Potential for Fine Coal Recovery from Indiana’s Coal Settling Ponds

Interim Report
by
R.E. Mourdock & Associates, LLC
Potential for Fine Coal Recovery...

Essential Tasks Assigned

Where are the sites? Tons / Quality
What Markets exist or may come to exist?
Expect costs / benefits
What Resources are required to achieve the potential?
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- A multi-disciplined study involving
  1. Quantifying the resource
  2. Establishing resource quality
  3. Understanding market
  4. Understanding environmental issues
  5. Knowledge of the legal impediments
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The Project Team....
- R.E. Mourdock & Associates, LLC
- Indiana Geological Survey (Coal Section)
- Purdue Water Institute
- Hull & Associates, Inc.,
- Charles B. Lee
- James R. Holden, Esq.
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Fundamental Question!

“At the completion of this project, in the best of all possible worlds……we would have…..”
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“….a map showing us the locations where fine coal might be recovered, a model to assess its quantity, quality and costs and a willing and capable market or markets to utilize the product….\”
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“… a map…”

IGS has created the

“Distribution and Characterization of Coal Slurry Deposits”

A product of extensive research of all available maps, aerial photos, publications, etc.
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“.. A realistic expectation as to its quantity…”

IGS has, through the use of its GIS mapping capability, developed a model of the “depositional environments” for the coal slurry.
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- “.. A realistic expectation as to quantity…”

The model is critical in establishing volumetric estimates and in determining estimates of recovered fine coal quality.
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Status of volumetric estimation

368 Features mapped comprising 2,753 acres

1. 69 Final cut pits (FCPs)  751 acres
2. 74 “On ground” (GND)             1,144 acres
3. 62 Spoil disposal (SPL)          858 acres
4. 95 H20 Impoundments (IMP)  1,011 acres
5. 68 Non slurry areas (NS)           697 acres
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“a realistic expectation as to…quality and costs…”

IGS and Lee have begun to document expected fine coal quality based on technology of the day and knowledge of the seams.

PWI has begun literature review on beneficiation technologies to make product more marketable
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“a realistic expectation as to … quality and costs…”

HAI has begun literature review on environmental issues which will have direct impact on costs.

Compendium of titles includes 58 articles on best available technology in dealing with low pH reclamation environments
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“a willing and capable market…”

Lee has done preliminary analysis on utilities and markets to determine possible existing markets. IGS has begun looking at future markets which include liquefaction, carbon-carbon fiber development, gasification, etc.
Next Steps

1. Identify two reserves to field verify the IGS quantitative modeling methodology.
2. Obtain quality analysis to determine if beneficiation is needed (or possible.)
3. Determine reasonable estimates of cost of production.
Next Steps (continued)

4. Determine expected costs of environmental issues

5. Determine “fit” of production / beneficiation / transportation costs to existing markets.

6. If necessary, suggest strategies to enhance development of coal settling ponds.