93-e09

WASHINGTON STATE PESTICIDE MONITORING PROGRAM - RECONNAISSANCE SAMPLING OF SURFACE WATERS (1992)

by
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Water Body Numbers	Segment Numbers
WA-01-1115	01-01-04
WA-03-1010	02-03-06
WA-08-1020	04-08-02
WA-08-2100	04-08-02
WA-24-1010	11-24-04
WA-28-1010	26-13-99
WA-31-1010	26-14-99
WA-32-1010	15-32-02
WA-37-1048	18-37-02
WA-41-1010	19-41-01
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ABSTRACT

A reconnaissance survey was conducted to refine methods and identify sampling sites for the surface water portion of the Washington State Pesticide Monitoring Program. Water samples were collected from eleven freshwater sites representing urban, forest practices, and agricultural pesticide use. Samples were analyzed for 162 pesticides and breakdown products; including organochlorines, organophosphates, nitrogenous pesticides, pyrethroids, chlorinated herbicides, carbamates, volatile pesticides, urea pesticides, glyphosate, and diquat and paraquat.

Twenty-three target pesticides and nine non-target compounds were detected at ten of the eleven sites. Carbamates, volatile pesticides, urea pesticides, and diquat and paraquat were not detected in any of the samples. Results are compared to available water quality criteria and historical data. Findings from this survey will be used to design the final monitoring plan for pesticides in state surface waters.

INTRODUCTION

Surface water samples for the Washington State Pesticide Monitoring Program (WSPMP) were taken at eleven sites in ten counties in May and June of 1992 (Figure 1). Samples were analyzed for 162 pesticides and breakdown products. Timing for sample collection was chosen to coordinate with peak pesticides application and high probability of run-off.

This reconnaissance survey was designed primarily as a developmental tool for the final surface water monitoring plan that is scheduled to be completed in April of 1993 (Davis, 1992a). The sampling and analysis included in this reconnaissance survey was used to refine the target analyte list, analytical methods, and field sampling techniques. Objectives for the reconnaissance were as follows:

- Finalize logistics and mechanics of sampling methods and sample handling;
- Evaluate cleaning procedures and field decontamination techniques;
- Evaluate interferences in natural waters using spike recoveries;
- Work through analytical problems and optimize detection limits;
- Identify pesticide residues from a wide variety of surface water sources;
- Use results from above steps to design a final monitoring plan; and
- Include a summary of results in the 1993 State of the Environment Report.

Fish tissue and bed sediments were addressed in a separate reconnaissance sampling plan (Davis, 1992b). Samples were taken in September and October. Analytical results are expected in March and will be covered in a report targeted for completion in June of 1993.

Historical Information

In 1985, the Department of Social and Health Services reported that the pesticide ethylene dibromide (EDB) had been detected in drinking water wells in Skagit, Thurston, and Whatcom Counties. This prompted the Washington State legislature to direct the Department of Ecology to determine the extent of pesticide contamination in ground waters of the state. This project became known as the Washington State Agricultural Chemicals Pilot Study.

The ground water studies revealed numerous incidents of pesticide contamination in drinking water (Erickson and Norton, 1990; Erickson, 1992a; and Larson and Erickson, In Preparation). As these studies were limited to ground water, it was recognized that a more comprehensive monitoring program was needed. The WSPMP was initiated in 1991 to monitor both ground water and surface water, including associated biota (fish, shellfish, waterfowl, etc.) and bed sediments. The WSPMP is being developed and implemented by the Toxics, Compliance and Ground Water Investigations Section of Ecology's Environmental Investigations and Laboratory Services Program. The goal and objectives of the WSPMP are as follows:

Washington State Pesticide Monitoring Program

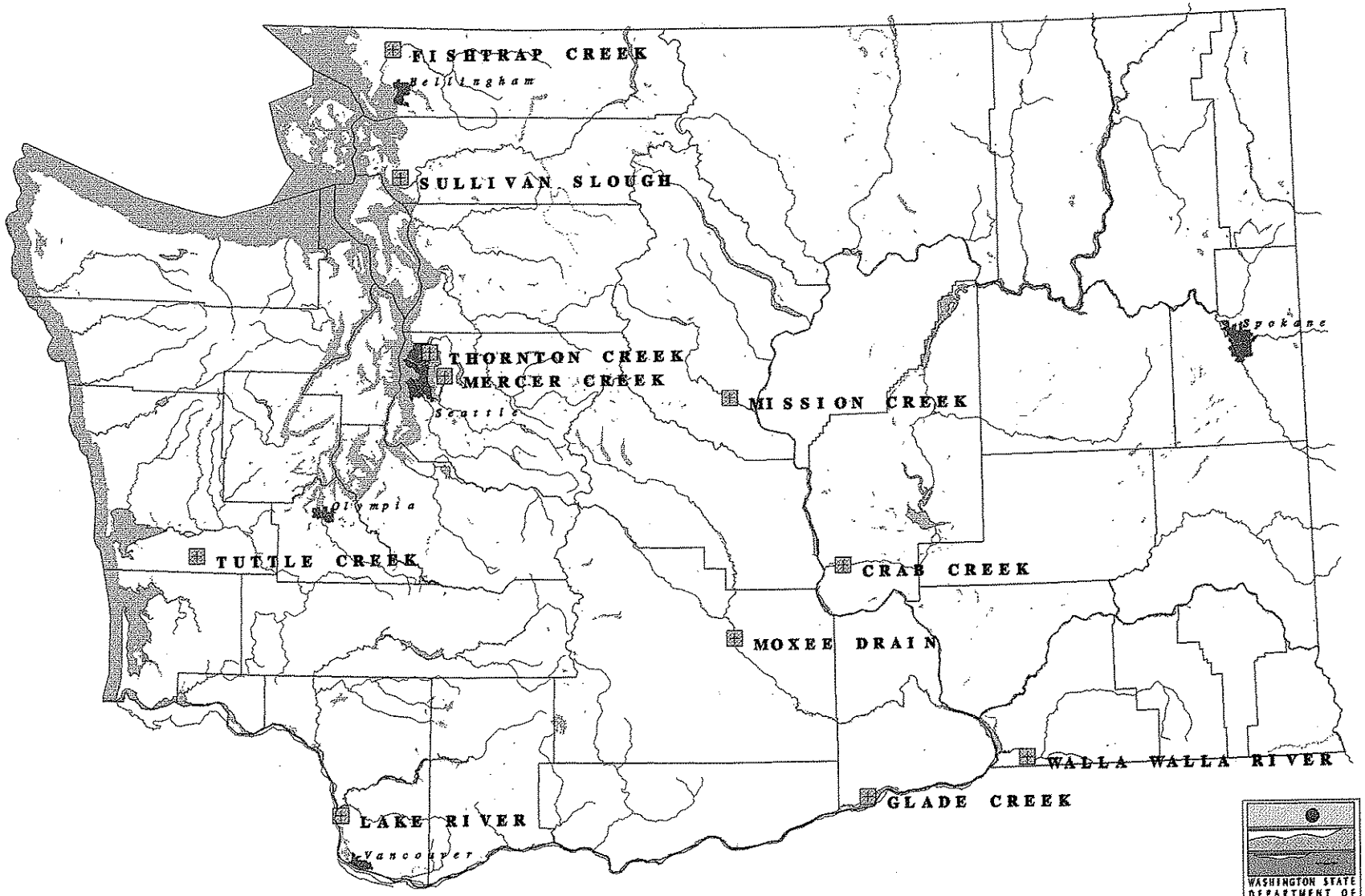

Figure 1 1992 Surface Water Reconnaissance Sampling Sites

Goal

To characterize pesticide residues geographically and over time in ground water and surface water (including sediments and biota) throughout Washington.

Objectives

- Identify and prioritize aquifers, lakes, and streams with known or potential pesticide contamination.
- Quantify pesticide concentrations in high priority areas.
- Document temporal trends in pesticide concentrations at selected sites.
- Provide data to the State Department of Health for assessment of potential adverse effects on human health.
- Assess the potential for adverse effects of pesticides on aquatic biota.
- Construct and maintain a pesticide database for ground water and surface water in Washington.
- Provide information for the improvement of pesticide management in Washington State.

The final surface water monitoring plan will be an implementation/quality assurance plan that will serve as a guide for sampling and analysis of surface water, sediments, and biota to fulfill the above stated goal and objectives. Ground water sampling and analysis will be implemented as a separate task.

METHODS

Sampling Sites

Sample Site Locations

Sampling locations are shown in Figure 1. Latitude, longitude, and state plane coordinates for each are listed in Appendix A. The sites are representative of four major pesticide uses: urban, forest practices, agriculture west of the Cascades and agriculture east of the Cascades. Urban use is represented by two samples; one in North Seattle (Thornton Creek) and one in Bellevue (Mercer Creek). Forest practices are represented by a single sample in Grays Harbor County (Tuttle Creek). Samples representing west-side agriculture were taken at three sites; one in Whatcom County (Fishtrap Creek) representing berry farms and dairy support crops, one in Skagit County (Sullivan Slough) representing a variety of row crops,

and one in Clark County (Lake River) representing a mixture of nearly all Washington agricultural crops and includes some urban and wood treating pesticide use. East side agriculture is further divided into dry-land crops (Glade Creek in Benton County), irrigated row crops (Crab Creek in Grant County), irrigated orchards and hop yards (Moxee Drain in Yakima County), orchards (Mission Creek in Chelan County), and a mixture of irrigated and dry-land crops (Walla Walla River in Walla Walla County).

Sample Site Selection

Background information for sample site selection in agricultural areas was obtained primarily through meetings with Conservation District representatives (usually Soil Conservation Service agents) in each county. From these meetings, information was obtained on types of crops, where they were grown, which pesticides were used, and possible sample sites. After each meeting, possible sample sites were inspected and evaluated.

Forestry practices sample sites were identified with the aid of personal communication with representatives from major timber companies (Parker, 1992; Davis, 1992; Montgomery, 1992), the Washington Toxics Coalition (Smith, 1992), and the Jefferson County Conservation District (Marston, 1992). Tuttle Creek was selected because it passed through or near areas that were sprayed with pesticides in the fall of 1991 and the spring of 1992.

Sample sites representing urban pesticide use were identified through conversations with representatives from Seattle and Bellevue storm and surface water offices (Seeburg, 1992; Renstrom, 1992). Sites were selected in urban areas where storm water runs off into streams rather than storm drains.

Water bodies were selected that drain areas where pesticides are used. Sample sites were chosen based primarily on the size of the drainage basin, as well as the number and quantity of pesticides used in that area (if known). Sites were selected that were expected to have a high number and quantity of pesticides. Most water bodies selected are small streams or irrigation return canals. Larger streams were generally not chosen because their drainage basins often include extensive areas where pesticides are not used. For this reason, pesticides of interest can be diluted below detection limits in these larger streams.

Some sites were located where pesticides had been detected in previous studies so the data could be compared. Sullivan Slough and Mercer Creek were sampled for pesticides by EPA in 1990 (PTI, 1991). Fishtrap Creek is near the area in Whatcom County where ethylene dibromide was detected in groundwater (Erickson and Norton, 1990). Moxee Drain in Yakima County has been sampled numerous times by the US Geological Survey, most recently in 1988-89 (Rinella, 1992), and by Ecology in 1985 (Johnson, *et al.*, 1986). Crab Creek in Grant County is currently being sampled for pesticides as a part of the Columbia Basin irrigation project irrigation drainage study by the Department of the Interior (Embry, 1992).

Pesticide Use at Sample Sites

There are currently over 8,000 pesticides registered for use in Washington State. Many of these may be used rarely. There is no functional system that can provide information on the amounts and locations of pesticide use throughout the state. This information is often available only from general surveys (e.g., Lucas, *et al.*, 1986; Freimark, 1985; Gianessi, 1991) or applicators. Information on pesticide use in the Puget Sound Basin has been summarized by Tetra Tech (1988), but nothing like this was located for other areas of Washington.

The lack of information on pesticide use makes it difficult to determine which pesticides actually have been used in an area of interest. Because of these uncertainties, samples from all sites were analyzed for a relatively broad range of pesticides. The development of this list of target compounds is discussed in a subsequent section. A more detailed explanation is contained in Appendix B.

Sampling Timing

The lack of pesticide use information extends to the timing of pesticide application. Specific application times are not known for most individual pesticides. In general, the majority of pesticide applications begin in April and continue through August, with peak applications occurring in June and July. Reconnaissance sampling took place in late May and early June to coordinate with peak pesticides application and high probability of run-off from spring rains.

Sampling Equipment and Procedures

Water Samplers

Samples were collected using USGS depth integrating samplers modified so that the water sample contacts only teflon or glass. Depth integrating samplers were used because they take a representative sample of solids suspended in the water column (and pesticides adsorbed to those suspended solids). These samplers are used widely in fresh water pesticide studies by the USGS, California EPA, and Illinois EPA (Embry, 1992; Rasmussen and Blethrow, 1991; Illinois EPA, 1987). The specific type of sampler used depended on sampling conditions. For water that was wadeable or accessible from a low bridge, a DH-81 adapter with a D-77 cap and a wading rod was used for depths up to 4 feet and velocity up to 4 ft/sec. A hand-held sample bottle was used in water less than 1 foot deep. A DH-76 hand line sampler was used from high bridges or in water up to 16 feet deep and with velocities up to 4 ft/sec (Water Resources Council, 1986).

Sampling Procedures

Procedures essentially followed those outlined in the Illinois EPA (1987) field methods manual. Samples were taken by slowly lowering the sampler to the bottom and immediately raising the sampler at the same rate. The sampler was not filled completely, because overfilling causes excess suspended sediment to be collected. The sampler nozzle is located in a position that prevents collection of sediment suspended by the sampler hitting the bottom. Samples were taken at three points (quarter point transect) across each stream. Each sample was hand split into the sample containers (except the volatile organics analysis (VOA) vials, which were filled directly from the water body), filling each container one-third full from each quarter point.

A water sample for all pesticide groups required a volume of nearly four gallons, divided into five containers. The samplers hold a one quart jar, so each site collection required a composite of at least 14 individual samples. Containers used were as follows:

- one gallon glass - EPA method 1618,
- one gallon glass - EPA method 615,
- one gallon glass - method NPS-4,
- one liter glass - EPA methods 531.1 and 504, and
- one liter polyethylene - glyphosate/AMPA and diquat/paraquat.

Samples were held on ice during transportation to the laboratory.

Decontamination Procedures

All sample containers for pesticide analysis were precleaned by Eagle-Picher Environmental Services in Miami, Oklahoma using the following procedure:

1 - wash in laboratory grade detergent,
2 - rinse three times with distilled water,
3 - rinse with 1:1 nitric acid,
4 - rinse three times with organic-free water,
5 - oven-dry for one hour,
6 - rinse with hexane, and
7 - oven-dry again for one hour.

The samplers were decontaminated prior to field work by washing with laboratory grade detergent (Alconox), rinsing with tap water and deionized water, and rinsing with pesticide grade acetone. A similar procedure was used for field decontamination between samples. The one quart sampler jars were precleaned by Eagle-Picher Environmental Services using the same procedure described above for sample containers and were changed after each sample.

Target Pesticides and Conventional Parameters

Target Pesticides Selection

An initial list of target pesticides included all organic insecticides, herbicides, and fungicides with known or probable use in Washington (Maxwell, 1992; Freimark, 1985; Lucas, *et al.*, 1986; Norris, *et al.*, 1983; Gianessi, 1991; Tetra Tech, 1988). Selected molluscicides, nematicides, and break-down products were also included. Inorganic pesticides and groups such as hormones, synergists, and disinfectants were excluded. Several compounds from the original list were dropped due to analytical difficulties or cost considerations. One hundred sixty-two pesticides and breakdown products are on the current target compound list (Table 1). It is expected that some compounds will be dropped or others added based on results of this reconnaissance, as more is learned about pesticide use in Washington, and as analytical methods are refined. A more complete discussion of target compound selection is in Appendix B.

Analytical Methods

Analysis of the 162 target compounds required extensive methods development and modification by Ecology's Manchester Environmental Laboratory. Only 124 of these compounds could be analyzed by conventional EPA or NPS methods and these would have required sixteen separate procedures. By modifying existing methods, the Ecology Laboratory was able to group chemically similar pesticides to minimize the number of extractions and analyses. The laboratory was also able to analyze most of the compounds not included in standard methods. Details of the analytical methods and modifications to the methods can be found in a report by the Ecology Laboratory (Huntamer, *et al.*, 1992).

Most of the chemical families were grouped into one of three extraction processes (Table 1). Chlorinated pesticides, pyrethroid pesticides, organo-phosphorus pesticides, and nitrogen-containing pesticides were extracted simultaneously and analyzed with a gas chromatograph (GC), using an atomic emission detector. Chlorinated herbicides required a separate extraction followed by analysis by GC, using an electron capture detector. The third extraction isolated urea pesticides, which were analyzed by high pressure liquid chromatography (HPLC).

Volatile compounds (halogenated hydrocarbons) were analyzed using purge and trap capillary gas chromatography/mass spectrophotometry(GC/MS) analysis and do not require an extraction step. Ethylene dibromide and dibromochloropropane are volatile compounds that require a separate analysis to attain desired detection limits. Carbamates were analyzed by direct water injection into HPLC.

