Versar INC.

EPA Region 5 Records Ctr.
256716

21 July '99

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Michael McAteer
USEPA, HSEW-6J
77 West Jackson Blvd.
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Re: **Enviro-Chem RRA Zionsville Indiana**
Hot Spot # 1 and 2 Sampling Data Summary

Sent Via Fax

Dear Sirs:

As per your request, Versar encloses a summary of data on Hot Spots # 1 and 2. Please note that laboratory problems invalidate the December 30th, 1998 results because the data was grossly outside QA/QC parameters and subsequent redilutions where taken from sample bottles which had headspace in them. The February 5th, 1999 data, although valid, had detection limits which where higher than Revised Exhibit A evaluation standard for 17 analytes due to the high concentrations of several analytes.

If you have any questions, please feel free to call me at (215) 788-7844, Extension 222

Very truly yours,

G J Anastos

G. J. Anastos, Ph.D., P.E.
Project Manager

cc: R. Ball (ENVIRON)
N. Bernstein (NWB & A)
T. Harrison (CH2M Hill)

J:\Common\Envchem\hotsptSum.wpd

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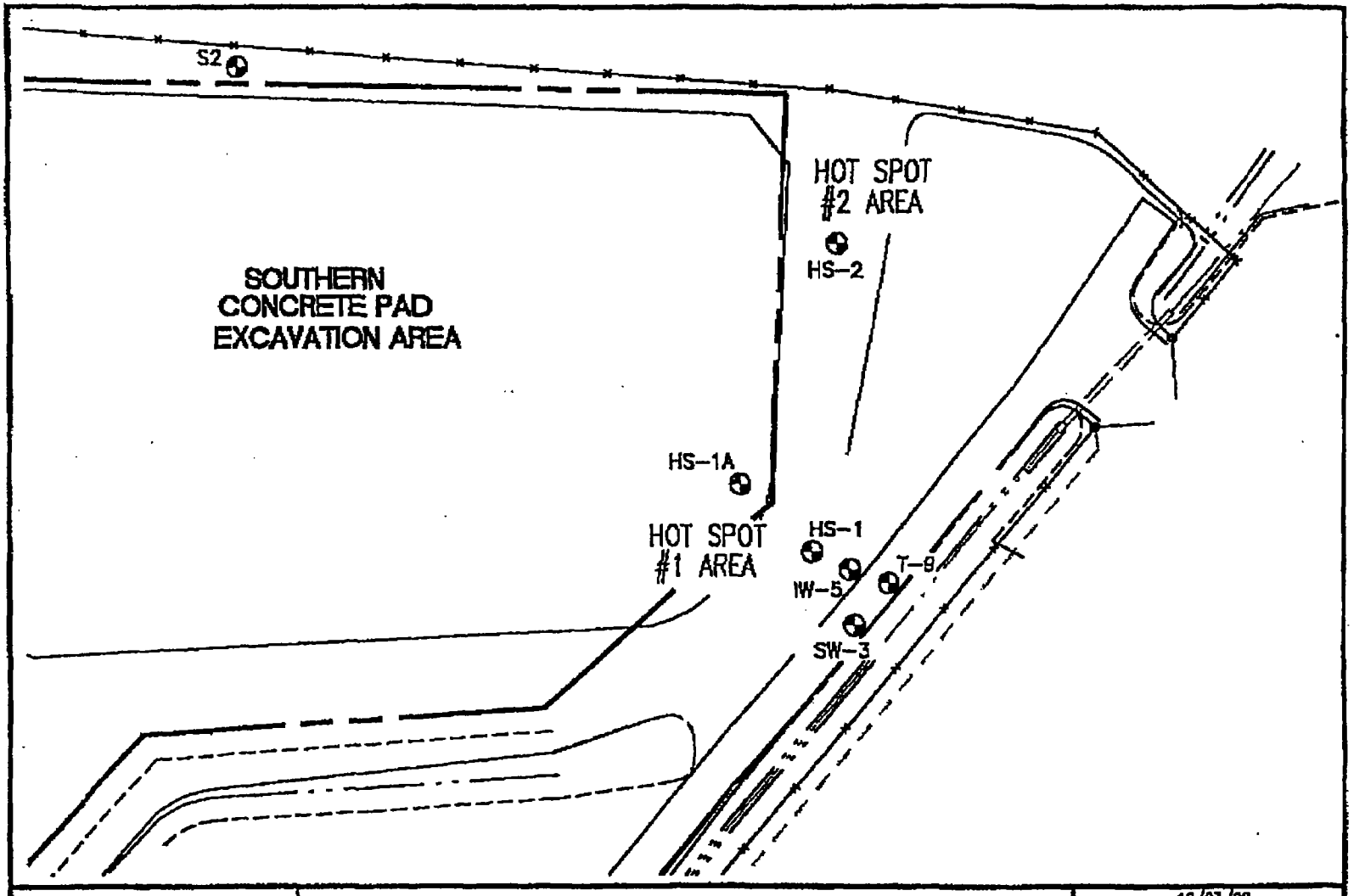

