LA & Reference 2/14/97

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6
DALLAS, TEXAS

IN THE MATTER OF: SPARTON TECHNOLOGY, INC. 9621 COORS ROAD NW ALBUQUERQUE, NM 87114 RESPONDENT	)	DETERMINATION OF IMMINENT AND SUBSTANTIAL ENDANGERMENT PURSUANT TO SECTION 7003 OF RCRA AND SECTION 1431 OF THE SDWA

I.

STATUTORY AUTHORITY

1. The following Findings of Fact, Conclusions of Law, and Determinations are made pursuant to the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 7003 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6973, and Section 1431 of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300i.

2. Section 7003 of RCRA, 42 U.S.C. § 6973, authorizes EPA to take such actions as it deems necessary to protect health or the environment resulting from the past or present handling, storage, treatment, transportation, or disposal of any solid waste or hazardous waste which may present an imminent and substantial endangerment to health or the environment.

3. Section 1431 of SDWA, 42 U.S.C. § 300i, authorizes EPA to take such actions as it deems necessary to protect the health of persons from a contaminant that is present in or is likely to enter a public water system or an underground source of drinking

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water which may present an imminent and substantial endangerment to the health of such persons.

4. The authority vested in the Administrator to make determinations that an imminent and substantial endangerment exists has been delegated to the Regional Administrator of Region 6 by EPA Delegation Nos. 8-22-A, dated May 11, 1994, and 9-17, dated July 25, 1984, and redelegated to the Director of the Compliance Assurance and Enforcement Division (Director) by EPA Delegation Nos. R6-8-22-A, dated July 27, 1995, and R6-9-17, dated August 7, 1995, respectively.

5. Pursuant to Section 7003 of RCRA, 42 U.S.C. § 6973, and Section 1431 of the SDWA, 42 U.S.C. § 300i, the Director makes the following Findings of Fact, Conclusions of Law, and Determinations.

II.

FINDINGS OF FACT

6. Sparton Technology, Inc. (Respondent), is a corporation incorporated under the laws of the State of New Mexico.

7. Respondent is the owner and operator of a facility located at 9621 Coors Road NW, Albuquerque, Bernalillo County, New Mexico 87114 (Facility).

8. Pursuant to Section 3010(a) of RCRA, 42 U.S.C. § 6930(a), Sparton Southwest, Inc. (the predecessor corporation to the Respondent) notified EPA of its hazardous waste activity. In its Notification dated August 12, 1980, Sparton Southwest, Inc. identified itself as a generator of hazardous waste, and as

an owner and operator of a hazardous waste treatment, storage, or disposal facility located at 9621 Coors Road NW, Albuquerque, New Mexico.

9. In its Notification, Sparton Southwest, Inc. notified EPA that it handled the following hazardous waste:

a. Characteristic hazardous wastes identified at 40 C.F.R. Part 261, Subpart C: ignitable, corrosive, reactive, and toxic;

b. Hazardous wastes from non-specific sources identified at 40 C.F.R. § 261.31: F001, F002, F003, F005, F006, F007, F008, and F009; and

c. Commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products identified at 40 C.F.R. § 261.33(f): P030, P098, U002, U057, U108, U122, U134, U154, U159, U162, U220, U226, U228, U238, and U239.

10. Pursuant to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e), on or about November 17, 1980, Sparton Southwest, Inc. submitted its RCRA Part A permit application, and identified itself as a facility generating and treating, storing, or disposing of the following hazardous wastes:

a. Hazardous wastes from non-specific sources identified at 40 C.F.R. § 261.31: F001, F002, F003, F005, F006, F007, F008, and F009; and

b. Commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products identified at 40 C.F.R. § 261.33(f): U002, U122, U134, U159, U226, and U228.

11. The Facility manufactured electronic components, including printed circuit boards, from 1961 through 1994.

12. The printed circuit board manufacturing process at the Facility generated an aqueous metal plating waste. Until

approximately 1975, the plating wastes were stored in an in-ground concrete basin. This basin was replaced by a lined surface impoundment in 1975, termed the "West Pond", and a second lined surface impoundment in 1977 termed the "East Pond". The "West" and "East" ponds remained in use until 1983, when Sparton ceased discharging to either pond and removed the remaining plating wastes. The ponds are approximately 20 feet by 30 feet in surface dimension and 5 feet deep. The impoundments were constructed of concrete block or cast-walls with a natural sand base and a 30-mil, two-ply hypalon liner.

