G-K C... 2- GRCC 92

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

July 22, 1992

Approved & Accepted

Steve Alexander
Hazardous & Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502-6110

Re: Land Treatment Area Sampling Proposal

Dear Mr. Alexander:

As a result of analytical data indicating constituents present in the "Below Treatment Zone" (BTZ) interval at two sampling points and in two lysimeter points in the Land Treatment Area (LTA) at Giant Refining Company's (GRC) Ciniza Refinery, concern was raised that potentially hazardous constituents had migrated below the five foot "Treatment Zone".

Specifically, and as submitted to the Hazardous and Radioactive Materials Bureau (HRMB) in tabulated form on March 4, 1992, the locations and constituents found were:

October 10, 1990	LTA-27-BTZ*	570 ppb	m & p - Cresol (s)
October 10, 1990	Lysimeter #1	40 ppb	Acetone
		28 ppb	~~Carbon Disulfide~~ 2-Butanone
		23 ppb	Carbon ~~Tetrachlor~~ide Disulfide
	Lysimeter #2	24 ppb	Acetone
		75 ppb	Carbon ~~Disulfide~~ 2-Butanone
		9.8 ppb	1-1-1, Trichloroethane
October 17, 1991	LTA-42-BTZ*	1.4 ppm	m & p - Cresol (S)

During the April 16, 1992 meeting between GRC and HRMB, HRMB stated a need to further characterize the potential migration of hazardous constituents. GRC agreed and proposed to submit a sampling plan that would adequately address the issue. GRC also stated that it was believed that the "Hits" on the listed constituents were due to improper sampling procedures and from cross-contamination. Using correct sampling procedures, GRC has taken samples of the "BTZ" and have shown no constituents present (4-14-92).

In a letter dated April 24, 1992, HRMB submitted to GRC a schedule of compliance with the statement that GRC could either

* SEE ATTACHED DRAWING (IN FILE)

submit this schedule of compliance or a proposal that GRC believed to be adequate.

GRC has completed several requirements of Item #1 and Item #2 of the HRMB proposal. These include:

1) Detailed survey work by the firm of Sterling and Mataya to include the original surface elevation of the LTA, the current surface elevation of the LTA, and 42 sample points within cells 1 & 2 of the LTA.

2) Certification that no waste has ever been applied to the background plot of the LTA.

3) Certification that only non-hazardous waste has been applied to Cell #3 of the LTA.

4) A meeting with Susan Wyatt, Technical Manager of Enseco-Rocky Mountain Analytical Laboratory (RMAL), on June 4, 1992. RMAL did the original analysis on the samples from the LTA (soil and water).

   Discussed in that meeting was RMAL's opinion that the "Hits" found were due to cross-contamination. Their QA/QC indicated no lab blank contamination. Also discussed was their input on QA/QC, MDL's, and PQL's for a detailed sampling project.

5) A meeting with Dave McWharter and Linda Benker, Technical Representatives of Core Labs. Discussed were QA/QC MDL's, and PQL's of a detailed sampling project.

RMAL provided GRC with a list of Method Detection Limits (MDL) that are specific to their lab, a list of Practical Quantitation Limits (PQL) from SW-846, and a list of RMAL instrument linear level and Enseco Reporting Limits for comparison with MDL's. These lists were submitted to HRMB by GRC on June 11, 1992.

Information received from other laboratory professionals supports RMAL and their reporting limits. It is believed that below the PQL level, it is difficult to differentiate the "peaks" or "spikes" from a GC/MS readout between constituent or background noise and therefore is equally difficult or impossible to quantify an individual constituent. RMAL Enseco Reporting Limits (ERL) and Practical Quantitation Limits (PQL) are the lowest limits that RMAL is reasonably confident of quantification of an individual constituent.

Based on the information supplied to GRC by these laboratory professionals, GRC feels that reporting data above the MDL's, yet below the PQL's may be incorrect due to the potential inaccuracies of such data. However, GRC agrees to use RMAL's MDL's as detection limits for organics and metals for this specific project.

