



**TOEROEK
ASSOCIATES, INC.**

TRONOX BANKRUPTCY TASK ORDER

**Site Research Summary for
Hartville Site
Attachment B Site No. 2444**

January 23, 2015

I. Introduction

In 2014, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice (DOJ) entered into a settlement agreement to resolve fraudulent conveyance claims against Kerr-McGee Corporation (Kerr-McGee) and related subsidiaries. This settlement was the result of litigation relating to Kerr-McGee's spin-off of businesses and liabilities to Tronox Incorporated (Tronox), which soon after filed for bankruptcy and therefore could not pay for legacy liabilities. These legacy liabilities were extensive, and comprised environmental liabilities associated with over 80 years of Kerr-McGee historic operations. In 2011, a report was prepared to evaluate the environmental liability of Tronox legacy sites that were operated by Kerr-McGee and affiliated entities (Appendix A-1 of the 2011 report provides a list of Kerr-McGee related entities).¹

Toeroek Associates, Inc. (Toeroek) was tasked to perform a targeted Potentially Responsible Party (PRP) search investigation of the Hartville area in Platte County, Wyoming. Hartville was identified as a legacy site of Tronox and as an "Other Site" in Attachment B of a Consent Decree and Environmental Settlement Agreement.²

EPA directed Toeroek to research the history of the Hartville area for evidence of site ownership or operations by Kerr-McGee related entities. This report describes the methodology used for this research, provides a summary of the research results, and presents, where applicable, recommended future EPA investigative action.

¹ The report was prepared for the Anadarko Litigation Trust by Roux Associates, Inc. and entitled: *Environmental Liability Evaluation of Tronox Legacy Sites*.

² The Consent Decree and Environmental Settlement Agreement in the matter of In re: Tronox Incorporated, *et al.*, Case No. 09-10156 (ALG) was filed with the U.S. Bankruptcy Court for the Southern District of New York.

II. Methodology

Toeroek reviewed the data sources described in Table 1 below for the purpose of identifying the ownership and operational history of the Hartville area. Toeroek compiled the data found and then conducted a data review to determine: (1) basic information about the site, including any aliases and a general timeline of its operations; (2) information regarding ownership, evidence of operation, and admission of operation; (3) PRPs associated with the site; and (4) identification of Kerr-McGee related entities involved with the site area.

Table 1. Data Sources Reviewed

Data Source	Notes
DOJ's Relativity Database	Key words: Hartville, Sunrise, Chicago, Good Fortune, Colorado Fuel & iron, Oregon Steel Mills Inc., Evraz Group SA, and Wyoming Copper Company. General search produced one result, which was a listing of a possible Tronox hazardous waste site.
Internet	Platte County; Goshen County; Federal agency websites (EPA, BLM, NPS); Google Books; Archive.org; USGS Publications Warehouse; University of Wisconsin Ecology and Natural Resources (USGS Minerals Yearbooks); Hathi Trust.
Toeroek Records	Kerr-McGee Annual Reports; Concordance database.

III. Research Findings – Hartville

A. Site Location

The Hartville Mining District is located in Platte and Goshen Counties, in southeastern Wyoming and contains approximately 70 square miles. The region's climate is semi-arid, and elevation varies from 4,360 to 6,000 feet. The area is situated approximately four miles northwest of Guernsey, and 90 miles north of Cheyenne, encompassing the towns of Hartville, Sunrise, Guernsey, Ironton, Fairbank, and Frederick (HART-008, pp. 5; HART-011).

The Hartville Uplift, also known as the Spanish Diggings, is a geological formation that spans portions of Niobrara, Platte, and Goshen Counties, and includes the Hartville "iron range," which lies north and east of North Platte River, extending eight miles from Guernsey to Frederick. Most of the district's mines are within the following townships and ranges: T27N, R65W; T27N, R66W; T28N, R65W; and T28N, R66W (HART-003, p. 65; HART-008, pp. 5, 16).

