



W. L. GORE & ASSOCIATES, INC.

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ENVIRONMENTAL PRODUCTS GROUP

21 December, 1993

Mr. John Bierschenk
ENSR Consulting and Engineering
35 Nagog Park
Acton, MA 01720

Reference: Western Auto, Four Winds Plaza, Tutu, St. Thomas, VI
Customer Purchase Order: 8402
Gore Quote No: BK0525-PAFH

Dear Mr. Bierschenk:

This letter report presents W. L. Gore & Associates, Inc.'s (Gore's) findings from the GORE-SORBERSM Screening Survey (survey) performed by ENSR Consulting and Engineering (ENSR) personnel. This twenty-one (21) module survey was conducted at the Western Auto site located in St. Thomas, VI. The study was completed during the month of December, 1993.

This report and associated attachments were developed from the data obtained from the thermal desorption, gas chromatography and mass selective detection (TD/GC/MSD) analysis of the GORE-SORBERTM Screening Modules (modules). The 21 module array was installed and subsequently retrieved after an approximate 14 day exposure time. In addition, two (2) trip blanks and three (3) manufacturing blanks were supplied by Gore for QA/QC purposes. Nine (9) extra modules were shipped with this order, and were treated as trip blanks during analysis. The target analytes requested by ENSR in this study were petroleum hydrocarbons and volatile organic compounds.

The attached deliverables package prepared from the site and analytical data consists of the following information:

- Data table listing the mass or ion count values by module, that were used in the preparation of the attached maps.
- Two (2) sets of (3) "B-sized" contour maps.

The following narrative describes the field and analytical procedures used in the installation, retrieval and evaluation process of the GORE-SORBER Screening Modules.

Field procedures

The modules were installed to a depth of approximately 3 feet, using an electric rotary hammer to auger the boreholes. The modules were then manually inserted into the open boreholes using a push rod. All field work was performed by ENSR personnel. The modules were installed following the procedures outlined in Gore's Standard Operating Procedures, dated June 4, 1993. One deployed module was lost at the site and could not be retrieved.

After an approximate 14 day exposure time, the modules were retrieved and resealed into their individually labeled glass vials. The module array was then packed in a cooler and shipped on ice to Gore's laboratory located in Elkton, Maryland. Upon arrival at the laboratory, each module and the chain-of-custody form were inspected. The modules were then placed in Gore's laboratory freezer until analysis.

Analytical Procedures

All 21 exposed modules, 14 associated trip and manufacturing blanks, and two method blanks were analyzed. Laboratory analysis was performed using an automated thermal desorption device with cryofocusing, followed by gas chromatographic separation and mass selective detection. As requested, each GORE-SORBER™ sensor (sorber) was examined for the presence of volatile organic compounds.

None of the twenty-one (21) "Gore-standard" compounds below were detected in any of the trip or manufacturing blanks at a level greater than 0.05 µg, with the exception of toluene. Several other compounds, notably dodecane, Freon-11, THF, and a C₈H₁₈O hydrocarbon appear in most of the trip blanks and exposed modules as well. These compounds were not mapped. All data and any replicate sorbers not used in the initial analysis have been archived and are available for additional analysis, if requested.

Data tabulation

Data tables listing all of the data from our analysis, including that used in the preparation of the enclosed color contour plots are attached. The compounds and mixtures selected for mapping are reported as total ion counts per sorber. Data points below those found in the trip blanks were assigned to the lowest (gray) color on the associated maps. The color bar scale on each map shows this level, which is approximately 700 ions for probable C₈ and C₉ cycloalkanes, 3630 ions for tridecane, and 1100 ions for the C₁₈H₂₀ hydrocarbon.

Compound Identification

Numerous compounds were recovered from the modules during analysis. Common aromatic compounds found in the majority of exposed modules include low levels of ethylbenzene, xylenes, trimethyl benzenes, naphthalene, 2-methyl naphthalene, and phenanthrene. Tridecane was detected in most of the modules. A few chlorinated solvents were present, especially chloroform, 1,1,1- trichloroethane (TCA), 1,4- dichlorobenzene (1,4- DCB), and tetrachloroethylene (PCE). The "Ion Data" table reports a few other prevalent compounds which were present in some of the modules. The NIST mass spectral library tentatively identified some of these compounds as probable 8- and 9- carbon cyclohexanes, benzaldehyde, benzyl alcohol, and several related, heavy petroleum hydrocarbons.

