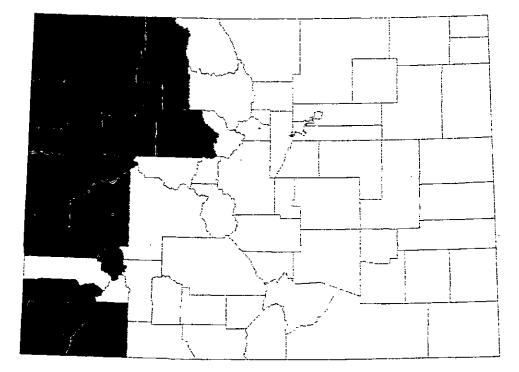
Report to the Commissioner of Agriculture Colorado Department of Agriculture



Ground Water Monitoring Activities West Slope of Colorado 1998

Bradford Austin Agricultural Chemicals Program Water Quality Control Division Colorado Department of Public Health and Environment

COLORADO DEPARTMENT of PUBLIC HEALTH and ENVIRONMENT

Water Quality Control Division Ag Chemicals Program

EXECUTIVE SUMMARY

The Water Quality Control Division (WQCD) of the Colorado Department of Public Health and Environment (CDPHE) has responsibility under the Agricultural Chemicals and Ground Water Protection Program (SB 90-126) to conduct monitoring for the presence of commercial fertilizers and pesticides in ground water. This data assists the Commissioner of Agriculture in determining whether agricultural operations are impacting ground water quality.

This report has been prepared to provide a summary of the ground water monitoring work completed in 1998. In April, 1998, the program began a regional ground water quality baseline study for the West Slope region of Colorado. The West Slope of Colorado includes all of Colorado west of the continental divide. The majority of the ground water sampled on the west slope occurs along stream and river valleys in alluvial deposits with some local aquifers on the larger mesas. The agriculture in this region is dominated by ranching with associated hay production. Ninety samples have been collected to date with more samples planned for the future. All sample points to date are from existing wells that are privately owned and permitted as domestic wells. All well samples were analyzed for basic ions, nitrate and 45 pesticides (Table 1).

Nitrate analysis showed that twenty nine (29) well samples (36 %) reported less than 0.5 mg/L (the laboratory detection limit) Nitrate as N, or non detects. Fifty one (51) well samples (63 %) tested positive for nitrate in the range of 0.5 to 9.9 mg/L. Only one well exceeded the nitrate drinking water standard of 10 mg/L. Pesticide data revealed one well containing the pesticide Malathion. There were no well samples that exceeded a water quality standard for a pesticide in this survey.

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LIST OF ACRONYMS USED IN THIS REPORT

- CDPHE Colorado Department of Public Health and Environment
- CDA Colorado Department of Agriculture
- CSU Colorado State University
- EPA United States Environmental Protection Agency
- GIS Geographic Information System
- MCL Maximum Contaminate Level
- mg/L Milligrams per Liter (for water equivalent to parts per million)
- QA Quality Assurance
- QC Quality Control
- SB 90-126 Senate Bill 90-126 of the Colorado General Assembly
- ug/L Micrograms per Liter (for water equivalent to parts per billion)
- USDA United States Department of Agriculture
- WQCD Water Quality Control Division of the Colorado Department of Public Health and Environment

INTRODUCTION

The Water Quality Control Division (WOCD) of the Colorado Department of Public Health and Environment (CDPHE) has responsibility under the Agricultural Chemicals and Ground Water Protection Program (SB 90-126) to conduct monitoring for the presence of commercial fertilizers and pesticides in ground water. The Agricultural Chemicals Program has been established to provide current, scientifically valid, ground water quality data to the Commissioner of Agriculture. Prior to passage of SB 90-126, a lack of data had prevented an accurate assessment of impacts to ground water quality from agricultural operations. This program will assist the Commissioner of Agriculture in determining to what extent agricultural operations are affecting ground water quality. The program also assists the Commissioner in identifying those aquifers that are vulnerable to contamination. The philosophy adopted is to protect ground water and the environment from impairment or degradation due to the improper use of agricultural chemicals, while allowing for their proper and correct use.

This report has been prepared to provide a summary of the Western Slope ground water monitoring program initiated in April 1998. The monitoring program involved the collection and laboratory analysis of ground water samples from private wells located throughout the Western Slope region of Colorado. This monitoring program was planned to meet the objectives necessary for a preliminary determination of the existence of agricultural chemicals in the ground water in a safe, cost effective, and timely manner. The ground water quality sampling program is intended to fulfill the following objectives:

- 1. Determine if agricultural chemicals are present in the ground water.
- 2. Provide data to assist the Commissioner of Agriculture in the identification of potential agricultural management areas.

The factors considered in selecting an area for monitoring are:

- 1. Agricultural chemicals are used in the area.
- 2. The ground water in the area is shallow in depth or vulnerable.
- 3. The majority of the agricultural chemical use is on irrigated land.
- 4. The soil types are conducive to leaching.
- 5. The alluvial and /or shallow bedrock aquifers are utilized for domestic water supplies.

Before an area is selected for monitoring, CDPHE contacts interested parties to inform them of the sampling program and SB 90-126, and how we envision its implementation. CDPHE then coordinates closely with federal agencies, county extension agents, conservancy districts, and local health officials in the project area.

GROUND WATER MONITORING PROGRAM

The 1998 monitoring program focused on ground water quality on the Western Slope of Colorado. Colorado's West Slope region includes all of the state west of the Continal Divide of the Rocky Mountains. The Western Slope in Colorado comprises an area over thirty eight thousand (38,000) square miles. Agriculture was the original foundation for the economy in this region and still comprises the largest land use. The majority of the agriculture in the region is range land or pasture with hay as the major crop.

The Western Slope survey is the largest sampling project in geographic area the program has ever attempted. Ninety samples have been collected to date during April -October, 1998 (Figure 1). In all cases, existing wells were used. Most of these wells were privately owned and permitted as domestic wells. This initial survey of 90 samples is only a beginning and well coverage is not uniformly distributed as efforts were concentrated in those areas representative of irrigated agriculture.

Wells were selected for sampling based on a favorable location within the irrigated or cropped areas and existence of a shallow ground water deposit. General well and site conditions, and cooperation of the well owner were important factors. The wells were sampled once between April and October, 1998 by Bradford Austin and CDPHE staff. Field sampling procedures followed the protocol developed by the ground water quality monitoring working group of the Colorado nonpoint task force.

Well samples were analyzed for basic water quality constituents, nitrate, and selected pesticides. A list of analytes is presented in Table 1. The basic inorganic analysis was performed by the Soils Laboratory at CSU with all samples split with the CDA Standards Laboratory for nitrate. Comparison of the split parameters shows consistent results between the two laboratories. For well samples WS98-001 thru WS98-019 a limited inorganic analysis was done at the CDPHE Laboratory. The Colorado Department of Agriculture, Standards Laboratory performed the laboratory analysis for nitrate as nitrogen and selected pesticides. Temperature, conductivity, and total dissolved solids were measured in the field.

The pesticide analysis was compiled based on those pesticides that have recently been, or are currently being utilized in the area according to local agricultural representatives. Budget restrictions would not allow testing for all pesticides used in the study area. To reduce the analysis cost, each pesticide was weighted according to its chemical properties of persistence and mobility in the environment, amount of active ingredient used per acre, and the amount of acreage within the study area on which that pesticide was used. Pesticides were then selected according to their final score and the ability of the laboratory to detect their presence.

