BOX #26 continued

ITE Electrical Products, 145 Dellinger Rd , Urbana 43078
IWD Liquid Waste Inc., 701 Thrasher St., Springfield 45503
Jordan Products, 336 Ohio Ave , New Carlilse 45344

BOX #27

Jackson, Blueford & Son910 St Rt. 50
Jamestown Industries, Inc., 788 Industrial Blvd., Xenia 45385
Johnson (Ernest) Complaint, 7753 Wooster Pk, Cincinati
Jefferson Smurfit Corp., 412 S Cooper Ave , Lockland 45215
Keenan Oil Co , 2350 Seymour Ave , Cincinnati 45212
Kettering (City of) UST, 3600 Shroyer, Kettering 45429
Kimberly Clark, 518 E. Water St , Troy 45373
Kimberly Clark, 30 Mary-Bill Dr , Troy 45373
Kitchenaid, 3800 Space Dr., Dayton 45414
Klinger (Richard) Inc., 2350 Campbell Rd , Sidney
Klor Kleen Inc., Cincinnati
KSH Incorporated, 825 Bellbrook, Xenia 45385

BOX #28

Lakeview Palladium, 3501 Home Ave , Dayton 45418
Laminated & Coated Prod. Corp , 421 S. Union St., Troy
The Las-Stik Manufacturing Co., 157 N. B St , Hamilton
Lee (D Russell) Vocational School, 3603 Hamilton-Middletown Rd , Hamilton
Larry's Waste Oil, 7594 Christline Dr , Cincinnati 45241
Ledex Inc , 801 Scholtz Rd , Vandalia 45377
Liquid Wate Management, 4925 Cincinnati-Brookville Rd , Shandon 45063
Lord Corp , 8915 Blue Ash Road, Cincinnati
Logan Finishing Co , Orchard at Elm Sts., Bellefontaine 43311
Lowrey Chemical, 2101 E. Glabraith Rd , Cincinnati 45237
Mac Tools, 9301 Hamer Rd., Georgetown 45121
Macray Co , Inc , 128 Eagle City Rd , Springfield 45502
Majestic Cleaners, 36 E Central, Fairborn 45324
Manville Forrest Products, 10600 Evandale Dr , Cincinnati 45241
Masonite Corp , Cincinnati 45241
Maxwell Trucking, 10300 Evendale Dr , Evendale 45241
M C Tank Transport, 8555 N Gilmore Rd , Hamilton 45014

BOX #28 continued

Mead Digital Systems, 3800 Space Dr , Dayton 45431
Merrell Dow Pharmecuticals, 2110 Nicholas Rd., Dayton 45418
Messler Motors, 22 S. Beech St., Oxford, 45056
Metal Prep Inc , 1000 E. Second St , Dayton 45402
Miami Industries, 9054 N Co. Rd 25A, Piqua 45356
Miami Valley Publishing Co., 674 Yellow Springs-Fairfield Rd., Fairborn 45324
Miami Valley Hospital, One Wyoming St., Dayton 45409
Micro Metal Finishing Inc., 3448 Spring Grove Ave , Cincinnati 45225
Middletown Packaging Inc., 1701 Reinartz Blvd., Middletown 45042
Miller (Ed) Storage Sites, St. Rt. 133 Felicity 45120
Miles Laboratories, 5600 Brentlinger Rd., Dayton
Mobile Chemical Co -Gravure Dept , 5460 Muddy Creek Rd., Cincinnati 45238
Morgan Industrial Scrap Hauler, Cincinnati
Morris Bean Co , 777 E. Hyde Rd., Yellow Springs
Morrison Ink Co., 833 Zapata Dr, Fairborn 45324
Muller Industries, 2217 Langdon Farm Rd , Cincinnati 45237

BOX #29

Monarch Marking System, 1 Kohnle Dr , Miamisburg 45342
Montgomery County Engineer-Diamond Mill Rd. Fac , 41 N. Perry St , Dayton 45402
Morton International Inc. (formerly Carstab), 2000 West St., Cincinnati
Morton International Inc (formerly Ram Chem), 119 E Dayton St., W Alexandria
Mosier Industries Inc , 325 Carr Dr , Brookville 45309
Moss-Poynter Heat Treating, 3835 Holbrook Ave., Cincinnati 45226
Multi-Color Corp , 675 Oxford Rd , Franklin 45005

BOX #30

Monsanto - Addyston

BOX #31

Metropolitan Sewer District, 1500 Gest St , Cincinnati
MSD Liquid/Fluid Incinerator, 1500 Gest St , Cincinnati
Monsanto - Addyston
- Part B
- HWFB
- Correspondence

BOX #32

Navistar International (formerly Interntional Harvestor), 2069 Lagonda Ave., Spgfld.
NCR Microelectronics, 8181 Byers Rd , Miamisburg 45342
Neaton Auto Products Mfg. Inc., 975 S Franklin St., Eaton 45320
Northridge (Sinking Houses)
Nuodex Inc , 620 Shepherd Dr , Lockland 45215
Nutone Inc , Madison & Red Banks Rds., Cincinnati 45227
O H. Hutchings Generating Station, 9200 Chautauqua Rd., Miamisburg 45342
Owens-Illinois, 7712 Reinhold Dr., Cincinnati 45237
Ohio Bell Co., 121 S Spring St., Springfield
Ohio Edison Mad River Plant, West Main St., Rt. 40, Springfield 45504
Ohio Waste Oil, 620 W. North Bend, Cincinnati 45224

BOX #33

Parker Hannifin corp , 725 N. Beech St , Eaton
Par-Five Inc., 1346 Morris Ave , Dayton 45408
Parton Oil Site, Beavercreek
Perry & Derrick, 1729 Highland Ave , Norwood 45212
Perma Door (formerly Steelcraft), 9017 Blue Ash Rd , Blue Ash
Perma Door, 4300 Glendale-Milford Dr , BlueAsh
Pernafix Products, Inc , 300 S West End Ave., Dayton
Phoenix Recovery, Union City
Phthalchem Inc , 6675 Beechland Dr , Cincinnati 45237

BOX #34

PMI-Hobart Corp
- Hobart - Hillsboro
- Hobart - Dayton Scale Div
- Hobart - Troy Sunshade Div
- Hobart - Greenville

PMC Specialty (formerly Sherwin Williams), 501 Murray Rd , Cincinnati
POB Incorporated, 11100 Kenwood Rd , Blue Ash 45242
Polycrafters, 3845 W National Rd , Springfield 45504
Port Clinton,

BOX #35

Prinkpack Inc., 470 W. Northland Rd , Cincinnati 45240
Pristine Inc., Reading
Proctor & Gamble
    Ivorydale
    Spring Grive
    Sharon Woods
    Ross
    Luken Airport
Qmax Technology Group, 1001 Brown School Rd., Vandalia 45377
Quality Chemicals (formerly Monsanto Research), 1515 Nicholas Rd , Dayton 45418

BOX #36

Quality Chemicals (Monsanto Research), 1515 Nicholas Rd , Dayton
Quantum Chemical Corp (formerly USI), 1275 Section Rd., Cincinnati 45222
Queen City Steel Treating, 2980 Spring Grove Ave , Cincinnati 45225
Queen City Barrel Co., Cincinnati

BOX #37

Queen City Barrel Co., Cincinnati

BOX #38

Redbank Transport Inc., 910 US Rt. 50, Milford 45150
Reliance Medical Prod /F F Koenigkramer, 96 Caldwell Dr , Cincinnati
Revlon-Realistic Products, 3274 Beekman St , Cincinnati 45223
Ridgeway Color Company, 410 Glendale-Milford Rd , Cincinnati 45215
R.L Industries, 9355 LeSaint Dr , Fairfield
Roberts Consolidated Inc ,220 Janney Rd., Dayton
Robertson Can Co., 14 N. Lowry, Springfield 45501
Robbins & Meyers, 1895 W Jefferson St , Springfield
Safety-Kleen, Tipp City & Sharonville

BOX #38A

Republic Environmental Systems
    Part B review/Correspondence

BOX #39

Scitex Digital Printing, 3100 Research Blvd , Dayton 45420
Senco Products, 8485 Broadwell Rd , Cincinnati 45244
Sonoco Products Co , 1900 Covington Ave , Piqua 45356
Southern Adhesives, Osceola Ave , Cincinnati
Springfield Impregnators Inc., 829 Pauline St , Springfield 45501
Springfield, City of, 1000 east st , Springfield 45505
Square D Co., 5735 College Corner Rd , Oxford 45056
Standard Oil, 621 Brandt Pike, Dayton 45404
Standard Register Co , 626 Albany St , Dayton 45401
Stoll & Co., Wayne Ave., Dayton
Strippers Inc of Troy, 1352 Co Rd. 25A, Troy

BOXES #40, 41 & 42

Southdown/Southwestern Portland Cement Co., Fairborn

BOX #43

Steel Abrasives Inc , Fairfield
Sun Chemicals Corp , 3922 Bach Buxton Rd , Amelia 45102
Sun Chemicals - Pigments Div , 12049 Centron Place, Cincinnati 45246
Superior Label, 11405 Grooms Rd , Cincinnati 45242
Superior Lawn, 5749 Executive Blvd , Huber Heights
Tedia Co , 2940 Symmes Rd , Fairfield 45024
Texaco Division, 4201 River Rd , Cincinnati 45204
Tonawanda Truck Inc , 152 St Rt. 133 South, Blanchester 45107
Top-to-Bottom Construction Co , 5513 Vine St , Cncinnati 45216
TRW Inc , Sabina 45169
Union Camp Corp , 115 Compark Rd , Centerville 45459
United Scrap Lead, P O Box 25, Troy 45373

BOX #44

U S DOE Mound, Mound Rd , Miamisburg
U S EPA HWERL, 26 W St Clair, Cincinnati
USEPA R&D, Cincinnati
USEPA T&E Facility, Cincinnati

BOX #45

USEPA-Center Hill, 26 W. St Clair St , Cincinnati
US Printing Ink Corp (Millmaster Onyx Group), 600 Redna Terrace, Cincinnati
US Shoe Corp., Wilmington
Valley Asphalt Corp , Cincinnati
Van Dyne Crotty Inc , 903 Brandt, Dayton
Van Leer Packaging Worldwide, 526 Markwith Ave , Greenville
Van Water & Rogers, Cincinnati
Varland Metal Service, 3231 Fredonia Ave , Cincinnati 45229

BOX #46

Walls Brothers Asphalt, 10920 Coletown-Litesville Rd , Ansonia
WPAFB, Fairborn
Worthington Steel Co , 350 Lawton Dr , Monroe 45050
Woodrow Corp., 4300 River Rd , Springfield 45501
Worthington Custom Plastics, 4219 US Route 42, Mason 45040
Vernay Laboratories Inc , Dayton St., Yellow Springs
W&W Tank Cleaners, 2989 Symmes Rd , Fairfield
Waste Economics Inc., 1030 Santo Monoca Dr., Sringfield 45503
West Carrollton Parchment Co , Elm & Central St , WestCarrollton 45449
Whiteway Mfg Co , 1736 Dreman Ave., Cincinnati 45223
William Powell Valve Co., 2503 Spring Grove Ave , Cincinnati 45214
Weakley Ave Abandoned Drums, Dayton, Ohio

BOX #47

Harry DeNune Case, Springfield

DAIMLERCHRYSLER CORPORATION PURCHASE REQUISITION

REQUISITION NUMBER: YGQP000236

AREA: U.S.A. TYPE: NON-PRODUCTION

DATE REQUIRED: 12-15-00 HOT: POC: ORIGINAL PO: BUYER: MAXIMUM AUTHORIZED 411,934.0

SUGGESTED SUPPLIER:
78637 SINGLE SOURCE:
LEGGETTE BRASHEARS & GRAHAM INC

1210 W COUNTY ROAD E SUITE A1211
ST PAUL MN
55112

SHIP TO: YGL
INVOICE TO CODE: YGL

1100 DAIMLERCHRYSLER TECH CTR
800 CHRYSLER DRIVE EAST
AUBURN HILLS, MI 48326-2757

EST. COST: 411934.00 US FUNDS: JUSTIF: CANADA: APP:B/C: TOOL CHRG: TOOL EST.: CONTROL #

ISSUED BY:	LOCATION:	DEPARTMENT:	CIMS:	TELEPHONE:	DATE:
STANCZUK, G.M.	1100	0165	482-00-51	008-776-7365	11-30-00

QUANTITY/UM	ESTIMATED UNIT COST	NPM CODE PART NUMBER	S X *	DESCRIPTION/MISCELLANEOUS ITEM DATA
1 LOT		99-366-0029		INSTALL SEVENTEEN, 3-GROUNDWATER MONITORING WELLS CLUSTERS, AT APPROXIMATE DEPTHS OF 25, 50, AND 85 FEET BELOW GROUND SURFACE IN THE NEIGHBORHOOD SOUTH OF THE DAYTON THERMAL PLANT. REQ. 2369.
			C	1.00 ACT 1230-0009999-0382100 #8AK543 WO - PROJ 980049 0001

* MISC DATA CODES: A=ASSEMBLY NO C=CHARGES S=SPECIFICATIONS X=COMMTY CODE B=BLUEPRINTS D=DELIVERY U=UPG(APP)

COMMENTS:

END USER T-ID: (T5493GS)
END USER NAME: (GARY STANCZUK)
LOC: (1100) DEPT: (0160) PH: (2485767365) CIMS:(4820061)
INV APRV T-ID: (T8769MM)
INV APRV NAME: (MELVIN MAGRETA)
LOC: (1100) DEPT: (1282) PH: (2485767335) CIMS:(4820041)
O/R: PARTNERED SITE 993660029 Z916301962
PM: STANCZUK DAYTON
COST NOT TO EXCEED $ 411,934.

APPROVALS:

LVL	NAME	DATE	LVL	NAME	DATE	LVL	NAME	DATE
A10		__/__/__			__/__/__			__/__/__
F10		__/__/__			__/__/__			__/__/__

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND
ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD E
SUITE 700
ST PAUL, MN 55112
651-490-1405
FAX 651-490-1006

December 6, 2000

Mr. Keith A. Coney, CIMS 484-00-04
DaimlerChrysler Corporation
Chrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re: **REVISED PROPOSAL 3CHRY4-29; Req. # YGQP-** 2369
Off-Site Drilling Program
Dayton Thermal Products Plant (SC001)
Dayton, Ohio

Dear Keith:

At the request of Mr. Gary Stanczuk, Leggette, Brashears & Graham, Inc. (LBG) has prepared the following cost estimate for installation of clustered monitoring wells and piezometers off site, in the vicinity of the Dayton Thermal Products Plant in Dayton, Ohio. Detailed estimated costs for the work are presented in the attached cost spreadsheet. We request that Clause 135 be included in this P.O.C. request.

TASK 1: OFF-SITE DRILLING AND WELL INSTALLATION

This task includes LBG services to procure and supervise drilling and off-site well installation by a union drilling contractor. Seventeen, 3-well clusters will be installed in the vicinity of the Dayton Thermal Products Plant. These wells and piezometers are being installed as part of an extensive off-site ground-water investigation to delineate the degree and extent of potential off-site ground-water impacts from the Dayton Plant, as well as to identify any potential third party ground-water contamination. Individual wells/piezometers in each cluster will be set at approximate depths of 25, 50, and 80 feet below ground surface. It is estimated that 25 drilling days will be required to complete the work scope. LBG will provide one field hydrogeologist for the duration of the installation activities. Travel and lodging expenses are included. Soil disposal costs are not included, pending receipt of analytical results. Approximately 30 cubic yards of drill cuttings are anticipated.

Off-Site Drilling and Well Installation..... $ 363,579.00

TASK 2: DATA REDUCTION AND REPORTING

This task includes LBG services to evaluate, document, store, and report the results of the off-site monitoring well/piezometers installation. This task includes production of compound-specific isoconcentration maps at shallow, medium, and deep levels, updated compound-specific cross sections with updated geology, and a summary report (draft).

Data Reduction and Reporting..... $ 18,292.00

TASK 3: SURVEY MONITORING WELL CLUSTERS

This task includes LBG and subcontractor services to survey all wells for both horizontal and vertical locations, and formatting for GIS database usage.

Survey Monitoring Well Clusters..... $ 14,407.00

TASK 4: SUBCONTRACT ADMINISTRATION AND LIABILITY

This task includes reimbursable principal, project manager time, and legal fees to thoroughly review bid, contract, and invoice documents, and to review project progress as it relates to liability and financial issues. Insurance premiums based on dollar-volume of work are included. Expenses for administration and accounting related to the subcontract are also included, as well as a 1 percent profit for capital funds and risk assumption. This estimate assumes 3 months of administration for this subcontract and is based upon historical, pro-rated historical administrative labor allocations.

Subcontract Administration and Liability..... $ 15,656.00

TOTAL ESTIMATED COSTS FOR TASKS 1 through 4..... $ 411,934.00

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Kenneth D. Vogel

Kenneth D. Vogel, PG, CHMM
Senior Associate

KDV:kw
Attachment
S:\Tech\3CHRY\DAYTON\PROJMGMT\FINANCE\drloffsite3$.doc

TASK PRICING WORKSHEET
DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 6, 2000
REVISED PROPOSAL NUMBER 3CHRY4-29

COST ESTIMATE SUMMARY
OFF SITE DRILLING PROGRAM

TASK	TASK NAME	LBG Labor Cost	LBG Expenses	Other Charges	Grand Total Fee and Expenses
Task 1	Offsite Drilling and Well Installation	$48,577	$312,770	$2,232	$363,579
Task 2	Data Reduction and Reporting - Offsite Drilling Investigation	$17,630	$309	$353	$18,292
Task 3	Survey Monitoring Well Clusters	$3,772	$10,560	$75	$14,407
Task 4	Subcontract Administration and Liability	$2,731	$12,870	$55	$15,656
	TOTALS	$72,710	$336,509	$2,714	$411,934

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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 6, 2000

Task 1: Offsite Drilling and Well Installation

Work Description: This task includes LBG services to prepare for, travel Dayton, and to supervise monitoring well and piezometer installation, including sample collection, geologic logging, and field documentation. This investigation is intended to further delineate offsite impacts to soil and ground water Seventeen well custers will be installed with 3 wells in each cluster at depths of 25, 50 and 80 feet. A field crew of one is anticipated for a period of 25 drilling days, which are assumed to be 12 hours each. These costs do not include soil disposal, pending analytical results.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc.	Project kick-off, communicate with field crew	$41 /hr.	60	$7,306
Sr. Hydro.	Prep., Field oversite, and travel	$36 /hr.	375	$40,095
Sr. Eng.		$38 /hr		$
Hydro.		$26 /hr.		$
Eng.		$30 /hr.		$
Tech.		$22 /hr.		$
Draft.	Field base map preparation	$22 /hr.	6	$392
Admin.	Correspondence and scheduling	$22 /hr.	12	$784
			TOTAL	$48,577
				2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Moody's	Drilling contractor well drilling and installation	$300,000. /ea.	1	1.000	$300,000
Misc. Supplies	Field supplies	$500 /set	1	1.050	$525
Hotel, Meals	LBG field hydro	$135 /day	29	1.000	$3,915
Rental Car	Rental car	$65 /day	27	1.000	$1,755
Field Phone	Communications	$10 /day	27	1 050	$284
Equipment	Hnu	$255 /week.	3	1.000	$765
Mileage	Travel to airport	$0.33 /mi	100	1.000	$33
Permit	Sidewalk Use Permits (temporary closure)	$100. /ea.	5	1.050	$525
Airfare	Field personnel	$750. /ea.	4	1.000	$3,000
Fed-Ex	Sample shipping	$75 /ea.	25	1.050	$1,969
		Reimbursed Expense Total			$312,770

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes	$972	1	1.000	$972
	(2 percent of professional fees total)				$0
Roll-off Rental	Cuttings storage (two 20 cu yd rolloffs)	$100 /week.	12	1 05	$1,260
					$0
			Other Charges Total		$2,232

ESTIMATED TASK TOTAL	$363,579

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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 6, 2000

Task 2: Data Reduction and Reporting - Offsite Drilling Investigation

Work Description: This task includes LBG services to analyze and evaluate the resultant data received from the Off Site Drilling Investigation. LBG will prepare a summary report with maps and cross-sections documenting the findings of this phase of work.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal	Report review.	$50 /hr.	2	$297
Assoc.	Project coordination, reporting, communication	$41 /hr.	40	$4,871
Sr Hydro.		$36 /hr.		$
Sr. Eng.	Data reduction and reporting	$38 /hr.	10	$1,129
Hydro.	Data reduction and reporting	$26 /hr.	100	$7,722
Eng.	Data reduction and reporting	$30 /hr.	20	$1,782
Tech.		$22 /hr.		$
Draft.	Figure preparation	$22 /hr.	20	$1,307
Admin.	Word processing	$22 /hr.	8	$523
			TOTAL	$17,630

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Fed Ex	Document Transmittal	$15. /ea.	12	1.050	$189
Plots	report figures and maps	$1 5 /ea.	80	1.000	$120
			Reimbursed Expense Total		$309

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$353	1	1.000	$353
					$0
					$0
					$0
					$0
					$0
					$0
					$0
			Other Charges Total		$353

ESTIMATED TASK TOTAL $18,292

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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 6, 2000

Task 3: Survey Monitoring Well Clusters

Work Description: This task includes LBG services to coordinate surveying of the offsite well nests, GIS and ARC View formatting.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc.	Contracting and communication	$41 /hr.	4	$487
Sr. Hydro.		$36 /hr.		$
Sr. Eng.		$38 /hr.		$
Hydro.	Contracting, field oversite and GIS formatting	$26 /hr.	40	$3,089
Eng.		$30 /hr.		$
Tech.		$22 /hr.		$
Draft.	Figure preparation	$22 /hr.	3	$196
Admin.		$22 /hr.		$
			TOTAL	$3,772

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Surveying	Survey horizontal and vertical well locations	$10,000 /ea.	1	1.050	$10,500
Plots	Report figures and maps	$1.5 /ea.	40	1.000	$60
			Reimbursed Expense Total		$10,560

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$75	1	1.000	$75
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
			Other Charges Total		$75

ESTIMATED TASK TOTAL $14,407

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 6, 2000

Task 4:	**Subcontract Administration and Liability**
Work Description:	This task includes reimbursable principal, project manager time and legal fees to thoroughly review bid, contract, and invoice documents, and to review project progress as it relates to liability and financial issues. Insurance premiums based on dollar-volume of work are included. Expenses for administration and accounting related to the subcontract are also included. These estimates assume 1 5 months of administration for this subcontract and are based on pro-rated, historical administrative labor allocations.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal	Contract Review and Administration	$50 /hr.	2	$297
Assoc.	Contract Review, Invoice Administration	$41 /hr.	4	$487
		$38 /hr.		$
		$38 /hr.		$
		$26 /hr.		$
Corporate Admin.	Contract Administration and Record keeping	$43 /hr	3	$379
AP/AR	Financial record keeping, tracking, billing, payments	$22 /hr.	8	$523
Time Billing Admin.	Financial record keeping, tracking, billing, payments	$22 /hr.	8	$523
Office Admin.	Contract and Financial Administration	$22 /hr.	8	$523
			TOTAL	$2,731
				2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
					$0
Insurance	Insurance Premiums	3.13%	300,000	1.000	$9,390
Attorney's Fees	Legal review of contract and bid, communication	$160 /hr.	3	1.000	$480
					$0
					$0
Profit	LBG Profit for capital funds and risk	1.00%	300,000	1.000	$3,000
					$0
					$0
					$0
					$0
					$0
		Reimbursed Expense Total			$12,870

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$55	1	1 000	$55
					$0
					$0
					$0
			Other Charges Total		$55

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ESTIMATED TASK TOTAL	$15,656

DAIMLERCHRYSLER CORPORATION PURCHASE REQUISITION

REQUISITION NUMBER: YGQP000236

AREA: U.S.A. TYPE: NON-PRODUCTION

DATE REQUIRED: 12-08-00 HOT: POC: ORIGINAL PO: BUYER: MAXIMUM AUTHORIZED 418,778.0

SUGGESTED SUPPLIER:
78637 SINGLE SOURCE:
LEGGETTE BRASHEARS & GRAHAM INC

1210 W COUNTY ROAD E SUITE A1211
ST PAUL MN 55112

SHIP TO: YGL
1100 DAIMLERCHRYSLER TECH CTR
800 CHRYSLER DRIVE EAST
AUBURN HILLS, MI 48326-2757

INVOICE TO CODE: YGL

EST. COST: 418778.00 US FUNDS: JUSTIF: CANADA: APP:B/C: TOOL CHRG: TOOL EST.: CONTROL #

ISSUED BY:	LOCATION:	DEPARTMENT:	CIMS:	TELEPHONE:	DATE:
STANCZUK, G.M.	1100	0165	482-00-51	008-776-7365	11-30-00

QUANTITY/UM	ESTIMATED UNIT COST	NPM CODE PART NUMBER	S X *	DESCRIPTION/MISCELLANEOUS ITEM DATA
1 LOT		99-366-0029		INSTALL SEVENTEEN, 3-GROUNDWATER MONITORING WELLS CLUSTERS, AT APPROXIMATE DEPTHS OF 25, 50, AND 85 FEET BELOW GROUND SURFACE IN THE NEIGHBORHOOD SOUTH OF THE DAYTON THERMAL PLANT. REQ. 2369.
			C	1.00 ACT 1230-0009999-0382100 #8AK543 WO - PROJ 980049 0001

* MISC DATA CODES: A=ASSEMBLY NO C=CHARGES S=SPECIFICATIONS X=COMMTY CODE B=BLUEPRINTS D=DELIVERY U=UPG(APP)

COMMENTS:

END USER T-ID: (T5493GS)
END USER NAME: (GARY STANCZUK)
LOC: (1100) DEPT: (0160) PH: (2485767365) CIMS:(4820061)
INV APRV T-ID: (T8769MM)
INV APRV NAME: (MELVIN MAGRETA)
LOC: (1100) DEPT: (1282) PH: (2485767335) CIMS:(4820041)
O/R: PARTNERED SITE 993660029 Z916301962
PM: STANCZUK DAYTON
COST NOT TO EXCEED $ 418,778.

APPROVALS:

LVL	NAME	DATE	LVL	NAME	DATE	LVL	NAME	DATE
A10		__/__/__			__/__/__			__/__/__
F10		__/__/__			__/__/__			__/__/__

November 16, 2000

Mr. Keith A. Coney, CIMS 484-00-04
DaimlerChrysler Corporation
Chrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re: **REVISED PROPOSAL 3CHRY4-29; Req. # YGQP-**
Off-Site Drilling Program
Dayton Thermal Products Plant (SC001)
Dayton, Ohio

Dear Keith:

At the request of Mr. Gary Stanczuk, Leggette, Brashears & Graham, Inc. (LBG) has prepared the following cost estimate for installation of clustered monitoring wells and piezometers off site, in the vicinity of the Dayton Thermal Products Plant in Dayton, Ohio. Detailed estimated costs for the work are presented in the attached cost spreadsheet. We request that Clause 135 be included in this P O.C. request.

TASK 1: OFF-SITE DRILLING AND WELL INSTALLATION

This task includes LBG services to procure and supervise drilling and off-site well installation by a union drilling contractor. Seventeen, 3-well clusters will be installed in the vicinity of the Dayton Thermal Products Plant. These wells and piezometers are being installed as part of an extensive off-site ground-water investigation to delineate the degree and extent of potential offsite ground-water impacts from the Dayton Plant, as well as to identify any potential third party ground-water contamination. Individual wells/piezometers in each cluster will be set at approximate depths of 25, 50, and 80 feet below ground surface. It is estimated that 25 drilling days will be required to complete the work scope. LBG will provide one field hydrogeologist for the duration of the installation activities Travel and lodging expenses are included. Soil disposal costs are not included, pending receipt of analytical results Approximately 30 cubic yards of drill cuttings are anticipated.

Off-Site Drilling and Well Installation..... $ 386,079.00

TASK 2: DATA REDUCTION AND REPORTING

This task includes LBG services to evaluate, document, store, and report the results of the off-site monitoring well/piezometers installation. This task includes production of compound-specific isoconcentrations maps at shallow, medium, and deep levels, updated compound-specific cross sections with updated geology, and a summary report (draft).

Data Reduction and Reporting..... $ 18,292.00

TASK 3: SURVEY MONITORING WELL CLUSTERS

This task includes LBG and subcontractor services to survey all wells for both horizontal and vertical locations, and formatting for GIS database usage.

Survey..... $ 14,407.00

TOTAL ESTIMATED COSTS FOR TASKS 1, 2 AND 3..... $ 418,778.00

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Kenneth D. Vogel

Kenneth D. Vogel, PG, CHMM
Senior Associate

KDV:kw
Attachment
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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

November 16, 2000

REVISED PROPOSAL NUMBER 3CHRY4-29

COST ESTIMATE SUMMARY

OFF SITE DRILLING PROGRAM

TASK	TASK NAME	LBG Labor Cost	LBG Expenses	Other Charges	Grand Total Fee and Expenses
Task 1	Offsite Drilling and Well Installation	$48,577	$335,270	$2,232	$386,079
Task 2	Data Reduction and Reporting - Offsite Drilling Investigation	$17,630	$309	$353	$18,292
Task 3	Survey Monitoring Well Clusters	$3,772	$10,560	$75	$14,407
	TOTALS	$69,979	$346,139	$2,660	$418,778

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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

November 16, 2000

Task 1: Offsite Drilling and Well Installation

Work Description: This task includes LBG services to prepare for, travel Dayton, and to supervise monitoring well and piezometer installation, including sample collection, geologic logging, and field documentation. This investigation is intended to further delineate offsite impacts to soil and ground water . Seventeen well custers will be installed with 3 wells in each cluster at depths of 25, 50 and 80 feet. A field crew of one is anticipated for a period of 25 drilling days, which are assumed to be 12 hours each. These costs do not include soil disposal, pending analytical results.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc.	Project kick-off, communicate with field crew	$41 /hr.	60	$7,308
Sr Hydro.	Prep., Field oversite, and travel	$36 /hr.	375	$40,095
Sr Eng.		$38 /hr		$
Hydro.		$26 /hr.		$
Eng		$30 /hr.		$
Tech		$22 /hr.		$
Draft	Field base map preparation	$22 /hr.	6	$392
Admin.	Correspondence and scheduling	$22 /hr.	12	$784
			TOTAL	$48,577

2 97 .05%

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Moody's	Drilling contractor well drilling and installation	$300,000 /ea.	1	1.075	$322,500
Misc Supplies	Field supplies	$500 /set	1	1 050	$525
Hotel, Meals	LBG field hydro	$135 /day	29	1 000	$3,915
Rental Car	Rental car	$65 /day	27	1 000	$1,755
Field Phone	Communications	$10 /day	27	1.050	$284
Equipment	Hnu	$255 /week.	3	1.000	$765
Mileage	Travel to airport	$0.33 /mi	100	1 000	$33
Permit	Sidewalk Use Permits (temporary closure)	$100 /ea.	5	1.050	$525
Airfare	Field personnel	$750 /ea	4	1.000	$3,000
Fed-Ex	Sample shipping	$75 /ea.	25	1.050	$1,969
		Reimbursed Expense Total			$335,270

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes	$972	1	1 000	$972
	(2 percent of professional fees total)				$0
Roll-off Rental	Cuttings storage (two 20 cu. yd rolloffs)	$100 /week.	12	1 05	$1,260
					$0
			Other Charges Total		$2,232

ESTIMATED TASK TOTAL	$386,079

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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

November 16, 2000

Task 2: Data Reduction and Reporting - Offsite Drilling Investigation

Work Description: This task includes LBG services to analyze and evaluate the resultant data received from the Off Site Drilling Investigation LBG will prepare a summary report with maps and cross-sections documenting the findings of this phase of work.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal	Report review.	$50 /hr.	2	$297
Assoc.	Project coordination, reporting, communication	$41 /hr.	40	$4,871
Sr Hydro		$36 /hr		$
Sr Eng.	Data reduction and reporting	$38 /hr.	10	$1,129
Hydro	Data reduction and reporting	$26 /hr.	100	$7,722
Eng	Data reduction and reporting	$30 /hr.	20	$1,782
Tech		$22 /hr.		$
Draft	Figure preparation	$22 /hr.	20	$1,307
Admin	Word processing	$22 /hr.	8	$523
			TOTAL	$17,630

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Fed Ex	Document Transmittal	$15. /ea.	12	1.050	$189
Plots	report figures and maps	$1.5 /ea.	80	1.000	$120
			Reimbursed Expense Total		$309

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$353	1	1.000	$353
					$0
					$0
					$0
					$0
					$0
					$0
					$0
			Other Charges Total		$353

ESTIMATED TASK TOTAL	$18,292

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

November 16, 2000

Task 3: **Survey Monitoring Well Clusters**

Work Description: This task includes LBG services to coordinate surveying of the offsite well nests, GIS and ARC View formatting.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc	Contracting and communication	$41 /hr.	4	$487
Sr Hydro		$36 /hr.		$
Sr Eng.		$38 /hr.		$
Hydro	Contracting, field oversite and GIS formatting	$26 /hr.	40	$3,089
Eng		$30 /hr.		$
Tech		$22 /hr.		$
Draft	Figure preparation	$22 /hr.	3	$196
Admin.		$22 /hr.		$
			TOTAL	$3,772

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Surveying	Survey horizontal and vertical well locations	$10,000 /ea.	1	1 050	$10,500
Plots	Report figures and maps	$1 5 /ea.	40	1.000	$60
				Reimbursed Expense Total	$10,560

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$75	1	1.000	$75
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
				Other Charges Total	$75

ESTIMATED TASK TOTAL	$14,407

Agenda

Dayton Thermal Products Plant
Remediation Activities
August 10, 1998

Site investigations

Construction Activities

Soil Vapor Extraction System

Groundwater Conditions (Potential Offsite)

Offsite Sampling

Public Meeting

Involvement with Ohio's VAP

Meeting was cancelled
due to problem with Delta airlines

Remediation Site General Notes

General Notes on: Dayton Thermal

Site Code:	SC001		
Manager:	Greg Rose	**Phone:**	248-576-7362
Project Manager:	Gary Stanczuk	**Phone:**	248-576-7365
Site Address:	1600 Webster Street,		
Site City:	Dayton	**State:**	Ohio

Site Background:

The Dayton Thermal Products facility is located in a mixed industrial/residential area in Dayton, Ohio. The property was first developed in 1907 as an automobile manufacturing facility. Chrysler purchased the property in 1936. This site is located on approximately 60 acres and contains over 1.3 million square feet of building space. The subsurface generally consists of sand and gravel to a depth of approximately 85 feet and is underlain by a stiff clay (till). Beneath the till is another sand and gravel aquifer.

While performing construction activities in Building 40B, a liquid began to seep into the excavation. Analysis of the liquid indicated the presence of chlorinated solvents (VOCs). VOCs were detected in an onsite 79-foot deep water-supply well which provided cooling water for the powerhouse equipment. Subsequent plant-wide drilling programs have delineated the vertical extent of impacted soils and ground water beneath the site. No offsite drilling has been conducted, therefore, the horizontal extent of contamination is unknown. One source area is believed to be an old solvent tank which was present along the east wall of Building 40B. The impacted soils and ground water are restricted to the upper 85 feet above the till layer.

Issues:

Site Investigations

Site investigations have shown that the soil and groundwater is impacted with chlorinated solvents. The soil requires special handling during any excavation activities. Groundwater impact appears to go offsite south of the Plant.

Construction Activities

The Plant has an approved project to install a new silicate system inside Building 40-B. Soil in this area is highly impacted and will require remediation prior to beginning construction.

Soil Vapor Extraction System

This system will remove the VOC's from the soil prior to construction activities.

Groundwater Conditions

Site investigations indicate the highest impact is along the southern border. Given this information, we believe it is possible that impacted groundwater has migrated offsite.

Offsite Sampling

We are currently in the process of obtaining necessary permits to conduct sampling

along the road right-of-ways south of the plant.

Public Meeting

As part of the offsite sampling process we believe that inviting the local residents to an informative meeting at the Plant will help make the effort go more smoothly.

Involvement with Ohio's VAP

Ohio has a Voluntary Action Program which is designed to assist with a risk-based remediation program. The advantage to this program is that they wil provide a letter that determines No Futher ACtion Is Required.

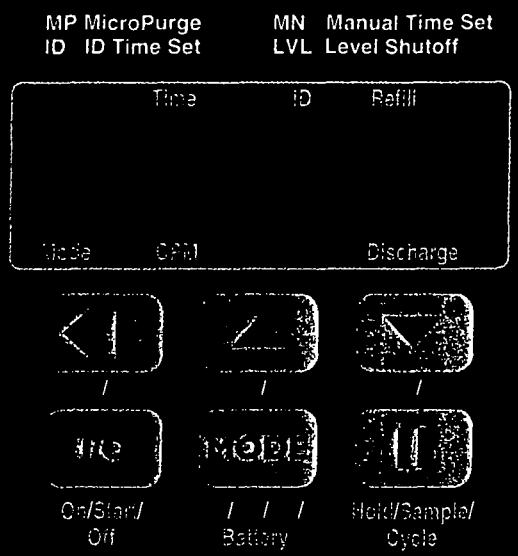
Soil Piles

Should the decision be made to remove two large soil piles (40,000 cubic yards or more?) currently at the plant, a systematic sampling and analysis of soil quality would be necessary prior to disposal.

Created By: Gary M Stanczuk	**Edited By:** Gary M Stanczuk
Date Created: 08/07/98	**Last Edited:** 08/07/98

basics CONTROL & POWER PACK

PATENT PENDING



Simple, portable control with built-in compressed gas source for sampling pumps.

The ultimate in control and power for low-flow sampling

The MP15 MicroPurge® **basics™** Sample Pack combines advanced low-flow control with the quiet power of a built-in compressed gas source, for the ultimate in portability and ease of use.

The simplified flow and drawdown control features of **basics** control are housed in a molded case along with a lightweight CO_2 cylinder, putting everything you need to operate a bladder pump into one easily portable unit. A standard padded nylon case protects the MP15 in transport, provides over-the-shoulder on-site carrying convenience, and even has a hook on the back to let you hang it from the well casing during sampling.

The MP15 also includes a bypass fitting, so you can now use one handy unit to sample from both hard to reach wells and from wells accessible with larger gas cylinders and/or compressors. The MP15 has the power you want in an easy to carry package.

QED *First in Control & Power fo*

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FAX 734-995-1170 e-mail info@qedenv.com

1-800-624-2026 www.micropurge.com

MICROPURGE® basics™ MP15 CONTROL & POWER PACK

Portable power to sample any well

Remote wells and inaccessible sites are no problem with the unique, new MP15 Control & Power Pack. The convenient carrying case combines a compact compressed gas cylinder with the advanced control of MicroPurge **basics** Controllers.

With this combination, a complete sampling setup can be carried by a single person, to reach wells where trucks or even compressor carts can't go.

The 5 lb. CO_2 cylinder provides hours of sampling power, and is easily refilled. But the MP15 isn't just for remote wells. Its built-in bypass fitting allows it to be used with larger cylinders or other gas sources, extending your range even more.

Simple, stable, repeatable flow rate setting

The MicroPurge **basics** Controller's six-button keypad is your gateway to the control and power of the most advanced low-flow sampling system ever made. With remarkable ease, you will achieve precise, stable control of low pumping rates, quickly and repeatably, from one sampling event to the next.

QED's third-generation engineering takes advantage of the opportunity for downsized equipment, which is lighter and more portable, reduces equipment cost and increases sampling crew productivity. Simplified, sealed electronics are put together in a design that delivers famous QED durability and value.

MicroPurge **basics** controllers can be connected to the MP30 Drawdown Meter for optional Automatic Drawdown Control, an industry first.

Multi-mode digital control

The MicroPurge **basics** Controller gives you three easy-to-use operating modes, to cover every sampling protocol and situation.

- **MicroPurge Mode** easily adjusts low-flow rates with "faster/slower" arrow keys to reach desired rates. You don't have to worry about calculating pump cycles or refill and discharge times.
- **ID Mode** instantly recalls optimized settings previously established for each well, providing precise, consistent performance from event to event.
- **User Set (MN) Mode** provides manual control of pump operation for extreme depths and other special cases.

Backpack portability makes the MP15 a powerful tool for faster, more efficient sampling at remote sites. With alternate air supply fitting, it also works great at closer wells.

Can be used with any bladder pump system with the use of simple adapters

MICROPURGE CONTROL AND POWER PACK SPECIFICATIONS

System Specifications:	
Model No	MP15
Dimensions	25-1/2"x12-1/2"x10" (65x32x25 cm)
Weight	27 lb (12 kg)
Case Material	Polyethylene
Carry Bag	Standard
Back Pack Straps	Optional
Keypad	6 Keys
Display	2 Line, 16 Character / LCD Display
Power	3 "AA" batteries
Battery Life	50,000 Cycles @ 70°F (21°C)
Max Pressure	120 PSI (8,275 kPa)
Max Pump Depth	250 Feet (76 m)
Operating Temperature	-20 - 150°F (-29 - 66°C)
Cylinder	5 lb (2 3 kg) CO_2
Cylinder Life	Over 3 hours at 75 foot pump depth
Connection to MP30 Drawdown Meter	Heavy-duty cable (supplied with MP30)

MP15 PURGE CAPACITY*

Pump Depth (ft)	Purge Time (min)
50	400
100	120
150	90
200	50

*Purge times based on 200 ml/min flow rate, full 5 LB CO_2 cylinder, consult QED for more detail

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basics DRAWDOWN / WATER LEVEL METER

PATENT PENDING

Links to controller to prevent excessive draw-down during purging and sampling.

Drawdown control is now automatic with new low-flow water level meter

Limiting drawdown is one of the basics of MicroPurge® low-flow sampling. The MP30 Drawdown/Water Level Meter provides a new, simpler way to assure drawdown control.

The MP30 performs as a drawdown sensor and control when connected to the MicroPurge **basics** controllers, and as a high quality water level meter. The MP30 switches between both modes.

For drawdown control the meter is turned to MicroPurge mode and the probe is lowered to the point of maximum drawdown. If purging lowers the water level to the selected point, a light and buzzer on the MP30 meter are activated and the controller is signaled to enter a standby mode until the water level rises again. A separate light indicates probe submergence in both modes.

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MICROPURGE® **basics**™ MP30 DRAWDOWN / WATER LEVEL METER

Automatic protection against excessive purging

The MP30 Drawdown/Water Level Meter is unique. With its link to the **basics** Controller for automatic drawdown control, you'll never have to worry about over-purging a monitoring well again.

By constantly keeping track of well level for you, the MP30 removes one of the variables that can make low-flow sampling a challenge. Even if distractions occur, you'll have the confidence of knowing that the well will not be pumped down to excessive drawdown levels that could compromise your sample integrity.

To use Automatic Drawdown Control, the MP30 is switched to MicroPurge Mode and connected to the MP10 or MP15 Controller with the supplied link cable. When the probe is placed at the selected depth in the well, the submergence light stays on and there is no buzzer.