Contour maps

Three (3) maps are enclosed as requested:

- Probable 8- and 9- Carbon Cycloalkanes
- Tridecane
- A $C_{18}H_{20}$ Hydrocarbon

All three maps were chosen by ENSR to depict possible constituents of heavy oils. Tridecane was chosen as a potential indicator of diesel fuel.

Please contact our office if you have any questions or comments concerning this report. We appreciate this opportunity to be of service to ENSR, and look forward to working with you again in the future.

Sincerely,



Mark Stutman
Associate

MS/bk: 931112c.doc
Attachments

GORE-SORBER Screening Survey is a Service mark of W. L. Gore & Associates, Inc.
GORE-SORBER is a Trademark of W. L. Gore & Associates, Inc.

KEY TO DATA TABLES

ENSR Consulting and Engineering
Western Auto, Four Winds Plaza
Tutu, St. Thomas, VI

µg	micrograms (per sorber), reported for compounds for which we run external standards
ions	ion counts (per sorber), reported for compounds without external standards
CH ₂ Cl ₂	methylene chloride
MTBE	methyl <i>tert</i> -butyl ether
CHCl ₃	chloroform
111TCA	1,1,1- trichloroethane
12DCA	1,2- dichloroethane
BENZ	benzene
CCl ₄	carbon tetrachloride
TCE	trichloroethylene
TOL	toluene
PCE	etrachloroethylene
ClBENZ	chlorobenzene
EtBENZ	ethylbenzene
m-XYL	meta- and para- isomers of xylene
o-XYL	ortho- xylene
135TMB	1,3,5- trimethyl benzene
124TMB	1,2,4- trimethyl benzene
14DCB	1,4- dichlorobenzene
NiBENZ	nitrobenzene
NAPH	naphthalene
2-NC	2-methyl naphthalene
PHEN	phenanthrene
C ₈ H ₁₆	probable ethyl- cyclohexane
C ₉ H ₁₈	probable trimethyl- cyclohexane isomer
C ₁₀ H ₁₈	probable decahydro- naphthalene isomer
C ₁₈ H ₂₀	a C ₁₈ H ₂₀ hydrocarbon
THF	tetrahydrofuran
TB	unexposed (sealed) trip blanks, which traveled with the exposed modules
MB	manufacturing blanks, which remained at Gore