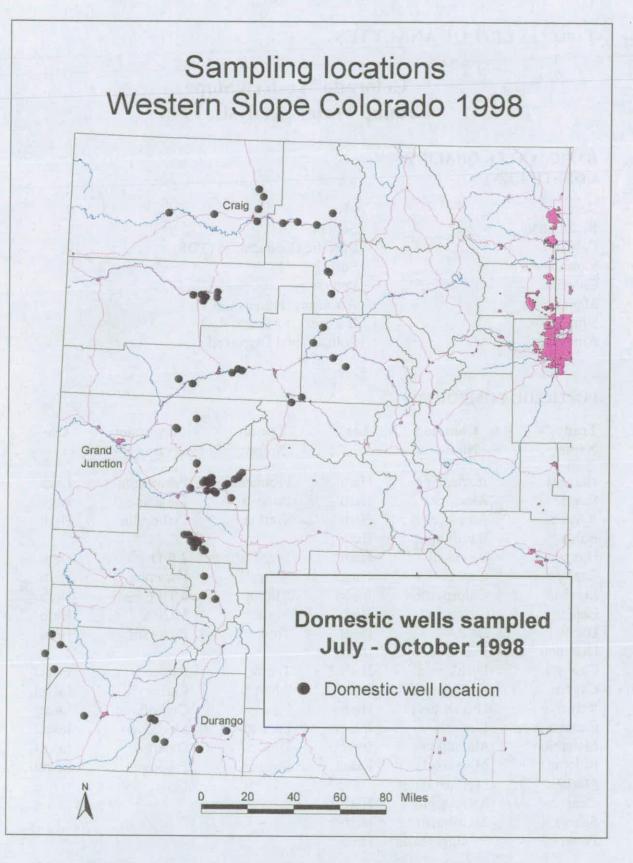


FIGURE 1 - Study area and sampling locations. Map showing the extent of the Western Slope study area and well locations sampled in 1998.

TABLE 1 - LIST OF ANALYTES

Colorado Western Slope Ground Water Analysis, 1998

BASIC WATER QUALITY CONSTITUENTS

| Boron | pH |
|-------------|--|
| Bicarbonate | Sodium |
| Calcium | Specific Conductance (TDS) |
| Carbonate | Sulfate |
| Chloride | Potassium |
| Magnesium | Alkalinity, total as CaCO ₃ |
| Nitrate | Hardness, total as CaCO ₃ |
| Ammonia | Solids, Total Dissolved |

PESTICIDE COMPOUNDS

| Trade Name | Common Name | Use | Trade Name | Common Name | Use |
|---------------|----------------|--------|---------------|----------------|--------|
| Harness | Acetachlor | Herb | Prometon | Prometone | Herb |
| Lasso | Alachlor | Herb | | Simazine | Herb |
| AAtrex | Atrazine | | Princep | | |
| | | Herb | Treflan | Trifluralin | Herb |
| Balan | Benfluralin | Herb | | | |
| Hyvar | Bromacil | Herb | Weed BGone | 2,4-D | Herb |
| Captane | Captan | Fungi | Banvel | Dicamba | Herb |
| Lorsban | Chlorpyrifos | Insect | Kilprop | MCPP | Herb |
| Bladex | Cyanazine | Herb | Agritox | MCPA | Herb |
| Dacthal | DCPA | Herb | Tordon | Picloram | Herb |
| Diazinon | Diazinon | Insect | | | |
| Casoron | Dichlobenil | Herb | Temik | Aldicarb | Insect |
| Cygon | Dimethoate | Insect | Sevin | Carbaryl | Insect |
| Velpar | Hexazinone | Herb | Furadan | Carbofuran | Insect |
| Gamma-mean | Lindane | Insect | Lannate | Methomyl | Insect |
| Malathion | Malathion | Insect | DPX | Oxamyl | Insect |
| Ridomil | Metalaxyl | Fungi | Baygon | Propoxur | Insect |
| Marlate | Methoxychlor | Insect | | | |
| Dual | Metolachlor | Herb | | | |
| Sencor | Metribuzin | Herb | | | |
| Prowl | Pendimethalin | Herb | | | |

GROUND WATER MONITORING RESULTS

The results from this sampling program have been entered into the CDPHE Ground Water Quality Data System, a database specifically designed and maintained by the WQCD to store ground water quality data. Reports may be generated from the database on ground water quality for any area of the state from all data sources available. A complete printout of all water quality data from this survey is provided in the Appendix.

Analysis of the nitrate data indicates that ground water in the majority of the area sampled does not show a significant impact from nitrate contamination. Nitrate analysis showed that only one well sample exceeded the nitrate drinking water standard of 10 mg/L. This compares quite favorably with other areas of the state were nitrate exceedences ranged from 10% to 34% of the samples. While overall nitrate levels were low, this contaminate was present in 63% of the samples, with 36% of the wells testing non-detect for nitrate. The drinking water standard is used as a benchmark for nitrate levels in all wells regardless of current use. In the West Slope study, all wells sampled were domestic supply wells.

Only one (1) of the eighty one (81) wells sampled (<1%) showed a nitrate level in excess of the EPA standard for drinking water (10 mg/L). Twenty nine (29) wells (36%) tested below the detection level of 0.5 mg/L. The remaining fifty one (51) wells (63%) tested positive for nitrate but were below the EPA standard (Figure 2).

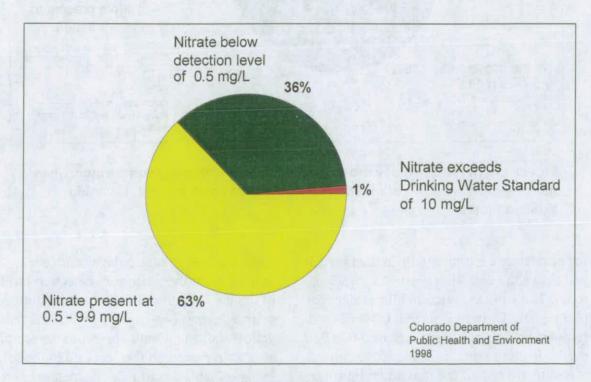


FIGURE 2 - Nitrate levels in Western Slope ground water Chart showing distribution of nitrate levels in wells sampled in 1998, Colorado West Slope.

Due to the unusually high percentage of well samples falling into the 0.5 to 9.9 mg/L concentration range for nitrate (63%), a second graph was prepared to provide more information on nitrate concentrations.

In Figure 3 below, we see that in fifty eight percent (58%) of the wells sampled,

A map prepared on a geographic information system (GIS) (Figure 4) shows the location of the wells and the nitrate results graphed in Figures 2 and 3. Wells on the map have been color coded according to the nitrate level measured in the well. The wells displayed in green tested below the laboratory detection level of 0.5 mg/L. The

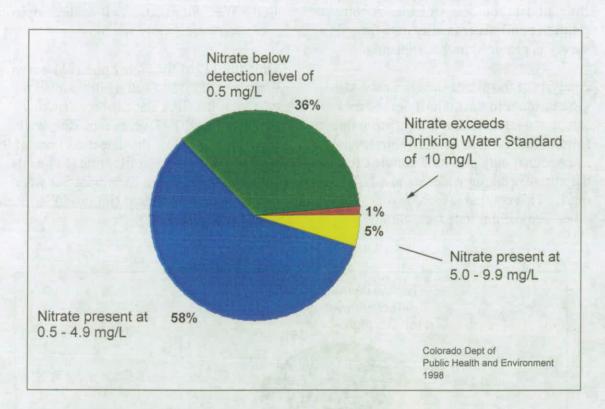


FIGURE 3 - Breakdown of nitrate levels in Western Slope ground water Chart showing the breakdown of nitrate levels in wells sampled in 1998, Colorado Western Slope.

the nitrate concentration falls in the range of just above the detection limit (0.5 mg/L) up to one half of the maximum allowable level (4.9 mg/L). Only five percent (5%) of the samples fall in the upper range of 5.0 to 9.9 mg/L. In summary, the nitrate concentration is less than one half the maximum limit for drinking water in ninety four percent (94%) of the samples. wells mapped in blue have nitrate levels ranging from the laboratory detection level of 0.5 mg/L up to one half the drinking water standard (4.9 mg/L). Wells shown as yellow indicate nitrate present in the sample at or above one half the standard (5.0 mg/L) but less than 10 mg/L. Wells mapped as red indicate a nitrate level exceeding the EPA drinking water standard of 10 mg/L.

