BEST COAL, INC.

JAGGER MINE

P-3932 / REVISION R-1

HYDROLOGIC

RECLAMATION PLAN

submitted by:

PERC Engineering Co., Inc.

P.O. Box 1712

Jasper, AL. 35502-1712

Hydrologic Reclamation Plan (880-X-8H-.06(1)(g)):

I. Steps to Minimize Hydrologic Balance Disturbance:

Surface mining and reclamation activities conducted on the Best Coal, Inc. - Jagger Mine area will be conducted to minimize disturbance to the hydrologic balance. Several ways in which this will be accomplished are, but not limited to the following:

a. Monitoring and Reporting of sediment basins 014P, 015P, 016P, 017P, 022P, 023P, 035P, 037P, 045P, 047P, 048P, 049P, 051P, 052P, 053P, 054P, 055P, 056P, 057P, 077P, 079P, 080P, and 081P at this mine site (where all runoff from the mine area will drain), Surface Water Monitoring Sites BCJMSW-63 & BCJMSW-4 on Locust Fork and sites BCJMSW-5 & BCJMSW-6 on Trouble Creek, and groundwater monitoring sites BCJMMW-3, BCJMMW-6, BCJMMW-7, and BCJMMW-8 as required by the Regulatory Authorities will be performed in accordance with the approved Hydrologic Monitoring Plan.

b. Physical and chemical treatment of the outfalls at this mine site as necessary to comply with State and Federal Water Quality Laws.

c. Upon completion of mining, and regrading, overburden materials will be sampled systematically and sent to the Auburn University Testing Laboratory, for analyses to determine type and amount of soil amendments necessary to maintain vegetative growth as reported in Part IV-C-1 of the permit application due to a topsoil variance being applied for at this facility. This sampling system should be adequate (see below).

   1. The chemical analyses will consist of the followings parameters: pH, % Sulfur, Phosphorus, Potassium, Magnesium, Calcium, Maximum Potential Acidity, Neutralizing Potential, NO3-N, and Recommendations for the amounts of Limestone, Nitrogen, P2O5, and K2O to be added to the soil.

   2. The physical analyses will consist of the following parameters: Sieve Analysis, % Sand, % Silt, % Clay, Textural Classification, and Available Water Capacity.

d. Husbandry practices will include, seeding spot areas within the Jagger Mine to increase cover and the addition of proper nutrients. Suitable mulch shall be used on all regraded and topsoiled areas to control erosion, promote germination of seeds and increase the moisture retention capacity of the soil. A maximum of 3 tons per acre of hay will be used as mulch.

e. With respect to the Hydrologic Balance, mining at this site is not expected to significantly affect the regional aquifer in the area, and as stated in Part II-H, an increase in storage is expected, (approximately 56.9% increase) and will result in an increased base flow. This change in storage should not be adverse to the hydrologic balance. No other adverse impacts are anticipated as a result of this operation.

II. Material Damage Outside the Permit Area:

All surface mining and reclamation activities within the Jagger Mine / Revision R-1 Area will be conducted to minimize and prevent material damage to the hydrologic balance. Several ways in which this will be accomplished are, but not limited to the following:

1. Observing the 300 ft. setbacks from occupied dwellings, unless acceptable waivers are submitted and approved by ASMC.

2. Mining within the permit boundary.

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 in the following methods:

   A) Exploration Holes - Exploration holes will be backfilled with the drill cuttings and capped with two (2) feet of clay.

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

   C) Mine Openings - none are known to exist within the permit boundary.

5. Timely regrading for drainage control.

6. On site sediment control to prevent sediment from entering ponds.

7. Timely revegetation of all disturbed areas.

III. Applicable State and Federal Water Quality Laws:

To meet the applicable State and Federal effluent limitation standards as set forth by the Environmental Protection Agency and the Alabama Department of Environmental Management, the applicant shall minimize potential water quality problems by properly handling and disposing of any acid or toxic forming materials and treating contaminated drainage. To assure water quality standards, periodic performance monitoring will be conducted as approved in the Hydrologic Monitoring Plan. Sediment basins will be utilized as collection sites for surface water treatment when runoff from the mine site requires it. In the event quality problems should arise, the following procedures will be used:

1) Lime or caustic soda to raise a low pH.
2) Potassium permanganate to decrease manganese levels if the pH is too high.
3) Alum to decrease total suspended solid concentrations.

In the event alternative methods or chemicals are needed, the Regulatory Authority will be notified and new methods or chemicals will be approved prior to use.

IV. Rights of Present Water Users:

The original well inventory conducted by PERC Engineering Co., Inc. in May of 2009 for the original Jagger Mine revealed that there are only three residences within a ½ mile radius of the proposed site. The area added by Revision R-1 is no closer to these residences than the original permit. All three utilize local

groundwater as their only domestic source. There is no developed municipal water supply available in this rural area. The locations of the inventoried residences are shown in the original hydrogeologic evaluation. All three wells are separated from the post Revision R-1 mine site by the fault located on the east end of the proposed permit/revision area and enjoy its influence to decrease or eliminate the migration of affected groundwater to these wells. As stated above, Groundwater Monitoring Site BCJMMW-8 was located, drilled, and cased specifically to monitor any impact to the intervals disturbed by this revison.