Glyphosate, paraquat, and diquat could not be incorporated into any of the analytical methods described above. These pesticides could not be analyzed by Ecology's Manchester Laboratory. Analysis for these three compounds was contracted out to A & S Environmental

Table 1. Target Pesticides List

EPA Method 1618
(one extraction)

Chlorinated Pesticides
(one analysis)

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
p,p'-DDT	0.05	chlordene-gamma	0.05
p,p'-DDE	0.05	dicofol (kelthane)	0.20
p,p'-DDD	0.05	dieldrin	0.05
o,p'-DDT	0.12	endrin	0.05
o,p'-DDE	0.05	endrin aldehyde	0.05
o,p'-DDD	0.05	endrin ketone	0.05
p,p'-DDMU	0.05	endosulfan I	0.05
aldrin	0.05	endosulfan II	0.05
BHC-alpha	0.05	endosulfan sulfate	0.05
BHC-beta	0.05	heptachlor	0.05
BHC-delta	0.05	heptachlor epoxide	0.05
BHC-gamma (lindane)	0.05	methoxychlor	0.05
captafol	0.60	mirex	0.05
captan	0.40	nonachlor-cis	0.05
chlordane-alpha	0.05	nonachlor-trans	0.05
chlordane-gamma	0.05	oxychlordane	0.05
chlordene-alpha	0.05	toxaphene	1.50

Pyrethroid Pesticides
(one analysis)

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
cis-permethrin	0.17	phenothrin	0.17
fenvalerate	0.17	resmethrin	0.17

Table 1 (cont.). Target Pesticides List

EPA Method 1618 (cont.)

Organo-Phosphorus Pesticides
(one analysis)

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
abate (temephos)	0.75	fensulfothion	0.13
azinphos-ethyl	0.20	fenthion	0.08
azinphos-methyl (guthion)	0.16	fonofos	0.05
carbophenothion	0.11	imidan (phosmet)	0.09
chlorpyrifos (dursban)	0.05	malathion	0.08
chlorpyrifos-methyl	0.04	merphos	0.13
coumaphos	0.11	mevinphos	0.08
DEF (tribufos)	0.18	monocrotophos	0.58
demeton-o	0.05	paraoxon-methyl	0.15
demeton-s	0.05	parathion	0.07
diazinon	0.07	parathion-methyl	0.06
dichlorvos	0.07	phorate	0.04
diethyl fumarate	0.25	phosphamidan	0.20
dimethoate	0.08	propetamphos	0.18
dioxathion	0.14	ronnel	0.05
disulfoton	0.05	sulfotepp	0.05
ethion	0.06	sulprofos	0.05
ethoprop	0.07	tetrachlorvinphos (gardona)	0.18
fenamiphos	0.13	tetraethyl pyrophosphate (TEPP)	0.05
fenitrothion	0.06		

Table 1 (cont.). Target Pesticides List

EPA Method 1618 (cont.)

Nitrogen-Containing Pesticides
(one analysis)

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
Triazines		**Thiocarbamates**	
ametryn	0.08	butylate	0.13
atrazine	0.08	cycloate	0.13
hexazinone	0.13	EPTC (eptam)	0.13
metribuzin	0.08	triallate (fargo)	0.22
prometon	0.08	vernolate	0.13
prometryn	0.08		
propazine	0.08	**Substituted Amides**	
simazine	0.08	diphenamid	0.25
terbutryn	0.08	napropamide	0.25
		pronamide	0.25
Anilines			
benfluralin (benefin)	0.13	**Uracils**	
ethalfluralin	0.13	bromacil	0.50
pendimethalin	0.13	terbacil	0.42
trifluralin	0.13		
		Ureas	
Anilides		tebuthiuron	0.08
alachlor	0.20		
metolachlor	0.25	**Miscellaneous**	
propachlor	0.17	fluridone	0.67
		norflurazon	0.13
Cyano		oxyfluorfen	0.28
chlorthalonil	0.20		
dichlobenil	0.10		

Table 1 (cont.). Target Pesticides List

EPA Method 615
(one extraction, one analysis)

Chlorinated Herbicides

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
2,4-D	0.07	dalapon (DPA)	0.07
2,4,5-TB	0.01	dicamba	0.01
2,4,5,-TP	0.13	dichlofop-methyl	0.03
2,4,5-trichlorophenol	0.01	dichlorprop	0.03
2,4-DB	0.05	dinoseb	0.01
3,5-dichlorobenzoic acid	0.03	ioxynil	0.02
5-hydroxydicamba	0.02	MCPA	0.15
bentazon	0.10	MCPP	0.15
bromoxynil	0.01	pentachlorophenol	0.01
chloramben	0.02	picloram	0.01
dacthal (DCPA)	0.01	trichlopyr (garlon)	0.03

Method NPS-4
(one extraction, one analysis)

Urea Pesticides

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
chlorsulfuron	11.0	linuron	2.2
cyanazine	9.3	propham	25.0
diuron	2.9	surflan (oryzalin)	4.0

Table 1 (cont.). Target Pesticides List

EPA Method 531.1
(direct injection, one analysis)
Carbamates

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
1-napthol	2.5	carbofuran	2.5
3-hydroxycarbofuran	2.5	methiocarb	2.5
aldicarb	2.5	methomyl	2.5
aldicarb sulfone	2.5	oxamyl	2.5
aldicarb sulfoxide	2.5	propoxur (baygon)	2.5
carbaryl	2.5		

EPA Method 504
(purge and trap, one analysis)

Compound	Quantitation Limit (μg/L)	Compound	Quantitation Limit (μg/L)
ethylene dibromide	0.01	dibromochloropropane	0.01

EPA Method 624
(purge and trap, one analysis)
Volatile Organics Analysis (VOA)

Compound	Quantitation Limits (μg/L)	Compound	Quantitation Limits (μg/L)
dichloropropane	2.0	methyl bromide	2.0
dichloropropene	2.0	xylene	3.0

Table 1 (cont.). Target Pesticides List

Monsanto Method
(HPLC, one analysis)

Compound	Quantitation Limit (μg/L)	Compound	Quantitation Limit (μg/L)
glyphosate	0.5	AMPA	0.5

Chevron Method RM-5G-1
(GC, one analysis)

Compound	Quantitation Limit (μg/L)	Compound	Quantitation Limit (μg/L)
diquat	0.5	paraquat	0.5

Laboratory, Reading, PA. A & S Laboratory uses a method for glyphosate that includes AMPA (a breakdown product of glyphosate) as a target compound. Although Ecology's Laboratory has the capability to analyze samples for volatile compounds, Ecology opted to contract this analysis with Weyerhaeuser Analytical and Testing Services, Tacoma, WA.

Quantitation limits for each analyte are listed in Table 1. Quantitation limits are established as the lowest reliably detected level from analytical standards analysis.

Conventional Parameters

High nitrate levels have been correlated with the presence of pesticides in ground water (Erickson, 1992b). Samples were analyzed for nitrate+nitrite and total phosphorus to determine if there are any relationships between these parameters and pesticides in surface water. Total organic carbon (TOC), total suspended solids (TSS), hardness, conductivity, flow, temperature, and pH were measured to aid in data interpretation. Flow, temperature, and pH were measured in the field. Flow was measured by staff or wire gages, when available, or with a flow meter. Temperature was measured with a thermistor. Measurements for pH were taken with a portable meter. Ecology's Manchester Environmental Laboratory analyzed samples for the other parameters. Methods for these analyses are listed in the Manchester Laboratory Users Manual (Huntamer and Hyre, 1991).

Quality Assurance/Quality Control

Matrix spike and matrix spike duplicate (MS/MSD) samples were taken at Moxee Drain and Mercer Creek to evaluate potential interferences and to estimate analytical precision and accuracy. Blind duplicate samples (splits) were also prepared at these sites to assess analytical precision. Moxee Drain was chosen for MS/MSD and duplicate samples because irrigation return water is more likely to have interferences than natural streams. In addition, there was a high probability of detecting multiple pesticides based on historical data (Johnson, *et al.*, 1986; Rinella, 1992). Mercer Creek was chosen for similar reasons, except, in this case, interferences would be related to urban run-off.

A transfer/bottle blank sample was prepared after sampling at Moxee Drain to evaluate decontamination procedures. This site was chosen because Moxee Drain was most likely to have a variety of pesticides present. The transfer/bottle blank was prepared after field decontamination by pouring blank water stored in sample bottles through the sampling equipment into another set of sample bottles.

Reagent water was spiked with reference material from Environmental Resource Associates (cat. no. 701, lot no. 3203) to evaluate method accuracy. Spikes were submitted in duplicate to evaluate method precision. Reference material was available only for the chlorinated and nitrogen-containing pesticides, and for the chlorinated herbicides.

RESULTS AND DISCUSSION

Data Review

A data quality assurance review was performed by Dickey Huntamer of Ecology's Manchester Environmental Laboratory for analyses conducted by Manchester Laboratory. Data from analyses performed by contract laboratories were reviewed by Stuart Magoon of Manchester Laboratory.

No significant problems were encountered. Some samples collected for glyphosate and diquat/paraquat analysis were extracted up to eight days beyond the recommended holding time, but significant degradation of these compounds prior to extraction is unlikely. Some of the detected values for glyphosate were detected at a level below the lowest calibration standard. These results are considered to be estimates and are qualified with a "J." Pentachlorophenol and dinoseb were detected in trace amounts in one set of laboratory blanks, requiring application of the EPA "five times rule" for affected data. Under the "five times rule," concentrations of pentachlorophenol and dinoseb are considered real and not the result of contamination if the levels in the sample were greater than or equal to five times the amount of these compounds in the associated blank. Sample concentrations were all less than five times the amount in the blank. Surrogate recoveries for one sample in the chlorinated pesticides analysis were low enough to warrant adding a "J" qualifier to affected data. This qualifier indicates that the concentration reported is an estimate. No surrogate compounds were available for use with the carbamate, glyphosate, and paraquat/diquat analyses. All data were considered acceptable as qualified. Complete results of quality assurance samples are listed in Appendix C.

Pesticides Detected

A total of twenty-three target pesticides were detected in the water samples (Table 2). Pesticides were detected at 10 of the 11 sites sampled. In addition, nine non-target pesticides were identified and quantified with the atomic emission detector. Eleven pesticides were detected at two or more sample sites. Dacthal was found at nine sites; 2,4-D at seven sites; glyphosate at six sites; and both simazine and atrazine at four sites. Dacthal was found at the highest concentration at 12.1 μg/L. Concentrations of other detected pesticides ranged from 0.002 to 1.7 μg/L. The complete results of pesticide analysis are shown in Appendix D.

There are currently no established criteria for most of the pesticides tested for in the WSPMP. Concentrations of detected pesticides are compared to all available criteria in Table 3. Washington State water quality standards are adopted from the EPA (1986) water quality criteria. Five target pesticides were detected at levels above the EPA criteria. Among these was azinphos-methyl, which was detected in a sample from Mission Creek at 0.033 μg/L. Four pesticides were above the EPA criteria in samples from Moxee Drain. Average concentrations of duplicate analyses for the four pesticides were: malathion 0.055 μg/L, DDT 0.015 μg/L, DDD 0.027 μg/L, and DDE 0.018 μg/L.

Table 2. Detected Compounds

Site Name	Date Sampled	Compound Detected	Concentration (μg/L)	Qualifiers
Misson Creek	May 30	azinphos-methyl	**0.033**	J
		glyphosate	1.13	J
		pentachlorophenol	0.002	NJ
		simazine	0.041	J
Crab Creek	May 30	atrazine	0.088	
		dacthal (DCPA)	1.24	
		dicamba	0.012	
		disugran *	0.080	J
		EPTC (eptam)	0.31	
		glyphosate	0.38	J
		simazine	0.033	J
		2,4-D	0.980	
Walla Walla River	May 30	dacthal (DCPA)	12.1	
		dichloro-DCPA *#	0.046	J
		trichloro-DCPA *#	0.55	J
		glyphosate	0.49	J
		hexazinone	0.063	J
		simazine	0.078	
		2,4-D	0.055	
Glade Creek	May31	atrazine	0.24	
		atrazine desethyl *#	0.38	NJ
		dacthal (DCPA)	0.028	
		dichloroisocyanatobenzene *#	0.11	J
		disugran *	0.019	J
		EPTC (eptam)	0.20	
		metribuzin	0.043	J
Fishtrap Creek	June 14	atrazine	0.11	
		dacthal (DCPA)	0.006	J
		MCPP	1.5	J
		simazine	0.091	
		2,4-D	0.27	
		tributyl phosphate *	0.018	J
		ethanol-2-chlorophosphate *	0.11	J

* - Non-target compounds detected and quantified by AED.
# - Suspected breakdown products.
J - The compound was positively identified, but the associated numerical value is an estimate.
NJ - There is evidence that the compound is present. The numerical value is an estimate.
Concentrations in **bold** are values that exceed EPA (1986) water quality criteria.

Table 2 (cont.). Detected Compounds

Site Name	Date Sampled	Compound Detected	Concentration (μg/L)	Qualifiers
Moxee Drain	May 31	dacthal (DCPA)	0.011	J
		glyphosate	0.65	NJ
		malathion	**0.048**	J
		pentachlorophenol	0.016	J
		2,4-D	0.16	
		p,p'-DDT	**0.015**	J
		p,p'-DDD	**0.026**	J
		p,p'-DDE	**0.017**	J
Moxee Drain Duplicate	May 31	dacthal (DCPA)	0.011	J
		glyphosate	0.33	NJ
		malathion	**0.059**	J
		pentachlorophenol	0.014	J
		2,4-D	0.15	
		p,p'-DDT	**0.015**	J
		p,p'-DDD	**0.028**	J
		p,p'-DDE	**0.018**	J
Mercer Creek	June 14	dacthal (DCPA)	0.060	
		diazinon	0.088	
		dichlobenil	0.20	
		glyphosate	1.07	
		prometon	0.074	
		2,4-D	0.19	
		tributyl phosphate *	0.36	J
		ethanol-2-chlorophosphate *	0.11	J
Mercer Creek Duplicate	June 14	dacthal (DCPA)	0.061	
		diazinon	0.094	
		dichlobenil	0.17	
		glyphosate	0.48	J
		MCPP	1.7	J
		prometon	0.090	
		2,4-D	0.20	
		tributyl phosphate *	0.40	J
		ethanol-2-chlorophosphate *	0.099	J

* - Non-target compounds detected and quantified by AED.
# - Suspected breakdown products.
J - The compound was positively identified, but the associated numerical value is an estimate.
NJ - There is evidence that the compound is present. The numerical value is an estimate.
Concentrations in **bold** are values that exceed EPA (1986) water quality criteria.

Table 2 (cont.). Detected Compounds

Site Name	Date Sampled	Compound Detected	Concentration (μg/L)	Qualifiers
Thornton Creek	June 14	dacthal (DCPA)	0.066	
		diazinon	0.077	
		dichlobenil	0.054	J
		dichlorprop	0.052	
		disugran *	0.038	J
		glyphosate	0.58	J
		2,4-D	0.23	
		tributyl phosphate *	1.1	J
		ethanol-2-chlorophosphate *	0.013	J
Sullivan Slough	June 14	atrazine	0.24	
		bromacil	0.046	J
		chlorpropham	0.10	J
		dacthal (DCPA)	0.017	
		metribuzin	0.036	J
		2,4-D	0.039	
		trichloroaniline *	0.086	J
		pentachloroaniline *#	0.39	J
Lake River	June 15	dacthal (DCPA)	0.011	J
Tuttle Creek	June 15	no detections		

* - Non-target compounds detected and quantified by AED.
# - Suspected breakdown products.
J - The compound was positively identified, but the associated numerical value is an estimate.
NJ - There is evidence that the compound is present. The numerical value is an estimate.
Concentrations in **bold** are values that exceed EPA (1986) water quality criteria.

Table 3. Comparison of Detected Pesticides with Available Water Quality Criteria

Detected Pesticide	Highest Concentration (ug/L)	Sample Site	EPA, 1986 (acute)	EPA, 1986 (chronic)	CCREM, 1987 (max. conc.)	NAS, 1973 (max. conc.)	Norris & Dost, 1991 (chronic)
Atrazine	0.24	Sullivan Slough				2	7
Azinphos-methyl	**0.033**	Mission Creek		0.01		0.001	
Diazinon	**0.091***	Mercer Creek				0.009	
Diazinon	**0.077**	Thornton Creek				0.009	
Dicamba	0.012	Crab Creek				200	40
Dichlobenil	0.19*	Mercer Creek				37	
DDT	**0.015***	Moxee Drain	1.1	0.001	0.001	0.002	
DDD	**0.027***	Moxee Drain	1.1	0.001	0.001	0.002	
DDE	**0.018***	Moxee Drain	1.1	0.001	0.001	0.002	
Glyphosate	1.13	Mission Creek					20
Hexazinone	0.063	Walla Walla River					560
Malathion	**0.054***	Moxee Drain		0.01		0.008	
Metribuzin	0.043	Sullivan Slough			1		
Pentachlorophenol	0.015*	Moxee Drain	55	3.2			
Simazine	0.091	Fishtrap Creek			10	10	10
2,4-D	0.98	Crab Creek		100	4	4	6

* - Average of duplicate analyses.