Nitrate levels and well locations Western Slope Colorado 1998

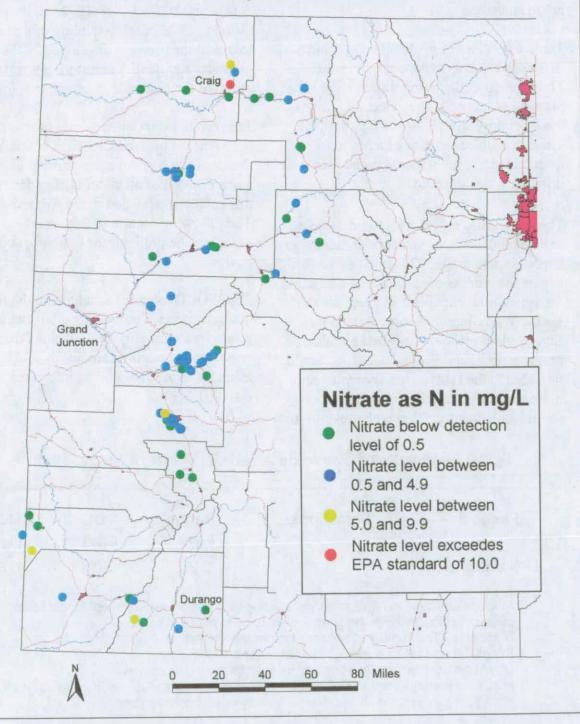


FIGURE 4 - Location of wells and nitrate levels. Map showing the locations and nitrate levels in ground water, Western Slope study area, 1998.

Pesticide data revealed only one pesticide, Malathion, present in the well samples. Malathion is a widely used insecticide labeled for insect control on many crops including sweet corn, alfalfa, and orchards. Malathion is also extensively used in the urban landscape.

Table 2 provides more detail on pesticides detected in Western Slope ground water. The location of the pesticide detection is plotted in Figure 5. The detection limit of the laboratory analysis is 0.1 ug/l or ppb. There was no occurrence of a pesticide detection at a level higher than the EPA drinking water standard.

The monitoring program included sample collection, laboratory analysis, and data analysis and storage. This initial survey only begins the process of establishing a baseline for agricultural chemicals in ground water for the West Slope. At some time in the future, additional data collected by this program, local and Federal agencies should be added to the study. Upon completion of more sampling and a full analysis, which should include integration with previous and current studies by other agencies, the resulting sampling program will provide the basis for determining a ground water quality baseline for this region.

All sampling was performed by Bradford Austin and staff of CDPHE, April through October, 1998. Field sampling procedures followed the protocol developed by the ground water quality monitoring working group of the Colorado nonpoint task force.

The results from this sampling program have been entered into the CDPHE Ground Water Quality Data System maintained at CDPHE and a printout of all water quality data from this survey is provided in the Appendix. The following section in this report describes the protocol for sampling and analysis.

The WQCD intends to include, in the final analysis of the Western Slope, all available ground water quality data. Results from previous and ongoing studies by other agencies in the area will be integrated into this analysis.

| Pesticide | Detections | Range | DL | MCL |
|-------------------|------------|--------|--------|--------|
| and a series of a | | (ug/L) | (ug/L) | (ug/L) |
| Malathion | . 1 | 0.23 | 0.1 | 3.0 |

TABLE 2 - Results of Pesticide Analysis, Western Slope, 1998.

Amounts are given in micrograms per liter (ug/L), a unit of measurement for pesticide concentrations. In water this is equivalent to parts per billion.

Detections - The number of wells testing positive for that pesticide.

Range - The range of concentration values for that pesticide.

DL - Minimum concentration that can be detected by the laboratory.

MCL - the maximum amount allowed in drinking water, if no MCL has been established the number given is the lifetime drinking water health advisory.

Pesticide detection and well location Western Slope Colorado 1998

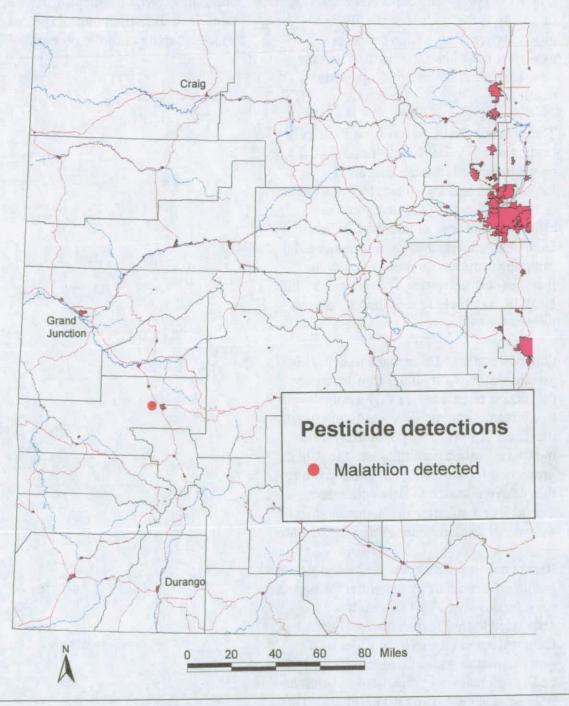


FIGURE 5 - Location of pesticide detection. Map showing the location and type of pesticide detected in ground water, Western Slope study area, 1998.

Future additions and actions in this area

The US Geological Survey (USGS) is in year three of their monitoring activities in the Upper Colorado Basin under the National Water Quality Assessment (NAWQA) program. Most NAWQA data in this study is surface water quality, but as the ground water data portion becomes available, it will be incorporated into the final analysis for Western Slope water quality.

The Shavano Soil Conservation District is leading an EPA 319 funded project in cooperation with the US Bureau of Reclamation and the Colorado Department of Natural Resources to determine the effects and sources of selenium in the Uncompany watershed. At this time, the sampling program focuses on selenium levels in surface water. Future work by the USBOR may include sampling of ground water drains.

Other efforts may be engaged in collecting ground water quality data. Unfortunately, this data is not always readily available due to concerns about privacy and future use of the data. The program hopes that as the monitoring effort continues and the public grows comfortable with our goals and intent, this valuable source of data will become available and enhance our understanding of the overall ground water quality of the state.

Recent development pressure has heightened public awareness of the potential for impacts to water quality. The Program has responded to these concerns by offering technical assistance to local water quality groups, ground water management districts, and other local water suppliers and entities interested in evaluating water quality in their area. Presentations of how the program works, past and present water quality projects, and plans for future projects with request for local input are made at every opportunity. We consider this type of outreach an important part of the customer service component of the program.

FIELD OPERATIONS

Scheduling

All wells were scheduled for sampling by WQCD personnel between April and October, 1998. The exact dates for sampling were subject to laboratory schedules, sample holding times, well owner availability, and travel times.

Sample Well Selection

The rationale used in selecting wells for this monitoring project are listed below.

- Low flow, domestic use wells are preferred;
- 2. Completed within the uppermost aquifer in the area;
- 3. Well currently in use or at least has a working pump installed;
- 4. Direction of ground water flow;
- Wellhead and casing in good physical condition and availability of completion information documentation;
- 6. Wellhead area free of point sources of contamination;
- 7. Well owner consent to participate in the monitoring program;

The ground water contaminants of concern that may be encountered in the area include nitrates and pesticides, other contaminates may exist in minor amounts.

Key Personnel

The sampling survey was conducted by:

Bradford Austin, Ground Water Geologist and Program Manager Bill Crick, Ground Water Geologist Mike Liuzzi, Ground Water Specialist

Site Access and Logistics

Access to the sampling sites and scheduling with land owners will be the responsibility of the field personnel. Consent for access to the property and for sampling the well will have been received prior to site entry.

QUALITY ASSURANCE / QUALITY CONTROL

Sample Collection Methods

All samples were collected in accordance with the Non-Point Source Task Force protocol for sampling of ground water. Samples were collected from existing wells via outside hydrants or whatever means available prior to any type of treatment (i.e. water softener). As a rule of thumb, three times the volume of water in the well casing plus any volume contained within the associated piping was purged prior to sampling. Rather than attempt to calculate these volumes, a determination of when fresh formation water has reached the point of sampling was verified by measuring pH. conductivity and temperature. A field portable instrument for measuring pH, conductivity and temperature was used for this purpose at each well site. For each well, the pH, conductivity and temperature were measured at periodic intervals (approximately every 5 minutes) while the well was being purged. Water samples were collected when solution chemistry of the ground water had stabilized such that three consecutive readings were within 5 %. It can be reasonably assumed that a stabilization in the values of these parameters indicates that the casing and piping have been purged and fresh formation water had reached the sampling point.

Negative bias (loss of constituent) is of significant concern in sampling for volatile compounds. Therefore, great care was taken in sample collection to minimize degassing by operating the sampling port at a low volume. Samples for volatile constituents and those samples that require field filtration were collected first. Samples for nitrate and inorganic analysis were collected next. If samples were collected for dissolved metals analyses they were filtered in the field with a 0.45 micron size filter.