If drawdown reaches the probe, the level shutoff light and buzzer are activated. The linked controller halts pump cycling until the well recovers and reaches the probe; then pumping resumes automatically.

The MP30 (right) links to the MP10 or MP15 basics Controllers to provide continuous control of well level during low-flow purging and sampling. If the preset maximum drawdown level is reached, the MP30 signals the controller to put pumping on standby mode until the well level recovers.

Accurate ground water level measurement

In Standard Water Level Mode, the MP30 probe submergence light and buzzer are actuated when the probe contacts water. With its premium, stretch-resistant, polyethylene coated steel tape and permanent, recessed calibration markings, it is accurate to 1/100th ft. for consistent, repeatable level measurements.

The MP30's premium tape is fully encased in polyethylene, with non-stretch steel core, recessed markings, and protected probe wires for long-lasting accuracy and reliability.

The MP30 Drawdown Meter works great with any application as a drawdown indicator even without the cable link.

MICROPURGE DRAWDOWN / WATER LEVEL METER SPECIFICATIONS

System Specifications:

Model No.	MP30
Dimensions	14"X101/2"X8" (37x27x20 cm)
Weight	7 lb (3 2 kg) w/150' tape 9 lb (4 kg) w/300' tape
Probe Diameter	5/8" O D (1 6 cm)
Probe Length	7 5" (19 cm)

Carry Bag:	Optional
Connecting Cable.	Included
Well Hanger	Included
Reel Brake	Included

Power	9 Volt battery
Battery Life·	30 - 40 hours
Tape Length	150 or 300 Feet (46 or 91 m)
Operating Temperature	-40 - 185°F (-40 - 85°C)

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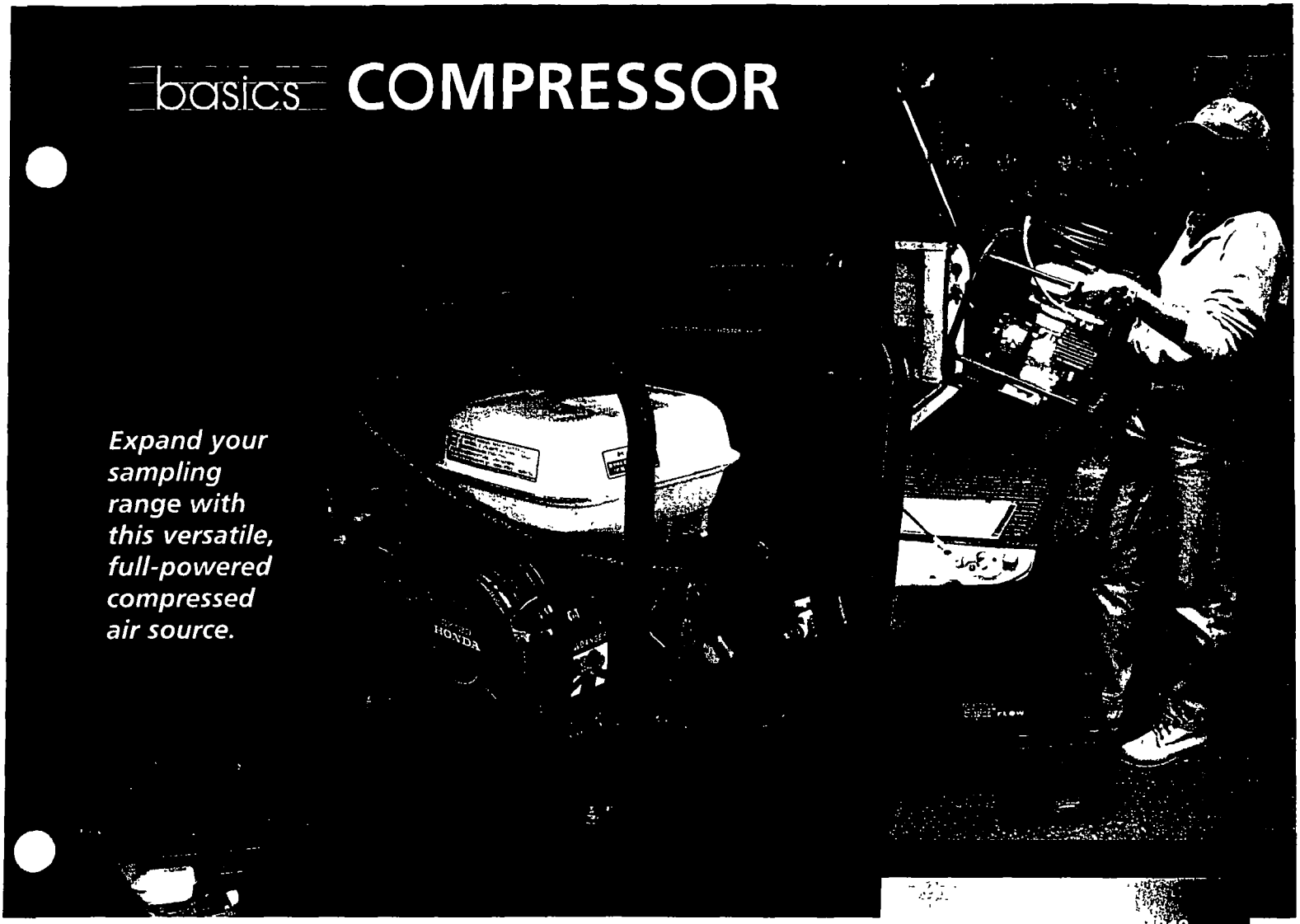
basics COMPRESSOR



Expand your sampling range with this versatile, full-powered compressed air source.

Compact, portable pneumatic power for purging and sampling

The rugged MicroPurge® **basics**™ MP40 Compressor cuts the weight and the part count of oil-less field compressors. The high quality compressor is directly coupled to a smooth-running Honda engine, eliminating the weight and complexity of pulleys, belts, and belt guards.

The MP40 compressor is mounted in a light weight aluminum cage for easy carrying — only 48 pounds total weight!

A new hose reel option attaches to the compressor cage so that wells up to 200 feet away can be reached without having to move the compressor unit. An optional cart with high flotation wheelbarrow tires is also available for mounting the MP40 to reach more distant wells.

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1-800-624-2026 www.micropurge.com

MICROPURGE® basics™ MP40 COMPRESSOR

Compact, rugged, full-powered air source

The MP40 Engine/Compressor is the product of nearly 20 years of QED design engineering devoted to developing an improved portable field source of compressed gas for ground water purging and sampling.

With its tough, welded aluminum cage, it can bounce around in the back of a pickup truck without damage, yet it is the most portable self-powered compressor on the market.

The high output, durable oil-less compressor is powered by a full 4.0 HP Honda gasoline engine (propane option available). The whole package has been fine-tuned for less vibration, to deliver a longer service life.

A complete selection of accessories makes the MP40 even more versatile. You can leave it in the truck and use the 200 foot air hose reel to extend your reach. For more remote wells, a simple cart kit makes it easy to pull the power where you need it. 16-inch high flotation tires roll over obstacles.

The most complete range of pneumatic power choices

QED provides more pneumatic power options than any other manufacturer. Choose from this list:

- The MP15 Control & Power Pack with built-in compact CO_2 cylinder;
- Model 3020 12 VDC Electric Compressor;
- The gasoline powered MP40;
- *Call for MP40 Propane option;*
- Regulator and hoses to use with full-sized or compact gas cylinders.

The optional Cart Kit (top photo) and 200' Air Hose Reel (bottom) greatly increase the sampling range and versatility of the basic MP40 Compressor.

MICROPURGE COMPRESSOR SPECIFICATIONS

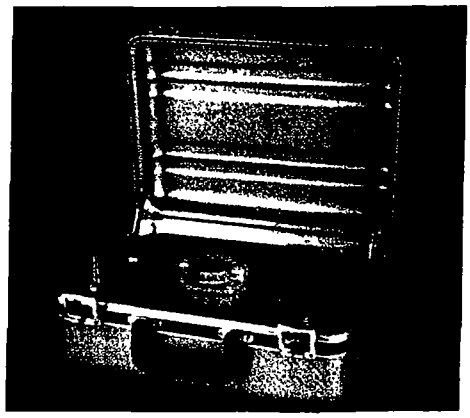
System Specifications		
Model No		MP40
Overall Dimensions·		14" W x 18-1/4" L x 18 5" H (36x46x47 cm)
Weight:		45 lbs (20 5 kg) dry; 48 lbs. (22 kg) filled w/ gasoline & oil
Engine.		4 0 HP Honda
Max Pressure		125 PSI (8,620 kPa)
Max Lift		250 Feet (76 m)
Output.	Through (20 ft [6 m] air hose)	(100 ft [61 m] air hose)
0 psi (0 kPa)	7 0 CFM (11 9 m³/h)	
25 psi (1,725 kPa)	6.1 CFM (10 4 m³/h)	4 8 CFM (8.2 m³/h)
50 psi (3,450 kPa)	5 0 CFM (8 5 m³/h)	4 4 CFM (7 8 m³/h)
75 psi (5,170 kPa)	4.2 CFM (7 1 m³/h)	3 8 CFM (6.5 m³/h)
100 psi (6,895 kPa)	3 5 CFM (6 0 m³/h)	2.4 CFM (4 1 m³/h)
125 psi (8,620 kPa)	2.2 CFM (3 7 m³/h)	1 7 CFM (2.9 m³/h)
Compatible Controllers		MP10/MP15 or Model 400
Options		
Cart Kit		MP40-1
Hose Attachment (200 ft)		MP40-2
Propane Conversion Kit		MP40-3

Oil-less electric compressor

The 3020 Compressor is a useful option for low-flow sampling of wells at depths to 100 feet. It runs on a 12 volt DC electrical supply, and can be connected to your vehicle's battery with the supplied cables, or driven by a separate power source.

At just 15x11x6-1/2" and 15 pounds, it offers an extremely convenient, portable pneumatic power choice for many sampling systems.

Electric Compressor Specifications	
Model No	3020
Dimensions	15 x 11 x 6 5" (38x28x17 cm)
Weight	15 lbs. (7 kg)
Power Supply:	12 VDC (battery cable)
Max Pressure	100 PSI (6,895 kPa)
Rec Max Lift	100 Feet (30 m)
Output	0 21 SCFM @ 100 psi (0 357 m³ /h @ 6,895 kPa)



Model 3020 Electric Compressor

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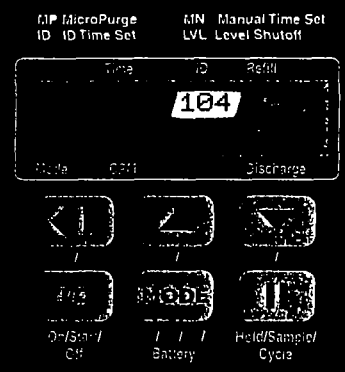
basics CONTROLLER

PATENT PENDING



Simple arrow key control of low flow rates makes purge rate adjustment easy.

Expert flow and drawdown control for low-volume purging

The MicroPurge **basics**™ MP10 Controller revolutionizes low-flow sampling with advanced logic control of purge flow and well drawdown. Simple up-down arrow keys increase and decrease purge flow, driving a microprocessor to re-create expert techniques for low-flow adjustment. Then, optimized settings are identified for recall in the next round of sampling.

The MP10 also offers an easy way to prevent excessive monitoring well drawdown during purging, by linking to the optional MP30 Drawdown/Water Level Meter.

The lightweight, compact MP10 sets the pace for a new generation of genuine MicroPurge basics equipment, **first in control and power for low-flow sampling.**

QED *First in Control & Power fo*

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1-800-624-2026 www.micropurge.com

Simple, stable, repeatable flow rate setting

The MP10 puts you in control of the most advanced low-flow sampling system ever made. You will purge and sample quickly and easily, with precise, steady low-flow pumping rates from one sampling event to the next. QED's new **basics** equipment is also designed to take advantage of the opportunities for downsized equipment, which is lighter and more portable, reduces equipment cost and increases sampling crew productivity. Simplified, sealed electronics are put together in a design that delivers famous QED durability and value.

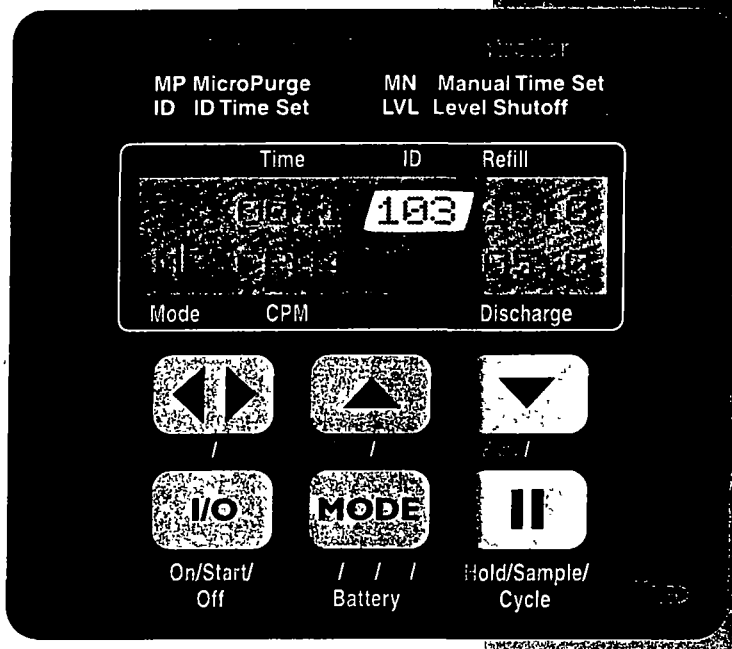
MicroPurge **basics** controllers can be connected to the MP30 Drawdown Meter for optional Automatic Drawdown Control, an industry first.

Multi-mode digital control

The MP10 gives you three easy-to-use operating modes, to cover every sampling protocol and situation.

- **MicroPurge (MP) Mode** quickly optimizes control settings to reach the desired pump flow rate. You don't have to worry about calculating pump cycles or refill and discharge times.
- **ID Mode** instantly recalls optimized settings previously established for each well, providing precise, consistent performance from event to event.
- **User Set (MN) Mode** provides manual control of pump operation for extreme depths and other special cases.

HOW IT WORKS



Pressing the UP Arrow increases the pump flow in controlled steps.

The DOWN Arrow Key decreases the flow rate in controlled steps.

MicroPurge Mode Quick Guide

1. Press I/O key to turn power ON.
2. Select desired Cycles Per Minute (CPM) with the ◀▶ key (default value is 4 CPM).
3. Turn throttle to set depth on gauge to 10 - 20 feet deeper than the pump location in the well.
4. Press I/O again to START pumping.
5. When water discharge begins, adjust throttle until a slow, steady flowstream is achieved.
6. Press ▲▼ keys to set the desired purge flow rate.
7. To collect samples, continue purge flow, or use II key to directly control sample flow and pause.

The LEFT/ RIGHT Arrow Key adjusts the Cycles Per Minute (CPM) of your pump.

ID 103 — The ID Number changes when an UP or DOWN Arrow is pressed. This number can be used in ID Mode to recall the setting for the next sampling round.

I/O On/Start/ Off — The I/O Key steps through the sequence of On-Start-Off.

MODE / / / Battery — The MODE Key changes modes from default MP (MicroPurge) to ID Mode to MN (User Set) Mode. This key also allows battery check.

II Hold/Sample/ Cycle — Pressing the PAUSE Key puts the controller in Hold Mode, stopping flow. A second press delivers push button controlled sampling. A third press returns the system to normal cycling.

Can be used with any bladder pump system, with the use of simple adapters

MICROPURGE CONTROLLER SPECIFICATIONS

System Specifications:	
Model No.	MP10
Dimensions	10-3/4"x9-3/4"x5" (27x25x13 cm)
Weight:	5 5 lbs (2 5 kg)
Case Material:	Structural Resin
Keypad:	6 Keys
Display	2 Line, 16 Character / LCD Display
Power.	3 "AA" batteries
Battery Life	50,000 Cycles @ 70°F (21°C)
Max Pressure:	120 PSI (8,275 kPa)
Max Pump Depth	250 Feet (76 m)
Operating Temperature	-20 - 150°F (-29 - 66°C)
Connection to MP30 Drawdown Meter	Heavy-duty cable (supplied with MP30)

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Low flow sampling gives you all the advantages

More accurate, precise samples

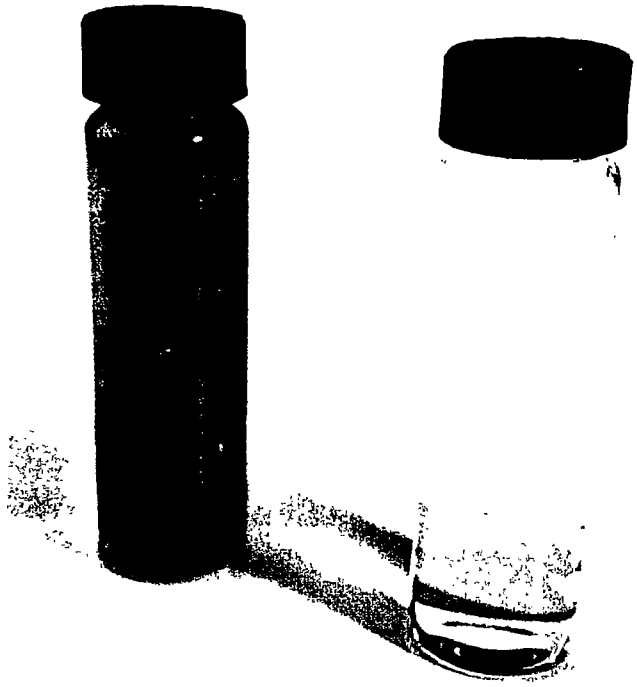
- Cuts sample turbidity by orders of magnitude
- Minimizes degassing & volatilization
- Reduces or eliminates filtration requirements

Greatly reduced sampling costs

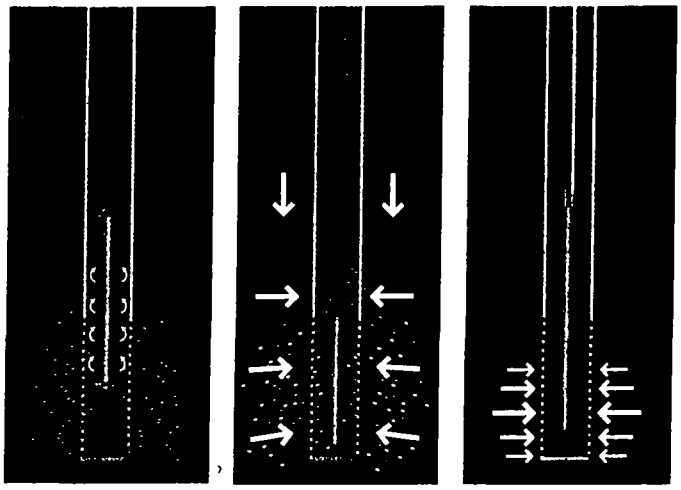
- Cuts purge volume up to 95%, reduces handling & disposal costs
- Eliminates decontamination & rinse blank analyses
- Reduces sampling labor costs significantly

Regulatory, scientific, and customer acceptance

- Approved in nearly every state and EPA region; often preferred in specific settings
- Increasing international acceptance, including new UK guidance documents
- Produces more consistent analyses, satisfying statistical guidelines



Low-flow MicroPurge sampling methods control turbidity and deliver higher quality samples (right) — a clear advantage.



Bailers & portable pumps (Fig. 1) mix stagnant water, air, and sediment into samples — even after purging 3 to 5 well volumes. High-rate pumps (Fig. 2) reduce sampling precision due to high-flow effects on volatiles, turbidity, and mixing. MicroPurge sampling methods (Fig. 3) deliver precise samples with minimal purging; natural aquifer flow brings representative water to the sampling zone with no mixing or excess turbidity.

EPA Recognizes Low-Flow Advantages

"In general, the advantages of low-flow purging include:

- **samples which are representative of the mobile load of contaminants present (dissolved and colloid-associated);**
- **minimal disturbance of the sampling point thereby minimizing sampling artifacts;**
- **less operator variability, greater operator control;**
- **reduced stress on the formation (minimal drawdown);**
- **less mixing of stagnant casing water with formation water;**
- **reduced need for filtration and, therefore, less time required for sampling;**
- **smaller purging volume which decreases waste disposal costs and sampling time;**
- **better sample consistency, reduced artificial sample variability."**

—"Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures," Robert J. Puls & Michael J. Barcelona, EPA *Ground Water Issue*, April 1996.

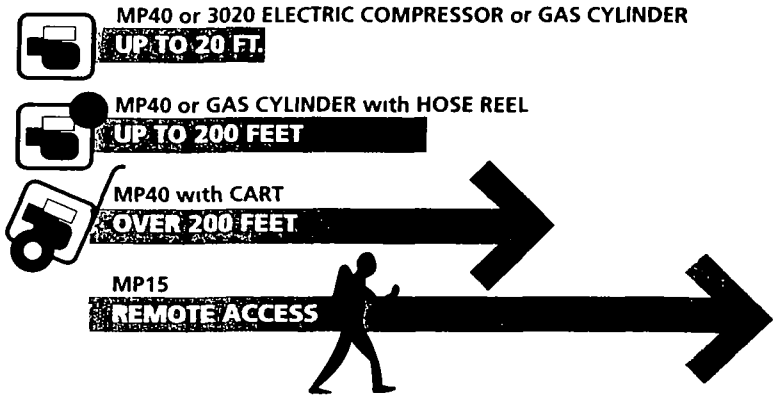
For a complete library of papers, articles, abstracts, and FAQs about low-flow ground water sampling, visit QED online at **www.micropurge.com** *or e-mail* **info@qedenv.com**.

POWER CHOICES: Compressors and Gas Cylinders

Power Options

The MicroPurge® **basics**™ system provides new options to power your sampling equipment and extend your reach.

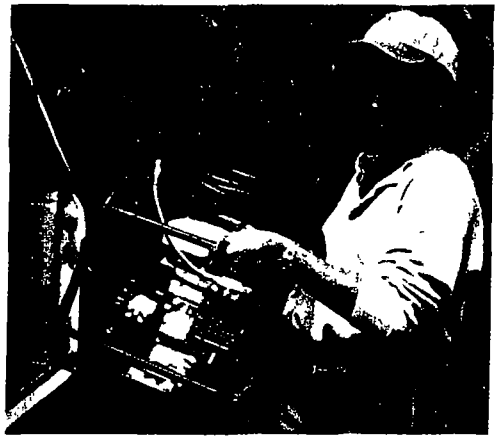
Whether you can drive right to the wells, need an air hose extension, or require portable equipment for remote locations, this system has all the right choices for your sampling program.



Oilless Compressors

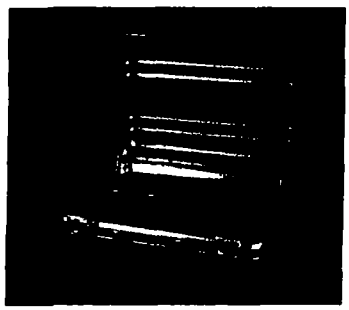
The new, lightweight MP40 engine-driven compressor packs all the power you need into a tough, compact unit that weighs only 48 pounds. Powered by a 4.0 HP Honda gasoline or propane engine, the MP40 is housed in a rugged, welded aluminum cage for protection and easy handling.

An optional Cart Kit and/or 200' Extended Reach Air Hose Reel (far right) can increase your mobility greatly.



Electric Compressor

For even lighter travel, QED's 15 pound, proven 3020 Electric Compressor is a convenient, reliable air source. The 12VDC compressor can even be powered by your vehicle's battery.



Compressed Gas Cylinders

MicroPurge **basics** equipment can also be used easily with your existing compressed air, nitrogen, or CO_2 cylinders.

CONTROL & POWER

in one compact unit

A new, self-contained controller/compressed gas backpack, the MP15 Control & Power Pack is a complete sampling system with one-person portability. The hands-free unit allows sampling personnel easy access to the most remote sites. Liquid CO_2 cylinder provides high purging capacity. Bypass fitting permits use of other gas sources at closer wells.

TCL PROCESS TECHNOLOGIES

MANUFACTURER'S REPRESENTATIVE

39 Clayton Avenue • Lake Villa, IL 60046 • 847-356-1414 • Fax. 847-356-6967
E-mail: tclpt@worldnet.att net • http://home.att net/~tclpt/

GROUNDWATER, LANDFILL, AIR CORRECTION

QED Environmental	*Groundwater Sampling and Monitoring Equipment; Groundwater, Landfill, DNAPL and LNAPL Pumps, EZ-Tray Air Strippers*
Carbtrol Corp.	*Activated Carbon (liquid/vapor), Soil-Vapor Extractors, Diffused Air Strippers, Liquid-Ring Multi-Phase Extraction, Packaged Treatment Systems*
Catalytic Combustion Corp.	*Catalytic and Thermal Oxidation, Chlorinated Vapor Treatment, Soil-Vapor Extraction, Air Sparge, Liquid Ring Systems*
Freije Treatment Systems	*Equipment for Reducing Iron and Mineral Fouling in Air Strippers, Carbon and Water/Waste Treatment Systems*
TetraSolv Filtration	*Activated Carbon Equipment (Liquid & Vapor Phase), Sand Filtration, Oil & Grease Removal, Metals Removal and Ion Exchange System*

INDUSTRIAL & MUNICIPAL WASTEWATER TREATMENT

KWI – North America (Krofta)	*Dissolved Air Flotation, Clarifiers*
Stancor Pumps	*Dewatering, Wastewater, Solids, Utility Pumps*
Pacific Press Co.	*Filter Presses*
Frontier Technologies, Inc.	*Belt Presses*
Vincent Corp.	*Screw Presses*
Mercer International	*High Efficiency Above and Below Ground Oil/Water/Solids Separators*

INDUSTRIAL & MUNICIPAL WATER TREATMENT

PCI – Wedeco	*Ozone Generators, Monitors, Destruct Units, UV Systems*
Ionics	*Ultra-Filtration, Micro-Filtration, RO, Ion Exchange*
Marlo, Inc.	*Water Softeners, Filters, Deionizers*

PROCESS

Hibon, Inc.	*Blowers, Vacuum Pumps, Compressors for Air and Gas*

PRE-FABRICATED BUILDINGS/SHELTERS

Trachte, Inc.	*Pre-Fabricated Steel Buildings/Shelters for Treatment Systems, Utilities (Power Distribution & Natural Gas), Telecommunications and Hazardous Materials Storage*

OTHER SERVICES

Bag Filters, Clarifiers, Metering Pumps, Tanks, Controls, Electric Submersible Pumps, Compressor Packages, Flow Meters.

We Offer Turn-Key Systems, Equipment Service and Start-Up

KNOWLEDGEABLE PROFESSIONALS HELPING INDUSTRY WITH TODAY'S ENVIRONMENTAL AND PROCESS REQUIREMENTS

Tom W. Lawn **Chris T. Lawn**

MicroPurge® Summary

MicroPurge® low-flow sampling offers several advantages over traditional sampling techniques. Traditional sampling rapidly evacuates multiple well volumes of formation water creating turbidity, drawdown, large volumes of purge water, and potential partial volatilization. Low-flow sampling greatly minimizes these effects. The key to low-flow sampling is that water flows laterally directly from the formation and not vertically from stagnant water in the well casing creating a more discrete and representative sample. Dedicated, as apposed to portable, pumps can be installed in each well to eliminate the decontamination time of a single, portable surface unit, which greatly reduces sampling labor.

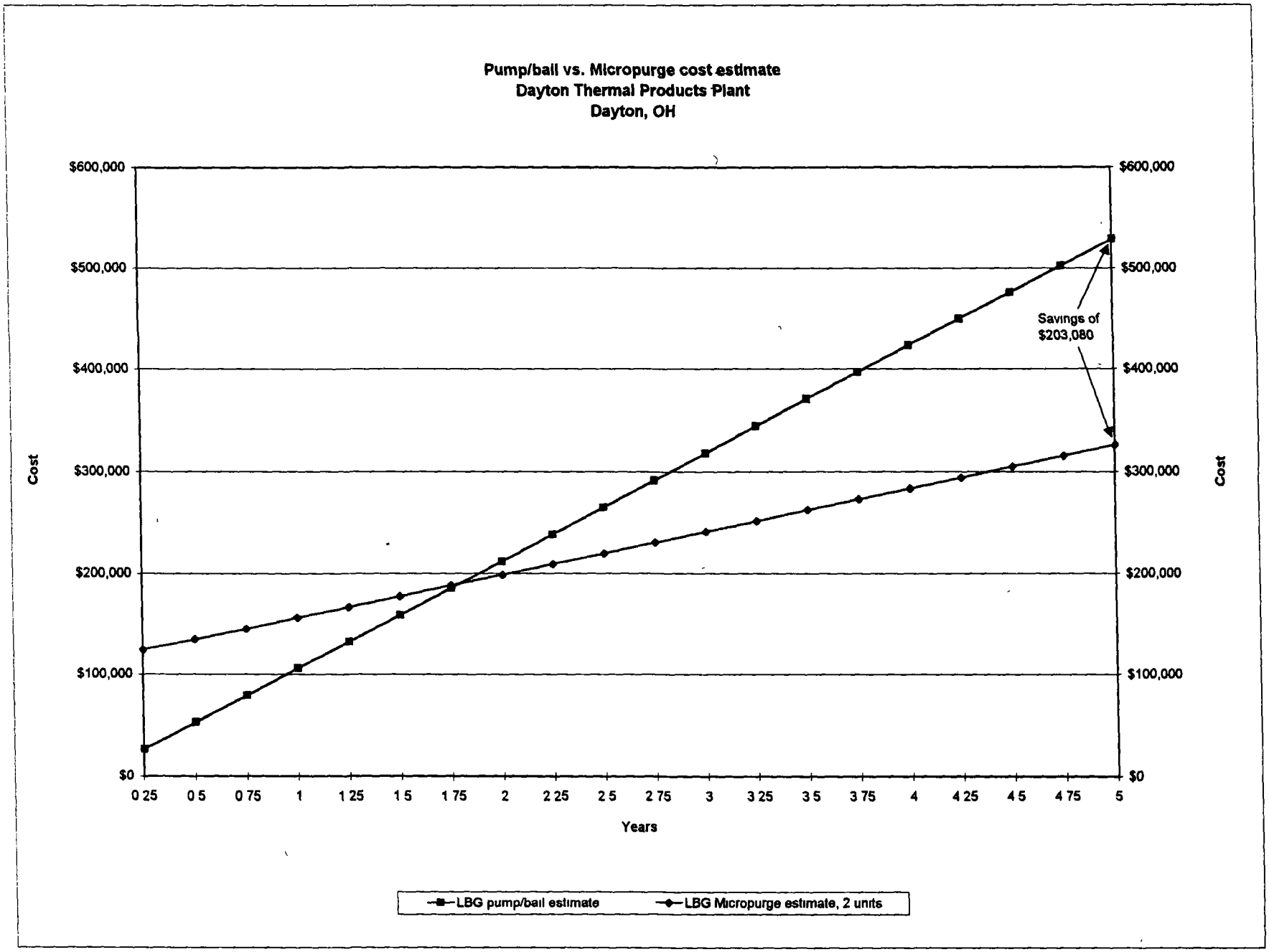
The MicroPurge® system consists of four components; 1) pump, 2) drawdown/water level meter, 3) controller and 4) flow cell. The drawdown/water level meter, controller, and flow cell are portable surface units and are used at each well. Only the pump and tubing are dedicated to a well.

MicroPurge® pump
The stainless steel MicroPurge® pump is approximately 1.5-inches in diameter, 1.25-feet long, is capable of lifting water over 250 feet and has a pumping rate of 50-400 ml per minute (depending on formation type). The pump contains a bladder, which fills with water. A Teflon® compressed gas line is connected to the pump, pressurized gas (CO_2, Nitrogen or ambient air) compresses the bladder and lifts water to the surface through a second Teflon® tube. The gas is not in contact with the water and therefore does not pose a threat for ambient contamination.

MicroPurge® drawdown/water level meter
The 5/8-inch diameter MicroPurge® drawdown/water level meter records the initial depth to water and the subsequent drawdown. It is electronically connected to the controller, with a light and buzzer to indicate when purging has created too much drawdown. This signals the controller to stop supplying compressed gas to the pump and gives control to the operator to adjust the flow rate. The drawdown meter and controller, aided by the operator, work in unison to effectively create little to no drawdown in the well.

MicroPurge® controller
The MicroPurge® controller simplifies the low-flow sampling process by working in unison with the operator and MicroPurge® drawdown/water level meter to determine the quantity and pressure of supplied gas to control the amount of drawdown while still obtaining a flow rate. Simple up-down arrows allow the operator to increase and decrease the purge flow. Optimized settings for each well are recorded to recall for the next round of sampling.

MicroPurge® flow cell
Purged water immediately enters the MicroPurge® flow cell, which measures pH, ORP, temperature, conductivity, and dissolved oxygen at user defined time intervals. The QED PurgeScan™ technology signals the operator when stabilization has been achieved for the user-defined parameters. At this time, a sample may be collected. The flow cell determines exactly when the formation purge water is stable instead of the traditional method of reaching stability by arbitrarily purging multiple well volumes.


Pump/ball vs. Micropurge cost estimate
Dayton Thermal Products Plant
Dayton, OH
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
Cost
0 25
0 5
0 75
1
1 25
1 5
1 75
2
2 25
2 5
2 75
3
3 25
3 5
3 75
4
4 25
4 5
4 75
5
Years
Savings of
$203,080
LBG pump/ball estimate
LBG Micropurge estimate, 2 units

MICROPURGE® basics™ MP20 FLOW CELL

QED PurgeScan™ technology assures stabilization

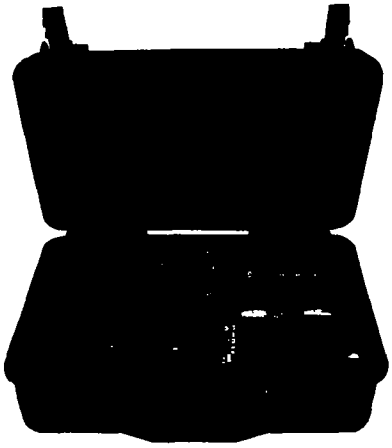
Successful, consistent low-flow sampling is based on knowing when purge water indicator parameters stabilize. This allows sampling to begin only when the pump discharges samples representative of the formation water.

Until now, deciding when stabilization had been achieved was complex, requiring you to monitor multiple parameters and make repeated calculations. The new MP20 Flow Cell simplifies this part of the process. Microprocessor-based PurgeScan™ technology performs the monitoring and calculation, clearly signaling when stabilization has occurred.

Quick, precise measurements make low-flow sampling easy. You can do it right, assured of collecting the most accurate samples, and save time and money on your ground water sampling program. It also stores key data automatically, along with elpased time of purging.

Engineered for performance and field readiness

The MP20 flow cell is engineered to allow the probe to make rapid, accurate responses to changes in purge water parameters. The flow cell is 100% transparent for observation. The low-volume, quick-response cell couples to the compact sonde with a quick, bayonet attachment, and can be used in either a horizontal or vertical position.



The complete MP20 kit, with sonde, flow cell, meter, and calibration and storage materials, fits in a rugged, waterproof hardshell case.

Quick yet stable response to purge water quality change is engineered into the MP20 flow cell in four ways. The low volume of the cell speeds response even at low-flow purge rates. Flow enters the cell tangentially to set up a smooth, "no dead-spot" flow pattern and avoid direct impingement on the sensors. A built-in stirrer further improves mixing and enables highly stable readings, especially of dissolved oxygen. Finally, the water outlet port is designed to vent bubbles from the sensors and cell to avoid interference with accurate readings.

Other practical field-use features include a large display screen, a reference electrode that is field-serviceable and standard C cell batteries so you never get caught without power. Best of all, the outstanding 3-year warranty on the meter, sonde and sensors demonstrates the built-in quality of the MP20.

MICROPURGE FLOW CELL SPECIFICATIONS

System Specifications	
Model No.	MP20
Overall Dimensions	18 5"x15"x6 5" (47x38x17 cm)
Overall Weight·	14 lbs (6 4 kg)
Storage·	100 Data Points
Stabilization.	Purge Scan™ Technology
Case Material	Structural Resin
Keypad:	5 Keys

Meter Specifications:	
Display Size·	3 5" (9 cm)
Weight·	2 1 lbs (1 kg)
Memory	100 Data Frames
Rating	Waterproof NEMA 6 [IP67]
Power·	3 "C" batteries
Battery Life	12 Hours
Temperature·	23 - 122°F (-5 - 50°C)
Cable.	6 foot (1 83 m)

Flow Cell Specifications:	
Volume·	175 ml
Material	Rigid urethane
Fitting Type.	Soft-tube "clamp-free"
Fitting Size(s)	Inlet 1/4" I D x 3/8" O D
	Outlet 3/8" I D x 1/2" O D
Venting Modes·	Horizontal and Vertical
Sonde Connection	Bayonet-style Twist Mount

Sonde Specifications:	
Size	3"x9" (8x23 cm)
Weight	1 3 lbs (0 6 kg)

Typical Sensor Performance Specifications:			
	Range	Accuracy	Resolution
Temperature	-5 - 50°C (23 - 122°F)	± 0 20°C (0 36°F)	0 01°C (0 018°F)
DO	0 to 20 mg/l	± 0 2 mg/l	0 01 mg/l
Specific Cond	0-100 mS/cm	±1% of reading ± 1 count	4 Digits
pH	0 to 14 units	± 0 2 units	0 01 units
ORP	-999 to 999 mV	± 20 mV	1 mV
Salinity*	0 to 70 PSS	±1% of reading ± 1 count	0 01 PSS

*Calculated

PurgeScan™ Specifications:	
Parameter Stabilization range criteria	pH- +/- 2 units DO- +/- 0 2 mg/l Conductivity- +/- 0 020 mS/cm ORP- +/- 20 millivolts
Stabilization basis	3 consecutive readings of selected parameters (one or more of above 4) within above limits, at time interval selected, from 1 to 9 minutes For example, if 2 minutes is selected, then stabilization would be signaled when 3 consecutive 2-minute intervals showed in-range readings at the end of each interval, requiring 6 minutes

Elapsed time since Purge Scan initiated shows at the bottom of the screen

Full data sets are stored at time 0, every 5 minutes, and the 3 consecutive readings which satisfy the stabilization criteria

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PATENT PENDING

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Purge Scan

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800-624-2026 micropurge.com

FLOW CELL METER

Sample with confidence thanks to visible & audible stabilization alert with PurgeScan™ technology.

Simple, economical purge monitoring with automatic stabilization alert

The MicroPurge **basics**™ MP20 Flow Cell sets new standards in performance, size and price for purge water quality monitors. QED-exclusive PurgeScan™ technology (patent pending) signals when stabilization has been achieved for selected water quality parameters, with automatic storage of key data points.

The MP20 meter is designed expressly to simplify calibration and operation in the field, by eliminating non-essential features. It displays all readings automatically and is lightweight and water-proof.

The sonde is a compact, low-profile design with rugged, easy-to-service probes. The flow cell is designed to collect and vent gas bubbles effectively, and to distribute purge flow evenly for quick measurement response and more accurate readings.

The whole package is protected by a 3-year warranty, backed by service and support from QED, the leader in low-flow sampling.

QED *First in Control & Power fo*

P.O. Box 3726 Ann Arbor, MI 48106-3726 USA
FAX 734-995-1170 e-mail info@qedenv.com
1-800-624-2026 www.micropurge.com

OFF-SITE DRILLING INVESTIGATION
WORK PLAN
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

Prepared For

DaimlerChrysler Corporation

January 2001

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
1210 West County Road E, Suite 700
St. Paul, Minnesota 55112
651-490-1405

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(at end of report)

Figure
1 Dayton Thermal Products Plant Location
2 Proposed Offsite Drilling Locations

TABLE
(at end of report)

Table
1 Offsite Drilling Location Property Owners

OFF-SITE DRILLING INVESTIGATION
WORK PLAN
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

1.0 INTRODUCTION

Leggette, Brashears & Graham, Inc. (LBG) was retained by DaimlerChrysler Corporation (DaimlerChrysler) to prepare this work plan detailing activities associated with the installation of monitoring wells and piezometers to be installed on municipal and private properties in close proximity to the Dayton Thermal Products Plant. The LBG Project Manager is Mr. Kenneth D. Vogel, (651) 490-1405.

2.0 SCOPE OF WORK AND PROJECT OBJECTIVES

Based on findings of previous fieldwork, LBG proposes to install a network of 17 soil borings containing 51 off-site monitoring wells/piezometers located in Claridge Park and on private properties in close proximity to the Dayton Thermal Products Plant. The objectives of this phase of investigation are to further define the local geologic setting, to obtain background soil and water-quality data, to determine the vertical and horizontal extent of impacted ground water potentially associated with the Dayton Thermal Products Plant, ground-water flow paths, determine aquifer characteristics, collect data pertinent to evaluating remedial alternatives, and to allow for continued monitoring of ground-water quality.

2.1 Site Location

The Dayton Thermal Products Plant site is located in the NE¼ of Section 5, Township 1, Range 7, of the 7.5 minute Quadrangle, U.S. Geologic Survey Topographic Map, North Dayton, Ohio (figure 1).

3.0 DESCRIPTION OF FIELD INVESTIGATION

3.1 Utility Clearance

Prior to conducting drilling activities, DaimlerChrysler will obtain site access agreements from the property owners listed in table 1 and One Call will be notified for the identification and marking of any underground utilities present at the drilling locations.

3.2 Site Health and Safety Plan

A site-specific health and safety plan will be prepared by LBG. This plan will detail health and safety issues associated with the planned activities. It is anticipated that Level D protection will be adequate for the investigation. The safety plan will be distributed to and reviewed with all field personnel prior to commencing field activities.

3.3 Monitor Well/Piezometer Borings

Based on previous off-site investigations, LBG proposes to install 51 monitor wells/piezometers at the approximate locations depicted on figure 2.

Borings of approximately 10-inch diameter will be advanced to an anticipated depth of 85 feet below grade level (bgl). Rotosonic drilling methods will be utilized.

At or near the water table, the length of recovered core will be screened using an OVM Model 580B photoionization detector (PID) equipped with a 10.6 eV lamp. The sample exhibiting the highest PID reading in each boring will be analyzed by an Ohio EPA Voluntary Action Program (VAP)-certified laboratory for 1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), cis- and trans-1,2-dichloroethene (DCE), tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and vinyl chloride (VC). If no samples exhibit elevated PID readings, the sediment sample corresponding to the approximate depth of the water table will be submitted for analysis. Additional samples may also be submitted on the basis of visible staining, stratigraphic significance, PID readings, or other field determinations.

The on-site hydrogeologist will log sediment core from each boring. All drill cuttings and fluids will be containerized and properly disposed of.