Concentrations in bold are values that exceed any of the criteria cited here.

Diazinon was detected above National Academy of Sciences (NAS, 1973) criteria in duplicate samples from Mercer Creek, with an average concentration of 0.091 μg/L and in a sample from Thornton Creek at 0.077 μg/L. The five pesticides exceeding the EPA criteria were also above NAS criteria and concentrations of DDT, DDD, and DDE were above Canadian water quality guidelines (CCREM, 1987).

Conventional Parameters

Results for conventional parameters are listed in Table 4. Findings were generally within expected ranges. Results are compared to available water quality criteria below. Some apparent relationships between pesticides present and conventional parameters are also discussed.

The EPA's water quality criteria for nitrate+nitrite is 10 mg-N/L in domestic water supplies (EPA, 1986). The level at Glade Creek was over three times the criteria at 34.5 mg-N/L; among the highest nitrate+nitrite results ever recorded from surface water samples in Washington State. All other nitrate+nitrite concentrations were well below the EPA's criteria, but many were high for surface waters.

Multiple pesticides were detected at all sample sites except Lake River and Tuttle Creek. Nitrate+nitrite was not measured at Tuttle Creek, but the concentration at Lake River was the lowest measured. There is no evidence for a direct relationship between pesticides and nitrate+nitrite. However, elevated concentrations of nitrate+nitrite appear to be an indication that pesticide residues are more likely to be present.

The EPA's recommended maximum concentration for total phosphorus in streams is 100 μg/L and 50 μg/L for streams at the point of discharge into lakes or other impoundments. Three sites exceed these criteria. The Walla Walla River (107 μg/L) and Sullivan Slough (144 μg/L) exceed these recommended concentrations. Mercer Creek discharges into Lake Washington and had a concentration of 140 μg/L (average of duplicate analyses) at the point of discharge. No relationship between concentration of total phosphorus and pesticides was noted.

NAS (1973) has recommended that fresh waters containing from 80 to 400 mg/L suspended solids are unlikely to support good fisheries. Crab Creek (85 mg/L) and Moxee Drain (287 mg/L, average of duplicate analyses) fall into this range. Crab Creek is a natural drainage, but its flow in the summer consists primarily of irrigation return water. The effect of suspended solids on the fish of Crab Creek is unknown, but the level was near the lower end of concentrations implying a problem. Moxee Drain is a man-made irrigation return canal. Fish probably move into Moxee Drain from the Yakima River, but it is unknown if any are resident. Efforts are currently underway to reduce soil erosion from hop yards in the Yakima Valley, which is the main source of suspended solids in the irrigation return flows (King, 1992a).

Table 4. Results for Conventional Parameters

Site Name	Nitrate + Nitrite mg/L as N	Total Phosphorus mg/L	Specific Conductivity µmho/cm	Total Hardness mg/L as CaCO3	TOC mg/L	TSS mg/L	Temp. ° C	pH	Flow ft³/sec
Crab Creek	1.11	0.024	525	194	7.2	85	21.8	8.35	173.9
Fishtrap Creek	2.69	0.079	181	70.7	6.8	24	15.5	6.79	46.8
Glade Creek	34.5	0.04	1280	478	4.6	13	15.6	7.63	10.2
Lake River	0.01	0.066	138	60.7	6.0	61	13.8	6.90	NA
Mercer Creek	0.623	0.157	87.9	35.8	10.4	15	13.4	6.15	58
Mercer Creek Duplicate	0.621	0.123	87.3	35.8	10.5	13	13.4	5.78	--
Mission Creek	0.718	0.018	243	114	1.6	5	13.3	6.46	6.7
Moxee Drain	1.61	0.102	318	110	5.6	293	18.9	7.89	52.8
Moxee Drain Duplicate	1.59	0.063	317	107	5.1	281	--	--	--
Sullivan Slough	0.152	0.144	2010	385	10.4	12	15.5	6.79	9.9
Thornton Creek	0.877	0.078	170	71.7	6.6	7	13.8	6.90	7.8
Tuttle Creek	NA	NA	68.1	14.7	5.5	4	13.9	5.75	0.5
Walla Walla River	0.546	0.107	388	141	3.1	17	24.3	8.14	49

NA - Not analyzed for or data not available.

Suspended solids at Moxee Drain were over three times higher than levels at other sites. The detection of DDT and its metabolites at Moxee Drain is very likely related to the high suspended solids concentration. DDT and metabolites bound to soil particles that are eroded from agricultural land to drains by irrigation water are probably responsible for residues detected in Moxee Drain (Wauchope, 1978; Gilliom, 1984). The source of these compounds is probably historical (see Johnson, *et al.*, 1986).

Washington State water quality standards range for pH in fresh water is 6.5 to 8.5 (WAC 173-201-045). Two sites, Mercer Creek and Tuttle Creek, were below this range at 5.97 (average of duplicate analyses) and 5.75 respectively. These levels are not considered a problem unless the concentration of free CO_2 is greater than 20 ppm or the water contains iron salts (EPA, 1986), but the presence and concentrations of these substances are unknown for these samples.

Washington State temperature standards (WAC 173-201-045) were exceeded at the Walla Walla River (24.3°C) and at Crab Creek (21.8°C). These are "Class B" water bodies and the temperature criterium for fresh water is 21.0°C.

Run-off either from rain or irrigation is often a major source of pesticides in surface water. No significant rainfall occurred immediately prior to or during sample collection in eastern Washington. Due to low precipitation in the winter of 1991-92 and spring of 1992, crop irrigation in eastern Washington began earlier and was heavier than normal (King, 1992b). Flow in natural streams, such as Mission Creek and the Walla Walla River, was lower than normal. Irrigation return flows, such as Crab Creek and Moxee Drain, had high flows.

Streams in western Washington were also lower due to low precipitation. However, heavy rainfall on June 12 and 13 resulted in increased flows in streams sampled on June 14 (Mercer Creek, Thornton Creek, Sullivan Slough, and Fishtrap Creek). A significant increase in flow was recorded for Mercer Creek immediately prior to collection of water samples (Figure 2). The effect of the rainfall is unknown for streams sampled on June 16 (Tuttle Creek and Lake River). The flow for Tuttle Creek appeared to be low, but there are no historical data to compare to. Flow could not be measured for Lake River.

Comparisons with Historical Data

Sullivan Slough and Mercer Creek

The EPA conducted a pesticide survey at several sites in the Puget Sound Basin in 1990 (PTI, 1991). Only sediment was collected at Sullivan Slough, but water was collected at Big Ditch Slough, which is near Sullivan and drains similar agricultural land. Sediment and water were collected from Mercer Creek. Table 5 compares pesticides that were detected at these sites. Bromacil and 2,4-D were common to Sullivan Slough and Big Ditch Slough. Diazinon and 2,4-D were detected in both studies at Mercer Creek. Atrazine, glyphosate,

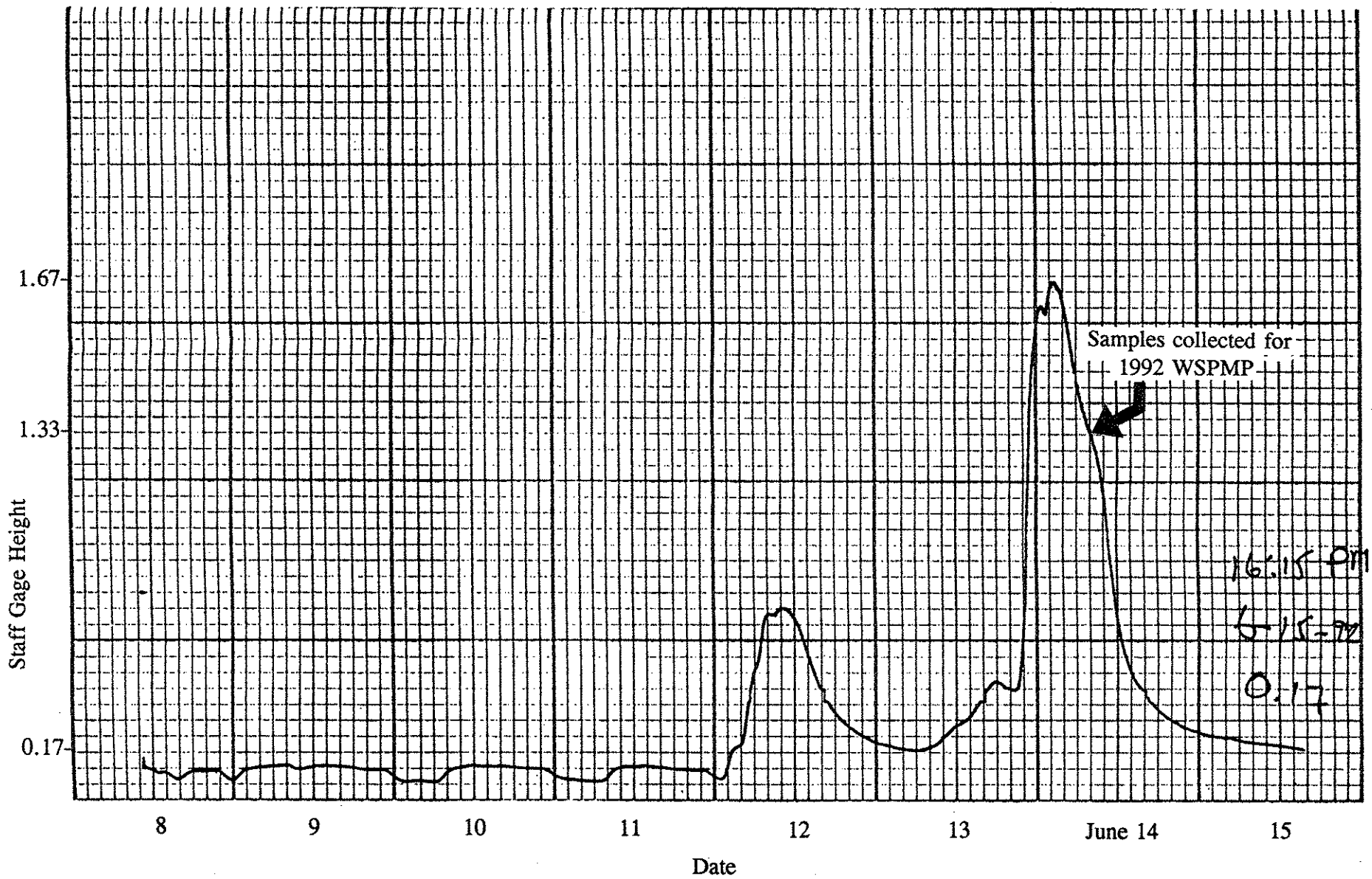

Figure 2. Hydrograph from Mercer Creek Gaging Station, Recorded June 8 to June 15, 1992

(Source - P. Dolan, Storm & Surface Water Utility, City of Bellevue, Washington)

Table 5. Comparisons of Detected Pesticides with Historical Data (μg/L)

Detected Pesticides	Sullivan Slough	Big Ditch Slough*
2,4-D	0.039	0.077
bromacil	0.046	3.3
atrazine	0.24	1.0 U
diazinon	0.07 U	0.072
diuron	2.9 U	3.3
chloropropham	0.1	NA
dacthal	0.017	NA
metribuzin	0.036	NA
pentachloroaniline	0.39	NA
trichloroaniline	0.086	NA

Detected Pesticides	Mercer Creek WSPMP	Mercer Creek EPA *
2,4-D	0.2	0.18
diazinon	0.091	0.054
glyphosate	0.78	5.0 U
prometon	0.082	1.0 U
dacthal	0.061	NA
dichlobenil	0.19	NA
MCPP	1.7	NA
tributyl phosphate	0.38	NA
ethanol-2-chlorophosphate	0.1	NA

Detected Pesticides	Fishtrap Creek	Whatcom Co. Wells **
atrazine	0.11	0.2 U
dacthal	0.006	0.2 U
simazine	0.091	0.8 U
2,4-D	0.27	0.5 U
carbofuran	1.3 U	2.4
dibromochloropropane	0.01 U	0.36
ethylene dibromide	0.01 U	1.5
prometon	0.08 U	0.55
1,2-dichloropropane	2.0 U	6.9
MCPP	1.5	NA

Detected Pesticides	Moxee Drain WSPMP	Moxee Drain J-N-Y ***
p,p'-DDT	0.015	0.02
p,p'-DDE	0.018	0.01
t-DDT	0.06	0.03
p,p'-DDD	0.027	0.02 U
endosulfan	0.05 U	0.02
dacthal	0.011	NA
glyphosate	0.49	NA
malathion	0.054	NA
pentachlorophenol	0.015	NA
2,4-D	0.16	NA

* - EPA 1990 Puget Sound pesticide reconnaissance survey (PTI, 1991).
** - Wells in Whatcom County (Erickson and Norton, 1990).
*** - Yakima River DDT survey (Johnson, Norton, and Yake, 1986).
NA - Not analyzed for.
U - Undetected at reported value.
Shaded values highlight detected pesticides common to the studies indicated.

and prometon were detected in the WSPMP at concentrations below the detection limits of the EPA's study. Diazinon and diuron were detected in the EPA study, but not in the WSPMP.

Fishtrap Creek

Twenty-seven wells were sampled for pesticides in Whatcom County by Ecology in 1988-89 (Erickson and Norton, 1990). The wells were located around Bertrand Creek near Lynden, Washington. Fishtrap Creek drains agricultural land similar to that drained by Bertrand Creek and discharges into the Nooksack River about one-half mile upstream of the mouth of Bertrand Creek. Pesticides detected in the two studies are listed in Table 5. Pesticides detected in ground water were not detected in surface water.

Moxee Drain

Water from Moxee Drain was sampled in 1985 by Ecology (Johnson, *et al.*, 1986) to identify sources and evaluate possible effects of DDT compounds in the Yakima River Basin. Chlorinated pesticides detected in 1985 are compared to results from the WSPMP in Table 5. DDT and its metabolites, DDE and DDD, were detected at similar concentrations in both studies. Other compounds detected in the WSPMP were not target compounds for the 1985 study. Endosulfan was detected in the 1985 study, but not in the WSPMP.

Moxee Drain was intensively sampled in 1988-89 by the U.S. Geological Survey (Rinella, 1992) as a part of the Yakima River Basin National Water Quality Assessment (NAQWA) program. Results from the NAQWA program have not been published, so comparisons with results from the WSPMP cannot be made at this time. Preliminary results show that DDT, DDD, DDE, and 2,4-D were detected in both studies.

Objectives Evaluation

Logistics and Mechanics of Sampling Methods and Sample Handling

Sampling techniques were not significantly different from the sampling plan. The depth integrating samplers performed well. A hand held bottle was used at six sample sites, the DH-81 sampler was used once, and the DH-76 hand-line sampler was used four times.

Up to ten field samples, including MS/MSD samples, can be collected and submitted to the laboratory in a single sampling trip. The quantity of equipment needed to collect more samples than this would overload the van and the laboratory is not able to extract more than ten samples at once. Also, if the sample sites are in Eastern Washington it may be difficult to sample more than ten sites without running into holding time problems.

Most samples were collected in less than one hour. At sites where duplicate and matrix spike samples were collected, as much as two hours were required. Samples were collected

on Saturday or Sunday and delivered to Manchester Laboratory on Monday. Extractions were begun on Tuesday and completed by Friday to stay within the seven day holding time limit. Samples analyzed by contract laboratories were delivered to Manchester Laboratory and then shipped by air freight to the other laboratories. Holding times exceeded for some gyphosate and diquat/paraquat samples were not a result of sample handling.

All sample containers from one site fit nicely into one ice chest. Gallon jars were wrapped with bubble wrap and no container breakage occurred.

Cleaning Procedures and Field Decontamination Techniques

Cleaning and decontamination techniques were evaluated with a single transfer/bottle blank. The blank was prepared after sampling at Moxee Drain. Although eight compounds were detected in the Moxee Drain samples, none were detected in the blank. These results demonstrate that the cleaning and decontamination techniques were sufficient.

Interferences in Natural Waters

Interferences were evaluated by matrix spike recoveries and appear to be insignificant for most analyses. Percent recoveries and relative percent differences (RPD) between matrix spikes and matrix spike duplicates are listed in Table 6. No recommended recovery limits or RPD have been established for these analytical methods, except for volatile organics. All VOA recoveries and RPD were within acceptable limits (EPA, 1984). Matrix spike recoveries for pesticides ranged between 35% and 154%, with average recoveries of 85% at Moxee Drain and 101% at Mercer Creek, for an overall average of 91%. RPD ranged between 0% and 50% (with the exception of dalapon which was 94% and pentachlorophenol which was 200%), with an average of 12%.

Due to a calculation error, the amount of matrix spike added for the urea pesticides analysis (NPS-4) was too low to be detected. Dinoseb was not recovered from matrix spikes from Mercer Creek for the chlorinated herbicides analysis (EPA 615) and pentachlorophenol recoveries were variable due to low spike levels. Dinoseb and pentachlorophenol data affected by problems with matrix spike recoveries were "J" qualified.