In addition, the sampling team collected quality assurance samples consisting of field blanks and periodic duplicate samples. Field blanks were utilized for field QA/QC performance and subjected to all conditions to which the samples were exposed. Duplicate samples were prepared for lab calibration checks.

The following types of samples were provided for quality assurance:

Field Blank

A blank ground water sample was periodically collected to check field decontamination procedures. The blank was prepared by pouring laboratory supplied deionized water through decontaminated sampling equipment following the collection of possible contaminated samples.

Duplicates

Random duplicate ground water samples were collected to compare laboratory analysis procedures as well as sample collection procedure. Ground water samples were protected from undue exposure to light during handling, storage, and transport. Samples were stored on ice to prevent temperature extremes and transported to the CDA, or CSU laboratory and analyzed within the recommended holding periods. Documentation of actual sample storage and treatment were handled as part of the chain of custody procedures.

Decontamination Procedures

Wells were sampled to minimize the potential for cross contamination. Decontamination procedures were adhered to between each sampling event. All common sampling equipment was decontaminated prior to and between all sampling events by washing with a non phosphate detergent and triple rinsing with deionized water. Since pesticides were the constituents of most concern due to the low levels detectable, no sampling equipment was common between wells for the pesticide sampling.

Control of Contaminated Materials

The sampling team disposed of all wastes produced during the investigation in accordance with Federal and State regulations. Disposable sampling equipment was bagged, removed from the site, and disposed of as a nonhazardous material.

Laboratory Analyses

All water samples were analyzed for selected pesticides currently used in the area and basic inorganic minerals including nitrate. Table 3 provides a listing of the laboratories used, the chemicals analyzed by each, and the detection limits for each analysis. All collected samples (classified as environmental samples) were transported to the designated laboratory as medium hazard and analyzed accordingly. EPA analytical methods for each parameter group were as follows:

| pesticides | solid phase extraction: |
|------------|-------------------------|
| | GC/MSD |
| inorganics | varies with analyte |

Sample bottles were provided by the lab and were part of the quality control program. All samples were handled and preserved in accordance with the requirements of the laboratory used for that analysis. Calibration and operation of all monitoring equipment followed the instrument manufacturer's instructions.

Chain of Custody

All samples were handled in accordance with standard laboratory chain of custody protocol after collection and identification.

Table 3 - Laboratories, Methods and Detection Levels

Colorado Department of Agriculture Standards Laboratory

PESTICIDE ANALYSIS

| Pesticide Trade Name | Pesticide Common Name | Pesticide Use | Chemical Type | EPA Method | MDL (ug/L) |
|-------------------------|--------------------------|------------------|------------------|---------------|---------------|
| Harness | Acetachlor | Herb | acetoalinide | 525.1 | 0.1 |
| Lasso | Alachlor | Herb | OrganoCL | 525.1 | 0.1 |
| AAtrex | Atrazine | Herb | Triazine | 525.1 | 0.1 |
| | Deethyl Atrazine | | Triazine | 525.1 | 0.2 |
| | Deisopropyl Atrazine | ; | Triazine | 525.1 | 0.2 |
| Balan | Benfluralin | Herb | OrganoFL | 525.1 | 0.2 |
| Hyvar | Bromacil | Herb | uracil | 525.1 | 0.4 |
| Captane | Captan | Fungi | carboximide | 525.1 | 1.4 |
| Lorsban | Chlorpyrifos | Insect | OrganoPH | 525.1 | 0.1 |
| Bladex | Cyanazine | Herb | Triazine | 525.1 | 0.2 |
| Dacthal | DCPA | Herb | phthalic acid | 525.1 | 0.1 |
| Dazzel | Diazinon | Insect | OrganoPH | 525.1 | 0.2 |
| Barrier | Dichlobenil | Herb | nitrile | 525.1 | 0.1 |
| Cygon | Dimethoate | Insect | OrganoPH | 525.1 | 0.5 |
| | p,p-DDT | Insect | OrganoCL | 525.1 | 0.4 |
| | Endrin | Insect | OrganoCL | 525.1 | 0.3 |
| | Heptachlor | Insect | OrganoCL | 525.1 | 0.6 |
| | Heptachlor epoxide | Insect | OrganoCL | 525.1 | 0.8 |
| Velpar | Hexazinone | Herb | Triazine | 525.1 | 0.1 |
| Gamma-mean | Lindane | Insect | OrganoCL | 525.1 | 0.1 |
| Malathion | Malathion | Insect | OrganoPH | 525.1 | 0.1 |
| Ridomil | Metalaxyl | Fungi | acylalanine | 525.1 | 0.2 |
| Marlate | Methoxychlor | Insect | OrganoCL | 525.1 | 0.9 |
| Dual | Metolachlor | Herb | acetamide | 525.1 | 0.1 |
| Sencor | Metribuzin | Herb | Triazine | 525.1 | 0.5 |
| Prowl | Pendimethalin | Herb | dinitroaniline | 525.1 | 1.2 |
| Primatol | Prometon | Herb | triazine | 525.1 | 0.1 |
| Princep | Simazine | Herb | triazine | 525.1 | 0.2 |
| Treflan | Trifluralin | Herb | OrganoFL | 525.1 | 0.3 |
| | | | | | |
| Weed B Gone | 2,4-D | Herb | PhenoxyAcid | 515.2 | 0.2 |
| Banvel | Dicamba | Herb | BenzoicAcid | 515.2 | 0.1 |
| Kilprop | MCPP | Herb | PhenoxyAcid | 515.2 | 2.0 |
| Agritox | MCPA | Herb | PhenoxyAcid | 515.2 | 2.0 |
| Tordon | Picloram | Herb | PicolinicAcid | 515.2 | 0.35 |

Table 3, continued - Laboratories, Methods and Detection Levels

Colorado Department of Agriculture Standards Laboratory

PESTICIDE ANALYSIS

| Pesticide Trade Name | Pesticide Common Name | Pesticide Use | Chemical Type | EPA Method | MDL (ug/L) |
|-------------------------|--------------------------|------------------|------------------|---------------|---------------|
| Temik | Aldicarb | Insect | Carbamate | 531.1 | 1.0 |
| | Aldicarb sulfone | | Carbamate | 531.1 | 2.0 |
| | Aldicarb sulfoxide | | Carbamate | 531.1 | 2.0 |
| Sevin | Carbaryl | Insect | Carbamate | 531.1 | 2.0 |
| Furadan | Carbofuran | Insect | Carbamate | 531.1 | 1.5 |
| | 3-Hydroxycarbofuran | L | Carbamate | 531.1 | 2.0 |
| | Methiocarb | Insect | Carbamate | 531.1 | 4.0 |
| Lannate | Methomyl | Insect | Carbamate | 531.1 | 1.0 |
| | 1-Naphthol | | Carbamate | 531.1 | 1.0 |
| DPX | Oxamyl | Insect | Carbamate | 531.1 | 2.0 |
| Baygon | Propoxur | Insect | Carbamate | 531.1 | 1.0 |
| | | | | | MDI |

| INORGANIC ANALYSIS | EPA Method | MDL (mg/L) |
|----------------------|---------------|---------------|
| Nitrate/Nitrite as N | 300 | 0.5 |

Colorado State University Soil, Water, and Plant Testing Laboratory

ROUTINE WATER ANALYSIS

| Basic Water Quality Parameters | Method | Reporting Limit (mg/L) |
|---------------------------------------|-------------|------------------------|
| Boron | EPA 200.0 | 0.01 |
| Bicarbonate | APHA 2320B | 0.1 |
| Calcium | EPA 200.0 | 0.1 |
| Carbonate | APHA 2320B | 0.1 |
| Chloride | EPA 300.0 | 0.1 |
| Magnesium | EPA 200.0 | 0.1 |
| Nitrate | EPA 300.0 | . 0.1 |
| рН | EPA 150.1 | 0.1 pH unit |
| Sodium | EPA 200.0 | 0.1 |
| Specific conductance (TDS) | EPA 120.1 | · 1.0 uS/cm |
| Sulfate | EPA 300.0 | 0.1 |
| Potassium | EPA 200.0 | 0.1 |
| Alkalinity, total | Titration | 1.0 |
| Solids, Total Dissolved | Gravimetric | 10.0 |
| Hardness, total as CaCO ₃ | Calculation | 1.0 |