13. The Facility also generated spent waste solvents from the cleaning of electronic components. Until approximately 1980, waste solvents were accumulated in an on-site sump and allowed to evaporate. The sump was constructed of concrete blocks and measured approximately 5 feet by 5 feet in surface dimension by 2 feet deep. Sparton ceased discharging to the sump in October 1980, removed the remaining wastes, and filled the sump with sand.

14. On June 16, 1986, the New Mexico Environmental Improvement Division (NMEID), the predecessor agency to the New Mexico Environment Department (NMED), approved the closure plan for the "East" and "West" ponds and sump. The ponds and sump were certified closed by Sparton on December 18, 1986, and closure was acknowledged by NMEID on May 18, 1987. Sparton removed the solvent sump and sand backfill, and placed the wastes in the two remaining lined impoundments. The impoundments and

sump area were capped by a 6-inch thick asphaltic base overlain by a 3-inch asphaltic concrete layer.

15. A soil vapor monitoring well was installed near the ponds and sump in 1996. Analyses of air samples collected from the soil vapor monitoring well in June 1996 have shown the following organic constituents in the soil (Table 1).

TABLE 1
ANALYTICAL RESULTS
FOR SAMPLES COLLECTED JUNE 1996

Well VP-1	Approximate Depth Below Ground Surface (ft.)	CONSTITUENTS			
		Trichloroethene (mg/m^3)	1,1,1-Trichloroethane (mg/m^3)	1,1-Dichloroethene (mg/m^3)	Tetrachloroethylene (mg/m^3)
Zone 1	10	18,000	4,800	150	290
Zone 2	20	21,000	5,800	200	300
Zone 3	30	24,000	6,500	230	320
Zone 4	40	22,000	6,300	340	310
Zone 5	50	8,200	3,100	360	120
Zone 6	60	8,700	3,300	460	160

16. Analyses of soil samples collected during the installation of the soil vapor monitoring well in June 1996 have shown the following organic contaminants in the soil (Table 2).

TABLE 2 ANALYTICAL RESULTS FOR SAMPLES COLLECTED JUNE 1996 WELL VP-1				
Approximate Depth Below Ground Surface (ft.)	CONTAMINANTS			
	Trichloroethene (μg/l)	1,1,1-Trichloroethane (μg/l)	1,1-Dichloroethene (μg/l)	Tetrachloroethylene (μg/l)
8.5	87,000	12,000	900	4,200
28	ND	ND	ND	ND
37	ND	ND	ND	ND
47	110	ND	ND	ND
57	260	ND	ND	ND

17. Respondent installed 17 ground water monitoring wells at the Facility between 1983 to 1984. Analyses of ground water samples collected from the ground water monitoring system have shown the following constituents in the ground water (Table 3).

TABLE 3 SUMMARY OF ANALYTICAL RESULTS FOR SAMPLES COLLECTED 1983 - 1984	
Chemical	Concentration (μg/l)
Trichloroethene	27 - 90,900
1,1,1-Trichloroethane	7 - 54,900
Methylene Chloride	11 - 78,400
1,1-Dichloroethylene	18 - 31,600
Tetrachloroethylene	17 - 953
Toluene	5 - 4,720
Benzene	20 - 193
Chromium	22 - 32,100

18. On October 1, 1988, EPA and Respondent entered into an Administrative Order on Consent (Order), Docket No. VI-004(h)-87-H, pursuant to Section 3008(h) of RCRA, 42 U.S.C. §6928(h). Pursuant to the terms of the Order, Respondent was required, inter alia, to: 1) install and operate an on-site ground water extraction and treatment system at the Facility as an interim measure; and 2) conduct a RCRA Facility Investigation (RFI) to determine the nature and extent of contamination resulting from past Facility operations.

19. The on-site ground water extraction and treatment system consists of 8 extraction wells pumping contaminated ground water from the upper 10 feet of the aquifer beneath the Facility. The total volume of recovered ground water is approximately 1300 gallons per day.