Recovery problems for dinoseb may have been related to interferences because recoveries for this compound were acceptable in reagent water spikes during methods development (Huntamer, *et al.*, 1992). Recoveries were consistently lower in matrix spike samples from Moxee Drain compared to Mercer Creek. This suggests that interferences may have been present that reduced the recoveries at Moxee Drain.

Analytical Problems and Detection Limits

Most analytical problems were identified and alleviated during the methods development phase by Manchester Laboratory (Huntamer, *et al.*, 1992). Degradation of the analytical

Table 6. Matrix Spike Recoveries (%)

Compound	Moxee Drain		RPD*	Mercer Creek		RPD*
	MS	MSD	Moxee Drain	MS	MSD	Mercer Creek
Chlorinated Pesticides						
BHC-gamma	97	78	22	139	128	7
chlordane-gamma	94	77	20	123	113	9
p,p'-DDD	103	81	24	136	122	11
endosulfan I	95	78	20	131	118	10
endrin	101	85	17	130	117	11
heptachlor	99	81	20	102	100	2
methoxychlor	101	85	17	121	108	12
Organo-Phosphates						
azinphos-ethyl	113	94	18	136	128	6
chlorpyrifos	100	81	21	116	105	10
diazinon	98	85	14	137	122	12
ethion	100	89	12	119	116	3
ethoprop	111	97	13	127	120	6
fonofos	103	87	17	139	128	8
malathion	109	90	19	137	128	7
methyl parathion	102	85	18	142	133	8
Nitrogenous Pesticides						
alachlor	111	119	7	133	113	16
bromacil	90	77	16	100	98	2
dichlobenil	89	82	8	113	104	8
hexazinone	88	69	24	110	94	16
metribuzin	90	72	22	121	109	10
pronamide	82	71	14	145	132	9
simazine	82	71	14	144	152	5
tebuthiuron	91	72	23	154	149	3
trifluralin	100	82	20	137	121	12
Pyrethroid Pesticides						
fenvalerate	107	92	15	134	120	11
Chlorinated Herbicides						
2,4-D	90	54	50	143	120	17
2,4,5-TP	96	61	45	87	98	12
dacthal	91	69	28	150	130	14
dalapon	67	89	28	12	112	94
dicamba	78	61	24	122	123	1
dinoseb	50	45	11	0	0	-
MCPA	78	89	15	95	104	9
pentachlorophenol	52	0	200	21	16	29
picloram	80	64	22	95	104	9

Table 6 (cont.). Matrix Spike Recoveries (%)

Compound	Moxee Drain		RPD*	Mercer Creek		RPD*
	MS	MSD	Moxee Drain	MS	MSD	Mercer Creek
Carbamates						
aldicarb	52	63	19	81	89	9
aldicarb sulfone	49	51	4	91	81	12
aldicarb sulfoxide	52	52	0	79	85	7
carbaryl	35	42	18	83	86	4
carbofuran	47	49	4	87	83	5
methiocarb	56	46	20	84	94	11
methomyl	38	42	10	68	71	4
oxamyl	47	53	12	89	80	11
propoxur	42	45	7	89	84	6
3-hydroxycarbofuran	51	56	9	109	100	9
1-napthol	49	42	15	75	101	29
EDB and DBCP						
ethylene dibromide	76	95	22	75	91	19
dibromochloropropane	66	84	24	69	85	21
Volatile Organics						
benzene	98	97	1	96	95	1
chlorobenzene	110	110	0	96	96	0
toluene	103	105	2	92	93	1
trichloroethene	97	97	0	96	96	0
1,1-dichloroethene	95	88	8	96	98	2
Miscellaneous						
glyphosate	98	97	1	98	102	4
AMPA	85	84	2	99	101	2
diquat	91	92	1	106	98	8
paraquat	82	76	8	77	74	4

* - RPD = Relative Percent Difference, (difference/mean) x 100

MS = Matrix Spike

MSD = Matrix Spike Duplicate

standard prevented the analysis of chlorpicrin for these samples, but it will remain as a target compound for future sampling events. Several other compounds were dropped from the target list during methods development due to analytical difficulties or cost considerations (see Appendix B for a discussion of target list development). Six of these compounds were excluded because no analytical standards could be located.

There are no current plans to continue methods development for any of the compounds that were dropped due to analytical difficulties. Compounds that lack analytical standards may be incorporated into existing methods as standards are located. Compounds dropped due to cost considerations may be included in future analyses if interest warrants further investigation.

Results from field split samples (duplicates) were very good in most cases. The same pesticides were detected in the duplicates, except for MCPP, which was only detected in one sample from Mercer Creek. Results are compared between duplicates using RPD in Table 7. Only the glyphosate analysis results were substantially different, with RPD of 65.3% and 76.1%. All other RPD were below 21%.

No accuracy or precision criteria have been established for any of the pesticide analysis methods used, except the volatile organics analysis (method 624). No volatile compounds were detected, so accuracy and precision could not be evaluated for this method. Matrix spikes provide an estimate of accuracy and precision. Recoveries near 100% would indicate good accuracy and low RPD values indicate high precision. MS/MSD recoveries averaged 91%, suggesting that accuracy was high. RPD values averaged 12%, suggesting that precision was also high. Surrogate spike recoveries are also an estimate of accuracy. The average of surrogate spike recoveries for all methods was 91%. Table 8 shows the average surrogate spike recoveries for each analytical method where surrogates were used.

Field spike analysis results are compared to certified values and advisory ranges in Table 9. All compounds in the spike material were detected at levels within the advisory ranges. The average for recoveries was 88%, indicating high accuracy. The average RPD was 12%, also indicating high precision.

In general, quantitation limits achieved were lower than the levels estimated during methods development. Quantitation limits for the urea pesticides analysis were higher than anticipated due to the matrix interferences.

Most of the quantitation limits achieved are adequate for comparisons with available water quality criteria. EPA chronic criteria for aldrin, dieldrin, endrin, heptachlor, mirex, toxaphene, chlordane, DDT, DDD, and DDE are at least an order of magnitude lower than quantitation limits achieved for the 1992 WSPMP. Many of the criteria recommended by the National Academy of Sciences (1972) are also one to two orders of magnitude lower than quantitation limits. Detection limits equal to or lower than the EPA and NAS criteria for these pesticides are not achievable with current analytical methods.

Table 7. Comparison of Duplicate Analyses

Moxee Drain

Compound	Concentration (μg/L) Sample 1	Sample 2	RPD*
dacthal	0.011	0.011	0
glyphosate	0.65	0.33	65
malathion	0.048	0.059	21
pentachlorophenol	0.016	0.014	13
2,4-D	0.16	0.15	7
p,p'-DDT	0.015	0.015	0
p,p'-DDD	0.026	0.028	7
p,p'-DDE	0.017	0.018	6

Mercer Creek

Compound	Concentration (μg/L) Sample 1	Sample 2	RPD
dacthal	0.060	0.061	2
diazinon	0.088	0.094	7
dichlobenil	0.20	0.17	16
glyphosate	1.07	0.48	76
MCPP	0.15 U	1.70	>168
prometon	0.074	0.090	20
2,4-D	0.19	0.20	5
tributyl phosphate	0.36	0.40	11
ethanol-2-chlorophosphate	0.11	0.099	11

* - RPD = Relative Percent Difference, (difference/mean) x 100
U - Undetected at reported value

Table 8. Average Surrogate Spike Recoveries

Analytical Group	Surrogate Compound	Average Recovery (%)
Chlorinated Pesticides	dibutylchlorendate	93.7
	decachlorobiphenyl	91.2
	4,4-dibromooctafluorobiphenyl	94.5
Organo-Phosphorus Pesticides	triphenyl phosphate	105.7
Nitrogen-Containing Pesticides	no surrogates	- - -
Pyrethroid Pesticides	no surrogates	- - -
Chlorinated Herbicides	2,4,6-tribromophenol	68.1
Urea Pesticides	carbazole	97.2
Carbamates	no surrogates	- - -
EDB & DBCP	dalapon, methylated	90.3
Volatile Organics	toluene - d8	101.7
	bromofluorobenzene	98.9
	1,2-dichloroethane - d4	96.9
glyphosate/diquat/paraquat	no surrogates	- - -

Table 9. Field Spike Results (μg/L)

Spiked Pesticide	Sample 1	Percent Recovery	Sample 2	Percent Recovery	RPD*	Certified Value	Advisory Range**
Lindane	0.19	91	0.21	100	10	0.21	0.13-0.25
Heptachlor	0.23	62	0.26	70	12	0.37	0.23-0.49
Heptachlor epoxide	0.43	88	0.46	95	7	0.49	0.30-0.55
Endrin	0.76	90	0.83	98	9	0.85	0.53-0.97
Methoxychlor	0.25	87	0.27	94	8	0.29	0.18-0.42
Atrazine	0.17	76	0.19	84	11	0.23	0.15-0.26
Alachlor	0.61	85	0.70	98	14	0.72	0.44-0.92
2,4-D	0.64	108	0.66	111	3	0.60	0.29-0.77
Pentachlorophenol	0.13	46	0.19	67	38	0.29	0.10-0.38
2,4,5-TP (silvex)	0.19	104	0.20	109	5	0.18	0.08-0.24

* - RPD = Relative Percent Difference, (difference/mean) x 100.

** - Advisory ranges are listed as guidelines for acceptable recoveries.

Identification of Pesticide Residues from a Wide Variety of Surface Water Sources

Pesticides were identified from 11 sites throughout Washington State. These sites represent most types of pesticide use in the state.

The pesticides detected at each site reflect the differences in pesticide use and the source of the water. Dacthal, glyphosate, and 2,4-D are widely used in agricultural and urban applications and were each detected at many of the sites. Diazinon and dichlobenil are heavily used in urban areas and were only detected at urban sites. Atrazine and simazine are primarily used in agricultural areas and were only detected at agricultural sites.

DDT was primarily used in agricultural applications and was heavily used on orchards before its ban in 1972. Persistent DDT residues and metabolites are bound to the soil in areas where DDT was used and generally only show up in water samples with high suspended solids. Moxee Drain and Mission Creek are both areas with probable DDT use. DDT was only detected at Moxee Drain, probably because the suspended solids concentration at Moxee Drain was 287 mg/L (average of duplicate analyses) and only 5 mg/L at Mission Creek.

The sources of water that flow into Lake River run through areas with a wide variety of pesticide uses, including many agricultural crops, urban use, and possibly some forest practices use. Only dacthal was detected in water samples from Lake River. The wide variety of uses suggests that many different pesticides are being used. Apparently none are being used in large enough quantities to be detected. The large water volume of Lake River is likely to dilute pesticides to levels that cannot be detected.

Pesticide use in forests was represented by the sample site at Tuttle Creek. No pesticides were detected in samples from this site. This probably reflects pesticide use and runoff conditions in the area sampled. Pesticides were applied once in the fall and once in the spring and at relatively low rates.

The sample site at Glade Creek was expected to represent dry land agriculture. Apparently there is a significant amount of crop irrigation in the area that drains into Glade Creek because the flow increased substantially from spring to early summer. Still, some interesting results were obtained. Five target pesticides and two non-target compounds were detected. In addition, an extremely high nitrate-nitrite level of 34.5 mg-N/L was found, which is over three times the EPA water quality criteria of 10 mg-N/L.

RECOMMENDATIONS

Objectives of the surface water reconnaissance sampling plan were largely fulfilled. These results will be incorporated into the final monitoring plan as follows:

1) Criteria similar to those used in the reconnaissance will be used to select sample sites.

2) Mercer Creek and Crab Creek sites will be given priority for first year monitoring.

3) The Illinois EPA protocol will be used for collecting water samples.

4) Total phosphorus and hardness will be dropped from conventional analyses. Total phosphorus and hardness data was not useful for pesticide data interpretation and no apparent association was noted between phosphorus concentration and the presence of pesticides.

5) Volatile compounds, urea pesticides, diquat, and paraquat will be dropped from the target list, except where site specific considerations apply. These pesticides were not detected in any samples and there is a low probability that they will be detected in future sampling events, except at specific sites where these pesticides are heavily used.

6) Appropriate compounds will be added to the target list as analytical standards are obtained.

7) Transfer or bottle blanks will be prepared at a reduced frequency for required QA samples. Survey results indicated that the decontamination procedures are satisfactory and a transfer or bottle blank is not necessary for each sampling event.

8) Blind field spikes of reagent water will be added to required QA samples as available. These spikes appear to be an effective means of independently evaluating laboratory performance. They may also furnish information about degradation and loss of pesticides following sample collection.

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APPENDICES

Appendix A. Sample Site Positions

Site Name	Latitude deg	min	sec	Longitude deg	min	sec	State Plane X	Y
Mission Creek at Misson Creek Road	47	30	43.5	120	28	18.5	2006970	794559
Crab Creek at 1st bridge on Crab Creek Rd	46	49	54.6	119	48	51.6	2171619	547197
Walla Walla River at Cummins Bridge	46	02	14.4	118	45	52.2	2440731	261571
Glade Creek near hwy 14	45	53	48.0	119	41	46.8	2204627	206470
Moxee Drain near mouth	46	32	28.8	120	27	39.6	2009814	440513
Mercer Creek at mouth	47	36	6.0	122	10	58.2	1584813	831668
Thornton Creek at Matthews Park	47	41	45.6	122	16	27.0	1563057	866567
Sullivan Slough near La Conner	48	24	7.2	122	27	54.6	1522444	1125214
Fishtrap Creek at River Road Bridge	48	54	51.6	122	31	12.0	1513911	1312517
Tuttle Creek near mouth on North River Rd	46	51	31.2	123	38	3.6	1216079	571814
Lake River below Ridgefield	45	49	33.0	122	45	30.0	1424320	187839

Appendix B. Target Pesticides Selection

There are currently over 8,000 pesticides registered for use in the State of Washington that include a wide variety of substances. The increased cost of analysis to include all chemicals with pesticidal properties would be prohibitive for this program. As a result, we chose to focus primarily on organic insecticides and herbicides as target pesticides. Selected fungicides/bactericides, acaracides, nematicides, and molluscicides were also considered. Compounds such as inorganic pesticides, microbials, antibiotics, disinfectants, hormones, botanicals, and coumarins are beyond the scope of this program.

A number of sources were consulted to assemble a list of pesticides that may be detected in surface waters of Washington (Freimark, 1985; Gianessi, 1991; Lucas, *et al.*, 1986; Norris, *et al.*, 1983; Tetra Tech, 1988; Maxwell, 1992). All pesticides that are known to be used or have probable use in Washington and meet the above definition of pesticides for this program were included on the initial target list. The initial list also included pesticides that have been used historically, but have been banned. Forty-one of these pesticides were excluded from the list during methods development (Huntamer, et al., 1992) due to analytical difficulties (Table B-1). Two pesticides, acrolein and endothall, were excluded because they would have required separate analyses. Pesticides that would have required additional methods development by Manchester Laboratory were excluded if they met all of the following criteria (Table B-1, exclusion criteria):

- Have not been detected in Washington.
- Are not known to be used in Washington.
- Are not pesticides of primary, secondary, or uncertain concern in Tetra Tech's (1988) list of pesticides of concern in Puget Sound.

Many of the excluded pesticides may be included as target compounds in future sampling events. Those compounds that did not have standards available will be included as standards are obtained. Acrolein and endothall may be included at selected sites if sufficient interest warrants the additional cost. Pesticides excluded due to analytical difficulties would require further methods development or a more extensive search for contract laboratories before these compounds could be included. Significant interest in these pesticides would be necessary to justify the cost. Excluded pesticides that were of primary, secondary, or uncertain concern in Tetra Tech's (1988) list will be given priority if additional methods development takes place.

