and at what distance from the draw down will we experience a flow rate and or water quality degradation? Note; previously performed well water testing by Ana-Lab Corp (project # 318965) of our water quality resulted in "near perfect" results.

## Responses to Letter I6

- 16-6 (cont'd) COPD Fact Sheet. American Lung Association. COPD Fact Sheet. <http://www.lungusa.org/lung-disease/copd/resources/facts-figures/COPD-Fact-Sheet.html>. Accessed March 2, 2011.
- 16-7 Approximately 97 percent of combustion emissions are PM<sub>2.5</sub>. Less than 10 percent of road dust is PM<sub>2.5</sub> (USEPA 2006b). PM<sub>2.5</sub> particles are dispersed similar to smoke; the particles can remain airborne for large distances (miles), but the concentrations diminish due to turbulent mixing that spreads the plume in all three dimensions. When the lower part of the plume contacts the ground, the particles are deposited on that surface. Wind conditions also affect the distance and concentrations. High winds tend to carry the plume farther but also dilute the plume concentration by mixing clean air into the plume. Light winds do not carry the particles as far, and concentrations tend to be higher within the plume.
- 16-8 Please see Section 3.8.2.1 and Table 2-11 of the EIS for a description of the proposed controls for fugitive dust.
- 16-9 As discussed in Section 3.8.2.1 of the EIS, fugitive dust impacts would be localized. Principal sources would include land clearing, earth moving, scraping, hauling, and materials storage and handling; truck loading operations; and wind erosion from temporary stockpiles. Sabine's committed environmental protection measures, as identified in Table 2-11 of the EIS, would reduce emissions, and violation of NAAQS would be unlikely. Impacts would be transitory and limited in duration.
- 16-10 The EIS does not specify an "expected maximum noise level." It uses two criteria: a day-night average level of 65 dBA from the U.S. Department of Housing and Urban Development (HUD) "Noise Assessment Guidelines," and a 10 dBA increase over background noise levels from the Texas Department of Transportation. All reference distances and distances from the sources to the specified criteria levels are presented in Section 3.12.2.1. Regarding the Pirkey Power Plant EIS, the noise criterion used in the Rusk analysis is the same as the "short-term goal" used in the Pirkey analysis. The lower "long-term goal" was never formally adopted by the USEPA, and the HUD guideline is commonly used for environmental noise analyses where no regulatory standards exist.
- 16-11 A vibration analysis was not conducted for this EIS. However, a Florida surface mining study of vibration from operating draglines and related equipment determined that all measurements of peak vibration fell below the level classified as "easily noticeable to persons," and all but a few measurements of peak vibration, even as near as 200 feet from the draglines, were below the level classified as "barely noticeable to persons"

## Responses to Letter I6

- 16-11 (cont'd) (Ping et al. 1996). While vibration effects vary somewhat with specific geotechnical circumstances, the Florida study strongly suggests that vibration impacts from the proposed Rusk Permit Area are likely to be negligible.
- (Reference: Ping, W.V., C. Shih, and K. Somerder. 1996. Noise and Ground Vibration Monitoring Related to Dragline Operations in Phosphate Mining. Publ. No. 05-039-123. Prepared for the Florida Institute of Phosphate Research. Barstow, Florida. March 1996.)
- 16-12 As discussed in Section 2.5 of the EIS, mine pit development and concurrent reclamation would occur incrementally throughout the life of the project, with up to 500 acres of disturbance at any one time. The reclamation of surface water resources would be in accordance with Sabine's proposed Conceptual Mitigation Plan (Appendix C of the Final EIS) and landowner agreements. As discussed in Section 3.2 of the EIS, mine development would result in short-term and long-term impacts to surface water resources in the project area.
- As discussed in Section 2.5 of the EIS, mine dewatering operations would be conducted incrementally in advance of mine pit development. As discussed in Section 3.2, based on groundwater modeling results, groundwater base flow to seeps, springs, and streams within the modeled 5-foot drawdown area that are hydraulically connected to the Carrizo-Wilcox aquifer would experience a reduction in flow until post-mining groundwater levels recover (approximately 7 to 8 years). As a result, impacts to surface water resources are anticipated from mine-related groundwater drawdown.
- Based on the EIS analysis, some seeps and springs may be eliminated by mining, while others would experience a reduction in flow until post-mining groundwater levels recover.
- As discussed in Section 3.5.2 of the EIS, wildlife habitat loss as a result of surface impacts would occur incrementally over the life of the mine, with approximately 500 acres of disturbance at any given time. Given the large amount of available surrounding habitat, wildlife is anticipated to move into surrounding habitats and return following reclamation. Any influx of wildlife to surrounding habitat likely would be incremental and temporary.
- 16-13 Please see the response to comment T2-6.
- 16-14 There is a substantial amount of undeveloped land in the vicinity of Tatum. Availability is constantly changing, and as with most market situations, "availability" also is dependent on price.
- 16-15 The text in Section 3.3.2.1 of the Final EIS has been revised to include the information on anticipated rates of soil settlement following reclamation.
- 16-16 Please see the response to comment T3-1 relative to potential impacts to water supply wells. Note that it is not possible to accurately determine the potential impacts to individual water supply wells.