Oil Analyses Results

EXTRACTED ION COUNTS - SITE AL WSTAUT

Western Auto, Tutu St. Thomas, U.S. Virgin Islands
Ion Data

DATAFILE NAME	SAMPLE NAME Field #	DATE AND TIME ANALYZED	Freon 11 1.95-2.2 min. 101 area	C8H16 9.1-9.3 min. 83 area	C9H18 9.25-9.41 min. 111 area	Benzaldehyde 13.45-13.65 min. 77 area	Benzyl Alcohol 15.15-15.4 min. 79 area
AL602T4.D	GS-17	9 Dec 93 2:10 pm	10712	0	0	394	0
AL603T4.D	GS-18	9 Dec 93 2:52 pm	11766	2740	2005	3032	0
AL605T4.D	GS-20	9 Dec 93 3:34 pm	15501	1795	0	349	1932
AL606T4.D	GS-16	9 Dec 93 4:16 pm	8443	0	0	4463	10767
AL607T4.D	GS-21	9 Dec 93 5:22 pm	102949	717	0	1004	1009
AL611T4.D	GS-1	9 Dec 93 6:46 pm	2729	4756	4186	294880	2546716
AL612T4.D	GS-2	9 Dec 93 7:28 pm	9327	0	0	1405	764
AL613T4.D	GS-3	9 Dec 93 8:53 pm	37306	0	0	948	188
AL614T4.D	GS-4	9 Dec 93 10:17 pm	120762	0	0	1541	0
AL615T4.D	GS-5	9 Dec 93 11:41 pm	7312	124719	93499	14705	29290
AL616T4.D	GS-6	12/10/93 0:23	13109	21125	7121	2203	3714
AL617T4.D	GS-7	12/10/93 1:05	5035	0	0	1126	1083
AL618T4.D	GS-8	12/10/93 1:47	8067	0	0	376	794
AL619T4.D	GS-9	12/10/93 2:29	7067	11685	1258	8004	51753
AL630T4.D	GS-10	12/10/93 10:54	3550	18936	3693	5458	35437
AL631T4.D	GS-11	12/10/93 11:36	17553	0	0	178	350
AL632T4.D	GS-12	12/10/93 12:18	3681	5525	5054	1873	4306
AL633T4.D	GS-13	12/10/93 15:06	5275	0	0	363	0
AL634T4.D	GS-14	12/10/93 15:48	5168	1269	0	1561	0
AL635T4.D	GS-15	12/10/93 16:30	5853	0	0	1423	780
ALMB1T4.D	man. blank, #101636	9 Dec 93 8:11 pm	0	0	0	0	0
ALMB2T4.D	man. blank, #101637	12/10/93 5:59	1909	0	0	1751	173
ALMB3T4.D	man. blank, #101638	12/10/93 17:12	0	0	0	0	0
ALTB1T4.D	trip blank, #101609	9 Dec 93 6:04 pm	41407	0	0	0	0
ALTB2T4.D	trip blank, #101610	9 Dec 93 10:59 pm	28907	0	0	0	0
BLANK1.D	method blank	9 Dec 93 12:45 pm	0	0	0	0	0
BLANK2.D	method blank	12/10/93 13:42	0	0	0	0	0
AL620T4.D	Modules not used	12/10/93 3:11	96352	0	0	179	0
AL621T4.D	Modules not used	12/10/93 3:53	40793	0	0	168	0
AL622T4.D	Modules not used	12/10/93 4:35	11674	0	0	0	0
AL623T4.D	Modules not used	12/10/93 6:41	11829	0	0	0	0
AL624T4.D	Modules not used	12/10/93 7:23	344122	0	0	2587	168
AL625T4.D	Modules not used	12/10/93 8:05	24625	0	0	169	0
AL626T4.D	Modules not used	12/10/93 8:47	29130	0	0	171	0
AL627T4.D	Modules not used	12/10/93 9:29	14786	0	0	0	0
AL628T4.D	Modules not used	12/10/93 10:11	27290	0	0	0	0

12/21/93 8:08 AM

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Oil Analyses Results

EXTRACTED ION COUNTS - SITE AL WSTAUT

C10H18 15.55-15.75 min. 138 area	Dodecane 18.15-18.3 min. 57 area	Tridecane 19.75-19.9 min. 57 area	C18H20 25.0-26.4 min. 221 area	THF 2.85-3.05 min. 42 area	C8H18O 15.05-15.2 min. 57 area	DATAFILE NAME
0	11984	4634	1714	1435	188892	AL602T4.D
0	3262	0	0	70939	7305	AL603T4.D
0	3311	1714	0	4488	8516	AL605T4.D
0	3328	943	226143	1365	8936	AL606T4.D
196	32445	4316	184	3473	12366	AL607T4.D
1183	38494	35586	16055	2570	268866	AL611T4.D
0	6640	165	0	3003	10034	AL612T4.D
0	8324	6928	0	6258	39841	AL613T4.D
0	2478	0	0	2272	4374	AL614T4.D
109594	15648	6989	278232	3506	56204	AL615T4.D
0	13877	3061	29761	5326	15255	AL616T4.D
0	7216	719	31388	5866	32437	AL617T4.D
0	5592	1230	129162	4373	10909	AL618T4.D
214	6143	5633	390103	1423	12892	AL619T4.D
0	13164	2696	76527	3737	6363	AL630T4.D
934	369450	204163	198	4235	27114	AL631T4.D
591	27994	16578	2870	3009	11201	AL632T4.D
0	13975	10530	0	4533	11689	AL633T4.D
0	12343	3736	0	5763	4031	AL634T4.D
0	54525	1926	173	3537	7512	AL635T4.D
0	3347	0	0	0	3209	ALMB1T4.D
0	38586	832	0	2562	15238	ALMB2T4.D
0	2669	0	0	724	3598	ALMB3T4.D
0	25880	0	0	456	5026	ALTB1T4.D
0	43505	0	0	1014	6210	ALTB2T4.D
0	0	0	1113	0	0	BLANK1.D
0	0	0	547	1665	0	BLANK2.D
0	114752	546	940	4610	17666	AL620T4.D
0	32758	0	0	10803	6688	AL621T4.D
0	6205	0	0	3986	1967	AL622T4.D
0	10512	0	0	2449	3057	AL623T4.D
0	387908	3707	0	8813	62164	AL624T4.D
0	43320	0	0	4013	9033	AL625T4.D
0	56684	235	165	3159	11360	AL626T4.D
0	28121	0	0	3775	5585	AL627T4.D
0	9739	0	917	6953	3542	AL628T4.D