20. The on-site ground water extraction and treatment system does not address the full extent of the contaminant plume beneath the Facility and does not address the contaminant plume beyond the borders of the Facility.

21. As part of the RFI, Sparton installed monitoring wells in the aquifer to monitor the concentration and migration of contaminants in the ground water.

22. Analyses of samples collected from the monitoring wells in January 1996 have shown both organic and inorganic contaminants (Table 4).

TABLE 4
SUMMARY OF ANALYTICAL RESULTS
FOR SAMPLES COLLECTED JANUARY 1996

Well Number	CONTAMINANTS				
	Trichloroethene (μg/ℓ)	1,1,1-Trichloroethane (μg/ℓ)	1,1-Dichloroethene (μg/ℓ)	Tetrachloroethylene (μg/ℓ)	Total Chromium (mg/ℓ)
Upper Flow Zone On-Site Monitoring Wells					
MW-7	340	92	14	0.8	0.04
MW-9	570	82	25	2.2	< 0.01
MW-12	1000	61	29	<5.0	0.02
MW-13	380	54	14	<0.5	< 0.01
MW-14	290	5.8	4.6	1.7	1.53
MW-16	7600	1900	93	73	0.19
MW-17	3800	1100	<100	<250	No Data
MW-21	220	95	10	2.2	< 0.01
MW-22	46	29	6.2	0.5	< 0.01
MW-33	2000	160	200	11	4.11
Upper Flow Zone Off-Site Monitoring Wells					
MW-34	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
MW-35	< 0.3	< 1.0	< 0.2	<0.5	0.02
MW-36	1.9	< 1.0	< 0.2	<0.5	0.03
MW-37	720	< 10	25	<5.0	< 0.01
MW-47	36	< 1.0	0.7	<0.5	0.05
MW-48	350	< 1.0	7.0	<0.5	0.13
MW-51	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
MW-52	< 0.3	< 1.0	< 0.2	<0.5	0.01
MW-53	100	< 1.0	1.1	<0.5	0.06
MW-57	< 0.3	< 1.0	< 0.2	<0.5	0.02
MW-58	270	< 1.0	3.4	<0.5	0.15
MW-61	1900	13	34	10	0.04

TABLE 4
SUMMARY OF ANALYTICAL RESULTS
FOR SAMPLES COLLECTED JANUARY 1996

Well Number	CONTAMINANTS				
	Trichloroethene (μg/ℓ)	1,1,1-Trichloroethane (μg/ℓ)	1,1-Dichloroethene (μg/ℓ)	Tetrachloroethylene (μg/ℓ)	Total Chromium (mg/ℓ)
MW-62	1.8	7.2	7.0	<0.5	< 0.01
MW-63	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
PZ-1	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
Upper Lower Flow Zone On-Site Monitoring Wells					
MW-19	24	< 1.0	0.7	<0.5	< 0.01
MW-29	0.9	< 1.0	< 0.2	<0.5	< 0.01
MW-30	19	< 1.0	0.5	<0.5	< 0.01
MW-31	2.7	< 1.0	< 0.2	<0.5	0.09
MW-41	290	20	15	3.1	< 0.01
MW-42	470	57	55	<5.0	< 0.01
Upper Lower Flow Zone Off-Site Monitoring Wells					
MW-44	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
MW-45	59	< 20	< 4.0	<10	0.03
MW-46	3200	96	220	24	0.19
MW-56	430	< 1.0	11	<0.5	0.26
MW-59	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
MW-60	170	< 1.0	4.8	<0.5	< 0.01
MW-64	15	< 1.0	0.6	<0.5	< 0.01
Lower Lower Flow Zone On-Site Monitoring Wells					
MW-20	1.3	< 1.0	< 0.2	<0.5	< 0.01
MW-32	760	36	110	<5.0	< 0.01
MW-38	< 0.3	< 1.0	< 0.2	<0.5	0.02
MW-39	< 0.3	< 1.0	< 0.2	<0.5	0.13