Table B-1. List of Excluded Pesticides

Pesticide	Reason for Exclusion
Chlorinated Pesticides	
p,p'-DDMS	no standard
Organophosphates	
acephate *	poor spike recovery
bensulide	exclusion criteria
disulfoton sulfone	poor chromatography
disulfoton sulfoxide	poor chromatography
fenamiphos sulfoxide	no standard
methamidophos *	poor spike recovery
naled	poor spike recovery
oxydemeton-methyl	poor spike recovery
phorate sulfoxide	poor chromatography
trichlorfon	exclusion criteria
2-isopropyl-4-methyl-6-hydroxypyrimidine	no standard
Chlorinated Herbicides	
chloroxuron	no satisfactory method available
Carbamates	
bendiocarb *	coelutes with carbofuran
chlorpropham #	poor chromatography
ferbam	no satisfactory method available
zineb	no satisfactory method available
Thiocarbamates	
mancozeb	no satisfactory method available
maneb	no satisfactory method available
metam	no satisfactory method available
metiram	no satisfactory method available
thiram	no satisfactory method available
ziram	no satisfactory method available
Triazines	
metsulfuron-methyl	poor chromatography
sulfometuron-methyl	exclusion criteria
2-chloro-4-ethylamino-6-amino-s-triazine	poor chromatography
2-chloro-4,6-bis(amino)-s-triazine	poor chromatography

Table B-1 (cont.). List of Excluded Pesticides

Pesticide	Reason for Exclusion
Uracils	
monuron	exclusion criteria
3-(3,4-dichlorophenyl)-1-methylurea	poor chromatography
3-(3,4-dichlorophenyl)urea	no standard
Nitriles	
4-hydroxy-2,5,6-trichloroisophthalonitrile	no standard
Pyrethrins	
pyrethrins	no satisfactory method available
Carboxylic Acids	
chlorflurenol	exclusion criteria
endothall	separate analysis (cost)
3,5,6-trichloro-2-pyridinol	no standard
Benzimidazoles	
benomyl *	breaks down during analysis
carboxin	no standard
oxycarboxin	exclusion criteria
Dicarboximides	
iprodione	exclusion criteria
4-cyclohexene-1,2-dicarboximide	poor recovery
Heterocyclic Nitrogens	
maleic hydrazide	no satisfactory method available
Organic Arsenicals	
cacodylic acid	no satisfactory method available
DSMA	no satisfactory method available
MSMA	no satisfactory method available

Table B-1 (cont.). List of Excluded Pesticides

Pesticide	Reason for Exclusion
Miscellaneous Organics	
acrolein	separate analysis (cost)
aminopyridine	poor chromatography
amitrole *	not extractable
arsenal	standard arrived too late
mefluidide	exclusion criteria
metaldehyde *	no satisfactory method available
sethoxydim	no standard

* - Indicates pesticides of concern in Puget Sound (Tetra Tech, 1988).

- Poor chromatography on HPLC (EPA Method 531.1), detected at Sullivan Slough as a non-target compound with the AED (EPA Method 1618).

ADDITIONAL APPENDICES

WASHINGTON STATE PESTICIDE MONITORING PROGRAM - RECONNAISSANCE SAMPLING OF SURFACE WATERS (1992)

by
Dale A. Davis

Washington State Department of Ecology
Environmental Investigations and Laboratory Services Program
Toxics, Compliance and Ground Water Investigations Section
Olympia, Washington 98504-7710

Water Body Numbers	Segment Numbers
WA-01-1115	01-01-04
WA-03-1010	02-03-06
WA-08-1020	04-08-02
WA-08-2100	04-08-02
WA-24-1010	11-24-04
WA-28-1010	26-13-99
WA-31-1010	26-14-99
WA-32-1010	15-32-02
WA-37-1048	18-37-02
WA-41-1010	19-41-01
WA-49-2100	21-45-01

March 1993

APPENDIX C

Appendix C. Quality Assurance/Quality Control Results

Matrix Spike Results

Field Spike Results

Transfer/Bottle Blank Results

Laboratory Blank Results

Data Qualifier Codes

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
NAF	-	Not analyzed for.
Bold	-	The analyte was present in the sample (visual aid to locate detected compounds).

MATRIX SPIKE RESULTS

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Alpha-BHC	NAF
Beta-BHC	NAF
Gamma-BHC (Lindane)	**97**
Delta-BHC	NAF
Heptachlor	**99**
Aldrin	NAF
Heptachlor Epoxide	NAF
Trans-Chlordane (Gamma)	**94**
Endosulfan I	**95**
Dieldrin	NAF
4,4'-DDE	NAF
Endrin	**101**
Endosulfan II	NAF
4,4'-DDD	NAF
Endrin Aldehyde	NAF
Endosulfan Sulfate	NAF
4,4'-DDT	**103**
Methoxychlor	**101**
Endrin Ketone	NAF
DDMU	NAF
Cis-Chlordane (Alpha-Chlordane)	NAF
Cis-Nonachlor	NAF
Trans-Nonachlor	NAF
Alpha-Chlordene	NAF
Gamma-Chlordene	NAF
Oxychlordane	NAF
Mirex	NAF
Kelthane	NAF
2,4'-DDT	NAF
2,4'-DDD	NAF
2,4'-DDE	NAF
Captafol	NAF
Captan	NAF
Toxaphene	NAF

Surrogate Recoveries

Dibutylchlorendate	105 %
Decachlorobiphenyl	94 %
4,4-Dibromooctafluorobiphenyl	118 %

Authorized By: D. [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Alpha-BHC	NAF
Beta-BHC	NAF
Gamma-BHC (Lindane)	**78**
Delta-BHC	NAF
Heptachlor	**81**
Aldrin	NAF
Heptachlor Epoxide	NAF
Trans-Chlordane (Gamma)	**77**
Endosulfan I	**78**
Dieldrin	NAF
4,4'-DDE	NAF
Endrin	**85**
Endosulfan II	NAF
4,4'-DDD	NAF
Endrin Aldehyde	NAF
Endosulfan Sulfate	NAF
4,4'-DDT	**81**
Methoxychlor	**85**
Endrin Ketone	NAF
DDMU	NAF
Cis-Chlordane (Alpha-Chlordane)	NAF
Cis-Nonachlor	NAF
Trans-Nonachlor	NAF
Alpha-Chlordene	NAF
Gamma-Chlordene	NAF
Oxychlordane	NAF
Mirex	NAF
Kelthane	NAF
2,4'-DDT	NAF
2,4'-DDD	NAF
2,4'-DDE	NAF
Captafol	NAF
Captan	NAF
Toxaphene	NAF

Surrogate Recoveries

Dibutylchlorendate	91	%
Decachlorobiphenyl	77	%
4,4-Dibromooctafluorobiphenyl	77	%

Authorized By: D. Martens Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Alpha-BHC		NAF
Beta-BHC		NAF
Gamma-BHC (Lindane)	**139**	
Delta-BHC		NAF
Heptachlor	**102**	
Aldrin		NAF
Heptachlor Epoxide		NAF
Trans-Chlordane (Gamma)	**123**	
Endosulfan I	**131**	
Dieldrin		NAF
4,4'-DDE		NAF
Endrin	**130**	
Endosulfan II		NAF
4,4'-DDD		NAF
Endrin Aldehyde		NAF
Endosulfan Sulfate		NAF
4,4'-DDT	**136**	
Methoxychlor	**121**	
Endrin Ketone		NAF
DDMU		NAF
Cis-Chlordane (Alpha-Chlordane)		NAF
Cis-Nonachlor		NAF
Trans-Nonachlor		NAF
Alpha-Chlordene		NAF
Gamma-Chlordene		NAF
Oxychlordane		NAF
Mirex		NAF
Kelthane		NAF
2,4'-DDT		NAF
2,4'-DDD		NAF
2,4'-DDE		NAF
Captafol		NAF
Captan		NAF
Toxaphene		NAF

Surrogate Recoveries

Dibutylchlorendate	114 %
Decachlorobiphenyl	141 %
4,4-Dibromooctafluorobiphenyl	86 %

Authorized By: [signature] Release Date: 8/14/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Alpha-BHC	NAF
Beta-BHC	NAF
Gamma-BHC (Lindane)	**128**
Delta-BHC	NAF
Heptachlor	**100**
Aldrin	NAF
Heptachlor Epoxide	NAF
Trans-Chlordane (Gamma)	**113**
Endosulfan I	**118**
Dieldrin	NAF
4,4'-DDE	NAF
Endrin	**117**
Endosulfan II	NAF
4,4'-DDD	NAF
Endrin Aldehyde	NAF
Endosulfan Sulfate	NAF
4,4'-DDT	**122**
Methoxychlor	**108**
Endrin Ketone	NAF
DDMU	NAF
Cis-Chlordane (Alpha-Chlordane)	NAF
Cis-Nonachlor	NAF
Trans-Nonachlor	NAF
Alpha-Chlordene	NAF
Gamma-Chlordene	NAF
Oxychlordane	NAF
Mirex	NAF
Kelthane	NAF
2,4'-DDT	NAF
2,4'-DDD	NAF
2,4'-DDE	NAF
Captafol	NAF
Captan	NAF
Toxaphene	NAF

Surrogate Recoveries

Dibutylchlorendate	110 %
Decachlorobiphenyl	133 %
4,4-Dibromooctafluorobiphenyl	96 %

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Resmethrin	NAF
Phenothrin	NAF
cis-Permethrin	NAF
Fenvalerate (2 isomers)	**107**

Surrogate Recoveries

Authorized By: D. Kantner Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Resmethrin	NAF
Phenothrin	NAF
cis-Permethrin	NAF
Fenvalerate (2 isomers)	**92**

Surrogate Recoveries

Authorized By: O Newtown Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Resmethrin	NAF
Phenothrin	NAF
cis-Permethrin	NAF
Fenvalerate (2 isomers)	**134**

Surrogate Recoveries

Authorized By: D. Houtman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Resmethrin	NAF
Phenothrin	NAF
cis-Permethrin	NAF
Fenvalerate (2 isomers)	**120**

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Dichlobenil	**89**
Eptam	NAF
Butylate	NAF
Vernolate	NAF
Tebuthiuron	**91**
Propachlor (Ramrod)	NAF
Cycloate	NAF
Ethalfluralin (Sonalan)	NAF
Treflan (Trifluralin)	**100**
Benefin	NAF
Simazine	**82**
Prometon (Pramitol 5p)	NAF
Atrazine	NAF
Propazine	NAF
Pronamide (Kerb)	**82**
Terbacil	NAF
Chlorothalonil (Daconil)	NAF
Triallate	NAF
Metribuzin	**90**
Alachlor	**111**
Ametryn	NAF
Prometryne	NAF
Terbutryn (Igran)	NAF
Bromacil	**90**
Metolachlor	NAF
Diphenamid	NAF
Pendimethalin	NAF
Napropamide	NAF
Oxyfluorfen	NAF
Norflurazon	NAF
Hexazinone	**88**
Fluridone	NAF

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Dichlobenil	**82**
Eptam	NAF
Butylate	NAF
Vernolate	NAF
Tebuthiuron	**72**
Propachlor (Ramrod)	NAF
Cycloate	NAF
Ethalfluralin (Sonalan)	NAF
Treflan (Trifluralin)	**82**
Benefin	NAF
Simazine	**71**
Prometon (Pramitol 5p)	NAF
Atrazine	NAF
Propazine	NAF
Pronamide (Kerb)	**71**
Terbacil	NAF
Chlorothalonil (Daconil)	NAF
Triallate	NAF
Metribuzin	**72**
Alachlor	**119**
Ametryn	NAF
Prometryne	NAF
Terbutryn (Igran)	NAF
Bromacil	**77**
Metolachlor	NAF
Diphenamid	NAF
Pendimethalin	NAF
Napropamide	NAF
Oxyfluorfen	NAF
Norflurazon	NAF
Hexazinone	**69**
Fluridone	NAF

Surrogate Recoveries

Authorized By: D. Hurtes Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Dichlobenil	**113**
Eptam	NAF
Butylate	NAF
Vernolate	NAF
Tebuthiuron	**154**
Propachlor (Ramrod)	NAF
Cycloate	NAF
Ethalfluralin (Sonalan)	NAF
Treflan (Trifluralin)	**137**
Benefin	NAF
Simazine	**144**
Prometon (Pramitol 5p)	NAF
Atrazine	NAF
Propazine	NAF
Pronamide (Kerb)	**145**
Terbacil	NAF
Chlorothalonil (Daconil)	NAF
Triallate	NAF
Metribuzin	**121**
Alachlor	**133**
Ametryn	NAF
Prometryne	NAF
Terbutryn (Igran)	NAF
Bromacil	**100**
Metolachlor	NAF
Diphenamid	NAF
Pendimethalin	NAF
Napropamide	NAF
Oxyfluorfen	NAF
Norflurazon	NAF
Hexazinone	**110**
Fluridone	NAF

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Dichlobenil	**104**
Eptam	NAF
Butylate	NAF
Vernolate	NAF
Tebuthiuron	**149**
Propachlor (Ramrod)	NAF
Cycloate	NAF
Ethalfluralin (Sonalan)	NAF
Treflan (Trifluralin)	**121**
Benefin	NAF
Simazine	**152**
Prometon (Pramitol 5p)	NAF
Atrazine	NAF
Propazine	NAF
Pronamide (Kerb)	**132**
Terbacil	NAF
Chlorothalonil (Daconil)	NAF
Triallate	NAF
Metribuzin	**109**
Alachlor	**113**
Ametryn	NAF
Prometryne	NAF
Terbutryn (Igran)	NAF
Bromacil	**98**
Metolachlor	NAF
Diphenamid	NAF
Pendimethalin	NAF
Napropamide	NAF
Oxyfluorfen	NAF
Norflurazon	NAF
Hexazinone	**94**
Fluridone	NAF

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/17/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Tetraethyl Pyrophosphate	NAF
Dethyl Fumarate	NAF
Dichlorvos (DDVP)	NAF
Mevinphos	NAF
Demeton-O	NAF
Ethoprop	**111**
Monocrotophos	NAF
Sulfotepp	NAF
Phorate	**97**
Dimethoate	NAF
Demeton-S	NAF
Dioxathion	NAF
Propetamphos	NAF
Fonofos	**103**
Diazinon	**98**
Disulfoton (Di-Syston)	NAF
Methyl Paraoxon	NAF
Phosphamidan	NAF
Methyl Parathion	**102**
Methyl Chlorpyrifos	NAF
Ronnel	NAF
Fenitrothion	NAF
Malathion	**109**
Fenthion	NAF
Chlorpyrifos	**100**
Parathion	NAF
Merphos	NAF
Tetrachlorvinphos (Gardona)	NAF
Fenamiphos	NAF
Butifos (DEF)	NAF
Fensulfothion	NAF
Ethion	**100**
Bolstar (Sulprofos)	NAF
Carbophenothion	NAF
Imidan	NAF
Azinphos (Guthion)	NAF

Analyte	Result
Ethyl Azinphos (Ethyl Guthion)	**113**
Coumaphos	NAF
Abate (Temephos)	NAF

Surrogate Recoveries

Triphenyl Phosphates	111 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Tetraethyl Pyrophosphate		NAF
Dethyl Fumarate		NAF
Dichlorvos (DDVP)		NAF
Mevinphos		NAF
Demeton-O		NAF
Ethoprop	**97**	
Monocrotophos		NAF
Sulfotepp		NAF
Phorate	**81**	
Dimethoate		NAF
Demeton-S		NAF
Dioxathion		NAF
Propetamphos		NAF
Fonofos	**87**	
Diazinon	**85**	
Disulfoton (Di-Syston)		NAF
Methyl Paraoxon		NAF
Phosphamidan		NAF
Methyl Parathion	**85**	
Methyl Chlorpyrifos		NAF
Ronnel		NAF
Fenitrothion		NAF
Malathion	**90**	
Fenthion		NAF
Chlorpyrifos	**81**	
Parathion		NAF
Merphos		NAF
Tetrachlorvinphos (Gardona)		NAF
Fenamiphos		NAF
Butifos (DEF)		NAF
Fensulfothion		NAF
Ethion	**89**	
Bolstar (Sulprofos)		NAF
Carbophenothion		NAF
Imidan		NAF
Azinphos (Guthion)		NAF

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	**94**	
Coumaphos		NAI
Abate (Temephos)		NAI

Surrogate Recoveries

Triphenyl Phosphates	89	%

Authorized By: [signature] Release Date: 8/17/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Tetraethyl Pyrophosphate	NAF
Dethyl Fumarate	NAF
Dichlorvos (DDVP)	NAF
Mevinphos	NAF
Demeton-O	NAF
Ethoprop	**127**
Monocrotophos	NAF
Sulfotepp	NAF
Phorate	**97**
Dimethoate	NAF
Demeton-S	NAF
Dioxathion	NAF
Propetamphos	NAF
Fonofos	**139**
Diazinon	**137**
Disulfoton (Di-Syston)	NAF
Methyl Paraoxon	NAF
Phosphamidan	NAF
Methyl Parathion	**142**
Methyl Chlorpyrifos	NAF
Ronnel	NAF
Fenitrothion	NAF
Malathion	**137**
Fenthion	NAF
Chlorpyrifos	**116**
Parathion	NAF
Merphos	NAF
Tetrachlorvinphos (Gardona)	NAF
Fenamiphos	NAF
Butifos (DEF)	NAF
Fensulfothion	NAF
Ethion	**119**
Bolstar (Sulprofos)	NAF
Carbophenothion	NAF
Imidan	NAF
Azinphos (Guthion)	NAF

Analyte	Result
Ethyl Azinphos (Ethyl Guthion)	**136**
Coumaphos	NAF
Abate (Temephos)	NAF

Surrogate Recoveries

Triphenyl Phosphates	143 %

Authorized By: D Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Tetraethyl Pyrophosphate		NAF
Dethyl Fumarate		NAF
Dichlorvos (DDVP)		NAF
Mevinphos		NAF
Demeton-O		NAF
Ethoprop	**120**	
Monocrotophos		NAF
Sulfotepp		NAF
Phorate	**93**	
Dimethoate		NAF
Demeton-S		NAF
Dioxathion		NAF
Propetamphos		NAF
Fonofos	**128**	
Diazinon	**122**	
Disulfoton (Di-Syston)		NAF
Methyl Paraoxon		NAF
Phosphamidan		NAF
Methyl Parathion	**133**	
Methyl Chlorpyrifos		NAF
Ronnel		NAF
Fenitrothion		NAF
Malathion	**128**	
Fenthion		NAF
Chlorpyrifos	**105**	
Parathion		NAF
Merphos		NAF
Tetrachlorvinphos (Gardona)		NAF
Fenamiphos		NAF
Butifos (DEF)		NAF
Fensulfothion		NAF
Ethion	**116**	
Bolstar (Sulprofos)		NAF
Carbophenothion		NAF
Imidan		NAF
Azinphos (Guthion)		NAF