Figure 1 illustrates the location of prominent mines in the Hartville Mining District in Wyoming (HART-008, p. 6). Copper mining in the area occurred from 1880 to 1887, and iron mining occurred from 1888 to 1980 (HART-003, p. 66).

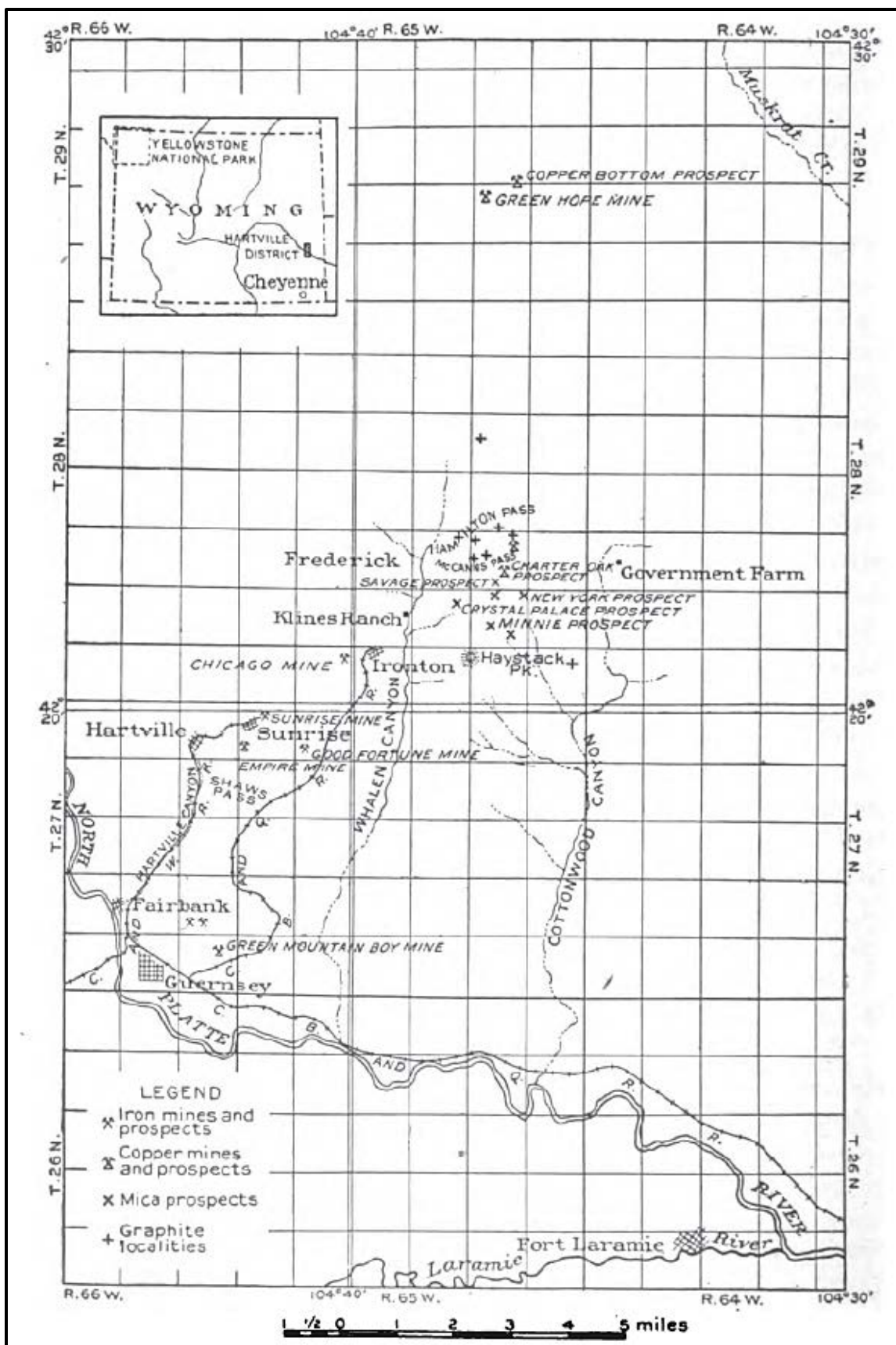


Figure 1. A Map of the Hartville Mining District, ca. 1906 (HART-008, p. 6).

