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David Fullmer

Environmental Waste Management Associates, david.fullmer@ewma.com

Robert Blauvelt

Environmental Waste Management Associates, bob.blauvelt@ewma.com

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AAI COMPLIANT REGULATORY DATABASE SEARCHES: SOME ARE MORE EQUAL THAN OTHERS

David Fullmer[§] and Robert P. Blauvelt, Environmental Waste Management Associates, LLC

100 Misty Lane, Parsippany, New Jersey 07054

1. ABSTRACT

The 2002 Brownfields Revitalization and Environmental Restoration Act or BRERA curtailed the Federal government's ability to seek damages and recover costs from property owners under certain sections of CERCLA. These enforcement bars against innocent landowners, contiguous property owners, and prospective purchasers were promulgated to encourage Brownfields redevelopment. However, as a condition of the liability protections offered under BRERA, a prospective purchaser must perform All Appropriate Inquiry (AAI) in accordance with rules developed by USEPA (40CFR Part 312) and commercialized by ASTM in its E1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ESA)*.

A major component of the AAI due diligence process is compliance with 40CFR Part 312.26: Review of Federal, State, Tribal and local government records. EPA requires that a long list of permit records and spill records be examined for the subject parcel and other sites within defined radii. Given the extensive and complex nature of both Federal and state record-keeping systems, a number of data management companies have emerged that specialize in assembling and summarizing publicly available environmental information. Usually combining these records within a GIS format, these companies are able to quickly and cost-effectively provide very useful maps and data tables, often combining them with other required components of Part 312 (aerial photographs, historical topographic maps, etc.).

In order to compare the completeness of these data base searches, we selected a well known Superfund site in the northeastern US and ordered regulatory database searches from three specialty providers: Environmental Data Resources,

[§] Corresponding author: David Fullmer, Environmental Waste Management Associates, LLC, 100 Misty Lane, Parsippany, NJ 07054, Tel: 973-560-1400 x191, Email: david.fullmer@ewma.com

Inc (EDR); BBL Environmental; and Environmental FirstSearch (FirstSearch, InfoMap). While each company offered a package that claimed to meet 40CFR Part 312.26 requirements, there were some disparities in quality, format and timeliness of deliverables, responsiveness to follow-up questions, and available geographic coverage. Our comparison of each data package is summarized and validated against a search of the same EPA records. Recommendations are provided for those environmental professionals that frequently depend on data base service companies to help ensure that they are using the most current and reliable information available.

Keywords: All Appropriate Inquiry, database report, Industri-plex

2. INTRODUCTION

Nearly all environmental consulting firms rely on the assistance of environmental regulatory database reports in the process of conducting an ESA. Being able to assess a subject property and surrounding sites without having to research each one individually is incredibly important and time-saving. Companies such as EDR, FirstSearch, and BBL have been providing this service since performing environmental assessments became an essential part of property transfers. While these companies may seem identical, they are different in ways that help serve client specific needs. All three attempt to make the process as easy and as cost effective as possible while providing reliable customer service. Whether the property being assessed is large or small, there are many ways to determine which provider will best serve the needs of the consultant.

2.1 Industri-Plex Superfund Site History

Tanning, the conversion of any animal hyde into a useful, long-lasting article of clothing, involves the use of numerous types of chemical compounds. In Massachusetts, just 10 miles (16 km) north of downtown Boston, the City of Woburn seemed an ideal place for a tannery, as well as other types of industrial manufacturing activities.

Woburn (2000 population of about 37,000) is an industrial center in central Massachusetts that sits astride the Aberjona River – a six mile (9.7 km) long watercourse that has been described as one of the most heavily urbanized in the Northeast. Largely channelized, the Aberjona River flows southward from Reading through Woburn and discharges into the Mystic Lakes, a one-time public water supply. Close to the major markets of Boston and with plenty of fresh water available, by the middle of the 1860s there were over 20 tanneries and currying

(leather treating) facilities operating in Woburn, all of them using the Aberjona as a water supply and sewer. By the 1870s water quality in the River had deteriorated to the point that the Massachusetts Legislature banned the discharge of wastes into one of its major tributaries (Horn Pond Brook) and by 1911 outlawed discharges of wastes into the Aberjona itself - a hundred years before the Federal Clean Water Act!