3.4 Monitor Well/Piezometer Construction

Monitoring wells/piezometers will be constructed in general accordance with the Ohio EPA (OEPA) Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring. Wells/piezometers will be constructed of 2-inch diameter, Schedule-40 PVC pipe with flush joint thread and Buna O-rings for each connection. Monitoring well screens are anticipated to be 15 feet long, and piezometer screens 2 feet long. The screens will be 2 inches in diameter, Schedule-40 PVC, and slot-10. One monitoring well and two piezometers will be installed as a cluster in each of 17 borings, per discussions with OEPA. Piezometers are anticipated to be placed at approximately 50 and 85 feet bgl with monitoring well in each cluster being placed in such a manner as to keep the fluctuating ground-water table within the screened interval. Filter pack sand shall be emplaced so as to extend from 6 inches beneath the bottom of the well screen to a minimum of 2 feet above the top of the well screen. Bentonite chips or pellets shall be used for filter pack seals between the screened intervals. All wells will be constructed with an annular space seal that shall extend from the filter pack seal to the ground surface seal and shall be at least 2 feet in length.

Following installation, well-casing elevations and the elevation of the ground surface at each well location will be surveyed by a licensed/certified surveyor and referenced to Ohio HARN Point G34b using NAD 83 for horizontal datum and NAVD 88 for vertical datum. In addition, all newly installed wells will be properly developed. Development water will be contained and properly disposed of, based on analytical results.

All wells will be constructed as flush-grade wells. These wells will be protected in a watertight vault installed in a wire mesh reinforced concrete pad. The pad will have minimum dimensions of 3 x 3 feet with a minimum thickness of 4 inches and will have a finished grade sloped to divert water away from the well.

3.5 Monitoring Well Sampling

Following construction and development of the proposed monitoring wells, ground-water samples will be collected from all wells and piezometers.

Prior to obtaining ground-water samples for laboratory analysis, fluid levels will be measured in each well to within 0.01 foot. Measurements will be taken from a surveyed reference mark on top of the inner well casings. The wells will then be purged in accordance with the Ohio EPA Technical Guidance Manual for Hydrogeologic

Investigations and Ground Water Monitoring. Each sample will be collected using a clean bailer and new rope, or other appropriate methodology. All purging, pump, and fluid-level measuring equipment will be properly and thoroughly decontaminated between sampling locations. Samples will be preserved on ice from time of collection until received at the laboratory. Ground-water samples will be analyzed for 1,1- DCA, 1,1-DCE, cis- and trans-1,2-DCE, PCE, 1,1,1-TCA, TCE, and VC using appropriate EPA methods.

4.0 QA/QC, CHAIN-OF-CUSTODY PROCEDURES

To assure the integrity and validity of the analytical results, field and bailer blanks will be collected and analyzed. In addition, a laboratory-prepared trip blank will be transported to the site and returned to the laboratory in a manner identical to the handling procedure used for the samples. These trip blanks will be subject to the same analysis as the ground water. Bailer blanks will be prepared in the field by filling a bailer with deionized water and transferring the water to a sample vial. The bailer blank will then be transferred to the laboratory with the other samples for analysis. A minimum of one bailer blank will be collected during each day that monitor wells are sampled.

One field blank and one duplicate sample will be collected/submitted for every group of 20 or less water samples. One trip blank will be included for each batch of water samples submitted for volatile organic carbon analysis.

All soil and water samples will be placed on ice in sealed coolers and delivered to an OEPA VAP-certified laboratory for analyses.

The analytical accuracy and laboratory precision will be monitored by the analysis of matrix spikes and duplicate samples, and by adherence to the laboratory's quality assurance/quality control (QA/QC) requirements as detailed in their QA/QC Control Manual.

All field instruments will be field calibrated once each morning, and again each afternoon. Additional calibrations may be performed as field conditions warrant. Daily activity logs will be kept and maintained, and will include documentation of field activities such as: field screening results, sampling procedures, work activities, and a log of all routine and non-routine maintenance and calibrations performed on all instruments used during the field investigation.

Strict chain-of-custody procedures will be adhered to at all times for all sampling, shipment, and analytical procedures.

5.0 SCHEDULE

5.1 Work Tasks

LBG is prepared to initiate the project upon receipt of DaimlerChrysler's written authorization to proceed. LBG anticipates fieldwork will require 5 weeks to complete, although actual field conditions encountered will dictate actual time required.

5.2 Reporting

Throughout the duration of this project, LBG will maintain communications with DaimlerChrysler, property owners, and regulatory personnel to facilitate dissemination of pertinent information and findings. These communications may be accomplished via on-site meetings, telephone, fax, mail, and/or overnight carrier. LBG will prepare and submit a draft Site Investigation Report within 90 days of the completion of the field investigation activities.

LEGGETTE, BRASHEARS & GRAHAM, INC.

Kenneth D. Vogel

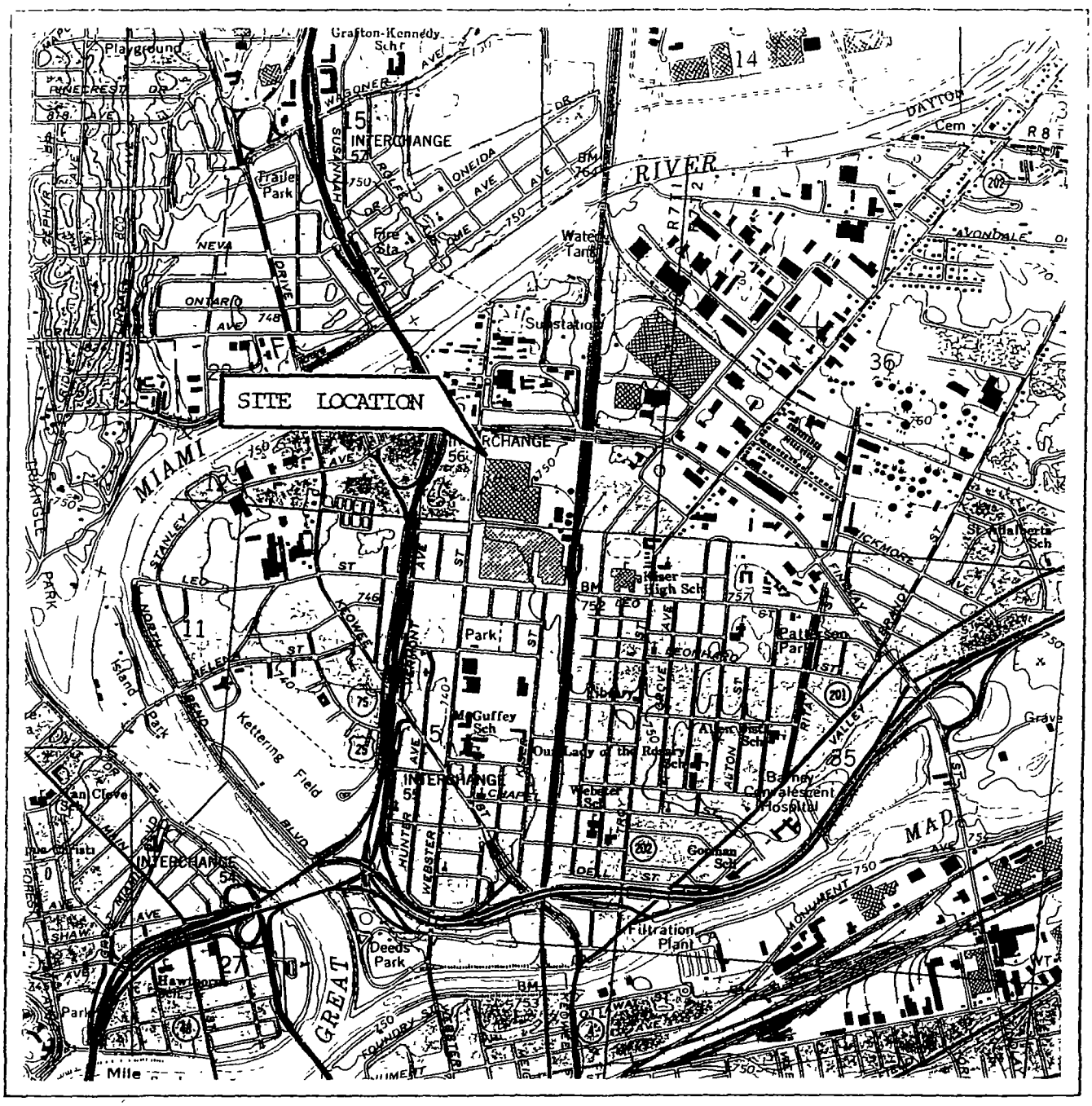
Kenneth D. Vogel, CPG, CHMM
Senior Associate

John Oswald

John Oswald
Environmental Engineer II

jo\kw
January 24, 2001
daytonl\inprog\offdrillworkplan.doc

Figures



0 2000

SCALE IN FEET

QUADRANGLE LOCATION

U.S.G.S. TOPOGRAPHIC

DAYTON NORTH, OHIO

7.5 MINUTE QUADRANGLE

DAYTON THERMAL PRODUCTS PLANT

DAYTON, OHIO

AREA LOCATION MAP

DATE	REVISED
FILE.	

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC

Professional Ground-Water and Environmental Services

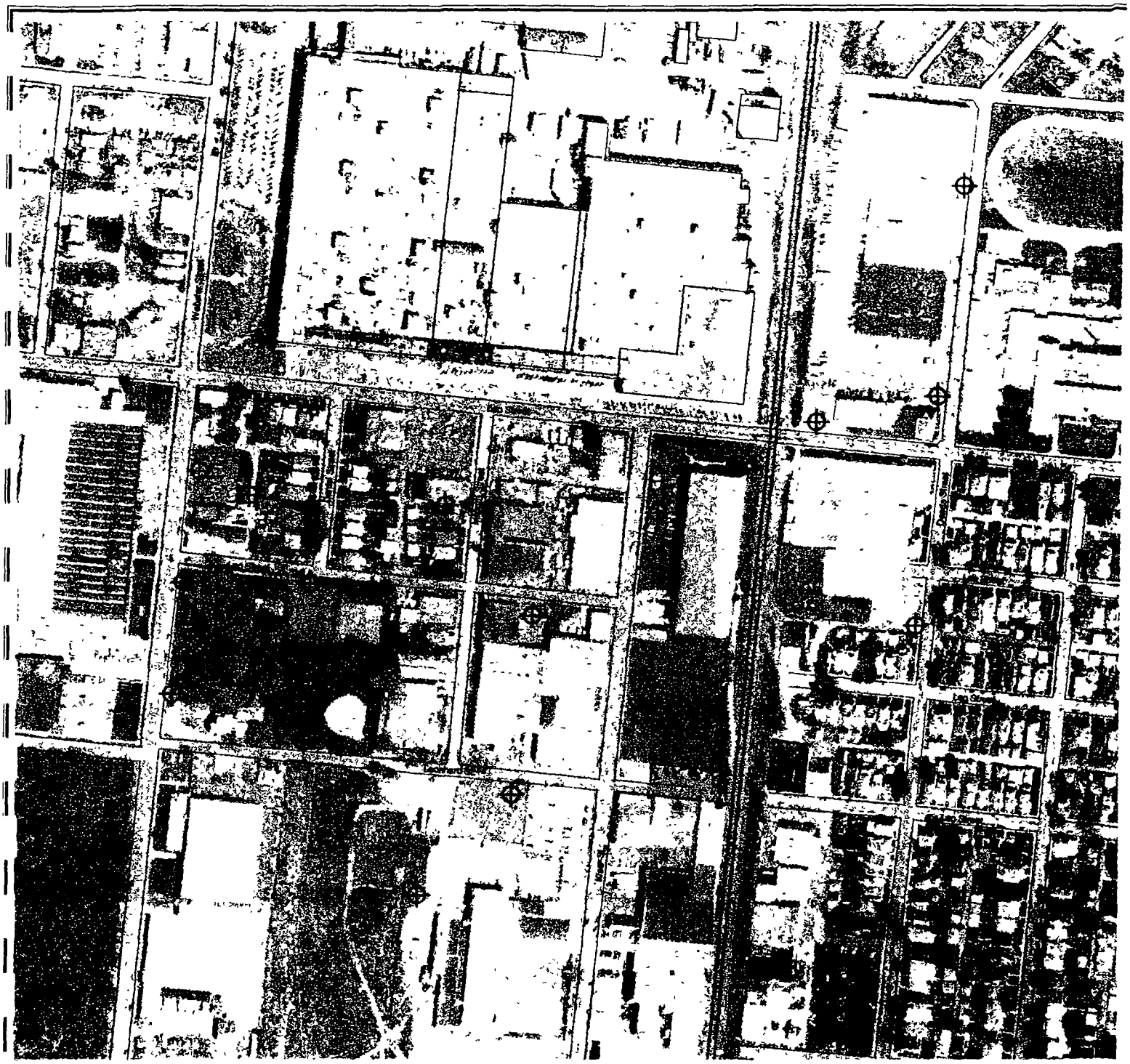
Northpark Corporate Center

1210 W. County Road E, Suite 700

St. Paul, MN 55112

(612) 490-1405

DATE: JULY 1997 FIGURE: 1



Proposed Offsite Well

300 0 300 Feet

N W E S

DATE	REVISED

Prepared By

LEGGETTE, BRASHEARS & GRAHAM, INC
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W County Road E, Suite 700
St Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS PLANT

DAYTON, OHIO

PROPOSED OFFSITE DRILLING LOCATIONS

FILE DAYTON.APR | DATE JANUARY 2001 | FIGURE 2

Table

TABLE 1

DAIMLERCHRYSLER
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

PROPERTY OWNERS AT PROPOSED WELL LOCATIONS

PROPERTY ADDRESS	PROPERTY OCCUPANT	PROPERTY OWNER	PROPERTY OWNER ADDRESS	PARCEL ID #
1510 Webster Street	American Legion Post 619	Memorial Comm. Inc., Am. Leg. Post 619	Mailing Address: Mr. Dave Rich, 722 Hart Street, Dayton, OH 45404-1953 1510 Webster St., Dayton, OH 45404	R72-057-01-0003
1523 Milburn Avenue	Kelcor Machine & Tool	Edward Corrigan (father) Kelly Corrigan (son)	914 Crestwood Hills Dr , Vandalia, OH 45377 Mailing Address: Mr. Kelly Corrigan, 1523 Milburn Street, Dayton OH 45404	R72-057-01-0040
1200 Leo Street	RIS Paper	Warehouse Investors, Inc ROOKWOOD PROPERTIES	Mailing address: Mr. Fred Kanter, V.P., Rookwood Properties, 105 E. 4th St., Suite 1120, Cincinnati, OH 45202 Mike Kanter fax 513-562-8784	R72-057-01-0104
521 Kiser Avenue	Industrial Fiberglass Specialties, Inc	Kiser Industrial Park LTD	Mailing Address: Mr. Michael LaPrade, 521 Kiser Street, Dayton, OH 45404-1641 4857 Chambersburg Rd , Dayton, OH 45424	R72-056-12-0001
969 Deeds Avenue	Heidelburg Distribution Co	Vonz Realty	1247 Leo St., Dayton, OH 45404 Mailing Address: Mr. Tom Rouse, 40 S. Main Street, Dayton, OH 45402	R72-057-08-0011
Webster & Leonard Streets	Clandge Park	Dayton Dept. of Public Works, Div. Of Parks and Forestry	Mailing Address: Mr. Greg Duckro, 325 North Paul Lawrence Dunbar Street, Dayton, OH 45407	R72-057-01-0103
1440 Milburn Ave	Clean City Janitors Service	Troy Properties Inc	Mr. Tom Daskalakis, 1440 Milburn Ave., Dayton, OH 45404	R72-057-01-0066

PROPERTY OWNERS PHONE NUMBERS

PROPERTY ADDRESS	PROPERTY OCCUPANT	PROPERTY OWNER	PROPERTY OWNER PHONE NUMBER	PARCEL ID #
1510 Webster Street	American Legion Post 619	Memorial Comm. Inc., Am. Leg. Post 619	DAVE RICH (Memorial Committee) @ 937-223-0751 Legion Hall 937-222-6695	R72-057-01-0003
1523 Milburn Avenue	Kelcor Machine & Tool	Edward Corrigan (father) Kelly Corrigan (son)	937-898-0067, (937) 222-8988 (business)	R72-057-01-0040
1200 Leo Street	RIS Paper	Warehouse Investors, Inc.	RIS = (937) 222-7829 Michael McCaughey (RIS contact) ROOKWOOD PROPERTIES (Warehouse) = (513) 421-6611 FRED KANTER (contact)	R72-057-01-0104
521 Kiser Avenue	Industrial Fiberglass Specialties, Inc	Kiser Industrial Park LTD	937-224-4444 EX. 169 - TED MORTON (owner) MICHAEL LAPRADE (contact)	R72-056-12-0001
969 Deeds Avenue	Heidelburg Distribution Co	Vonz Realty	937-220-6425 - TOM ROUSE	R72-057-08-0011
Webster & Leonard Streets	Clandge Park	Dayton Dept. of Public Works, Div. Of Parks and Forestry	937-333-6499- GREG DUCKRO, SUPT.	R72-057-01-0103
1440 Milburn Ave	Clean City Janitors Service	Troy Properties Inc.	Tom Daskalakis, 937-223-3663	R72-057-01-0066

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER
AND ENVIRONMENTAL ENGINEERING SERVICES

1210 WEST COUNTY ROAD E
SAINT PAUL, MN 55112

(651) 490-1405 FAX (651) 490-1006

DATE: 5/1/01

PAGES: 12
(Includes cover page)

TO: Mike Webb **FAX #:** 937-237-3669

COMPANY: Onyx

TO: Britt Crider **FAX #:** 937-224-2915

COMPANY: DC

TO: Gary Stanczuk **FAX #:** 248-576-7369

COMPANY: DC

FROM: Mike Plante

RE: Mike,

Please find attached the analytical results for the soils in Rolloff #24117 at the Dayton Thermal Products plant. The soils are from the offsite well drilling

Mike

Please contact Kathleen Weinrich (651) 490-1405 if transmission is incomplete or can not be read.

fax TRANSMITTAL

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

OFFSITE WELL DRILLING SPOILS
SUMMARY OF POSITIVE DETECTIONS IN SOIL

SOIL IN ROLLOFF #24117
SOIL SAMPLE ID. WS24117
RFA: YGQP2001214

Volatile Organic Compounds (VOCs)

			OEPA generic direct-contact soil standards		
Compound	Result	Units	Residential	Commercial	Industrial
Ethylbenzene	0.72 J	ug/kg	230,000	230,000	230,000
Trichloroethene	6.5	ug/kg	77,000	330,000	330,000

Metals

			OEPA generic direct-contact soil standards		
Compound	Result	Units	Residential	Commercial	Industrial
Chromium	4 1	mg/kg	230	2,900	2,800
Copper	8.6	mg/kg	na	na	na
Nickel	5.7	mg/kg	450	3,800	3,700
Zinc	22	mg/kg	19,000	420,000	370,000

No semi-volatile organic compounds (SVOCs) were detected.

No polychlorinated biphenyls (PCBs) were detected.

No pesticides or herbicides were detected.

Paint Filter Liquid Test: No Free Liquids

OEPA· Ohio Environmental Protection Agency

s \tech\3chry\dayton\analytic\soil
Offsite_wells_spoils.xls, Sheet1
5/1/01, 1.35 PM

LEGGETTE, BRASHEARS & GRAHAM, INC.

COMPUCHEM
a division of Liberty Analytical Corp
501 Madison Avenue
Cary, NC 27513

Visit our web site –
www.compuchemlabs.com

FAX

TO: KEN VOGEL
DAVE STRAND
FAX: (651) 490-1006
DATE: 4/30/01

FROM: CATHY DOVER
PHONE: (919) 379-4100
FAX: (919) 379-4050

PAGES WITH COVER: 10

COMMENTS:

RFA 214 (ID: WS24117) RESULTS

TEST CERTIFICATE
KEMRON Environmental Services
109 Starlite Park
Marietta, Ohio 45750
Phone: (740) 373-4071

CompuChem
501 Madison Ave.
Cary, NC 27513

Attention: Diane Byrd

PO Number: 00205
Account Number: COMPUCHEM-529
Invoice Number: 551900

Login #: L0104143
Report Date: 04/30/01
Work ID: SC001/OFFSITE DRILLING
Date Received: 04/06/01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
L0104143-01	WS24117		

All results on solids/sludges are reported on a dry weight basis, where applicable, unless otherwise specified. This report shall not be reproduced, except in full, without the written approval of KEMRON.

NYSDOH ELAP ID: 10861

Certified By
David L. Bumgarner

Login #L0104143
April 30, 2001 03:29 pm

KEMRON ENVIRONMENTAL SERVICES

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SCD01/OFFSITE DRILLING

Matrix: Soil
Collected: 04/05/01 16:35

% Solid: 94
COC Info: 04640/

Analyte	Units	Result	Qualifiers	RL	Dil	Type	Analyst	Analysis Date	Time	Method
Percent Solids.....	weight %	94		1.0	1	N/A	TMM	04/09/01		D2216-90
Paint Filter Liquid Test.....			NFL		1	N/A	TMM	04/09/01	14:15	9095
Silver, Total.....	mg/kg		ND	2.1	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Arsenic, Total.....	mg/kg		ND	5.3	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Beryllium, Total.....	mg/kg		ND	0.53	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Cadmium, Total.....	mg/kg		ND	0.53	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Chromium, Total.....	mg/kg	4.1		1.1	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Copper, Total.....	mg/kg	8.6		1.1	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Mercury, Total.....	mg/kg		ND	0.27	1	N/A	AMT	04/10/01	10:36	7471A\METHO
Nickel, Total.....	mg/kg	5.7		2.1	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Lead, Total.....	mg/kg		ND	5.3	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Antimony, Total.....	mg/kg		ND	11	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Selenium, Total.....	mg/kg		ND	5.3	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Thallium, Total.....	mg/kg		ND	27	1	N/A	SLP	04/09/01	16:29	6010B\3050B
Zinc, Total.....	mg/kg	22		1.1	1	N/A	SLP	04/09/01	16:29	6010B\3050B

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KENRON ENVIRONMENTAL SERVICES

Product: 8081 - Pesticides & PCB's

Lab Sample ID: L0104143-01
Client Sample ID: W824117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: 04/06/01
Analysis Date: 04/10/01 Time: 01:23

Instrument: HP9
Analyst: ECL
Lab File ID: 9G15057

Method: 8081A\3550B
Run ID: R120127
Batch : W095214

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
319-84-6	alpha-BHC	ug/kg		ND	1.8	1
319-85-7	beta-BHC	ug/kg		ND	1.8	1
319-86-8	delta-BHC	ug/kg		ND	1.8	1
58-89-9	gamma-BHC (Lindane)	ug/kg		ND	1.8	1
76-44-8	Heptachlor	ug/kg		ND	1.8	1
309-00-2	Aldrin	ug/kg		ND	1.8	1
1024-57-3	Heptachlor epoxide	ug/kg		ND	1.8	1
959-98-8	Endosulfan I	ug/kg		ND	1.8	1
60-57-1	Dieldrin	ug/kg		ND	3.5	1
72-55-9	4,4'-DDE	ug/kg		ND	3.5	1
72-20-8	Endrin	ug/kg		ND	3.5	1
33213-65-9	Endosulfan II	ug/kg		ND	3.5	1
72-54-8	4,4'-DDD	ug/kg		ND	3.5	1
1031-07-8	Endosulfan sulfate	ug/kg		ND	3.5	1
50-29-3	4,4'-DDT	ug/kg		ND	3.5	1
72-43-5	Methoxychlor	ug/kg		ND	18	1
53494-70-5	Endrin ketone	ug/kg		ND	3.5	1
7421-93-4	Endrin aldehyde	ug/kg		ND	3.5	1
5103-71-9	alpha Chlordane	ug/kg		ND	1.8	1
5103-74-2	gamma Chlordane	ug/kg		ND	1.8	1
8001-35-2	Toxaphene	ug/kg		ND	35	1

SURROGATES- In Percent Recovery:

2,4,5,6-Tetrachloro-m-xylene	83.8	(29 - 133%)
Decachlorobiphenyl	106	(30 - 173%)

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KEMRON ENVIRONMENTAL SERVICES

Product: 8082 - PCB

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: 04/06/01
Analysis Date: 04/09/01 Time: 23:00

Instrument: HP4
Analyst: BCL
Lab File ID: 4GR7835

Method: 8082\3550B
Run ID: R120258
Batch : WG96215

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
12674-11-2	Aroclor-1016	ug/kg		ND	18	1
11104-28-2	Aroclor-1221	ug/kg		ND	18	1
11141-16-5	Aroclor-1232	ug/kg		ND	18	1
53469-21-9	Aroclor-1242	ug/kg		ND	18	1
12672-29-6	Aroclor-1248	ug/kg		ND	18	1
11097-69-1	Aroclor-1254	ug/kg		ND	18	1
11096-82-5	Aroclor-1260	ug/kg		ND	18	1

SURROGATES- In Percent Recovery:

2,4,5,6-Tetrachloro-m-xylene	87.3	(29 - 133%)
Decachlorobiphenyl	110	(30 - 173%)

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KEMRON ENVIRONMENTAL SERVICES

Product: 8151 - Herbicides

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/

Sample Weight: N/A
Extract Volume: N/A

Date Collected: 04/05/01

% Solid: 94

TCLP Extract Date: N/A
Extract Date: 04/09/01
Analysis Date: 04/10/01 Time: 15:41

Instrument: HP1
Analyst: ECL
Lab File ID: 1G3699

Method: 8151A
Run ID: R120279
Batch : WG95306

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
94-75-7	2,4-D	ug/kg		ND	43	1
94-82-6	2,4-DB	ug/kg		ND	43	1
93-76-5	2,4,5-T	ug/kg		ND	4.3	1
93-72-1	2,4,5-TP (Silvex)	ug/kg		ND	3.2	1
75-99-0	Dalapon	ug/kg		ND	110	1
1918-00-9	Dicamba	ug/kg		ND	4.3	1
120-36-5	Dichloroprop	ug/kg		ND	43	1
88-85-7	Dinoseb	ug/kg		ND	21	1
94-74-6	MCPA	ug/kg		ND	4300	1
93-65-2	MCPP	ug/kg		ND	4300	1
87-86-5	Pentachlorophenol	ug/kg		ND	4.3	1

SURROGATES- In Percent Recovery:

2,4-Dichlorophenylacetic acid	90.0	(51 - 146%)

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KEMRON ENVIRONMENTAL SERVICES

Product: 827-VAP2 - Semivolatile Compounds

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: 04/06/01
Analysis Date: 04/10/01 Time: 19:06

Instrument: HPM84
Analyst: MDC
Lab File ID: 4M7782

Method: 8270C\3550B
Run ID: R120476
Batch : WG95504

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
108-95-2	Phenol	ug/kg		ND	180	1
111-44-4	Bis(2-Chloroethyl)ether	ug/kg		ND	180	1
95-57-8	2-Chlorophenol	ug/kg		ND	180	1
541-73-1	1,3-Dichlorobenzene	ug/kg		ND	180	1
106-46-7	1,4-Dichlorobenzene	ug/kg		ND	180	1
95-50-1	1,2-Dichlorobenzene	ug/kg		ND	180	1
95-48-7	2-Methylphenol	ug/kg		ND	180	1
108-60-1	bis(2-Chloroisopropyl)ether	ug/kg		ND	180	1
106-44-5	4-Methylphenol	ug/kg		ND	180	1
621-64-7	N-Nitroso-di-n-propylamine	ug/kg		ND	180	1
67-72-1	Hexachloroethane	ug/kg		ND	180	1
98-95-3	Nitrobenzene	ug/kg		ND	180	1
78-59-1	Isophorone	ug/kg		ND	180	1
88-75-5	2-Nitrophenol	ug/kg		ND	180	1
105-67-9	2,4-Dimethylphenol	ug/kg		ND	180	1
111-91-1	Bis(2-Chloroethoxy)Methane	ug/kg		ND	180	1
120-83-2	2,4-Dichlorophenol	ug/kg		ND	180	1
120-82-1	1,2,4-Trichlorobenzene	ug/kg		ND	180	1
91-20-3	Naphthalene	ug/kg		ND	180	1
106-47-8	4-Chloroaniline	ug/kg		ND	180	1
87-68-3	Hexachlorobutadiene	ug/kg		ND	180	1
59-50-7	4-Chloro-3-methylphenol	ug/kg		ND	180	1
91-57-6	2-Methylnaphthalene	ug/kg		ND	180	1
77-47-4	Hexachlorocyclopentadiene	ug/kg		ND	180	1
88-06-2	2,4,6-Trichlorophenol	ug/kg		ND	180	1
95-95-4	2,4,5-Trichlorophenol	ug/kg		ND	880	1
91-58-7	2-Chloronaphthalene	ug/kg		ND	180	1
88-74-4	2-Nitroaniline	ug/kg		ND	880	1
131-11-3	Dimethylphthalate	ug/kg		ND	180	1
208-96-8	Acenaphthylene	ug/kg		ND	180	1
606-20-2	2,6-Dinitrotoluene	ug/kg		ND	180	1
99-09-2	3-Nitroaniline	ug/kg		ND	880	1
83-32-9	Acenaphthene	ug/kg		ND	180	1
51-28-5	2,4-Dinitrophenol	ug/kg		ND	880	1
100-02-7	4-Nitrophenol	ug/kg		ND	880	1
132-64-9	Dibenzofuran	ug/kg		ND	180	1
121-14-2	2,4-Dinitrotoluene	ug/kg		ND	180	1
84-66-2	Diethylphthalate	ug/kg		ND	180	1
7005-72-3	4-Chlorophenyl-phenyl ether	ug/kg		ND	180	1

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KENRON ENVIRONMENTAL SERVICES

Product: 827-VAP2 - Semivolatile Compounds

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: 04/06/01
Analysis Date: 04/10/01 Time: 19:06

Instrument: HPM84
Analyst: MDC
Lab File ID: 4M7782

Method: 8270C\3550B
Run ID: R120476
Batch : WG96604

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
86-73-7	Fluorene	ug/kg		ND	180	1
100-01-6	4-Nitroaniline	ug/kg		ND	880	1
534-52-1	4,6-Dinitro-2-methylphenol	ug/kg		ND	880	1
86-30-6	N-Nitrosodiphenylamine	ug/kg		ND	180	1
101-55-3	4-Bromophenyl-phenylether	ug/kg		ND	180	1
118-74-1	Hexachlorobenzene	ug/kg		ND	180	1
87-86-5	Pentachlorophenol	ug/kg		ND	880	1
85-01-8	Phenanthrene	ug/kg		ND	180	1
120-12-7	Anthracene	ug/kg		ND	180	1
84-74-2	Di-N-Butylphthalate	ug/kg		ND	180	1
206-44-0	Fluoranthene	ug/kg		ND	180	1
129-00-0	Pyrene	ug/kg		ND	180	1
85-68-7	Butylbenzylphthalate	ug/kg		ND	180	1
91-94-1	3,3'-Dichlorobenzidine	ug/kg		ND	350	1
56-55-3	Benzo(a)anthracene	ug/kg		ND	180	1
218-01-9	Chrysene	ug/kg		ND	180	1
117-81-7	bis(2-Ethylhexyl)phthalate	ug/kg		ND	180	1
117-84-0	Di-n-octylphthalate	ug/kg		ND	180	1
205-99-2	Benzo(b)fluoranthene	ug/kg		ND	180	1
207-08-9	Benzo(k)fluoranthene	ug/kg		ND	180	1
50-32-8	Benzo(a)pyrene	ug/kg		ND	180	1
193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg		ND	180	1
53-70-3	Dibenzo(a,h)Anthracene	ug/kg		ND	180	1
191-24-2	Benzo(g,h,i)Perylene	ug/kg		ND	180	1
86-74-8	Carbazole	ug/kg		ND	180	1

SURROGATES- In Percent Recovery:

2-Fluorophenol	34.9	(25 - 121%)
Phenol-d5	39.1	(24 - 113%)
Nitrobenzene-d5	36.3	(23 - 120%)
2-Fluorobiphenyl	39.5	(30 - 115%)
2,4,6-Tribromophenol	59.4	(19 - 122%)
p-Terphenyl-d14	86.3	(18 - 137%)

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KENRON ENVIRONMENTAL SERVICES

Product: 826-VAP2 - Volatile Organics

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: N/A
Analysis Date: 04/09/01 Time: 14:51

Instrument: HPMS6
Analyst: CNS
Lab File ID: 6M25160

Method: 8260B\5035
Run ID: R120090
Batch : W095200

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
67-64-1	Acetone	ug/kg		ND	110	1
71-43-2	Benzene	ug/kg		ND	5.3	1
108-86-1	Bromobenzene	ug/kg		ND	5.3	1
74-97-5	Bromochloromethane	ug/kg		ND	5.3	1
75-27-4	Bromodichloromethane	ug/kg		ND	5.3	1
75-25-2	Bromoform	ug/kg		ND	5.3	1
74-83-9	Bromomethane	ug/kg		ND	11	1
78-93-3	2-Butanone	ug/kg		ND	110	1
104-51-8	n-Butylbenzene	ug/kg		ND	5.3	1
135-98-8	sec-Butylbenzene	ug/kg		ND	5.3	1
98-06-6	tert-Butylbenzene	ug/kg		ND	5.3	1
75-15-0	Carbon disulfide	ug/kg		ND	5.3	1
56-23-5	Carbon tetrachloride	ug/kg		ND	5.3	1
108-90-7	Chlorobenzene	ug/kg		ND	5.3	1
124-48-1	Chlorodibromomethane	ug/kg		ND	5.3	1
75-00-3	Chloroethane	ug/kg		ND	11	1
110-75-8	2-Chloroethyl vinyl ether	ug/kg		ND	11	1
67-66-3	Chloroform	ug/kg		ND	5.3	1
74-87-3	Chloromethane	ug/kg		ND	11	1
95-49-8	2-Chlorotoluene	ug/kg		ND	5.3	1
106-43-4	4-Chlorotoluene	ug/kg		ND	5.3	1
96-12-8	1,2-Dibromo-3-chloropropane	ug/kg		ND	5.3	1
106-93-4	1,2-Dibromoethane	ug/kg		ND	5.3	1
74-95-3	Dibromomethane	ug/kg		ND	5.3	1
95-50-1	1,2-Dichlorobenzene	ug/kg		ND	5.3	1
541-73-1	1,3-Dichlorobenzene	ug/kg		ND	5.3	1
106-46-7	1,4-Dichlorobenzene	ug/kg		ND	5.3	1
75-71-8	Dichlorodifluoromethane	ug/kg		ND	11	1
75-34-3	1,1-Dichloroethane	ug/kg		ND	5.3	1
107-06-2	1,2-Dichloroethane	ug/kg		ND	5.3	1
75-35-4	1,1-Dichloroethene	ug/kg		ND	5.3	1
156-59-2	cis-1,2-Dichloroethene	ug/kg		ND	5.3	1
156-60-5	trans-1,2-Dichloroethene	ug/kg		ND	5.3	1
78-87-5	1,2-Dichloropropane	ug/kg		ND	5.3	1
142-28-9	1,3-Dichloropropane	ug/kg		ND	5.3	1
594-20-7	2,2-Dichloropropane	ug/kg		ND	5.3	1
10061-01-5	cis-1,3-Dichloropropene	ug/kg		ND	5.3	1
10061-02-6	trans-1,3-Dichloropropene	ug/kg		ND	5.3	1
563-58-6	1,1-Dichloropropene	ug/kg		ND	5.3	1

RL = Reporting Limit

Login #L0104143
April 30, 2001 03:29 pm

KENRON ENVIRONMENTAL SERVICES

Product: 826-VAP2 - Volatile Organics

Lab Sample ID: L0104143-01
Client Sample ID: WS24117
Site/Work ID: SC001/OFFSITE DRILLING
Matrix: Soil

Dil. Type: N/A
COC Info: 04640/
Date Collected: 04/05/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 94

TCLP Extract Date: N/A
Extract Date: N/A
Analysis Date: 04/09/01 Time: 14:51

Instrument: HPMS6
Analyst: CMS
Lab File ID: 6M25160

Method: 8260B\5035
Run ID: R120090
Batch : WG95200

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
100-41-4	Ethylbenzene	ug/kg	0.72	J	5.3	1
110-54-3	n-Hexane	ug/kg		ND	11	1
591-78-6	2-Hexanone	ug/kg		ND	11	1
87-68-3	Hexachlorobutadiene	ug/kg		ND	5.3	1
98-82-8	Isopropylbenzene	ug/kg		ND	5.3	1
99-87-6	p-Isopropyltoluene	ug/kg		ND	5.3	1
108-10-1	4-Methyl-2-pentanone	ug/kg		ND	11	1
75-09-2	Methylene chloride	ug/kg		ND	5.3	1
91-20-3	Naphthalene	ug/kg		ND	11	1
103-65-1	n-Propylbenzene	ug/kg		ND	5.3	1
100-42-5	Styrene	ug/kg		ND	5.3	1
630-20-6	1,1,1,2-Tetrachloroethane	ug/kg		ND	5.3	1
79-34-5	1,1,2,2-Tetrachloroethane	ug/kg		ND	5.3	1
127-18-4	Tetrachloroethene	ug/kg		ND	5.3	1
108-88-3	Toluene	ug/kg		ND	5.3	1
87-61-6	1,2,3-Trichlorobenzene	ug/kg		ND	5.3	1
120-82-1	1,2,4-Trichlorobenzene	ug/kg		ND	5.3	1
71-55-6	1,1,1-Trichloroethane	ug/kg		ND	5.3	1
79-00-5	1,1,2-Trichloroethane	ug/kg		ND	5.3	1
79-01-6	Trichloroethene	ug/kg	6.5		5.3	1
75-69-4	Trichlorofluoromethane	ug/kg		ND	11	1
96-18-4	1,2,3-Trichloropropane	ug/kg		ND	5.3	1
95-63-6	1,2,4-Trimethylbenzene	ug/kg		ND	5.3	1
108-67-8	1,3,5-Trimethylbenzene	ug/kg		ND	5.3	1
108-05-4	Vinyl acetate	ug/kg		ND	11	1
75-01-4	Vinyl chloride	ug/kg		ND	2.1	1
95-47-6	o-Xylene	ug/kg		ND	5.3	1
108-38-3	m-Xylene	ug/kg		ND	5.3	1
106-42-3	p-Xylene	ug/kg		ND	5.3	1

SURROGATES- In Percent Recovery:

Dibromofluoromethane	99.5	(80 - 120%)
1,2-Dichloroethane-d4	111	(80 - 120%)
Toluene-d8	97.8	(81 - 117%)
4-Bromofluorobenzene	104	(74 - 121%)

RL = Reporting Limit

Chrysler
Attention: Mr. Gary Stanczuk

Proposal No.. 008336
Page 2

SOLINST WELL INSTALLATION PROPOSAL

Service	U.O.M.	Rate	Quantity	Estimated Cost
Mobilization	Lump Sum	7500.00	1.00	7,500.00
Per Diem (3 Man Crew)	Day	250.00	35.00	8,750.00
Project Coordination & Report	Lump Sum	500.00	1.00	500.00
Drill & Sample 6" Sonic 0-100'	Foot	69.00	1445.00	99,705.00
Solinst Well Inst. (Bkfl & Labor)	Foot	15.00	1445.00	21,675.00
12" Flush Mount	Each	275.00	17.00	4,675.00
Well Development	Hour	250.00	35.00	8,750.00
Decontamination & Site Clean up	Hour	250 00	25.00	6,250.00
Drums	Each	45.00	55.00	2,475.00
Soil & Water Handling	Hour	250.00	25.00	6,250 00
Stand-By / Access Delay	Hour	450.00	0.00	0.00
TOTAL				$166,530.00

Solinst®

CMT Multilevel System

US $ Price List

cost per well
625
x 17 119
20
25
$789

CMT Multilevel
Continuous Multichannel Tubing

1 for all

403 CMT Multilevel System

Description:	Part #	Price $
1.7" OD 7-Channel Tubing		
100 ft. coil	104908	$ 625.00 X
200 ft. coil	104909	1250.00
300 ft. coil	104910	1875 00
Tubing Volume Orders: ($ per foot)		
up to 499 ft	0%	
500 ft. to 999 ft.	7%	
1000 ft. to 2499 ft.	16%	
2500 ft to 4999 ft	29%	
5000 ft. +	40%	
Pre-packed Screens		
2 4" OD Prepack Screen		67 00
2 7" OD Prepack Screen		73 00
Pre-formed Bentonite Packers		
2.4" OD Pre-formed Bentonite Packer		69 00
3 5" OD Pre-formed Bentonite Packer		98 00
Double Acting Packers (c/w 2 adjustable clamps)		
2.8" OD Double Acting Inflatable Packer		181 00
3 6" OD Double Acting Inflatable Packer	105211	164 00
3 8" OD Double Acting Inflatable Packer	104934	207 00
5 6" OD Double Acting Inflatable Packer		381 00

403 CMT Multilevel System

Description:	Part #	Price $
Assembly Tool Kit-Direct Burial (c/w hot melt gun, electric drill, LP Oetiker plier, drill bit & spacer, hack saw, measuring tape, insertion tool, marking pen and template)		$ 235 00
Assembly Tool Kit-Bentonite Seals (c/w hot melt gun, electric drill, single ear Oetiker plier, drill bit & spacer hack saw, measuring tape, insertion too, marking pen and template)		$ 210.00
Assembly Tool Kit-Double Acting Packers (c/w hot melt gun, electric drill, single ear Oetiker plier, drill bit & spacer, hack saw, measuring tape, Schraeder Inflation Valve Assembly, 3 female packer QC fittings, 3 push fit plugs, Vacuum pump with male QC, High Pressure hand pump, Inflation vessel, insertion tool, marking pen & template)		$ 626.00
Standard Screen Kit (c/w 4" x 12" screen, 2 Oetiker Adjustable clamps, 2 hot melt sticks, 3 plug packs)		11 00
Low Profile Screen Kit (For use with Direct Burial) (c/w 4" x 12" screen, 2 Oetiker Low Profile clamps, 2 hot melt sticks, 3 plug packs)		17 00
Support Stand	105093	283 00

7

Point $20
Manifold $25

Prices are in US Dollars

Duty, brokerage are included.

Delivery:

Tubing in Stock, Packers & Pre-packed screens, 2 to 3 Weeks.

Freight is extra.

$ 15 00 extra for orders under $ 150 00

For further information contact: Solinst Canada Ltd.
Fax. (905) 873-1992 Tel: (905) 873-2255 or (800) 661-2023
35 Todd Road, Georgetown, Ontario Canada L7G 4R8
E-mail: instruments@solinst.com Web: http://www.solinst.com

Solinst®

Boart Longyear Company
Environmental Drilling Division
101 Alderson Street • P.O. Box 109
Schofield, Wisconsin 54476-0109
Telephone: 715-359-7090 • 800-236-4983
Fax: 715-355-5715

Fax Message

BOART LONGYEAR
CONTRACTING SERVICES GROUP

To: Gary Stanczuk Page 1 of 5

Company: Chrysler Fax Number: 248576 7369

From: Ron Thalacker Date/Time Sent: 12/8/00

Date: Reference No.:

Gary,
Following are two costs for your Dayton project. I assumed that you would provide the Solinst well material. We can get a price at a later date if necessary. If you have any questions please give me a call. I will be out of the office today but can be reached on my cell at 715 355 5715. I should be in the office all of next week.