## Letter I7

SWF-2007-560

# SIERRA FRAC SAND

1155 E JOHNSON  
TATUM, TX 75691  
(903) 836-4642

December 22, 2010

To: U. S. Army Corps of Engineers

Re: Proposed Mining Operation – AEP Rusk/Harrison County, Texas  
Project #SWF-2007-00560

Gentlemen:

- 17-1 [ We offer this comment on the application of AEP/SWEPCO. A significant number of wetland acres will be totally destroyed, others will be damaged. We are not satisfied that all available technology for the preservation of the wetlands and navigable waters are being utilized.
- 17-2 [ Additionally, we have seen no evidence of off-site mitigation being actually accomplished. We note that the lands to be used for off-site mitigation have not been purchased yet, and apparently have not even been identified yet with certainty.
- 17-3 [ We fear that no meaningful mitigation will actually take place. Under the Freedom of Information Act, we request to be furnished all documents that verify AEP/SWEPCO's purchase of prior lands for off-site mitigation, as well as any document that is claimed to identify the lands that will be used for mitigation in this case.
- 17-4 [ Please accept this as our opposition to this project.

Sincerely,



Kim R. Smith

## Responses to Letter I7

- 17-1 Section 404 of the Clean Water Act (CWA) requires an applicant to obtain a permit from the USACE authorizing discharge of dredged or fill material into waters of the U.S. In accordance with these permit requirements, Sabine has prepared and submitted an IP application, including a proposed Conceptual Mitigation Plan, to the USACE; the proposed Conceptual Mitigation Plan, inclusive of the Functional Assessment, is included as Appendix C of the Final EIS. This plan describes Sabine's proposed measures to avoid, minimize, or mitigate the adverse impact of the proposed Rusk Permit Area to waters of the U.S., including wetlands. Streams and wetlands reclaimed in accordance with USACE permit criteria would be incorporated as features within the RCT post-mine land use categories, based on landowner agreements.
- Potential impacts to surface waters and waters of the U.S., including wetlands, were analyzed in Sections 3.2.4.2 and 3.2.5.2 of the EIS, respectively. As discussed, impacts would be mitigated per Sabine's Conceptual Mitigation Plan resulting in no net loss of surface waters, including waters of the U.S., and a net increase of 182.5 acres of wetlands.
- 17-2 Off-site mitigation is proposed only if and when on-site mitigation opportunities are exhausted. No specific site or plan is proposed in the IP application, and any off-site mitigation would be required to be in-kind and sufficient.
- 17-3 In response to this comment, the USACE Office of Counsel provided the official procedure for initiating a request under the Freedom of Information Act (FOIA) to the commenter. Note that a complete copy of the transcript of the public hearing, with responses to the individual comments, is included in Appendix G of this Final EIS (see Public Hearing T1 – T5 above).
- 17-4 The USACE notes your opposition to the project.

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## Letter I8

Erma Rocquemore  
3400 Woodbridge Dr.  
Fort Worth, Texas 76140

18-1 I am writing this letter concerning the impact that the project will have on my property and the environment (air quality, vegetation, animal life and the water).

Thank you,

  
Erma Rocquemore

SWF-2007-560

## Responses to Letter I8

SWF-2007-560

18-1

The potential impacts to air quality, vegetation, wildlife, and water resources in and adjacent to the project area are described in Sections 3.8.2, 3.4.2, 3.5.2, and 3.2.3.2 (groundwater) and 3.2.4.2 (surface water), respectively, in the EIS for the Rusk Permit Area.

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