B. Operations

Copper deposits were first discovered in the Hartville Mining District in 1880. Copper mining flourished briefly, and declined by 1887 due to high freighting costs, a drop in copper prices, and lack of substantial copper ore bodies. The Sunrise Mine, referred to as the “Glory Hole” at the time, was discovered in 1881 by Henry T. Miller, and was sold to Colonel Babbit who formed the Wyoming Copper Company, which mined copper until the end of the boom. The Wyoming Copper Company created a smelter in Fairbank at a point on the Platte River north of the town of Guernsey. The smelter was later destroyed in a fire (HART-003, pp. 66-67; HART-017, p. 5).

Several mines continued operating through 1918, but due to plummeting copper demand after World War I, most operations ceased, with negligible production and only sporadic prospecting and assessment work throughout the twentieth century (HART-003, p. 67). In addition to copper and iron, onyx, zinc, gold, and silver deposits attracted attention and some smaller mining ventures (HART-018, p. 16).

By the late 1890s, large deposits of high grade hematite were discovered in the Hartville Mining District, leading to mining activity transitioning from copper to iron (HART-003, p. 68). Named for an early mining claim owner, the town of Hartville was incorporated in 1884 (HART-001, p. 2). Hartville served many of the surrounding mines, including Sunrise, and Ironton arose as the mining camp of the Chicago Mine. Guernsey was connected to the area in proximity as well as functioning as a major ore-shipping town (HART-008, pp. 5). The main mines operating in the Hartville Mining District were Sunrise, Chicago, Michigan, Central, Green Mountain Boy, Jehosophat, Good Fortune, and Empire (HART-004).

The Hartville Iron Company obtained a patent in 1900 for mining claims near Hartville, in Sections 17 and 18 in T27N, R65W, and Section 13 in T27N, R66W, but no further evidence of its activity was found (HART-009). A group of Chicago investors formed the Wyoming Railway and Iron Company, which was a major investor in the mines, and leased 72 of its claims (including Sunrise and Chicago Mines) to the Colorado Fuel & Iron Company (CF&I) in 1898 (HART-003, p. 68).

CF&I was formed in 1880 by John Osgood by the consolidation of Colorado Coal and Iron and the Colorado Fuel Company in 1892 (HART-005). It was acquired by the Rockefeller family and Jay Gould in 1903. In 1944, a Wall Street syndicate acquired the Rockefeller family’s holdings in CF&I, and sold a majority of its stock to Allen & Co., and associates [*sic*] (HART-005; HART-006, p. 3).

CF&I developed the Sunrise, Chicago, and Good Fortune Mines, which were the most productive in the area, and created its own company town at Sunrise (HART-018, pp. 17; HART-011; HART-003, p. 66). The Good Fortune Mine was part of the Good Fortune group of ten claims, located in 1857; however, it took over 40 years (1898) to when iron ore was first produced from the mine. As of 1947, Carey Abbot from Birmingham, Michigan, was identified as the owner of the mine. By 1954, Schroeder Mining Company was identified as the owner and later, in 1976, CF&I was associated with mine ownership (HART-013; HART-021, pp. 2, 4). In 1982, extracted ore from the Sunrise Mine, the only active mine at the time, was sent by CF&I to

their blast furnaces in Pueblo, Colorado, where it was used mainly for making rails (HART-012, p. 17). Figure 2 depicts the CF&I blast furnace in Pueblo, Colorado.