TABLE 4 SUMMARY OF ANALYTICAL RESULTS FOR SAMPLES COLLECTED JANUARY 1996					
Well Number	CONTAMINANTS				
	Trichloroethene (μg/ℓ)	1,1,1-Trichloroethane (μg/ℓ)	1,1-Dichloroethene (μg/ℓ)	Tetrachloroethylene (μg/ℓ)	Total Chromium (mg/ℓ)
MW-40	< 0.3	< 1.0	< 0.2	<0.5	< 0.01
MW-43	95	29	23	<2.5	< 0.01
Lower Lower Flow Zone Off-Site Monitoring Well					
MW-55	940	< 1.0	8.4	<0.5	1.04
Third Flow Zone On-Site Monitoring Well					
MW-49	< 0.3	< 1.0	< 0.2	<0.5	< 0.01

23. Trichloroethene is also known as trichloroethylene and other synonyms used by industry. Trichloroethene is a significant ground water contaminant and has been used to define the extent of the contaminant plume. Trichloroethene contamination extends at least 1/2 mile west-northwest of the Facility. Trichloroethene concentrations are the highest in the aquifer beneath the Facility, decreasing off-site to the west-northwest. In January 1996, concentrations of trichloroethene in the ground water ranged from 7,600 μg/ℓ (ppb) in well MW-16 on-site near the contaminant source area, to 3,200 μg/ℓ (ppb) in well MW-46 along Irving Boulevard near the center of the contaminant plume, to less than 5 ppb at a distance of at least 1/2 mile from the Facility.

24. Analyses of samples collected from ten (10) monitoring wells in April 1996 have shown both organic and inorganic contaminants (Table 5). Contaminant concentrations are generally similar between the April 1996 and January 1996 sample analyses.

TABLE 5
SUMMARY OF ANALYTICAL RESULTS
FOR SAMPLES COLLECTED APRIL 1996

Well Number	CONTAMINANTS				
	Trichloroethene ($\mu g/\ell$)	1,1,1-Trichloroethane ($\mu g/\ell$)	1,1-Dichloroethene ($\mu g/\ell$)	Tetrachloroethylene ($\mu g/\ell$)	Chromium VI (mg/ℓ)
Upper Flow Zone Off-Site Monitoring Wells					
MW-37	606	< 10	25.4	<5.0	< 0.01
MW-48	350	< 1.0	7.0	<0.5	0.13
MW-53	100	< 1.0	1.1	<0.5	0.06
MW-57	< 0.3	< 1.0	< 0.2	<0.5	0.02
MW-58	270	< 1.0	3.4	<0.5	0.15
MW-61	1900	13	34	10	0.04
Upper Lower Flow Zone Off-Site Monitoring Wells					
MW-46	2300	96	220	24	0.19
MW-56	430	< 1.0	11	<0.5	0.26
Lower Lower Flow Zone On-Site Monitoring Wells					
MW-32	760	36	110	<5.0	< 0.01
Lower Lower Flow Zone Off-Site Monitoring Well					
MW-55	940	< 1.0	8.4	<0.5	0.930

25. For July 1996, the approximate boundary for trichloroethene in ground water is illustrated in Attachment 1. Attachment 1 was prepared by Respondent, and may not accurately reflect the plume boundary, because the existing monitoring system does not completely define the horizontal and vertical extent of the contamination.

26. Contaminants are present in the aquifer beneath the Facility to an approximate depth of 80 feet below the top of the water table. The existing monitoring system does not completely define the vertical extent of contamination beneath the Facility.

27. Approximately 1/3 mile northwest of the Facility, contaminants are present in the aquifer to an approximate depth of 70 feet below the top of the water table. Contamination was not detected at an approximate depth of 170 feet below the water table.

28. Ground water flows west-northwest away from the Facility. The contaminant plume has continued to move west-northwest at an approximate rate of 100 - 300 feet/year.

29. Trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethylene, and tetrachloroethylene are chlorinated organic compounds which are denser than water, and if present as a dense, nonaqueous phase liquid (DNAPL), would sink to the bottom of the water column.

30. DNAPLs remaining in the soil and ground water can persist as a significant source of ground water and soil vapor contamination.

31. Ground water containing chlorinated organic compounds at concentrations of 1% or more of effective solubility can indicate the possible presence of a DNAPL in the aquifer.