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	**128**	
Coumaphos		NAF
Abate (Temephos)		NAF

Surrogate Recoveries

Triphenyl Phosphates	140 %

Authorized By: D. Hutton Release Date: 8/17/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Dalapon (DPA)	**67**	
2,4-DB		NAF
2,4-D	**90**	
2,4,5-Trichlorophenol		NAF
2,4,5-TB		NAF
2,4,5-TP (Silvex)	**96**	
Dichlorprop		NAF
MCPA	**78**	
MCPP		NAF
Ioxynil		NAF
Bromoxynil		NAF
Dacthal (DCPA)	**91**	
Dicamba	**78**	
Dinoseb	**50**	
Pentachlorophenol	**52**	
Picloram	**80**	
Diclofop-Methyl		NAF
3,5-Dichlorobenzoic Acid		NAF
5-Hydroxydicamba		NAF
Trichlopyr		NAF
Chloramben		NAF
Bentazon		NAF

Surrogate Recoveries

2,4,6-Tribromophenol	80 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Dalapon (DPA)	**89**	
2,4-DB		NAF
2,4-D	**54**	
2,4,5-Trichlorophenol		NAF
2,4,5-TB		NAF
2,4,5-TP (Silvex)	**61**	
Dichlorprop		NAF
MCPA	**89**	
MCPP		NAF
Ioxynil		NAF
Bromoxynil		NAF
Dacthal (DCPA)	**69**	
Dicamba	**61**	
Dinoseb	**45**	
Pentachlorophenol	**0**	**J**
Picloram	**64**	
Diclofop-Methyl		NAF
3,5-Dichlorobenzoic Acid		NAF
5-Hydroxydicamba		NAF
Trichlopyr		NAF
Chloramben		NAF
Bentazon		NAF

Surrogate Recoveries

2,4,6-Tribromophenol	78	%

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	615
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Dalapon (DPA)	**112**	
2,4-DB		NAF
2,4-D	**120**	**J**
2,4,5-Trichlorophenol		NAF
2,4,5-TB		NAF
2,4,5-TP (Silvex)	**98**	
Dichlorprop		NAF
MCPA	**104**	
MCPP		NAF
Ioxynil		NAF
Bromoxynil		NAF
Dacthal (DCPA)	**130**	**J**
Dicamba	**123**	
Dinoseb	**0**	
Pentachlorophenol	**16**	
Picloram	**104**	
Diclofop-Methyl		NAF
3,5-Dichlorobenzoic Acid		NAF
5-Hydroxydicamba		NAF
Trichlopyr		NAF
Chloramben		NAF
Bentazon		NAF

Surrogate Recoveries

2,4,6-Tribromophenol	50 %

Authorized By: [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result	
Dalapon (DPA)	**12**	
2,4-DB		NAF
2,4-D	**143**	**J**
2,4,5-Trichlorophenol		NAF
2,4,5-TB		NAF
2,4,5-TP (Silvex)	**87**	
Dichlorprop		NAF
MCPA	**95**	
MCPP		NAF
Ioxynil		NAF
Bromoxynil		NAF
Dacthal (DCPA)	**150**	**J**
Dicamba	**122**	
Dinoseb	**0**	
Pentachlorophenol	**21**	**J**
Picloram	**95**	
Diclofop-Methyl		NAF
3,5-Dichlorobenzoic Acid		NAF
5-Hydroxydicamba		NAF
Trichlopyr		NAF
Chloramben		NAF
Bentazon		NAF

Surrogate Recoveries

2,4,6-Tribromophenol	62	%

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Cyanazine	NAF
Chlorsulfuron	NAF
Diuron	**124**
Propham	**76**
Linuron	NAF
Surflan	NAF

Surrogate Recoveries

Carbazole	100 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Cyanazine	NAF
Chlorsulfuron	NAF
Diuron	NAF
Propham	**94**
Linuron	**62**
Surflan	NAF

Surrogate Recoveries

Carbazole	100 %

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Cyanazine	NAF
Chlorsulfuron	NAF
Diuron	NAF
Propham	NAF
Linuron	NAF
Surflan	NAF

Surrogate Recoveries

Carbazole	91 %

Authorized By: O. Nielsen Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Cyanazine	NAF
Chlorsulfuron	NAF
Diuron	NAF
Propham	NAF
Linuron	NAF
Surflan	NAF

Surrogate Recoveries

Carbazole	100 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Aldicarb Sulfoxide	**52**
Aldicarb Sulfone	**49**
Oxamyl (Vydate)	**47**
Methomyl	**38**
3-Hydroxycarbofuran	**51**
Aldicarb	**52**
Baygon (Propoxur)	**42**
Carbofuran	**47**
Carbaryl	**35**
1-Naphthol	**49**
Methiocarb	**56**

Surrogate Recoveries

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Aldicarb Sulfoxide	**52**
Aldicarb Sulfone	**51**
Oxamyl (Vydate)	**53**
Methomyl	**42**
3-Hydroxycarbofuran	**56**
Aldicarb	**63**
Baygon (Propoxur)	**45**
Carbofuran	**49**
Carbaryl	**42**
1-Naphthol	**42**
Methiocarb	**46**

Surrogate Recoveries

Authorized By: _____ **Release Date:** 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Aldicarb Sulfoxide	**79**
Aldicarb Sulfone	**91**
Oxamyl (Vydate)	**89**
Methomyl	**68**
3-Hydroxycarbofuran	**109**
Aldicarb	**81**
Baygon (Propoxur)	**89**
Carbofuran	**87**
Carbaryl	**83**
1-Naphthol	**75**
Methiocarb	**84**

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
Aldicarb Sulfoxide	**85**
Aldicarb Sulfone	**81**
Oxamyl (Vydate)	**80**
Methomyl	**71**
3-Hydroxycarbofuran	**100**
Aldicarb	**89**
Baygon (Propoxur)	**84**
Carbofuran	**83**
Carbaryl	**86**
1-Naphthol	**101**
Methiocarb	**94**

Surrogate Recoveries

Authorized By: D Newton Release Date: 8/17/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
1,2-Dibromoethane (EDB)	**76**
1,2-Dibromo-3-Chloropropane (DBCP)	**66**

Surrogate Recoveries

Dalapon, Methylated	79 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LMX2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
1,2-Dibromoethane (EDB)	**95**
1,2-Dibromo-3-Chloropropane (DBCP)	**84**

Surrogate Recoveries

Dalapon, Methylated	75 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
1,2-Dibromoethane (EDB)	**75**
1,2-Dibromo-3-Chloropropane (DBCP)	**69**

Surrogate Recoveries

Dalapon, Methylated	82	%

Authorized By: D. Kettavis **Release Date:** 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LMX2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	% Recovery

Analyte	Result
1,2-Dibromoethane (EDB)	**91**
1,2-Dibromo-3-Chloropropane (DBCP)	**85**

Surrogate Recoveries

Dalapon, Methylated	95 %

Authorized By: [signature] Release Date: 8/19/92

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 08822 SAS No.: SDG No.: 228030

Matrix Spike - EPA Sample No.: 228034

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	47.30	95	61-145
Trichloroethene	50.00	0	48.50	97	71-120
Benzene	50.00	0	49.20	98	76-127
Toluene	50.00	0	51.70	103	76-125
Chlorobenzene	50.00	0	55.10	110	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	44.00	88	8	14	61-145
Trichloroethene	50.00	48.40	97	0	14	71-120
Benzene	50.00	48.70	97	1	11	76-127
Toluene	50.00	52.40	105	2	13	76-125
Chlorobenzene	50.00	55.10	110	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 08987 SAS No.: SDG No.: 238005

Matrix Spike - EPA Sample No.: 238006

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	48.20	96	61-145
Trichloroethene	50.00	0	47.90	96	71-120
Benzene	50.00	0	47.80	96	76-127
Toluene	50.00	0	45.90	92	76-125
Chlorobenzene	50.00	0	48.10	96	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	48.80	98	2	14	61-145
Trichloroethene	50.00	47.90	96	0	14	71-120
Benzene	50.00	47.70	95	1	11	76-127
Toluene	50.00	46.50	93	1	13	76-125
Chlorobenzene	50.00	48.20	96	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: 91928
INSTR. ID: VOA 2

MS/MSD Recoveries for Moxee Drain
Sample Number 228034

Summary of Glyphosate Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-315 Rec.	12.0	11.8	98.4
92-315 Rec. Dup.	12.0	11.7	97.1

Ave. Rec. = 97.8%

Summary of AMPA Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-315 Rec.	12.0	10.2	85.2
92-315 Rec. Dup.	12.0	10.1	83.8

Ave. Rec. = 84.5%

Summary of Diquat Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-315 Rec.	$33.\overline{3}$	30.2	90.6
92-315 Rec. Dup.	$33.\overline{3}$	30.8	92.4

Ave. Rec. = 91.5%

Summary of Paraquat Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-317 Rec.	$33.\overline{3}$	27.3	82.0
92-317 Rec.	$33.\overline{3}$	25.5	76.5
92-317 Rec. Dup.	$33.\overline{3}$	25.2	75.5

Ave. Rec. = 78.0%

MS/MSD Recoveries for Mercer Creek
Sample Number 238006

Summary of Glyphosate Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-341 Rec.	10.0	9.79	97.9
92-341 Rec. Dup.	10.0	10.19	101.9

Ave. Rec. = 99.9%

Summary of AMPA Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-341 Rec.	10.0	9.90	99.0
92-341 Rec. Dup.	10.0	10.09	100.9

Ave. Rec.= 100.0

Summary of Diquat Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-341 Rec.	$33.\overline{3}$	35.2	105.6
92-341 Rec. Dup	$33.\overline{3}$	32.6	97.7

Ave. Rec. = 101.7%

Summary of Paraquat Water Recoveries

A & S ID	PPb ADDED	PPb FOUND	% RECOVERY
92-341 Rec.	$66.\overline{6}$	51.1	76.7
92-341 Rec. Dup	$66.\overline{6}$	49.2	73.8

Ave. Rec. = 75.3%

FIELD SPIKE RESULTS

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**WSPMP**	Sample Number:	**92428054**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	1618-Cl
Date Reported:	19-NOV-92	Matrix:	Water-Total
Date Received:	18-NOV-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.050	U
Beta-BHC	0.050	U
Gamma-BHC (Lindane)	**0.19**	
Delta-BHC	0.050	U
Heptachlor	**0.23**	
Aldrin	0.050	U
Heptachlor Epoxide	**0.43**	
Trans-Chlordane (Gamma)	0.050	U
Endosulfan I	0.050	U
Dieldrin	0.050	U
4,4'-DDE	0.050	U
Endrin	**0.76**	
Endosulfan II	0.050	U
4,4'-DDD	0.050	U
Endrin Aldehyde	0.050	U
Endosulfan Sulfate	0.050	U
4,4'-DDT	0.050	U
Endrin Ketone	0.025	U
Methoxychlor	**0.25**	
Alpha-Chlordene	0.050	U
Gamma-Chlordene	0.050	U
Oxychlordane	0.050	U
DDMU	0.050	U
Cis-Chlordane (Alpha-Chlordane)	0.050	U
Cis-Nonachlor	0.050	U
Kelthane	0.20	U
2,4'-DDE	0.050	U
Trans-Nonachlor	0.050	U
2,4'-DDD	0.050	U
2,4'-DDT	0.050	U
Mirex	0.050	U

Surrogate Recoveries

Decachlorobiphenyl	100 %

Authorized By: [signature] Release Date: 11/23/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**WSPMP**	Sample Number:	**92428055**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	1618-Cl
Date Reported:	19-NOV-92	Matrix:	Water-Total
Date Received:	18-NOV-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.050	U
Beta-BHC	0.050	U
Gamma-BHC (Lindane)	**0.21**	
Delta-BHC	0.050	U
Heptachlor	**0.26**	
Aldrin	0.050	U
Heptachlor Epoxide	**0.46**	
Trans-Chlordane (Gamma)	0.050	U
Endosulfan I	0.050	U
Dieldrin	0.050	U
4,4'-DDE	0.050	U
Endrin	**0.83**	
Endosulfan II	0.050	U
4,4'-DDD	0.050	U
Endrin Aldehyde	0.050	U
Endosulfan Sulfate	0.050	U
4,4'-DDT	0.050	U
Endrin Ketone	0.050	U
Methoxychlor	**0.27**	
Alpha-Chlordene	0.050	U
Gamma-Chlordene	0.050	U
Oxychlordane	0.050	U
DDMU	0.050	U
Cis-Chlordane (Alpha-Chlordane)	0.050	U
Cis-Nonachlor	0.050	U
Kelthane	0.20	U
2,4'-DDE	0.050	U
Trans-Nonachlor	0.050	U
2,4'-DDD	0.050	U
2,4'-DDT	0.050	U
Mirex	0.050	U

Surrogate Recoveries

Decachlorobiphenyl	96 %

Authorized By: O. Hunter Release Date: 11/23/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**WSPMP**	Sample Number:	**92428054**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	1618-N
Date Reported:	19-NOV-92	Matrix:	Water-Total
Date Received:	18-NOV-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Tebuthiuron	0.083	U
Propachlor (Ramrod)	0.017	U
Ethalfluralin (Sonalan)	0.013	U
Treflan (Trifluralin)	0.013	U
Simazine	0.083	U
Atrazine	**0.17**	
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Metribuzin	0.083	U
Alachlor	**0.61**	
Prometryn	0.083	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.13	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.13	U
Fluridone	0.67	U
Eptam	0.13	U
Butylate	0.13	U
Vernolate	0.13	U
Cycloate	0.13	U
Benefin	0.13	U
Prometon (Pramitol 5p)	0.083	U
Propazine	0.083	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Ametryn	0.083	U
Terbutryn (Igran)	0.083	U
Hexazinone	0.13	U
Pebulate	0.20	U
Molinate	0.22	U
Chlorpropham	0.42	U
Atraton	0.25	U

Analyte	Result	
Triadimefon	0.22	U
MGK264	0.58	U
Butachlor	0.29	U
Carboxin	0.92	U
Fenarimol	0.25	U

Surrogate Recoveries

Authorized By: D. R. Hunter Release Date: 11/23/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**WSPMP**	Sample Number:	**92428055**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	1618-N
Date Reported:	19-NOV-92	Matrix:	Water-Total
Date Received:	18-NOV-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Tebuthiuron	0.083	U
Propachlor (Ramrod)	0.17	U
Ethalfluralin (Sonalan)	0.13	U
Treflan (Trifluralin)	0.13	U
Simazine	0.083	U
Atrazine	**0.19**	
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Metribuzin	0.083	U
Alachlor	**0.70**	
Prometryn	0.083	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.13	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.13	U
Fluridone	0.67	U
Eptam	0.13	U
Butylate	0.13	U
Vernolate	0.13	U
Cycloate	0.13	U
Benefin	0.13	U
Prometon (Pramitol 5p)	0.083	U
Propazine	0.083	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Ametryn	0.083	U
Terbutryn (Igran)	0.083	U
Hexazinone	0.13	U
Pebulate	0.20	U
Molinate	0.22	U
Chlorpropham	0.42	U
Atraton	0.25	U

Analyte	Result	
Triadimefon	0.22	U
MGK264	0.58	U
Butachlor	0.29	U
Carboxin	0.92	U
Fenarimol	0.25	U

Surrogate Recoveries

Authorized By: D. Fontaine Release Date: 11/23/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**WSPMP**	Sample Number:	**92428054**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	8150
Date Reported:	28-DEC-92	Matrix:	Water-Total
Date Received:	19-OCT-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.073	U
2,4-DB	0.057	U
2,4-D	**0.64**	
Dacthal (DCPA)	0.013	U
Dicamba	0.013	U
Dichlorprop	0.027	U
Dinoseb	0.017	U
Pentachlorophenol	**0.13**	
Picloram	0.020	U
2,4,5-TP (Silvex)	**0.19**	
2,4,5-T	0.013	U
2,4,5-TB	0.013	U
Bromoxynil	0.013	U
Ioxynil	0.013	U
MCPP	1.7	U
MCPA	1.7	U
Acifluorfen (Blazer)	0.027	U
4-Nitrophenol	0.027	U
Bentazon	0.11	U
Chloramben	0.020	U
3,5-Dichlorobenzoic Acid	0.027	U
5-Hydroxydicamba	0.020	U