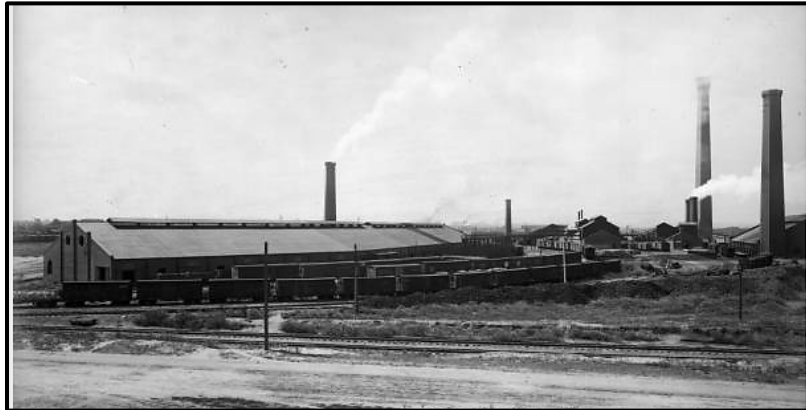


Figure 2. CF&I Blast Furnace Facility, Pueblo, CO, ca. 1892-1910 (HART-014)

Like the other mines in the Hartville Mining District, Sunrise Mine consisted of open pit mining until 1941, but it was also unique in that it also employed underground mining, making it the only one west of the Missouri River. In 1964, an ore beneficiation plant was installed for processing to separate out waste rock before shipping ore to Pueblo (HART-003, pp. 69-70). Photographs of Sunrise Mine over time are included as Figures 3 through 5. Figure 6 is a collection of photographs of other mining activities within the Hartville Mining District.

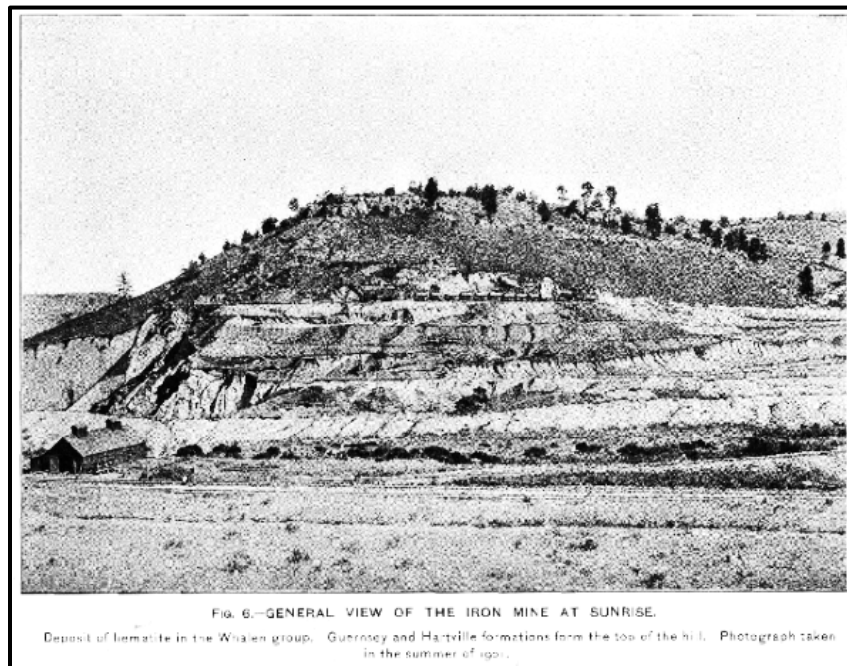


Figure 3. 1901 Photograph of the Sunrise Mine (HART-010, p. 3)