32. The effective solubility of trichloroethene in water is approximately 1,000,000 $\mu g/\ell$ (ppb) to 1,100,000 $\mu g/\ell$ (ppb). Trichloroethene concentrations of 1% of the effective solubility in water is 10,000 $\mu g/\ell$ (ppb) to 11,000 $\mu g/\ell$ (ppb).

33. Trichloroethene concentrations in the ground water beneath the Facility have been as high as 90,900 $\mu g/\ell$ (ppb), or 8% to 9% of the effective solubility of trichloroethene in water. While a DNAPL of trichloroethene has not been identified in the monitoring wells, past concentrations of trichloroethene indicate the possible presence of a DNAPL in the aquifer beneath the Facility.

34. Environmental fate and transport for some of the constituents previously identified in the ground water are set forth below:

A. Chemical transformation (abiotic) of trichloroethylene (TCE) is unlikely to occur, and would be an insignificant process for reducing contaminant concentrations. Aerobic biodegradation of TCE is also unlikely to occur and would be an insignificant process. Aerobic co-metabolism of TCE is possible but would require other chemicals such as phenol, methane, or toluene; such chemicals were not detected in ground water samples collected in January 1996 and April 1996 from wells present in the off-site contaminant plume originating from the Facility. Anaerobic biodegradation of TCE can produce 1,2-dichloroethylene and vinyl chloride (McCarty, 1996). Anaerobic conditions, or the by-products of anaerobic biodegradation, have not been identified in the aquifer.

B. 1,1,1-Trichloroethane (TCA) can be chemically transformed (abiotic) in ground water to 1,1-dichloroethene (DCE). Concentrations of 1,1-DCE in the contaminant plume originating from the Sparton site are a possible by-product of abiotic degradation of TCA. Aerobic biodegradation of TCA is unlikely to occur and would be an insignificant process for reducing contaminant concentrations (McCarty, 1996). Aerobic co-metabolism of TCA is possible but would require other chemicals such as phenol, methane, or toluene; such chemicals were not detected in ground water samples collected in January 1996 and April 1996 from wells present in the off-site contaminant plume originating from the Facility. Anaerobic biodegradation of TCA can produce 1,1-dichloroethane. Anaerobic conditions, or the by-products of anaerobic biodegradation, have not been identified in the aquifer.

C. Chemical transformation (abiotic) of 1,1-dichloroethylene (DCE) is unlikely to occur and would be an insignificant process for reducing contaminant concentrations. Aerobic biodegradation of DCE is unlikely to occur and would be an insignificant process for reducing contaminant concentrations. Aerobic co-metabolism of TCE is possible but would require other chemicals such as phenol, methane, or toluene; such chemicals were not detected in ground water samples collected in January 1996 and April 1996 from wells present in the off-site contaminant plume originating from the Sparton facility. Anaerobic biodegradation of DCE can produce vinyl chloride. Anaerobic conditions, or the by-products of anaerobic biodegradation, have not been identified in the aquifer.

D. Chemical transformation (abiotic) of tetrachloroethylene (PCE) is unlikely to occur and would be an insignificant process for reducing contaminant concentrations (McCarty, 1996). Aerobic biodegradation of PCE is unlikely to occur and would be an insignificant process for reducing contaminant concentrations. Aerobic co-metabolism of PCE is possible but would require other chemicals such as phenol, methane, or toluene; such chemicals were not detected in ground water samples collected in January 1996 and April 1996 from wells present in the off-site contaminant plume originating from the Sparton facility. Anaerobic biodegradation of DCE can produce vinyl chloride. Anaerobic conditions, or the by-products of anaerobic biodegradation, have not been identified in the aquifer.

E. Natural reductants in an aquifer can transform Chromium VI to Chromium III. Natural reductants (abiotic reduction) include aqueous ferrous iron (Fe II) in the ground water, ferrous iron minerals in the aquifer material (sands, gravels, etc.), and soil organic matter. Aerobic and

anaerobic reduction of Chromium VI to Chromium III is also possible. To demonstrate that this process is active at the site, it must be demonstrated that 1) there are natural reductants present within the aquifer, 2) the amount of Chromium VI and other reactive constituents does not exceed the capacity of the aquifer to reduce them, 3) the rate of Chromium VI reduction is greater than the rate of transport of the aqueous Chromium VI from the site, 4) the Chromium III remains immobile and 5) there is no net oxidation of Chromium III to Chromium VI. These criteria require additional tests and interpretation which are not currently available at the Sparton site.

