CEDAR LAKE MINING, INC.

BULL GAP MINE, P-3960

ALABAMA SURFACE MINING COMMISSION

SURFACE MINING PERMIT APPLICATION

PART II

Environmental Resources Information

Prepared by:

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PART II Environmental Resources Information

Fish, Wildlife and Environmental Values:	U.S Department of Interior Fish and Wildlife Service William J. Pearson, Field Supervisor 1208 B Main Street Daphne, Alabama 36526-4119
Cultural, Historical and Archeological:	University of Alabama Museums Office of Archaeological Research 13075 Moundville Archaeological Park Moundville, Alabama 35474 Alabama Historical Commission State of Alabama Elizabeth Ann Brown, Deputy State Historic Preservation Officer 468 South Perry Street Montgomery, Alabama 36130-0900
Natural Resources and Conservation:	Alabama Department of Conservation & Natural Resources Ashley Peters, Database Manager Natural Heritage Section 64 North Union Street Montgomery, Alabama 36130
Geology:	TASK Engineering Management Inc. P.O. Box 660548 Birmingham, Alabama 35266-0548 Standard Laboratories, Inc. P.O. Box 606 Whitesburg, Kentucky 41858
Soils:	U.S. Department of Agriculture Blount County Soil Conservation Service 55545 U.S. Highway 231 Oneonta, Alabama 35121

Hydrology:	TASK Engineering Management Inc. P.O. Box 660548 Birmingham, Alabama 35266-0548 ESC Lab Sciences 12065 Lebanon Road Mt. Juliet, Tennessee 37122
Wetlands Designation:	Army Corps of Engineers Mobile District Regulatory Division, Inland Branch Birmingham Field Office 218 Summit Pkwy, Ste. 222 Homewood, Alabama 35209-4753 Delta National Resources Service, Inc. P.O. Box 941 Hartselle, Alabama 35640
Land Use and Vegetation Information:	TASK Engineering Management Inc. P.O. Box 660548 Birmingham, Alabama 35266-0548

PART II Environmental Resources Information

A. Fish, Wildlife and Environmental Values

(1) Describe the measures to be taken, using the best technology currently available to minimize disturbances and adverse impacts to fish and wildlife and achieve enhancement of this resource where practicable within the proposed permit areas. (780.18(b), 816.97(a))

Drainage from all areas directly disturbed by mining operations will be directed to approved sediment ponds to prevent suspended solids and heavy metals from entering adjacent watersheds. Drainage from secondary disturbances such as roads, outslopes of road fill, sediment basins and diversion ditches will be managed by siltation controls such as hay or rock filter dams and silt fencing shall be used on occasion when necessary. All disturbed areas shall be promptly reclaimed with diverse vegetative species to provide natural habitat for wildlife equal or greater than pre-mining land use.

(2) Describe in detail the measures to be taken to restore or enhance, or steps to be taken to avoid disturbances of habitats of unusually high value for fish and wildlife located within the proposed permit area. (780.18(b)(6), 816.97(d)(2))

There are no unusually high value habitats within the proposed permit area.

(3) Are there any wetland areas such as streams, lakes, marshes, etc., located in or adjacent to the proposed permit area which will be disturbed by the mining activities?) (780.18 (b)(6),(816.97(d)(3&4))

( ) Yes (X) No

If yes briefly describe the feature(s), it's location and the extent of the proposed disturbance. Describe in detail measures to be taken to restore the area.

If a stream channel diversion is proposed, describe in detail (including maps, diagrams or cross sections, if necessary) how the provisions will be met. Include a copy of all other necessary State and Federal approvals.

NO STEAM CHANNEL DIVERSION IS PROPOSED.

(4) Is fish and wildlife habitat to be primary or secondary post-mining land use? (780.18(b)(5))

( ) Yes (X) No

If yes, describe in detail the post-mining measures to be taken to attain this land use including the target specie(s) of wildlife, plant species to be used and a map delineating the proposed arrangement of plant groupings and water sources on the permit area following reclamation.

(5) If the pre-mining land use is fish and wildlife habitat and the proposed post-mining land use is cropland, describe the post-mining provisions to be made for wildlife. Attach a map showing the location of trees, hedges, or fence rows to be used to diversify habitat if appropriate. (780.18(b)(5))

NOT APPLICABLE

(6) If the post-mining land use is to be residential, commercial or industrial, describe the post-mining provisions to be made for wildlife such as greenbelts, trees or hedgerows composed of plant species useful for wild life. (780.18(b)(5)

NOT APPLICABLE

(7) If any exceptions are proposed, describe in detail the proposed practice including target species of wildlife, plant species to be used, planting rate and/or stocking density, planting pattern with appropriate map and anticipated results of the proposed practice. (816.117(c)(1-3)

NONE PROPOSED

(8) Fish and Wildlife Enhancement and Protection Plan (880-X-8F-.18)

(1) Areas of Special Concern

(a) Wetlands:

1. List any wetlands, ponds, lakes, streams, rivers, etc. that have been identified by the DCNR or USFWS as areas of special concern.