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Appendix

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| Slope | _ |
|--------|----------|
| Westem | Colorado |

Laboratory data

| suffate | mg/L | 0051 | 1700 | 37 | 52 | 380 | 120 | 86 | 89 | 2200 | 670 | 69 | 940 | 160 | 480 | 180 | 130 | 120 | 200 | 170 | 48.1 | 1616.8 | 162.7 | 112.4 | 120.8 | 109.6 | 5.6 | 5.6 | 20.4 | 114.3 | 186.0 |
|-------------|------|------|----------|---------|---------|----------|----------|--------|--------|----------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|---------|-------|
| bicarbonate | mg/L | | | | | | | - | | - | | | | | | | | | | | 323.7 | 433.7 | 331.6 | 448.1 | 478.8 | 332.3 | 292.3 | 120.3 | 159.0 | 277.1 | 620.5 |
| ate | mg/L | | | | | | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 60.1 | 60.1 | 6 .1 | <0.1 | |
| boron | mg/L | | | | | | | | | | | | | | | | 1 | | | | 0.04 | 0.03 | 0.04 | 0.09 | 0.10 | 0.12 | <0.01 | <0.01 | 0.02 | 0.27 | 0.22 |
| potassium | mg/L | | | | | | | | | - | | | | | | | | | | | 4.0 | 2.0 | 1.7 | 1.4 | 4.2 | 1.0 | 1.7 | 0.2 | 1.1 | 3.0 | C C |
| sodium | mg/L | | | | | | | | | | | | | | | | | | | | 6.6 | 66.1 | 11.5 | 48.2 | 19.1 | 139.1 | 6.5 | 3.8 | 9.0 | 41.5 | 201 1 |
| magnesium | mg/L | | | | | | | | | | | | | | | - | | | | | 27.0 | 138.1 | 40.0 | 58.1 | 60.5 | 29.2 | 10.7 | 6.2 | 12.9 | 32.5 | C |
| całcium | mg/L | | | | | | | | | | | | | | | | | | | | 87.0 | 504.4 | 131.6 | 91.0 | 111.2 | 47.5 | 80.0 | 31.0 | 35.1 | 70.5 | 0 |
| conduct | mg/L | | 3070 | 692 | 1071 | 1214 | 877 | 837 | 721 | 4180 | 1527 | 679 | 2260 | 666 | 1421 | 838 | 716 | 675 | 935 | 750 | 620 | 3350 | 883 | 975 | 962 | 1080 | 465 | 226 | 310 | 721 | ~~~~ |
| Hq | | | 7.7 | 7.5 | 7.5 | 7.4 | 8.1 | 7.2 | 7.1 | 6.4 | 6.5 | 6.6 | 6.6 | 6.8 | | | | 7.2 | 7.1 | 7.2 | 7.4 | 7.5 | 7.2 | 7.5 | 7.5 | 7.5 | 7.7 | 7.5 | 7.6 | 7.4 | |
| Date | | | 3/31/98 | 3/31/98 | 3/31/98 | 3/31/98 | 3/31/98 | 4/1/98 | 4/1/98 | 4/1/98 | 4/1/98 | 4/1/98 | 4/1/98 | 4/1/98 | 4/2/98 | 4/2/98 | 4/2/98 | 4/2/98 | 4/2/98 | 4/2/98 | 17/198 | 7/7/98 | 7/7/98 | 86/1/12 | 7/7/98 | 7/8/98 | 7/14/98 | 7/14/98 | 7/14/98 | 7/14/98 | |
| COUNTY | | | Delta | Delta | Delta | Montrose | Montrose | Delta | Delta | Delta | Delta | Delta | Delta | Delta | Montrose | Montrose | Montrose | Montrose | Montrose | Montrose | Rio-Blanco | Rio-Blanco | Rio-Blanco | Rio-Blanco | Rio-Blanco | Rio-Blanco | Routt | Routt | Routt | Routt | |
| WELL ID | | | WS98-001 | | | Τ | WS98-005 | 1 | | WS98-008 | | | | | | WS98-015 | WS98-016 | WS98-017 | WS98-018 | WS98-019 | WS98-021 | WS98-022 | WS98-023 | WS98-024 | WS98-025 | WS98-026 | | | | | Τ |

BDL - Below detection limit listed at head of collum

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Western Slope Colorado

Laboratory data

| MELL ID | COUNTY | Date | Hq | conduct | calcium | magnesium | sodium | potassium | boron | carbonate | bicarbonate | sulfate |
|----------|----------|---------|-----|---------|---------|-----------|--------|-----------|-------|-----------|-------------|---------|
| | | | | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | т Ш |
| WS98-033 | Routt | 7/15/98 | 7.2 | 123 | 13.5 | 3.4 | 6.1 | 0.7 | 0.09 | <0.1 | 54.1 | 7.0 |
| WS98-034 | Routt | 7/15/98 | 7.2 | 410 | 62.4 | 14.1 | 9.6 | 2.5 | <0.01 | <0.1 | 235.4 | 23.1 |
| WS98-035 | Moffat | 7/21/98 | 7.3 | 885 | 94.6 | 17.8 | 73.5 | 1.5 | 0.04 | <0.1 | 500.8 | 41.4 |
| WS98-036 | Moffat | 7/21/98 | 7.4 | 1250 | 40.8 | 4.6 | 200.3 | 1.7 | 0.03 | <0.1 | 215.8 | 296.0 |
| WS98-037 | Moffat | 7/22/98 | 7.3 | 1310 | 136.9 | 15.4 | 112.3 | 1.4 | 0.05 | <0.1 | 417.0 | 126.8 |
| WS98-038 | Moffat | 7/22/98 | 7.4 | 1890 | 68.7 | 12.5 | 311.1 | 13.3 | 0.45 | <0.1 | 1036.2 | 22.6 |
| WS98-039 | Moffat | 7/22/98 | 7.5 | 250 | 31.1 | 2.8 | 10.1 | 2.6 | <0.01 | <0.1 | 110.5 | 21.5 |
| WS98-041 | Moffat | 7/22/98 | 7.5 | 2240 | 82.1 | 93.9 | 263.4 | 1.8 | 0.29 | <0.1 | 520.9 | 750.5 |
| WS98-042 | Eagle | 7/28/98 | 7.8 | 3030 | 465.1 | 97.9 | 150.7 | 6.9 | 0.11 | <0.1 | 318.5 | 1344.1 |
| WS98-043 | Eagle | 7/28/98 | 7.7 | 1810 | 298.4 | 83.2 | 27.3 | 1.8 | 0.15 | <0.1 | 209.2 | 913.9 |
| WS98-044 | Eagle | 7/29/98 | 7.1 | 3450 | 535.3 | 181.6 | 107.4 | 7.9 | 1.03 | <0.1 | 181.9 | 1891.1 |
| WS98-045 | Eagle | 7/29/98 | 7.5 | 592 | 96.0 | 15.7 | 8.5 | 1.1 | 0.02 | <0.1 | 155.2 | 177.6 |
| WS98-046 | Eagle | 8/11/98 | 7.5 | 435 | 49.2 | 16.7 | 5.3 | 2.7 | 0.03 | <0.1 | 189.3 | 48.9 |
| WS98-047 | Garfield | 8/12/98 | 7.7 | 656 | 24.2 | 35.1 | 81.0 | 2.3 | 0.15 | <0.1 | 432.7 | 21.9 |
| WS98-048 | Garfield | 8/12/98 | 7.5 | 1470 | 49.6 | 80.1 | 170.5 | 4.9 | 0.11 | <0.1 | 358.7 | 483.8 |
| WS98-049 | Garfield | 8/12/98 | 7.5 | 541 | 32.8 | 44.1 | 15.0 | 2.8 | 0.06 | <0.1 | 287.8 | 58.0 |
| WS98-051 | Garfield | 8/12/98 | 8.1 | 812 | 6.0 | 3.1 | 191.1 | 2.1 | 0.05 | <0.1 | 480.3 | 48.1 |
| WS98-052 | Garfield | 8/12/98 | 7.5 | 2520 | 69.1 | 64.7 | 439.3 | 5.7 | 0.25 | <0.1 | 657.6 | 740.1 |
| WS98-053 | Pitkin | 8/13/98 | 7.9 | 407 | 60.2 | 6.9 | 27.3 | 1.5 | 0.03 | <0.1 | 251.7 | 19.1 |
| WS98-054 | Mesa | 8/19/98 | 7.7 | 1750 | 75.4 | 52.9 | 248.2 | | 0.13 | <0.1 | 509.8 | 493.9 |
| WS98-055 | Mesa | 8/20/98 | 9.1 | 841 | 1.5 | 0.4 | 188.9 | 0.7 | 0.18 | 67.0 | 424.1 | 17.8 |
| WS98-056 | Mesa | 8/20/98 | 7.8 | 962 | 56.2 | 67.7 | 69.3 | 1.1 | 0.15 | <0.1 | 611.5 | 72.7 |
| WS98-057 | Delta | 8/25/98 | 7.6 | 686 | 58.0 | 52.9 | 13.2 | 7.2 | 0.05 | <0.1 | 465.5 | <0.1 |
| WS98-058 | Delta | 8/25/98 | 7.7 | 633 | 74.0 | 32.8 | 13.4 | 5.5 | 0.04 | <0.1 | 381.3 | 12.9 |
| WS98-059 | Delta | 8/26/98 | 7.9 | 761 | 49.4 | 40.3 | 60.7 | 8.1 | 0.14 | <0.1 | 366.6 | 113.2 |
| WS98-061 | Delta | 8/26/98 | 8.1 | 361 | 40.6 | 17.4 | 10.2 | 2.3 | 0.04 | <0.1 | 225.5 | 11.3 |
| WS98-062 | Detta | 8/26/98 | 7.9 | 604 | 54.2 | 44.5 | 20.5 | 1.6 | 0.06 | <0.1 | 392.3 | 29.2 |
| WS98-063 | Detta | 8/26/98 | 8.3 | 345 | 38.7 | 13.8 | 13.6 | 3.1 | 0.03 | <0.1 | 193.2 | 35.0 |
| WS98-064 | Montrose | 9/3/98 | 7.8 | 1030 | 149.0 | 56.9 | 24.2 | 2.5 | 0.09 | <0.1 | 332.9 | 367.9 |
| | | | | | | _ | | | _ | _ | | |

