

Year in Review (2015)

Over the past year, East Morgan Holdings, Inc. has focused on the revitalization of its MBS® technology business for the treatment of heavy metals in air, soil and solid waste. Revival efforts have been largely channeled in three specific areas:

- a) Recovery, review and evaluation of available historic Solucorp data and patents acquired by and belonging to EMHI;
- b) Technology modernization and advancement, and generation of new MBS treatability data necessary for marketing efforts and potential customer acceptance within the current regulatory climate and remediation industry trends; and
- c) Identification and pursuit of active project opportunities as well as long-term programs well suited for resolution with EMHI products and services.

Recovery and evaluation of former analytical data - Project summaries and patents have created a better understanding of the technologies and services EMHI can effectively and efficiently provide to potential customers. Efforts helped identify technology deficiencies and competitive disadvantages in need of modernization and adjustment to meet the current industry demands, and provide insight as to where patents might be improved to extend their life.

New treatability data fits the regulatory climate and markets that have evolved and emerged over recent years, and increases confidence in technology performance by those that evaluate, select and specify remedies to customers. Recent studies extend MBS heavy metal treatment to: extremely elevated levels of mercury; sediments and soils impacted with metal-bearing Acid Mine Drainage (AMD); and solids generated by heavy metal water treatment systems. Another identified application with far-reaching programmatic implications is the ability of the MBS technology to enhance geotechnical properties of fly ash found in legacy coal combustion residual (CCR) impoundments associated with coal-fired power generating plants. MBS treated ash can become a raw material for the manufacture of new marketable products that are environmentally safe and help resolve a voluminous and problematic waste problem. 1000-year stability studies of MBS treated materials are also in progress to further advance the technology and its acceptance/application potential within various markets.

Project and program identification and pursuit efforts have extended across the country and include:

- Coal-Combustion Residual legacy fly-ash ponds in the Eastern Seaboard/SE US states;
- Air-pollution control and water treatment technology and serving companies
- Acid Mine Drainage (AMD) at legacy and active mine release sites in the Rocky Mountains;
- Paint/coating manufacturing sites in the Northeast;



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- Elemental mercury remediation sites in the Northwest and Southern US;
- Landfill partnering opportunities for hazardous solid waste treatment; and
- Treatment of solid residuals derived from heavy metal and radioactive water treatment systems

Coal Ash Legacy Ponds - EMHI is pursuing its legacy coal combustion residual impoundment remediation program with major coal-based power generating companies and their independent technology evaluators. MBS has been identified as a potential technology to not only treat heavy metals, but also enhance fly ash geotechnical properties for its reuse as a marketable product, as a precursor to other marketable end-products, and as a potential product for stabilizing remote barrier islands and shorelines in populated areas against rising water and tidal surges.

Coal-fired Power Plant Stack Emissions - EMHI has identified multiple companies that deliver air-pollution technologies and services nationally and world-wide. Through partnering, EMHI's MBS technology can provide heavy metal treatment services and capabilities to complement their existing acidity, NOx/SOx, and carbon foot-print reduction technologies

Acid Mine Drainage - EMHI visited the Animas River Basin in Colorado immediately after USEPA's AMD release at the Gold King Mine to meet and educate the project stakeholder group on the technology. EMHI also obtained sediment samples for 1000-year stability treatment studies that are successful to date and still on-going in efforts to meet testing criteria. Successful AMD treatment study data has gained the attention of the Bunker Hill Mine in Kellogg, ID, historically one of the largest and most prolific silver mines in the US, but also characterized as one with the most severe and complicated AMD issues in the country. Through a water treatment partner, EMHI has been invited to participate in an onsite treatment demonstration at the Bunker Mine that will be initiated yet this year and completed in early 2016. With continued treatability study success and demonstrated performance on AMD for mine owners, regulators, and other stakeholders, MBS has the potential to be applicable to many AMD treatment sites around the country, thousands of which are located in Colorado alone.

Elemental Mercury - EMHI's work with solids impacted with elemental mercury levels provides options for MBS technology applications at multiple project sites across the country where large volumes of elemental mercury-bearing soil requires remediation, including, multiple Manhattan Era Project sites, and a former chlor-alkali paper bleaching facility in the Northwest.

Other project and application pursuits include a paint/coating manufacturing plant in New Jersey; a uranium mine remediation project in the Northwest for both mine tailing fines and water treatment system residuals; and another radionuclide impacted mining-related river basin/plateau in the Southwest US on Native American tribal land.

EMHI continues to re-identify its MBS technology to position it within the treatment marketplace by providing a modernized, viable, cost-effective, reliable, and demonstrated 1000-year solution to leachable heavy metals in solids, waste and air emissions.

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