V.A. Acid and Toxic Drainage:

Geochemical analysis conducted on the drill holes/ monitoring wells mentioned above reveal that these following intervals were tested as being potentially acid-forming (other than the target coal seams): In BCJMMW-6 intervals 53.5 - 55 and 40-45. In BCJMMW-7 intervals 40-45, 45-50, 57.5-60, 80-85, and 102-107.5. In BCJMOB-9 no interval was tested as being potentially acid-forming. In BCJMOB10 interval 48.5 - 50. As shown on the attached lithologies, all of the above intervals are adjacent to the target coal seams and as such were most likely contaminated by these seams during sample collection. Due to the fact that all overburden at this site does not occupy similar areas, intervals shown in the overburden analyses which are located in the upper portions of the drill logs occupy a smaller volume than intervals which are located closer to the

bottom, consequently, their acid-base accounts do not contribute as substantially to the overall chemistry of the overburden. In an attempt to more accurately describe the acid-base potential of the overburden at the Jagger revision R-1 mine area, a spreadsheet which was developed at the Pennsylvania Dept. of Environmental Resources, Bureau of Mining and Reclamation was employed. This spreadsheet not only takes into account the volume occupied by each interval tested, but also the amount of coal lost into the spoil. The results of this method from Drill Holes BCJMOB-9 and BCJMOB10 and Monitoring sites BCJMMW-6 and BCJMMW-7 (as shown in the attached Volumetric Overburden Calculation Sheets) are favorable: overburden at the Revision R-1 Area of the Jagger Mine contains an average of 10.21 (tons $CaCO_3$/1000 tons overburden) excess neutralization potential. This excess neutralization potential should be adequate to neutralize any potentially acid forming layers present in the overburden. As evidence of this statement, the adjacent Drummond - Knob Mine No. 2 recovered the same seams as proposed in this revision and the overburden was of sufficient quality as to warrant Bond Release by the Regulatory Authority. Coal stockpiles will be located in such a manner whereas excess drainage may be diverted from Coal stockpile areas. When the Coal stockpile becomes no longer necessary it will be reclaimed by removing the Coal which makes up the pad by truck, covering the pad area with four feet of the best available non-toxic, non-combustible material and revegetating in accordance with the approved Reclamation Plan (Part IV-C-5).

The pit bottom will have a much lower permeability than the spoil after mining, which should contain any acid or toxic drainage until the highwall is reclaimed and the drainage is allowed to filter into the buffering material and be neutralized. Any material such as oil, grease, rags, etc., that may present a fire hazard will be properly disposed of in an approved landfill. Any non-Coal waste will be disposed of at approved off-site landfills which meet all applicable local, state and federal requirements.

V.B. Contribution of TSS to Streamflow:

Total Suspended Solids within the permit area will be controlled by utilizing sediment basins to control runoff. These sediment basins will be designed to retain all settleable solids, skim and retain all floating solids and provide adequate detention volume and time to minimize the contribution of total suspended solids into the receiving streams. In the event that a problem arises with the TSS in the discharge of the sediment basins, Alum will be introduced into the basins to decrease total suspended solid concentrations. An alternative to Alum could be the construction of a floating silt fence to cause the solid to floc and settle to the bottom.

V.C. Water Treatment Facilities:

The sediment basins will be the primary treatment facility to which chemical treatment may be introduced as needed to maintain effluent limits set forth by

the Regulatory Authority. Sediment basins will be constructed downstream of the permit area to control drainage and collect sediment from the disturbed area during surface mining and during the reclamation phase. In the event quality problems should arise, the following procedures will be used :

1) Lime or caustic soda to raise a low pH.
2) Potassium permanganate to decrease manganese levels if the pH is too high.
3) Alum to decrease total suspended solid concentrations.

In the event alternative methods or chemicals are needed, the Regulatory Authority will be notified and new methods or chemicals will be approved prior to use.

V.D. Drainage Control:

Sediment basins will be constructed during mining operations to control drainage and collect sediment from the disturbed area during the construction phase and during the reclamation and restabilization phase. All surface and groundwater runoff will be controlled through these basins whose design are shown in Part III-B of the application. The basins will be constructed, prior to any disturbance in its drainage area, under the supervision of a qualified Registered Professional Engineer or be a qualified person under his direct supervision. Upon completion of construction the basins will then be certified to the Regulatory Authority as having been constructed by bringing desirable material in and compacting it in lifts until the construction specifications are

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, lush vegetation, diversions ditches and other prudent practices will be utilized in controlling runoff.

V.E. Restore Approximate Recharge Capacity:

Due to the unconsolidated nature of the post mine strata and the voids present after mining, gravitational forces (as opposed to capillary forces) will play a larger role in influencing infiltrated groundwater movement, therefore groundwater levels in the post mine aquifer will be lower on average than an unaffected aquifer of identical thickness and extent, and lateral groundwater movement in the post mine aquifer will be much greater than prior to mining therefore, groundwater availability will increase. As stated previously, baseflow to surrounding streams will increase due to the above stated reasons, therefore surface water availability will not be adversely affected.

V.F. Rights of Present Water Users:

In the event that it is shown that mining by Best Coal, Inc. has diminished the

quality or quantity of any surrounding wells, one of the following methods of replacing the resident's domestic supply will be implemented: 1) an alternative source of groundwater for either shallow groundwater wells or wells with inadequate casing would involve drilling a new well in which the casing would penetrate an aquitard, such as shale below the lowest target coal seam, and the well would also terminate below the aquitard in water-producing strata, such as sandstone, or 2) other methods which replace the groundwater users supply and is agreeable to both the user and the operator will be considered an alternative.

V.G. Potential Adverse Consequences from PHC:

None anticipated.

CERTIFICATION STATEMENT:

The preceding Hydrologic Reclamation Plan for Best Coal, Inc. at the Jagger Mine / Revision R-1 Area was prepared by, or under the direction of, a professional engineer and I certify that it is true and correct to the best of my knowledge and belief.

Date: 02-14-2012

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