Thanks

Ron

Boart Longyear Company
Environmental Drilling Division
101 Alderson Street • P.O. Box 109
Schofield, Wisconsin 54476-0109
Telephone: 715-359-7090 • 800-236-4983
Fax: 715-355-5715

BOART LONGYEAR CONTRACTING SERVICES GROUP

December 8, 2000

Chrysler

Attn: Mr. Gary Stanczuk

RE: Nested Well Installation
Dayton, WI

Proposal No.: 008335

Dear Mr. Stanczuk:

In accordance with your recent request, we are pleased to submit our proposal for the desired technical services required for the above referenced project.

It is our understanding that seventeen nested wells will be installed for this project. Each well nest will consist of three 2" PVC wells set at 85, 50, and 25 feet. The wells will be drilled with 10" sonic and all three wells will be installed in the same hole. All work will be done in accordance with your specifications. We have assumed that the sites are truck accessible and that union workers will be required.

Based upon the scope of work as summarized on the attached sheet, the cost of this project would be approximately $262,405.00 depending on the actual work performed. This proposal will remain valid for a period of 30 days.

If you have any questions regarding this proposal, please give me a call. We appreciate your consideration and look forward to working with you on this and future projects.

Sincerely,

Ron Thalacker
Drilling Manager

Attachment

Boart Longyear Company
Environmental Drilling Division
101 Alderson Street • P.O. Box 109
Schofield, Wisconsin 54476-0109
Telephone: 715-359-7090 • 800-236-4983
Fax: 715-355-5715

BOART LONGYEAR CONTRACTING SERVICES GROUP

December 8, 2000

Chrysler

Attn: Mr. Gary Stanczuk

RE: Solinst Well Installation
Dayton, WI

Proposal No.: 008336

Dear Mr. Stanczuk:

In accordance with your recent request, we are pleased to submit our proposal for the desired technical services required for the above referenced project.

It is our understanding that seventeen nested wells will be installed for this project. Each well nest will consist of a Solinst three port sytem. The wells will be drilled with 6" sonic and the solinst wells will be supplied by your firm. All work will be done in accordance with your specifications. We have assumed that the sites are truck accessible and that union workers will be required.

Based upon the scope of work as summarized on the attached sheet, the cost of this project would be approximately $166,530.00 depending on the actual work performed. This proposal will remain valid for a period of 30 days.

If you have any questions regarding this proposal, please give me a call. We appreciate your consideration and look forward to working with you on this and future projects.

Sincerely,

Ron Thalacker
Drilling Manager

Attachment

Chrysler
Attention: Mr. Gary Stanczuk

Proposal No.: 008335
Page 2

NESTED WELL INSTALLATION PROPOSAL

Service	U.O.M.	Rate	Quantity	Estimated Cost
Mobilization	Lump Sum	7500.00	1.00	7,500.00
Per Diem (3 Man Crew)	Day	250.00	51.00	12,750.00
Project Coordination & Report	Lump Sum	500.00	1.00	500.00
Drill & Sample 10" Sonic 0-100'	Foot	115.00	1445.00	166,175.00
2" Nested Well Installation	Foot	29.00	1445.00	41,905.00
12" Flush Mount	Each	275.00	17.00	4,675.00
Well Development	Hour	250.00	35.00	8,750.00
Decontamination & Site Clean up	Hour	250.00	25.00	6,250.00
Drums	Each	45.00	120.00	5,400.00
Soil & Water Handling	Hour	250.00	34.00	8,500.00
Stand-By / Access Delay	Hour	450.00	0.00	0.00
TOTAL				$262,405.00

Model 403 Data Sheet

CMT Multilevel System*

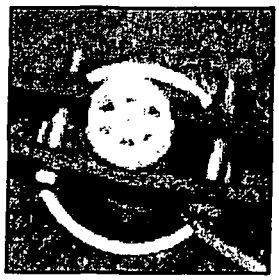
Model 403

The CMT Multilevel System is a unique and highly economical approach to multilevel groundwater monitoring. It provides the simplicity and low cost of a bundle-type installation, with the benefits of backfilling or sealing around a single tube.

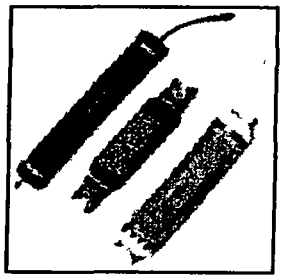
The flexible system uses continuous polyethylene multichannel tubing which is customized on site with screened intervals and packers, based on the borehole log. The 1 7" OD tubing (43 2 mm) has 7 monitoring channels. The systems are easily installed in overburden and rock boreholes, inside existing casing, or within narrow diameter augers

The CMT Multilevel allows detailed 3-D water level and water quality data at an affordable price Detailed transect monitoring of plumes using CMT Systems enable zones of high concentrations to be accurately identified, quickly and at less cost

New monitoring strategies by US EPA encourage the use of transects of multilevel wells installed in a line across the contaminant plume. The sampling transects ensure that releases will be detected, even when the locations of plumes fluctuate in response to seasonal variations. Transects of multilevel wells allow site investigators to assess the longevity of residual sources and calculate field-based biodegradation rates with greater accuracy and confidence With more precise monitoring data the frequency of sampling can be significantly reduced, resulting in dramatic cost savings.



Continuous tubing with 7x1/2" (12 7 mm) internal channels.



Use pre-formed packers and sand packs or standard filters and bentonite seals

Ports and packers are placed exactly where needed immediately prior to installation

Advantages of Multilevel Systems

- Provide the most accurate 3-D assessment of a site
- Vital to understanding vertical flow of contaminants
- Allow documentation of changes in the strength and location of a contaminant plume
- Low cost compared with alternative methods

Research has shown that contaminant plumes are often thin and highly stratified. Traditional monitoring wells, with screened intervals of 10 ft. (3 m) or more, blend the groundwater over the entire length of the screen, which can mask the true concentrations and distribution of contaminants

Multilevel wells with short screened intervals overcome this problem and offer more precise identification, better design options for treatment and excellent ongoing monitoring

Endorsements of Multilevel Monitoring

- **US EPA** (Monitored Natural Attenuation for Ground Water Seminar Series, 1998)
- **Interstate Technology Regulatory Cooperation (ITRC)** Natural Attenuation of Chlorinated Solvents in Groundwater course, 1998
- **American Petroleum Institute**, Regulatory & Scientific Affairs Publication No 4699 'Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE', 2000

Advantages of the CMT Multilevel

- Low cost and ease of use
- Up to 7-zone monitoring in a single tube
- No joints - one smooth surface for easy, effective sealing
- Ports and packers can be located anywhere along tubing
- Double-Acting Packers allow easy system removal
- Simple system may be customized and built on site
- The hole is not left open to deteriorate or contaminate
- Installs quickly in large direct-push casing and bigger holes - one seven-zone CMT System can be completed by two people in under 3 hours

Applications

- Transect monitoring of spill and contaminant sites to identify vertical as well as horizontal distribution
- Mass transport calculations
- Determination of the best location for reactive barrier walls
- NAPL and MTBE monitoring
- Monitoring of natural attenuation or remediation processes
- Ideal for shallow wells in high water table
- Multilevel water sampling and level monitoring in overburden, bedrock or cased wells

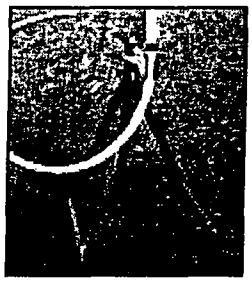
* Patents Pending

Installation Overview

There are many options for the installation of a CMT System depending on the lithology and project requirements Typical installation options include.

- **Consolidated Boreholes (Bedrock)**
  Zones may be isolated with:
  a) Double-Acting Packers for 3" (75 mm) diameter or larger boreholes
  b) Sand and bentonite layering, tremied or injected
  c) Pre-formed Bentonite Packers for 3" (75 mm) diameter or larger boreholes
- **Unconsolidated Sediments (Overburden)**
  Install the CMT System:
  a) using sediment collapse around tubing, in collapsing formations using 2" (50 mm) or larger drive casing
  b) within well casing, with screened intervals at the desired monitoring zones, and using options for consolidated holes
  c) within driven temporary casing or hollow stem augers:
  - using sand and bentonite layering, tremied or injected
  - using pre-formed bentonite packers and screens

Temporary casing has the advantage that it avoids redistribution of soil and contaminants and thus potential positive biases. Air rotary, cable tool, sonic and large direct-push (DP) rigs can all be used to advance temporary casing. The smaller sonic and direct-push rigs also offer easy-access advantages.



A support stand eases the preparation of ports.

The fully prepared CMT System is lowered into the hole

Typical Installation Procedures

The CMT Multilevel is completely built above ground and then inserted into the borehole. A set of appropriate installation tools is available to suit each CMT System. A support stand is recommended to hold the tubing in a convenient position while the ports are drilled and sealed.

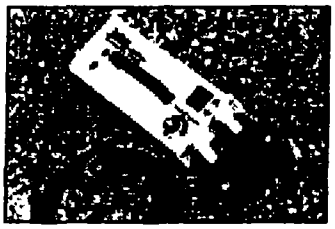
Installation is simple After drilling the hole, lay out the CMT tubing, mark the zones to be monitored and prepare the port inlet holes If packers and/or sand packs are to be used, slip them into position. When sand packs are not to be used, screens are placed over the port inlet holes.

The CMT System can then be lowered into the hole. Double-Acting Packers are inflated or time is given to allow Pre-formed Bentonite Packers to expand, and monitoring can begin as soon as hydraulic and hydrogeochemical equilibrium has been re-estabished.

Monitoring Your CMT Multilevel

Water levels can be accurately established using the Solinst Mini 101 Water Level Meter The Mini 101 is ideal for use in shallow CMT Systems. Lengths of 30 ft, 65 ft, 10m or 20m. of the narrow 1/4" (6 mm) tape are mounted on a convenient small reel A narrower Model 102 coaxial cable Water Level Meter may be easier for use in deeper CMT Systems.

An accurate 1/4" (6mm) flat tape and probe

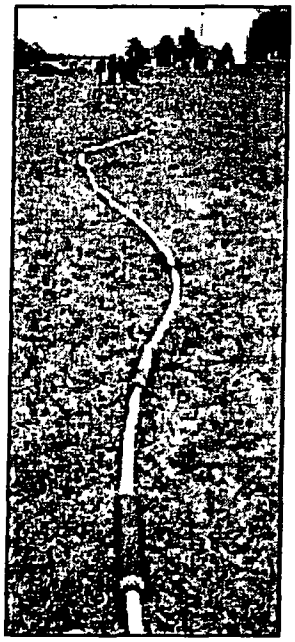


Solinst #410 Peristaltic Pump

Sampling can be performed using the Solinst Model 410 Peristaltic Pump, a small inertial WaTerra Pump, or a single valve pump.

CMT System Sizes

The tubing is available in lengths of 100', 200' & 300' (30m, 60m and 90m) If deeper multilevels are desired the Waterloo Multilevel System can be considered. (See Data Sheet 401)



CMT tubing is layed out on the ground or plastic sheeting for ports to be prepared and placement of packers

The 1 7" O.D CMT tubing (43.2 mm) has 7 channels. Although not circular, the ID of the 6 outer channels are approximately 7/16" (11mm) and the smaller central channel is 3/8" (9.5mm) The tubing coils are approximately 4 ft (1 22 m) in diameter.

When a CMT System is to be installed through narrow diameter direct push equipment using direct burial with formation collapse around the system, the port screens can be held in place using low profile clamps. These give an overall diameter of 1 75" (44 45 mm) to the 1.7" system. The regular clamps give an overall diameter of 1 9" (48 26 mm) when packers or sand packs are not used

Pre-packed bentonite packers and Double-Acting Packers are available in a variety of diameters to suit different sized holes.

Pre-packed sand packs are available with different sizes of screen mesh and different sizes of sand, to suit hydrogeologic conditions

CASE STUDY
Expedited Assessment of an MTBE Release

In November 1999, low concentrations of MTBE were detected in a private industrial well located downgradient from a known leaking underground fuel storage tank (LUST). The site is located in a narrow valley underlain by young alluvial sediments. Groundwater occurs at a depth of approximately 8 feet, and flows toward the southeast at a velocity estimated to be about half a foot per day. A map depicting the LUST and vicinity is shown in Figure 1. Prior to beginning the field investigation, a conceptual model of the site was developed that incorporated all relevant information about the tank construction, release history, prior land use, operating records of nearby water wells, as well as published information regarding the geology, hydrogeology, and groundwater extraction in the site vicinity was also reviewed.

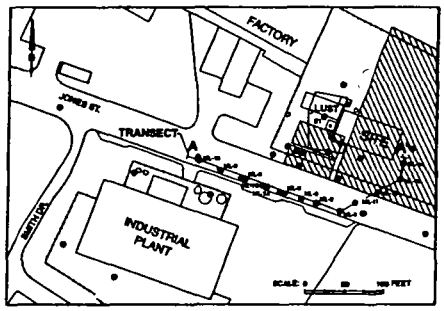


Figure 1. Site layout A transect of 13 CMT wells was installed between the LUST and the impacted water well The transect was oriented perpendicular to the groundwater flow direction, but was extended in an arc to ensure that no portion of the suspected plume escaped detection

After site assessment with cone penetrometer testing (CPT) equipment, the investigators identified two ages of alluvium beneath the site. Because of the contrast in permeability between the two ages of alluvium, the site hydrogeologist suspected that the MTBE plume may have been migrating preferentially within the upper more permeable unit. Little was known about the off-site location of the MTBE plume. Because the impacted supply well is not directly downgradient of the LUST site, the hydrogeologist suspected that the dissolved plume may have drifted southeast, away from the well (following the regional flow gradient), in the two months since the impacted well was shut down.

The site owner authorized the consultant to install a transect of 13 CMT wells midway between the LUST and the impacted well. Because of the uncertainty in the location of the dissolved plume, the transect was installed in an arc downgradient of the known release area (Figure 1). The CMT wells were installed on 25-foot centers, and extended to an average depth of 50 feet. The wells were installed in continuously-cored borings drilled with a sonic drill rig. A 4-inch-diameter temporary steel casing was advanced, which was ideal for installing CMT wells.

Thirteen CMT wells were installed in just four days at the locations shown in Figure 1. Groundwater elevations were measured in the CMT wells, confirming the downward hydraulic gradient. A thin, narrow plume of MTBE was identified, flowing within the shallow alluvium (Figure 4). Non-detect (ND) values for MTBE were recorded in sampling points on all sides of the plume, thus ensuring that no portion of the plume escaped the monitoring network. Using the MTBE concentration data and the hydraulic properties of the shallow alluvium, the flux of MTBE emanating from the source area was estimated. This calculation proved to be a powerful way of assessing the impact of the dissolved contaminant plume on the downgradient industrial well.

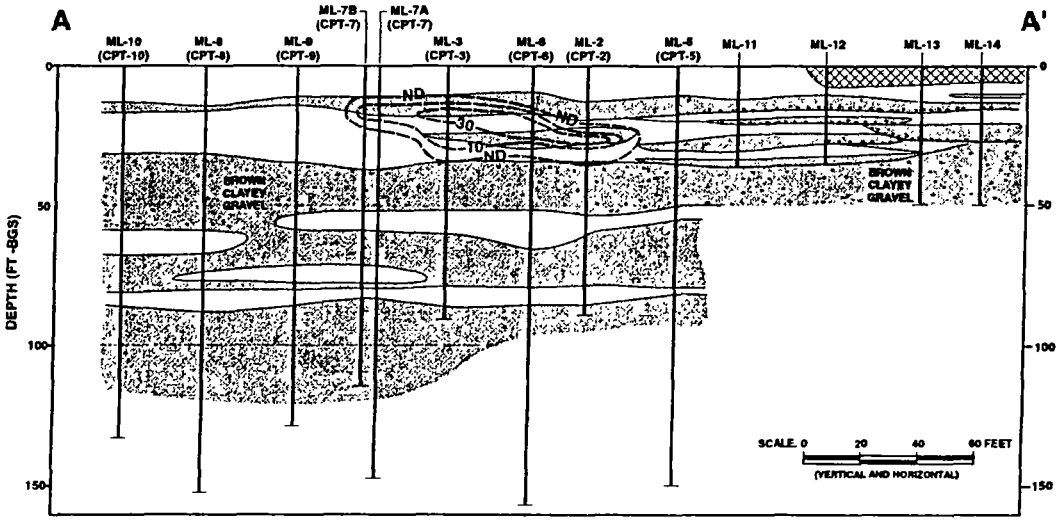


Figure 4.
Isoconcentration contours of MTBE measured in groundwater samples collected from the CMT wells. A thin, narrow plume of dissolved MTBE was identified within the shallow younger alluvium. In this figure, the MTBE plume is flowing out of the page toward the reader.

For further information, please contact: Solinst Canada Ltd.
35 Todd Road, Georgetown, ON, Canada L7G 4R8 E-mail: instruments@solinst.com
TEL: (905) 873-2255 or (800) 661-2023 FAX: +1 (905) 873-1992 or (800) 516-9081 Web www.solinst.com

Preparation

Create an installation layout sheet indicating your desired port and packer locations for the multilevel installation

Set up the tubing support stand, drill, drill stop, template, glue gun and all other accessories for easy availability during CMT assembly.

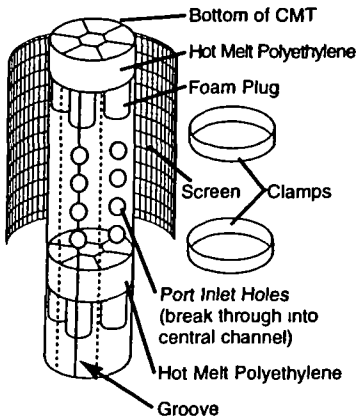
Uncoil CMT tubing, lay flat and straight on the ground or plastic sheeting, and cut to desired length.

Note: CMT Systems that use Double Acting Packers or pre-formed bentonite packers are self-centralizing. If seals and sand are to be placed by tremie pipe, spacers can be considered, although these may interfere somewhat with the tremie pipe.

Using your layout sheet as a guide, mark the appropriate locations along the CMT tubing for each port and/or packer location

Central Channel Port Construction (bottom zone only)

Hint: Only use the center channel if all 7 zones are required.



Place the tubing in the support stand positioned vertically upside down, with the bottom end of the tubing and the marked port location above the clamp.

To access the central channel, holes must be drilled into the central channel through all 6 outside channels. Use the template to mark the locations of the 4 port inlet holes on each successive channel around the CMT tubing.

Do not mark the vent hole location. This is not needed for the deepest zone, as the bottom of the system will be plugged, and vent holes are used to allow the lower end of a channel to fill with water to overcome buoyancy.

Set the drill stop so that the drill bit extends no more than 7/8" (22 mm) past the stop and drill each of the inlet holes (24), taking great care to just break into the central channel.

Insert a plug into the inlet the hole furthest from the bottom of the system, in each of the channels, and position them about 1.25" (32 mm) below the holes.

Inject hot melt polyethylene into each of these three holes to fill the channels from the plug to just below the inlet hole, then allow time to cool and solidify.

Note: When using the hot melt gun, ensure that the material is always free-flowing so that the maximum temperature is retained at all times. (ie if you have to squeeze the trigger harder, you are going too fast) This ensures that maximum adhesion occurs to the CMT tubing

Insert plugs about 1" into all seven channels from the end of the tubing.

Inject hot melt polyethylene into each of these seven holes to fill the channels right to the end of the tubing.

Maintain the vertical orientation while the polyethylene cools.

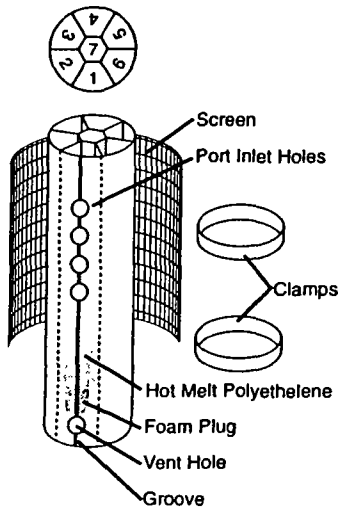
If packers are to be used, they need to be positioned on the tubing before the port screens are installed. Refer to the packer installation section of this instruction manual now.

If no packers are to be installed, or after placement of the packers, wrap a stainless steel screen around the CMT system covering the 24 port holes, and install a clamp on each end of the screen.

Make sure that the hot melt polyethylene has cooled before proceeding to the next port

Peripheral Channel Port Construction:

Hint: If less than seven monitoring zones are required, do not use the central hole, which is slightly smaller than the others. If available, you can also use two channels to access zones to allow separate channels for sampling and water level measurement.



Locate the ridge on the CMT tubing to identify the center of channel #1, and as a reference point to locate each subsequent channel at port locations. Use the template to mark the locations of the port inlet holes and the vent hole

Place the tubing into the clamp of the support stand and position the tubing vertically, with the vent hole at the bottom.

Set the drill stop so that the drill bit extends no more than 3/8" (9 mm) past the stop and drill the vent and inlet holes (5), taking great care to just break through the outer wall of the channel. Do not contact the central channel wall!

Insert a plug and position it just above the vent hole

Inject hot melt polyethylene into the lowest port access hole to fill the channel from the plug to just below the port inlet hole, then allow time to cool and solidify

Note: When using the hot melt gun, ensure that the material is always free-flowing so that the maximum temperature is retained at all times (ie if you have to squeeze the trigger harder, you are going too fast). This ensures that maximum adhesion occurs to the CMT tubing.

For the next monitoring zone, locate the indicator ridge on the CMT tubing, and, being very careful, count over one channel in a clock-wise rotation (viewed from the top).

Hint: It is usually easiest to create the deeper ports from the bottom of the system and the upper ports from the top of the system.

If your back is to the top of the system, the next zone is to your right.

If your back is to the bottom of the system, the next zone is to your left.

Repeat the above procedures for each port location

If packers are to be used, they need to be positioned on the tubing before the port screens are installed Refer to the packer installation section of this instruction manual now

If no packers are to be installed, or after positioning of the packers, wrap a stainless steel screen around the CMT system covering the 4 port holes of each port, and install a clamp on each end of the screens

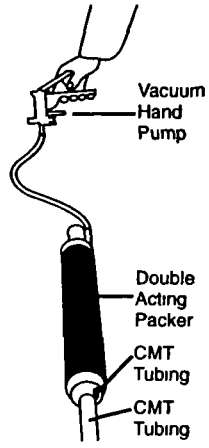
Packer Installation:

Notes:

1. If using preformed bentonite packers or Double Acting Packers with Pre-Packed Screens, each screen and packer assembly must be installed in order of position on the CMT tubing, prior to installing standard port screens:
2. Do not use air inflation if there is more than 50ft. between the lowest and highest packer.

If Pre-formed Bentonite Packers are to be used, slide these over the CMT tubing and position them according to your installation layout sheet. Use a clamp on each end of the packer to lock it in place.

If Removable Double Acting Packers are to be used, apply a vacuum to the packer to be installed using the quick-connect fittings and hand vacuum pump included in the Assembly Tool Kit



Attach a quick-connect fitting to the connector on one end of the packer, and put a red plug into the connector on the other end of the packer.

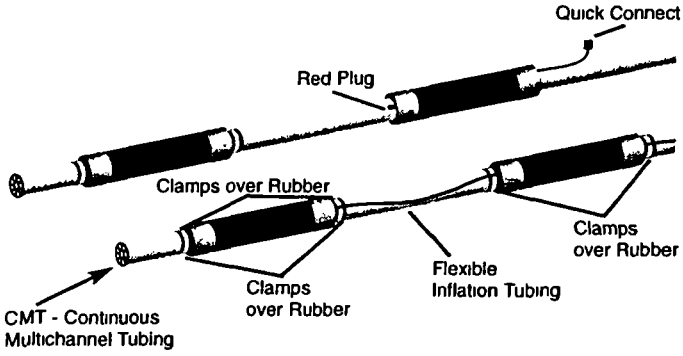
Apply a vacuum with the hand pump until the inner rubber packer gland is forced outward, allowing the packer to slide easily over the CMT tubing.

Lock the vacuum by disconnecting the hand pump while leaving the quick-connect fitting attached to the packer.

Slide the packer to the appropriate location on the CMT tubing according to your installation layout sheet.

Remove the quick-connect and the red plug from the connectors on the packer. This will cause the inner rubber packer gland to relax and hold the packer in position. To lock the packer in place, take one of the rubber strips, wrap it around the CMT tubing immediately above and below the packer, and clamp in place.

Repeat this process for each packer



Install a red plug in the bottom connector of the deepest packer.

Ensuring that the packer inflation tubing between packers is slack, connect the top of one packer to the bottom of the next with a length of the 1/4" (6 mm) LDPE tubing. Continue this to the top packer.

Install enough packer inflation tubing from the top packer to reach a convenient height from surface

Finish preparing the ports by wrapping stainless steel screen around the CMT system to cover the 4 inlet holes of each port and install a clamp on both ends of the screen

If air inflation is to be used, proceed to CMT System Placement section of this manual.

If hydraulic packer inflation is to be used, it is important to remove air bubbles from the packers and lines. Proceed as follows

Remove the red plug from the base of the bottom packer.

Fill the Pressure Vessel with water, and attach it to the connector on the base of the lowest packer.

Using the hand pump, displace water from the Pressure Vessel into the packers and inflation line

When water is expelled from the top of the system, attach the inflation valve assembly included in the Assembly Tool Kit to the top of the packer inflation line, and replace the plug in the base connector on the lowest packer.

CMT System Placement:

Lower the assembled CMT System into the borehole slowly. Take care to support the system to prevent kinking, and to limit dragging of screens and packers.

If buoyancy is a problem, wait, as the channels below water level will slowly fill and allow the system to be lowered further.

When the required depth is reached, support the system with the riser clamps, to prevent it from moving during the sealing stage.

System Completion:

If Pre-formed Bentonite Packers are used, wait several hours to allow the packers to expand fully

If standard tremie or back-filling methods are used, take great care to ensure that bentonite or grout is not placed over any of the screened ports

If Double Acting Packers are used with air inflation, proceed as follows:

Connect the hand pump to the valve assembly on the inflation line.

Pump air to inflate the packers to a pressure of between 15-40 psi over the hydraulic pressure acting on the deepest packer.

If Double Acting Packers are used with hydraulic inflation, proceed as follows.

Add water to the inflation vessel and seal it

Attach the hand pump to the inflation vessel, and connect the inflation vessel to the valve assembly on the inflation line

Pump water into the packers until the pressure shown on the pump gauge is between 15-40 psi minus the water pressure equivalent corresponding to the distance from static water level to the highest point of the inflation line (Refill the inflation vessel as needed.)

Note: Hydraulic or pneumatic packer inflation pressures can vary over time due to changes in barometric pressure and temperature, as well as packer gland relaxation and air/water leakage. Monitor the inflation pressure regularly to ensure that there is never less than 15 psi total calculated pressure acting on the deepest packer.

Double Acting Packer System Removal

If Double Acting Packers have been used the system can be removed by deflating the system. To deflate the packers simply vent the quick connect fitting allowing the air or water to flow out of the tubing. In some cases it may be necessary to draw the water out with a peristaltic pump or a hand vacuum pump device. Once it can be lifted easily, pull the CMT system out of the borehole

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35 Todd Road, Georgetown, Ontario Canada L7G 4R8
E-mail: instruments@solinst.com Web: http://www.solinst.com

Solinst®

Chrysler
Attention: Mr. Gary Stanczuk

Proposal No.: 008335
Page 2

NESTED WELL INSTALLATION PROPOSAL

Service	U.O.M.	Rate	Quantity	Estimated Cost
Mobilization	Lump Sum	7500.00	1.00	7,500.00
Per Diem (3 Man Crew)	Day	250.00	51.00	12,750.00
Project Coordination & Report	Lump Sum	500.00	1.00	500.00
Drill & Sample 10" Sonic 0-100'	Foot	115.00	1700 ~~1445.00~~	166,175.00
2" Nested Well Installation	Foot	29.00	3300 ~~1445.00~~	41,905.00
12" Flush Mount	Each	275.00	17.00	4,675.00
Well Development	Hour	250.00	35.00	8,750.00
Decontamination & Site Clean up	Hour	250.00	25.00	6,250.00
Drums	Each	45.00	120.00	5,400.00
Soil & Water Handling	Hour	250.00	34.00	8,500.00
Stand-By / Access Delay	Hour	450.00	0.00	0.00
TOTAL				$262,405.00

195,500
53,795

345,525

25
14
25
94
9
500

$667 Markups

	10%
Task 1	4,857
2	1,763
3	327
4	273
	7,220

Drilling

230,050

411,934
77,887

334,047

High Quality Groundwater Monitoring Instruments

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Multilevels Save $$$

CMT Multilevel

Continuous Multichannel Tubing

- Inexpensive multilevel monitoring system
- Up to 7-zone monitoring in a single tube
- Simple, customized system, quickly installed

The new CMT Multilevel System* provides the simplicity and low cost of a bundle-type installation, with the benefit of backfilling or sealing around a single tube.

The flexible system uses 1.7" O.D. continuous polyethylene multichannel tubing which is customized on site with screened intervals and packers, based on the borehole log. The system can be installed in overburden and rock boreholes.

The CMT Multilevel gives detailed 3-D water level and water quality data at an affordable price. Detailed transect monitoring of plumes allows zones of high concentrations to be identified quickly and simply, and at less cost.

*Patent pending

Kirsten. Henderson

800- 661 - 2023

Tube Foot Valve

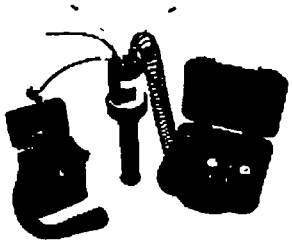
1/4" 1.17" inside

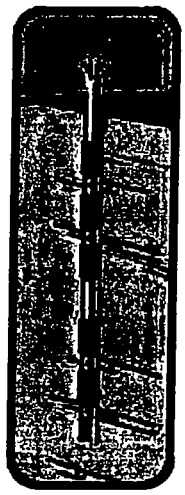
up to 120'

@ Solinst. Com

Waterloo
Multilevel System

Multilevel monitoring using the Waterloo System can greatly reduce costs. Fewer holes are required and purge volumes are small. Sampling and pressure readings take less field time, due to minimized annular space. The high quality design can use dedicated equipment at discrete zones.





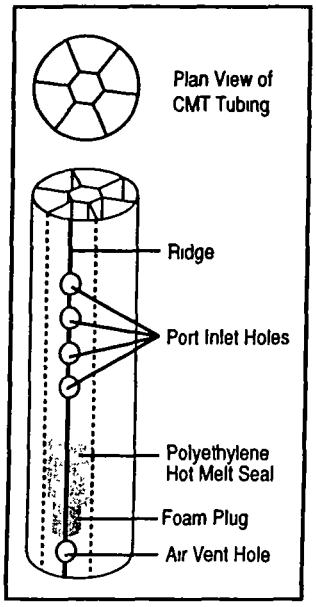
Removable Systems:

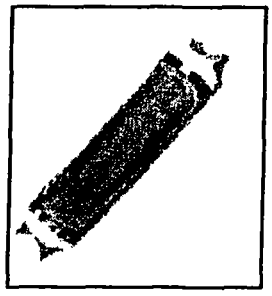
- allow re-use at new locations or zones
- make decommissioning easy

Waterloo Systems are engineered to ensure long-term integrity of the seals between monitoring zones. Waterloo Systems can be used in overburden, cored rock or cased holes.

Multichannel Tubing

A multilevel well that uses a continuous length of multichannel tubing has the advantage over other multilevels in that there are no joints. This significantly reduces the cost of installing wells and at the same time increases the reliability of the system. The CMT tubing is very simple and convenient to use, as it gives full flexibility as to where monitoring zones are located, and one length of tubing can be used for a number of well installations. It has a ridge down its entire length to allow for easy identification of specific channels
Ports and packers can be assembled onto the tubing in the field, immediately after drilling, to reduce open hole time and potential cross-contamination between zones

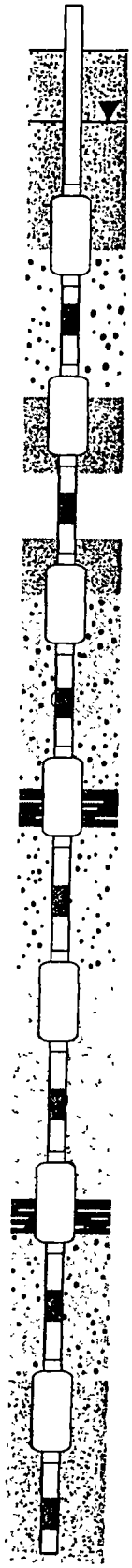




To create a port channel is sealed, holes are drilled into the tubing and covered by a stainless steel screen or pre-packed sand pack.

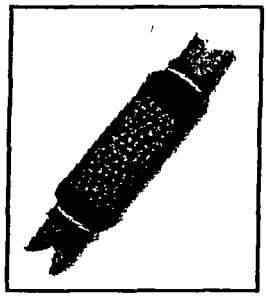
Ports

The number and location of ports may be determined in advance of drilling, or after coring Holes are drilled in a vertical line into a given channel at a specified depth according to the zone to be monitored, forming a port
The channel is sealed with a polyethylene sealant below the port openings and a vent hole is left just below the seal to allow air to escape as the system is lowered into the hole
A stainless steel mesh is fixed in place over the port to prevent fines from entering, or pre-packed sand packs are clamped onto the tubing over the holes. The screen kits come in a variety of mesh sizes, complete with clamps, hot melt polyethylene glue and plugs.
Each channel is sealed at the bottom to prevent cross contamination, and a vent hole is cut into the channel just below the port. This allows water from the monitoring zone to fill the channel below the zone, avoiding buoyancy.



Seals & Packers

The CMT tubing can be sealed in place with sand and bentonite layers in the usual manner using a tremie pipe or with the Solinst Mini Sand Bentonite Injector, Model 561M. If the application is in loose sands, direct burial can be used, allowing the sand to collapse around the tubing. Pre-packed bentonite seals are also available which have bentonite pellets inside a plastic mesh, so that they can be slipped onto the tubing and then clamped quickly in place prior to installation.



Pre-packed Bentonite Packer

Double-Acting Packers

Double-Acting Inflatable Packers* are ideal for use in situations where a CMT System is to be put inside an existing casing, or in a smooth rock borehole and when removal of the system for decommissioning or reuse is important
Double Acting Packers have a rubber gland on the inside as well as the outside Both glands inflate and deflate at the same time When a vacuum is applied to a packer, the inner gland retracts and the packer slides easily into position on the CMT tubing
The vacuum is then released so that the packer grips onto the tubing and a clamp top and bottom ensures that the packer does not shift position during installation

Applying a vacuum

Sliding the packer into position

Inflating the Double-Acting Packers

The packers are connected in line with flexible inflation tubing, and after installation into the well an inflation vessel is filled with water and an air source is used to hydraulically inflate the packers.
Systems using Double Acting Packers can easily be removed and the packers used elsewhere or in some cases the system may be repositioned so that the ports are located at different depths within the same well

* Patents Pending

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 5, 2000

Task 1: Offsite Drilling and Well Installation

Work Description: This task includes LBG services to prepare for, travel Dayton, and to supervise monitoring well and piezometer installation, including sample collection, geologic logging, and field documentation. This investigation is intended to further delineate offsite impacts to soil and ground water. Seventeen well custers will be installed with 3 wells in each cluster at depths of 25, 50 and 80 feet. A field crew of one is anticipated for a period of 25 drilling days, which are assumed to be 12 hours each These costs do not include soil disposal, pending analytical results.

PROFESSIONAL FEES

Staff Level	Description of Respoosibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc	Project kick-off, communicate with field crew	$41 /hr	60	$7,306
Sr. Hydro.	Prep., Field oversite, and travel	$36 /hr.	375	$40,095
Sr. Eng.		$38 /hr.		$
Hydro.		$26 /hr		$
Eng.		$30 /hr.		$
Tech.		$22 /hr		$
Draft	Field base map preparation	$22 /hr.	6	$392
Admin.	Correspondence and scheduling	$22 /hr.	12	$784
			TOTAL	$48,577

2 97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Moody's	Drilling contractor well drilling and installation	$300,000. /ea.	1	1.000	$300,000
Misc. Supplies	Field supplies	$500 /set	1	1.050	$525
Hotel, Meals	LBG field hydro	$135 /day	29	1.000	$3,915
Rental Car	Rental car	$65 /day	27	1.000	$1,755
Field Phone	Communications	$10 /day	27	1.050	$284
Equipment	Hnu	$255 /week.	3	1.000	$765
Mileage	Travel to airport	$0.33 /mi	100	1.000	$33
Permit	Sidewalk Use Permits (temporary closure)	$100. /ea	5	1.050	$525
Airfare	Field personnel	$750. /ea.	4	1.000	$3,000
Fed-Ex	Sample shipping	$75 /ea.	25	1.050	$1,969
		Reimbursed Expense Total			$312,770

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes	$972	1	1 000	$972
	(2 percent of professional fees total)				$0
Roll-off Rental	Cuttings storage (two 20 cu. yd rolloffs)	$100 /week.	12	1.05	$1,260
					$0
			Other Charges Total		$2,232

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ESTIMATED TASK TOTAL	$363,579

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 5, 2000

Task 2: Data Reduction and Reporting - Offsite Drilling Investigation

Work Description: This task includes LBG services to analyze and evaluate the resultant data received from the Off Site Drilling Investigation. LBG will prepare a summary report with maps and cross-sections documenting the findings of this phase of work.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal	Report review.	$50 /hr.	2	$297
Assoc.	Project coordination, reporting, communication	$41 /hr	40	$4,871
Sr Hydro		$36 /hr.		$
Sr Eng.	Data reduction and reporting	$38 /hr.	10	$1,129
Hydro.	Data reduction and reporting	$26 /hr.	100	$7,722
Eng	Data reduction and reporting	$30 /hr.	20	$1,782
Tech		$22 /hr.		$
Draft.	Figure preparation	$22 /hr.	20	$1,307
Admin	Word processing	$22 /hr.	8	$523
			TOTAL	**$17,630**

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Fed Ex	Document Transmittal	$15. /ea.	12	1.050	$189
Plots	report figures and maps	$1 5 /ea.	80	1.000	$120
			Reimbursed Expense Total		**$309**

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$353	1	1 000	$353
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
			Other Charges Total		**$353**

ESTIMATED TASK TOTAL	**$18,292**

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 5, 2000

Task 3: **Survey Monitoring Well Clusters**

Work Description: This task includes LBG services to coordinate surveying of the offsite well nests, GIS and ARC View formatting.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal		$50 /hr.		$
Assoc.	Contracting and communication	$41 /hr.	4	$487
Sr. Hydro.		$36 /hr.		$
Sr. Eng.		$38 /hr.		$
Hydro.	Contracting, field oversite and GIS formatting	$26 /hr.	40	$3,089
Eng.		$30 /hr.		$
Tech.		$22 /hr.		$
Draft.	Figure preparation	$22 /hr.	3	$196
Admin.		$22 /hr.		$
			TOTAL	$3,772

2.97

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Surveying	Survey horizontal and vertical well locations	$10,000 /ea.	1	1 050	$10,500
Plots	Report figures and maps	$1.5 /ea	40	1.000	$60
			Reimbursed Expense Total		$10,560

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$75	1	1.000	$75
					$0
					$0
					$0
					$0
					$0
					$0
					$0
			Other Charges Total		$75

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ESTIMATED TASK TOTAL	$14,407

65 – 75 ft

22,500
25
14
25
95
60
22,719

Task 1

Drill $40/ft 57,800
Wells $12/ft 32,640
[redacted]0,440

9 Task 2

2720 ft Well Material

500 Task 3

$110/per

23,228 Total

1445 ft Drilling

418
~~23~~
395

December 5, 2000

Mr. Keith A. Coney, CIMS 484-00-04
DaimlerChrysler Corporation
Chrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re: **REVISED PROPOSAL 3CHRY4-29; Req. # YGQP-**
Off-Site Drilling Program
Dayton Thermal Products Plant (SC001)
Dayton, Ohio

Dear Keith:

At the request of Mr. Gary Stanczuk, Leggette, Brashears & Graham, Inc. (LBG) has prepared the following cost estimate for installation of clustered monitoring wells and piezometers off site, in the vicinity of the Dayton Thermal Products Plant in Dayton, Ohio. Detailed estimated costs for the work are presented in the attached cost spreadsheet. We request that Clause 135 be included in this P.O.C. request.

TASK 1: OFF-SITE DRILLING AND WELL INSTALLATION

This task includes LBG services to procure and supervise drilling and off-site well installation by a union drilling contractor. Seventeen, 3-well clusters will be installed in the vicinity of the Dayton Thermal Products Plant. These wells and piezometers are being installed as part of an extensive off-site ground-water investigation to delineate the degree and extent of potential offsite ground-water impacts from the Dayton Plant, as well as to identify any potential third party ground-water contamination. Individual wells/piezometers in each cluster will be set at approximate depths of 25, 50, and 80 feet below ground surface. It is estimated that 25 drilling days will be required to complete the work scope. LBG will provide one field hydrogeologist for the duration of the installation activities. Travel and lodging expenses are included. Soil disposal costs are not included, pending receipt of analytical results. Approximately 30 cubic yards of drill cuttings are anticipated.

Off-Site Drilling and Well Installation..... $ 363,579.00

TASK 2: DATA REDUCTION AND REPORTING

This task includes LBG services to evaluate, document, store, and report the results of the off-site monitoring well/piezometers installation. This task includes production of compound-specific isoconcentration maps at shallow, medium, and deep levels, updated compound-specific cross sections with updated geology, and a summary report (draft).

Data Reduction and Reporting..... $ 18,292.00

TASK 3: SURVEY MONITORING WELL CLUSTERS

This task includes LBG and subcontractor services to survey all wells for both horizontal and vertical locations, and formatting for GIS database usage.

Survey..... $ 14,407.00

TASK 4: SUBCONTRACT ADMINISTRATION AND LIABILITY

As requested by DCC, this task includes LBG's real cost and liability exposure for administering this subcontract on behalf of DCC. This task includes reimbursable principal, project manager time and legal fees to thoroughly review bid, contract, and invoice documents, and to review project progress as it relates to liability and financial issues. Insurance premiums based on dollar-volume of work are included, as well as reimbursable insurance deductibles. **If no insurance claims occur on this job, LBG will *SCORE* the listed deductible amounts.** Expenses for administration and accounting related to the subcontract are also included, as well as a 1% profit for capital funds and risk assumption. This estimate assumes 3 months of administration for this large subcontract and is based upon historical, pro-rated historical administrative labor allocations.