No wetlands, ponds, lakes, streams, rivers, etc. have been identified by the Department of Conservation and Natural Resources (DCNR) or U.S. Fish and Wildlife Service (USFWS) as areas of special concern.

See attached U.S. Department of Interior Fish and Wildlife Service (USFWS) and Alabama Department of Conservation and Natural Resources (DCNR) comments.

See attached U.S. Army Corps of Engineers (COE) Authorization.

COE Nationwide Permit Authorization - 49 SAM-2010-01439-CHE

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(1) Areas of Special Concern (Cont'd)

(a) Wetlands:

2. Identify any direct or indirect impacts which could occur as a result of the proposed mine operations.

When all mining and reclamation operations are successfully completed, there should be no direct impacts on areas of special concern.
Indirect impacts as a result of this mining operation, will be limited to the temporary changes in the quantity of water entering the adjacent receiving streams during the construction of diversions and sediment basins, increased sediment loads during the construction of incidental facilities such as silt fences, rock check dams, haul roads, sediment control structures, etc. and the temporary destruction of small insignificant and undetected water holding depressions during mining operations.

3. List the measures to be taken to avoid, protect, or minimize impacts, including, but not limited to: buffer zones, treatment facilities, exclusion from the permit area, etc.

All required buffer zones or setbacks, as set forth in the regulations, will be honored to avoid, protect and minimize impacts to areas of special concern. Sediment basins and diversion ditches will be constructed to maintain water effluent standards. Sediment basins will be utilized to treat and maintain water quality standards entering the receiving stream. Diversion ditches will be constructed to control and direct all runoff from disturbed areas to approved sediment basins for treatment. Hay dams, silt fencing and rock check dams will be used to control minimal offsite drainage such as outslopes of haul roads, haul road fills, sediment basins, diversion ditches, etc., that cannot be efficiently channeled to approved sediment basins. All disturbed areas will be regraded and revegetated in a timely manner, as outlined in Part IV of the permit application, to provide fish and wildlife habitat closely resembling pre-mining conditions, where applicable.

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(1) Areas of Special Concern (Cont'd)

(a) Wetlands:

4. If direct or indirect impacts are unavoidable, describe in detail the measures to be used to restore the area to pre-disturbance conditions and to enhance it. This must include design plans for the physical reconstruction of the wetland/ pond/stream as well as revegetation of riparian species.

   The temporary destruction of small, insignificant, and undetected water holding depressions during mining operations will be restored during the reclamation process by regrading the mined area in such a manner as to create numerous small water holding depressions approximately 1/4 acres in size with a maximum depth of 2 feet to enhance the area for fish and wildlife.

   When approved by the landowner, sediment basins will be left as permanent water impoundments to provide watering for wildlife and fish habitat.

5. Is any disturbance of wetland areas proposed that requires the approval of the U.S. Army Corps of Engineers?

   (X) Yes ( ) No

   If yes, provide necessary written approval.

   COE Nationwide Permit Authorization - 49 SAM-2010-01439-CHE

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(1) Areas of Special Concern (Cont'd)

(b) Endangered/Threatened Species and Critical Habitats

1. Identify any endangered or threatened plant or animal species or their critical habitat which may be directly or indirectly impacted by the proposed mining operation.

   The Alabama Heritage Data Base listed no endangered or threatened plant or animal species or their critical habitat within the proposed permit or adjacent areas which may be directly or indirectly impacted by the proposed mining operation.

   See attached U.S. Department of Interior Fish and Wildlife Service (USFWS) and Alabama Department of Conservation and Natural Resources (DCNR) comments.

2. Describe the potential impact on any endangered or threatened plant or animal species or their critical habitat within the proposed permit or adjacent areas which may be directly or indirectly impacted by the proposed mining operation.

   Per USFWS and DCNR site evaluation, no endangered or threatened plant or animal species or corresponding critical habitat within the proposed permit or adjacent areas will be impacted directly or indirectly by the proposed mining operation.

   See attached U. S. Department of Interior Fish and Wildlife Service (USFWS) comments.

3. Describe in detail the measures which will be taken to prevent any adverse impact on any endangered or threatened plant or animal species or their critical critical habitat within the proposed permit or adjacent areas.

   Per USFWS and DCNR site evaluation, no endangered or threatened plant or animal species or corresponding critical habitat within the proposed permit or adjacent areas will be impacted directly or indirectly by the proposed mining operation.

   See attached U. S. Department of Interior Fish and Wildlife Service (USFWS) comments.

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(1) Areas of Special Concern (Cont'd)

(c) Other Areas of Special Concern

1. Indentify the area of special concern.

No other areas of special concern were listed by USFWS, the DCNR or the Alabama Heritage Data Base from specific site evaluations.