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BDL - Below detection limit listed at head of collum

Appendix

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Western Slope Colorado

Laboratory data

| MELL ID | COUNTY | Date | На | conduct | calcium | magnesium | sodium | potassium | boron | carbonate | bicarbonate | sulfate |
|----------|-----------|----------|-----|---------|---------|-----------|--------|-----------|-------|---|-------------|---------|
| | | | • | mg/L | mg/L | ng/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| | | | | | | | | | | 10 | 1 000 | 0000 |
| WS98-065 | Montrose | 8/3/98 | 7.7 | 1330 | 296.5 | 33.2 | 25.3 | 3.8 | 0.19 | <u.1< td=""><td>303.4</td><td>0,000</td></u.1<> | 303.4 | 0,000 |
| WS98-066 | Montrose | 9(3/98 | 7.5 | 855 | 131.2 | 26.2 | 41.8 | 5.0 | 0.09 | <0.1 | 306.3 | 242.6 |
| WS98-067 | Montrose | 9/3/98 | 7.5 | 901 | 102.7 | 33.0 | 72.1 | 4.3 | 0.09 | <0.1 | 372.9 | 190.2 |
| WS98-068 | Delta | 9/15/98 | 7.5 | 2600 | 455.5 | 138.6 | 122.0 | 3.1 | 0.49 | <0.1 | 383.1 | 1638.3 |
| WS98-069 | Montrose | 9/16/98 | 7.6 | 735 | 125.7 | 20.8 | 35.5 | 4.1 | 0.09 | <0.1 | 272.2 | 197.3 |
| WS98-071 | Montrose | 9/16/98 | 7.6 | 435 | 30.9 | 13.6 | 55.0 | 8.4 | 0.12 | <0.1 | 213.1 | 84.6 |
| WS98-072 | Montrose | 9/16/98 | 7.5 | 904 | 148.0 | 25.6 | 39.2 | 4.8 | 0.09 | <0.1 | 321.9 | 207.1 |
| WS98-073 | Ouray | 9/16/98 | 1.1 | 2190 | 104.5 | 34.2 | 441.7 | 11.3 | 0.16 | <0.1 | 511.7 | 951.6 |
| WS98-074 | Ouray | 9/16/98 | 7.3 | 1090 | 157.2 | 53.2 | 45.9 | 8.9 | 0.04 | <0.1 | 290.7 | 397.1 |
| WS98-075 | Ourav | 9/17/98 | 7.7 | 2180 | 262.3 | 27.3 | 286.9 | 8.1 | 0.47 | <0.1 | 290.9 | 1137.5 |
| WS98-076 | Montrose | 9/17/98 | 7.8 | 1150 | 181.3 | 26.6 | 67.5 | 5.7 | 0.12 | <0.1 | 368.5 | 350.8 |
| WS98-077 | Dolores | 9/30/98 | 7.1 | 890 | 2.8 | 1.1 | 206.2 | 4.4 | 0.10 | <0.1 | 387.1 | 98.7 |
| WS98-078 | Dolores | 10/1/98 | 6.8 | 1200 | 150.8 | 54.6 | 62.0 | 1.4 | 0.08 | <0.1 | 339.8 | 364.8 |
| WS98-079 | Dolores | 9/30/98 | 6.6 | 3450 | 409.8 | 162.7 | 270.1 | 2.9 | 0.21 | <0.1 | 279.3 | 1495.0 |
| WS98-081 | Dolores | 10/1/98 | 7.9 | 556 | 69.1 | 17.5 | 32.8 | 2.8 | 0.08 | <0.1 | 247.2 | 38.8 |
| WS98-082 | La Plata | 10/21/98 | 7.9 | 2200 | 2.2 | 1.8 | 566.9 | 2.2 | 0.24 | <0.1 | 1405.4 | <0.1 |
| WS98-083 | La Plata | 10/21/98 | 7.0 | 3350 | 556.9 | 148.1 | 149.2 | 2.9 | 0.08 | <0.1 | 563.5 | 1408.2 |
| WS98-084 | Montezuma | 10/21/98 | 7.0 | 165 | 24.5 | 5.1 | 4.8 | 2.0 | 0.01 | <0.1 | 92.3 | 12.8 |
| WS98-085 | La Plata | 10/21/98 | 7.4 | 400 | 58.2 | 7.4 | 33.2 | 0.8 | 0.01 | <0.1 | 222.6 | 6.3 |
| WS98-086 | La Plata | 10/2/98 | 7.4 | 510 | 88.4 | 3.5 | 36.1 | 0.6 | 0.01 | <0.1 | 290.3 | 27.3 |
| WS98-087 | Montezuma | 10/22/98 | 7.8 | 385 | 54.9 | 10.5 | 23.4 | 1.3 | 0.02 | <0.1 | 244.7 | 10.6 |
| WS98-088 | Montezuma | 10/22/98 | 7.0 | 2700 | 536.8 | 109.6 | 84.2 | 2.5 | 0.06 | <0.1 | 400.5 | 1530.7 |
| WS98-089 | Montezuma | 10/22/98 | 7.5 | 1190 | 93.8 | 74.5 | 81.9 | 13.8 | 0.09 | <0.1 | 443.4 | 267.3 |
| | | | | | | | | | | | | |

BDL - Below detection limit listed at head of collum

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| Slope | |
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| Western | Colorado |