Although GRC had agreed, in principle, to the schedule of compliance issued by HRMB, with slight adjustments to the number of samples and in the time frame, the additional input from laboratory professionals indicates that it may be more appropriate to re-sample the locations showing constituents to verify contamination, or lack of contamination, in the BTZ interval of the LTA. This will satisfy the question of cross-contamination of previous sampling events. Based on new information, GRC now proposes the following sample protocol and schedule:

Item Number	Days to Completion	Action
1	0	Item numbers 1, 2, 3 of the schedule of compliance issued by HRMB are considered complete by GRC.
2	60	1) GRC will contract a non-affiliated

environmental consulting firm to sample two (2) soil samples adjacent to LTA-27-BTZ and two (2) soil samples adjacent to LTA-42-BTZ plus one (1) duplicate for QA/QC, and, using double deionized, double distilled reagent grade water, will backflush and recover the water from lysimeter Points #1 and #2 for analysis, plus one (1) water blank for QA/QC. GRC will also take two (2) soil samples adjacent to lysimeter Points #1 and two (2) soil samples adjacent to lysimeter point #2 plus one (1) duplicate for QA/QC. All soil samples will be verified to be 5-5½' below the original surface of the LTA using the elevations supplied by Sterling and Mataya. Samples will be analyzed for Appendix IX Organic Constituents, excluding furans and dioxanes, but including Acetone, and for Cadmium, Chrome and Lead.

2) QA/QC procedures will be those supplied by RMAL and are equivalent to Attachment C and U.S. EPA document "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846".

3) One trip blank, for volatiles, will be included (Method 8020-BTEX).

4) GRC will submit analytical reports to include:

a) All constituents identified above RMAL MDL.

b) All raw laboratory data sheets organized by sample numbers including duplicate and QA/QC samples. Data sheets will include all parameters listed in Item 2.1.

c) Summaries for each sample of any constituent identified above MDL.

d) Report will have all pages consecutively numbered and will include a comprehensive table of contents.

3	90	GRC will submit to HRMB statistical calculations and narrative conclusions on the comparison for metals between the background plot and the samples taken from the BTZ interval of the two (2) active cells of the LTA. Statistical comparisons will be made using Cochran's approximation to the Behrens-Fisher Student-T Test at the .05 level of confidence.

GRC will use the QA/QC program developed by RMAL for this project and certify that it meets or exceeds the QA/QC plan in the Attachment C and U.S. EPA document "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846".

GRC believes that this proposal will be adequate to demonstrate that the previous data, which showed constituents in the BTZ interval, was a false positive due to cross-contamination.

If you require any additional information, please contact me at (505) 722-0227.