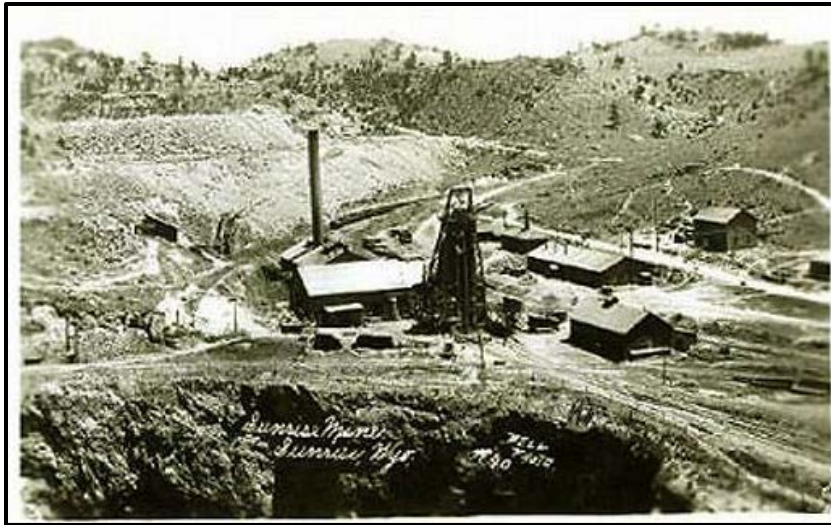


Figure 4. 1907 Photograph of the Sunrise Mine (HART-015, p. 7)



Figure 5. 1980 Photograph of the Sunrise Mine (HART-012, p. 21)



Figure 6. A photo of the Chicago Mine pit (above), and aerial photos of the Glory Hole (lower left) and central ore body (lower right) of the Hartville area mines (HART-016)

CF&I was purchased by Oregon Steel Mills, Inc. in 1993, and changed its name to Rocky Mountain Steel Mills. In January 2007, along with the rest of Oregon Steel's holdings, Rocky Mountain Steel Mills was acquired by Evraz Group SA, a Russian steel corporation (HART-006, p. 3; HART-007). Little information was available on mining operations or exploration in the Hartville Mining District after 1980, when the Sunrise Mine ceased operation due to the collapsing steel market at the time (HART-012). The "Sunrise Mine Historic District" is located in the Hartville Mining District and includes several of the old towns and mines. It was added to the National Register of Historic Places in 2005 (HART-002).

Upon review of records in the public domain, none of the entities identified in the operational section has a known association with any Kerr-McGee entity. However, Kerr-McGee explored the southern part of the Hartville Uplift in 1988, and discovered a copper-stained formation, recovering samples of cerargyrite, unmgangite, electrum, and native gold (HART-018, p. 17). Kerr McGee Corporation was found to also have several mining claims in the Hartville Mining District, named AMU #1 through AMU #15, which were located in Section 24, T2N, R66W. These claims were first located in 1980, last assessed in 1982, and are now listed as closed. The commodity was not specified (HART-022). Kerr McGee Corporation also was involved in two mining interests in Section 24, T27N, R66W, as an applicant on a case involving 640 acres in 1982, and a claimant on 160 acres in 1990 (HART-023).

Several companies continue to explore in the Hartville Uplift in eastern Wyoming for copper, gold, silver, and zinc. Exploration work by Cominco American Inc., Doe Run, and Phelps Dodge was reported in 1992 (GAS-003).

C. Ownership Information

Toeroek conducted searches for property ownership information using the Platte County and Goshen County Assessor's and Clerk's websites. The Platte County Property Tax records, dating back to 2007, were also searched. Search terms "Kerr-McGee," "Kerr," "McGee," and "Anadarko" were used, but no results were found. Aside from Kerr McGee Corporation, no other related entities were identified in operational research, so no additional search terms were employed.

Toeroek also searched for mining claims using two of the U.S Bureau of Land Management (BLM) websites. The first website, BLM's General Land Office Records, did not produce any search results that were Kerr-McGee related. BLM's Land & Mineral Legacy Rehost 2000 System, the second website, was searched using the above mentioned search terms in conjunction with county, state, and township and range information for Hartville Mining District. Toeroek searched both Case Recordations and Mining Claims using the search terms "Anadarko" and "Kerr" along with four township and range descriptions, which reflect the majority of the geographic area of the Hartville district.³ A search for "Kerr" found one page of information, listing Kerr-McGee Corp. as a claimant in 15 closed cases (HART-020). Information on additional mining claims found through the BLM's website is described in the Operations section above.

