S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

September 3, 2015

Mr. Chuck Hendrickson, Project Coordinator
U. S. Environmental Protection Agency
Region VI - Federal Facilities Section (6PD-F)
1445 Ross Avenue
Dallas, Texas 75202-2733

Mr. Dave Cobrain, Program Manager
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
New Mexico Environmental Department
Santa Fe, NM 87505-6303

Subject: **2015 Fact Sheet**

Gentlemen:

Attached please find a draft copy of the 2015 Fact Sheet for your review, comments, and approval.

Sincerely,

S. S. PAPADOPULOS & ASSOCIATES, INC.

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Senior Hydrogeologist

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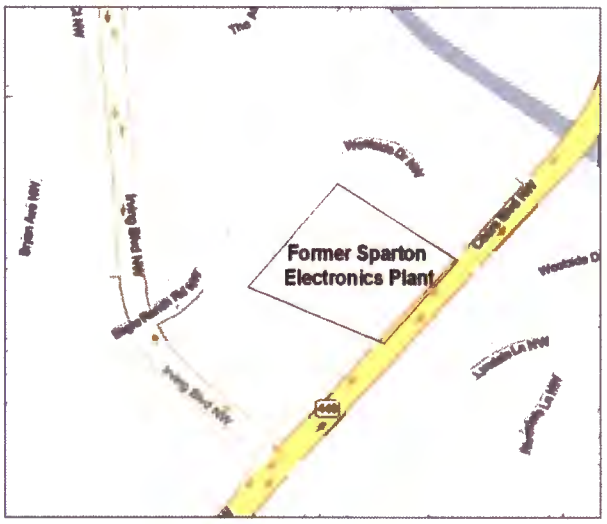
2015
FACT SHEET

An Update on Environmental Remediation Activities
Conducted during 2013 and 2014 at
Sparton Technology's Former Coors Road Facility, Albuquerque, New Mexico

September xx, 2015

Sparton Technology, Inc., a New Mexico corporation (Sparton Technology) wishes to provide you with information concerning the progress of the current and planned environmental remediation activities at their former plant at 9621 Coors Road. Sparton Technology operated a defense electronics component manufacturing plant at this location, shown on the map, from 1961 through 1994. In the late 1980's it was determined that several industrial solvents had impacted soil and groundwater. A series of investigations over the following years detailed the nature and extent of the solvent contamination. The primary constituents impacting soil, soil gas, and groundwater were trichloroethylene (TCE), 1,1,1-trichloroethane (TCA) and lesser amounts of methylene chloride (MC) and acetone, and 1,1-dichloro-ethylene (DCE) a degradation product of TCA and TCE. (By the late 1990s the primary solvent constituents found in soils, soil gas, and groundwater were TCE, DCE, and TCA.) Groundwater sampling further indicated that these constituents had migrated off site up to one-half mile to the northwest of the plant. Various studies have indicated that the contaminant plume has not impacted any existing supply wells.



Sparton Technology began environmental remediation (that is, cleanup) activities at the plant in 1983. In late 1988 Sparton Technology installed a groundwater recovery and treatment system on site. The next 10 years saw extensive investigation, installation of monitoring wells, and negotiations among various interested parties to establish appropriate remediation measures. In 1998, additional remediation activities were implemented. All cleanup activities are now being implemented according to the requirements of the agreement reached between Sparton Technology, the United States Environmental Protection Agency (USEPA), the City of Albuquerque, the Bernalillo County Commissioners, the New Mexico Environment Department (NMED), the New Mexico Attorney General's Office, and the New Mexico Office of the Natural Resources Trustee, as documented in a Consent Decree [CIV 97 0206 LH/JHG (D.N.M.)] dated March 3, 2000, which is filed with the U.S. District Court for the District of New Mexico. These remedial measures consisted of:

(a) The installation and operation of an off-site groundwater containment system;
(b) The operation of an on-site, 400-cfm (cubic feet per minute) Soil Vapor Extraction (SVE) system[1] for an aggregate period of one year;
(c) The installation and operation of a source-area groundwater containment system.

