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# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

## memorandum

TO: Mike Brandt, HSE-5, MS-K494

DATE: July 21, 1989

THRU: Ken Hargis, HSE-8, MS-K490

MAIL STOP/TELEPHONE: K490/5-1712

FROM: Stephen McLin, HSE-8

*symchin*

SYMBOL: HSE8-89-439

SUBJECT: TA-35 TSL-125 SURFACE IMPOUNDMENT REMOVAL

Recently, HSE-8 personnel collected 12 soil samples below the liner at the TSL-125 surface impoundment for laboratory analyses. A summary of volatile organic compounds (VOCs) that were detected in these samples is enclosed. Analytical results indicate that several VOCs were at very high concentrations. All of these samples also showed polychlorinated biphenyls (PCB) compounds below detection levels (i.e., <0.1 ug/g). This impoundment is scheduled for removal during the period of August 21-September 18, 1989.

What suggestions would you have with regard to worker clothing protection? Should workers wear protective masks, and if so, what type?

Pan Am work crews have been using tivex protective coveralls, boots, and gloves up to this point. I have asked Joe Fitzgibbons (PAA-CA1D) to halt all work directly related to impoundment removal operations until we hear from you.

I would request that you complete your analysis before August 21, 1989. I would also like to request that someone from HSE-5 check the impoundment bottom sometime next week using portable measuring instruments to check for detectable compounds that could pose a health risk to Pan Am workers. Your assistance is greatly appreciated. If you have any questions, please call me at 5-1721.

KH:SM:skj

Enclosure: a/s

- Cy: C. Dyke, CLS-DO, MS-J563
- J. White, HSE-8, MS-K490
- D. Whitcomb, CLS-7, MS-E525
- M. Alexander, PAA-PENV, MS-A199
- J. Fitzgibbons, PAA-CA1D, MS-A199
- CRM-4 (2), MS-A150

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	Component	Conc. (ug/Kg)	LOQ
89.13344	Acetone	490	20
	Carbon Disulfide	570	20
	1,1,1-Trichloroethane	170	100
	2-Hexanone	250	200
	1,1,2-Trichloro-1,2,2-Trifluoroethane	T	NQ
	2-Heptanone	T	NQ
	2-Heptanone, 6-methyl	T	NQ
89.13345	2-Butanone	45	10
	1,1,1-Trichloroethane	20	10
	Tetrahydrofuran	T	NQ
	2-Heptanone, 6-methyl	T	NQ
89.13346	None Detected		
89.13347	Acetone	120	10
	Carbon Disulfide	270	2
	1,1,1-Trichloroethane	140	10
	1,1,2-Trichloro-1,2,2-Trifluoroethane	T	NQ
	2-Heptanone, 6-methyl	T	NQ
	2-Heptanone NO SKIN	T	NQ
89.13348	1,1,1-Trichloroethane	15	10
89.13349	Carbon Disulfide	89	2
	2-Butanone	120	10
	1,1,1-Trichloroethane	23	10
	2-Hexanone	38	20
89.13350	Acetone	1,500	2
	2-Butanone (MEK) 200 ppm	1,500	10
	1,1,1-Trichloroethane	63	10
	4-Methyl-2-Pentanone	48	10
	2-Hexanone	240	20
	Tetrachloroethene	8.8	2
	2-Heptanone	T	NQ
	2-Heptanone, 6-methyl	T	NQ
	2-Hexanone	T	NQ
	2-Nonanone	T	NQ
89.13351	1,1,1-Trichloroethane	17	10

LOQ = Limit of Quantitation  
T = Tentative Identification  
NQ = Not Quantified

All tentative identifications are based solely upon spectral comparison of the sample spectrum to a library search matched spectra. The tentatively identified components are NOT compared to actual standards of the identified components. Therefore, these identifications are only tentative. Misidentifications are possible with this technique.

OC Summary:

Sample #89.13376 and #89.13377 were received from Marybeth Phillips and analyzed with the soil samples in this request group. The results are as follows:

Component *****	Conc. Added,ug/kg *****	Recovery,ug/kg (%) *****
		89.13377
<del>1 Carbon Tetrachloride - skin</del>	<del>150</del>	<del>46.5 (31%)</del>
<del>2 1,3-Dichloropropane - No skin</del>	<del>130</del>	<del>138 (106%)</del>
<del>3 Chlorodibromomethane - No skin</del>	<del>140</del>	<del>138 (99%)</del>
<del>4 Bromoform - skin</del>	<del>150</del>	<del>255 (170%)</del>
<del>5 Toluene - No skin</del>	<del>170</del>	<del>164 (96%)</del>
<del>6 2-Hexanone</del>	<del>140</del>	<del>261 (186%)</del>
<del>7 1,1,2,2-Tetrachloroethane - skin</del>	<del>150</del>	<del>14 (9%)</del>
8 4-Chlorotoluene - No skin	170	300 (177%)

TWA  
C = 25

10 ppm zero peak

15 ppm

1 ppm

Sample #89.13376 did not purge/desorb properly. Therefore, there is no recovery data available for this sample.

Sample #89.13339 (Request #89.7851) was used as the matrix spike media by adding 10ul of the Matrix Spike Mix to 2 separate 5.0 gram sample aliquots. These served as the matrix spike and matrix spike duplicate. The results are listed in the summary report for Request #89.7851. Please refer to either the request folder or C. Rzeszutko's logbook (#R7526 p. 109) for a copy of this report.

July 11, 1989

Summary for Request 89.7773

The following soil samples were analyzed for Volatile Organic Components (VOC's) using a modified EPA 524.2 Heated Purge & Trap (P/T) GC/MS method of analysis:

- 89.13340
- 89.13341
- 89.13342
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- 89.13347
- 89.13348
- 89.13349
- 89.13350
- 89.13351

The samples were prepared by weighing-out approximately 5.0 gram aliquots of each sample into separate 5 ml VOA purge tubes. 5.0 mls of deionized water containing 10 ul of the ISM/PSS mixture was added to each VOA tube containing a sample, mixed with a glass stirring rod and connected to the P/T device for analysis.

Results:

	Components	PEL	Conc. (ug/Kg)	LCC
89.13340	<i>no skin</i> 1,1-Dichloroethene	100 ppm	160	20
	<i>skin</i> Carbon Disulfide	200 ppm C-30 ppm (100 ppm)	2,200	20
	<i>no skin</i> 1,1,1-Trichloroethane	350 450- STEL	13,000	100
	<i>no skin</i> Tetrachloroethene	350 5-	1,800	20
	<i>no</i> 1,1,2-Trichloro-1,2,2-Trifluoroethane	1000 / STEL : 1250	T	NQ
89.13341	<i>skin</i> 1,1-Dichloroethene		32	20
	Carbon Disulfide		880	20
	1,1,1-Trichloroethane		4,200	100
	Tetrachloroethene		1,100	20
	1,1,2-Trichloro-1,2,2-Trifluoroethane		T	NQ
89.13342	1,1-Dichloroethene		1,200	20
	Carbon Disulfide		640	20
	1,1,1-Trichloroethane		71,000	100
	1,1,2-Trichloro-1,2,2-Trifluoroethane		T	NQ
89.13343	Carbon Disulfide		840	20
	1,1,1-Trichloroethane		1,000	100
	1,1,2-Trichloro-1,2,2-Trifluoroethane		T	NQ
	Tetrahydrofuran		T	NQ
	1-Hexanol, 2-ethyl		T	NQ