Surrogate Recoveries

2,4,6-Tribromophenol	69	%

Authorized By: D. Hunter Release Date: 12/29/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**WSPMP**	Sample Number:	**92428055**
Project Officer:	Dale Davis	Field ID:	
PIC:	D3600	Method:	8150
Date Reported:	28-DEC-92	Matrix:	Water-Total
Date Received:	19-OCT-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.11	U
2,4-DB	0.057	U
2,4-D	**0.66**	
Dacthal (DCPA)	0.13	U
Dicamba	0.13	U
Dichlorprop	0.027	U
Dinoseb	0.017	U
Pentachlorophenol	**0.19**	
Picloram	0.020	U
2,4,5-TP (Silvex)	**0.20**	
2,4,5-T	0.013	U
2,4,5-TB	0.013	U
Bromoxynil	0.013	U
Ioxynil	0.013	U
MCPP	1.7	U
MCPA	1.7	U
Acifluorfen (Blazer)	0.027	U
4-Nitrophenol	0.027	U
Bentazon	0.11	U
Chloramben	0.020	U
3,5-Dichlorobenzoic Acid	0.027	U
5-Hydroxydicamba	0.020	U

Surrogate Recoveries

2,4,6-Tribromophenol	97	%

Authorized By: D. Newton Release Date: 12/29/92

TRANSFER/BOTTLE BLANK RESULTS

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.19	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.58	U
Captan	0.35	U
Toxaphene	1.4	U

Surrogate Recoveries

Dibutylchlorendate	102 %
Decachlorobiphenyl	92 %
4,4-Dibromooctafluorobiphenyl	102 %

Authorized By: D. Hartman Release Date: 6/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.15	U
Phenothrin	0.15	U
cis-Permethrin	0.15	U
Fenvalerate (2 isomers)	0.31	U

Surrogate Recoveries

Authorized By: D Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.23	U
Dichlorvos (DDVP)	0.06	U
Mevinphos	0.08	U
Demeton-O	0.04	U
Ethoprop	0.07	U
Monocrotophos	0.54	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.04	U
Dioxathion	0.13	U
Propetamphos	0.15	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.14	U
Phosphamidan	0.19	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.03	U
Ronnel	0.04	U
Fenitrothion	0.05	U
Malathion	0.08	U
Fenthion	0.07	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.12	U
Tetrachlorvinphos (Gardona)	0.15	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.12	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.08	U
Azinphos (Guthion)	0.15	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.19	U
Coumaphos	0.10	U
Abate (Temephos)	0.69	U

Surrogate Recoveries

Triphenyl Phosphates	107 %

Authorized By: D. [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.09	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.15	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.23	U
Terbacil	0.39	U
Chlorothalonil (Daconil)	0.18	U
Triallate	0.20	U
Metribuzin	0.08	U
Alachlor	0.18	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.46	U
Metolachlor	0.23	U
Diphenamid	0.23	U
Pendimethalin	0.12	U
Napropamide	0.23	U
Oxyfluorfen	0.20	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.62	U

Surrogate Recoveries

Authorized By: D Karlson Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.14	U
MCPP	0.14	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	0.01	U
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	0.007	U
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	70	%

Authorized By: _____ Release Date: 8/17/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	NPS-4
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.5	U
Chlorsulfuron	11	U
Diuron	3.0	U
Propham	26	U
Linuron	2.3	U
Surflan	4.1	U

Surrogate Recoveries

Carbazole	63	%

Authorized By: D. Ekstam Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228037**
Project Officer:	Dale Davis	Field ID:	Blank
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	99	%

Authorized By: _____ Release Date: 8/19/92

LABORATORY BLANK RESULTS

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.20	U
2,4'-DDT	0.13	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.63	U
Captan	0.38	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	103 %
Decachlorobiphenyl	91 %
4,4-Dibromooctafluorobiphenyl	76 %

Authorized By: D. Houtan Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK2**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.20	U
2,4'-DDT	0.13	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.63	U
Captan	0.38	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	93 %
Decachlorobiphenyl	97 %
4,4-Dibromooctafluorobiphenyl	103 %

Authorized By: D Hutton Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK1**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.60	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.75	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	125 %
Decachlorobiphenyl	98 %
4,4-Dibromooctafluorobiphenyl	89 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK2**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.60	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.75	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	103 %
Decachlorobiphenyl	95 %
4,4-Dibromooctafluorobiphenyl	79 %

Authorized By: D. Kerten Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK2**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: O Newtons Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.07	U
Chlorpyrifos	0.05	U
Parathion	0.07	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	91	%

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK2**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.05	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	92	%

Authorized By: D. Ketchum Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK1**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.08	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.05	U
Parathion	0.07	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	80 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK2**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.05	U
Parathion	0.07	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	115 %

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.67	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK2**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.67	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK1**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.13	U
Butylate	0.13	U
Vernolate	0.13	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.13	U
Ethalfluralin (Sonalan)	0.13	U
Treflan (Trifluralin)	0.13	U
Benefin	0.13	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.13	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.13	U
Hexazinone	0.13	U
Fluridone	0.67	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005 LBK2**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:		Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.13	U
Butylate	0.13	U
Vernolate	0.13	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.13	U
Ethalfluralin (Sonalan)	0.13	U
Treflan (Trifluralin)	0.13	U
Benefin	0.13	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.13	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.13	U
Hexazinone	0.13	U
Fluridone	0.67	U

Surrogate Recoveries

Authorized By: D Nathan Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.14	U
MCPP	0.14	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	0.01	U
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	0.007	U
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	86	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	U
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.01	U
MCPA	0.67	U
MCPP	0.67	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	0.01	U
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	**0.002**	**J**
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	77 %

Authorized By: D. [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	U
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.15	U
MCPP	0.15	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	0.01	U
Dicamba	0.01	U
Dinoseb	**0.01**	**J**
Pentachlorophenol	**0.002**	**J**
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	92 %

Authorized By: D. Nantaine Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LBK1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	20	U
Chlorsulfuron	24	U
Diuron	6.2	U
Propham	54	U
Linuron	4.8	U
Surflan	8.7	U

Surrogate Recoveries

Carbazole	95	%

Authorized By: D Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LBK2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	20	U
Chlorsulfuron	24	U
Diuron	6.2	U
Propham	54	U
Linuron	4.8	U
Surflan	8.7	U

Surrogate Recoveries

Carbazole	94	%

Authorized By: O Hartman Release Date: 8/29/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	17	U
Chlorsulfuron	20	U
Diuron	5.3	U
Propham	46	U
Linuron	4.1	U
Surflan	7.4	U

Surrogate Recoveries

Carbazole	92	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	18	U
Chlorsulfuron	21	U
Diuron	5.5	U
Propham	47	U
Linuron	4.2	U
Surflan	7.6	U

Surrogate Recoveries

Carbazole	98	%

Authorized By: D. [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK1**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030 LBK2**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D Yfantis Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LBK1**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	98	%

Authorized By: D Holcomb Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034 LBK2**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	100 %

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK1**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	94	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006 LBK2**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:		Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	110 %

Authorized By: D. Hartman Release Date: 8/19/92

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 08822 SAS No.: SDG No.: 228030

Lab File ID: B7887 Lab Sample ID: VBLKW1

Date Analyzed: 06/08/92 Time Analyzed: 1421

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	228030	91076	B7888	1531
02	228031	91077	B7889	1615
03	228032	91078	B7890	1706
04	228033	91079	B7891	1748
05	228034	91080	B7892	1833
06	228034MS	91080MS	B7893	1917
07	228034MSD	91080MSD	B7894	2002

COMMENTS: VBLKW1
INSTR. ID: VOA 2

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW2

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 08822 SAS No.: SDG No.: 228030

Lab File ID: B7902 Lab Sample ID: VBLKW2

Date Analyzed: 06/09/92 Time Analyzed: 1513

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	228035	91081	B7903	1555
02	228037	91082	B7905	1806

COMMENTS: VBLKW1
INSTR. ID: VOA 2

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 08987 SAS No.: SDG No.: 238005

Lab File ID: B7959 Lab Sample ID: VBLKW1

Date Analyzed: 06/24/92 Time Analyzed: 1233

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: VOA2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	238005	91927	B7960	1326
02	238006	91928	B7961	1404
03	238007	91929	B7965	1642
04	248015	91930	B7966	1723
05	248016	91931	B7964	1604
06	248017	91932	B7967	1803
07	238006MS	91928MS	B7962	1445
08	238006MSD	91928MSD	B7963	1525

COMMENTS: VBLKW1
INST. ID: VOA 2

APPENDIX D

Appendix D. Field Sample Results

Data Qualifier Codes

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
NAF	-	Not analyzed for.
Bold	-	The analyte was present in the sample (visual aid to locate detected compounds).

Duplicate Codes

Birchfield Drain is the code word for the duplicate sample at Moxee Drain. Mercer Slough is the duplicate code for Mercer Creek.

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.19	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.59	U
Captan	0.05	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	94 %
Decachlorobiphenyl	100 %
4,4-Dibromooctafluorobiphenyl	118 %

Authorized By: D. Hunter Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.20	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.62	U
Captan	0.37	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	97	%
Decachlorobiphenyl	91	%
4,4-Dibromooctafluorobiphenyl	96	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.20	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.61	U
Captan	0.37	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	102 %
Decachlorobiphenyl	95 %
4,4-Dibromooctafluorobiphenyl	117 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.19	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.59	U
Captan	0.35	U
Toxaphene	1.4	U

Surrogate Recoveries

Dibutylchlorendate	98 %
Decachlorobiphenyl	95 %
4,4-Dibromooctafluorobiphenyl	119 %

Authorized By: D. Kautzman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	**0.017**	**J**
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	**0.026**	**J**
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	**0.015**	**J**
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.19	U
2,4'-DDT	0.12	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.59	U
Captan	0.36	U
Toxaphene	1.4	U

Surrogate Recoveries

Dibutylchlorendate	86 %
Decachlorobiphenyl	103 %
4,4-Dibromooctafluorobiphenyl	117 %

Authorized By: O. Kauten Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	**0.018**	**J**
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	**0.028**	**J**
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	**0.015**	**J**
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.05	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.20	U
2,4'-DDT	0.13	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.62	U
Captan	0.37	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	101 %
Decachlorobiphenyl	103 %
4,4-Dibromooctafluorobiphenyl	128 %

Authorized By: D. Nuttam Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.59	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.74	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	97 %
Decachlorobiphenyl	88 %
4,4-Dibromooctafluorobiphenyl	102 %

Authorized By: D. Nauman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	UJ
Cis-Chlordane (Alpha-Chlordane)	0.05	UJ
Cis-Nonachlor	0.05	UJ
Trans-Nonachlor	0.05	UJ
Alpha-Chlordene	0.05	UJ
Gamma-Chlordene	0.05	UJ
Oxychlordane	0.05	UJ
Mirex	0.05	UJ
Kelthane	0.59	UJ
2,4'-DDT	0.15	UJ
2,4'-DDD	0.05	UJ
2,4'-DDE	0.05	UJ
Captafol	0.74	UJ
Captan	0.45	UJ
Toxaphene	1.5	UJ

Surrogate Recoveries

Dibutylchlorendate	32	%
Decachlorobiphenyl	27	%
4,4-Dibromooctafluorobiphenyl	29	%

Authorized By: D Hentam Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.60	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.75	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	80	%
Decachlorobiphenyl	83	%
4,4-Dibromooctafluorobiphenyl	86	%

Authorized By: D. Kentons Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.60	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.75	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	94 %
Decachlorobiphenyl	90 %
4,4-Dibromooctafluorobiphenyl	102 %

Authorized By: D. Huntsman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.60	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.75	U
Captan	0.45	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	99 %
Decachlorobiphenyl	89 %
4,4-Dibromooctafluorobiphenyl	105 %

Authorized By: D. Nuttall Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.15	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.59	U
2,4'-DDT	0.15	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.73	U
Captan	0.44	U
Toxaphene	1.5	U

Surrogate Recoveries

Dibutylchlorendate	50	%
Decachlorobiphenyl	47	%
4,4-Dibromooctafluorobiphenyl	53	%

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorinated Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	1618-Cl
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Alpha-BHC	0.05	U
Beta-BHC	0.05	U
Gamma-BHC (Lindane)	0.05	U
Delta-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Trans-Chlordane (Gamma)	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.05	U
4,4'-DDE	0.05	U
Endrin	0.05	U
Endosulfan II	0.05	U
4,4'-DDD	0.05	U
Endrin Aldehyde	0.05	U
Endosulfan Sulfate	0.05	U
4,4'-DDT	0.05	U
Methoxychlor	0.05	U
Endrin Ketone	0.05	U
DDMU	0.14	U
Cis-Chlordane (Alpha-Chlordane)	0.05	U
Cis-Nonachlor	0.05	U
Trans-Nonachlor	0.05	U
Alpha-Chlordene	0.05	U
Gamma-Chlordene	0.05	U
Oxychlordane	0.05	U
Mirex	0.05	U
Kelthane	0.58	U
2,4'-DDT	0.14	U
2,4'-DDD	0.05	U
2,4'-DDE	0.05	U
Captafol	0.72	U
Captan	0.43	U
Toxaphene	1.4	U

Surrogate Recoveries

Dibutylchlorendate	86	%
Decachlorobiphenyl	78	%
4,4-Dibromooctafluorobiphenyl	82	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.16	U
Fenvalerate (2 isomers)	0.31	U

Surrogate Recoveries

Authorized By: D. Hatten Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.20	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.20	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: Dr Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.16	U
Fenvalerate (2 isomers)	0.31	U

Surrogate Recoveries

Authorized By: D. Martin Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.16	U
Fenvalerate (2 isomers)	0.32	U

Surrogate Recoveries

Authorized By: D. Kantas Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D. Hartmann Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.33	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.33	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.33	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: D Hutton Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.17	U
Phenothrin	0.17	U
cis-Permethrin	0.17	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: O-Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.16	U
Fenvalerate (2 isomers)	0.33	U

Surrogate Recoveries

Authorized By: [signature] Release Date: 8/17/92

Manchester Environmental Laboratory
Pyrethrins (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	1618-Py
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Resmethrin	0.16	U
Phenothrin	0.16	U
cis-Permethrin	0.16	U
Fenvalerate (2 isomers)	0.32	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.24	U
Dichlorvos (DDVP)	0.06	U
Mevinphos	0.08	U
Demeton-O	0.04	U
Ethoprop	0.07	U
Monocrotophos	0.55	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.04	U
Dioxathion	0.13	U
Propetamphos	0.16	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.14	U
Phosphamidan	0.19	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.03	U
Ronnel	0.04	U
Fenitrothion	0.05	U
Malathion	0.08	U
Fenthion	0.07	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	**0.033**	**J**

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.19	U
Coumaphos	0.10	U
Abate (Temephos)	0.71	U

Surrogate Recoveries

Triphenyl Phosphates	104 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.16	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.05	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.74	U

Surrogate Recoveries

Triphenyl Phosphates	100 %

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.57	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.16	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.74	U

Surrogate Recoveries

Triphenyl Phosphates	111 %

Authorized By: D. Houtaus Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.24	U
Dichlorvos (DDVP)	0.06	U
Mevinphos	0.08	U
Demeton-O	0.04	U
Ethoprop	0.07	U
Monocrotophos	0.55	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.04	U
Dioxathion	0.13	U
Propetamphos	0.16	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.14	U
Phosphamidan	0.19	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.03	U
Ronnel	0.04	U
Fenitrothion	0.05	U
Malathion	0.08	U
Fenthion	0.07	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.15	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.19	U
Coumaphos	0.10	U
Abate (Temephos)	0.71	U

Surrogate Recoveries

Triphenyl Phosphates	104 %

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	**0.048**	**J**
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	100 %

Authorized By: D. Hartman Release Date: 8/17/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.06	U
Malathion	**0.059**	**J**
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	111 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.12	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	**0.077**	
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.99	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.12	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.74	U

Surrogate Recoveries

Triphenyl Phosphates	100 %

Authorized By: D. Statum Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.12	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	**0.088**	
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.05	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.12	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.74	U

Surrogate Recoveries

Triphenyl Phosphates	97 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.12	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	**0.094**	
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	91	%

Authorized By: D. Hartness Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	108 %

Authorized By: D. Hartman Release Date: 8/17/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.05	U
Dethyl Fumarate	0.25	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.58	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.17	U
Fonofos	0.05	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.05	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.05	U
Parathion	0.07	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.17	U
Fenamiphos	0.13	U
Butifos (DEF)	0.12	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.75	U

Surrogate Recoveries

Triphenyl Phosphates	104 %

Authorized By: D. Henderson Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.24	U
Dichlorvos (DDVP)	0.07	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.57	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.16	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.15	U
Phosphamidan	0.20	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.08	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.20	U
Coumaphos	0.11	U
Abate (Temephos)	0.73	U

Surrogate Recoveries

Triphenyl Phosphates	119 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Organophosphorous Pesticides (GC/AED)

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	1618-OP
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Tetraethyl Pyrophosphate	0.04	U
Dethyl Fumarate	0.24	U
Dichlorvos (DDVP)	0.06	U
Mevinphos	0.08	U
Demeton-O	0.05	U
Ethoprop	0.07	U
Monocrotophos	0.56	U
Sulfotepp	0.05	U
Phorate	0.04	U
Dimethoate	0.08	U
Demeton-S	0.05	U
Dioxathion	0.14	U
Propetamphos	0.16	U
Fonofos	0.04	U
Diazinon	0.07	U
Disulfoton (Di-Syston)	0.05	U
Methyl Paraoxon	0.14	U
Phosphamidan	0.19	U
Methyl Parathion	0.06	U
Methyl Chlorpyrifos	0.04	U
Ronnel	0.04	U
Fenitrothion	0.06	U
Malathion	0.08	U
Fenthion	0.07	U
Chlorpyrifos	0.04	U
Parathion	0.06	U
Merphos	0.13	U
Tetrachlorvinphos (Gardona)	0.16	U
Fenamiphos	0.12	U
Butifos (DEF)	0.11	U
Fensulfothion	0.13	U
Ethion	0.06	U
Bolstar (Sulprofos)	0.05	U
Carbophenothion	0.11	U
Imidan	0.09	U
Azinphos (Guthion)	0.16	U