Despite these early attempts to improve Aberjona River water quality, local businesses and the City of Woburn continued to use the River both as a water supply and to dispose of sanitary and industrial wastewater, albeit in a much more controlled manner. In the mid-1960s, in an attempt to re-invigorate its declining industrial base, the City designated a 245 acre tract of land on its northern side, near the intersection of Routes I-93 and I-95, as an Industri-plex: a specially zoned industrial area where manufacturing and other heavy industry would be encouraged to move and expand. With a long history of prior chemical and glue manufacturing (in support of the local leather industry), the Industri-plex site was gradually redeveloped throughout the 1970s and into the early 1980s and became home to paper, textile, pesticide (lead arsenate), and expanded leather-goods industries.

As development of the Industri-plex went forward, the City of Woburn installed two additional water supply wells: Well G (1964) and Well H (1967). These wells tapped ground water present in the interconnected fractures and joints present in the bedrock beneath the Aberjona River Valley and could yield up to two million gallons per day. Periodically tested for bacteria and other basic quality indicators, criteria it regularly met, water from Wells G and H was piped into the municipal supply system without treatment. By the late 1970s, these two wells was supplying up to 30% of the City's water. In 1979, while on routine patrol, police found 200 drums of waste solvent abandoned on a vacant lot near Wells G and H. To their credit, they quickly realized that the presence of these drums might have adversely affected the ground water (Love Canal had exploded onto the national scene only a year earlier) and they notified local health officials. Water samples were taken quickly and laboratory results indicated that well water contained elevated levels of volatile organic compounds, most notable TCE.

Later that same year, two requests for assistance were made to the Federal Government's Centers for Disease Control (CDC): an official of the Massachusetts Department of Public Health had noticed an increase in mortality rates from various cancers in Woburn and thought that they might be related to pollution from the facilities at the Industri-plex. The second request came from a pediatric hematologist at Massachusetts General Hospital in nearby Boston. This doctor advised the CDC that he had evaluated six children with acute lymphocytic leukemia from Woburn, all living within a six block radius of each other. A local

clergyman later announced to the mayor and press that he had uncovered ten childhood leukemia cases in one part of town that had developed over the past 15 years. The CDC would eventually conclude that death rates in Woburn between 1969 and 1978 were statistically higher than would have been expected for a community of this type, when compared to others statewide and that cancer mortality was significantly greater, by 13%, for similar populations.

As the health studies were being done, the City of Woburn arranged for an alternate water supply and the Massachusetts Department of Environmental Protection and USEPA began the laborious process of determining where the contamination had come from and who was responsible for it. They focused their attention on the Industri-plex and found that six separate properties on the site were contributing contamination to the aquifer that supplied Wells G and H.

The Industri-plex site and several surrounding areas were added to the NPL on September 8, 1983. The now 330-acre site includes former and more recent waste disposal areas as well as adjacent wetlands and the Aberjona River. Runoff from contaminated areas would flow through wetlands and accumulate in Aberjona River bottom sediment, which are contaminated with PAHs and heavy metals (arsenic, chromium, and mercury). The pollution was caused by a combination of accidental discharges and intentional disposal of waste materials on the property now or formerly owned by the responsible parties: W.R. Grace, Unifirst Corporation, New England Plastics, Olympia Nominee Trust, Beatrice Foods, and Wildwood Conservation Corporation. Although initially reluctant to assume responsibility for the cleanup, these companies have entered into a negotiated settlement with USEPA for \$70 million to fund cleanup activities. These include:

- Removal of above ground waste materials that included drums of spent solvent and PCBs, as well as “hide piles” – unprocessed or off-spec animal skins and other debris present on the site often for decades as well as securing the site (fences, security patrols) from public access.
- Excavating and removing over 200 tons (180 tonnes) of soil for off-site disposal and treating other soil in place with chemical oxidation and vapor extraction technologies.
- Dredging and restoration of ponds and wetlands that became contaminated from overland flow of surface runoff and capping of certain impacted areas to reduce the amount of contaminated runoff entering the ecosystem.