Sincerely,

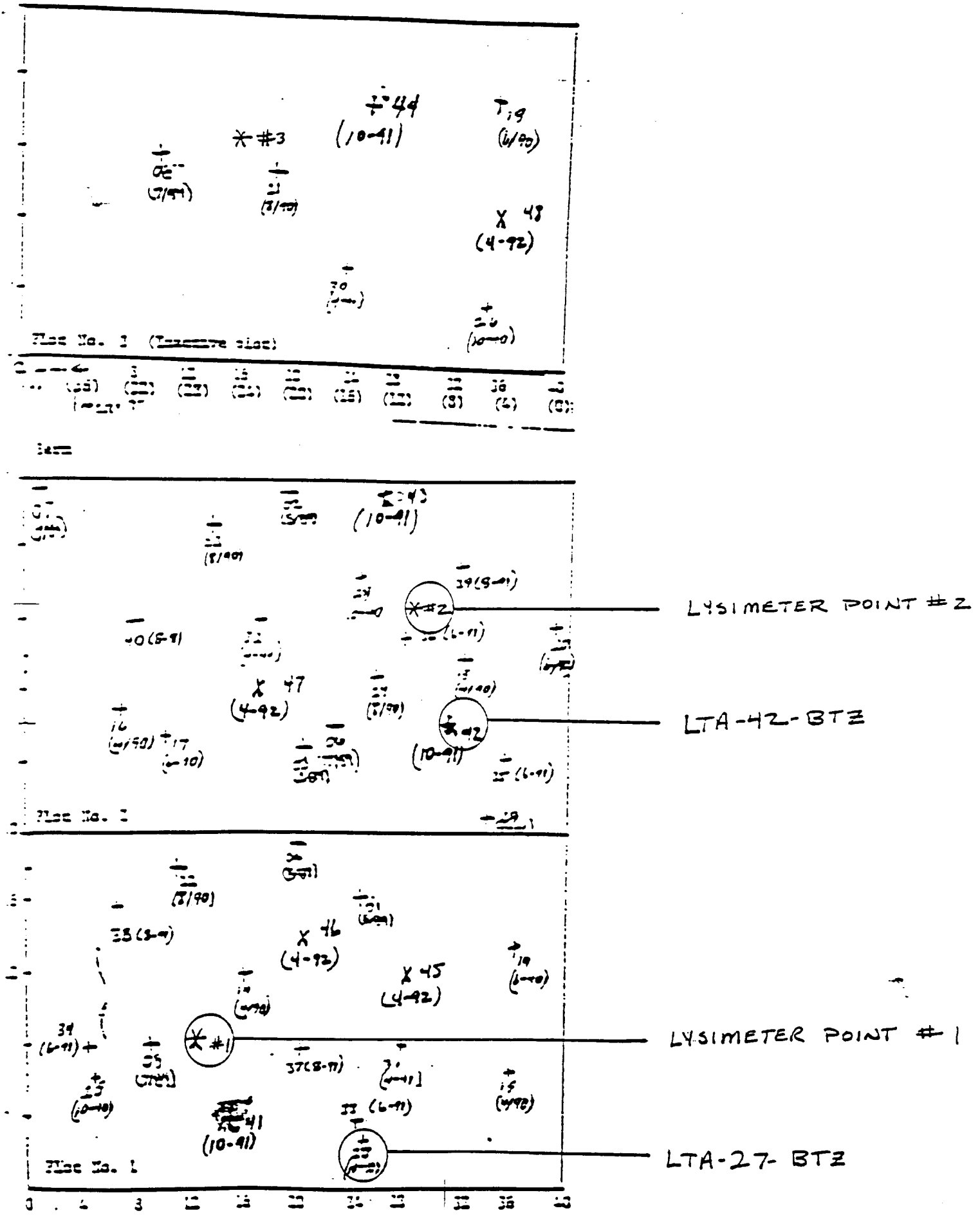
Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company

TLS:sp

cc: Kim Bullerdick - Corporate Counsel
Giant Industries Arizona, Inc.

PROPOSED SAMPLE LOCATIONS
WITHIN 5' OF EACH LOCATION



8240-VOLATILE ORGANICS

PARAMETER	ERL (1)	MDL (2)	unit (ug/Kg)
ACETONE	10	7.34	
ACETONITRILE	200	---	
ACROLEIN	100	58.8	
ACRYLONITRILE	100	24.2	
ALLYL CHLORIDE	10	10.9	
BENZENE	5.0	2.10	
BROMODICHLOROMETHANE	5.0	4.30	
BROMOFORM	5.0	3.57	
BROMOMETHANE	10	3.56	
2-BUTANONE (MEK)	10	9.37	
CARBON DISULFIDE	5.0	3.32	
CARBON TETRACHLORIDE	5.0	4.18	
CHLOROBENZENE	5.0	1.63	
CHLOROETHANE	10	3.34	
CHLOROFORM	5.0	2.53	
CHLOROMETHANE	10	5.52	
CHLOROPRENE	5.0	---	
DIBROMOCHLOROMETHANE	5.0	4.52	
1,2-DIBROMO-3-CHLORO-^PROPANE	10	8.69	
1,2-DIBROMOETHANE (EDB)	10	4.48	
DIBROMOETHANE	5.0	1.33	
TRANS-1,4-DICHLORO-^2-BUTENE	5.0	5.42	
DICHLORODIFLUOROMETHANE	20	4.74	
1,2-DICHLOROETHANE	5.0	1.93	
1,2-DICHLOROETHANE	5.0	3.78	
1,2-DICHLOROETHENE	5.0	1.77	
1,2-DICHLOROETHENE ^ (TOTAL)	5.0	---	
1,2-DICHLOROPROPANE	5.0	2.93	
CIS-1,3-DICHLOROPROPENE	5.0	4.85	
TRANS-1,3-DICHLOROPROPENE	5.0	3.44	
1,4-DIOXANE	500	2.15	
ETHYLBENZENE	5.0	4.11	
ETHYL METHACRYLATE	20	5.06	
2-HEXANONE	10	3.28	
IDOMETHANE	5.0	2.38	
ISOBUTANOL	200	---	
METHACRYLONITRILE	5.0	2.34	
METHYLENE CHLORIDE	5.0	3.06	
METHYL METHACRYLATE	20	5.89	
4-METHYL-2-PENTANONE ^(MIBK)	10	2.60	
PROPIONITRILE	5.0	---	
STRYRENE	5.0	2.67	
1,1,1,2-TETRACHLOROETHANE	5.0	3.90	
1,1,2,2-TETRACHLOROETHANE	5.0	3.51	
TETRACHLOROETHENE	5.0	2.18	
TOLUENE	5.0	2.54	
1,1,1-TRICHLOROETHANE	5.0	3.74	
1,1,2,2-TETRACHLOROETHANE	5.0	4.15	
TRICHLOROETHENE	5.0	4.19	
TRICHLOROFLUOROMETHANE	5.0	1.49	
1,2,3-TRICHLOROPROPANE	5.0	2.54	
VINYL ACETATE	10	28.5	
VINYL CHLORIDE	10	4.29	
XYLENES (TOTAL)	5.0	3.19	

