Geology / Engineering Geology / Environmental Studies

HOEXTER CONSULTING, INC.
DAVID F. HOEXTER, RG/CEG/REA

734 Torreya Court
Palo Alto, California 94303

(650) 494-2505 (ph & fax)

what about valuation for GW to dermal + inhalation instead of GW ingestion?

January 21, 1998

E-10-1B-192B
HCProjLtr:Seminary RBCAadd

Ms. Eva Chu, Hazardous Materials Specialist
Alameda County Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: **ADDENDUM TO ASTM RBCA TIER TWO EVALUATION**
STID 553 - FORMER GRIMIT AUTO AND REPAIR
1970 SEMINARY AVENUE
OAKLAND, CALIFORNIA

Dear Ms. Chu:

INTRODUCTION

This addendum follows our recent telephone conversation, and pertains to our RBCA Tier Two Evaluation report issued December 18, 1997. You have requested that we compare average soil and ground water contaminant levels from the site with the previously calculated ASTM Tier Two evaluation site specific target values (SSTLs). Specifically, you recommended we average the last four ground water sampling rounds for the applicable wells, and average shallow (less than approximately eight feet) soil values. In addition, you asked whether naturally occurring biodegradation had been considered in the evaluation.

EVALUATION

This letter provides the supplemental evaluation, as requested. As there is relatively little soil data from less than eight feet depth, we have included samples to a depth of approximately twelve feet. In addition, we have averaged the last four ground water sampling rounds from the most applicable individual monitoring well, as opposed to selecting an average from two or three wells, which you suggested. In particular, the most applicable individual wells are situated in near proximity to the receptors, such as on-site workers and adjacent off site residences. In our opinion, use of the most applicable well represents a more accurate assessment of the contaminant source and its on and off-site impact.

OK

which wells

DISCUSSION

The revised comparison data are presented on the enclosed Table 5 (revised). The revision has resulted in the elimination of several categories and compounds of concern, particularly soil contamination as it relates to soil gas migration. However, SSTLs continue to be exceeded, primarily for ground water source data. In particular, SSTLs for residential ground water source gas migration and for ground water ingestion continue to be exceeded.

is this a valid exposure pathway

BIODEGRADATION

The "Tier Two RBCA Tool Kit" published by Groundwater Services, Inc. (GSI), which was utilized for our evaluation, utilizes a ground water transport model which incorporates a direct simulation of in-situ biodegradation processes. The evaluation uses the Domenico solute transport model, which incorporates an electron acceptor superposition algorithm.

CONCLUSIONS

We conclude from this addendum evaluation that contaminant levels at the site continue to significantly exceed the respective Tier Two risk based screening levels. Therefore, we recommend initiation of site remediation, as previously recommended.

CLOSING

If you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

HOEXTER CONSULTING, INC.

D. F. Hoexter

David F. Hoexter, RG/CEG/REA
Principal Geologist

REGISTERED GEOLOGIST
DAVID F. HOEXTER
0711
exp 11/30/99
No. 1158
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Enclosure: Table 5 (revised): Tier II Site Specific Target Levels

1.0 ↓ from MW-6

TABLE 5 (REVISED)
TIER II SITE SPECIFIC TARGET LEVELS

10⁻⁵ risk

Constituent	ON-SITE										OFF-SITE				
	Representative Concentrations (PPM)		Soil Threshold Values for Ground Water Protection (Soil Data PPM)		Threshold Values for Ground Water Ingestion (GW Data PPM)		Threshold Values for Prevention of Soil Gas Migration (indoor) (Soil Data PPM)		Threshold Values for Prevention of Ground Water Gas Migration (indoor) (GW Data PPM)		Representative Concentrations (PPM)		Soil Threshold Values for Ground Water Protection (Soil Data PPM)	Threshold Values for Ground Water Ingestion (GW Data PPM)	Threshold Values for Prevention of Ground Water Gas Migration (indoor)(GW Data PPM)
	soil	gw	commercial (data set A)	residential (data set B)	commercial (data set A)	residential (data set B)	commercial (data set A)	residential (data set B)	commercial (data set A)	residential (data set B)	soil	gw	residential (data set C)	residential (data set C)	residential (data set C)
Benzene	0.064	2.675	7.25*	2.12*	**0.029***	**0.008***	0.46*	0.18*	**0.55***	**0.18***	0.064	1.0	2.12*	**0.008***	**0.18***
Chloroethane			5300	1900	41	15	4700	2200	4300	1700			1900	15	1700
1,2-DCB	0.055	0.021	>Res	>Res	9.2	3.3	6000	2300	>Sol	75	0.055	0.003	>Res	3.3	75
1,4-DCB			1500	450	0.12	0.035	220	70	6.4	2.1			450	0.035	2.1
1,1-DCA			3800	1400	10	3.7	230	110	180	71			1400	3.7	71
1,2-DCA	ND	0.013	11	3.4	0.031	**0.00943**	1.5	0.47	1.5	0.47	ND	0.0028	3.4	0.00943	0.47
Cis-1,2-DCE	0.031	0.035	190	68	1.0	0.37	16	7.6	8.3	3.2	0.031	0.04	68	0.37	3.2
Trans-1,2-DCE	ND	0.097	400	140	2.0	0.73	33	15	44	17	ND	0.0018	140	0.73	17
Ethylbenzene	1.06	1.55	>Res	>Res	10	3.7	>Res	220	>Sol	>Sol	1.06	0.512	>Res	3.7	>Sol
MTBE	ND	0.4	47	17	0.51	**0.18**	2800	1100	7700	3000	ND	0.125	17	0.18	3000
Napthalene	ND	1.5	>Res	>Res	**0.41**	**0.15**	590	230	26	9.9	ND	1.5	>Res	**0.15**	99
Phenanthrene	ND	0.012	>Res	>Res	0.41	0.15	>Res	>Res	>Sol	>Sol	ND	0.006	>Res	0.15	>Sol
Tetrachlorethene	1.5	0.06	43000	13000	**0.055**	**0.016**	8400	2700	14	4.5	1.5	0.063	13000	**0.016**	4.5
Toluene	1.6	3.7	>Res	>Res	20	7.3	290	110	230	90	1.6	0.173	>Res	7.3	90
1,1,1-TCA			>Res	5500	9.2	3.3	590	230	370	140			5500	3.3	140
1,1,2-TCA			1.4	0.42	0.05	0.015	0.8	0.31	4.3	1.4			0.42	0.015	1.4
Trichloroethene	0.11	0.111	36	11	0.26	**0.077**	7.6	3.0	3.0	0.96	0.11	0.063	11	0.077	0.96
Vinyl Chloride	ND	0.061	0.14	0.043	**0.0015**	**0.00045**	0.15	**0.059**	**0.029**	**0.0092**	ND	0.016	0.043	**0.00045**	**0.0092**
Xylenes				>Res	>Sol	73	>Res	>Res	>Sol	>Sol	2.17	0.462	>Res	73	>Sol

* Calculat[...] 9 in accordance with RWQCB Guidelines.
SSTL's in [...] d water concentrations.

2.675 from MW 4 + 1 to for MW-1 + MW-7

0.061 MW 4 + 1 instead to 1+7

not an exposure pathway

how is this exceeded?

not an exposure pathway