Ground water is being collected and treated from each of the source area properties to reduce its potential to migrate into the Aberjona River aquifer system. As of 2006, over 300 million gallons (1,134 million liters) of

contaminated ground water have been withdrawn from the bedrock aquifer, treated to remove or reduce contaminant levels, and discharged into the Aberjona River. An aerial view of the current conditions is referenced as Figure 1 (Google Maps, 2008). Remedial activities at this Superfund Site are expected to continue for many years. (USEPA et al., 2007)



Figure 1. 2007 Aerial Photograph of the Industri-plex Site.

In what is one of the most tragic footnotes in the history of U.S. environmental pollution, in 1982 eight Woburn families whose children had died from leukemia filed a very highly publicized lawsuit against several of the companies they considered responsible for the contamination of Wells G and H. One of the main issues under dispute was whether drinking TCE and the levels found in the Woburn well water could have resulted in childhood leukemia. While there was some evidence of a connection, there was no broad scientific consensus that such a link could be made authoritatively. After protracted litigation, including a jury trial, they were awarded a modest financial settlement, one that could never replace or make up for the suffering and loss of their children. This lawsuit and the events leading up to it were popularized in both a book and movie entitled *A Civil Action*. (*A Civil Action*, 1995) Because of the complex nature of this well known Superfund site, we chose it to be the test case for our comparison of database reporting companies.

3. MATERIALS AND PROCEDURE

The main priority for environmental professionals conducting an ESA is to find a company that can rapidly and cost-effectively provide all the information needed for site assessments and other related projects. One of the first steps in

assessing a property is ordering the regulatory database report. Methods for the ordering and delivery of reports vary by provider. Each provider can cater to client specific needs, whether it be electronic delivery or by regular mail. Deciding on what resources are needed to complete the environmental assessment is essential to the finished product. Sanborn Maps, historical topographic maps, city directories and historical aerial photographs are just a few of the many resources offered by the selected providers. As part of our investigation on this topic, a regulatory database report, Sanborn Maps, historical topographic maps, and historical aerial photographs were ordered from each data base company. Pricing, ease of use, data quality, presentation, and service basis were the five categories selected for comparison.

Initiating contact with each individual provider proved a simple task as each was more than happy to accept new business. EDR and FirstSearch assigned a regional representative that assisted in the ordering process. Having a regional representative is advantageous as they can help with specific regulations that may be applicable to a particular geographic region. The regional representative also serves as an aid in setting up account information and helps in answering questions during the ordering process. A challenge often faced by environmental consultants during the assessment process is having a subject site in a State where the regulations are not well known or understood. Account representatives serve as a good source of knowledge of regional regulations put forth by the EPA and respective State governing bodies. EDR and FirstSearch had very knowledgeable representatives who created an easy environment for asking questions. Questions to BBL were answered in a timely manner by their representative, but they were at a disadvantage by only having full coverage in California.

Ordering methods differed only slightly, as FirstSearch has desktop software making the database reports fully customizable and interactive. EDR and BBL offered online ordering as their main method. During the ordering process, a choice between a radius search and an area search are offered. Radius searches define a specific area that can be extended from a centralized point within the property boundary. An area search is one that is able to be extending from the boundary of the subject property. FirstSearch offered an area search in which properties of any size or shape can be searched. EDR offered area searches for properties less than 64 acres in size. Properties over 64 acres in size, regardless of shape, have to be ordered using the extended radius search method. BBL offered only radius searches.