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ENVIROCHEM

FIGURE 1 - WELL LOCATION MAP

ZIONSVILLE, INDIANA

DATE:	12/03/98
DESIGNED BY:	T. WILLANS
SCALE:	NOT TO SCALE
JOB NO.:	3708.001
DWG. NO.:	9812100

Table 1: Pre and Post Fenton Reagent Injection Groundwater Sampling Results, Hot Spot Areas, Enviro-Chem, Zionville, Indiana

Location	Analytes of Concern (all data in ppb)	Apr. 24, 1998 (Before 1st HS-1/HS-1A Injection)	May 6, 1998 (After 3rd HS-1/HS-1A Injection)	May 14, 1998 (Before 2nd HS-1/HS-1A Injection)	May 28, 1998 (After 2nd HS-1/HS-1A Injection)	Nov. 10, 1998 (HS-2 Pump Test - Purge Water 1st 4,000 gals)	Nov. 13, 1998 (HS-2 Pump Test - Purge Water 1st 15,000 gals)	Dec. 14, 1998 (Before 3rd HS-1/1A & 1st HS-2 Injection)	Dec. 30, 1998 (After 3rd HS-1/1A & 1st HS-2 Injection)	Feb. 5, 1999 (After 3rd HS-1/1A & 1st HS-2 Injection)	Cleanup Criteria Table 3-1 (ppb)
Well HS-1	1,1 Dichloroethene	1,780	138	66.2	ND	NA	NA	38,000	<100	<2,000	7.0
	1,2-Dichloroethene	39.9	830	892	1,800	NA	NA	110	<100	18,000	70
	Ethylbenzene	344	ND	ND	ND	NA	NA	58	<100	<2,000	680
	Methylene chloride	3,180	713	746	B	NA	NA	12,000	170	6,000	4.7
	Tetrachloroethene	41.5	3.1	ND	ND	NA	NA	6.2	<100	<2,000	0.69
	Toluene	2,760	97.8	106	280	NA	NA	550	<100	<2,000	2,000
	1,1,1-Trichloroethane	33,100	2,240	3,262	6,000	NA	NA	13,000	36	9,100	200
	1,1,2-Trichloroethane	118	11.8	13.2	ND	NA	NA	130	<100	<2,000	0.61
	Trichloroethene	29,400	1,540	4,300	10,000	NA	NA	1,100	<100	3,900	5.0
	Vinyl chloride	79.6	37.9	13.5	ND	NA	NA	150	<40	<800	2.0
Well HS-1A	1,1 Dichloroethene	51.3	12.7	ND	ND	NA	NA	<400	<10,000	<400	7.0
	1,2-Dichloroethene	26.3	667	390	18,000	NA	NA	8,300	8,000	10,000	70
	Ethylbenzene	ND	ND	ND	ND	NA	NA	64	<10,000	<400	680
	Methylene chloride	211	187	87.3	B	NA	NA	910	<20,000	<800	4.7
	Tetrachloroethene	ND	1.3	ND	ND	NA	NA	28	<10,000	<400	0.69
	Toluene	16.4	4.1	ND	1,700	NA	NA	<400	<10,000	<400	2,000
	1,1,1-Trichloroethane	2,690	768	385	19,000	NA	NA	2,200	3,600	24,000	200
	1,1,2-Trichloroethane	10.4	11.7	ND	ND	NA	NA	<400	<10,000	<400	0.61
	Trichloroethene	414	62.2	27.8	1,400	NA	NA	250	<10,000	3,300	5.0
	Vinyl chloride	ND	13.4	31.1	4,800	NA	NA	<160	<4,000	<160	2.0
Well HS-2	1,1 Dichloroethene	NA	NA	NA	NA	33	54	NA	<400	4.9	7.0
	1,2-Dichloroethene	NA	NA	NA	NA	4,130	4,480	NA	<400	* 781	70
	Ethylbenzene	NA	NA	NA	NA	120	110	NA	<400	30	680
	Methylene chloride	NA	NA	NA	NA	<10	110	NA	<800	* 27	4.7
	Tetrachloroethene	NA	NA	NA	NA	6.0	8.8	NA	<400	<5.0	0.69
	Toluene	NA	NA	NA	NA	1,600	<5.0	NA	<400	99	2,000
	1,1,1-Trichloroethane	NA	NA	NA	NA	310	1,000	NA	<400	93	200
	1,1,2-Trichloroethane	NA	NA	NA	NA	<5.0	<5.0	NA	<400	<5.0	0.61
	Trichloroethene	NA	NA	NA	NA	<5.0	<5.0	NA	<400	<5.0	5.0
	Vinyl chloride	NA	NA	NA	NA	780	1,700	NA	<160	<2.0	2.0

HS-1 HS-1A HS-2 ?

[1] December 30, 1998 data are invalid because QA/QC indicators were exceeded. Furthermore, dilutions were made from samples with headspace, so results are biased low.

[2] February 5, 1999 detection limits on 17 analytes exceeded applicable site cleanup criteria. The work was performed at the laboratory's expense.

ppb = parts per billion

NA = not applicable

ND = not detected

B = detected in laboratory blank

? = inconclusive due to high detection limits