The goals of these remedial measures are:

(a) To control hydraulically the migration of the off-site contaminant plume;
(b) To reduce contaminant concentrations in vadose-zone[2] soils in the on-site area and so reduce the likelihood that these soils would contribute to any groundwater contamination;
(c) To control hydraulically any potential source areas that may be continuing to contribute to groundwater contamination at the on-site area;
(d) In the long-term, to clean up to the performance standards described in the Consent Decree.

The installation of the off-site containment system, consisting of a pumping containment well, a treatment system, an infiltration gallery located at the Arroyo de las Calabacillas, and associated conveyance and monitoring components, began in late 1998 and was completed in early May 1999. The off-site containment well began operating on December 31, 1998. Except for a brief interruption in late April and early May 1999 to connect it to the treatment system and infiltration gallery, the well has been in operation since that date. Based on evaluations conducted during 2009, and with the approval of the regulatory agencies, the pumping rate of this well was increased from about 225 gallons per minute (gpm) to about 300 gpm in November 2010 to expedite the restoration of the aquifer to beneficial use.

The on-site 400-cfm SVE system began operation on April 10, 2000, and completed a total of one full year of operation on June 15, 2001. Follow-up performance monitoring of the system conducted in September and October, 2001 indicated that the system had met the performance criteria specified in the Consent Decree; based on these results the SVE system was dismantled in May 2002.

Construction of the source (on-site) containment system, consisting of a pumping containment well, an on-site treatment system, six on-site rapid infiltration ponds, and associated conveyance and monitoring components, began in February 2001 and was completed in December 2001. The source containment well began operating on January 3, 2002 and has been in operation since that date. Based on the performance of the infiltration ponds during their early years of operation, four ponds were deemed sufficient for returning the treated water to the aquifer and, therefore, two of the six ponds were abandoned and backfilled during the second half of 2005 with the approval of the regulatory agencies.

The discharge of treated groundwater into the infiltration gallery at the Arroyo de las Calabacillas and into the on-site infiltration ponds is subject to the water-quality and monitoring requirements of a Discharge Permit issued by the NMED.

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[1] The Soil Vapor Extraction system used a vacuum pump to remove vapors of contaminant from the soil pores above the water table.

[2] The vadose zone is that portion of the soil below the ground surface and above the water table.

Remedial activities during 1999, 2000, and 2001 were reported in Fact Sheets that were prepared during each year and distributed after approval by the regulatory agencies. Activities during 2002 through 2006 and during 2007 through 2009 were reported in combined Fact Sheets for these years, and activities during 2010, 2011, and 2012 were reported in Fact Sheets prepared for those years; these Fact Sheets were also distributed after approval by the agencies. The purpose of this Fact Sheet is to provide an update and summary of activities that occurred during 2013 and 2014.

2013 and 2014 Activities: During 2013 and 2014, progress continued to be made towards achieving the goal of the remedial measures:

- The off-site containment well was operated 98.9 percent of the time available during these two years at an average rate of about 290 gpm. The water pumped during these years was treated and discharged to the infiltration gallery located in the subsurface beneath the Calabacillas arroyo, where it returned to groundwater.

- The source containment system developed two difficulties in the Fall of 2013:

  (a) First, one of the infiltration ponds was damaged due to storm water overflows from the adjacent property. Since the available data indicated that even one pond is adequate for returning the pumped water into the underlying aquifer, on September 18, 2013 Sparton Technology proposed to the USEPA and the NMED that the damaged pond and the pond adjacent to it be abandoned and that hereafter the pumped water is discharged into the remaining two ponds. The agencies approved this proposal on October 4, 2013, and in early 2014, Sparton turned over the damaged and the adjacent pond to the Tenant of the property, Melloy Dodge, for backfilling and use as a parking lot.

  (b) Second, chromium concentrations in the source containment system influent, and hence effluent, rose slightly above the New Mexico Water Quality Control Commission (NMWQCC) standard of 0.050 mg/L for groundwater. The NMED was notified of these conditions on September 10, 2013 and the source containment well was shut down on the same day. After attempting several preliminary corrective measures, Sparton Technology concluded that the most appropriate corrective measure would be the installation of a chromium removal unit at the source containment system treatment plant. A Corrective Action Plan proposing the installation of such a chromium removal unit was submitted to the NMED on January 8, 2014. Upon approval of the Plan by NMED on February 5, a chromium removal unit was installed at the source containment system treatment plant, and system operations resumed on April 23, 2014.