2. Describe the potential impact on any other areas of special concern.

No other areas of special concern were listed by USFWS, the DCNR or the Alabama Heritage Data Base from specific site evaluations.

3. Describe in detail the measures which will be taken to prevent any adverse impact on any other areas of special concern or any endangered or threatened plant or animal species or their critical habitat within the proposed permit or adjacent areas.

No endangered or threatened plant or animal species or their critical habitat exists within the proposed permit or adjacent areas which may be directly or indirectly impacted by the proposed mining operation.

No other areas of special concern were listed by USFWS, the DCNR or the Alabama Heritage Data Base from specific site evaluations.

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(2) General Provisions for Enhancement and Protection of Fish and Wildlife

(a) Describe those measures which will be taken during the active mining phase of the operation to minimize or prevent impacts to fish and wildlife, i.e., treatment facilities, buffer zones, etc.

All required buffer zones or setbacks, as stipulated in the regulations, will be honored to avoid, prevent and minimize impacts of areas of special concern. Sediment basins will be utilized to treat and maintain water quality standards entering the receiving stream(s). Diversion ditches will be constructed to control and direct all disturbed drainage to approved sediment basins. Hay dams, silt fences and rock check dams will be used to control minimal offsite drainage, such as the outslopes of haulroads, diversion ditches, sediment basins, etc. that cannot be efficiently channeled to an approved sediment basin. Disturbed areas will be regraded and revegetated in a timely manner, as outlined in Part IV of this application, to provide fish and wildlife habitat closely resembling pre-mining conditions, where applicable.

(b) Describe the measures to be implemented during the reclamation process to enhance fish and wildlife

The following measures have been determined to be practicable by the Surface Mining Commission in consultation with USFWS and DCNR unless the permittee can demonstrate otherwise:

1. Creation of wetland areas on the regraded areas by leaving small water-holding depressions or permanent water impoundments

   During reclamation operations within the permit area, the disturbed mining area will be regraded in such a manner as to create small water holding depressions approximately 1/4 acres in size with a maximum depth of two (2) feet to enhance the area for fish and wildlife.

   Where practicable all sediment basins, if approved by the Alabama Surface Mining Commission and land owners, will be left as permanent water impoundments to provide watering for wildlife and fish habitat.

(8) Fish and Wildlife Enhancement and Protection Plan (cont'd)

(2) General Provisions for Enhancement and Protection of Fish and Wildlife (Cont'd)

(b) Cont'd)

2. Planting of species of herbaceous vegetation commonly known to provide food and cover to wildlife in addition to the normal reclamation seed mix.

   Various herbaceous species including, but not limited to, Browntop Millet, Kobe Lespedeza, Sericea Lespedeza, Ryegrass, Hairy Vetch and wheat may be planted in scattered and random locations to provide food and cover for wildlife that closely resembles pre-mining conditions. These plants will be added in addition to the vegetation proposed in Part IV of this permit application.

3. "Breaking up" of any areas greater than 50 acres in size to provide maximum variation in the resulting vegetation types on a reclaimed area. For example, areas to be reclaimed to forest land should be interspersed with areas such as fire lanes planted with low growing herbaceous vegetation only. Grazing land or pasture land should be interspersed with plantings of trees and shrubs in optimum locations to increase diversity of food and cover.

4. As determined by the post mining land use, all reclaimed areas greater than fifty (50) acres will be broken up by vegetation type to provide maximum vegetation variation.

B. Cultural, Historical and Archaeological Resources

(1) Describe and identify any cultural or historical resources located in or adjacent to the proposed permit area which are listed on the Natural Register of Historic Places. Delineate the location of the resources on the permit map. Describe in detail the measures to be taken to minimize or prevent adverse impacts on the resource(s). (779.12, 780.14, 780.31)

See attached Site Specific Archaeological Survey and Alabama Historical Commission comments.

(2) Describe and identify any known significant archaeological sites located in or adjacent to the proposed permit area. The description shall be based on all available information including, but not limited to, data of State and local archaeological agencies. Delineate the site(s) on the permit map. (779.12, 780.14)

See attached Site Specific Archaeological Survey.

C. Threatened and Endangered Species

Identify any threatened or endangered species of plants or animals or cultural habitats of such species located in or adjacent to the proposed permit area. Delineate the location of the specie(s) or habitat(s) on the permit map. (780.14)

No threatened or endangered species of plant or animals or cultural habitats of such species located in or adjacent to the proposed permit area.

See attached U.S. Department of Interior Fish and Wildlife Service (USFWS) and Alabama Department of Conservation and Natural Resources (DCNR) comments.

