Virginia City Hybrid Energy Center
Response to Data Request
Bruce Buckheit, Member, Virginia Air Pollution Control Board

Question (Page No. 25 -26):

Facts relevant to whether "coal waste" or garbage of bituminous (gob): is from an engineering perspective a commercial[41] "fuel" or more akin to a "waste"

- Review relevant ASTM, or other specifications for commercial fuels (heat content, sulfur content, heavy metals content etc).
- Review relevant technical data respecting specifications for solid wastes.
- Review EPA BIF rulemaking, "sham recycling" materials and other criteria for establishing whether a material is considered a fuel or a waste

[41] This is a narrow inquiry. I understand that according to the dictionary anything that burns is a fuel -but most people would not consider a $20 bill as "fuel." I also understand that there are a number of facilities that burn wastes (including agricultural waste, municipal waste and, yes, coal waste) to make electricity.

Response:

GOB is principally comprised of relatively small fines of coal and produced as residue from the water rinsing of mined coal. The gob that is of interest for purposes of the pending application is sitting as originally placed, in piles, on bare ground, in numerous locations in and about Wise County, Virginia. It is composition varies, but it generally has a minimum as-fired heating value equal to or greater than 4,000 Btu/pound.[1] It contains higher concentrations of ash and sulfur than washed coal, but its

[1] Thus, gob generally produces a heat value equal to 4,000 Btu/lb., which is more than one-half of the 7,000 Btu/lb. heat value threshold for qualification of a hazardous waste waste for exclusion as a low risk waste for purposes of the EPA's regulations concerning the burning of hazardous waste in boilers and industrial furnaces. 40 C.F.R. §266.109(a)(1)(ii). As explained in this memorandum, gob is not a hazardous waste.

constituents otherwise are generally the same as washed coal. Though a small percentage of the gob that is of interest was produced from the washing of coal obtained by surface mining, all of the rest was produced by washing coal obtained from underground mining.

The percentage of gob sites owned by parties who might be viewed as financially "viable" for purposes of remedial or corrective measures obligations is not known.

1. Is gob a solid waste or a regulated hazardous waste for purposes of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. §6901 *et seq.* (for convenience, together referred to in this memorandum as "RCRA")?

When, it enacted RCRA in 1976, Congress found that: "with respect to solid waste" the development of our nation's progress and increased standard of living "required increased industrial production" and other activities that "have resulted in a rising tide of scrap, discarded, and waste materials;" that "disposal of . . . waste in or on land without careful planning and management can present a danger to human health and the environment; that "millions of tons of recoverable material which could be used are needlessly buried each year;" that "the recovery and conservation of such materials can reduce the dependence of the United Sates on foreign resources . . .; that solid waste represents a potential source of solid fuel, oil or gas that can be converted into energy; and that "the need exists to develop alternative energy sources for public and private consumption in order to reduce our dependence on such sources as petroleum products, natural gas, nuclear and hydroelectric generation . . . ."[2]

RCRA addresses two defined types of waste: "solid waste" and "hazardous waste." Hazardous waste is a subset of solid waste. Solid waste is defined in Section 1004(27), in relevant part, as: ". . . any discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from . . . mining . . . ."[3] And hazardous waste is defined in Section 1004(5), as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may -- (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."[4] The EPA regulates only hazardous waste under RCRA, but only aides and encourages regulation of solid wastes by the States.[5]

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[2] 42 U.S.C. §6901(a)(3), (b)(2), (b)(7), (c)(1), (c)(3), (d)(1) and (d)(2).

[3] 42 U.S.C. §6903(27).

[4] 42 U.S.C. §6903(5).

[5] *See* www.epa.gov/compliance/assistance/sectors/minerals/processing/bevilltraining.html, p. 4

The question of whether the gob that is of interest has been "discarded" for purposes of RCRA is not resolved and very likely would depend on facts specific to each site -- or, perhaps, to groups of sites -- at which a particular owner or operator placed gob.[6] Furthermore, if gob is used as fuel or for some other good purpose, it may be excluded, by regulation, from the definition of "solid waste" because it can be shown to be recycled by being: . . . (ii) [among materials] [u]sed or reused as effective substitutes for commercial products. . ." -- in this case coal.[7] EPA regulations define "coal" as materials meeting ASTM D388 and includes "coal refuse."

> *Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17) and coal refuse. Synthetic fuels derived from coal for the purpose of creating useful heat, including but not limited to solvent-refined coal, gasified coal (not meeting the definition of natural gas), coal-oil mixtures, and coal-water mixtures are included in this definition for the purposes of this subpart.

40 C.F.R. § 60.41Da.

Nevertheless, any gob "discarded" for purposes of RCRA, has been excluded from EPA regulation as a hazardous waste pursuant to Section 3001(b)(3)(A)(ii), enacted in 1980 and known as the Bevill Amendment, which provides, in relevant part:

> ". . . each waste listed below shall . . . be subject only to regulation under other applicable provisions of Federal or Sate law in lieu of this subchapter until at least six months after the date of submission of the applicable study required to be conducted [by the EPA under certain provisions of Section 8002] and after promulgation of regulations . . . (ii) Solid waste from the extraction, beneficiation, and processing of ores and minerals . . ."[8]

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of 11, quoting 1986 regulatory declaration concerning Subtitle D management of excluded mining wastes.

[6] In addition, to the extent gob was produced in the washing of coal from surface mines is considered overburden if left at the mine site, it may be exempt from regulation under RCRA. 40 C.F.R. §261.4(b)(3).

[7] 40 C.F.R. §261.2(e)(1)(ii). *See also,* www.epa.gov/compliance/assistance/sectors/minerals/processing/bevilltraining.html

[8] 42 U.S.C. §6921(b)(3)(A)(ii).

Pursuant to and consistent with the Bevill Amendment, EPA has excluded from the definition of "hazardous waste" "[s]olid waste from the extraction, beneficiation, and processing of ore and minerals (including coal . . .) . . . ." and defined beneficiation, for purposes of that exclusion, as including, among other things, "washing," "crushing," "sorting," "sizing" and "drying."9 These categories of beneficiation clearly include all activities that resulted in the production of gob.10

Moreover, it has not been excluded from the definition of "solid waste" under applicable Virginia regulations.

> A. The following solid wastes are exempt from this chapter provided that they are managed in accordance with the requirements promulgated by other applicable state agencies:
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> 2. Solid waste from the extraction, beneficiation and processing of ores and minerals, including coal;

9 VAC 20-80-160.

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[9] 40 C.F.R. §261.4(b)(7). *See* Cooke at §2.04[7][h] (p. 2-100).

[10] Moreover, pursuant to Section 3005(f) of RCRA, 42 U.S.C. §6925(f): "any surface coal mining and reclamationi permit covering any coal mining wastes or overburden which has been issued or approved under [SMCRA] shall be deemed to be a permit issued pursuant to [RCRA] with respect to the treatment, storage, or disposal of such wastes or overburden." [We and client should note that the EPA has taken the position that Bevill Amendment wastes currently excluded from regulation under RCRA Subtitle C still may be subject to the issuance of administrative orders or the commencement of injunctive relief litigation under Section 7003 of RCRA, 42 U.S.C. §6973, and Section 106 of CERCLA, 42 U.S.C. §9606, very similar "imminent and substantial endangerment" authorities that have not, to the best of our knowledge and research, been used to address an ordinary gob pile. *See*, www.epa.gov/compliance/assistance/sectors/minerals/processing/beviltraining.html.]