³ In the BLM LR2000, Case Recordations contain information on leases, permits, contracts, grants, agreements, mineral patents, etc. issued by the BLM on federal actions affecting public lands. The Mining Claims contains information on unpatented mining claims located on federal.

D. PRPs

Table 2 identifies corporate PRPs for the Hartville site area along with a brief description and estimated dates of their involvement. Additional information regarding these parties is provided in the Operations section above.

Table 2. PRP Summary Table

PRP	Year(s)	Involvement at Site	Reference	Kerr-McGee Entity
Allen & Co.	1944	Acquired CF&I stocks from Rockefeller and Gould families.	HART-005	No
Colorado Fuel & Iron Company (aka Colorado Fuel & Iron Steel Corp.)	1898-1982	Owned and operated the Sunrise Mine, among others. Created the town of Sunrise.	HART-003	No
Cominco American Inc.	ca. 1992	Explored Hartville Uplift.	GAS-003	No
Doe Run	ca. 1992	Explored Hartville Uplift.	GAS-003	No
Evrast Group S.A.	2007	Purchased Rocky Mountain Steel Mills, formerly known as CF&I.	HART-019	No
Hartville Iron Company	1900	Had a patent on mining claims in the Hartville Mining District.	HART-009	No
Kerr-McGee [Corp.]	1980-1990	Explored southern Hartville Uplift, found copper minerals. Had several mining claims in the Hartville Mining District.	HART-018, HART-020, HART-022, HART-023	Yes
Oregon Steel Mills, Inc.	1993	Purchased CF&I. Name changed to Rocky Mountain Steel Mills ca. 1993.	HART-019	No
Phelps Dodge	ca. 1992	Explored Hartville Uplift.	GAS-003	No
Schroeder Mining Company	1954	Owned the Good Fortune Mine.	HART-021	No
Wyoming Copper Company	1880?-1903	Mined copper at Sunrise mine. Constructed a smelter at Fairbank in 1882.	HART-003, HART-017	No
Wyoming Railway and Iron Company	1890-1898	A major investor in Hartville mines. Had a number of mining claims, leased 72 of them (including Sunrise and Chicago) to CF&I.	HART-003	No

E. Kerr-McGee Regional Activities

On a regional level, Kerr-McGee as well as related entities conducted mining activities and/or owned mining property in several other Wyoming counties, including counties in close proximity to this county, such as Natrona and Carbon Counties. Toeroek has developed reports for the Petrotomics Mill (Site No. 1497), located in Carbon County; Hanna Basin Group (Site Nos. 2359, 2360, and 2361), located in Carbon County; Gas Hills Mining District (Site Nos. 2404 and 2437), located in Fremont and Natrona Counties; the Crooks Gap Mining District (Site No. 2403), located in Fremont County. All of these sites have been identified as Tronox legacy sites. Refer to the respective reports for each site for further details.

IV. Conclusion

Toeroek researched ownership and operational records for the Hartville area. The commodities of interest were identified as copper and iron from hematite. Most mining activities in the Hartville Mining District occurred from 1880 to 1980 through underground and open pit mining. A number of past operators were identified; however, limited information was found relating to Kerr-McGee. Kerr-McGee conducted exploratory work in the southern part of the Hartville Uplift in 1988, but information is limited on the details of this activity. Kerr-McGee also had several mining claims in the Hartville Mining District during 1980 to 1990, all of which are closed and no further details were found.

If EPA desires, additional research could be conducted at local archives and libraries to further develop the nexus between Kerr-McGee and the site. Toeroek has limited access to the Tronox case files in DOJ's Relativity Database; a credentialed user with full access could run additional keyword searches through the database to identify pertinent information. Specifically, an expanded search may provide additional details connecting Kerr-McGee to the Hartville site area.