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|-----------------|----------|----------|------------|--------------|--------------|------------|----------|----------|------------|----------------|
| MELL ID | chlorine | hardness | alkalinity | diss. solids | Nitrate as N | Acetachlor | Alachlor | Atrazine | Deethyl At | Deisopropyl At |
| | mg/L | mg/L | mg/L | mg/L | 0.5 mg/L | 0.1 ug/L | 0.1 ug/L | 0.1 ug/L | 0.2 ug/L | 0.2 ug/L |
| | | | | | | | | | | |
| WS98-001 | 7 | 1600 | | | 3.8 | | BDL | BDL | BDL | BDL |
| WS98-002 | 2 | 320 | 330 | | 0.9 | | BDL | BDL | BDL | BDL |
| WS98-003 | 4 | 300 | | | BDL | | BDL | BDL | BDL | BDL |
| WS98-004 | 9 | 560 | | | 0.0 | | BDL | BDL | BDL | BDL |
| WS98-005 | 9 | 340 | 350 | | 3.1 | | BDL | BDL | BDL | BDL |
| WS98-006 | 13 | 310 | 370 | | 0.8 | BDL | BDL | BDL | BDL | BDL |
| WS98-007 | 4 | 310 | 350 | | 0.8 | | BDL | BDL | BDL | BDL |
| WS98-008 | 25 | 1600 | | | 1.1 | | BDL | BDL | BDL | BDL |
| WS98-009 | 20 | 730 | 320 | | BDL | | BDL | BDL | BDL | BDL |
| WS98-011 | 4 | 320 | | | 0.6 | | BDL | BDL | BDL | BDL |
| WS98-012 | 51 | 1000 | 320 | | 2.6 | | BDL | BDL | BDL | BDL |
| WS98-013 | 5 | 230 | 390 | | 0.7 | | BDL | BDL | BDL | BDL |
| WS98-014 | 2 | 730 | | | 5.0 | | BDL | BDL | BDL | BDL |
| WS98-015 | 9 | 390 | 250 | | 1.4 | | BDL | BDL | BDL | BDL |
| WS98-016 | 4 | 350 | | | 1.6 | | BDL | BDL | BDL | BDL |
| WS98-017 | 4 | 320 | | | 1.0 | | BDL | BDL | BDL | BOL |
| WS98-018 | 5 | 430 | 290 | | 2.6 | | BDL | BDL | BDL | BDL |
| WS98-019 | 8 | 340 | 240 | | 1.5 | | BDL | BDL | BDL | BDL |
| WS98-021 | 16.8 | 328 | 265 | 510 | 0.7 | | BDL | BDL | BDL | BDL |
| WS98-022 | 6.5 | 1,826 | 355 | 2,768 | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-023 | 14.8 | 493 | 272 | 701 | 1.4 | | BDL | BDL | BDL | BDL |
| WS98-024 | 20.0 | 466 | 367 | 794 | 2.6 | | BDL | BDL | BDL | BDL |
| WS98-025 | 16.0 | 526 | 392 | 816 | 1.3 | | BDL | BDL | BDL | BOL |
| WS98-026 | 82.2 | 239 | 272 | 764 | 3.9 | | BDL | BDL | BDL | BDL |
| NS98-027 | 4.4 | 243 | 240 | 401 | 0.4 | | BDL | BDL | BDL | BDL |
| WS98-028 | 2.4 | . 103 | 66 | 175 | 1.1 | | BDL | BDL | BDL | BDL |
| WS98-029 | 2.3 | 141 | 130 | 248 | 1.7 | | BDL | BDL | BDL | BDL |
| WS98-031 | 36.0 | 309 | 227 | 576 | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-032 | 32.4 | 23 | 509 | 1,219 | BDL | BDL | BDL | BDL | BDL | BDL |
| | | | | | | - | | | _ | |

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BDL - Below detection limit listed at head of collum

Appendix

| Slope | |
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| Western | Colorado |

| VI At | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | | | ĺ |
|-------------|----------|---|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---|
| Deisopropyl | 0.2 ug/L | | C C C | BOL | BDL | BOL | BDL | |
| Deethyl At | 0.2 ug/L | | | BDL | |
| Atrazine | 0.1 ug/L | Č | 5 | BDL | BOL | BDL | |
| Alachlor | 0.1 ug/L | | פער | BDL | BOL | BDL | |
| Acetachlor | 0.1 ug/L | č | 20 | BDL | |
| z | 0.5 mg/L | | - | BDL | 1.1 | 5.8 | 32.0 | BDL | BDL | BDL | BDL | 0.9 | 6.0 | BDL | 2.3 | 1.2 | BDL | BDL | BDL | 3.2 | BDL | 3.0 | 4.9 | 0.5 | 1.3 | 1.0 | 1.3 | 0.5 | 9.0 | BDL | |
| ids | mg/L | | RO | 349 | 753 | 862 | 1,053 | 1,540 | 180 | 1,755 | 2,515 | 1,567 | 3,101 | 478 | 331 | 619 | 1168 | 444 | 733 | 2029 | 372 | 1490 | 717 | 886 | 612 | 532 | 658 | 312 | 558 | 298 | |
| alkalinity | mg/L | | 44 | 193 | 410 | 177 | 342 | 849 | 91 | 427 | 261 | 171 | 149 | 127 | 155 | 355 | 294 | 236 | 394 | 539 | 206 | 418 | 348 | 501 | 382 | 313 | 301 | 185 | 322 | 158 | |
| hardness | mg/L | | 40 | 214 | 309 | 121 | 405 | 223 | 89 | 591 | 1,563 | 1,087 | 2,082 | 304 | 191 | 205 | 453 | 263 | <1.0 | 438 | 179 | 406 | 5 | 419 | 362 | 319 | 289 | 173 | 318 | 153 | |
| chlorine | mg/L | ľ | 2.1 | 1.6 | 17.0 | 69.8 | 69.3 | 60.5 | 0.7 | 42.0 | 131.3 | 31.6 | 192.4 | 18.4 | 4.7 | 14.8 | 19.7 | 3.7 | 1.2 | 34.0 | 5.0 | 85.6 | 16.4 | 6.0 | 8.4 | 7.0 | 12.7 | 2.6 | 12.9 | <0.1 | |
| MELL ID | | | WS98-033 | WS98-034 | WS98-035 | WS98-036 | WS98-037 | WS98-038 | WS98-039 | WS98-041 | WS98-042 | WS98-043 | WS98-044 | WS98-045 | WS98-046 | WS98-047 | WS98-048 | WS98-049 | WS98-051 | WS98-052 | WS98-053 | WS98-054 | WS98-055 | WS98-056 | WS98-057 | WS98-058 | WS98-059 | WS98-061 | WS98-062 | WS98-063 | |

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BDL - Below detection limit listed at head of collum

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| | Deisopropyl At | 0.2 ug/L | | BDL | BOL | BDL | BDL | BDL | BDL |
|--------|-----------------------|----------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Deethyl At | 0.2 ug/L | | BDL |
| | Atrazine | 0.1 ug/L | | BOL | BDL | JOB | BDL | BDL |
| | Alachior | 0.1 ug/L | | BOL | BDL | BDL | BDL | BDL | BOL | BDL | BOL | BDL | BDL |
| 2 - | Acetachlor | 0.1 ug/L | | BDL | BOL | BDL |
| | Nitrate as N | 0.5 mg/L | | 1.9 | 3.1 | BDL | BDL | 2.4 | BDL | 3.9 | BDL | BDL | BOL | 4.1 | BDL | BDL | 7.7 | 1.3 | BDL | 8.6 | BDL | 1.9 | BDL | BDL | 0.9 | 0.5 |
| | diss. solids | mg/L | - | 1283 | 785 | 608 | 2749 | 685 | 409 | 801 | 2075 | 066 | 2058 | 1042 | 727 | 1026 | 3173 | 449 | 2064 | 3170 | 142 | 356 | 457 | 369 | 2703 | 1006 |
| | alkalinity | mg/L | | 249 | 251 | 306 | 314 | 223 | 175 | 264 | 419 | 238 | 238 | 302 | 317 | 279 | 229 | 203 | 1152 | 462 | 76 | 182 | 238 | 201 | 328 | 363 |
| | hardness | mg/L | | 876 | 435 | 392 | 1706 | <1.0 | 133 | 475 | 401 | 611 | 767 | 562 | 12 | 601 | 1691 | 244 | 13 | 1998 | 82 | 176 | 235 | 180 | 1790 | 540 |
| | chlorine | mg/L | | 2.1 | 14.1 | 33.5 | 7.2 | 14.5 | 3.2 | 32.3 | 19.8 | 37.0 | 43.1 | 16.5 | 25.6 | 49.6 | 510.6 | 34.4 | 85.7 | 293.2 | 2.1 | 17.1 | 11.3 | 23.2 | 35.1 | 28.8 |
| | MELL ID | | | WS98-065 | WS98-066 | WS98-067 | WS98-068 | WS98-069 | WS98-071 | WS98-072 | WS98-073 | WS98-074 | WS98-075 | WS98-076 | WS98-077 | WS98-078 | WS98-079 | WS98-081 | WS98-082 | WS98-083 | WS98-084 | WS98-085 | WS98-086 | WS98-087 | WS98-088 | WS98-089 |