Analyte	Result	
Ethyl Azinphos (Ethyl Guthion)	0.19	U
Coumaphos	0.10	U
Abate (Temephos)	0.72	U

Surrogate Recoveries

Triphenyl Phosphates	108 %

Authorized By: D Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.09	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	**0.041**	**J**
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.39	U
Chlorothalonil (Daconil)	0.19	U
Triallate	0.20	U
Metribuzin	0.08	U
Alachlor	0.19	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.47	U
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.20	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.63	U

Surrogate Recoveries

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	**0.31**	
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	**0.033**	**J**
Prometon (Pramitol 5p)	0.08	U
Atrazine	**0.088**	
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.12	U
Triallate	0.21	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.49	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	**0.078**	
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.21	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.49	U
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	**0.063**	**J**
Fluridone	0.65	U

Surrogate Recoveries

Authorized By: D Nartan Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.09	U
Eptam	**0.20**	
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	**0.24**	
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.39	U
Chlorothalonil (Daconil)	0.19	U
Triallate	0.20	U
Metribuzin	**0.043**	**J**
Alachlor	0.19	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.47	U
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.20	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.63	U

Surrogate Recoveries

Authorized By: D. Houtman Release Date: 8/17/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.09	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.40	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.21	U
Metribuzin	0.08	U
Alachlor	0.19	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.47	U
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.63	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.10	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: D Newtown Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	**0.054**	**J**
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.08	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: D. [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	**0.20**	
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	**0.074**	
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.21	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.49	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	**0.17**	
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	**0.090**	
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.12	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.66	U

Surrogate Recoveries

Authorized By: D. Barlow Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.12	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.17	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	**0.091**	
Prometon (Pramitol 5p)	0.08	U
Atrazine	**0.11**	
Propazine	0.08	U
Pronamide (Kerb)	0.25	U
Terbacil	0.42	U
Chlorothalonil (Daconil)	0.20	U
Triallate	0.22	U
Metribuzin	0.08	U
Alachlor	0.20	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.50	U
Metolachlor	0.25	U
Diphenamid	0.25	U
Pendimethalin	0.12	U
Napropamide	0.25	U
Oxyfluorfen	0.22	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.67	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.12	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	**0.24**	
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.41	U
Chlorothalonil (Daconil)	0.19	U
Triallate	0.21	U
Metribuzin	**0.036**	**J**
Alachlor	0.19	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	**0.046**	**J**
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.65	U

Surrogate Recoveries

Authorized By: D. Watson Release Date: 8/19/92

Manchester Environmental Laboratory
Nitrogen Containing Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	1618-N
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dichlobenil	0.12	U
Eptam	0.12	U
Butylate	0.12	U
Vernolate	0.12	U
Tebuthiuron	0.08	U
Propachlor (Ramrod)	0.16	U
Cycloate	0.12	U
Ethalfluralin (Sonalan)	0.12	U
Treflan (Trifluralin)	0.12	U
Benefin	0.12	U
Simazine	0.08	U
Prometon (Pramitol 5p)	0.08	U
Atrazine	0.08	U
Propazine	0.08	U
Pronamide (Kerb)	0.24	U
Terbacil	0.40	U
Chlorothalonil (Daconil)	0.19	U
Triallate	0.21	U
Metribuzin	0.08	U
Alachlor	0.19	U
Ametryn	0.08	U
Prometryne	0.08	U
Terbutryn (Igran)	0.08	U
Bromacil	0.48	U
Metolachlor	0.24	U
Diphenamid	0.24	U
Pendimethalin	0.12	U
Napropamide	0.24	U
Oxyfluorfen	0.21	U
Norflurazon	0.12	U
Hexazinone	0.12	U
Fluridone	0.64	U

Surrogate Recoveries

Authorized By: Dc Henderson Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.02	UJ
2,4,5-TB	0.02	U
2,4,5-TP (Silvex)	0.02	U
Dichlorprop	0.03	U
MCPA	0.15	U
MCPP	0.15	U
Ioxynil	0.02	U
Bromoxynil	0.02	U
Dacthal (DCPA)	0.02	U
Dicamba	0.02	U
Dinoseb	0.02	U
Pentachlorophenol	**0.002**	**NJ**
Picloram	0.02	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	89	%

Authorized By: D. Hunter Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	**0.98**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	1.4	U
MCPP	1.4	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**1.2**	
Dicamba	**0.012**	
Dinoseb	0.01	U
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	67 %

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	**0.055**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.7	U
MCPP	0.15	U
Ioxynil	0.21	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**12.**	
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	0.007	U
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	71	%

Authorized By: D. Martens Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	1.4	U
MCPP	1.4	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.028**	
Dicamba	0.01	U
Dinoseb	0.02	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	82	%

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	**0.16**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.14	U
MCPP	0.70	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.011**	**J**
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	**0.016**	**J**
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	82	%

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	**0.15**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.70	U
MCPP	0.70	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.011**	**J**
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	**0.014**	**J**
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.11	U

Surrogate Recoveries

2,4,6-Tribromophenol	74 %

Authorized By: D Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	615
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	**0.23**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	**0.052**	
MCPA	0.8	U
MCPP	0.8	U
Ioxynil	0.02	U
Bromoxynil	0.03	U
Dacthal (DCPA)	**0.066**	
Dicamba	0.03	U
Dinoseb	0.03	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.03	U
Diclofop-Methyl	0.07	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.01	U

Surrogate Recoveries

2,4,6-Tribromophenol	50 %

Authorized By: D. Houten Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	**0.19**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.15	U
MCPP	0.15	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.06**	
Dicamba	0.01	U
Dinoseb	0.01	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.13	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	41.7%

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	615
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	**0.20**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.01	U
MCPP	**1.7**	**J**
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.061**	
Dicamba	0.01	U
Dinoseb	0.01	U
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.13	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	47 %

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.67	U
MCPP	0.67	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.011**	**J**
Dicamba	0.01	U
Dinoseb	0.01	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	39.7%

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.06	U
2,4-D	**0.27**	
2,4,5-Trichlorophenol	0.02	UJ
2,4,5-TB	0.02	U
2,4,5-TP (Silvex)	0.02	U
Dichlorprop	0.03	U
MCPA	0.7	U
MCPP	**1.5**	**J**
Ioxynil	0.03	U
Bromoxynil	0.02	U
Dacthal (DCPA)	**0.006**	**J**
Dicamba	0.02	U
Dinoseb	0.02	UJ
Pentachlorophenol	0.008	UJ
Picloram	0.015	U
Diclofop-Methyl	0.10	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.03	U
Trichlopyr	0.03	U
Chloramben	0.03	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	57.5%

Authorized By: D. Vantan Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	**0.039**	
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.7	U
MCPP	0.7	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	**0.017**	
Dicamba	0.01	U
Dinoseb	0.01	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	UJ
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	30 %

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Chlorophenoxy Herbicides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	615
Date Reported:	18-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Dalapon (DPA)	0.07	U
2,4-DB	0.05	U
2,4-D	0.03	U
2,4,5-Trichlorophenol	0.01	UJ
2,4,5-TB	0.01	U
2,4,5-TP (Silvex)	0.01	U
Dichlorprop	0.03	U
MCPA	0.15	U
MCPP	0.15	U
Ioxynil	0.02	U
Bromoxynil	0.01	U
Dacthal (DCPA)	0.01	U
Dicamba	0.01	U
Dinoseb	0.01	UJ
Pentachlorophenol	0.007	UJ
Picloram	0.01	U
Diclofop-Methyl	0.03	U
3,5-Dichlorobenzoic Acid	0.03	U
5-Hydroxydicamba	0.02	U
Trichlopyr	0.03	U
Chloramben	0.02	U
Bentazon	0.10	U

Surrogate Recoveries

2,4,6-Tribromophenol	104 %

Authorized By: O. Watanabe Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.3	U
Chlorsulfuron	11	U
Diuron	2.9	U
Propham	25	U
Linuron	2.2	U
Surflan	4.0	U

Surrogate Recoveries

Carbazole	110 %

Authorized By: D. Hutchins Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.3	U
Chlorsulfuron	11	U
Diuron	2.9	U
Propham	25	U
Linuron	2.2	U
Surflan	4.0	U

Surrogate Recoveries

Carbazole	100 %

Authorized By: D Houtman Release Date: D. 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.2	U
Chlorsulfuron	11	U
Diuron	2.9	U
Propham	25	U
Linuron	2.2	U
Surflan	4.0	U

Surrogate Recoveries

Carbazole	100 %

Authorized By: O. Hutton Release Date: 8/17/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.4	U
Chlorsulfuron	11	U
Diuron	2.9	U
Propham	25	U
Linuron	2.3	U
Surflan	4.1	U

Surrogate Recoveries

Carbazole	110 %

Authorized By: D. [signature] Release Date: 8/17/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	9.4	U
Chlorsulfuron	11	U
Diuron	2.9	U
Propham	25	U
Linuron	2.3	U
Surflan	4.1	U

Surrogate Recoveries

Carbazole	110 %

Authorized By: D. Hinton Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.8	U
Chlorsulfuron	11	U
Diuron	2.8	U
Propham	24	U
Linuron	2.1	U
Surflan	3.8	U

Surrogate Recoveries

Carbazole	110 %

Authorized By: D Hutton Release Date: 8/17/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	NPS-4
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.4	U
Chlorsulfuron	10	U
Diuron	2.6	U
Propham	23	U
Linuron	2.0	U
Surflan	3.7	U

Surrogate Recoveries

Carbazole	91 %

Authorized By: D. Hentan Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.8	U
Chlorsulfuron	11	U
Diuron	2	U
Propham	24	U
Linuron	2.1	U
Surflan	3.8	U

Surrogate Recoveries

Carbazole	93	%

Authorized By: D. Hutson Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.7	U
Chlorsulfuron	10	U
Diuron	2.7	U
Propham	23	U
Linuron	2.1	U
Surflan	3.8	U

Surrogate Recoveries

Carbazole	98	%

Authorized By: _____ Release Date: 8/17/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	NPS-4
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.6	U
Chlorsulfuron	10	U
Diuron	2.7	U
Propham	23	U
Linuron	2.1	U
Surflan	3.7	U

Surrogate Recoveries

Carbazole	95	%

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	NPS-4
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.6	U
Chlorsulfuron	10	U
Diuron	2.7	U
Propham	23	U
Linuron	2.1	U
Surflan	3.7	U

Surrogate Recoveries

Carbazole	97	%

Authorized By: O. Nielsen Release Date: 8/19/92

Manchester Environmental Laboratory
Urea Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	NPS-4
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Cyanazine	8.6	U
Chlorsulfuron	10	U
Diuron	2.7	U
Propham	23	U
Linuron	2.1	U
Surflan	3.7	U

Surrogate Recoveries

Carbazole	95	%

Authorized By: D. Hostens Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	25	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D. Westman Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	EPA-531.1
Date Reported:	19-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	25	U
Baygon (Propoxur)	25	U
Carbofuran	25	U
Carbaryl	25	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D Hatton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	10	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D. Hartman Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	2.5	U
Aldicarb Sulfone	2.5	U
Oxamyl (Vydate)	2.5	U
Methomyl	2.5	U
3-Hydroxycarbofuran	2.5	U
Aldicarb	2.5	U
Baygon (Propoxur)	2.5	U
Carbofuran	2.5	U
Carbaryl	2.5	U
1-Naphthol	2.5	U
Methiocarb	2.5	U

Surrogate Recoveries

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Norton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Westman Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. [illegible] Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Newton Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Nuttall Release Date: 8/19/92

Manchester Environmental Laboratory
Carbamate Pesticides

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248018**
Project Officer:	Dale Davis	Field ID:	Tuttle Cr
PIC:	D3600	Method:	EPA-531.1
Date Reported:	17-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ug/L

Analyte	Result	
Aldicarb Sulfoxide	1.3	U
Aldicarb Sulfone	1.3	U
Oxamyl (Vydate)	1.3	U
Methomyl	1.3	U
3-Hydroxycarbofuran	1.3	U
Aldicarb	1.3	U
Baygon (Propoxur)	1.3	U
Carbofuran	1.3	U
Carbaryl	1.3	U
1-Naphthol	2.5	U
Methiocarb	1.3	U

Surrogate Recoveries

Authorized By: D. Hentzen Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228030**
Project Officer:	Dale Davis	Field ID:	Mission Cr.
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	98	%

Authorized By: D-Yeton Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228031**
Project Officer:	Dale Davis	Field ID:	Crab Cr.
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	86	%

Authorized By: D. Yantaw Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228032**
Project Officer:	Dale Davis	Field ID:	Walla Wal
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	84	%

Authorized By: _____ Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228033**
Project Officer:	Dale Davis	Field ID:	Glade Cr.
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	91	%

Authorized By: [signature] Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228034**
Project Officer:	Dale Davis	Field ID:	Moxee D
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	80	%

Authorized By: D. Hautanen Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92228035**
Project Officer:	Dale Davis	Field ID:	Birchfld
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	UJ
1,2-Dibromo-3-Chloropropane (DBCP)	10	UJ

Surrogate Recoveries

Dalapon, Methylated	90	%

Authorized By: D. Hoffman Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238005**
Project Officer:	Dale Davis	Field ID:	Thornton C
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	87	%

Authorized By: [signature] Release Date: 8/17/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238006**
Project Officer:	Dale Davis	Field ID:	Mercer S.
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	95	%

Authorized By: D. Hoffman Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92238007**
Project Officer:	Dale Davis	Field ID:	Mercer C.
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	79	%

Authorized By: D. Kirkham Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248015**
Project Officer:	Dale Davis	Field ID:	Lake River
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	100 %

Authorized By: O. Hentanen Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248016**
Project Officer:	Dale Davis	Field ID:	Fishtrap C
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	88	%

Authorized By: D. Hinton Release Date: 8/19/92

Manchester Environmental Laboratory
Ethylene Dibromide

Project Name:	**Pesticide Monitoring Program**	Sample Number:	**92248017**
Project Officer:	Dale Davis	Field ID:	Sullivan S
PIC:	D3600	Method:	504
Date Reported:	13-AUG-92	Matrix:	Water-Total
Date Received:	16-JUN-92	Units:	ng/L

Analyte	Result	
1,2-Dibromoethane (EDB)	10	U
1,2-Dibromo-3-Chloropropane (DBCP)	10	U

Surrogate Recoveries

Dalapon, Methylated	86	%

Authorized By: D. [illegible] Release Date: 8/19/92

Volatile Organics Analysis

Sample site	Methyl Bromide	Dichloro-propane	cis-Dichloro-propene	trans-Dichloro-propene	Xylene
Mission Creek	2 U	2 U	2 U	1 U	3 U
Crab Creek	2 U	2 U	2 U	1 U	3 U
Walla Walla River	2 U	2 U	2 U	1 U	3 U
Glade Creek	2 U	2 U	2 U	1 U	3 U
Moxee Drain	2 U	2 U	2 U	1 U	3 U
Moxee Drain Dup.	2 U	2 U	2 U	1 U	3 U
Thornton Creek	2 U	2 U	2 U	1 U	3 U
Mercer Creek	2 U	2 U	2 U	1 U	3 U
Mercer Creek Dup.	2 U	2 U	2 U	1 U	3 U
Lake River	2 U	2 U	2 U	1 U	3 U
Fishtrap Creek	2 U	2 U	2 U	1 U	3 U
Sullivan Slough	2 U	2 U	2 U	1 U	3 U
Tuttle Creek	NAF	NAF	NAF	NAF	NAF

Glyphosate/AMPA and Diquat/Paraquat

Sample Site	Glyphosate	AMPA	Diquat	Paraquat
Mission Creek	1.13 J	0.5 U	0.5 U	0.5 U
Crab Creek	0.38 J	0.5 U	0.5 U	0.5 U
Walla Walla River	0.49 J	0.5 U	0.5 U	0.5 U
Glade Creek	0.5 U	0.5 U	0.5 U	0.5 U
Moxee Drain	0.65 J	0.5 U	0.5 U	0.5 U
Moxee Drain Duplicate	0.33 NJ	0.5 U	0.5 U	0.5 U
Thornton Creek	0.58 J	0.5 U	0.5 U	0.5 U
Mercer Creek	1.07	0.5 U	0.5 U	0.5 U
Mercer Creek Duplicate	0.48 J	0.5 U	0.5 U	0.5 U
Lake River	0.5 U	0.5 U	0.5 U	0.5 U
Fishtrap Creek	0.5 U	0.5 U	0.5 U	0.5 U
Sullivan Slough	0.5 U	0.5 U	0.5 U	0.5 U
Tuttle Creek	0.5 U	0.5 U	0.5 U	0.5 U