Oil Analyses Results

TARGET COMPOUNDS - SITE AL

WSTAUT
ENSR Consulting and Engineering, Western Auto, Tutu St. Thomas, U.S. Virgin Islands

Target Data

DATAFILE NAME	Field #	SAMPLE NAME	DATE AND TIME ANALYZED	49+ 2.21 min. CH2Cl2, ug	73+ 2.40 min. MTBE, ug	83+ 2.78 min. CHCl3, ug	97+ 3.11 min. 111TCA, ug	62+ 3.14 min. 12DCA, ug	78+ 3.32 min. BENZ, ug
AL602T4.D	GS-17		12/9/93 14:10	0.00	0.00	0.00	0.00	0.00	0.00
AL603T4.D	GS-18		12/9/93 14:52	0.00	0.00	0.00	0.00	0.00	0.21
AL605T4.D	GS-20		12/9/93 15:34	0.00	0.00	0.21	0.00	0.00	0.00
AL606T4.D	GS-16		12/9/93 16:16	0.00	0.00	0.00	0.02	0.00	0.00
AL607T4.D	GS-21		12/9/93 17:22	0.00	0.00	0.27	0.03	0.00	0.00
AL611T4.D	GS-1		12/9/93 18:46	0.00	0.00	0.69	0.00	0.00	0.00
AL612T4.D	GS-2		12/9/93 19:28	0.00	0.00	0.47	0.03	0.00	0.00
AL613T4.D	GS-3		12/9/93 20:53	0.00	0.18	0.59	0.00	0.00	0.00
AL614T4.D	GS-4		12/9/93 22:17	0.00	0.00	0.03	0.14	0.00	0.00
AL615T4.D	GS-5		12/9/93 23:41	0.00	0.00	0.00	0.00	0.00	0.00
AL616T4.D	GS-6		12/10/93 0:23	0.00	0.00	0.25	0.07	0.00	0.00
AL617T4.D	GS-7		12/10/93 1:05	0.00	0.00	0.05	0.06	0.00	0.00
AL618T4.D	GS-8		12/10/93 1:47	0.00	0.00	0.00	0.35	0.00	0.00
AL619T4.D	GS-9		12/10/93 2:29	0.00	0.00	0.00	0.00	0.00	0.00
AL630T4.D	GS-10		12/10/93 10:54	0.00	0.00	0.04	0.05	0.00	0.00
AL631T4.D	GS-11		12/10/93 11:36	0.00	0.75	1.00	0.00	0.00	0.00
AL632T4.D	GS-12		12/10/93 12:18	0.00	0.00	0.00	0.00	0.00	0.00
AL633T4.D	GS-13		12/10/93 15:06	0.00	0.00	0.16	0.00	0.00	0.00
AL634T4.D	GS-14		12/10/93 15:48	0.00	0.01	0.07	0.00	0.00	0.00
AL635T4.D	GS-15		12/10/93 16:30	0.00	0.00	0.00	0.00	0.00	0.00
ALMB1T4.D		man. blank, #101636	12/9/93 20:11	0.00	0.00	0.00	0.00	0.00	0.00
ALMB2T4.D		man. blank, #101637	12/10/93 5:59	0.00	0.00	0.00	0.00	0.00	0.00
ALMB3T4.D		man. blank, #101638	12/10/93 17:12	0.00	0.00	0.00	0.00	0.00	0.00
ALTB1T4.D		trip blank, #101609	12/9/93 18:04	0.00	0.00	0.00	0.00	0.00	0.00
ALTB2T4.D		trip blank, #101610	12/9/93 22:59	0.00	0.00	0.00	0.00	0.00	0.00
BLANK1.D		method blank	12/9/93 12:45	0.00	0.00	0.00	0.00	0.00	0.00
BLANK2.D		method blank	12/10/93 13:42	0.00	0.00	0.00	0.00	0.00	0.00
AL620T4.D		Modules not used	12/10/93 3:11	0.00	0.00	0.00	0.00	0.00	0.00
AL621T4.D		Modules not used	12/10/93 3:53	0.00	0.00	0.00	0.00	0.00	0.00
AL622T4.D		Modules not used	12/10/93 4:35	0.00	0.00	0.00	0.00	0.00	0.00
AL623T4.D		Modules not used	12/10/93 6:41	0.00	0.00	0.00	0.00	0.00	0.00
AL624T4.D		Modules not used	12/10/93 7:23	0.00	0.00	0.00	0.00	0.00	0.00
AL625T4.D		Modules not used	12/10/93 8:05	0.00	0.00	0.00	0.00	0.00	0.00
AL626T4.D		Modules not used	12/10/93 8:47	0.00	0.00	0.00	0.00	0.00	0.00
AL627T4.D		Modules not used	12/10/93 9:29	0.00	0.00	0.00	0.00	0.00	0.00
AL628T4.D		Modules not used	12/10/93 10:11	0.00	0.00	0.00	0.00	0.00	0.00