35. The lower valley of the Arroyo de las Calabacillas, located approximately 1/4 mile north of the plume, is a critical recharge reach with significant potential for ground water recharge to aquifer(s) in the Santa Fe Group.

36. The ground water contaminant plume originating from the Facility is in an aquifer(s) in the Santa Fe Group in the Albuquerque Basin. This aquifer(s) contains sufficient quantities of ground water to supply a public water system, and contains less than 10,000 milligrams per liter (mg/ℓ) total dissolved solids.

37. A public water system well, New Mexico Utilities Well No. 2, withdraws ground water from an aquifer(s) in the Santa Fe Group. The New Mexico Utilities Well No. 2 is approximately two (2) miles downgradient from the leading edge of the ground water contaminant plume originating from the Facility.

38. The City of Albuquerque depends entirely on ground water drawn from aquifers in the Santa Fe Group as the sole source of drinking water.

39. Maximum Contaminant Levels (MCLs), established by EPA regulations promulgated under the SDWA, are the maximum allowable

concentrations of a specific contaminant in water supplied by public water systems. The MCLs are codified at 40 C.F.R. Part 141. Table 6 lists the ground water contaminants identified in Tables 3 - 5 and the corresponding MCL.

TABLE 6 MAXIMUM CONTAMINANT LEVELS (MCLs)	
Contaminant	**MCL** **$\mu g/\ell$ (ppb)**
Trichloroethene	5
1,1,1-Trichloroethane	200
Methylene Chloride -or- Dichloromethane	5
1,1-Dichloroethylene	7
Tetrachloroethylene	5
Benzene	5
Toluene	1000
Chromium (total)	100

40. The ground water contaminant concentrations identified in Tables 3 - 5, exceed the corresponding MCLs identified in Table 6.

41. The New Mexico Water Quality Control Commission (WQCC) regulations establish the maximum allowable concentration of contaminants in ground water. The maximum allowable concentrations are codified at 20 NMAC 6.2, Section 3103. Table 7 lists the ground water contaminants identified in Tables 3 - 5 and the corresponding standard for each contaminant.

TABLE 7 MAXIMUM ALLOWABLE CONCENTRATION	
Contaminant	WQCC $\mu g/\ell$ (ppb)
Trichloroethene	100
1,1,1-Trichloroethane	60
Methylene Chloride	100
1,1-Dichloroethylene	5
Tetrachloroethylene	20
Benzene	10
Toluene	750
Chromium (total)	50

42. The ground water contaminant concentrations identified in Tables 3 - 5, exceed the corresponding standards for maximum allowable concentrations in ground water identified in Table 7.

43. The constituents identified above include known and probable carcinogens. Health effects for the following constituents are set forth below:

A. Trichloroethylene (TCE) has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. EPA has set forth the enforceable drinking water standard for trichlorethylene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals [40 C.F.R. § 141.32(e)(1)].

Under the Safe Drinking Water Act (SDWA), EPA has classified TCE as a Group B2 (probable) carcinogen. The Integrated Risk Information System (IRIS) lists the carcinogen assessment summary for TCE as withdrawn and under review. The Agency for Toxic Substances and Disease Registry (ATSDR) states that the International Agency for Research on Cancer

(IARC) has determined that TCE is not classifiable as to its carcinogenicity to humans.

Some harmful effects may persist following long-term exposure to TCE. This information is based largely on animal studies. These studies show that ingesting or breathing levels of TCE that are higher than typical background levels can produce nervous system changes and liver and kidney damage.

B. 1,1,1-Trichloroethane (TCA) has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system, and circulatory system. Chemicals which cause adverse effects among exposed industrial workers and in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for TCA at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects which have been observed in humans and laboratory animals [40 C.F.R. § 141.32(e)(8)].

IRIS lists TCA as a Group D (not classifiable as to human carcinogenicity) carcinogen. There are no reported human data and animal studies have not demonstrated carcinogenicity.