Subcontract Administration..... $ 76,478.00

TOTAL ESTIMATED COSTS FOR TASKS 1 through 4..... $ 472,756.00

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Kenneth D. Vogel, PG, CHMM
Senior Associate

KDV:kw
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TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 5, 2000
REVISED PROPOSAL NUMBER 3CHRY4-29

COST ESTIMATE SUMMARY
OFF SITE DRILLING PROGRAM

TASK	TASK NAME	LBG Labor Cost	LBG Expenses	Other Charges	Grand Total Fee and Expenses
Task 1	Offsite Drilling and Well Installation	$48,577	$312,770	$2,232	$363,579
Task 2	Data Reduction and Reporting - Offsite Drilling Investigation	$17,630	$309	$353	$18,292
Task 3	Survey Monitoring Well Clusters	$3,772	$10,560	$75	$14,407
Task 4	Subcontract Administration and Liability	$5,119	$71,257	$102	$76,478
	TOTALS	$75,098	$394,896	$2,762	$472,756

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45-60/ft Completed

Tr 2 x 3000

590 ft³

25 yd³

~~$1000~~ waste cost

$4900

$1250

TASK PRICING WORKSHEET

DAIMLERCHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS

December 5, 2000

Task 4: Subcontract Administration and Liability

Work Description: As requested by DCC, this task is intended to present LBG's real costs and liability exposure for administering a subcontract on behalf of DCC. This task includes reimbursable principal, project manager time and legal fees to thoroughly review bid, contract, and invoice documents, and to review project progress as it relates to liability and financial issues. Insurance premiums based on dollar-volume of work are included, as well as reimbursable insurance deductibles. ***If no claims events occur on this job, LBG will SCORE the deductible amounts.*** Corporate expenses for administration and accounting related to the subcontract are also included. These estimates assume 3 months of administration for this large subcontract and are based on pro-rated, historical administrative labor allocations.

PROFESSIONAL FEES

Staff Level	Description of Responsibilities	Direct Labor Rate	Estimated Hours	Labor Cost
Principal	Contract Review and Administration	$50 /hr.	3	$446
Assoc.	Contract Review, Invoice Administration	$41 /hr.	9	$1,096
		$36 /hr.		$
		$38 /hr.		$
		$26 /hr.		$
Corporate Admin.	Contract Administration and Record keeping	$43 /hr.	15	$638
AP/AR	Financial record keeping, tracking, billing, payments	$22 /hr	15	$980
Time Billing Admin.	Financial record keeping, tracking, billing, payments	$22 /hr.	15	$980
Office Admin	Contract and Financial Administration	$22 /hr	15	$980
			TOTAL	**$5,119**

2561

297

REIMBURSED EXPENSES

Expense Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Insurance	Insurance Deductible (Liability)	$50,000 /ea.	1	1.000	~~$50,000~~
Insurance	Insurance Premiums	3.13%	300,000	~~1.050~~	$9,844
Attorney's Fees	Legal review of contract and bid, communication	$160 /hr.	4	1 075	640 $688 9370
Insurance	Corporate Premium increase if claim occurs	1 00%	300,000	1.000	~~$3,000~~
Line of Credit	Capital Cost ($300K X 9 0%/yr for 2 months)	$4,500 00	1	1.050	~~$4,725~~
Profit	LBG Profit for capital funds and risk	1 00%	300,000	1.000	$3,000
					$0
					$0
					$0
					$0
					$0
		Reimbursed Expense Total			**$71,257**

13,030

OTHER CHARGES

Service Item	Description	Unit Rate	Number of Units	Markup	Total Cost
Office Supplies	Office phone, fax, copies, postage, diskettes (2 percent of professional fees total)	$102	1	1 000	~~$102~~
					$0 34
					$0 51
					$0
			Other Charges Total		**$102**

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ESTIMATED TASK TOTAL	**$76,478**

14,768

15,640

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND
ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD E
SUITE 700
ST PAUL, MN 55112
612-490-1405
FAX 612-490-1006

May 20, 1999

Mr. Estill G. Johnson, Chief Engineer
City of Dayton
Department of Public Works
Division of Civil Engineering
101 West Third Street
Dayton, Ohio 45402

Re: Permit Application for
Making Openings in a Public Way

Dear Mr. Johnson:

Leggette, Brashears & Graham, Inc. (LBG), on behalf of DaimlerChrysler Corporation, hereby submits this permit application to obtain permission from the city of Dayton to install 32 test holes along city right-of-ways (ROWs) at select locations along Kiser Street, Deeds Avenue, Maryland Avenue, Troy Street, Leo Street, Shaeffer Street, Lamar Street, Leonard Street, Edmund Street, and Ray Street (plate 1). The test holes will be advanced using a Geoprobe® to collect soil and/or ground-water samples. It is anticipated that it will take approximately 1 to 2 weeks to complete and sample all of the test holes. Each test hole will be properly abandoned upon completion of sampling at each location.

PERMIT MODIFICATION REQUEST

Because the scope of work is investigative in nature, the actual number and location of test holes will be dependent on field observations and the marked location of utilities and utility corridors. The investigation process is iterative, based on results obtained in the field. For instance, field results may indicate the need for additional test holes at some locations not originally anticipated. Under current permit procedures, another permit application would be required before unanticipated test holes could be advanced. As a result, a remobilization of geologists and contractors would be required. ***Therefore, we request that the city of Dayton***

consider a modification of its existing permit procedures to allow greater flexibility in efficiently carrying out environmental investigation activities associated with this and future activities.

PERMIT APPLICATION AND PLAN

The following information is provided as required in Section 2 of the "City of Dayton, Department of Urban Development, Rules and Regulations for Making Openings in a Public Way, Dayton, Ohio, January 1, 1991."

The test holes will be made by making a small hole (approximately 2.0-inch diameter) using a Geoprobe® to a maximum depth of 50 feet. The plan calls for 32 test holes to be installed at the approximate ROW locations illustrated on plate 1. Field conditions and marked utility corridors will dictate the exact locations of test holes. After the sampling is complete, the holes will be properly sealed and abandoned with bentonite.

Plate 1 illustrates the proposed locations of the test holes. ***The number and location of test holes are variable. As such, maximum flexibility in the permitting process with the city of Dayton is greatly desired. In the event that additional test holes are required, LBG will notify the Department of Public Works, provide a revised location map, and provide the required additional permit fee for each test hole. Timely review and approval of such an additional request during our field crew's mobilization would be greatly appreciated.***

The test holes will be located along Kiser Street, Deeds Avenue, Maryland Avenue, Troy Street, Leo Street, Shaeffer Street, Lamar Street, Leonard Street, Edmund Street, and Ray Street. The plate also illustrates currently surveyed underground utility locations as provided by the Ohio Utility Protection Service and the individual utility service companies. The Ohio Utility Protection Service and the city of Dayton sewer and water departments will be notified of the planned work, a field utility meeting will be held, and utilities marked before any invasive work is commenced. Following marking of utilities, a licensed surveyor will conduct a utility survey while the test holes are being sampled. Surveyed utility locations will be submitted with final work product documents, following completion of the work.

When possible, test holes will be located between the street curbs and sidewalks in the boulevards. If a boulevard is not present, the holes will be located immediately off the edge of the sidewalk in grassy areas so as not to break apart any concrete and to ensure staying on the city ROWs. In the event there are no sidewalks, the holes will be located just off the paved or asphalt road surface. In the unlikely event a test hole needs to be placed in an asphalt or concrete surface, the surface material will be repaired to a condition equal to or better than that existing before the work was conducted. In no event will corner stones, monuments, or land markers be tampered with to accommodate the investigation. If conditions occur where it is necessary to partially block a lane of traffic, the minimum traffic lane of 10 feet will be honored and the proper warning signs will be supplied and erected.

INSURANCE

In accordance with the requirements in Section 2, Leggette, Brashears & Graham, Inc. will keep in full force and effect a liability insurance policy in an amount of at least $300,000 for any one person injured in any accident and with a total liability of at least $500,000 for all persons injured in any one accident and in the amount of $300,000 for each accident as compensation for damage caused to property other than the applicant's. Copies of our insurance certificates have previously been supplied to the city.

SCHEDULE

As stated in Section 2, all openings must be made within 1 week of the date of issue unless special arrangements are made. ***LBG is requesting that this time period be extended to a 6-week period to allow for necessary preparation, mobilization, and installation time.*** Initiation of the test hole survey should commence within 3 weeks after receiving written or verbal permission from the Division of Engineering or its authorized agent(s). LBG will contact the City Engineer or authorized agent(s) 3 days prior to mobilizing to the site. The Director of Urban Development, the City Engineer and/or their authorized agent(s) will be notified upon completion of the work.

With regards to previously permitted sampling activities, a meeting with Dayton's Division of Environmental Management has been scheduled for May 27, 1999 to discuss the results of the first stage of Geoprobe® test hole sampling. Thank you for your prompt consideration of this request. Should you have any questions, or if you require additional information, please contact me at (651) 490-1405, ext. 202.

Sincerely,

LEGGETTE, BRASHEARS, & GRAHAM, INC.

Kenneth D. Vogel

Kenneth D. Vogel, CPG, CHMM
Senior Associate

KDV:kw
cc: Gary Stanczuk, DaimlerChrysler Corporation
Enclosures
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THE WALL STREET JO

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What's News—

* * *

Business and Finance

AN APPEALS COURT JUDGE relentlessly questioned the government's case against Microsoft, fueling doubts that the breakup ordered last year will stand. Judge Harry Edwards hit hardest on the trial court's finding that Microsoft had illegally "tied" a Web browser to its Windows software as part of a campaign to shield its monopoly and extend it to new markets.

(Article on Page A3)

* * *

Bristol-Myers Squibb confirmed it received subpoenas from prosecutors seeking information on the marketing of its cancer drugs and other products.

(Article on Page A3)

* * *

DaimlerChrysler's chairman vowed that profits would surge by 2002 despite a likely loss this year, but shares fell and the company's debt was downgraded.

(Article on Page A3)

* * *

Existing-home sales slowed in January despite lower mortgage rates that have cut the cost of buying a house.

(Article on Page A2)

* * *

P&G lowered its earnings outlook because of the currency crisis in Turkey. Other consumer-products firms said they don't expect to feel the same effects.

(Article on Page A4)

* * *

EToys plans to close its Web site and file for bankruptcy-court protection. The online retailer said it expects its stock to be delisted "in the very near term."

(Article on Page A8)

* * *

Stocks put in one of the strongest rallies of the year, sparked by speculation of a Fed rate cut. The Nasdaq gained 2%, while the industrials climbed 1.9%.

(Article on Page C1)

* * *

Turkey's central bank injected money into the financial markets, boost

* * *

World-Wide

BUSH PREPARED to take his case for tax and spending cuts to the nation tonight. The president, in a televised address to a joint session of Congress, faces a tough job selling a $1.6 trillion tax-cut plan and spending cuts to pay for them. The White House struck a centrist tone for what it called "a blueprint for new beginnings," pointing out increases for education and conservation. Bush promised the nation's governors to work on relaxing federal regulation of states. (Articles in Column 6 and on Page A28)

Senate leaders unveiled an energy bill they say will cut reliance on foreign oil by opening an Alaska refuge and other previously protected areas to exploration.

* * *

Clinton, while president, called the head of CBS to help his friends the Thomasons, who were embroiled in a billing dispute with the network, people in the entertainment industry said. Shortly thereafter, CBS sent a $1 million payment to the producers for an aborted comedy series. (Article on Page A28)

A Democratic fund-raiser invoked the Fifth Amendment in refusing to testify at a House pardons hearing. Three ex-Clinton aides are expected to testify about the Rich, Green and Vignali pardons under a limited waiver of executive privilege. (Articles on Page A28)

* * *

Israel's Labor Party agreed to join a national-unity government with Likud, despite misgivings that Labor may only serve as cover for Prime Minister Sharon's hard-line policies. Meanwhile, the annual U.S. human-rights report faulted both Israel and the Palestinians for the current bloodshed.

* * *

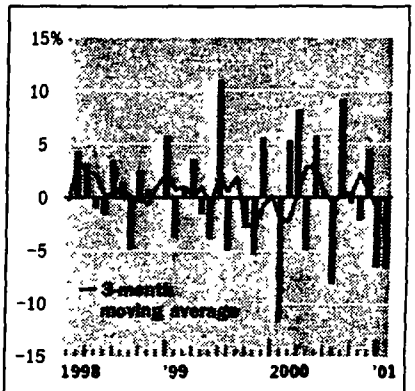
Iraq sanctions are to ease but an arms embargo will stand, Powell said. The secretary of state also reached agreement with Syria on U.N. supervision of an oil pipeline from Iraq. He ended a Mideast tour with a Kuwait stop, joined by ex-President Bush and retired Gen. Schwarzkopf. (Article on Page A17)

* * *

A Florida ballot review suggested Gore would have lost by 140 votes even if liberal standards were applied in the four counties where he sought recounts, an audit funded by newspaper groups found. But a second consortium is still reviewing ballots statewide.

Existing-Home Sales

Sales of single-family homes fell 6.6% in January to a seasonally adjusted annual rate of 4.65 million.



Source National Association of Realtors

Pulse of Latin Radio Is Taken by Anglo Fan Of Classical Music

* * *

Bill Tanner Isn't Even Fluent In Spanish, but He Knows How to Make Stations No. 1

By EDUARDO PORTER
Staff Reporter of THE WALL STREET JOURNAL

LOS ANGELES—Poring over the latest ratings figures to come across his desk, the hottest programmer in Spanish-language radio taps his fingers to the strains of a mariachi band wafting from a radio behind him.

But as a singer wails about unrequited love, Bill Tanner doesn't quite get the lyrics. Indeed, he is far from fluent in Spanish. The most prized album in his own collection doesn't include *rancheras* or *nortenas*. It is the Eastman Wind Ensemble recording of "British & American Band Classics." He acquired the taste when he played clarinet in his high-school band back home in Vicksburg,

of Microsoft's rivals now do the same thing. This defense of Microsoft's right to integrate its products wasn't a surprise, given the same court's ruling in Microsoft's favor on a related issue in a Microsoft case decided in June 1998.

The chief judge said that he didn't feel bound by the trial judge's findings of fact on at least some bundling aspects of the case. "There are some findings that are

like one monopoly replacing another," Judge Edwards said. Later, Judge A. Raymond Randolph asked "is that what we're really talking about? One monopolist replacing another? Are we fighting for the newest, latest monopoly status?"

But Microsoft's appeal might not be a clean sweep. Even if the bundling claim is overturned, several judges made it clear that they were unwilling to overturn too

Washington University law professor.

In an unprecedented two days of arguments yesterday and again today the parties will address whether Microsoft illegally protected a monopoly and attempted to extend it to new markets, and whether bolting its browser to Windows was a consumer-friendly innovation or the action of a predatory monopolist. The two sides also will address Microsoft's complaints that the trial judge was biased against the company.

Microsoft is appealing the government's resounding victory last June, when

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DaimlerChrysler Vows Big Rise in Profit By 2002, but Agencies Downgrade Debt

By JEFFREY BALL
AND SCOTT MILLER
Staff Reporters of THE WALL STREET JOURNAL

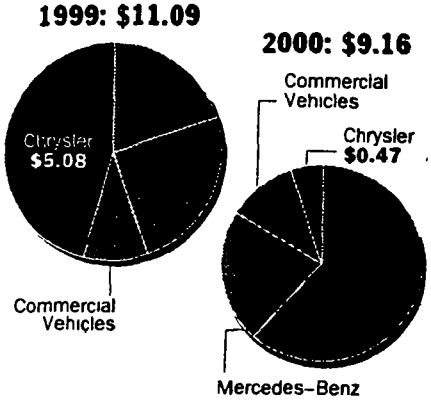
STUTTGART, Germany – **DaimlerChrysler** AG Chairman Juergen Schrempp vowed that the German-American auto company would show a massive increase in profits by 2002 despite a likely loss this year, but skeptical investors bid down the stock and two major rating agencies downgraded the company's debt.

For Mr. Schrempp, the chilly reception to yesterday's formal announcements of DaimlerChrysler's restructuring plans for its loss-making Chrysler unit and 34%-owned Japanese partner **Mitsubishi Motors** Corp. ratchets up growing pressure to prove that his aggressive globalization strategy can pay off. DaimlerChrysler's biggest shareholder, Germany's **Deutsche Bank** AG, issued a statement yesterday supporting Mr. Schrempp, but also making clear it expects him to honor his pledge to turn around the company within 12 months.

But DaimlerChrysler's recovery program is off to a rough start. The company confirmed it expects to post a loss this year, as restructuring charges of as much as $3.9 billion more than erase expected operating profits, excluding one-time items, of 1.2 billion euros to 1.7 billion euros – $1.1 billion to $1.56 billion at the current exchange rate. And the company expects another year of burning more cash than it takes in. Still, DaimlerChrysler said it expects it can reverse losses at Chrysler and Mitsubishi quickly enough to deliver by 2003 operating profit of between 8.5 billion euros and 9.5 billion euros, or $7.8 billion to $8.72 billion at current rates.

Merger of Unequals

Chrysler's poor year dragged down DaimlerChrysler's 2000 results. Operating profit, in billions of dollars



*Including one-time items
Source: The company

In New York Stock Exchange composite trading at 4 p.m. yesterday, DaimlerChrysler shares closed at $48.12, off 68 cents.

The ambitious turnaround plan assumes not just that the company can force its various business units to cut costs by cooperating more than they have in the past, but also that DaimlerChrysler's performance in key markets, particularly the U.S., doesn't deteriorate as seriously as some observers are predicting.

The optimistic assumptions underpinning Mr. Schrempp's program didn't reassure analysts at Moody's Investors Service Inc. and Standard & Poor's. The debt-rat-

Please Turn to Page A6, Column 1

SO I ASKED THE CLIENT, "WHAT'S MORE IMPORTANT, THE BOTTLE OF THE BALVENIE, THE DELICIOUS 12-YEAR-OLD SINGLE MALT, OR ME?"

First we made investing
Now we're making taxes
Through Fidelity's Onlin
Center you can print or ele
cally file your taxes for fre
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DaimlerChrysler Sees Profit Rise

Continued From Page A3

ing agencies downgraded DaimlerChrysler's short- and long-term debt just hours after the company formally released its plans, and, significantly, the two agencies stripped DaimlerChrysler of its prized top-tier rating for commercial paper, a prime source of funding for the company's consumer vehicle financing operations.

Manfred Gentz, DaimlerChrysler's chief financial officer, acknowledged that "our flexibility on commercial paper is somewhat limited." But he said the company had expected more debt downgrades and had budgeted enough money to cover higher borrowing costs. Moody's, in a statement, said it expects DaimlerChrysler's turnaround plan to "achieve sizable cost reductions" and boost profits "over the longer term." But the firm raised concerns about DaimlerChrysler's expectations of big improvements at its Chrysler unit. DaimlerChrysler "would have to effectively reposition Chrysler's product line, defend its market-share position, and generate adequate margins in the face of a softening U.S. automotive market and intensifying competition from Japanese and European manufacturers," Moody's said.

Dieter Zetsche, the executive whom Mr. Schrempp tapped last fall to lead a comeback at Chrysler, said that in an effort to cut costs the unit will sell off assets including its corporate aviation operation and a parts factory in Dayton, Ohio.

DaimlerChrysler, which burned through billions of dollars of cash last year buying other companies and bailing out Chrysler, will face another year of negative cash flow in 2001 before it begins to pile up cash in 2002, said Mr. Gentz. He said the company's declining cash reserves won't prevent DaimlerChrysler from pursuing its chosen strategies, but already the drop has begun to make borrowing more expensive for the auto maker. Mr. Gentz said DaimlerChrysler is likely to borrow more money during the first half of this year.

The company confirmed profit figures first reported several weeks ago. Net income rose 37% in 2000 to $7.4 billion, or $7.39 a diluted share, as revenue rose 8% to $152.4 billion. Excluding one-time items, including proceeds from asset sales, earnings plunged 44% to $3.3 billion, or $3.26 a share.

Meanwhile, Mitsubishi Motors said it plans to cut its domestic production capacity by 20% and announced a series of other cost-cutting measures to help it meet its goal of becoming profitable again next fiscal year.

Both Mitsubishi President Takashi Sonobe and Chief Operating Officer Rolf Eckrodt, whom DaimlerChrysler dispatched last month to help turn around the Japanese auto maker, unveiled the restructuring moves at a news conference in Tokyo. Mitsubishi's sales have fallen sharply since it admitted last summer to covering up possible defects with its cars.

Mr Eckrodt said his top priorities would be to restore Japanese consumer confidence in the quality of Mitsubishi's cars and stop the slide in the company's operations in Japan.He said Mitsubishi Motors would cut 9,500 jobs, or 14%, of its 66,000-strong worldwide work force and shut one of its four plants in Japan, most likely an 81-year old plant in the central Japan city of Nagoya. Mitsubishi said it will ask its suppliers for a 15% cut in parts and materials prices over the next three years. It also said it would eliminate about half of its 12 vehicle platforms, and that it would share some of the remaining platforms with Chrysler.

Mitsubishi estimated the restructuring measures will cost between 100 billion yen ($862 million) and 150 billion yen ($1.3 billion).The company forecast a loss of 140 billion yen ($1.2 billion) for the fiscal year ending next month.

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New American Home Is Smaller, Near City, Builders Group Says

Continued From Page A2

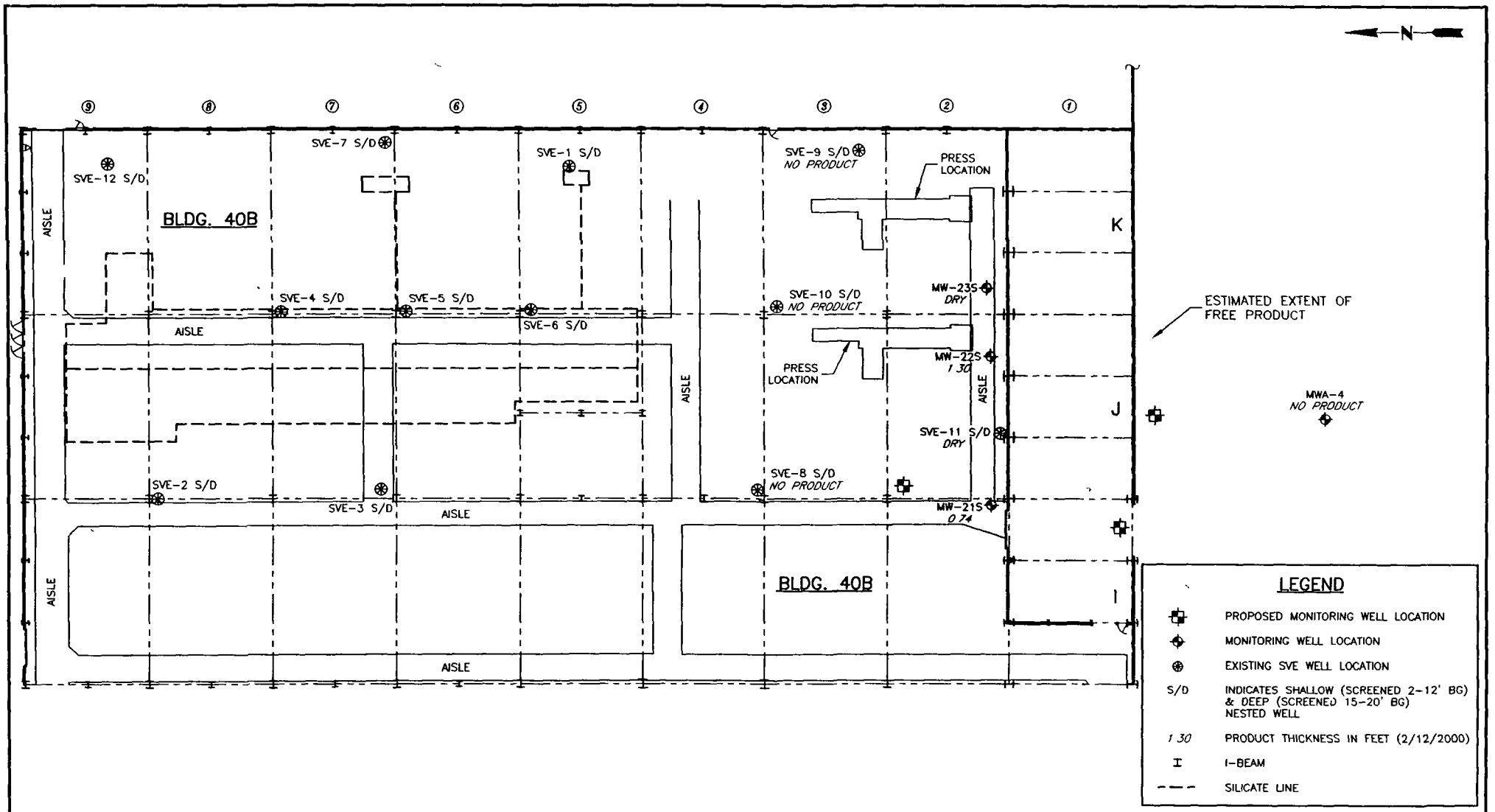
nal, the builder finances the construction and gets to sell the home.)

The $1.2 million house is located about 10 miles from downtown Atlanta on a site that originally had eight houses, mostly built in the 1940s and 1950s. A developer bought the land and moved the homes with hopes of building a high-rise tower.

After neighbors protested, a new developer bought the land with plans to build 50 homes on tighter lots, one of which is the New American Home.

Getting the house approved was a chore. Homes built within Atlanta city limits must be reviewed by city engineers before a permit is issued, which can often take eight to 12 weeks, the home's builder says. In outlying communities, by contrast, such approvals aren't always necessary and it's often possible to get a building permit within a day.

The relatively small site also presented design challenges that wouldn't be common out in the suburbs. For one thing, there wasn't enough space to store building materials, meaning the builder had to coordinate more—and smaller deliv



DATE	REVISED

Prepared By
LEGGETTE, BRASHEARS & GRAHAM, INC
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W County Road E, Suite 700
St Paul MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

ESTIMATED EXTENT OF FREE PRODUCT
FEBRUARY 12, 2000

FILE	3CHDA09S DWG	DATE	FEBRUARY 2000	FIGURE	1

Dayton Thermal Products
Dayton, Ohio

Building 40B Free-Product Recovery Test for MW-22S
Initial values: Depth to product = 28.54 feet, depth to water = 29.84 feet
Initial product thickness = 1.30 feet
(data collected February 12 and 13 2000)

Time (hours)	Time (minutes)	Depth to product (feet)	Depth to water (feet)	Product thickness (feet)	Gallons accumulated (gal)	Comments
0	0	—	—	0 02	0 003	feet in bailer
0 01	0 5	28 68	28 82	0 14	0 023	
0 02	1	28 69	28 81	0 12	0 020	
0 03	2	28 69	28 8	0 11	0 018	
0 04	2.5	28.68	28 8	0 12	0 020	
0 05	3	28 68	28 8	0 12	0 020	
0 06	3 5	28 68	28 8	0 12	0 020	
0 07	4	28 68	28 8	0 12	0 020	
0 08	4 5	28 68	28 8	0 12	0 020	
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0 23	14	28 67	28 83	0 16	0 026	
0 25	15	28 67	28 83	0 16	0 026	
0 27	16	28 67	28 83	0 16	0 026	
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0 33	20	28 67	28 84	0 17	0 028	
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0 50	30	28 67	28 87	0 2	0 033	
0 58	35	28 67	28 9	0 23	0 038	
0 67	40	28 67	28 9	0 23	0 038	
0 75	45	28 67	28 91	0 24	0 039	
0 83	50	28 66	28 92	0 26	0 042	
0 92	55	28 66	28 93	0 27	0 044	
1 00	60	28 66	28 95	0 29	0 047	
1 17	70	28 66	28 97	0 31	0 051	
1 33	80	28 65	28 98	0 33	0 054	
1 50	90	28 65	29 03	0 38	0 062	
1 67	100	28 65	29 03	0 38	0 062	
1 83	110	28 64	29 07	0 43	0 070	
2 00	120	28 64	29 07	0 43	0 070	
9 00	540	28 58	29 69	1 11	0 181	
10 00	600	28 58	29 69	1 11	0 181	
11 00	660	28 58	29 75	1 17	0 191	
12 00	720	28 58	29 77	1 19	0 194	
13 00	780	28 58	29 78	1 2	0 196	
14 33	860	28 58	29 83	1.25	0 204	
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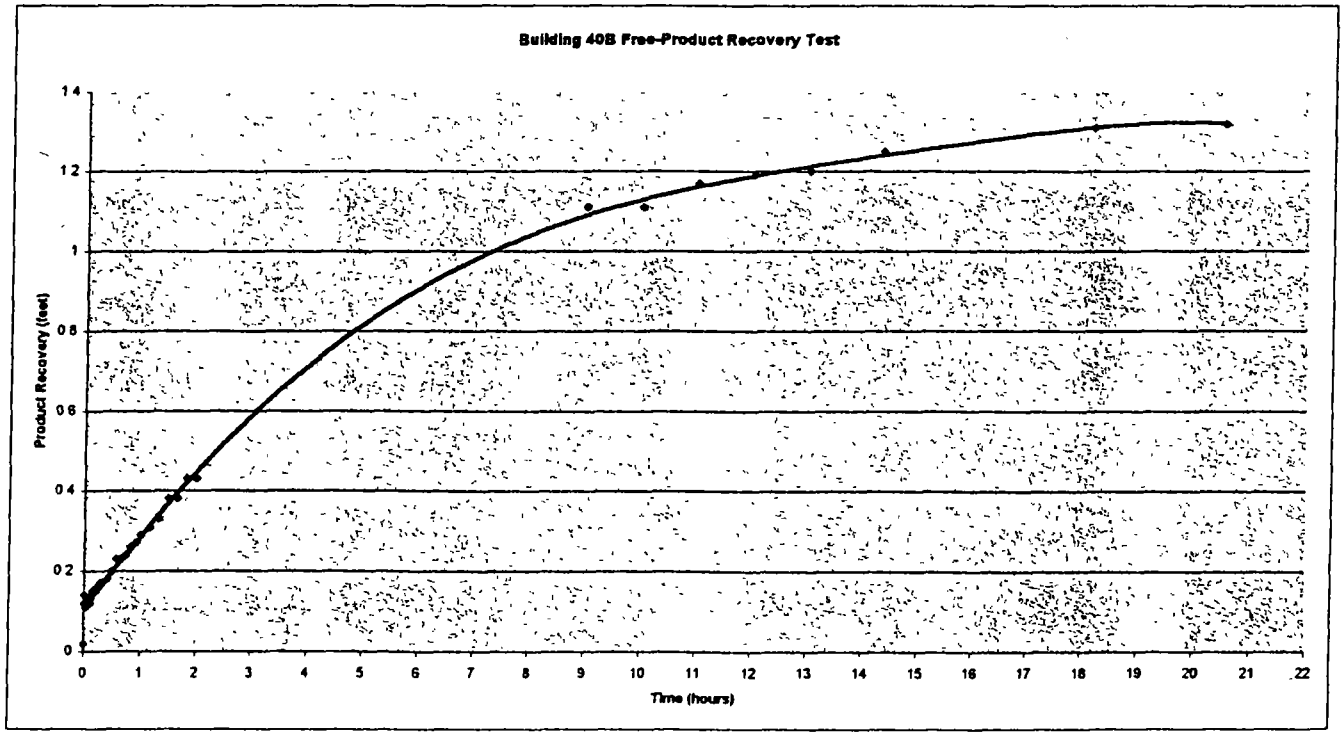


TABLE 1

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

OFFSITE GEOPROBE INVESTIGATION
GROUND-WATER QUALITY DATA
APRIL 1999
UNITS ARE IN MICROGRAMS PER LITER (ug/L)

BORING LOCATION AND DEPTH (FEET)	DATE SAMPLED	1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,2-DICHLOROETHANE	CHLOROFORM	CIS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE
GENERIC UNRESTRICTED POTABLE USE STANDARD		200	NE	7	5	NE	70	5	100	5	2
DP-14/20-22'	04/19/1999	26	49	< 5	< 5	< 5	150 D	< 5	13	650 D	16 A
DP-14/38-40'	04/19/1999	< 5	10	< 5	< 5	< 5	25	< 5	< 5	99	< 2
DP-15/17-19'	04/20/1999	6.3	< 5	< 5	< 5	< 5	82 D	22	< 5	730 D	< 2
DP-15/38-40'	04/20/1999	300 D	70	22	< 5	< 5	580 D	< 5	29	10000 D	320 D,A
DP-16/18-20'	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-16/34-36'	04/20/1999	< 5	< 5	< 5	< 5	< 5	29	< 5	< 5	< 5	< 2
DP-17/19-21'	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	22	< 2
DP-17/38-40'	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-18/18-20'	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-18/33 5-35 5'	04/20/1999	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	1200	< 20
DP-19/21-23'	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-19/38-40'	04/20/1999	< 5	< 5	< 5	< 5	< 5	110	< 5	< 5	12	< 2
DP-20/19-21'	04/20/1999	< 5	9.6	< 5	< 5	< 5	43	< 5	< 5	140	< 2
DP-20/38-40'	04/20/1999	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	960	< 20
DP-21/38-40'	04/21/1999	22	7.2	< 5	< 5	< 5	150	16	8.8	390 D	< 2
DP-22/18 5-20 5'	04/21/1999	< 5	< 5	< 5	< 5	< 5	8.2	< 5	< 5	240 D	< 2
DP-22/38-40'	04/21/1999	< 5	< 5	< 5	< 5	< 5	14	< 5	< 5	220 D	< 2
DP-23/24-26'	04/21/1999	< 5	< 5	< 5	< 5	< 5	24	< 5	< 5	11	< 2
DP-23/38-40'	04/21/1999	22	8.4	< 5	6.8	< 5	99	< 5	7.5	490 D	5.7
DP-24/19-21'	04/21/1999	< 5	< 5	< 5	< 5	6.9	< 5	< 5	< 5	60	< 2
DP-24/35-37'	04/21/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	2.4
DP-25/19-21'	04/21/1999	< 5	< 5	< 5	< 5	< 5	8.3	< 5	< 5	820 D	< 2
DP-25/38-40'	04/21/1999	6.2 J	< 50	< 50	< 50	< 50	7.4 J	< 50	< 50	1400	< 20
DP-27/23-25'	04/22/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-27/38-40'	04/22/1999	< 5	6.4	< 5	< 5	< 5	71	< 5	< 5	73	< 2
DP-28/19-21'	04/22/1999	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	520	< 20
DP-28/38-40'	04/22/1999	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	1800 D	< 20
DP-29/21-23'	04/22/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	9.9	< 2
DP-29/38-40'	04/22/1999	< 50	< 50	< 50	< 50	< 50	62	< 50	< 50	630	< 20
DP-30/20-22'	04/22/1999	< 50	< 50	< 50	< 50	< 50	220	< 50	< 50	1300 D	< 20
DP-30/38-40'	04/22/1999	34	15	< 5	< 5	< 5	40	< 5	< 5	340 D	< 2
DP-31/20-22'	04/22/1999	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	3600	< 100
DP-31/35-37'	04/22/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	9.1	11
DP-32/19-21'	04/22/1999	< 50	< 50	< 50	< 50	< 50	68	< 50	< 50	450	< 20
DP-32/33-35'	04/22/1999	< 250	< 250	< 250	< 250	< 250	280	< 250	< 250	1800	< 100
DP-33/19-21'	04/22/1999	< 25	66	< 25	< 25	< 25	190	< 25	< 25	300	63
DP-33/38-40'	04/22/1999	< 5	< 5	< 5	< 5	< 5	30	< 5	11	140	28
DP-34/21-23'	04/22/1999	< 5	58	< 5	< 5	< 5	460 D	< 5	12	42	5100 D
DP-34/38-40'	04/22/1999	< 5	14	< 5	< 5	< 5	2000 D	6.8	22	5400 D	2300 D
DP-35/17-19'	04/23/1999	9.4	< 5	< 5	< 5	< 5	13	< 5	< 5	73	< 2
DP-35/38-40'	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-36/30-32'	04/23/1999	< 250	< 250	< 250	< 250	< 250	850	< 250	< 250	3000	< 100
DP-37/19-21'	04/23/1999	< 5	5.9	< 5	5.4	< 5	34	< 5	< 5	130 D	< 2
DP-37/38-40'	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-38/20-22'	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	12	< 2
DP-38/34-36'	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
DP-39/18-20'	04/23/1999	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	2100	< 100

TABLE 1

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

OFFSITE GEOPROBE INVESTIGATION
GROUND-WATER QUALITY DATA
APRIL 1999
UNITS ARE IN MICROGRAMS PER LITER (ug/L)

BORING LOCATION AND DEPTH (FEET)	DATE SAMPLED	1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,2-DICHLOROETHANE	CHLOROFORM	CIS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE
GENERIC UNRESTRICTED POTABLE USE STANDARD		**200**	**NE**	**7**	**5**	**NE**	**70**	**5**	**100**	**5**	**2**
DP-39/38-40'	04/23/1999	< 500	< 500	< 500	< 500	< 500	**910**	< 500	< 500	**11000 D**	< 200
DP-40/21-23'	04/23/1999	< 250	< 250	< 250	< 250	< 250	**720**	< 250	< 250	**2400**	< 100
DP-40/38-40'	04/23/1999	< 250	< 250	< 250	< 250	< 250	**900**	< 250	< 250	**3600**	< 100
DP-41/38-40'	04/23/1999	< 25	< 25	< 25	< 25	< 25	**160**	**30**	< 25	**600**	< 10
DP-42/38-40'	04/23/1999	< 500	< 500	< 500	< 500	< 500	< 500	< 500	< 500	**7000**	< 200
E042099-18	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
E042299-30	04/22/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
EDP042199	04/21/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
EDP042399	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
T042099	04/20/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
T042299	04/22/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2
T042399	04/23/1999	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2

< LESS THAN
D THE ANALYTE WAS QUANTIFIED AT A SECONDARY DILUTION FACTOR
L SAMPLE REPORTING LIMITS ELEVATED DUE TO MATRIX INTERFERENCE
A DENOTES LCS RECOVERY RESULT EXCEEDED UPPER CONTROL LIMIT
J PRESENT BELOW NOMINAL REPORTING LIMIT
NE VALUE NOT ESTABLISHED

To: Gary Stanczuk

DIRECTIONS TO NEW OHIO EPA OFFICES FROM COLUMBUS

Rt. 70 West to Rt. 675 South.

Follow 675 to U.S. 35 West.

Off of Rt. 35, take the Main St./Jefferson St. Exit

Follow Jefferson Street to Fifth Street and turn right. We are three blocks down on the left.

Memorandum

Date:
To: Volunteers and Certified Professionals Interested in Obtaining VAP Technical Assistance
From: Jenifer Kwasniewski, Manager, Voluntary Action Program
Re: Technical Assistance Information

When the Voluntary Action Program (VAP) was implemented with the passage of House Bill 221 in 1994, the intent was to operate a risk-based cleanup program that, by virtue of being privatized, would allow volunteers to more quickly assess, remediate and redevelop their properties by minimizing government oversight. In order to accomplish this ambitious task, detailed rules were developed to assist environmental professionals and laboratories certified by Ohio EPA in conducting environmental assessments, sampling plans, risk assessments and other activities required to adequately perform a voluntary action and determine that no further action is required at a property

Although the VAP rules are technically comprehensive and provide VAP Certified Professionals with a good framework for conducting voluntary actions, many properties present unique challenges and technical difficulties that are not specifically addressed in our rules Because of the privatized nature of the VAP, Ohio EPA is not required to review any documentation pertaining to a voluntary action until, at the completion of the assessment and cleanup, an NFA for the property is submitted to the Agency In order to address the problem of volunteers and Certified Professionals who seek property-specific technical guidance from a largely privatized program, the VAP established a Technical Assistance Program. Because the VAP relies almost entirely on fees generated by the program, all technical assistance related to a voluntary action that is offered by Ohio EPA staff will be charged to the person requesting the technical assistance. The charge for technical assistance is based on the hourly rate of the OEPA staff member(s) providing the assistance plus fringe and overhead **Please see the attached document "How to Estimate Average Cost of VAP Technical Assistance" for information about the average and maximum hourly rates as well as an explanation of how fringe and overhead are calculated.**

By virtue of receiving this packet, you have expressed an interest in receiving guidance from the OEPA technical or legal staff to address specific problematic issues your property poses The OEPA has on staff several competent legal and technical experts who have extensive knowledge of the rules governing the VAP. **To request VAP technical assistance please follow the format contained in the attached "Example Letter for Technical Assistance Request" and mail or fax the letter to:**

Gerri Cauley
Ohio EPA, Voluntary Action Program

Post-it™ Fax Note 7671	Date	# of pages ▶ 4
To Gary Sterczuk	From Dawn Dyer	
Co./Dept.	Co. Ohio EPA	
Phone #	Phone # 937-285-6040	
Fax # 248-576-7369	Fax #	

BILLMEMO/WPDOC/BILLING

1800 WaterMark Drive
P.O. Box 1049
Columbus, OH 43216-1049

Fax #: 614-728-1791

Once your letter is received, you will be assigned a technical assistance reviewer(s). You should expect to receive a phone call from the lead technical assistance reviewer for your project soon after they are assigned to your project. The technical assistance reviewer will also provide you, in a follow-up correspondence after the phone conversation, an estimated cost for the project based upon who will be involved in reviewing the project and how much of each reviewer's time the project will likely require If you are still interested in proceeding with the technical assistance project after you receive the cost estimate, you will be asked to provide confirmation in writing to the technical assistance reviewer. (Note· You will be asked, during the phone conversation, if you would like work on your technical assistance project to begin immediately or if you would prefer to wait until after you receive the cost estimate and provide written confirmation to the VAP)

I thank you for your interest in pursuing technical assistance under the VAP. We have found that volunteers and Certified Professionals who have sought out and received technical assistance through our program have been very pleased with the results and are able to submit NFAs with fewer technical adequacy problems. If you have any questions about how VAP technical assistance works, please feel free to contact the Voluntary Action Program at 614-644-2924 or the following VAP contacts in our five Ohio EPA district offices·

District	VAP Contact	Phone Number
Central District Office	Kara Finneran	(614) 728-5039
Northeast District Office	Sue Netzly-Watkins	(330) 963-1201
Northwest District Office	Archie Lundsey	(419)373-3035
Southeast District Office	Mark Stello	(614)385-8501
Southwest District Office	Dawn Dyer	(937)285-6040

BILLMEMO/WPDOC/BILLING

SAMPLE LETTER FOR TECHNICAL ASSISTANCE REQUEST

[Date]

Gerri Cauley
Ohio EPA
Voluntary Action Program
P O. Box 1049
Columbus, Ohio 43216-1049

Re: Request for Technical Assistance for **[name of project]** property located at 1800 Cauley Drive, Bexley, Ohio 6000

Dear Gerri

The purpose of this letter is to inform you of my request for VAP technical assistance to review **[name of project]** for the above mentioned property.

The specific assistance I am requesting is **[enter detailed description of technical requested from the VAP]**

I am aware that I will be charged an hourly rate, plus fringe and overhead for the technical assistance Please have the technical staff member assigned this project contact me at **[telephone no]** and follow-up with a written estimate on the cost for this assistance.