Oil Analyses Results

TARGET COMPOUNDS - SITE AL WSTAUT

117+ 3.33 min. CCl ₄ , ug	95+ 3.96 min. TCE, ug	91+ 5.90 min. TOL, ug	166+ 7.85 min. PCE, ug	112+ 9.68 min. CIBENZ, ug	91+ 10.36 min. EtBENZ, ug	91+ 10.66 min. m-XYL, ug	91+ 11.48 min. o-XYL, ug	105+ 13.69 min. 135TMB, ug	105+ 14.28 min. 124TMB, ug	146+ 14.68 min. 14DCB, ug	77+ 16.26 min. NiBENZ, ug
0.00	0.00	0.32	0.04	0.00	0.00	0.02	0.00	0.01	0.05	0.01	0.00
0.00	0.00	0.23	0.00	0.00	0.11	0.03	0.02	0.01	0.04	0.00	0.00
0.00	0.00	0.59	0.00	0.00	0.00	0.02	0.00	0.01	0.02	0.00	0.00
0.00	0.00	0.19	0.76	0.00	0.00	0.02	0.00	0.01	0.04	0.00	0.00
0.00	0.00	1.74	0.00	0.00	0.00	0.03	0.01	0.01	0.03	0.00	0.00
0.00	0.00	0.23	0.00	0.00	0.00	0.02	0.02	0.05	0.12	0.30	0.00
0.00	0.00	0.19	0.02	0.00	0.00	0.02	0.00	0.01	0.03	0.00	0.00
0.00	0.00	0.56	0.00	0.00	0.00	0.02	0.00	0.01	0.03	0.01	0.00
0.00	0.00	1.50	0.04	0.00	0.02	0.05	0.02	0.02	0.06	0.01	0.00
0.00	0.00	0.52	0.47	0.00	0.00	0.02	0.01	0.00	0.12	0.05	0.00
0.00	0.00	0.81	0.27	0.00	0.00	0.03	0.01	0.01	0.03	0.02	0.00
0.00	0.00	0.21	0.10	0.00	0.00	0.01	0.00	0.01	0.02	0.02	0.00
0.00	0.00	0.38	0.08	0.00	0.00	0.01	0.00	0.01	0.02	0.02	0.00
0.00	0.00	0.66	0.26	0.00	0.03	0.05	0.02	0.01	0.03	0.00	0.00
0.00	0.00	0.53	0.00	0.00	0.00	0.03	0.02	0.00	0.03	0.00	0.00
0.00	0.00	0.46	0.00	0.00	0.00	0.03	0.01	0.01	0.03	0.00	0.00
0.00	0.00	0.15	0.09	0.00	0.00	0.02	0.01	0.01	0.04	0.14	0.00
0.00	0.00	0.21	0.00	0.00	0.00	0.02	0.01	0.01	0.05	0.00	0.00
0.00	0.00	0.17	0.00	0.00	0.00	0.03	0.01	0.02	0.09	0.00	0.00
0.00	0.00	0.31	0.06	0.00	0.00	0.01	0.00	0.01	0.03	0.03	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.01	0.01	0.04	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.71	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	3.28	0.00	0.00	0.02	0.05	0.01	0.01	0.04	0.01	0.00
0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00