C. 1,1-Dichloroethylene (DCE) has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. EPA has set the enforceable drinking water standard for DCE at 0.007 parts per million (ppm) to reduce the risk of these adverse health effects which have been observed in laboratory animals [40 C.F.R. § 141.32(e)(6)].

IRIS lists DCE as a Group C (possible) human carcinogen. DCE has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time.

D. Tetrachloroethylene (PCE) has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for PCE at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health which have been observed in laboratory animals [40 C.F.R. § 141.32(e)(48)].

IRIS lists the carcinogen classification of PCE as under review. A final decision on whether PCE should be classified as a Class B2 (probable) or Class C (possible) has not yet been made.

PCE has also been shown to damage the liver and kidney of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time.

E. Chromium has been shown to damage the kidney, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels. Some humans who were exposed to high levels of chromium suffered liver and kidney damage, dermatitis, and respiratory problems. EPA has set the drinking water standard for chromium at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects [40 C.F.R. § 141.32(e)(18)].

IRIS lists Chromium VI as a Group A (known human) carcinogen.

44. EPA has consulted with the New Mexico Environment Department, the City of Albuquerque, the County of Bernalillo, and the New Mexico Natural Resource Trustee to confirm the correctness of the aforementioned information, and to ascertain the actions such authorities are or will be taking in regard to the contamination from the Facility.

45. In response to the previous enforcement action by EPA under the RCRA § 3008(h) Administrative Order on Consent dated October 1, 1988, no governmental action has been taken by State or local agencies to date to protect the health of persons from contaminants that are likely to be present in a underground source of drinking water.

V.

CONCLUSIONS OF LAW AND DETERMINATIONS

46. Respondent is a "person" as that term is defined by Section 1004(15) of RCRA, 42 U.S.C. § 6903(15), and Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).

47. Respondent's facility located at 9621 Coors Road NW, Albuquerque, New Mexico 87114 is a "facility" as that term is defined by 40 C.F.R. § 260.10.

48. Respondent is the "owner" and "operator" of the Sparton Technology Coors Road facility, as those terms are defined by 40 C.F.R. § 260.10.

49. The constituents identified in Findings of Fact above are "solid wastes" as that term is defined by Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), and 40 C.F.R. §§ 260.10 and 261.2, and "hazardous waste" as that term is defined by Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), and 40 C.F.R. §§ 260.10 and 261.3.

50. Respondent is a past or present "generator" of hazardous waste as that term is defined by 40 C.F.R. §§ 260.10.

51. Solid wastes and hazardous wastes have been and/or are presently being handled, stored, or disposed of by the Respondent at the Facility.

52. Solid wastes and hazardous wastes are present in the soil beneath the Facility, are present in an aquifer(s) in the Santa Fe Group for a distance of approximately 1/2 mile from the Facility, and are likely to enter other areas of the Santa Fe Group aquifer system.

53. The constituents identified in the Findings of Fact above are "contaminants" as that term is defined by Section 1401(6) of the SDWA, 42 U.S.C. § 300f(6).

54. The aquifer(s) in the Santa Fe Group is an "underground source of drinking water" (USDW), as that term is defined by 40 C.F.R. §§ 144.3 and 146.3.

55. The Santa Fe Group aquifer system supplies a "public water system(s)" as that term is defined by Section 1401(4) of the SDWA, 42 U.S.C. § 300f(4).

56. The contaminants identified in the Findings of Fact above are present in, or likely to enter a "public water system", or an "underground source of drinking water".