The invoice for technical assistance for your project no **[your reference or billing no.]** should be sent to the following address

Mr. John Doe, President
Industrial Business of America
1800 Summit Rd
Cleveland, MI 68002

Sincerely,

John Doe
President

Attachments (2)

TECHLTR/WPDOC/BILLING

How to Estimate Average Cost of VAP Technical Assistance

Technical assistance rates vary depending on the salary of the staff member(s) performing the technical assistance and how much time the staff member(s) spends on the project. The following is a representation of how to calculate the current **average** cost for technical assistance from the VAP.

Technical assistance costs are calculated by using the actual hourly rate of the staff member performing the technical assistance (currently the average is $23.02) plus fringe (25% of hourly rate) plus overhead (54% of the sum of hourly rate plus fringe).

For example:

Hourly Rate = $23 02	=	$23.02
Fringe = $23.02 x 25	=	5 76
		$28.78
Overhead = $28 78 x 54	=	15 54
Total Tech Asst. Cost	=	$44 32 per hour

Please note that this represents an *average* hourly cost for technical assistance performed by one technical reviewer Based on the current salaries of all Ohio EPA district and central office technical assistance reviewers, the **maximum** hourly rate that could be charged for one technical reviewer is $56 15 and the **minimum** is $32.47 (rate includes fringe and overhead) *

After receiving a request for technical assistance, the VAP Central Office will forward the request to a technical reviewer in either the appropriate Ohio EPA district office or the central office VAP section. Within five days of receiving the request, the VAP technical reviewer will contact the customer to introduce him or herself and answer any questions A follow-up letter will be mailed to the customer shortly after the call with the estimated review time and associated costs for the technical assistance

**Based on salaries as of 12/22/97 Subject to Change*

BILLEXAM/WPOC/BILLING

Dayton Chrysler Meeting 05.28.98

Attendees	Affiliation	Phone
Jenifer Kwasniewski	Ohio EPA-VAP	(614) 644-2279
Dave Dyer	Ohio EPA-DEFR	(937) 285-6040
Greg Rose	Chrysler	248/576-7362
Lynn Buhl	Chrysler	(248) 512-4116
Ken Vogel	Leggette, Brashears & Graham, Inc.	(612) 490-1405
Gary Stanczuk	Chrysler	248-576-736

MEMORANDUM

TO: **Gary Stanczuk – DaimlerChrysler**
Ken Vogel – LBG

FROM: **Kristin Yahnke - LBG** KY

DATE: **February 25, 2000**

SUBJECT: **Dayton - Free Product Recovery**

At the request of DaimlerChrysler, LBG has evaluated remedial methods to recover free-phase product located along the southern portion of building 40B. Passive methods of recovery have been evaluated, as it is LBG's understanding that, at this time, site conditions and circumstances do not warrant aggressive product recovery through the use of a ground-water depression system. The passive methods evaluated were pneumatic pumps and a portable pumping system (PPS). As the source of the free-product has not been identified and the areal extent may be less than what is estimated, LBG recommends installing additional wells to define the extent of free-product. The well installation would occur during the SVE well drilling for the Nocolok areas. If DaimlerChrysler elects to pursue product recovery, LBG recommends the installation of pneumatic pumps to address the issue. Even though the pneumatic pumping system will have a higher upfront cost, a savings will be realized over time due to lower labor cost and a lower cost per gallon of product recovered

The following information has been gathered throughout the course of the design of the Free Product Recovery System along the southern portion of building 40B.

- Attached are hydrographs and product thickness plots for wells MW-21S, MW-22S, MW-23S and SVE-11D. These are the wells proposed for product recovery. Since wells MW-21S, MW-22S, and MW-23S were installed, water levels have decreased approximately 8 feet. Reviewing the available water level information for MW-4A, current water levels are approximately 4 feet lower than the previous historic low. Product thickness in MW-22S is currently 1.3 feet, an increase of more than one foot since the well was installed. Product thickness in MW-21S is

currently 0.74 foot, an increase of 0.4 foot since the well was installed. Wells SVE-11D and MW-23S are currently dry.

- Based on the sustained presence of product in the above wells since August 1998 in SVE-11 and the installation of the other wells (March 1999), and the apparent lack of product in wells SVE-10D, SVE-9D, SVE-8D and MW-4A, it has been estimated that the most likely areal extent of free product is approximately 9,500 ft^2 (figure 1). To calculate the approximate volume of product on the water table, a porosity of 30 percent was utilized. Assuming a product thickness of 0.5 foot across the area results in an estimated volume of 11,750 gallons of product. Assuming that the thickness is 0.25 foot across the area results in an estimated volume of 5,875 gallons of product.

~ 15,000

- The free product analysis conducted in October 1998 identified PCB 1260 as a J value. Free product samples collected 2/12/00 from MW-21S and MW-22S confirm the presence of PCBs. The sample from MW-21S had detections of PCB 1254 and the sample from MW-22S had detections of PCB 1254 and PCB 1260. GC fingerprint analysis suggests that at least two separate types of oil are present.

- Two passive methods of product recovery have been evaluated. The cost evaluation does not include disposal.

  1. <u>Pneumatic Pumps</u>: Pneumatic pumps would operate off of plant air and would recover product when present. The recovered product would be contained in an above ground storage tank located in the flammable materials building. Originally, the product was to be disposed of with the plant waste oil, however, due to the presence of PCBs, the product will most likely have to be transported off site for disposal. The following costs are for the original four well system. Equipment procurement costs are estimated to be $30,000 and subcontractor expenses for the installation of this system is estimated to be $69,000. LBG has reviewed the costs submitted by the subcontractors and the labor hours seem excessive (approximately 500). Based on the experience with the SVE piping, LBG believes the work should be completed in approximately one-half the time. LBG evaluated the subcontractor costs based on published values in Means "1999 Environmental Remediation Cost Data – Assemblies". Based on LBG's review, there is over a $20,000 discrepancy. In discussing this issue with the subcontractors, they are in agreement that there may be a misunderstanding in the scope of work. They have requested a meeting on site to discuss the scope of the project before they resubmit their costs. Alternatively, as these are time and material contracts, the installation could occur as planned and there should be a cost savings realized at the end of the project. Based on the estimated 500 hours for installation, LBG construction oversight is estimated to be

30,000
69,000 (-20,000)
28,000
127,000

$28,000. It is estimated that the labor cost associated with checking the system and adjusting the pumps for fluid levels would be approximately $5,000.00 per year.

1200
7000
1500
9700

2. Portable Pumping System (PPS): This system would consist of a submersible single-stage, battery operated pump that would be utilized weekly to evacuate the accumulated product in the wells. With this option, product is only recovered when the pump is manually operated. Equipment procurement is approximately $1,200, the annual labor expense is estimated to be $7,000, and the annual supplies would be $1,500.

- The attached calculations indicate that a pneumatic pump would be expected to recover approximately 25 gallons of product a week. This volume is based on data collected during a product recovery test conducted February 12 through 13, 2000. The recovery data is in agreement with a product recovery test conducted in October 1998. Assuming a constant recovery rate of 25 gallons per week, after one year, a single well could recover 1,300 gallons at a cost of $25.62 per gallon. However, it is not believed that this recovery rate will be sustained due to the fluctuating fluid levels and the inherent behavior of free-product recovery activities.

#1

12 years

- The attached calculations indicate that a PPS well would recovery approximately 0.2 gallons of product a week based on a product thickness of 1.2 feet in the recovery well. Assuming a constant recovery rate of 0.2 gallons per week, after one year, a single well would recover 10.4 gallons at a cost of $328.85 per gallon. However, it is not believed that this recovery rate will be sustained due to the fluctuating fluid levels and the inherent behavior of free-product recovery activities.

#2

- Based on the application of passive recovery and the limited number of wells available, it is estimated that less than 100% of the calculated volume of product will actually be recovered.

- Outstanding issues:

  1. During the installation of wells MW-21S, MW-22S and MW-23S difficulties were experienced with setting the wells due to the formation. When pulling the augers from approximately 25 feet below grade (ft bg), a cobble zone was encountered which resulted in problems with auger removal. As a result, the target depth of 35 ft bg was not achieved. Additionally, sand heave occurs when setting wells in this formation. The following table summarizes the total depth of the well and available drawdown.

WELL	TOTAL DEPTH (ft bg)	DEPTH TO WATER 2/12/00 (ft bg)	AVAILABLE DRAWDOWN (ft)
SVE-11D	24.35	DRY	Well was not designed for free product recovery
MW-21S	31.89	29.33	2.56
MW-22S	33.16	29.84	3.32
MW-23S	24.80	DRY	No product was observed during drilling, field decision not to install to target depth

The original design planned for 2-foot pumps with fixed inlets to be installed in SVE-11D and MW-23S due to their construction. Due to the design of these pumps, an electric controller is required at the wellhead, which adds to the construction costs, as power has to be brought to the each well. Additionally, there is more monitoring involved with the fixed inlet to insure that the inlet is at the water-product interface. MW-21S and MW-22S were to have 5-foot pumps with a 1-foot floating inlet installed. At this time, however, due to the historically low water levels, it is not possible to install the 5-foot pump. Due to the historically low water levels and in an effort to eliminate labor and construction costs, LBG recommends re-installing these wells at the time of the Nocolok SVE well drilling.

2. The installation of additional wells has been discussed. The attached figure 1 illustrates the location of these wells. The locations are based on the estimated extent of free-product accumulation and drilling accessibility. The installation of these wells would be beneficial as the extent of product would be further defined, and there would be additional recovery locations. If product is present in these wells, the additional piping expense would be minimal, as the long runs of the header piping would already be installed and each pump is approximately $2,200.

3. Because PCBs were detected in the latest samples collected, the storage and disposal of the recovered product may be affected. The accumulation of materials containing PCBs in the flammable materials storage area should be discussed with the plant.

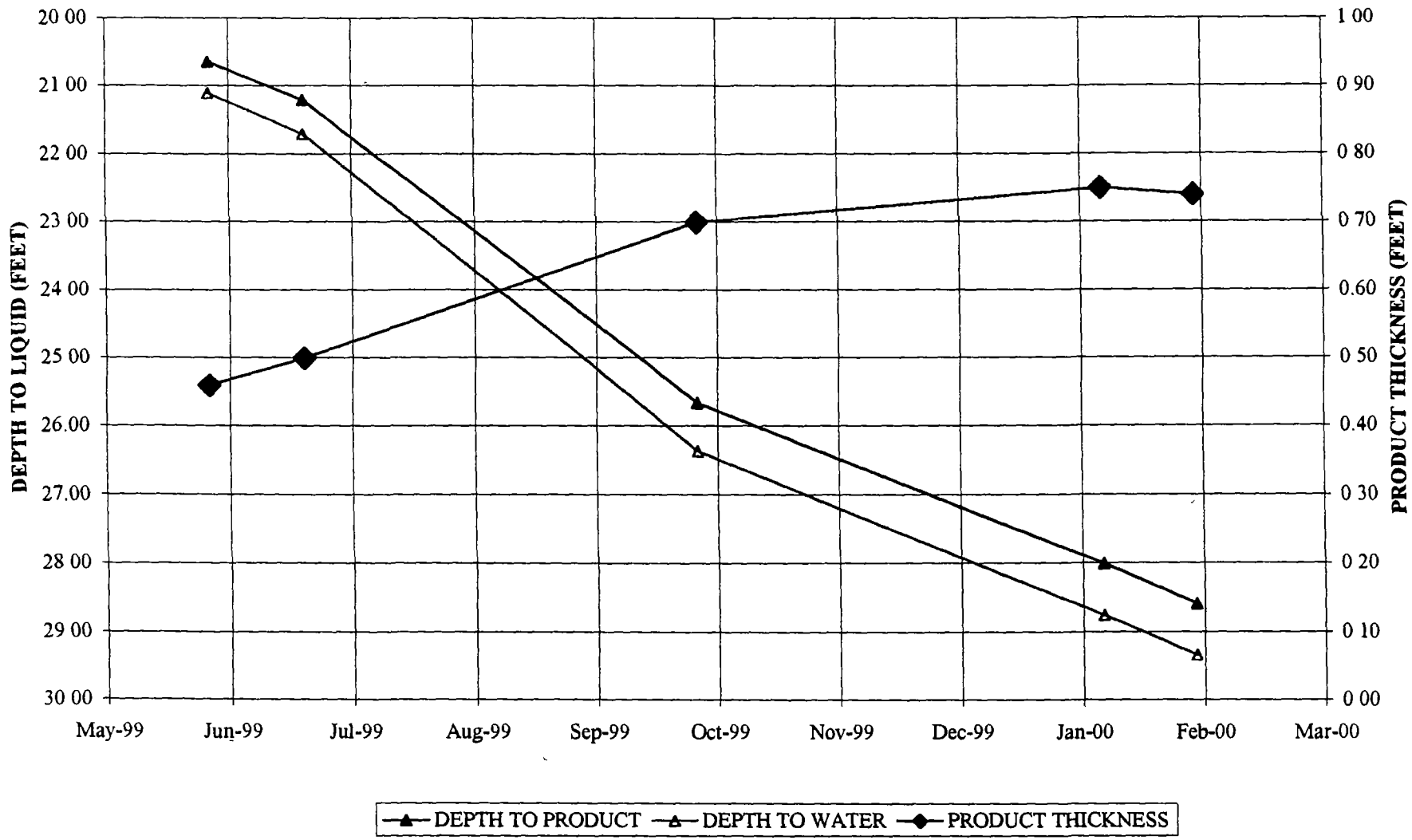
4. During the meeting with the plant in September, 1999 the plant requested that the product be stored in a tank similar to the tank in place in the flammable material storage area. The existing tank is on a stand. A cost savings could be realized if the new product storage tank could be located on the ground. This is an issue to be discussed with the plant.

KSY

Attachments

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

MW-21S FREE-PRODUCT THICKNESS

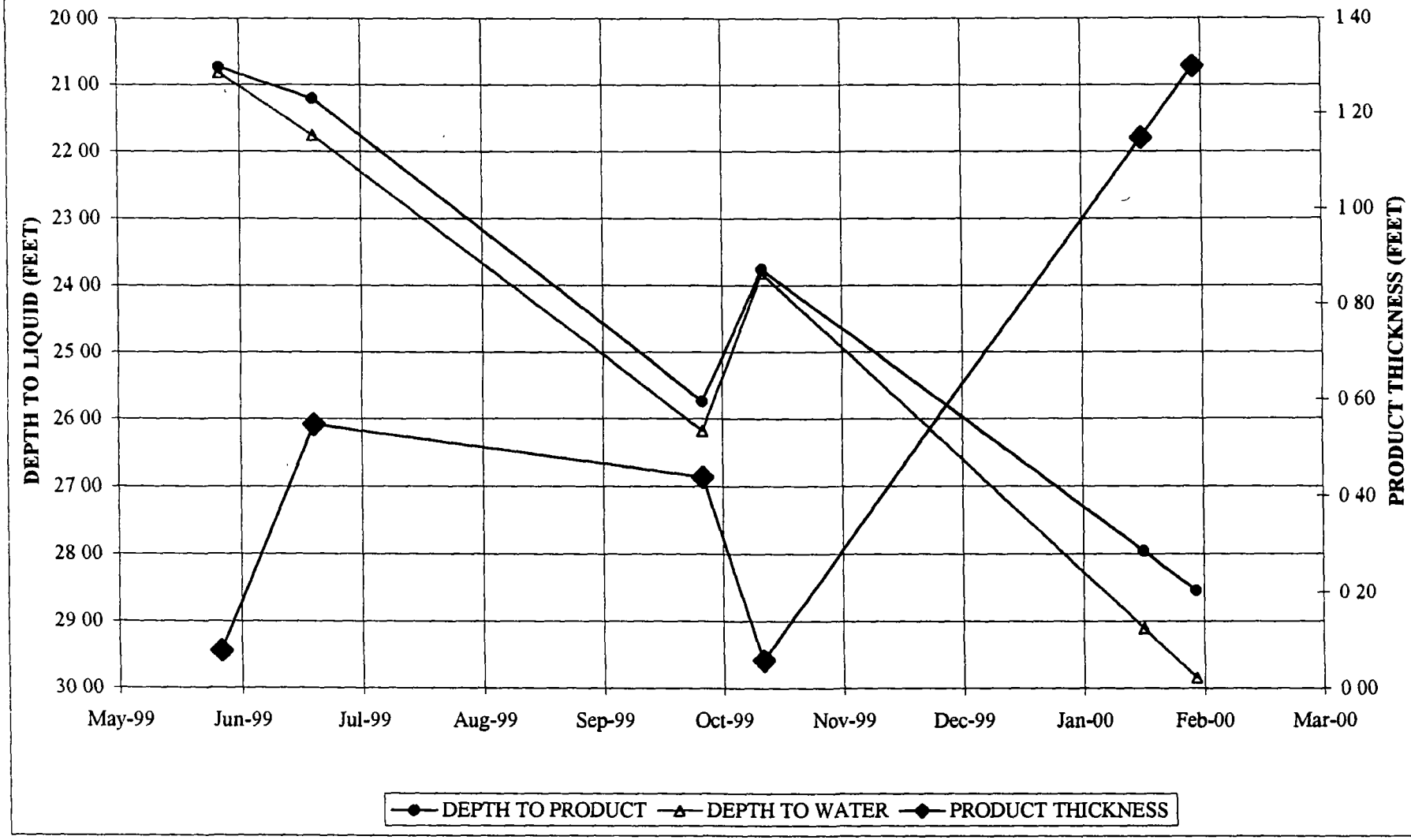


S \TECH\3CHRY\DAYTON\HYDROGEO
MW-21S GRAPH Chart 1\MW-21S GRAPH Chart 1
02/22/2000, 9 39 AM

LEGGETTE, BRASHEARS & GRAHAM, INC.

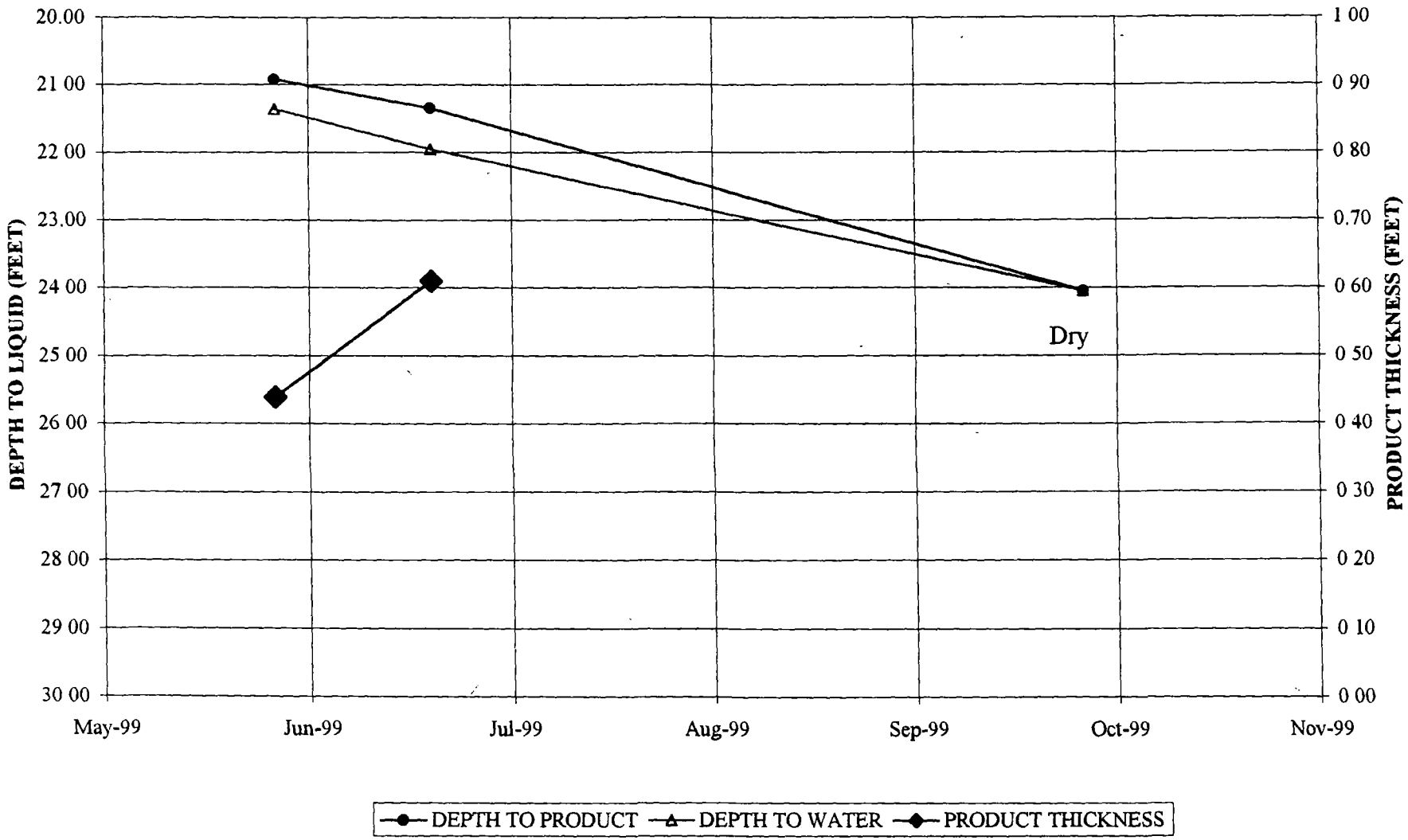
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

MW-22S FREE-PRODUCT THICKNESS



DAYTON THERMAL PRODUCTS
DAYTON, OHIO

MW-23S FREE-PRODUCT THICKNESS

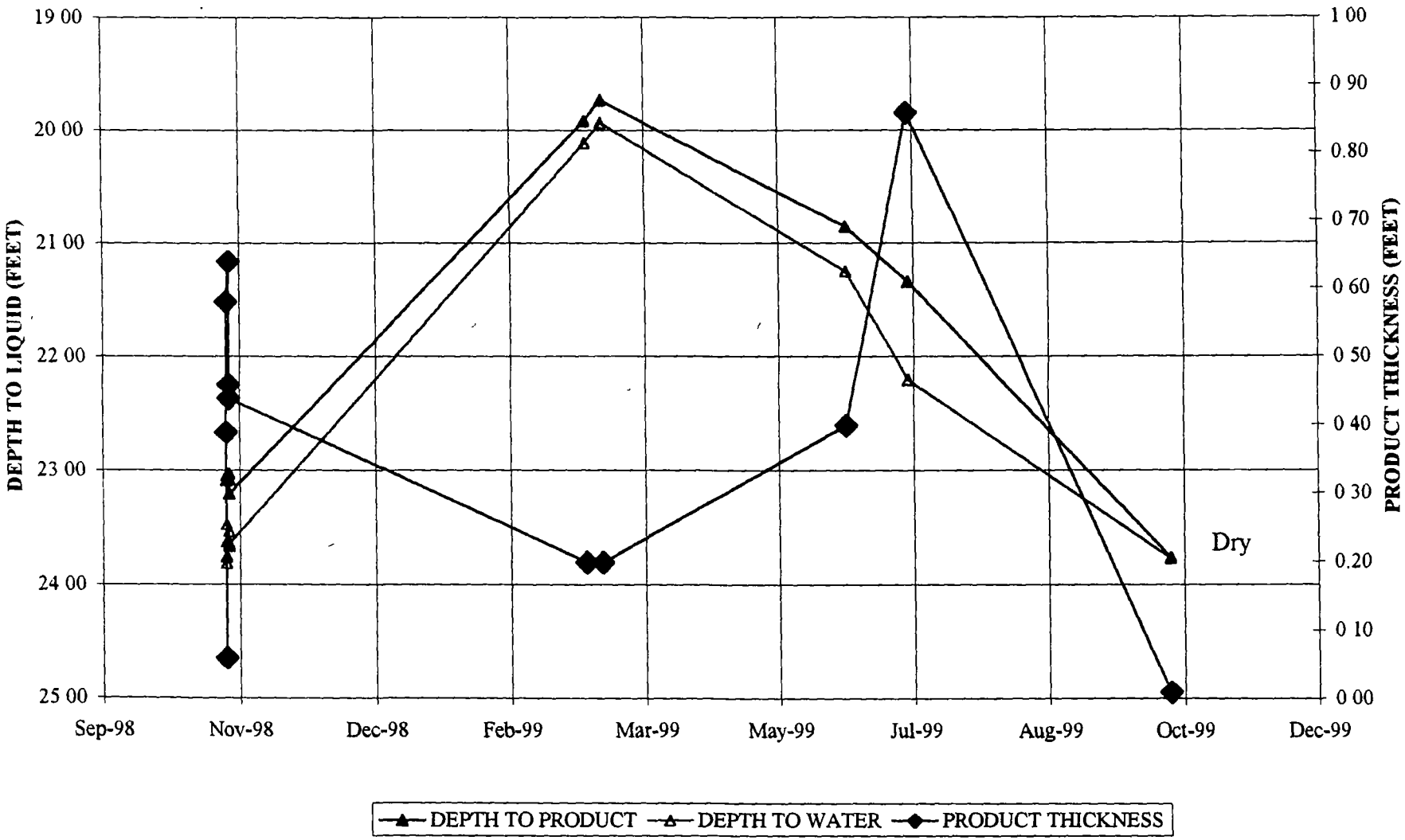


S \TECH\3CHRY\DAYTON\HYDROGEO
MW-23S GRAPH Chart 1\MW-23S GRAPH Chart 1
02/22/2000, 9 40 AM

LEGGETTE, BRASHEARS & GRAHAM, INC.

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE-11D FREE-PRODUCT THICKNESS



S \TECH\3CHRY\DAYTON\HYDROGEO
SVE-11D GRAPH Chart 1\SVE-11D GRAPH Chart 1
02/22/2000, 10 05 AM

LEGGETTE, BRASHEARS & GRAHAM, INC.

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants

JOB [illegible]
SHEET NO 1 OF 1
CALCULATED BY KS DATE 2/17/00
CHECKED BY DVS DATE 2/18/00
SCALE

Determine Weekly Free Product Recovery:

FERRET Pump: Evacuates every 10 minutes.
Attached Recovery data shows that 0.15 ft accumulates in the 2-inch well (MW-22S) in ten minutes. (Testing 2/12-13/00)

well area (ft²) Product thickness

$$\pi (1/12)^2 (0.15 ft) = 0.003 ft^3 \left(\frac{7.48 gal}{ft^3}\right) = 0.024 \frac{gallons}{10 min}$$ ok

The pump will evacuate 144 times/day ok

$$(0.024 gal)(144) = 3.5 \frac{gals}{day} * \frac{7 day}{wk} = \underline{\underline{25 \text{ gallons/week}}}$$

PPS: Evacuate Once per Week.

Based on 1.3 ft Product in well (MW-22S)

$$\pi (1/12)^2 (1.3 ft) = 0.028 ft^3 \left(\frac{7.48 gal}{ft^3}\right) = 0.21 \text{ gallons/week}$$ ok

PPS: Portable Pumping Station (Done manually)

RECON[SM] INVESTIGATION
DAYTON THERMAL PRODUCTS DIVISION
DAYTON, OHIO

ACUSTAR, INC.
CHRYSLER MOTORS CORPORATION

June 28, 1991

Revision 1.0

Prepared for:

ACUSTAR, INC.
1600 Webster Street
Dayton, Ohio 45404

Project 423023

JOHN MATHES & ASSOCIATES, INC.
East Park One Building
701 Rodi Road, Suite 101
Pittsburgh, Pennsylvania 15235-4559
(412) 824-0200

2 BACKGROUND INFORMATION

2.1 Site History

Acustar currently operates the Dayton Thermal Products Plant at 1600 Webster Street, Dayton, Ohio. A portion of this plant, known as the Old Maxwell Complex, formerly consisted of several buildings. The Old Maxwell Complex was recently demolished to make space for a new building.

There is no definitive history of operations conducted in the Old Maxwell Complex over the years. The following information was compiled from old plant layouts, memorabilia, and recollections of retired and high seniority employees:

- Building 3 was built circa 1907;
- the majority of these buildings were built prior to 1920;
- Maxwell cars were assembled in Building 3;
- Chrysler bought the plant in 1936, furnaces and commercial air conditioning units were manufactured there;
- during World War II, the plant was used for manufacturing furnaces, gun parts, and bomb shackles for the U.S. Department of the Army;
- after World War II, furnace and commercial air conditioning units were fabricated (light machining, welding, soldering, spot welding, cleaning, painting, and assembly);
- in the early 1960s, aluminum and copper tube forming operations took place in the area, as well as engineering model shops and government work consisting of ammunition rack assembly and storage;
- due to the age and generally poor condition of the building, most production was moved out in the mid-1960s and 1970s and thereafter the building was increasingly used for storage; and
- by the late 1980s, the building had deteriorated and was declared to be off limits for plant personnel.

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND ENVIRONMENTAL ENGINEERING SERVICES

126 MONROE TURNPIKE
TRUMBULL CT 06611
203-452-3100
FAX 203-452-3111
www lbgweb com

July 12, 2001

Mr Gary Stanczuk CIMS 482-00-51
DaimlerChrysler Corporation
DaimlerChrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re Dayton CATOX System
Transfer of Ownership
Dayton Thermal Products Plant
Dayton, Ohio

Dear Mr Stanczuk

The lease for the CATOX System at the Dayton site has expired and all the requirements of the lease have been fulfilled. In accordance with the terms of this lease, the ownership of this equipment will be transferred to DaimlerChrysler for a lease transfer payment of $1 00

Please be advised that as of August 1, 2001 this equipment will no longer be owned by Leggette, Brashears and Graham, Inc and therefore will not be protected by any insurance protecting against theft or other loss

Should you have any questions, please contact me at 203-452-3120, ext 252

Sincerely,

William H Bittner
Chief Financial Officer

Cc MaryAnn (insurance)
Don Machir (Fixed Assets)
Ken Vogel (St Paul)

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND ENVIRONMENTAL ENGINEERING SERVICES

126 MONROE TURNPIKE
TRUMBULL, CT 06611
203-452-3100
FAX 203-452-3111
www lbgweb com

September 27, 2000

Mr. Gary Stanczuk CIMS 482-00-51
DaimlerChrysler Corporation
DaimlerChrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re SVE System Lease
Transfer of Ownership
Dayton Thermal Products
Dayton, Ohio (SC001)

Dear Mr Stanczuk

The lease for the Soil Vapor Extraction equipment at the Dayton site has expired and all the requirements of the lease have been fulfilled In accordance with the terms of this lease, the ownership of this equipment will be transferred to DaimlerChrysler for a lease transfer payment of $1 00

Please be advised that as of October 1, 2000 this equipment will no longer be owned by Leggette, Brashears and Graham, Inc and therefore will not be protected by any insurance protecting against theft or other loss

Should you have any questions, please contact me at 203-452-3120, ext 252

Sincerely,

William H Bittner
Chief Financial Officer

Cc MaryAnn (insurance)
Don Machir (Fixed Assets)
Ken Vogel (St Paul)

CHRYSLER CORPORATION

Chrysler Corporation CIMS 482-00-51

September 25, 1998

Patrick J. Stock
Carlo Environmental Technologies, Inc.
21570 Hall Rd.
Clinton Twp., MI 48038

Re: Dayton Thermal Construction Project
Installation of Silicate Drain Deck

Fax: 810-465-5571

Dear Mr. Stock:

Carlo is hereby instructed to suspend all work relating to the installation of the silicate drain deck until we obtain further direction from Charles Moeser, Industrial Waste Compliance Executive for Chrysler. Issues relating to the proposed drain deck system and required air permitting must be resolved before any construction may start.

If you have any questions regarding this directive please call me at 248-576-7354 or Gary Stanczuk at 248-576-7365.

Sincerely,

Michael J. Curry
Supervisor, Site Remediation

c: Dick Beck (Fax 848-2915)
Charles Moeser
Greg Rose
Keith Coney
Gary Stanczuk

800 Chrysler Drive
Auburn Hills MI 48326-2757
Fax (248) 576-7369

Printed on Recycled Paper

Remediation Site General Notes

General Notes on: Dayton Thermal

Site Code:	SC001		
Manager:	Greg Rose	**Phone:**	248-576-7362
Project Manager:	Gary Stanczuk	**Phone:**	248-576-7365
Site Address:	1600 Webster Street,		
Site City:	Dayton	**State:**	Ohio

Site Background:

The Dayton Thermal Products facility is located in a mixed industrial/residential area in Dayton, Ohio. The property was first developed in 1907 as an automobile manufacturing facility. Chrysler purchased the property in 1936. This site is located on approximately 60 acres and contains over 1.3 million square feet of building space. The subsurface generally consists of sand and gravel to a depth of approximately 85 feet and is underlain by a stiff clay (till). Beneath the till is another sand and gravel aquifer.

While performing construction activities in Building 40B, a liquid began to seep into the excavation. Analysis of the liquid indicated the presence of chlorinated solvents (VOCs). VOCs were detected in an onsite 79-foot deep water-supply well which provided cooling water for the powerhouse equipment. Subsequent plant-wide drilling programs have delineated the vertical extent of impacted soils and ground water beneath the site. No offsite drilling has been conducted, therefore, the horizontal extent of contamination is unknown. One source area is believed to be an old solvent tank which was present along the east wall of Building 40B. The impacted soils and ground water are restricted to the upper 85 feet above the till layer.

Issues:

Site Investigations

Site investigations have shown that the soil and groundwater is impacted with chlorinated solvents. The soil requires special handling during any excavation activities. Groundwater impact appears to go offsite south of the Plant.

Construction Activities

The Plant has an approved project to install a new silicate system inside Building 40-B. Soil in this area is highly impacted and will require remediation prior to beginning construction.

Soil Vapor Extraction System

This system will remove the VOC's from the soil prior to construction activities.

Groundwater Conditions

Site investigations indicate the highest impact is along the southern border. Given this information, we believe it is possible that impacted groundwater has migrated offsite.

Offsite Sampling

We are currently in the process of obtaining necessary permits to conduct sampling

along the road right-of-ways south of the plant.

Public Meeting

As part of the offsite sampling process we believe that inviting the local residents to an informative meeting at the Plant will help make the effort go more smoothly.

Involvement with Ohio's VAP

Ohio has a Voluntary Action Program which is designed to assist with a risk-based remediation program. The advantage to this program is that they wil provide a letter that determines No Futher ACtion Is Required.

Soil Piles

Should the decision be made to remove two large soil piles (40,000 cubic yards or more?) currently at the plant, a systematic sampling and analysis of soil quality would be necessary prior to disposal.

Created By: Gary M Stanczuk	**Edited By:** Gary M Stanczuk
Date Created: 08/07/98	**Last Edited:** 08/07/98

Dayton Chrysler Meeting 05.28.98

Attendees	Affiliation	Phone
Jenifer Kwasniewski	Ohio EPA-VAP	(614) 644-2279
Dawn Dyer	Ohio EPA-DERR	(937) 285-6011
GREG ROSE	CHRYSLER	248/576-7362
Lynn Buhl	Chrysler	(248) 512-4116
Ken Vogel	Leggette, Brashears & Graham, Inc.	(612) 490-1405
Gary Stanczuk	Chrysler	248-576-736

CHRYSLER CORPORATION

Intra Company Correspondence

Telephone	Date
848-2485	February 12, 1998

To:

Greg Rose Mgr. Site Remediation Chrysler Tech. Center

From:

M. L. Neargarder Plant Engineer Chrysler/Dayton 478-05-00

Subject: Installation Stamping Press Foundations with Drain Decks

The attached bid form (2 sheets) with check marks in the appropriate blocks, indicate the work being funded by the Chrysler/Dayton Plant under Project Nos. 960084 and 970035.

The total cost of the work shall be divided equally between these two (2) projects.

If I can be of any further assistance, please feel free to call.

GREG ROSE

BID FORM
R.F.Q. #5407-0204-MN

TO: Keith A. Coney, CIMS 484-00-04
Chrysler Corporation Purchasing
Chrysler Technology Center
800 Chrysler Drive
Auburn Hills, MI 48326-2757

FOR: Installation Stamping Press
Foundations with Drain Decks
Chrysler Corporation
Dayton Thermal Products Plant
Dayton, Ohio

The undersigned has carefully examined the Request for Bid for Installation of Stamping Presses with Drain Decks Piped to Existing Waste Oil Sump and other conditions relative to the work, and has made all evaluations and investigations necessary to gain a full understanding of pertinent site conditions and all regulatory, material, equipment, and labor requirements necessary to successfully and safely complete the work, as well as any reasonable difficulties which may be encountered in performing the work.

BID SCHEDULE

The undersigned hereby proposes and agrees to furnish all labor, materials, equipment, tools, permits, licenses, taxes, services and all other items necessary or appropriate for the proper and complete execution of the work for the following lump sum amount:

Base Bid Estimate

All work:_____Dollars ($_____)

The undersigned agrees, if this proposal is accepted, to enter into an agreement with Chrysler Corporation, per the Standard Terms and Conditions of Chrysler Corporation, for the above unit price-based, Contract Sum.

Lump Sum Prices
This lump sumbid is based upon, and all work shall be performed in accordance with, the Unit Prices listed below. Should additions or subtractions to the scope of work be required, adjustment will be made to the Contract Sum at the following Unit Prices, which shall include all associated expenses, including taxes, overhead and profit.

UNIT PRICE TABLE

I.D.	DESCRIPTION	UNIT	EST. QTY	UNIT COST	TOTAL
A.	Mobilize and demobilize equipment and work crew to/from Dayton, Ohio.	L.S.	1		✓
B.	Physical and vapor barrier materials, construction and vapor control system.	L.S.	1		
C.	Concrete removal and disposal at Chrysler-approved facility.	L.S.	1		✓
D.	Excavation, compaction, and shoring of two press pit foundations, decks and associated piping trench.	L.S.	1		✓

GREG ROSE

I.D.	DESCRIPTION	UNIT	EST. QTY	UNIT COST	TOTAL
E.	Shop drawings for rebar placement.	L.S.	1		✓
F.	Concrete Forming.	Each	2		✓
G.	Rebar placement.	Each	2		✓
H.	Concrete emplacement and finishing.	Each	2		✓
I.	Drain deck installation.	Each	2		✓
J.	Sub-slab drainage piping installation and connection to existing sump.	L.S.	1		✓
K.	Full-time health and safety officer.	L.S.	1		
L.	Decontamination pad, equipment and supplies.	L.S.	1		
M.	Construction debris storage, and disposal at Chrysler-approved facility.	L.S.	1		✓
N.	Non-hazardous liquid waste transport and disposal at Chrysler-approved facility.	Per Gallon	100		
O.	Hazardous liquid waste transport and disposal at Chrysler-approved facility.	Per Gallon	0		
P.	Non-hazardous soil transport and disposal at Chrysler-approved facility.	Per Ton	150		
Q.	Hazardous soil transport and disposal at Chrysler-approved facility.	Per Ton	0		
R.	Level C Personal Protection.	Per Man Per Day	0		
S.	Level B Personal Protection.	Per Man Per Day	0		
	TOTAL LUMP SUM BID	——	——	——	

L.S. = Lump Sum L.F. = Linear Foot

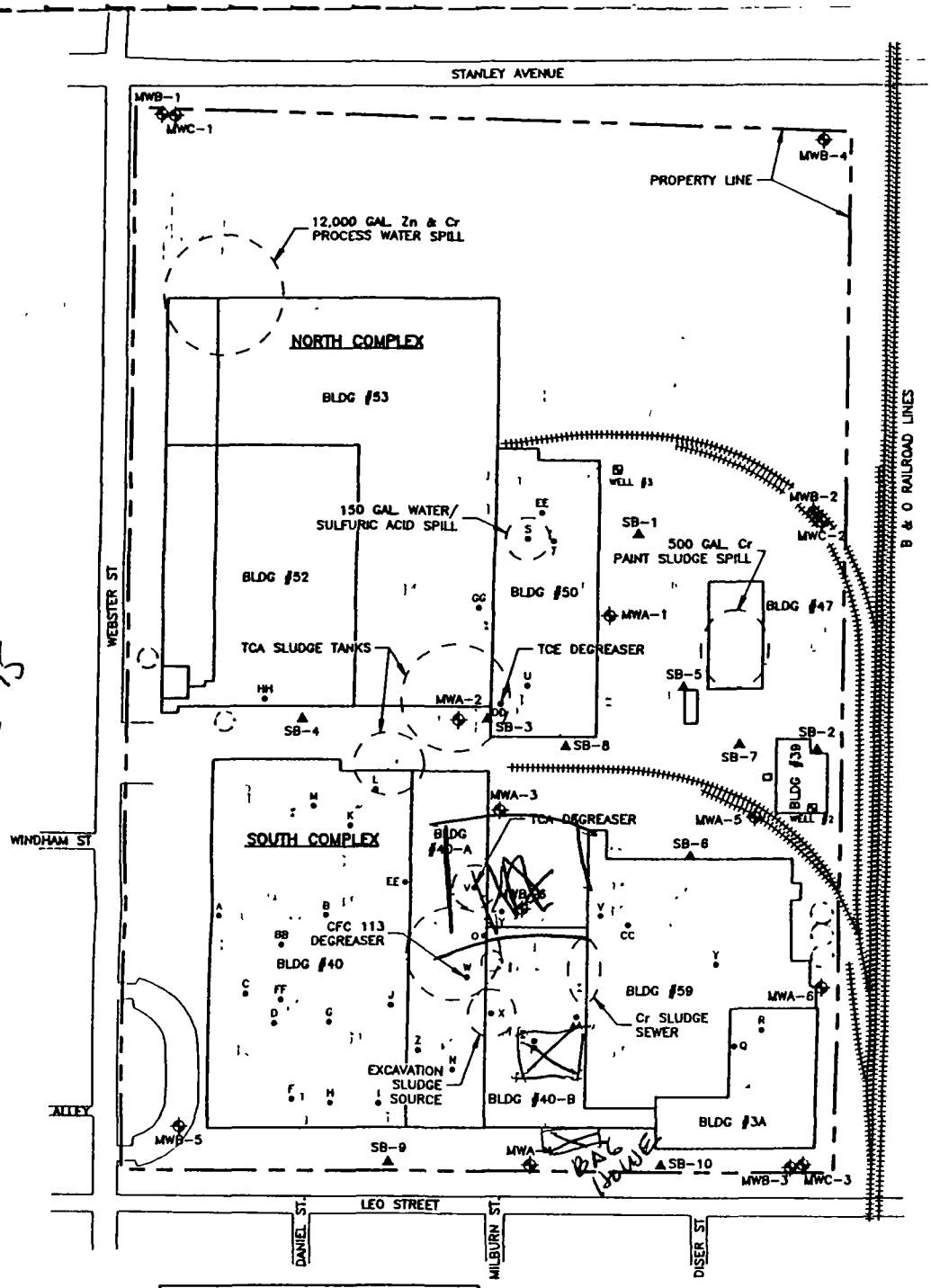
NOTE: Bidder shall provide Unit Prices for all equipment/materials/services on Unit Price Table even if no quantity is indicated.