- Because of these difficulties, the source containment well operated 73.6 percent of the time available during 2013 and 2014 at an average rate of about 45 gpm. The pumped water was treated and discharged to the rapid infiltration ponds north of the building at Sparton Technology's former facility, where it returned to groundwater.

- Groundwater monitoring was done as specified in Attachment A to the Consent Decree and in the site's Discharge Permit. Water levels in all accessible wells and the infiltration gallery were measured quarterly. Samples were collected for water-quality analyses from

monitoring wells and from the influent and effluent of the air stripper at the frequency specified in the Consent Decree and applicable permits. Water samples were analyzed for TCE, DCE, TCA and total chromium. The flow rates of both containment wells were monitored by totalizer meters that were read at frequent intervals.

- The groundwater flow and contaminant migration model that was developed in 2000 to simulate the hydrogeologic system underlying the site and its vicinity, and which was last calibrated in 2011, was recalibrated in early 2015 using a data set that included data collected during the last three years (2012, 2013, and 2014) to represent recent changes in regional groundwater flow conditions and observed concentration trends at the recovery wells during these three years.

A total of about 337 million gallons of water were pumped during 2013 and 2014 from the off-site and source containment wells. This corresponds to an average pumping rate of 320 gpm over this two-year period. The total volume pumped from both wells between the start of the current remedial operations on December 1998 and the end of 2014 is about 2.32 billion gallons. This volume of pumped water represents about 205 percent of the volume of contaminated groundwater that was present in the aquifer prior to the start of remedial operations.

The water pumped by the off-site and source containment wells during these two years removed from the aquifer a total of about 495 kg (1,090 lbs) of contaminants, consisting of about 440 kg (970 lbs) of TCE, 52 kg (115 lbs) of DCE, and 1.1 kg (2.4 lbs) of TCA. The total contaminant mass removed by the two wells between the beginning of the current remedial operations in December 1998 and the end of 2014 is about 7,410 kg (16,300 lbs), consisting of about 6,890 kg (15,200 lbs) of TCE, 495 kg (1,090 lbs) of DCE, and 20.4 kg (45 lbs) of TCA. This represents about 97 percent of the total dissolved contaminant mass estimated to have been present in the aquifer prior to the start of the current remedial operations.

While more than 95 percent of the contaminant mass that existed in the aquifer has been removed by remedial operations, the reduction in the extent of the TCE plume has been rather modest, about 33 percent. Concentrations within the plume, however, were significantly lower at the end of 2014 than they were prior to the start of the current remedial measures. Sparton Technology's implementation of these measures has prevented further expansion of the contaminant plume and has removed a considerable amount of mass from the plume.

Future Plans: Data collection will continue in accordance with the Groundwater Monitoring Program Plan and site permits, and as necessary for the evaluation of the performance of the remedial systems.

Flow rate data from the off-site and source containment systems will closely be monitored and any necessary measures will be taken to assure that these systems continue to operate as close as possible to their current design pumping rates of 300 gpm for the off-site system and 50 gpm for the source system. Adjustments to the monitoring system will continue to be made by plugging and abandoning, or deepening, or replacing monitoring wells that have become dry due to the regional decline of groundwater levels in the Albuquerque area.

The recalibrated groundwater flow and contaminant migration model would be available, if necessary, to evaluate the future performance of the remedial systems and any potential future

modifications to these systems. The next update of the model will be conducted in 2018 after three years of additional data have been collected.

Copies of the Consent Decree and its associated remediation work plans as well as historical investigation/remedial work plans and reports submitted to the City, County, NMED, and EPA are available for review at the:

Taylor Ranch Public Library, (Telephone # 505 897-8816)
located at 5700 Bogart NW, Albuquerque, NM 87120.

City of Albuquerque Department of Public Works, (Telephone # 505 768-2561)
located at One Civic Plaza NW, Albuquerque, NM 87103

New Mexico Environment Department, (Telephone # 505 476-6000)
located at 2905 Rodeo Park Drive East, Building 1, Santa Fe, NM 87505-6303

Alternatively, you may contact Mr. Tony Hurst, Sparton Technology's Project Coordinator for the site, at (303) 388-8613 or Mr. Ernesto Martinez, Environmental Health and Safety Manager of Sparton Corporation, at (386) 490-5811.