D. Lands Unsuitable for Mining

(1) Are there in areas located in or adjacent to the proposed permit area which have been designated unsuitable for mining or under study for such designation in an administrative proceeding? ( ) Yes (X) No

If yes give the name(s) of the area(s) if known. Delineate the area(s) on the permit area(s) on the permit map. (780.14)

(2) Describe in detail the measures to be taken to minimize or prevent adverse impacts on any public park. (780.31)

NOT APPLICABLE - No parks within or adjacent to permit area

(3) Are requests for waivers included in this application? (761.12)

( ) Yes (X) No

(4) Do you claim exemption to this part based upon:

(a) Operations existing on the proposed permit area on August 3, 1977; or
(b) Operations subject to valid existing rights on August 3, 1977; or
(c) Substantial legal and financial commitment made prior to January 4, 1977? (762.13, 778.16(b))

( ) Yes (X) No

If yes, give reason(s) for claim with appropriate documentation.

E. <u>Geology</u> (880-X-8E-.06(2))

SEE ATTACHMENT II-E

The following shall be provided for all Technical Data submitted in answer to these parts:
(a) The names of persons or organizations who collected and analyzed the data.
(b) The dates of collection and analysis.
(c) A description of the methodology used to collect and analyze the data.

(1) Give a description of the geology within the proposed permit area including, but not limited to, the logs of drill holes, or a description of a highwall, with thickness of the overburden and coal down to the first aquifer to be affected below the lowest coal seam to be mined to identify acid forming or toxic forming zones.

(2) Chemical analysis conducted to identify acid forming zones shall be made on a representative number of samples of the overburden within the permit area. Sampling of the overburden may be collected at 5 ft. intervals from a lithologic unit or from the entire thickness if the unit is less than 5 ft. thick, when the lithology is below the oxidized zone; from the oxidized zone one composite sample shall be collected and analyzed. Samples may be taken from drill holes or from channel samples from a highwall.

(3) Analysis of each overburden samples shall be run for total sulfur. If the sulfur content is one percent or greater, additional analysis shall be performed for pyritic sulfur. From a composite sample of each drill hole or channel sample of the highwall, neutralization potential analysis shall be run and the acid-base account calculated using the average of the sulfur content for the sampling location. Results shall be included in the permit application.

(4) Total sulfur analysis of the coal seam(s) to be mined shall be run and reported with the permit application.

(5) The name, depth, thickness, strike and dip of the coal seam(s) to be mined shall be included in the permit application.

(6) Location of the coal crop line(s) within the proposed permit area are to be shown on an appropriate map.

(7) All necessary maps and cross sections needed to support the geologic description shall conform with the requirements. (880-X-8F-.04)

(8) When used to collect information for the permit application, elevations and locations of test borings, core samples or other sample sites shall be provided (topographic map accuracy is adequate).

F. Groundwater Hydrology (880-X-8E-.06(1))

SEE ATTACHMENT II-F

The following shall be provided for all Technical Data submitted in answer to these parts:
(a) The names of persons or organizations who collected and analyzed the data.
(b) The dates of collection and analysis.
(c) A description of the methodology used to collect and analyze the data.

The permit application shall contain a description of the groundwater hydrology within the proposed permit area and potentially impacted off-site areas. In obtaining the necessary base line or pre-mining information the applicant should be guided in conducting the studies by the availability and usage of groundwater in the potentially impacted off-site areas with the particular emphasis being placed on those locations where present or potential future of the groundwater is of local importance. The description should be based on a comprehensive survey of existing water wells and springs that may be affected by the proposed mining operations or from wells drilled by the applicant. Information addressed in the survey shall include:

(1) State elevation of the groundwater.

(2) Elevation and depth below the surface of any aquifer(s) or water table encountered.

(3) The lithologic description and thickness of any aquifer(s) encountered.

(4) Results of aquifer test(s), if conducted, shall be reported identifying the transmissivity, draw down, recovery rates, and specific capacity.

(5) Known use of the groundwater such as light industrial, agricultural, domestic, etc. estimating the approximately amount of water used per day.

(6) Quality of the groundwater should be determine using sampling and laboratory techniques or equally reliable methods to determine at a minimum: (880-X-8E-.06(1)(a)
   (i) pH
   (ii) Total iron, mg/l
   (iii) Total manganese, mg/l
   (iv) Total dissolved solids or specific conductance at 25ºC if the latter can be shown as a direct relationship with total dissolved solids.

(7) Describe any geological structures including their orientation that will have an affect on the movement of the groundwater in the aquifer such as:

(i) Joint systems
(ii) Faults or fault zones
(iii) Folds
(iv) Cleats in the coal and
(v) Bedding plants

(8) Appropriate maps and cross sections needed to supplement the description of the groundwater hydrology shall conform with the requirements. (880-X-8F-.04)

G. Surface Water Hydrology (880-X-8E-.06(1))

SEE ATTACHMENT II-G

The following shall be provided for all Technical Data submitted in answer to these parts:

(a) The names of persons or organizations who collected and analyzed the data.
(b) The dates of collection and analysis.
(c) A description of the methodology used to collect and analyze the data.