TABULATED ERL - MDL FROM RMAL FOR NMED HRMS

8270 SEMIVOLATILE OGANICS

PARAMETER	ERL (1)	MDL (2)	unit (ug/L)
ACENAPHTHENE	10	1.91	
ACENAPHTHYLENE	10	3.08	
ACETOPHENONE	10	2.25	
2-ACETYLAMINOFLUOREN	100	2.05	
4-AMINOBIPHENYL	10	4.80	
ANILINE	10	2.80	
ANTHRACENE	10	1.91	
ARAMITE	10	2.38	
BENZO (A) ANTHRACENE	10	1.68	
BENZO (B) FLUORANTHE	10	2.46	
BENZO (K) FLUROANTHE	10	1.92	
BENZO (G,H,I) PERYLE	10	1.33	
BENZO (A) PYRENE	10	1.48	
BENZYL ALCOHOL	10	7.56	
4-BROMOPHENYL ^PHENY	10	1.94	
BUTYL BENZYL PHTHALA	10	.98	
2-SEC-BUTYL-4,6-DINI	10	2.19	
4-CHLOROANILINE	10	2.97	
BIS (2-CHLOROETHOXY)	10	1.92	
BIS (2-CHLOROETHYL)	10	2.05	
BIS (2-CHLOROISOPROP	10	1.81	
4-CHLORO-3-METHYL PH	10	2.25	
2-CHLORONAPHTHALENE	10	9.50	
2-CHLOROPHENOL	10	2.55	
4-CHLOROPHENYL ^PHEN	10	2.19	
CHRYSENE	10	1.71	
DIBENZ (A,H) ANTHRAC	10	1.84	
DI-N-BUTYL- PHTHALAT	10	3.52	
1,2-DICHLOROBENZENE	10	2.33	
1,3-DICHLOROBENZENE	10	2.28	
1,4-DICHLOROBENZENE	10	2.29	
3,3-DICHLOROBENZIDIN	20	29.55	
2,4-DICHLOROPHENOL	10	1.67	
2,6-DICHLOROPHENOL	10	2.06	
DIETHYL PHTHALATE	10	1.77	
DIMETHOATE	--	---	
P-DIMETHYLAMINOAZOBE	10	1.77	
7,12-DIMETHYLBENZ (A	10	1.40	
3,3'-DIMETHYLBENZIDI	10	48.51	
A,A-DIMETHYLPHENETHY	10	0.00	
2,4DIMETHYLPHENOL	10	2.66	
DIMETHYL PHTHALATE	10	.76	
1,3-DINITROBENZENE	10	---	
4,6DINITRO-^2-METHYL	50	26.94	
2,4-DINITROPHENOL	50	19.53	
2,4-DINITROTOLUENE	10	1.73	
2,6-DINITROTOLUENE	10	1.98	
DI-N-OCTYL PHTHALATE	10	1.76	
DIPHENYLAMINE	10	---	
DISULFOTON	50	---	
BIS (2-ETHYLHEXYL) ^	10	10.86	
ETHYL METHANESUFONAT	10	1.81	
FAMPHUR	--	---	
FLUORANTHENE	10	1.17	
FLUORENE	10	2.34	
HEXACHLOROBENZENE	10	1.92	
HEXACHLOROBUTADIENE	10	1.77	
HEXACHLOROCYCLOPENTA	10	.52	
HEXACHLOROETHANE	10	2.16	
HEXACHLOROPHENE	--	---	
HEXACHLOROPROPENE	10	.79	
INDENO (1,2,3-CD) PY	10	1.97	
ISOPHORONE	10	1.91	
ISOSAFROLE	20	16.43	
METHAPYRILENE	10	17.59	