PROJECT INITIATION

If awarded this contract, the undersigned bidder proposes and agrees to start work NO LATER THAN MARCH 2, 1998.

PROJECT COMPLETION

If awarded this contract, the undersigned bidder agrees to complete the work NO LATER THAN MARCH 15, 1998.



LEGEND

- WELL LOCATION
- SOIL BORING LOCATION
- WATER SUPPLY WELL
- PROCESS WASTEWATER SUMP
- WASTE OIL SUMP
- HAZARDOUS WASTE GENERATION OR ACCUMULATION AREA
- UNDERGROUND STORAGE TANK
- ABOVE GROUND STORAGE TANK AREA
- INDUSTRIAL CLEANING SOLUTION TANKS (250-500 GALLON)
- F• PROCESS UNIT & LOCATION
- POSSIBLE SOURCE AREA

PROCESS EQUIPMENT DESCRIPTION

A	FIRST IMPREGNATION, LOCTITE SYSTEM	R	NEW WASHER
B	SHAFT ASSEMBLY	S	WASHER TANKS
C	WEST COOLANT PIT	T	CLEANER TANKS
D	CARGILL WASHER	U	FLUSH WASHER SYSTEM
E	PISTON WASHER	V	MANPRO DEGREASER
F	SOUTH SHELL WASHER	W	PLATE/FIN EVAPORATOR DEGREASER
G	EAST COOLANT PIT	X	PARTS DEGREASER
H	SOUTH COOLANT PIT	Y	PLATING OPERATION
I	SECOND IMPREGNATION, LOCTITE SYSTEM	Z	SWASHPLATE HEAT TREATMENT MACHINE
J	NORTH COOLANT PIT	AA	NEW DETRIX DEGREASER
K	SHAFT WASHER	BB	COMPRESSOR PARTS DEGREASER
L	CLUTCH RETAINER WASHER	CC	DIP TANK
M	STEEL MACHINING COOLANT PIT	DD	DEGREASER
N	PHOSPHATING WASHER	EE	DETREX DEGREASER
O	CLEANER TANKS	FF	FREON DEGREASER
P	PAINT BOOTH	GG	XYLOL-BASED PAINT BOOTH
Q	PAINT BOOTH	HH	VAPOR DEGREASER

SOURCE CLEAN TECH, INC

0 200

APPROX SCALE IN FEET

DATE	REVISED

Prepared By
LEGGETTE, BRASHEARS & GRAHAM, INC
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W County Road E Suite 700
St Paul, MN 55112
(612) 490-1405

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

SITE MAP

DRAFT

FILE 3CHDA021.DWG | DATE NOV. 1997 | FIGURE 2

Inter Company Correspondence

		Telephone	Date
		776-7365	4-10-98

To—Name & Department			CIMS Number
Marve Neargarder	Dayton Thermal	Fax # 848-2915	

From—Name & Department		CIMS Number
Gary Stanczuk	Site Remediation	429-02-04

Subject: **Dayton Thermal**
Carlo Design Issues

Pat Stock from Carlo received their PO and called me with a concern regarding the language and the requirements to complete the project. Their concern comes from the verbal direction given during the prebid meeting where they were told that the shop drawings must be signed and stamped by their engineer. As we recently discussed Carlo has an issue with the specifications and can not sign the drawings relating to the rod placement and the concrete thickness.

Carlo will construct the foundations as indicated in the written drawings and specifications that were provided. They need a release form taking responsibility for the design.

I have faxed this to you because your voice mail was not working properly Friday and I will be on vacation Monday and Tuesday.

Please call Pat at 810-468-9580. Thanks.

Gary

c: Pat Stock. Carlo ~ 810-468-9589
Greg Rose, Chrysler

CHRYSLER
CORPORATION

From the Desk of .....

J. A. Carlson

October 24, 1997

To: Ron Boltz

Re: Dayton Thermal Products
Subsurface Issues

Observations during past construction projects in the area of Building 59 have raised potential concerns regarding soil and groundwater impacts. Investigations indicate chlorinated solvents are present in the soil and groundwater, possibly from historic use of solvent degreasers at the plant.

The facility is located in an industrial area, which has a history of regional groundwater problems. Sampling along our property line indicates chlorinated solvent impacts however; the origin and geographic distribution of the impacts have not been established.

An upcoming plant construction project requires excavation and removal of soil from within Building 40-B, which at one time contained large solvent cleaning tanks and is located in the immediate area where the environmental impacts have been observed. Removal of soil from inside the plant and may require special controls. Prior to construction an investigation will be conducted to determine soil management procedures. This investigation will also further define the geographic distribution on our property and allow for estimation of our remediation liability. Our schedule calls for investigation activities during the 4th quarter of 1997 at a cost of $150,000. The current reserve for Dayton is limited to $ 240,000 for additional investigation only. Potential liability for remediation has not been defined and remediation reserves have not been established.

It is expected that potential soil and groundwater involvement will become a significant consideration in our ongoing discussions regarding Dayton Thermal Products.

c: **Lynn Buhl**
Dave Carlson
Greg Rose

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER
AND ENVIRONMENTAL ENGINEERING SERVICES

1210 WEST COUNTY ROAD E
SAINT PAUL, MN 55112

(612) 490-1405 FAX (612) 490-1006

DATE: 6/4/98

PAGES: 3
(Includes cover page)

TO: Gary Stanczuk **FAX #:** (248) 576-7369
COMPANY: Chrysler

TO: Lynn Buhl **FAX #:** (248) 512-0926
COMPANY: Chrysler

TO: **FAX #:**
COMPANY:

FROM: Ken Vogel

RE: OEPA Mtg. Notes + attendance list.

Ken

Please contact Kathleen Weinrich (612) 490-1405 if transmission is incomplete or can not be read.

fax TRANSMITTAL

ACTION ITEMS

Dayton Thermal Products Plant

- The plant will review/comment/approve final SVE well locations by Monday, June 1, 1998 with confirmation to Ken Vogel or Kai Hansen (communicated to LBG on May 29, 1998 that at least four locations are cleared for Monday's drilling).

- The plant will provide the dimensions of the structural I-beam footings to LBG (communicated to LBG on May 29, 1998 that dimensions are unknown).

- The plant will review/approve a long-term location for LBG's field trailer (communicated to LBG on May 29, 1998 that current location is approved).

- Joe Whitlock will forward waste characterization letter to Carlo (communicated to LBG on May 29, 1998 that letter was transmitted to Carlo).

- Joe Whitlock will investigate off-site passive soil gas sampling with the city of Dayton contacts (communicated to LBG on May 29, 1998 that the city has been contacted and is considering how issue will be addressed).

- The plant will consider LBG's preferred location (south of Building 40B) for the SVE treatment/blower skid (discussed with Whitlock and Neargarder on May 29, 1998).

- The plant will review/comment/approve LBG's proposed SVE piping layout (communicated to LBG on May 29, 1998 that piping may be run along I-beams of Building 40B; manner of exit piping to be determined based on final location of skid).

Leggette, Brashears & Graham, Inc.

- LBG will confirm anticipated SVE blower sound levels; we do not believe sound levels will be prohibitive. Confirmation will be communicated to Whitlock.

- LBG will finalize SVE system design based on plant comments and Stanczuk approval (submission to Stanczuk and Whitlock).

- LBG will submit final cost estimate to Stanczuk.

- LBG will prepare and transmit periodic project updates to the distribution list, and will be responsible for communication and coordination of all project-related issues.

- LBG will be responsible for bidding, contracting, and supervising SVE equipment procurement and installation by qualified, union contractors, subject to the review and approval of PP&R, and the plant when appropriate.

- LBG will be responsible for bidding, contracting and supervision of sewer line clean-out activities, subject to review, comment, and approval by PP&R and the plant.

- LBG will coordinate the disposal of drummed soil cuttings from well drilling activities.

- LBG (and possibly Whitlock) will meet with Dayton city environmental personnel and OEPA DERR (Dayton office) personnel to discuss regional background environmental information and project-related logistical issues such as drilling permits, right-of-way permits, etc. No meeting date has been set, but could be scheduled as early as the first week of June.

Chrysler PP&R

- Stanczuk will coordinate release of Belvidere plant's SVE blower and skid unit (completed on May 29, 1998, LBG has scheduled shipment to skid manufacturer on June 2, 1998).

- Chrysler PP&R will coordinate and track air permit exemption request submittal and approval through OEPA (confirmation of approval to Vogel).

- Chrysler PP&R will review and approve funding requests.

- Chrysler PP&R, along with Chrysler Legal, will be involved in determining meeting dates, agendas, etc. for meetings with third parties.

COMMUNICATION/DISTRIBUTION LIST

Gary Stanczuk - Remediation Specialist
Chrysler Corporation
Pollution Prevention and Remediation
Chrysler Technology Center
CIMS 482-00-51
800 Chrysler Drive
Auburn Hills, MI 48326-2757
(248) 576-7365 (Tie Line 776-7365)
(248) 576-7369 FAX

Ken Vogel, Associate
Leggette, Brashears & Graham, Inc.
1210 West County Road E, Suite 700
St. Paul, MN 55112
(612) 490-1405
(612) 490-1006 FAX
(888) 758-1886 pager
email - kvogel@lbgmn.com

Kristin Yahnke, Engineer
Leggette, Brashears & Graham, Inc.
1210 West County Road E, Suite 700
St. Paul, MN 55112
(612) 490-1405

Lynn Buhl, Attorney
Chrysler Corporation
Office of General Counsel
Chrysler Technology Center
CIMS 485-13-65
800 Chrysler Drive
Auburn Hills, MI 48326-2757
(248) 512-4116 (Tie Line 722-4116)
(248) 512-0926 FAX

Carolyn Carlson, Plant Manager
Dayton Thermal Products Plant
CIMS 478-05-00
1600 Webster Street
Dayton, Ohio 45404-1205
(937) 224-2500 (Tie Line 848-2500)
(937) 224-2906 FAX

Pager 888-572-5007

Joe Whitlock, Environmental Coordinator
Dayton Thermal Products Plant
(937) 224-2467 (Tie Line 848-2467)
(937) 224-2915 FAX
(888) 572-5036 pager

Dave Ramsey, Production Manager
Dayton Thermal Products Plant
(937) 224-2501 (Tie Line 848-2501)
(937) 224-2906 FAX

Mark Autio, Manufacturing Engineering Manager
Dayton Thermal Products Plant
(937) 224-2565 (Tie Line 848-2565)
(937) 224-2915 FAX

Dick Beck, Chief Tool Engineer
Dayton Thermal Products Plant
(937) 224-2473 (Tie Line 848-2473)
(937) 224-2915 FAX
email - rgb9@chrysler.com

Marvin Neargarder, Plant Engineer
Dayton Thermal Products Plant
(937) 224-2485 (Tie Line 848-2485)
(937) 224-2915 FAX

Fred McCarty, Plant Human Resources Manager
Dayton Thermal Products Plant
(937) 224-2305 (Tie Line 848-2305)
(937) 224-2447 FAX

KV.kw
Attachment
S:\TECH\CHRY\DAYTON\FINALDOC\STAT1 MEM

DAIMLERCHRYSLER

DaimlerChrysler Corporation

December 18, 1998

Gerri Cauley
Ohio Environmental Protection Agency
Voluntary Action Program
P.O. Box 1049
Columbus, Ohio 43216-1049

RE: Request for Technical Assistance for Chrysler Dayton Thermal Products Plant; 1600 Webster Street; Dayton, Ohio

Dear Gerri:

The purpose of this letter is to inform you of Chrysler Corporation's request for Voluntary Action Program (VAP) technical assistance to review the groundwater remediation planned at the Chrysler Dayton Thermal Products Plant.

The specific assistance we are requesting is review and feedback on reports, assistance in community relations, approval of the proposed remedial action prior to implementation and a covenant not to sue at the conclusion of the remediation. This project does not involve the transfer of property to a new owner for redevelopment.

We are aware that we will be charged an hourly rate, plus fringe and overhead for the technical assistance. Please have the technical staff member assigned to this project contact me and follow-up with a written estimate on the cost of this assistance.

The invoice for technical assistance for your project should be sent to myself at the address listed below. Should you have any questions regarding this site please contact me at 248-576-7354 or Gary Stanczuk at 248-576-7365.

Thank you for your attention to this matter.

Very truly yours,

Michael J. Curry
Remediation Program Manager

DaimlerChrysler Corporation
800 Chrysler Drive CIMS 482-00-51
Auburn Hills MI USA 48326-2757

MEMORANDUM

TO: Gary Stanczuk

FROM: Dane Olson

DATE: April 5, 1999

SUBJECT: City Permits

Enclosed are copies of the City of Dayton permits for right-of-way borings and a letter from the Department of Recreation and Parks granting permission to do test borings in Claridge Park.

S \TECH\3CHRY\DAYTON\FINALDOC\PERMITGA MEM

E 513 REV 6 96 261662 0

CITY OF DAYTON, OHIO

DEPARTMENT OF PUBLIC WORKS

• DIVISION OF ENGINEERING •

Amount Paid $ 290-00 **No.** 1 008702 Date 3-25 19 99

Permission Is Hereby Granted To Legette, Brashers, + Graham, Inc

To Erect, Construct or Install in Accordance With City Ordinances

Excavation in street for		
Sidewalk		
Temporary Driveway		
Permanent Driveway		
Setting Poles or Anchor		
Moving Heavy Vehicles		
Miscellaneous 29 Test Holes - Leo St, Webster, Daniel St, Milburn Ave, Kiser St., Janar St., Jenard St., Deeds Ave.	290	00
Sundry Sales		
Deposit		

Remarks V 16957

Property Owned by

Lot No Location Leo St, Webster St, Daniel St, Milburn Ave, Kiser St, Janar St, Jenard St, Deeds Ave.

Permit Issued by City Engineer Permit Expires 19

Per CLERK

1

Contractors copy

TRAFFIC CONTROL REQUIREMENTS

DANIEL, KISER, LAMAR, LEO, LEONHARD AND WEBSTER STREETS AND DEEDS AND MILBURN AVENUES

IT IS THE INTENTION TO PERFORM ALL OF THE REQUIRED WORK WITH THE LEAST INCONVENIENCE AND THE MAXIMUM SAFETY TO THE CONTRACTOR AND THE TRAVELING PUBLIC. IN ADDITION TO THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), LATEST EDITION, AND SECTION 614, CITY OF DAYTON, CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. THE INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED BY THE OMUTCD SHALL BE PROVIDED BY THE CONTRACTOR.

2. ALL TRAFFIC LANES SHALL BE MAINTAINED AT ALL TIMES ON DANIEL, DEEDS, KISER, LAMAR, LEO, LEONHARD, MILBURN AND WEBSTER STREETS.

3. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED.

4. VEHICULAR AND PEDESTRIAN ACCESS TO ALL BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES.

5. IF YOU HAVE ANY QUESTIONS REGARDING THESE REQUIREMENTS, PLEASE CONTACT RHONDA MUNDY, CITY OF DAYTON, BUREAU OF TRAFFIC ENGINEERING AT 443-4075.

L.L. _____

N2

Approved as noted:

Provide a four(4') minimum clearance between test holes and existing water mains and storm sewers. Call OUPS and Dan Blair(City of Dayton Water Dept.) at 443-3739 for utility locations.

Approval of these Geoprobe borings in no way provides for acceptance, by the City of Dayton, of any waste material associated with the drilling of the borings. Any waste water and waste soil shall be handled by Leggette, Brashears and Graham, Inc. in accordance with all applicable federal, state and local rules and regulations.

At the completion of the Geoprobe boring project, Leggette, Brashears and Graham, Inc. shall properly abandon the borings in accordance with all applicable federal, state and local rules and regulations.

Leggette, Brashears and Graham, Inc. will provide a copy of the data generated from this project and the previous Gore-Sorber project to the City of Dayton Division of Enviromental Management within 30 days of the completion of this Geoprobe boring project. Failure to do so will jeopardize any forthcoming requests.

CITY OF DAYTON
DEPT OF PUBLIC WORKS
101 W. THIRD ST.

DATE 03.25.'99 THU

NON-ADD #	8702
MISC	$290.00
TOTAL	$290.00
CHECK	$290.00
CLERK 1	NO.000913
TIME 14:33	0000

Department of Recreation and Parks
(937) 263-8400
(937) 263-6019 (FAX)

Administrative Office
2013 West Third Street
Dayton, Ohio 45417

DAYTON
CITY OF NEIGHBORS

APR 01 1999

March 26, 1999

Mr. Kenneth D. Vogel, PG, CHMM
Senior Associate
Leggette, Brashears & Graham, Inc.
1210 West County Road E, Suite 700
St. Paul, MN 55112

Subject: Sampling Access – Claridge Park

Dear Mr. Vogel:

In response to your letter of March 12th, you have my permission to test bore in Claridge Park. If you have any further questions, please contact Mr. Greg Duckro of our Parks and Forestry Division at 937-461-5300.

Sincerely,

Billy C. Russell
Acting Director

BCR:lsp

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD E
SUITE 700
ST PAUL, MN 55112
612-490-1405
FAX 612-490-1006

March 12, 1999

Mr. Estill G. Johnson, Chief Engineer
City of Dayton
Department of Public Works
Division of Civil Engineering
101 West Third Street
Dayton, Ohio 45402

RE: Permit Application/Modification for Making Openings in a Public Way

Dear Mr. Johnson:

Leggette, Brashears & Graham, Inc. (LBG), on behalf of DaimlerChrysler Corporation, hereby submits this permit application to obtain permission from the city of Dayton to install test holes along city right-of-ways (ROWs) to the east of Webster Street, and both north and south of Leo Street. The test holes will be advanced using a Geoprobe® to collect soil and ground-water samples. Samples will be analyzed in the field utilizing a mobile environmental laboratory. It is anticipated that it will take approximately 3 weeks to complete and sample all of the test holes. Each test hole will be abandoned upon completion of sampling at each location.

PERMIT MODIFICATION

Because the scope of work is investigative in nature, the actual number and location of test holes will be dependent on mobile laboratory analytical results, field observations, and the marked location of utilities and utility corridors. The investigation process is iterative, based on results obtained in the field. For instance, field results may indicate the need for additional test holes at some locations not originally anticipated. Under current permit procedures, another permit application would be required before unanticipated test holes could be advanced. As a result, a remobilization of geologists and contractors would be required. ***Therefore, we request that the city of Dayton consider a modification of its existing permit procedures to allow greater flexibility in efficiently carrying out environmental investigation activities associated with this and future activities.***

PERMIT APPLICATION AND PLAN

The following information is provided as required in Section 2 of the "City of Dayton, Department of Urban Development, Rules and Regulations for Making Openings in a Public Way, Dayton, Ohio, January 1, 1991."

The test holes will be made by making a small hole (approximately 2.0-inch diameter) using a Geoprobe® to a maximum depth of 50 feet. The plan calls for 29 test holes to be installed at the approximate ROW locations illustrated on plate 1. Field conditions and marked utility corridors will dictate the exact locations of test holes. After the sampling is complete, the holes will be properly sealed and abandoned with bentonite.

Plate 1 illustrates the proposed locations of the test holes. ***The number and location of test holes is variable. As such, maximum flexibility in the permitting process with the city of Dayton is greatly desired. In the event that additional test holes are required, LBG will notify the Department of Public Works, provide a revised location map, and provide the required additional permit fee for each test hole. Timely review and approval of such an additional request during our field crew's mobilization would be greatly appreciated.***

The test holes will be located along Webster, Daniel, Milburn, Kiser and Deeds Streets (between Leo and Leonard Streets), along Deeds Street to the north near the Kiser Intermediate School, and within Claridge Park. The plate also illustrates currently surveyed underground utility locations as provided by the Ohio Utility Protection Service and the individual utility service companies. The Ohio Utility Protection Service and the city of Dayton sewer and water departments will be notified of the planned work, a field utility meeting will be held, and utilities marked before any invasive work is commenced. Following marking of utilities, a licensed surveyor will conduct a utility survey while the test holes are being sampled. Surveyed utility locations will be submitted with final work product documents, following completion of the work.

When possible, test holes will be located between the street curbs and sidewalks in the boulevards. If a boulevard is not present, the holes will be located immediately off the edge of the sidewalk in grassy areas so as not to break apart any concrete and to ensure staying on the city ROWs. In the event there are no sidewalks, the holes will be located just off the paved or asphalt road surface. In the unlikely event a test hole needs to be placed in an asphalt or concrete surface, the surface material will be repaired to a condition equal to or better than that existing before the work was conducted. In no event will corner stones, monuments or land markers be tampered with to accommodate the investigation. If conditions occur where it is necessary to partially block a lane of traffic, the minimum traffic lane of 10 feet will be honored and the proper warning signs will be supplied and erected.

INSURANCE

In accordance with the requirements in Section 2, Leggette, Brashears & Graham, Inc. will keep in full force and effect a liability insurance policy in an amount of at least $300,000 for any one person injured in any accident and with a total liability of at least $500,000 for all persons injured in any one accident and in the amount of $300,000 for each accident as compensation for damage caused to property other than the applicant's. Copies of our insurance certificates have previously been supplied to the city.

SCHEDULE

As stated in Section 2, all openings must be made within 1 week of the date of issue unless special arrangements area made. ***LBG is requesting that this time period be extended to a 6-week period to allow for necessary preparation, mobilization, and installation time.*** Initiation of the soil and water survey will commence within 3 weeks after receiving written or verbal permission from the Division of Engineering or its authorized agent(s). LBG will contact the City Engineer or authorized agent(s) 3 days prior to mobilizing to the site. The Director of Urban Development, the City Engineer and/or their authorized agent(s) will be notified upon completion of the work.

Thank you for your prompt consideration of this request. Should you have any questions, or if you require additional information, please contact me at (651) 490-1405, ext. 202.

Sincerely,

LEGGETTE, BRASHEARS, & GRAHAM, INC.

Kenneth D. Vogel

Kenneth D. Vogel, CPG, CHMM
Senior Associate

KDV:kw
cc: Gary Stanczuk
Enclosures
S \TECH\3CHRY\DAYTON\FINALDOC\GEOPRB LTR

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND
ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD E
SUITE 700
ST PAUL, MN 55112
612-490-1405
FAX 612-490-1006

March 12, 1999

Mr. Billy Russell, Acting Director
City of Dayton
Department of Parks, Recreation and Culture
325 North Paul Laurence Dunbar
Dayton, Ohio 45407

RE: Request for Sampling Access-Claridge Park

Dear Mr. Russell:

Leggette, Brashears & Graham, Inc (LBG), on behalf of DaimlerChrysler Corporation, hereby submits this request to obtain permission from your department to install two test holes in Claridge Park. The test holes will be advanced using a Geoprobe® to collect soil and ground-water samples. Samples will be analyzed in the field utilizing a mobile environmental laboratory It is anticipated that it will take approximately 3 days to complete and sample the test holes Each test hole will be abandoned upon completion of sampling.

PERMIT MODIFICATION

Because the scope of work is investigative in nature, the actual number and location of test holes will be dependent on mobile laboratory analytical results, field observations, and the marked location of utilities and utility corridors. The investigation process is iterative, based on results obtained in the field For instance, field results may indicate the need for additional test holes at some locations not originally anticipated.

PERMIT APPLICATION AND PLAN

The following information is provided as required in Section 2 of the "City of Dayton, Department of Urban Development, Rules and Regulations for Making Openings in a Public Way, Dayton, Ohio, January 1, 1991 "

The test holes will be made by making a small hole (approximately 2.0-inch diameter) using a Geoprobe® to a maximum depth of 50 feet. The plan calls for two test holes to be installed at the approximate locations illustrated on plate 1. Field conditions and marked utility corridors will dictate the exact locations of test holes. After the sampling is complete, the holes will be properly sealed and abandoned with bentonite.

Plate 1 illustrates the proposed locations of the test holes. ***The number and location of test holes is variable. As such, maximum flexibility in the permitting process with the city of Dayton is greatly desired. In the event that additional test holes are required, LBG will notify the Department of Parks, Recreation and Culture, and provide a revised location map. Timely review and approval of such an additional request during our field crew's mobilization would be greatly appreciated.***

The test holes will be located within Claridge Park. The plate also illustrates currently surveyed underground utility locations as provided by the Ohio Utility Protection Service and the individual utility service companies. The Ohio Utility Protection Service and the city of Dayton sewer and water departments will be notified of the planned work, a field utility meeting will be held, and utilities marked before any invasive work is commenced. Following marking of utilities, a licensed surveyor will conduct a utility survey while the test holes are being sampled. Surveyed utility locations will be submitted with final work product documents, following completion of the work.

The proposed test holes will be located in grassy areas. In the unlikely event that the ground surface is disturbed by this sampling activity, repairs and/or restoration will be made to bring the ground surface to the original or better condition. In no event will buildings, corner stones, monuments or land markers be tampered with to accommodate the investigation

INSURANCE

In accordance with the requirements in Section 2, Leggette, Brashears & Graham, Inc. will keep in full force and effect a liability insurance policy in an amount of at least $300,000 for any one person injured in any accident and with a total liability of at least $500,000 for all persons injured in any one accident and in the amount of $300,000 for each accident as compensation for damage caused to property other than the applicant's. Copies of our insurance certificates have previously been supplied to the city.

SCHEDULE

Initiation of the soil and water survey will commence within 3 weeks after receiving written or verbal permission from the Department of Parks, Recreation and Culture or its authorized agent(s). LBG will contact the Acting Director or authorized agent(s) 3 days prior to mobilizing to the site. The Acting Director, Director of Urban Development, the City Engineer and/or their authorized agent(s) will be notified upon completion of the work.

Thank you for your prompt consideration of this request Should you have any questions, or if you require additional information, please contact me at (651) 490-1405, ext. 202

Sincerely,

LEGGETTE, BRASHEARS, & GRAHAM, INC.

Kenneth D. Vogel

Kenneth D. Vogel, CPG, CHMM
Senior Associate

KDV:kw
cc: Gary Stanczuk
Enclosure
S \TECH\3CHRY\DAYTON\FINALDOC\GEOPARK LTR

LEGGETTE, BRASHEARS & GRAHAM, INC.
PROFESSIONAL GROUND-WATER
AND ENVIRONMENTAL ENGINEERING SERVICES
1210 WEST COUNTY ROAD E
SAINT PAUL, MN 55112
(651) 490-1405
FAX (651) 490-1006

DATE: 4/16/01

PAGES: 9
(Includes cover page)

TO: Gary Stanczuk
COMPANY: DC Corporate
Fax: 248-576-7369
Phone: 248-576-7365

TO: Britt Crider
COMPANY: DC Dayton Thermal
Fax: 937-224-2915
Phone: 937-224-2532

TO: Mike Webb
COMPANY: ONYX
Fax: 937-237-3669
Phone: 937-603-2597

FROM: Mike Plante

RE: Frac tank analytical

Attached are the analytical results for water sample WL41131. This sample represents cleaning rinse waters from BLDG 50 sumps and sump lines between line 50A and the west wall. The frac tank contains approximately 2000 to 2500 gallons. The concentration of 13.5 mg/L for Lead exceeds the OEPA haz level of 5 mg/L. Other detected compounds were below OEPA haz levels. PCBs were not detected.

Please contact Kathleen Weinrich (651) if transmission is incomplete or cannot be read.

fax MEMORANDUM

S:\Tech\SCHRT\DAYTON\FINALDOC\WL41131_fax.doc

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SEWER CLEANOUT
SUMMARY OF POSITIVE DETECTIONS

ORIGIN	SAMPLE ID	DATESAMP	PARAMETER	OHIO EPA TCLP REGULATORY LEVEL	RESULT	QUAL	UNITS	MATRIX	GROUP
FRAC TANK #4113, FIRST SAMPLE, RINSE WATER FROM BLDG 50 SUMP AND SUMP LINES BETWEEN LINE 50A AND THE WEST WALL	WL41131	3/30/2001	2,4,5-T	–	1.02		UG/L	WATER	HERB
	WL41131	3/30/2001	2,4-D	10000	5.97		UG/L	WATER	HERB
	WL41131	3/30/2001	Dinoseb	–	0.74		UG/L	WATER	HERB
	WL41131	3/30/2001	Arsenic	5	0.0073		MG/L	WATER	METALS
	WL41131	3/30/2001	Barium TR	100	1.72		MG/L	WATER	METALS
	WL41131	3/30/2001	Cadmium	1	0.0024		MG/L	WATER	METALS
	WL41131	3/30/2001	Chromium	5	0.0449		MG/L	WATER	METALS
	WL41131	3/30/2001	Copper TR	–	0.449		MG/L	WATER	METALS
	WL41131	3/30/2001	Lead TR	5	13.5		MG/L	WATER	METALS
	WL41131	3/30/2001	Mercury	0.2	0.000034	J	MG/L	WATER	METALS
	WL41131	3/30/2001	Selenium	1	0.0033	J	MG/L	WATER	METALS
	WL41131	3/30/2001	Silver TR	5	0.0231		MG/L	WATER	METALS
	WL41131	3/30/2001	Zinc TR	–	4.25		MG/L	WATER	METALS
	WL41131	3/30/2001	Alpha Chlordane	–	0.0132		UG/L	WATER	PEST
	WL41131	3/30/2001	DDT	–	0.0064	J	UG/L	WATER	PEST
	WL41131	3/30/2001	Dieldrin	–	0.032		UG/L	WATER	PEST
	WL41131	3/30/2001	Endosulfan I	–	0.0970		UG/L	WATER	PEST
	WL41131	3/30/2001	Endosulfan Sulfate	–	0.0047	J	UG/L	WATER	PEST
	WL41131	3/30/2001	2,4-Dimethylphenol	–	1	J	UG/L	WATER	SVOC
	WL41131	3/30/2001	2,6-Dinitrotoluene	–	2	J	UG/L	WATER	SVOC
	WL41131	3/30/2001	4-Methylphenol	–	86		UG/L	WATER	SVOC
	WL41131	3/30/2001	bis(2-Ethylhexyl)phthalate	–	39		UG/L	WATER	SVOC
	WL41131	3/30/2001	Butylbenzylphthalate	–	220		UG/L	WATER	SVOC
	WL41131	3/30/2001	Di-n-butylphthalate	–	3	J	UG/L	WATER	SVOC
	WL41131	3/30/2001	Phenol	–	18		UG/L	WATER	SVOC
	WL41131	3/30/2001	Pyrene	–	3	J	UG/L	WATER	SVOC
	WL41131	3/30/2001	2-Butanone (MEK)	200000	26		UG/L	WATER	VOC
	WL41131	3/30/2001	Acetone	–	54		UG/L	WATER	VOC
	WL41131	3/30/2001	Chloroform	6000	2	J	UG/L	WATER	VOC
	WL41131	3/30/2001	Styrene	–	2	J	UG/L	WATER	VOC
	WL41131	3/30/2001	Toluene	–	1	J	UG/L	WATER	VOC

Lancaster Laboratories
Where quality is a science.

FAX Cover Page

Pages 7

CONFIDENTIAL MATERIAL

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law.

If received in error, please notify sender at once and return the original faxed transmission by U. S. Postal Service to the address indicated below. Thank you.

2425 New Holland Pike
Lancaster, PA 17605-2425

Phone: 717-656-2300
Fax: 717-656-2681

Deliver to: Mr. Ken Vogel

Company: 10160 417 320 Mr. Ken VogDAIMLERCHRYSLER CORPORATIO

Fax: 16514901006

From: Gwen A. Birchall Ext

Message:

RFA 01-212

Frac Tank 4113

Sample W L41131

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581189 Account: 10160 DAIMLERCHRYSLER CORPORATION
Date Submitted: 03/31/01 Date Reported: NOT REP
Date Collected: 03/30/01

WL41131 Grab Water Sample
Site Code: SC001 RFA# YGQP2001212
Dayton Thermal, Sewer Cleanout, Bldg 50

	ANALYSIS NAME	RESULT	METHOD DETECTION LIMIT	UNITS
0200	pH	7.74	0.010	
0259	Mercury	0.000034J	0.00002	mg/l
0430	Flash Point for Liquids	No Flash Observed	50.	Degrees F

No flash observed below 172F.
Test flame extinguished at 152F.
Flash point was determined using Pensky Martens closed cup apparatus.
==========

0496	Corrosivity	See Below	See Below

Corrosivity:
The pH of a sample was 7.74 indicating that the sample is not corrosive.
A waste is corrosive if it exhibits a pH equal to or less than 2
or equal to or greater than 12.5.
==========

0937 TCL Pesticides in Water
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

The gamma-chlordane recovery is outside the QC limits for the LCSD. Since the recovery is high and gamma-chlordane was not detected in the sample, the results are reported.
==========

1600	Alpha BHC	N.D.	0.0020	ug/l
1601	Beta BHC	N.D.	0.0020	ug/l
1603	Delta BHC	N.D.	0.0057	ug/l
1602	Gamma BHC - Lindane	N.D.	0.0020	ug/l
1604	Heptachlor	N.D.	0.0020	ug/l
1605	Aldrin	N.D.	0.0020	ug/l
1606	Heptachlor Epoxide	N.D.	0.0020	ug/l
1616	Endosulfan I	0.0970	0.0020	ug/l
1610	Dieldrin	0.032	0.0039	ug/l

1607	DDE	N.D.	0.0039	ug/l

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581189 Account: 10160 DAIMLERCHRYSLER CORPORATION

1611	Endrin	N.D.	0.0039	ug/l
1615	Endosulfan II	N.D.	0.0039	ug/l
1608	DDD	N.D.	0.0039	ug/l
1617	Endosulfan Sulfate	0.0047 J	0.0039	ug/l
1609	DDT	0.0054 J	0.0039	ug/l
0938	Endrin Ketone	N.D.	0.0039	ug/l
1860	Methoxychlor	N.D.	0.020	ug/l
1361	Alpha Chlordane	0.0132	0.0020	ug/l
1362	Gamma Chlordane	N.D.	0.0020	ug/l
1613	Toxaphene	N.D.	0.30	ug/l
1618	Endrin Aldehyde	N.D.	0.0039	ug/l
1619	PCB-1016	N.D.	0.099	ug/l
1620	PCB-1221	N.D.	0.099	ug/l
1621	PCB-1232	N.D.	0.099	ug/l
1622	PCB-1242	N.D.	0.099	ug/l
1623	PCB-1248	N.D.	0.099	ug/l
1624	PCB-1254	N.D.	0.099	ug/l
1626	PCB-1260	N.D.	0.099	ug/l

==========

1045	Arsenic (furnace method)	0.0073	0.0014	mg/l
1049	Cadmium (furnace method)	0.0024	0.00015	mg/l
1064	Selenium (furnace method)	0.0033 J	0.0012	mg/l
1121	Reactivity	See Below		See Below

Reactivity:
The sample was extracted by the interim method described in SW 846, Chapter 7.3. This solution was analyzed for cyanide and sulfide. This waste is not considered reactive and hazardous because it does not generate a quantity of hydrogen cyanide exceeding 250 mg/kg or hydrogen sulfide exceeding 500 mg/kg. These interim threshold limits were established by the Solid Waste Branch of EPA, July, 1992. These results do not reflect total cyanide or total sulfide.

==========

1122	Sulfide (Reactivity)	N.D.	33.	mg/kg
1123	Cyanide (Reactivity)	N.D.	100.	mg/kg

1316 AppendixIX Herbicides - Waters

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample extraction.

==========

0288	2,4-D	5.97	0.097	ug/l
1314	Dinoseb	0.71	0.048	ug/l
0289	2,4,5-TP	N.D.	0.0097	ug/l
1315	2,4,5-T	1.02	0.0097	ug/l

==========

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581189 Account: 10160 DAIMLERCHRYSLER CORPORATION

1751	Chromium	0.0449	0.0017	mg/l
4678	TCL SW846 Semivolatiles/Waters			
3925	Phenol	18.	1.	ug/l
3936	bis(2-Chloroethyl)ether	N.D.	1.	ug/l
3924	2-Chlorophenol	N.D.	1.	ug/l
3937	1,3-Dichlorobenzene	N.D.	1.	ug/l
3938	1,4-Dichlorobenzene	N.D.	1.	ug/l
3939	1,2-Dichlorobenzene	N.D.	1.	ug/l
4680	2-Methylphenol	N.D.	1.	ug/l
4681	2,2'-oxybis(1-Chloropropane)	N.D.	1.	ug/l
4682	4-Methylphenol	86.	3.	ug/l

3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.

==========

3942	N-Nitroso-di-n-propylamine	N.D.	1.	ug/l
3941	Hexachloroethane	N.D.	1.	ug/l
3943	Nitrobenzene	N.D.	1.	ug/l
3944	Isophorone	N.D.	1.	ug/l
3926	2-Nitrophenol	N.D.	1.	ug/l
3927	2,4-Dimethylphenol	1. J	1.	ug/l
3945	bis(2-Chloroethoxy)methane	N.D.	1.	ug/l
3928	2,4-Dichlorophenol	N.D.	1.	ug/l
3946	1,2,4-Trichlorobenzene	N.D.	1.	ug/l
3947	Naphthalene	N.D.	1.	ug/l
3871	4-Chloroaniline	N.D.	1.	ug/l
3948	Hexachlorobutadiene	N.D.	2.	ug/l
3929	4-Chloro-3-methylphenol	N.D.	1.	ug/l
3905	2-Methylnaphthalene	N.D.	1.	ug/l
3949	Hexachlorocyclopentadiene	N.D.	5.	ug/l
3930	2,4,6-Trichlorophenol	N.D.	2.	ug/l
3922	2,4,5-Trichlorophenol	N.D.	2.	ug/l
3950	2-Chloronaphthalene	N.D.	1.	ug/l
3907	2-Nitroaniline	N.D.	2.	ug/l
3952	Dimethylphthalate	N.D.	2.	ug/l
3951	Acenaphthylene	N.D.	1.	ug/l

==========

4679 TCL SW846 Semivolatiles/Waters

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

==========

3908	3-Nitroaniline	N.D.	2.	ug/l
3954	Acenaphthene	N.D.	1.	ug/l
3931	2,4-Dinitrophenol	N.D.	19.	ug/l

3932	4-Nitrophenol	N.D.	10.	ug/l

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581189 Account: 10160 DAIMLERCHRYSLER CORPORATION

3879	Dibenzofuran	N.D.		1.	ug/l
3955	2,4-Dinitrotoluene	N.D.		1.	ug/l
3953	2,6-Dinitrotoluene	2.	J	2.	ug/l
3958	Diethylphthalate	N.D.		2.	ug/l
3957	4-Chlorophenyl-phenylether	N.D.		1.	ug/l
3956	Fluorene	N.D.		1.	ug/l
3909	4-Nitroaniline	N.D.		2.	ug/l
3933	4,6-Dinitro-2-methylphenol	N.D.		5.	ug/l
3960	N-Nitrosodiphenylamine	N.D.		1.	ug/l

N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine.
The result reported for N-nitrosodiphenylamine represents the combined
total of both compounds.
==========

3961	4-Bromophenyl-phenylether	N.D.		2.	ug/l
3962	Hexachlorobenzene	N.D.		2.	ug/l
3934	Pentachlorophenol	N.D.		3.	ug/l
3963	Phenanthrene	N.D.		1.	ug/l
3964	Anthracene	N.D.		1.	ug/l
6684	Carbazole	N.D.		2.	ug/l
3965	Di-n-butylphthalate	3.	J	2.	ug/l
3966	Fluoranthene	N.D.		1.	ug/l
3967	Pyrene	3.	J	1.	ug/l
3969	Butylbenzylphthalate	220.		4.	ug/l
3972	3,3'-Dichlorobenzidine	N.D.		3.	ug/l
3970	Benzo(a)anthracene	N.D.		1.	ug/l
3973	bis(2-Ethylhexyl)phthalate	39.		2.	ug/l
3971	Chrysene	N.D.		1.	ug/l
3974	Di-n-octylphthalate	N.D.		2.	ug/l
3975	Benzo(b)fluoranthene	N.D.		1.	ug/l
3976	Benzo(k)fluoranthene	N.D.		1.	ug/l
3977	Benzo(a)pyrene	N.D.		1.	ug/l
3978	Indeno(1,2,3-cd)pyrene	N.D.		1.	ug/l
3979	Dibenz(a,h)anthracene	N.D.		1.	ug/l
3980	Benzo(g,h,i)perylene	N.D.		1.	ug/l

==========

6291 TCL by 8260 (Water)
Sufficient sample volume was not available to perform a MSD for this
analysis. However, a MS was performed. In addition, a LCS/LCSD was
performed to demonstrate precision and accuracy at a batch level.
==========

5385	Chloromethane	N.D.	2.	ug/l
5387	Bromomethane	N.D.	2.	ug/l
5386	Vinyl Chloride	N.D.	1.	ug/l
5388	Chloroethane	N.D.	2.	ug/l
5391	Methylene Chloride	N.D.	2.	ug/l
6302	Acetone	54.	6.	ug/l

6303	Carbon Disulfide	N.D.	1.	ug/l

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581189 Account: 10160 DAIMLERCHRYSLER CORPORATION

5390	1,1-Dichloroethene	N.D.		1.	ug/l
5393	1,1-Dichloroethane	N.D.		1.	ug/l
5396	Chloroform	2.	J	1.	ug/l ✓
5402	1,2-Dichloroethane	N.D.		1.	ug/l
6305	2-Butanone	25.		3.	ug/l ✓
5398	1,1,1-Trichloroethane	N.D.		1.	ug/l
5399	Carbon Tetrachloride	N.D.		1.	ug/l
5406	Bromodichloromethane	N.D.		1.	ug/l
5421	1,1,2,2-Tetrachloroethane	N.D.		1.	ug/l
5404	1,2-Dichloropropane	N.D.		1.	ug/l
6306	trans-1,3-Dichloropropene	N.D.		1.	ug/l
5403	Trichloroethene	N.D.		1.	ug/l
5411	Dibromochloromethane	N.D.		1.	ug/l
5408	1,1,2-Trichloroethane	N.D.		1.	ug/l
5401	Benzene	N.D.		1.	ug/l
6307	cis-1,3-Dichloropropene	N.D.		1.	ug/l
5419	Bromoform	N.D.		1.	ug/l
6308	4-Methyl-2-pentanone	N.D.		3.	ug/l
6309	2-Hexanone	N.D.		3.	ug/l
5409	Tetrachloroethene	N.D.		1.	ug/l
5407	Toluene	1.	J	1.	ug/l ✓
5413	Chlorobenzene	N.D.		1.	ug/l
5415	Ethylbenzene	N.D.		1.	ug/l
5418	Styrene	2.	J	1.	ug/l ✓
6310	Xylene (Total)	N.D.		1.	ug/l
5392	trans-1,2-Dichloroethene	N.D.		1.	ug/l
5395	cis-1,2-Dichloroethene	N.D.		1.	ug/l

==========

7046	Barium TR	1.72	0.00042	mg/l ✓
7053	Copper TR	0.449	0.0024	mg/l ✓
7055	Lead TR	13.5	0.0088	mg/l ✓
7066	Silver TR	0.0231	0.0013	mg/l ✓
7072	Zinc TR	4.25	0.0032	mg/l ✓

Sample Number: WW3581190 Account: 10160 DAIMLERCHRYSLER CORPORATION
Date Submitted: 03/31/01 Date Reported: NOT REP
Date Collected:

Trip Blank Water Sample
Site Code: SC001 RFA# YGQP2001212
Dayton Thermal, Sewer Cleanout, Bldg 50

	ANALYSIS NAME	RESULT	METHOD DETECTION LIMIT	UNITS
6291	TCL by 8260 (water)			

ufficient sample volume was not available to perform a MSD for this

***** Lancaster Laboratories Analytical Report *****
2425 New Holland Pike, Lancaster, PA 17601

Sample Number: WW3581190 Account: 10160 DAIMLERCHRYSLER CORPORATION

analysis. However, a MS was performed. In addition, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

==========

5385	Chloromethane	N.D.	2.	ug/l
5387	Bromomethane	N.D.	2.	ug/l
5386	Vinyl Chloride	N.D.	1.	ug/l
5388	Chloroethane	N.D.	2.	ug/l
5391	Methylene Chloride	N.D.	2.	ug/l
6302	Acetone	N.D.	6.	ug/l
6303	Carbon Disulfide	N.D.	1.	ug/l
5390	1,1-Dichloroethene	N.D.	1.	ug/l
5393	1,1-Dichloroethane	N.D.	1.	ug/l
5396	Chloroform	N.D.	1.	ug/l
5402	1,2-Dichloroethane	N.D.	1.	ug/l
6305	2-Butanone	N.D.	3.	ug/l
5398	1,1,1-Trichloroethane	N.D.	1.	ug/l
5399	Carbon Tetrachloride	N.D.	1.	ug/l
5406	Bromodichloromethane	N.D.	1.	ug/l
5421	1,1,2,2-Tetrachloroethane	N.D.	1.	ug/l
5404	1,2-Dichloropropane	N.D.	1.	ug/l
6306	trans-1,3-Dichloropropene	N.D.	1	ug/l
5403	Trichloroethene	N.D.	1.	ug/l
5411	Dibromochloromethane	N.D.	1.	ug/l
5408	1,1,2-Trichloroethane	N.D.	1.	ug/l
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5419	Bromoform	N.D.	1.	ug/l
6308	4-Methyl-2-pentanone	N.D.	3.	ug/l
6309	2-Hexanone	N.D.	3.	ug/l
5409	Tetrachloroethene	N.D.	1.	ug/l
5407	Toluene	N.D.	1.	ug/l
5413	Chlorobenzene	N.D.	1.	ug/l
5415	Ethylbenzene	N.D.	1.	ug/l
5418	Styrene	N.D.	1.	ug/l
6310	Xylene (Total)	N.D.	1.	ug/l
5392	trans-1,2-Dichloroethene	N.D.	1.	ug/l
5395	cis-1,2-Dichloroethene	N.D.	1.	ug/l

==========

State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

FACSIMILE

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

Date: 5/27/98

Sent To: Gary Starsik ?