Oil Analyses Results

TARGET COMPOUNDS - SITE AL WSTAUT

126+ 18.05 min. NAPH, ug	142+ 19.85 min. 2-NC, ug	178+ 25.95 min. PHEN, ug	DATAFILE NAME
0.02	0.01	0.08	AL602T4.D
0.05	0.01	0.03	AL603T4.D
0.00	0.00	0.00	AL605T4.D
0.02	0.01	0.00	AL606T4.D
0.00	0.02	0.03	AL607T4.D
0.62	0.12	0.02	AL611T4.D
0.00	0.01	0.00	AL612T4.D
0.00	0.01	0.01	AL613T4.D
0.00	0.01	0.06	AL614T4.D
0.50	0.06	0.00	AL615T4.D
0.02	0.01	0.00	AL616T4.D
0.02	0.01	0.00	AL617T4.D
0.11	0.03	0.00	AL618T4.D
0.26	0.04	0.00	AL619T4.D
0.05	0.01	0.00	AL630T4.D
0.00	0.01	0.00	AL631T4.D
0.03	0.01	0.00	AL632T4.D
0.02	0.03	0.07	AL633T4.D
0.02	0.01	0.00	AL634T4.D
0.00	0.01	0.00	AL635T4.D
0.00	0.00	0.00	ALMB1T4.D
0.00	0.01	0.07	ALMB2T4.D
0.00	0.00	0.00	ALMB3T4.D
0.00	0.00	0.00	ALTB1T4.D
0.00	0.00	0.00	ALTB2T4.D
0.00	0.00	0.00	BLANK1.D
0.00	0.00	0.00	BLANK2.D
0.00	0.00	0.00	AL620T4.D
0.00	0.00	0.00	AL621T4.D
0.00	0.00	0.00	AL622T4.D
0.00	0.00	0.00	AL623T4.D
0.00	0.01	0.00	AL624T4.D
0.00	0.00	0.00	AL625T4.D
0.00	0.00	0.00	AL626T4.D
0.00	0.00	0.00	AL627T4.D
0.00	0.00	0.00	AL628T4.D

288403
251189
218776
190546
162181
141254
123027
107152
93325
79433
69183
60256
52481
44668
38905
33884
29512
25704
21878
19055
16596
14454
12589
10715
9333
8128
7079
6166
5248
4571
3981
3467
3020
2570
2239
1950
1698
1479
1259
1096

C18H20
(ions)

ESSO

MW-8

B-9

APPROXIMATE
300 GALLON
DIESEL TANK
UNDERNEATH
STEEL STAIRWAY

UNDERGROUND
STORAGE
TANK NO. 1
(WASTE OIL)

101614
GS-4 (not returned)
101604
GS-19

101612
GS-2

GS-18
101613
GS-3
101603

101602
GS-17

101605
GS-20

101607
GS-21

UNDERGROUND
STORAGE
TANK NO. 3
(RAMP TANK)

UNDERGROUND
STORAGE
TANK NO. 2
(DIESEL)

LOADING DOCK

APPROXIMATE
200 GALLON
DIESEL TANK
(ABOVE GROUND)

WESTERN

FOUR WINDS
SHOPPING CENTER

- LEGEND
- ⊕ SOIL BORING
 - ⊕ SHALLOW MONITORING WELL
 - △ DEEP MONITORING WELL
 - EXISTING SUPPLY WELL
 - ⊕ GORE-SORBER™ SCREENING MODULE LOCATION
 - PIPE "A"
 - - - PIPE "B"
 - - - PIPE "C"