8270-SEMIVOLATILE ORGANICS

PARAMETER	ERL (1)	MDL (2)	unit (ug/L)
3-METHYLCHOLANTHRENE	10	3.90	
METHYL METHANESULFON	10	1.75	
2-METHYLNAPHTHALENE	10	2.21	
METHYL PARATHION	50	---	
2-METHYLPHENOL	10	2.29	
3/4-METHYLPHENOL	10	2.75	
NAPHTHALENE	10	2.31	
1,4-NAPHTHOQUINONE	10	.35	
1-NAPHTHYLAMINE	10	3.73	
2-NAPHTHYLAMINE	10	4.53	
2-NITROANILINE	50	22.85	
3-NITROANILINE	50	42.16	
4-NITROANILINE	50	58	
NITROBENZENE	10	1.72	
2-NITROPHENOL	10	1.66	
4-NITROPHENOL	50	16.39	
4-NITROQUINOLINE-1-O	--	24.71	
N-NITROSO-DI-N-BUTYL	10	1.88	
N-NITROSODIETHYLAMIN	10	1.76	
N-NITROSODIMETHYLAMI	10	2.31	
N-NITROSODIPHENYLAMI	10	3.84	
N-NITROSO-DI-^N-PROP	10	1.82	
N-NITROSOMETHYLETHYL	10	2.11	
N-NITROSOMORPHOLINE	10	1.82	
N-NITROSOPIPERIDINE	10	1.52	
N-NITROSOPURROLIDINE	10	1.88	
5-NITRO-O-TOLUIDINE	10	9.14	
PARATHION	50	---	
PENTACHLOROBENZENE	10	1.60	
PENTACHLOROETHANE	10	.22	
PENTACHLORONITROBENZ	50	21.73	
PENTACHLOROPHENOL	50	3.38	
PHENACETIN	10	2.43	
PHENANTHRENE	10	1.96	
PHENOL	10	2.35	
4-PHENYLENEDIAMINE	--	---	
PHORATE	100	---	
2-PICOLINE	10	1.40	
PRONAMIDE	10	3.62	
PYRENE	10	1.94	
PYRIDINE	20	7.52	
SAFROLE	10	2.15	
SULFOTEPP	50	---	
1,2,4,5-TETRACHLORL-	10	1.90	
2,3,4,6-TETRACHLOROP	50	2.60	
THIONAZIN	50	---	
2-TOLUIDINE	10	---	
1,2,4-TRICHLOROBENZE	10	1.97	
2,4,5-TRICHLOROPHENO	50	13.65	
2,4,6-TRICHLOROPHENO	10	2.17	
0,0,0-TRIETHYLPHOSPH	10	---	
1,3,5-TRINITROBENZEN	10	---	