The permit application shall contain information and a description of the surface water that will flow into or from the proposed permit area in a form and to a degree that will describe seasonal variations in both quantity and quality of the surface water within the proposed permit area and potentially impacted off-site areas. The pre-mine or base-line study should be designed to a level that takes into consideration water availability and present and potential future usage of the surface water. The period of time for which such a survey should be conducted is flexible, but should be adequate to properly evaluate low flow and high flow conditions based on either site specific studies, or where available, from existing data files which are reasonable and statistically representative of the proposed permit and potentially impacted off-site areas. At a minimum the submitted information on the surface water hydrology shall include:

(1) Name of the watershed(s) which will receive discharge from the proposed permit area.

(2) The location of any surface water bodies such as streams, lakes, important impoundments or springs that may be adversely affected by the proposed mining operations.

(3) Known use of the surface water leaving the proposed permit area (or that will receive discharge from it), if any.

(4) Water quality data shall be submitted to identify seasonal flow characteristics of, at a minimum:
   (i) pH
   (ii) Total iron, mg/l
   (iii) Total manganese, mg/l
   (iv) Total suspended solids
   (v) Total dissolved solids or specific conductance at 25ºC if the latter can be shown as a direct relationship with total dissolved solids.
   (vi) Base-line acidity information shall be provided if the need for acid-neutralization is anticipated for the proposed mining operation or if required by the regulatory authority.

(5) Water sampling and analytical methods listed in the references or their equivalent should be used. (880-X-8E-.06(1)(a))

(6) When modeling or other simulation methods are employed to evaluate the affects of mining on the hydrologic regime both on and off the proposed permit area, representative seasonal precipitation data shall be reported.

(7) The location of monitoring stations used to collect data for the permit application should be shown on a map which conforms to the standards. (880-X-8F-.04)

H. Determination of the Probable Hydrologic Consequences (880-8E-.06(1)(f))

SEE ATTACHMENT II-H

The following shall be provided for all Technical Data submitted in answer to these parts:

(a) The names of persons or organizations who collected and analyzed the data.
(b) The dates of collection and analysis.
(c) A description of the methodology used to collect and analyze the data.

The permit application shall contain a determination of the probable hydrologic consequences (PHC). The probable hydrologic consequences (PHC) is a prediction of possible adverse affects of the proposed surface mining and reclamation activities upon the quantity and quality of surface and groundwater systems both on and off the proposed permit are and is based upon the results and findings of the baseline or pre-mining geologic and hydrologic studies. The assessment may be based upon site specific studies or from representative data that can be transferred or can be made to simulate the condition at the proposed permit and off-site areas.

(1) Specifically, the PHC prediction shall include an estimate of the impact of the mining and reclamation operations upon the dissolved and suspended solids, total iron, total manganese and pH of surface and groundwater.

(2) In the event it is determined that off-site water quantity and quality cannot be protected from adverse affects of the proposed surface mining operations, the applicant shall identify an alternative source of water supply of at least equal quality and quantity that can be developed to replace the existing one.

I. <u>Hydrologic Reclamation Plan</u> (880-X-8H-.6(1)(g))

Hydrologic Reclamation Plan - the following plan is based on previously developed data as listed in the PHC (Probable Hydrologic Consequences) of mining and is site-specific to the local hydrologic conditions at the proposed mining site.

A. Steps to Minimize Hydrologic Balance Disturbance:

All mining activities will be conducted to minimize disturbance to the local hydrologic balance. This will be accomplished by, but not limited to the following:

1) Construction or installation of approved drainage control facilities such as sediment basins, diversion ditches, rock check dams, silt fencing, etc. to control and treat all drainage from disturbed areas.

2) Monitoring and reporting of water quality data from sediment basin discharges, surface water monitoring sites, etc., as required by the Regulatory Authorities will be performed in accordance with the approved Hydrologic Monitoring Plan.

3) Physical and chemical treatment of impounded water in sediment basins that might result in non-compliance with State and Federal Water Quality parameters.

4) Husbandry practices will include, but shall not be limited to, seeding spot areas to increase cover and the addition of proper nutrients to develop a diverse vegetative cover. Suitable mulch shall be used on all regraded and topsoiled areas to control erosion, promote germination of seed and increase the moisture retention capacity of the soil. A minimum of 1½ tons per acre and a maximum of 3 tons per acre of hay will be used as required for a suitable mulch.

B. Prevention of Material Damage Outside the Permit Area:

All surface mining and reclamation activities will be conducted to minimize and prevent material damage to the hydrologic balance outside the permit area. This will be accomplished by, but not limited to:

1) Observing all mining setbacks and offsets.

2) Mining within the permit and study boundaries.

3) Observing and complying with all State and Federal Water Quality Limits.

4) Mine openings within the permit area (other than blast holes) will be eliminated by the following methods:

   a. Exploration Drill Holes - shall be backfilled with drill cuttings and capped with two (2) feet of clay.

      SEE ATTACHMENT III-A-6-1

   b. Monitoring Wells - Groundwater monitoring wells will be sealed at the time of abandonment with a concrete cap (1.5'x1.5'x1.5').