Company Name:

Facsimile Number Receiving Info: 248-576-7369

From: Jenifer Kuzenewski **Ext:**

Facsimile Number Sending Info: (614) 728-1791

Number of Pages Including Cover Page: 2

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Receiver: IF YOU DO NOT RECEIVE THE NUMBER OF PAGES SPECIFIED ABOVE OR RECEIVE A POOR COPY, PLEASE NOTIFY US.

Note to Receiver:

George V. Voinovich, Governor
Nancy P. Hollister, Lt. Governor
Donald R. Schregardus, Director

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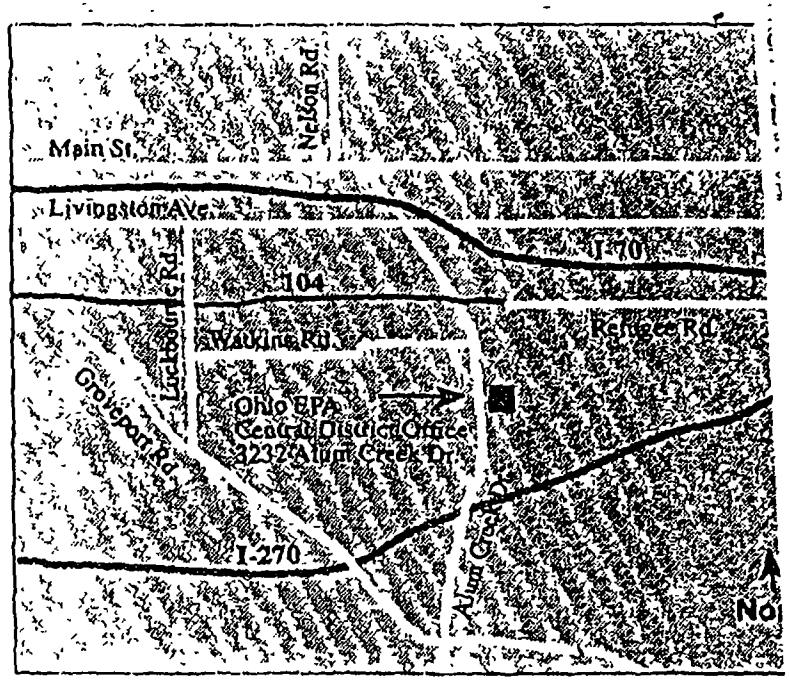
248-576-7369

CDO is Moving

The Ohio EPA's Central District Office will be moving October 15, 1994

Our new street address will be:
3232 Alum Creek Drive
Columbus, Ohio 43207-3417
(614) 728-3778, Fax # (614) 728-3898

Our new mailing address will be:
P.O. Box 163669
Columbus, Ohio 43216-3669



After Oct. 15, please use our new phone and Fax number's to contact us.

— Bruce Coleman, District Chief

Instructions for Tomorrow's Meeting at OEPA-Central District Office

Gay Stansik

23 South to 270 E to

71 S to 70 E

Exit at Alum Creek - Go South

See Map at Top

MAY 27 '98 13:05 614 728 1791 PAGE.02

Bloomfield Hills Kalamazoo Lansing Peoria

Howard & Howard

law for business

Direct dial 248 723.0344 Gary A Peters email: GPeters@howardandhoward.com

June 29, 2000

VIA FACSIMILE
(937) 333-1826
Ms. Sharon Vaughn
City of Dayton
Division of Wastewater Treatment
2800 Guthrie Road
Dayton, OH 45418

DAIMLERCHRYSLER DOCUMENT CONTROL NO.
SC001 07042000 002

Dear Sharon:

Pursuant to our prior telephone conversation, DaimlerChrysler's Dayton Thermal Plant will be installing a high temperature catalytic oxidizer and water scrubber at its facility to process air from a soil vapor recovery system I have attached a DaimlerChrysler Interoffice Memorandum regarding the operation of the system. As you will note from your review of the attached, DaimlerChrysler is proposing to re-use approximately 100 gallons of water from this system per day. Dayton Thermal then proposes to treat the water with its other process water and ultimately discharge it to the City of Dayton's POTW.

This letter requests that the City approved the re-use of this water for treatment and ultimate discharge to the POTW. You will note from an analysis of the levels of detectable compounds that no concern should arise by re-use of this approximately 100 gallons per day.

If you have any questions concerning the foregoing or the attached, please do not hesitate to contact me. Please let us know if you need any additional information in order to process our request.

Thank you in advance for your consideration of this matter.

Sincerely,

Howard & Howard Attorneys, P.C.

GARY A. PETERS

GAP/ad
Enclosure
cc: Gary Stanczuk, CTC (via fax (248) 576-7369)
G:\C\Chrysler\GENERAL\Daimler\COR\vaughn62900.doc

The Pinehurst Office Center Suite 101, 39400 Woodward Avenue, Bloomfield Hills, MI 48304-5151
248 645.1483 Fax 248 645 1568 www.h2law.com

INTEROFFICE MEMORANDUM

TO: Gary Stanczuk
CC: Ken Vogel
FROM: Kristin Yahnke
DATE: June 15, 2000
SUBJECT: Dayton – Scrubber

A high temperature catalytic oxidizer and water scrubber will be installed at the Dayton Thermal Plant to process air from a soil vapor recovery system. The air contains volatile organic compounds (VOC) that consist of chlorinated hydrocarbons The air is processed through the catalytic oxidizer where 95% or greater destruction of the VOCs occurs. During the destruction of the VOCs, hydrochloric acid (HCl), water vapor, and carbon dioxide are produced. These constituents then enter the scrubber unit where the HCl is removed by the packed tower and is neutralized by a sodium hydroxide solution (NaOH).

The scrubbing process is a closed loop system, where water is re-circulated. During the scrubbing process, a portion of the water is evaporated and periodically make-up water from the Dayton Public Water Supply is added to maintain the appropriate water level in the scrubber. A 25 percent NaOH solution is added to the water for neutralization purposes. The addition of the NaOH is controlled by the water's pH and is set to operate at a pH of 7.1. Specific conductivity is also monitored and controls when system blow down occurs. When the specific conductivity reaches 18 microSiemens per centimeter (S/cm), a transfer pump is activated and water from the system is routed to Dayton Thermal Products (DTP) plant processes for re-use at a rate of approximately 100 gallons per day.

The resultant water from the blow down process was sampled for VOCs and alkalinity on January 14, 2000 and the following table summarizes the levels of the detected compounds.

NOTE: When the scrubber water was sampled, the catalytic oxidizer was not operating per the specified efficiency, resulting in concentrations of trichloroethene and tetrachloroethene higher than expected. The catalytic oxidizer is being retrofitted to eliminate this situation.

Alkalinity to pH 8.3	932 mg/L
Alkalinity to pH 4.5	8840 mg/L
Trichloroethene	0.002mg/L
Tetrachloroethene	0.005 mg/L
Chloroform	0.001 mg/L
2-Butanone	0.008 mg/L

The sum of the total organic toxics is 0.016 mg/L, which is below the final discharge limits for the combined waste stream from the DTP pre-treatment plant for total organic toxics (2.04 mg/L). In addition, detection of chloroform and 2-butanone are probably laboratory artifacts as these compounds are not detected in the air stream entering the catalytic oxidizer/scrubber system. Therefore the actual sum for total organic toxics is 0.007 mg/L. A total of approximately 100 gallons of water per day will be re-used by DTP. The scrubber water is anticipated to have a pH of approximately 7.1 and a specific conductivity of approximately 18 S/cm.

Howard & Howard

law for business

FACSIMILE TRANSMITTAL SHEET

This communication is confidential and intended only for the addressee. Any distribution or duplication of this communication is prohibited. If this facsimile was not intended for you, please telephone us immediately so that we can arrange for its return at our expense.

TO: Gary Stanczuk	FROM Gary A. Peters
COMPANY CTC	DATE: 06/29/00
FAX NUMBER (248) 576-7369	TOTAL NO. OF PAGES INCLUDING COVER. 4
	SENDER'S TELEPHONE NUMBER (248) 645-1483
CLIENT NUMBER Firm (248) 645-1568	

RE: DaimlerChrysler Dayton Thermal Plant

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

HOWARD & HOWARD ATTORNEYS, P.C.
THE PINEHURST OFFICE CENTER, SUITE 101
39400 WOODWARD AVENUE
BLOOMFIELD HILLS, MICHIGAN 48304-5151

Inter Company Correspondence

		Telephone	Date	
		776-7362	5-29-98	
To--Name & Department				CIMS Number
C. Falk	Belvidere Assembly Plant	Fax 851- 2269		610-00-00
From--Name & Department				CIMS Number
G.M. Rose	Pollution Prevention and Remediation			482-00-41

Subject **Equipment Shipping**
Belvidere Assembly Plant

Please allow a representative from Leggette, Brashears & Graham to remove our equipment associated with the former OBG BioRemediation Cell. This equipment will be utilized at our Dayton Thermal Plant. All equipment is staged on your site. It is mounted on a skid and includes a blower and the controls.

Thanks for your help. LBG would like to remove the equipment next week.

ANY QUESTIONS - GIVE ME A CALL!

c: R.L. Godare
G.M. Stanczuk
Ken Vogel, LBG

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, OH 45402-2911

TELE: (937) 285-6357 FAX. (937) 285-6249

George V Voinovich, Governor
Nancy P Hollister, Lt Governor
Donald R Schregardus, Director

January 19, 1999

RE: CHRYSLER DAYTON THERMAL PRODUCTS PLANT
1600 Webster Street
Dayton, Ohio
Request for Technical Assistance

Michael J. Curry
Remediation Program Manager
Daimler Chrysler Corp.
800 Chrysler Drive CIMS 482-00-51
Auburn Hills, MI 48326-2757

Dear Mr. Curry:

Ohio EPA has received your letter dated December 18, 1998 requesting technical assistance for the voluntary action being conducted at the Chrysler Dayton Thermal Products Plant property Ohio EPA subsequently followed-up with a phone call to you on January 6, 1999 Based on our discussion and the information you have provided, you are requesting Ohio EPA technical assistance for the following·

- Review of the ground water remediation planned at the property;
- Assistance with community relations;
- Review of various information regarding VAP activities as it becomes available.

Additionally, a meeting has been scheduled for January 28, 1999 at Ohio EPA's Southwest District Office to acquaint the Agencies staff with information you have regarding the Chrysler property. Ohio EPA understands, from our January 6, 1999 conversation, that the Agency will not be providing a written estimate for the cost of technical assistance at this time As the scope of the technical assistance becomes more clear, Ohio EPA will provide an estimate upon your further request.

If you have any questions, please call Dawn M. Dyer at (937) 285-6040

Sincerely,

Dawn M. Dyer
Site Coordinator
Division of Emergency and Remedial Response

cc. Amy Yersavich, VAP, DERR-CO
Mark Sheahan, VAP, DERR-CO
John Paquelet , VAP, DERR-CO
Gerri Cauley, DERR, VAP-CO

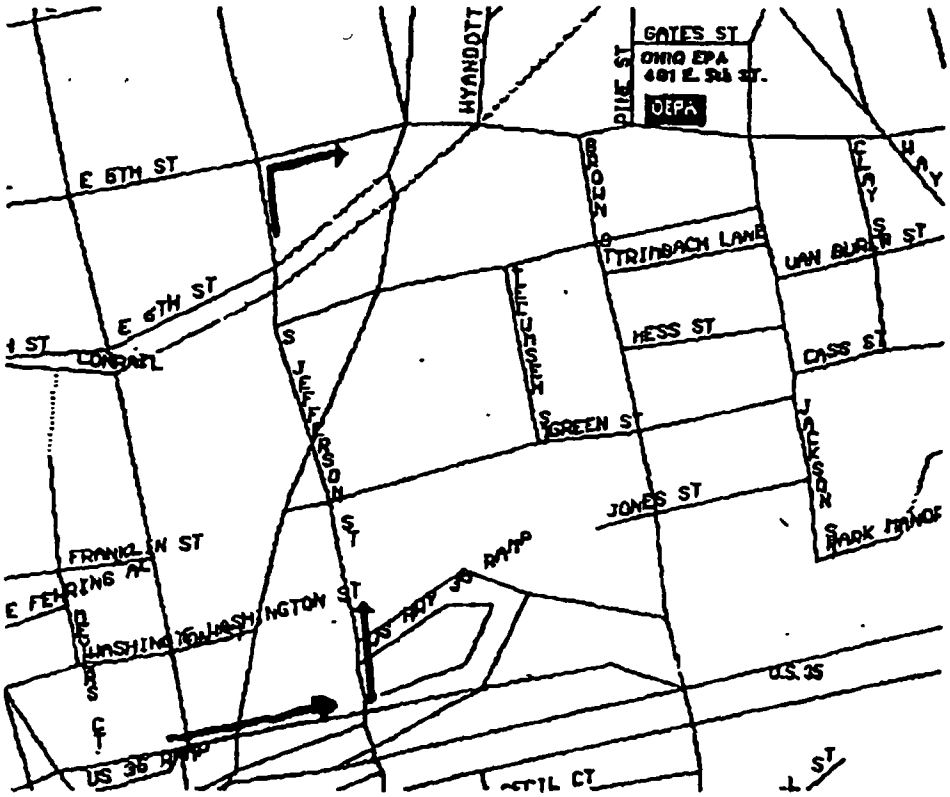
DIRECTIONS TO NEW OHIO EPA OFFICES FROM COLUMBUS

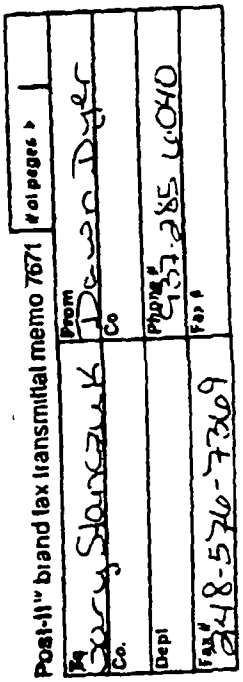
Rt. 70 West to Rt. 675 South.

Follow 675 to U.S. 35 West.

Off of Rt. 35, take the Main St./Jefferson St. Exit

Follow Jefferson Street to Fifth Street and turn right. We are three blocks down on the left.





DIRECTIONSFROM CINCINNATI

TAKE 75 NORTH TO RT. 35 EAST.

GET INTO THE LEFT LANE AND TAKE THE MAIN/JEFFERSON STREETS EXIT.

BEAR TO THE RIGHT AND FOLLOW JEFFERSON STREET.

GET IN THE RIGHT LANE AND TURN RIGHT ONTO FIFTH STREET.

WE ARE THREE BLOCKS DOWN ON THE LEFT. PARKING IS ACROSS PINE STREET, FACING OUR BUILDING. SPACES ARE MARKED VISITORS.

800-582-7295 Anderson publishing co. - www.legalpubs.com - ardpubmail@aol.com (email)

OEPA Mtg. - Dayton Thermal Products 5/28/98
Columbus, OH

2 volumes regs.
1 vol. statutes
order 3 sets

Ken Vogel Lynn Buhl Jennifer Kwasniewski
Greg Rose Gary Stanczuk Dawn Dyer

Valley Crest - Superfund site - drum removal ≈ 1 mile east of site landfill. Large # of PRP's, including General Motors

- Dawn will send VAP Technical Assistance package

OEPA - willing to attend mtgs., offer technical assistance, etc.

Urban setting designation - must work w/ city for parcel ID, water, utilities, etc. Benefit = not consider potable use exposure pathway + MCLs need not be met within 1/2 mile from property boundary

Donna Winchester 937-443-3798
Jim Schumacher 443-3727

Vandyne Crawdy - another site → ~~Valley Crest~~

Joe Smyndak - } OEPA in Dayton → speak w/ them re: urban sites
Mark Allen - } 937-285-6357

888-572-5005

Dayton Port Authority - has brownfields authority

City of Dayton contacts - Dawn has contact names { Jim Schumacher, Dusty Hall 937-443-3600

Montgomery County also involved for Urban setting designation Donna Cobb 443-

Jane Forest - Dayton Citizen Action Group - (Jennifer K. has list)

Dayton City

75

Merge Rt 4
lt lane
1st St Exit lt
Jeff - light - Wilcarson - Lt

Lt Monument 320

Rt Port Perry

Pay Parking on Rt.

To:	Gary Stanczuk	Fax:	614-228-0297
From:	Greg Rose	Date:	05/27/98
Re:	OEPA directions	Pages:	2
CC:			

X Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycl

Please deliver the attached document to the guest noted above. Mr. Stanczuk is scheduled to arrive [illegible]

Greg

CONFIDENTIAL

DIRECTIONS
To The Doubletree Guest Suites
50 South Front Street
Columbus, Ohio 43215
614-228-4600 Phone
614-228-0297 Fax

Cleveland:
I-71 South to Broad Street Exit. Turn right (west) on Broad Street. Take Broad Street (5) blocks to Third Street. Turn left (south) onto Third Street (Third Street is one way) and continue to the next traffic light. Turn right (west) onto State Street and take State Street for (2) blocks to Front Street. Turn right (north) onto Front Street. Take Front Street (Front Street is one way) 1/2 block to Doubletree Guest Suites, which will be on the right side of the street.

Cincinnati:
I-71 North which will join with I-71 & I-70. Continue on I-70 East to the Front Street Exit (right side of freeway). Turn left (north) onto Front Street and proceed (5 1/2) blocks to Doubletree Guest Suites, which will be on the right side of the street.

Dayton:
I-70 East to the Front Street Exit. Turn left (north) onto Front Street and proceed (5 1/2) blocks to Doubletree Guest Suites, which will be on the right side of the street.

Detroit:
Take I-75 South to R-23 South. Proceed on R-23 South to I-270 East. Take I-270 East to the next exit I-71 South. Continue on I-71 South to the Broad Street Exit. Turn right (west) on Broad Street. Take Broad Street (5) blocks to Third Street. Turn left (south) onto Third Street (Third Street is one way) and continue to the next traffic light. Turn right (west) onto State Street and take State Street for (2) blocks to Front Street. Turn right (north) onto Front Street. Take Front Street (Front Street is one way) 1/2 block to Doubletree Guest Suites, which will be on the right side of the street.

Chicago:
I-70 East to the Front Street Exit. Turn left (north) onto Front Street and proceed (5 1/2) blocks to Doubletree Guest Suites, which will be on the right side of the street.

West Virginia:
I-70 West to the Fourth Street Exit. Take Fourth Street (Fourth Street is one way) to State Street. Turn left onto State Street (west) and take State Street for (3) blocks to Front Street. Turn right (north) onto Front Street. Take Front Street (Front Street is one way) 1/2 block to Doubletree Guest Suites, which will be on the right side of the street.

Pennsylvania:
I-70 West to the Fourth Street Exit. Take Fourth Street (Fourth Street is one way) to State Street. Turn left onto State Street (west) and take State Street for (3) blocks to Front Street. Turn right (north) onto Front Street. Take Front Street (Front Street is one way) 1/2 block to Doubletree Guest Suites, which will be on the right side of the street.

DOUBLETREE GUEST SUITES

50 South Front Street
Columbus, Ohio 43215
Telephone: (614) 228-4600
Fax: (614) 228-0297

TO: Gary Stanczuk

FROM: Resv/Babs

RE:
Confirmation 180357

FAX #: 248-576-7369 PHONE #:

NUMBER OF PAGES INCLUDING COVER PAGE: 1

COMMENTS: Dear Mr Stanczuk:

This is to confirm that our hotel is holding a reservation for you arriving on 5-27-98 and departing on 5-28-98. Your rate is $145.00 a night plus tax. This reservation is/is not guarenteed for late arrival. The cancellation policy of the hotel is by 4 p.m. on the day of arrival.

Your confirmation number is 180357

If you need any further assistance, please do not hesitate to call. Thank you for choosing the Columbus DoubleTree Guest Suites.

DOUBLETREE
GUEST SUITES
COLUMBUS

50 SOUTH FRONT STREET
COLUMBUS, OH 43215-4145
614 228-4600
FAX 614 228-0297

DIRECTIONS FROM PORT COLUMBUS

TAKE INTERNATIONAL GATEWAY TO 670 WEST

PROCEED FIVE MILES TO THE THIRD STREET EXIT

STAY IN THE RIGHT LANE ON THIRD STREET.

MAKE A RIGHT TURN ONTO STATE STREET

PROCEED ON STATE STREET UNTIL IT DEADENDS INTO FRONT STREET.

MAKE A RIGHT TURN ONTO FRONT STREET

THE HOTEL IS 1/2 BLOCK UP ON FRONT STREET ON THE RIGHT HAND SIDE.

DIRECTIONS TO PORT COLUMBUS

MAKE A LEFT TURN OUT OF THE PARKING GARAGE ONTO CAPITAL ALLEY.

MAKE A RIGHT TURN ONTO FRONT STREET

MAKE A RIGHT TURN ONTO LONG STREET

PROCEED UNTIL FOURTH STREET, AND TURN LEFT ONTO FOURTH.

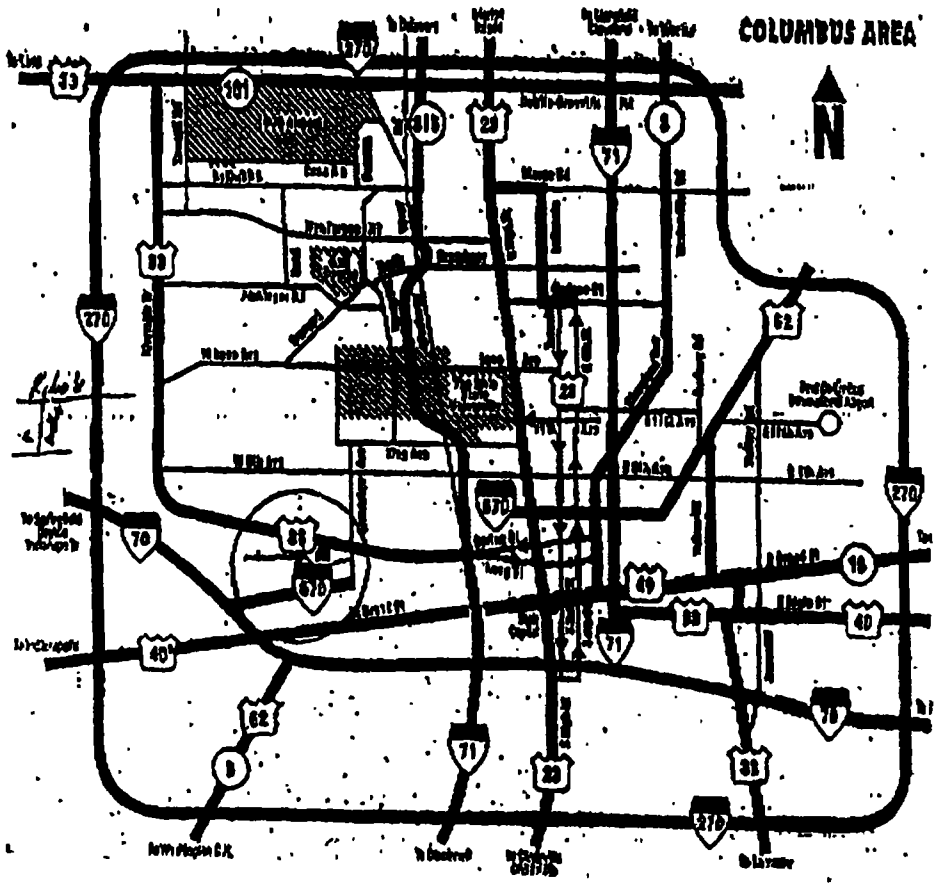
STAY IN THE RIGHT LANE ON FOURTH FOR ABOUT ONE MILE

TAKE 670 EAST, PROCEED FOR FIVE MILES TO THE STELTZER/AIRPORT EXIT

REMAIN IN THE LEFT LANE ON THE EXIT

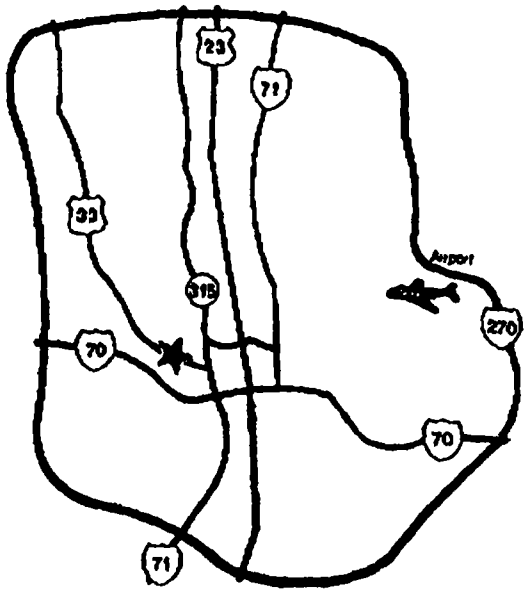
PROCEED 2 5 MILES ON INTERNATIONAL GATEWAY UNTIL ARRIVAL AT AIRPORT.

DERR - OEPA
1800 Watermark Dr.



Post-it® Fax Note 7671	Date 5/27/98	# of pages ▶
To Greg Rose	From Jackie Kwasniewski	
Co./Dept. Chrysler	Co. DERR - OEPA	
Phone # (248) 576-7369	Phone # (614) 644-2279	
Fax #	Fax # (614) 644-3146	

Location Map



Directions

From the North:
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From 70 West exit at Grandview Avenue. At the end of the ramp turn right on Grandview Avenue.

DAIMLERCHRYSLER

DaimlerChrysler Corporation

October 26, 2001

Ms Amy Yersavich
Ohio EPA
Voluntary Action Program
122 South Front Street
Columbus, OH 43215-1049

Dear Ms Yersavich

DaimlerChrysler is requesting technical assistance under the Ohio EPA *Voluntary Action Program for our Dayton Thermal Plant In the past we have* been working with John Paquelet who has reviewed our data and was able to support us at two public meetings

We would like to schedule a meeting with our new VAP representative in the afternoon of November 14, 2001 to discuss our sample results and to seek OEPA support at an upcoming public meeting The next public meeting will likely be held after Thanksgiving and will inform the residents of the recent data and present the need to install additional monitoring wells within the community

We appreciate your continued support Please contact myself at 248-576-7354 or Gary Stanczuk at 248-576-7365 with questions regarding our Dayton Plant

Sincerely,

Michael Curry

DaimlerChrysler Corporation
800 Chrysler Drive CIMS 482-00 51
Auburn Hills MI USA 48326 2757

UPS Next Day Air
UPS Worldwide Express
Shipping Document

See instructions on back. Call 1-800-PICK-UPS (800-742-5877) for additional information

TRACKING NUMBER 1Z F55 V82 22 1266 9744

1 SHIPMENT FROM
SHIPPER'S ACCOUNT NO UPS ACCOUNT NO F 5 5 V 8 2
REFERENCE NUMBER

NAME Gary Stanczuk TELEPHONE 248-000-0000
COMPANY DAIMLERCHRYSLER
STREET ADDRESS 800 CHRYSLER DR
CITY AND STATE AUBURN HILLS MI ZIP CODE 48326

2 EXTREMELY URGENT DELIVERY TO
NAME Amy Yersavich TELEPHONE
COMPANY OEPA VAP Bldg 1049
STREET ADDRESS 122 South Front St DEPT/FLR
CITY AND STATE (INCLUDE COUNTY IF INTERNATIONAL) Columbus, OH ZIP CODE 43215

3 WEIGHT ENTER STATE OF LETTER DIMENSIONAL WEIGHT (Optional)

4 TYPE OF SERVICE LTR
☒ NEXT DAY AIR ☐ EXPRESS (INTL)
FOR WORLDWIDE EXPRESS SHIPMENTS
☐ DOCUMENTS ONLY

5 OPTIONAL SERVICES
☐ SATURDAY PICKUP ☐ SATURDAY DELIVERY
☐ INSURED VALUE AMOUNT $
☐ C.O.D. AMOUNT $

6 ADDITIONAL HANDLING CHARGE $

7 TOTAL CHARGES $

METHOD OF PAYMENT
☐ Bill Shipper ☐ Bill Third Party ☐ Bill Receiver ☐ Credit Card ☐ Check
American Express MasterCard Visa

8 RECEIVER'S / THIRD PARTY'S UPS ACCT NO OR MAJOR CREDIT CARD NO. EXPIRATION DATE
THIRD PARTY'S COMPANY NAME
STREET ADDRESS
CITY AND STATE ZIP CODE

9 SHIPPER'S SIGNATURE 10-26-01 DATE OF SHIPMENT

0101011202809 6/00 M

SHIPPER'S COPY

Memorandum

Date:
To: Volunteers and Certified Professionals Interested in Obtaining VAP Technical Assistance
From: Jenifer Kwasniewski, Manager, Voluntary Action Program
Re: Technical Assistance Information

When the Voluntary Action Program (VAP) was implemented with the passage of House Bill 221 in 1994, the intent was to operate a risk-based cleanup program that, by virtue of being privatized, would allow volunteers to more quickly assess, remediate and redevelop their properties by minimizing government oversight. In order to accomplish this ambitious task, detailed rules were developed to assist environmental professionals and laboratories certified by Ohio EPA in conducting environmental assessments, sampling plans, risk assessments and other activities required to adequately perform a voluntary action and determine that no further action is required at a property.

Although the VAP rules are technically comprehensive and provide VAP Certified Professionals with a good framework for conducting voluntary actions, many properties present unique challenges and technical difficulties that are not specifically addressed in our rules. Because of the privatized nature of the VAP, Ohio EPA is not required to review any documentation pertaining to a voluntary action until, at the completion of the assessment and cleanup, an NFA for the property is submitted to the Agency. In order to address the problem of volunteers and Certified Professionals who seek property-specific technical guidance from a largely privatized program, the VAP established a Technical Assistance Program. Because the VAP relies almost entirely on fees generated by the program, all technical assistance related to a voluntary action that is offered by Ohio EPA staff will be charged to the person requesting the technical assistance. The charge for technical assistance is based on the hourly rate of the OEPA staff member(s) providing the assistance plus fringe and overhead. **Please see the attached document "How to Estimate Average Cost of VAP Technical Assistance" for information about the average and maximum hourly rates as well as an explanation of how fringe and overhead are calculated.**

By virtue of receiving this packet, you have expressed an interest in receiving guidance from the OEPA technical or legal staff to address specific problematic issues your property poses The OEPA has on staff several competent legal and technical experts who have extensive knowledge of the rules governing the VAP. **To request VAP technical assistance please follow the format contained in the attached "Example Letter for Technical Assistance Request" and mail or fax the letter to:**

Gerri Cauley
Ohio EPA, Voluntary Action Program

BILLMEMO/WPDOC/BILLING

1800 WaterMark Drive
P.O. Box 1049
Columbus, OH 43216-1049

Fax #. 614-728-1791

Once your letter is received, you will be assigned a technical assistance reviewer(s). You should expect to receive a phone call from the lead technical assistance reviewer for your project soon after they are assigned to your project. The technical assistance reviewer will also provide you, in a follow-up correspondence after the phone conversation, an estimated cost for the project based upon who will be involved in reviewing the project and how much of each reviewer's time the project will likely require. If you are still interested in proceeding with the technical assistance project after you receive the cost estimate, you will be asked to provide confirmation in writing to the technical assistance reviewer. (Note: You will be asked, during the phone conversation, if you would like work on your technical assistance project to begin immediately or if you would prefer to wait until after you receive the cost estimate and provide written confirmation to the VAP.)

I thank you for your interest in pursuing technical assistance under the VAP. We have found that volunteers and Certified Professionals who have sought out and received technical assistance through our program have been very pleased with the results and are able to submit NFAs with fewer technical adequacy problems. If you have any questions about how VAP technical assistance works, please feel free to contact the Voluntary Action Program at 614-644-2924 or the following VAP contacts in our five Ohio EPA district offices:

District	VAP Contact	Phone Number
Central District Office	Kara Finneran	(614) 728-5039
Northeast District Office	Sue Netzly-Watkins	(330) 963-1201
Northwest District Office	Archie Lundsey	(419)373-3035
Southeast District Office	Mark Stello	(614)385-8501
Southwest District Office	Dawn Dyer	(937)285-6040

SAMPLE LETTER FOR TECHNICAL ASSISTANCE REQUEST

[Date]

Gerri Cauley
Ohio EPA
Voluntary Action Program
P O. Box 1049
Columbus, Ohio 43216-1049

Re: Request for Technical Assistance for **[name of project]** property located at 1800 Cauley Drive, Bexley, Ohio 6000

Dear Gerri

The purpose of this letter is to inform you of my request for VAP technical assistance to review **[name of project]** for the above mentioned property.

The specific assistance I am requesting is **[enter detailed description of technical requested from the VAP]**.

I am aware that I will be charged an hourly rate, plus fringe and overhead for the technical assistance. Please have the technical staff member assigned this project contact me at **[telephone no]** and follow-up with a written estimate on the cost for this assistance.

The invoice for technical assistance for your project no **[your reference or billing no.]** should be sent to the following address.

Mr. John Doe, President
Industrial Business of America
1800 Summit Rd
Cleveland, MI 68002

Sincerely,

John Doe
President

Attachments (2)

TECHLTR/WPDOC/BILLING

How to Estimate Average Cost of VAP Technical Assistance

Technical assistance rates vary depending on the salary of the staff member(s) performing the technical assistance and how much time the staff member(s) spends on the project. The following is a representation of how to calculate the current **average** cost for technical assistance from the VAP.

Technical assistance costs are calculated by using the actual hourly rate of the staff member performing the technical assistance (currently the average is $23.02) plus fringe (25% of hourly rate) plus overhead (54% of the sum of hourly rate plus fringe).

For example:

Hourly Rate = $23.02	=	$23.02
Fringe = $23.02 x .25	=	5.76
		$28.78
Overhead = $28.78 x .54	=	15.54
Total Tech. Asst. Cost	=	$44.32 per hour

Please note that this represents an *average* hourly cost for technical assistance performed by **one** technical reviewer. Based on the current salaries of all Ohio EPA district and central office technical assistance reviewers, the **maximum** hourly rate that could be charged for one technical reviewer is $56 15 and the **minimum** is $32.47 (rate includes fringe and overhead).*

After receiving a request for technical assistance, the VAP Central Office will forward the request to a technical reviewer in either the appropriate Ohio EPA district office or the central office VAP section Within five days of receiving the request, the VAP technical reviewer will contact the customer to introduce him or herself and answer any questions. A follow-up letter will be mailed to the customer shortly after the call with the estimated review time and associated costs for the technical assistance

**Based on salaries as of 12/22/97. Subject to Change.*

State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

FACSIMILE

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

Date: 5/27/98

Sent To: Gary Stanaitis ?

Company Name:

Facsimile Number Receiving Info: 248-576-7369

From: Jennifer Kwiatkowski **Ext:**

Facsimile Number Sending Info: (614) 728-1791

Number of Pages Including Cover Page: 2

Special Instructions: Disregard the previous fax.
If you have questions Call Gerri Cauley at 614-644-2287

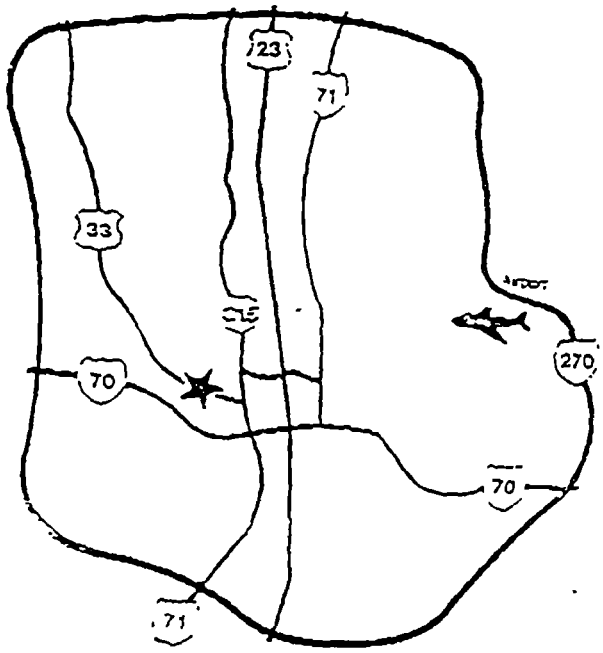
Receiver: IF YOU DO NOT RECEIVE THE NUMBER OF PAGES SPECIFIED ABOVE OR RECEIVE A POOR COPY, PLEASE NOTIFY US.

Note to Receiver:

George V. Voinovich, Governor
Nancy P. Hollister, Lt. Governor
Donald R. Schregardus, Director

Printed on Recycled Paper

Location Map



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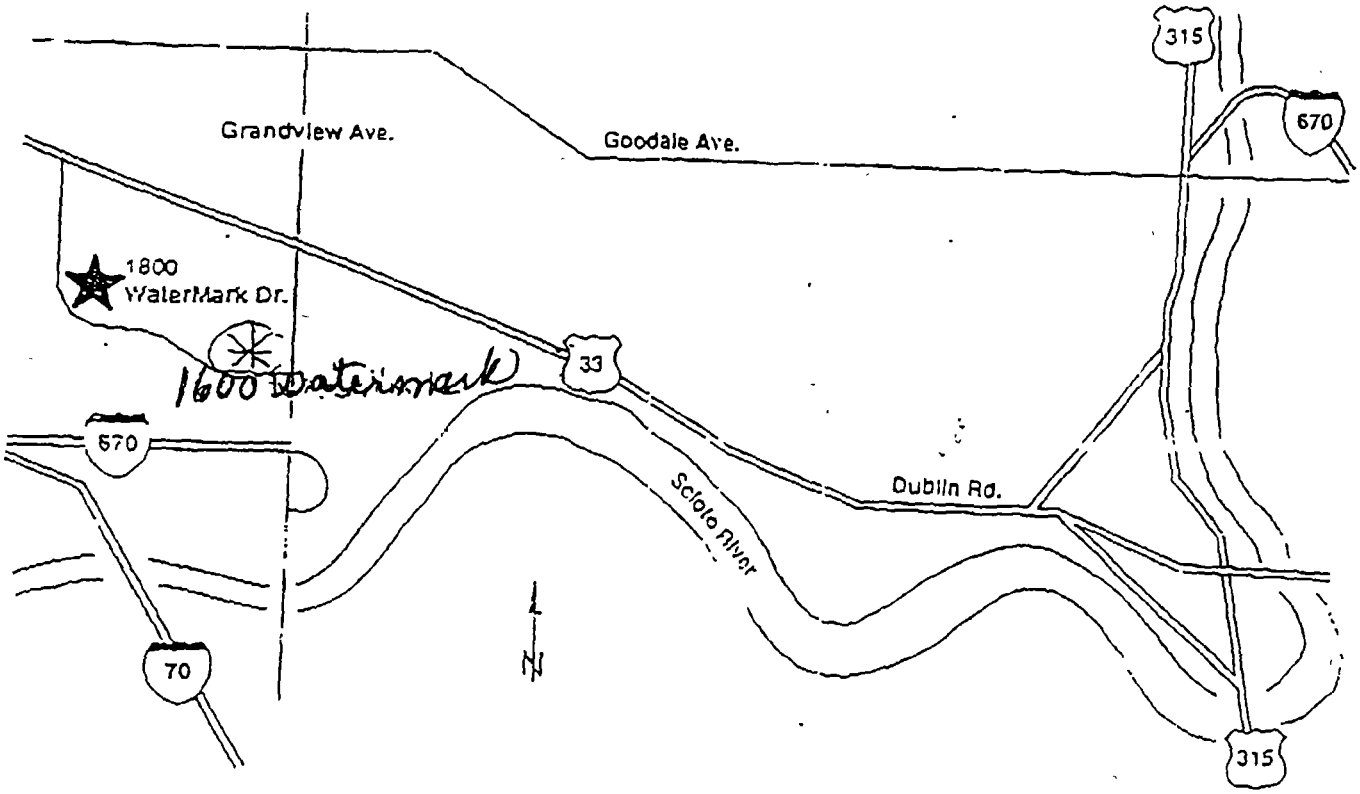

SDMS US EPA Region V

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MISCELLANEOUS OVERIZED MAPS

☐ **Other:**