4. DATA AND ANALYSIS

Report delivery methods were similar between the providers as they were sent electronically. All providers electronically delivered the regulatory database report the same day it was ordered. Additionally, EDR delivered historical topographic maps and aerial photographs the same day they were ordered. First Search delivered the Sanborn Maps the same day they were ordered, but the historical topographic maps and aerial photographs were delayed in arriving. Table 1 summarizes delivery times for each provider:

Table 1. Summary of Delivery Times

	EDR	FirstSearch	BBL
Regulatory Report	Same Day	Same Day	Same Day
Sanborn Maps	N/A	Same Day	N/A
Historical Topographic Maps	Same Day	1 business day	N/A
Aerial Photographs	Same Day	6 business days	N/A

*N/A – Not available

A review of the regulatory reports revealed the quality of the data was consistent among the providers. The data in the report was validated against our own search of the same EPA records, where available. Format of the reports also were consistent from each provider, with EDR getting a slight edge by having a report that, in our opinion, was better organized and easier to read. EDR and FirstSearch offered fully interactive reports which had several features assisting in summarizing the data. Links to government websites and other pertinent information were provided within the EDR and FirstSearch reports. These links offered very valuable information as the websites sometimes contain contact information for the incident in question.

Surprisingly, with the information given to each provider, only FirstSearch was able to provide Sanborn Maps for the property we were assessing. The Sanborn maps sent by FirstSearch arrived the next business day and were of good quality. EDR included a “No Coverage” letter indicating Sanborn maps were not available for the property, or were not available due to insufficient or inaccurate information given during the ordering process. EDR’s statement that Sanborn

Maps were not available, when in fact they were (and First Search apparently had no trouble finding them with the location information provided), was troubling and raises issues regarding the reliability of EDR's "No Coverage" letter. Review of the historical topographic maps and aerial photos found that EDR and FirstSearch provided diagrams that were equal in quality. Both EDR and FirstSearch provided clear aerial photographs and historical topographic maps that covered the entire site.

5. CONCLUSION

EDR is the first choice for Phase I data base services by most environmental consultants for good reason. The information they provide is reliable, comprehensive, and fairly economic to obtain. Account service is solid and coverage is nationwide and expanding. However, with a smaller customer base, FirstSearch offers a viable alternative to EDR with its interactive and customizable reports. Its user interface is more sophisticated and FirstSearch's coverage and data quality are equivalent to EDR. FirstSearch is at somewhat of a disadvantage as it must obtain Sanborn Maps from EDR, although in our case, FirstSearch did a better job in searching and delivering the Sanborn Maps than EDR. BBL also is an alternative data base source to consider, especially for site along the west coast, in and around California. The following summarizes our evaluation of the database companies:

Pricing:	All essentially the same. Variation less than \$10-\$20 per package
Ease of Use:	FirstSearch Software allowed area searches for properties of any size and Orphan Sites were more easily evaluated with FirstSearch's interactive software.
Data Quality:	Consistent between vendors. Same databases (with updates) accessed and presented.
Presentation:	EDR reports are more user friendly, easier to read and better formatted.
Service Basis:	EDR responsive and worked with us to resolve "issues". FirstSearch provided excellent, personalized service, but was too account driven. BBL's coverage was restricted to California. EDR easiest to use, fastest, most comprehensive coverage.

FirstSearch went extra mile during ordering, ensured Sanborn Map delivery.

Due to time and budget constraints, the comparison of these providers was limited to the assessment of one site and a sample size of one may not be large enough to extrapolate the findings presented in this paper to a larger universe of sites. The environmental consultant performing the ESA should take into consideration the complexity of the site being assessed when choosing which provider will best fit their needs.

EDR is in the enviable position of being the dominant provider of data base services in the United States and it treats its market-position with respect. Despite its dominance, prices are still reasonable and service strong. As any well-run business would, EDR continually seeks to expand its service lines and anticipate the needs of its customers. However, it is in the interests of all environmental professionals to encourage and support supplier diversity – imagine what pricing would look like if there was only one laboratory that could analyze soil and ground water for VOCs. FirstSearch, BBL and probably others not evaluated here are practical alternatives to EDR, each with their own advantages and disadvantages. Competition keeps all of us sharp and attentive to the marketplace and is the technical whetstone of any service or technology business. Provision of data base services should be no exception.

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