101635
GS-15

GS-13
101633

GS-14
101634

FOUR WINDS

MW-6D
△

MW-6R
⊕

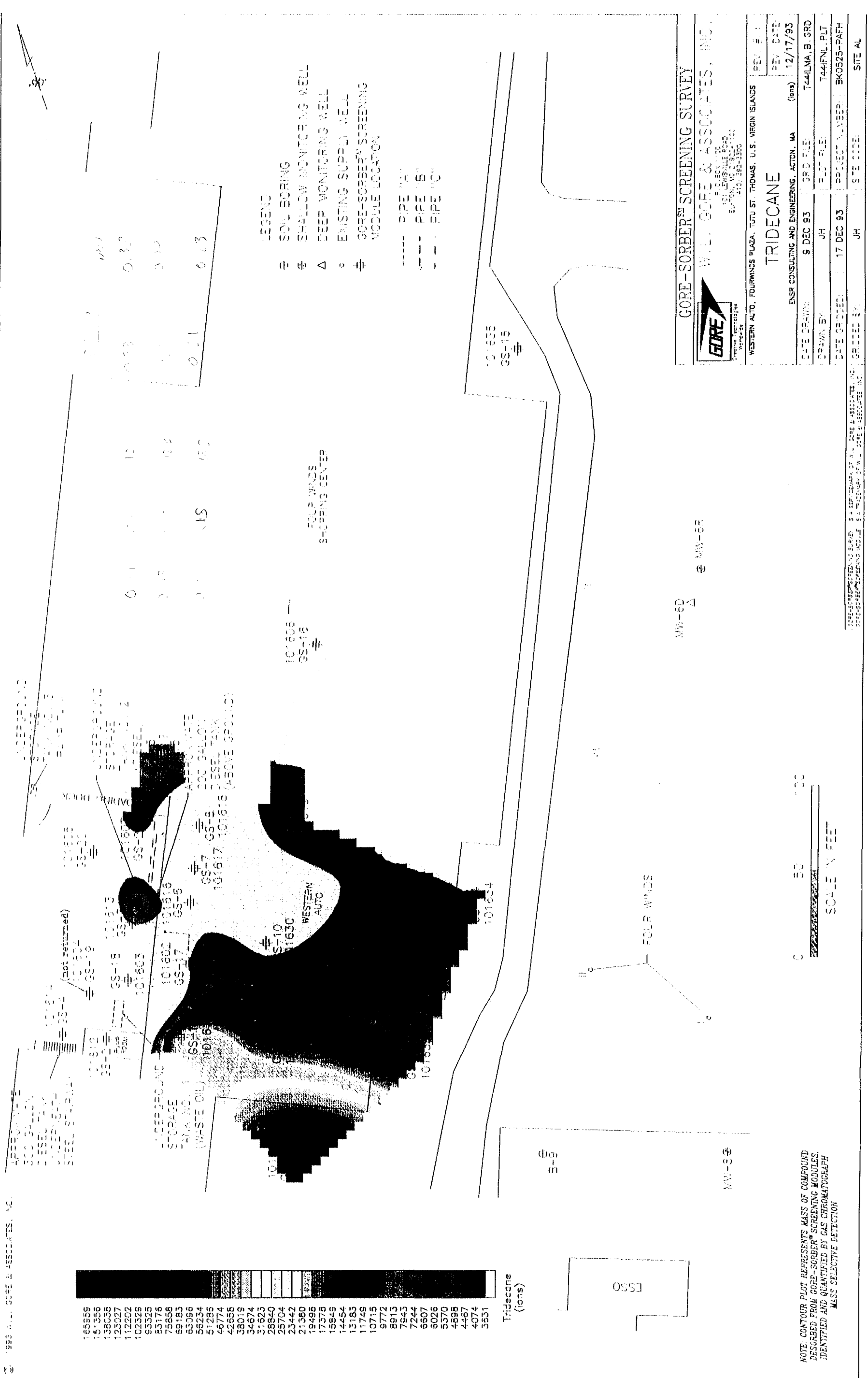
0 50 100
SCALE IN FEET

NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND
DESORBED FROM GORE-SORBER™ SCREENING MODULES,
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