      SEE ATTACHMENT III-A-6-2

   c. Mine Openings - Old works (abandoned underground mines) which may be encountered during surface mining operations will be eliminated by the following methods: Prior to the backfilling and/or final highwall elimination, all underground mine openings will be sealed with a clay material having a permeability ranging between 0.00001 and 0.001 cm/sec. This clay material will be compacted in twelve (12) inch lifts to ninety-five (95%) of standard proctor density, a minimum of five (5) feet above the bottom of any underground mine opening that may be encountered.

      SEE ATTACHMENT III-A-6-3

5) Timely regrading and contouring of mined overburdens for drainage control.

6) Lowwalls in areas where required to route water to sediment ponds.

7) Pumping from pits to ponds to increase detention time.

8) On site controls to prevent excess sediment from entering sediment ponds.

9) Timely revegetation of all disturbed areas.

10) Silt fences, hay filter dams, dust control of roads, established vegetation, diversion ditches and other prudent practices will be utilized in controlling runoff from haulroads crossing adjacent property entering the mine site. Cut and fill slopes created by road construction shall be grassed in a timely manner to insure stabilization and prevent erosion.

C. Applicable State and Federal Water Quality Regulations:

To meet the applicable State and Federal effluent limitation standards as set forth by the Environmental Protection Agency, the U.S Army Corps of Engineers and the Alabama Department of Environmental Management, the applicant shall prevent potential water quality problems by properly handling and disposing of any acid and/or toxic forming materials prior to any pit drainage being contaminated. To assure water quality standards, regular periodic performance monitoring will be conducted as approved in the Hydrologic Monitoring Plan.

In the event that water quality is not within State and Federal Water Quality standard parameters chemical treatment will be introduced to bring water quality to allowable limits as follows:

1) Lime, caustic soda or equivalent additive to raise a low pH.

2) Potassium permanganate to decrease manganese levels.

3) Potassium permanganate to decrease iron levels.

4) Aerating the water to lower the iron content.

5) Alum to decrease total suspended solid concentrations.

D. Rights of Present Water Users:

A water well inventory has been conducted by TASK Engineering Management Inc. utilizing resident interviews on all occupied dwellings within one-half mile of the proposed permit boundary to determine if domestic wells are present. The inventory revealed that there are three (3) residences within the half-mile radius of Bull Gap Mine. The inventory indicated that all three (3) residences utilize existing ground water as their primary source of water since there is no county or city water service in this area. One residence (S-19) utilizes a spring as its primary water supply and the other two residences (S-20 and S-21) utilize a well as their primary water supply. Samples were taken at residences S-19 and S-20 and are included in the enclosed well inventory but as of this time it appears that the residence S-21 is vacant. Repeated attempts to sample the well at this site have not been successful.

See Well Inventory and Hydro-Geo Map.

E. Control of Acid and Toxic Mine Drainage:

Based on baseline hydrologic, geologic and other site-specific data collected to support the preparation of the Determination of Probable Hydrologic Consequences for this permit application, there were no zones of acid forming material encountered other than the coal seam(s), therefore, the only preventive or remedial measures necessary will be the handling of the coal stockpiles and immediate pit area. Coal stockpiles will be created by the construction of a pad made from compacted clay and/or shale of acceptable permeability of adequate thickness to support the weight of loading and transportation equipment units. Coal stockpiles will be located and constructed on a mild slope so as to provide adequate drainage and to minimize contamination of surface water drainage. Coal stockpiles will be located such that excess surface water drainage may be diverted from coal stockpile areas. When the coal stockpile becomes no longer necessary, it will be reclaimed by removing the coal making up the pad material by truck, covering the pad area with four (4) feet of the best available non-toxic, non-combustible material(s) and revegetating in accordance with the approved Reclamation Plan (Part IV-C-5). See Part III-A-1 and Operation Plan for the description of mining activities.

A proper BMP (Best Management Practices) plan shall be developed and implemented to maintain proper housekeeping and disposal of hazardous waste materials generated by the use of explosives and heavy construction equipment. Gravel pads shall be constructed at all public road entrances to prevent tracking of mud by vehicles during precipitation events. Diesel and oil storage shall be confined to specific designated areas and shall be equipped with adequate spill storage facilities. Materials such as oil, grease, used rags, etc. that may present a fire hazard will be properly disposed in an approved landfill. All used oils will be removed from the mine site by an approved disposal company and any non-coal wastes will be delivered and disposed at approved off-site landfills, meeting all applicable local, state and federal requirements.

F. Control of additional TSS to Stream flow:

Total Suspended Solids (TSS) will be controlled using eleven (11) proposed sediment basins. These sediment basins will be designed to efficiently retain and control all settleable solids, skim and retain all floating solids and provide adequate detention volume and time to minimize the contribution of additional total suspended solids into the receiving streams as a result of discharges from mining operations at this permit. In the event that a problem arises with the TSS in the discharge of a sediment basin, alum will be introduced into the basin to decrease total suspended solid concentrations. An alternative to alum could be the construction of a floating silt fence that will interact with and allow any solids to floc and settle to the bottom of the basin.