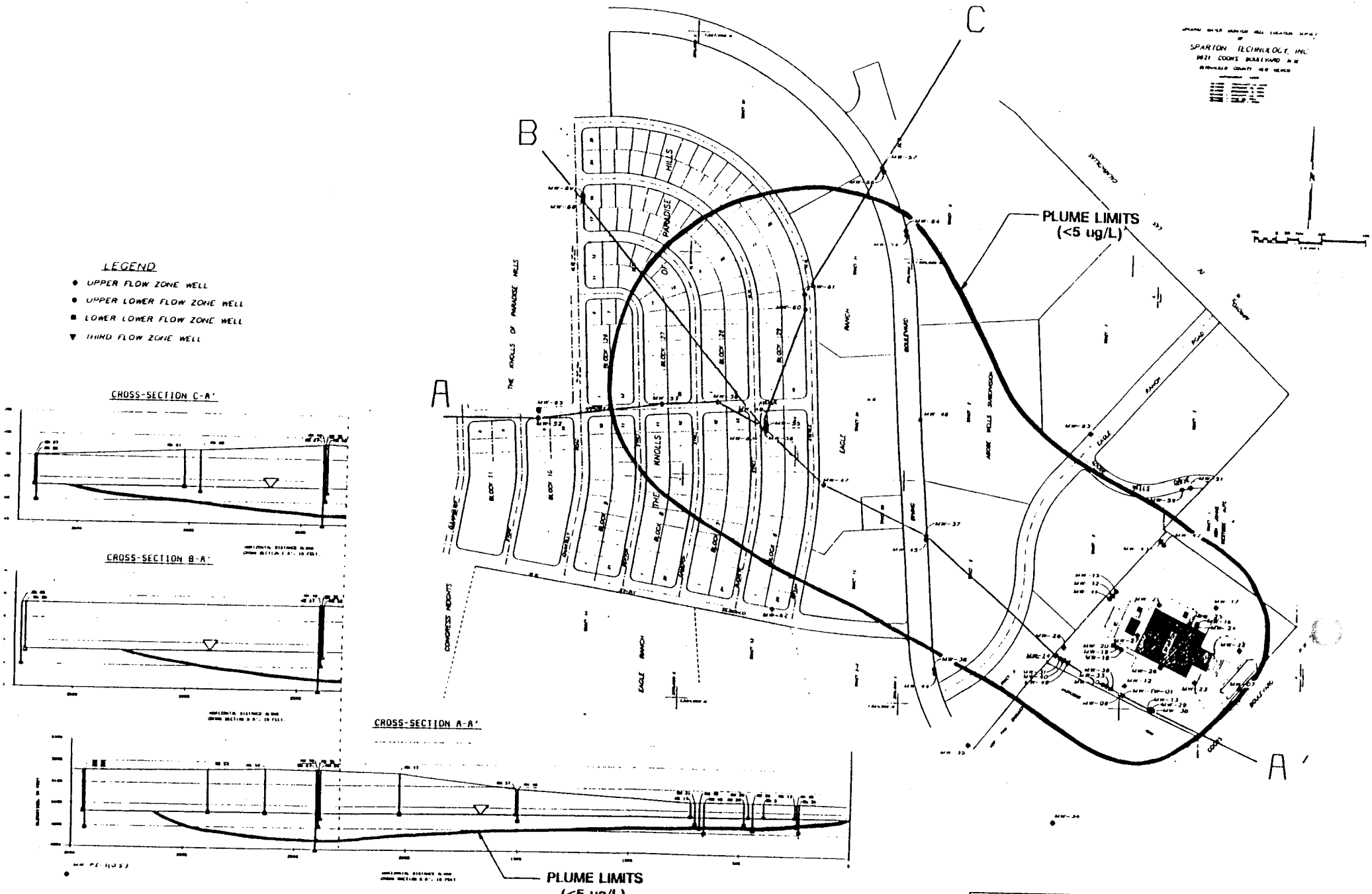
57. The contaminants identified in the Findings of Fact above may present an imminent and substantial endangerment to the health of persons pursuant to Section 1431 of the SDWA, 42 U.S.C. §300i.

58. The past or present handling, storage, and disposal of solid waste and hazardous waste by the Respondent may present an imminent and substantial endangerment to human health or the environment pursuant to Section 7003 of RCRA, 42 U.S.C. § 6973.

Dated: 2-14-97 By: [signature]

for Samuel Coleman, P.E., Director
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

ATTACHMENT 1



DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP

DESIGNED
DETAILED
CHECKED
APPROVED
DATE

Black & Veatch
Dallas, Texas

PROJECT NO.
26602

JULY 1996 PLUME LIMITS

SPARTON TECHNOLOGY, INC.
COORS ROAD FACILITY
ALBUQUERQUE, NEW MEXICO

SHEET
OF