FIGURE 7

GORE-SORBER™ SCREENING SURVEY			
		W.L. GORE & ASSOCIATES, INC.	
		P.O. BOX 1100 101 LEWISVILLE ROAD ELKTON, MD 21922-1100 (410) 392-3300	
WESTERN AUTO, FOURWINDS PLAZA, TUTU ST. THOMAS, U.S. VIRGIN ISLANDS		REV. #: 1	
A C ₁₈ H ₂₀ HYDROCARBON		REV. DATE: 12/17/93	
ENSR CONSULTING AND ENGINEERING, ACTON, MA		(ions)	
DATE DRAWN:	9 DEC 93	GRID FILE:	T45ILMA.B.GRD
DRAWN BY:	JH	PLOT FILE:	T45IFNL.PLT
DATE GRIDDED:	17 DEC 93	PROJECT NUMBER:	BK0525-PAFH
GRIDDED BY:	JH	SITE CODE:	SITE AL

GORE-SORBER™ SCREENING SURVEY IS A SERVICE MARK OF W.L. GORE & ASSOCIATES, INC.
GORE-SORBER™ SCREENING MODULE IS A TRADEMARK OF W.L. GORE & ASSOCIATES, INC.

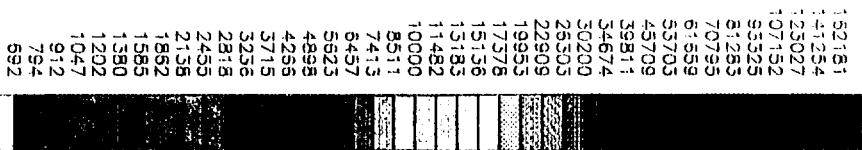


GORE-SORBER SCREENING SURVEY	
W.L. GORE & ASSOCIATES, INC.	
ENR CONSULTING AND ENGINEERING, ACTON, MA (ens)	
DATE DRAWN: 9 DEC 93	GRID FILE: T44ILNA.B.GRD
DRAWN BY: JH	PLT FILE: T44IFNL.PLT
DATE OF DATA: 17 DEC 93	PROJECT NUMBER: BK0525-PAFH
JH	SITE AL

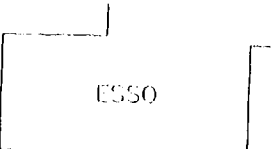
PROBABLE C8 & C9 CYCLOALKANES
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

PROBABLE C8 & C9 CYCLOALKANES
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

PROBABLE C8 & C9 CYCLOALKANES
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION



CBH15-C9H18
(tons)



MM-5a

B-9

GS-13
101635

101631
GS-11

PROBABLE C8 & C9 CYCLOALKANES
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

101602
GS-17

101617
GS-8
101618
(ABOVE GROUND)

101636
GS-16

101636
GS-15

101634

101635
GS-15

FOUR WINDS

FOUR WINDS
SHOOTING CENTER

MM-6D

MM-5B

- LEGEND
- SOIL SCRIBING
 - △ SHALLOW MONITORING WELL
 - DEEP MONITORING WELL
 - EXISTING SUPPLY WELL
 - GORE-SORBER™ SCREENING MODULE LOCATION

- PIPE "A"
- PIPE "B"
- PIPE "C"

NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND
DISORGANIZED FROM GORE-SORBER™ SCREENING MODULES,
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

SCALE IN FEET

0 50 100

PROBABLE C8 & C9 CYCLOALKANES
IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH
MASS SELECTIVE DETECTION

GORE-SORBER™ SCREENING SURVEY			
W.L. GORE & ASSOCIATES, INC.			
1001 LANTANA ROAD SUITE 100 WESTERN AUTO, FOURWINDS PLAZA, TUTU ST. THOMAS, U.S. VIRGIN ISLANDS CROOKING TOWN, U.S. VIRGIN ISLANDS TEL: 340-332-1300			
ENR CONSULTING AND ENGINEERING, ACTION, VA		REV. #1	
DATE DRAWN: 9 DEC 93		DATE: 12/17/93	
DRAWN BY: JH		TASJLMA, B. GRD	
DATE PROJECT: 17 DEC 93		PROJECT NUMBER: BK0525-BAFH	
JH		SFE AL	