6010 APPENDIX (METALS)

PARAMETER		ERL (1)	MDL (2)	unit (mg/Kg)
ANTIMONY		6.0	.06	
BARIUM		1.0	.01	
BERYLLIUM		.2	.002	
CADMIUM		.5	.005	
CHROMIUM		1.0	.01	
COBALT		1.0	.01	
COPPER		2.0	.02	
LEAD		5.0	.05	
NICKEL		4.0	.04	
SILVER		1.0	.01	
TIN		5.0	.1	
VANADIUM		1.0	.01	
ZINC		2.0	.06	
	GFAA METHOD			
ARSENIC	7060	.5	.1	
LEAD	7421	.5	.05	
SELENIUM	7740	.5	.2	
THALLIUM	7841	.5	2	
	CVAA METHOD			
MERCURY	7470	.1	---	

Tomorrow's day after send: July 21, 22

Information received from other laboratory professionals supports RMAL and their reporting limits. It is believed that below the PQL level, it is difficult to differentiate the "peaks" or "spikes" from a GC/MS readout between constituent or background noise and therefore is equally difficult or impossible to quantify an individual constituent. RMAL Enseco Reporting Limits (ERL) and Practical Quantitation Limits (PQL) are the lowest limits that RMAL is reasonably confident of quantification of an individual constituent.

Based on the information supplied to GRC by these laboratory professionals, GRC agrees that the use of PQL's or ERL's are appropriate for this sampling event and propose to use RMAL's, PQL's, and ERL's as detection limits for organics and metals, respectively.

Although GRC had agreed, in principle, to the schedule of compliance issued by HRMB, with slight adjustments to the number of samples and in the time frame, the additional input from laboratory professionals indicates that it may be more appropriate to re-sample the locations showing constituents to verify contamination, or lack of contamination, in the BTZ interval of the LTA. This will satisfy the question of cross-contamination of previous sampling events. Based on new information, GRC now proposes the following sample protocol and schedule:

July 22

Item Number	Days to Completion	Action
O.K. 1	0	Item numbers 1, 2, 3 of the schedule of compliance issued by HRMB are considered complete by GRC.
O.K. 2	60	1) GRC will contract a non-affiliated contractor to sample two (2) soil

samples adjacent to *LTA-27-BTZ and *LTA-42-BTZ plus one (1) duplicate for QA/QC, and, using double deionized, double distilled reagent grade water, will backflush and recover the water from lysimeter Points #1 and #2 for analysis, plus one (1) water blank for QA/QC. GRC will also take two (2) soil samples adjacent to *lysimeter *Points #1 and #2 plus one (1) duplicate for QA/QC.** All soil samples will be verified to be 5-5½' below the original surface of the LTA using the elevations supplied by Sterling and Mataya. Samples will be analyzed for Appendix IX Organic Constituents, excluding furans and dioxanes, but including Acetone, and for Cadmium, Chrome and Lead.

* Clarify that two (2) samples per lysimeter and per BTZ location

** Need to verify that these two samples, at each sample verification pt, are X distance from pt. to be verified. See Item 3 of NMED approved Sampling Schedule.

2) QA/QC procedures will be those supplied by RMAL and are equivalent to Attachment C and U.S. EPA document "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846".

3) One trip blank, for volatiles, will be included (Method 8020-BTEX).

4) GRC will submit analytical reports to include:

   a) All constituents identified above RMAL ~~PQL~~ MDL.

b) All raw laboratory data sheets organized by sample numbers including duplicate and QA/QC samples. Data sheets will include all parameters listed in Item 1.1.

c) Summaries for each sample of any constituent identified above ~~PQL~~. MDL.

d) Report will have all pages consecutively numbered and will include a comprehensive table of contents.

3 90 GRC will submit to HRMB statistical calculations and narrative conclusions on the comparison for metals between the background plot and the samples taken from the BTZ interval of the two (2) active cells of the LTA. Statistical comparisons will be made using Cochran's approximation to the Behrens-Fisher Student-T Test at the .05 level of confidence.

GRC will use the QA/QC program developed by RMAL for this project and certify that it meets or exceeds the QA/QC plan in the Attachment C and U.S. EPA document "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846".

GRC believes that this proposal will be adequate to demonstrate that the previous data, which showed constituents in the BTZ interval, was a false positive due to cross-contamination. xxx If there are additional "Hits" of hazardous constituents in the BTZ interval, GRC will propose a sampling plan to characterize the contamination.

* enter into negotiations

xxx Suggest delete this statement. Following S&A can then deter next move.