G. Water Treatment Facilities:

Sediment basins will be the primary treatment facilities from which chemical additives may be introduced as required to maintain effluent limits set forth by the Regulatory Authorities. Sedimentation basins will be constructed during mining operations to control drainage and collect sediment from drainage from disturbed areas during the mining and reclamation and overburden restabilization phases of mining operations. If chemical treatment is necessary to bring water quality to allowable limits, the following may be utilized; only after the operator has obtained approval from the Regulatory Authority prior to the introduction of any chemicals listed below:

1) Lime, caustic soda or equivalent additives to raise low pH values.

2) Potassium permanganate to decrease manganese levels.

3) Potassium permanganate to decrease iron levels.

4) Aerating the impounded water to lower the iron content.

5) Alum to decrease total suspended solid concentration.

H. Drainage Control :

Sedimentation basins will be constructed during mining operations to control drainage and collect sediment from disturbed areas during mining operations and during the reclamation and overburden restabilization phases of mining operations.

All drainage water from the proposed mine site will be directed to approved sediment basins during mining operations. Prior to any disturbance in respective drainage areas, all basins will be constructed under the supervision of a qualified Registered Professional Engineer or by a qualified person under his direct supervision. Upon completion of construction, the basin will be certified to the Regulatory Authority as having been constructed in accordance with the approved design plan. Areas where embankments of sedimentation basins are to be built will be cleared and grubbed with the topsoil removed and stockpiled (if required). The basins will be constructed by bringing desirable material in and compacting it in lifts until the approved construction specifications have been met. Drainage structures will be installed as per design plans with any necessary erosion control and/or stabilization procedures such as riprap, concrete drop structures, energy dissipaters, etc. being implemented as deemed necessary by the project engineer. Upon completion of construction, the entire disturbed area will be revegetated in accordance with the approved Reclamation Plan (IV-C-5). Silt fences, hay filter dams, dust control on roads, established vegetation, diversion ditches and other prudent practices will be utilized in controlling runoff.

A proper BMP (Best Management Plan) will be implemented by mine management to properly inspect all installed drainage controls and maintain all controls as required for proper operation until such controls have approvals for removal by the Regulatory Authority. All sediment basins will be inspected and recertified by a Registered Professional Engineer on an annual basis.

I. Restoration of Approximate Recharge Capacity:

1) After completion of the mining cycles; overburden removal, coal removal, overburden grading and reclamation and vegetation, the permeability of the mined area will increase for a period of time and will establish a groundwater elevation that, by natural compaction and minimization of surface water runoff, the approximate pre-mining elevations of groundwater will stabilize.

2) Post-mining land slopes will be flatter than pre-mine slopes. This will comply with the post-mining land use of "undeveloped/no current use".

3) Existing abandoned underground mines now store and act as a natural reservoir for groundwater.

J. Rights of Present Water Users:

To maintain the rights of present water users, a well inventory has been conducted by TASK Engineering Management Inc., utilizing resident interviews on all occupied dwellings within the half-mile radius of the proposed permit boundary to determine if domestic wells and/or springs are present and to establish a base line that will protect the rights of the present water users. These baseline data included location of existing wells and springs, water quality and the intended use of the water produced from these existing wells/springs. As stated in Part II-F in the ground water section, the residential well inventory revealed that there are three (3) residences within the half-mile radius of the proposed permit boundary. Of these three (3) residences all three use existing ground water as their primary water source for the residence. One (1) residence uses an existing spring and the other two (2) residences use wells as their primary residential water source. Presently there is no city and/or county water service available at any of the three residences.

No other known seeps, springs, or underground discharges were noted within the permit area, other than contaminated discharges from old underground mine works, during site investigations. In the event it is determined that mining operations by Cedar Lake Mining, Inc. has resulted in the contamination, diminution or interruption of the hydrologic balance to such a degree as to impair the quality and/or quantity of water production of a local well that is being utilized by a landowner, one of the following methods of replacing the domestic water supply of the landowner will be implemented:

1.) A new well will be drilled and cased to penetrate adequate water producing strata to a depth at least below the bottom of coal elevation of the lowest coal seam mined at the site.

2.) Provide a connection for the residence to an existing municipal water supply.

3.) Any other method which will replace the landowner's groundwater supply that is agreeable to both the user and the operator.

If it is proven that surface coal mining operations at a specific site has disrupted the domestic water supply of any well, the operator will provide, within twenty-four (24) hours a temporary replacement of the said domestic water supply until a permanent alternative source has been implemented by the methods stated above. Permanent replacement of the said domestic water supply will be accomplished as timely as supply availability and drilling and/or replacement operations will allow.

See Well Inventory

K. Potential Adverse Consequences from PHC:

Based on the data collected and the projections made with this study, there are no potential adverse consequences determined in the PHC.

HYDROLOGIC RECLAMATION PLAN CERTIFICATION STATEMENT

I, Jerry W. Williams, a Registered Professional Engineer hereby certify that the Hydrologic Reclamation Plan and the information contained therein included in this document was prepared under my direct supervision on behalf of TASK Engineering Management, Inc. is correct and accurate to the best of my knowledge and belief.

TASK Engineering Management Inc.

Jerry W. Williams

Jerry W. Williams, P.E.
Alabama Reg. No. # 12739

10-04-2012

Date

J. Land Use Information

(1) Describe in detail the land use(s) existing at the time of the application. Give the number of acres and describe sufficiently so the area can be identified on a map. If necessary, include a map showing land use units. (779.22)

Increment	Area	Land Use
1	116.0	Undeveloped/No Current Use
2	90.0	Undeveloped/No Current Use
3	151.0	Undeveloped/No Current Use
4	101.0	Undeveloped/No Current Use
5	49.0	Undeveloped/No Current Use
6	26.0	Undeveloped/No Current Use
7	17.0	Undeveloped/No Current Use

(2) Give the applicable land use classification under local law, if any. (779.22)

NOT APPLICABLE

(3) Is any of the area prime farm land? (779.27, 785.17)
( ) YES (X) NO

If yes, submit the information required.

If no, show or state how the determination was made.

SEE ATTACHED SOILS MAP

(4) Has land use of any area on the proposed permit changed within the last 5 years?

( ) YES (X) NO

If yes, identify those areas and describe their historic use.

(5) Has any area within the proposed permit been previously mined? (779.22)

(X) YES ( ) NO

If yes, complete the following:

(a) Describe the area or show on a map. See **Permit Map**

Several areas have been previously mined at this proposed site. The entire outer perimeter of the proposed permit area was mined pre-law (pre-1969) and was not reclaimed. Two other areas were permitted and are indicated by permit numbers P-2462 and P-3711 and are reclaimed under the 1975 (P-2463) and permanent (P-3711) laws and regulations.

J. Land Use Information (cont'd)

(b) Was the area reclaimed? ( ) YES (X) NO (See Part (a) above.)
If yes, under what law? ( ) 1969, ( ) 1975, ( ) Interim Law

(c) Describe the land use of the area prior to any mining, or if this cannot be determined, describe the land use(s) of surrounding unmined land. (779.22)

The previously mined areas, as can best be determined, within the proposed permit is made up of undeveloped/no current use.

(6) Describe in detail, land uses of areas adjacent to the proposed permit area. (779.22)

The areas adjoining the proposed permit area is made up of undeveloped/ no current use, unmanaged timberland.

(7) Discuss the capability of the lands within the permit area to support a variety of land uses other than the current use.

SEE ATTACHMENT II-J-(3) & SOILS MAP

SOIL TYPE	CORN (BU)	SOYBEANS (BU)	SERICEA AUM	FESCUE AUM
Montevallo-Townley, MtF Complex, 15 to 45% Slopes	...	...	...	4.5
Palmerdale very channery silt loam, Pr, 2 to 60% Slopes	...	...	...	...

(8) Give the pre-mining productivity of the proposed permit area based on actual yield data or estimated based on data from similar sites. (If estimates, give source of data used) (779.22)

SEE ATTACHMENT II-J-(3) & SOILS MAP

SOIL TYPE	MAP SYMBOL	SITE INDEX	SPECIES
Montevallo-Townley 15 to 45% Slopes	MtF	60	Loblolly
Palmerdale very channery silt loam, 2 to 60% Slopes	Pr	80	Loblolly

K. Vegetation Information

Delineate on a map, or describe in detail, the existing plant communities within the proposed permit area (and adjacent if required). List the predominant overstory, understory, and ground cover species (use common name only). Give approximate acreage covered by each plant community and approximate age of timber stands. (779.19)

The proposed permit area consists of previously mined, reclaimed and unreclaimed, areas with unmanaged timberland planted as part of the mining reclamation process. The vegetation in the reclaimed areas consists of planted pines, 20 to 30 years old, mixed with some hardwoods and assorted scrub vegetation. Areas not previously mined contains mixed hardwoods with a few interspersed pine trees. Recently planted pine trees (approximately 10 years growth) are located along ridge tops in the unmined section of the proposed permit along with old logging and access roads to the surrounding mining areas and push piles from these timbering activities. In the cut-over impacted areas, secondary growth and immature pines and non-merchantable hardwood trees, not harvested during timbering operations, have contributed to the development of a dense ground cover consisting of sage and grasses, blackberry, greenbriar, honey suckle with pine and hardwood seedlings. The pine species are virginia and loblolly and the hardwood species are oak, sweetgum, yellow popular, birch and hickory.