BDL - Below detection limit listed at head of collum

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Appendix

| Slope | |
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| Westem | Colorado |

| | <u></u> | | 1 | 1 | [| | | | | | ^ | | | - | _ | i | | | | , | 1 | | | | | - | | 1 | | · |
|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| P,P-00T | 0.4 ug/L | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| Dimethoate | 0.5 ug/L | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Dichlobenil | 0.1 ug/L | BDL | BOL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Diazinon | 0.2 ug/L | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| DCPA | 0.1 ug/L | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Cyanazine | 0.2 ug/L | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Chlorpyrifos | 0.1 ug/L | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL |
| Captan | 1.4 ug/L | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BD | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | ВDГ | BDL |
| Bromacil | 0.4 ug/L | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BOL |
| Benfluralin | 0.2 ug/L | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BOL |
| MELL ID | | WS98-001 | WS98-002 | WS98-003 | WS98-004 | WS98-005 | WS98-006 | WS98-007 | WS98-008 | WS98-009 | WS98-011 | WS98-012 | WS98-013 | WS98-014 | WS98-015 | WS98-016 | WS98-017 | WS98-018 | WS98-019 | WS98-021 | WS98-022 | WS98-023 | WS98-024 | WS98-025 | WS98-026 | WS98-027 | WS98-028 | WS98-029 | WS98-031 | WS98-032 |

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Appendix

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| Slope | _ |
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| Western | Colorado |

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| p,p-DDT | 0.4 ug/L | l | BUL | BDL |
| | 0.5 ug/L | i | BUL | BDL | BOL | BDL | BDL |
| | 0.1 ug/L | 1 | BUL | BDL | BOL | BDL | BOL | BDL | DIL | BOL |
| Diazinon | 0.2 ug/L | | BUL | BDL | BOL | BOL | BDL |
| DCPA | 0.1 ug/L | | BDL | BDL | BOL | BDL | BOL | BDL | BOL | BDL |
| Cyanazine | 0.2 ug/L | | BDL |
| Chlorpyrifos | 0.1 ug/L | | BOL | BDL | BOL | BOL | BDL | BOL | BDL |
| Captan | 1.4 ug/L | | BDL | BDL | BDL | BOL | BDL | BOL | BDL |
| Bromacil | 0.4 ug/L | | BDL |
| Benfluralin | 0.2 ug/L | | BDL | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BOL |
| MELL ID | | | WS98-033 | WS98-034 | WS98-035 | WS98-036 | WS98-037 | WS98-038 | WS98-039 | WS98-041 | WS98-042 | WS98-043 | WS98-044 | WS98-045 | WS98-046 | WS98-047 | WS98-048 | WS98-049 | WS98-051 | WS98-052 | WS98-053 | WS98-054 | WS98-055 | WS98-056 | WS98-057 | WS98-058 | WS98-059 | WS98-061 | WS98-062 | WS98-063 | WS98-064 |

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| Slope | - |
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| Western | Colorado |

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|-------------|----------|---|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| p,p-DDT | 0.4 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| Dimethoate | 0.5 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Dichlobenil | 0.1 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Diazinon | 0.2 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| DCPA | 0.1 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Cyanazine | 0.2 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| | 0.1 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BOL |
| Captan | | | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL |
| Bromacil | 0.4 ug/L | | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Benfluralin | 0.2 ug/L | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| MELL ID | | | WS98-065 | WS98-066 | WS98-067 | WS98-068 | WS98-069 | WS98-071 | WS98-072 | WS98-073 | WS98-074 | WS98-075 | WS98-076 | WS98-077 | WS98-078 | WS98-079 | WS98-081 | WS98-082 | WS98-083 | WS98-084 | WS98-085 | WS98-086 | WS98-087 | WS98-088 | WS98-089 |

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| Metrihuzin | 0.5 ug/L | Ы | BDL | Ы | סר | BDL | Ы | Ы | Б | Ы | Ы | Ы | Ы | Ы | Ы | Ы | Ч | Ы | Ц | Ы | ٦L | Ч | <u>ک</u> | 2 | 2 | 5 | 2 | ۲ | Ч | 2 |
|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| | | 80 | 8 | 60 | m | 8 | m | 8 | ā | Ē | B | Ē | B | Ē | ä | B | 8 | B | õ | B | B | æ | 98 | ð | B | B | B | B | 8 | ä |
| Matolachlor | + | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BOL | BDL | BDL | BDL | BDL | JOB | TOB | Ĩ |
| Methovychlor | 0.9 ug/L | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BOL | BDL | ICH ICH |
| Metalsvi | | BDL | BOL | BDL | BDI |
| Malathion | 0.1 ug/L | BDL | BOL | BDL | BOL | BOL | 0.23 | BDL |
| l indene | 0.1 ug/L | BDL | BOL | BDL | BDL | BDL | BDL | BDL | TOB | BDL | BDL | BDL |
| Hevezinone | 0.1 ug/L | BDL |
| Hantachior anov | 0.8 ug/L | BDL |
| Hantechlor | 0.6 ug/L | BDL | BOL | BDL |
| Endrin | 0.3 ug/L | BDL | |
| WELL ID | | WS98-001 | WS98-002 | WS98-003 | WS98-004 | WS98-005 | WS98-006 | WS98-007 | WS98-008 | WS98-009 | WS98-011 | WS98-012 | WS98-013 | WS98-014 | WS98-015 | WS98-016 | WS98-017 | WS98-018 | WS98-019 | WS98-021 | WS98-022 | WS98-023 | WS98-024 | WS98-025 | WS98-026 | WS98-027 | WS98-028 | WS98-029 | WS98-031 | WS98-032 |

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| Metribuzin | 0.5 ug/L | č | סחר | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| Metolachior | 0.1 ug/L | | סער | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Methoxychlor | 0.9 ug/L | | BUL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BOL | BDL | BDL | BDL | BDL | BDL |
| Metalaxyl | 0.2 ug/L | Č | פער | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDI |
| Malathion | 0.1 ug/L | | פער | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BOL | BOL | BDL | BDL | Ĉ |
| Lindane | 0.1 ug/L | | פרר | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | |
| Hexazinone | 0.1 ug/L | | סער | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDI |
| Heptachlor epox | 0.8 ug/L | | פתר | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BOL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | IC a |
| Heptachlor | 0.6 ug/L | Č | OUL | BDL | BDL. | BDL | BDL | BOL | BDL | |
| Endrin | 0.3 ug/L | | פר | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | |
| MELL ID | | | CCD-080AA | WS98-034 | WS98-035 | WS98-036 | WS98-037 | WS98-038 | WS98-039 | WS98-041 | WS98-042 | WS98-043 | NS98-044 | WS98-045 | NS98-046 | NS98-047 | WS98-048 | NS98-049 | NS98-051 | WS98-052 | WS98-053 | WS98-054 | NS98-055 | WS98-056 | WS98-057 | WS98-058 | WS98-059 | WS98-061 | WS98-062 | WS98-063 | MCOR DRA |

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| Western | Colorado |

| | Hexazinone 0.1 ug/L BDL | Lindane | Malathion | Matalavvi | L BLAKKANA CIANA | | |
|--|-------------------------------|----------|-----------|------------|------------------|----------|------------|
| 0.6 ug/L 0.8 ug/L BDL BDL BDL BDL | 0.1 ug/L BDL | | | Incutation | Mecnoxychior | Σ | Metribuzin |
| BDL BDL BDL | BDL | 0.1 ug/L | 0.1 ug/L | 0.2 ug/L | 0.9 ug/L | 0.1 ug/L | 0.5 ug/L |
| | BDL | | | | | | |
| | | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | TOB | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BOL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BOL | JOB | BDL |
| | BDL | BOL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BOL | BOL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 801 801 801 801 801 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 801 801 801 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL | BDL | BOL | BDL | BDL | · BDL | BDL | BDL |
| BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |

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| 1.2 ug/L 0.1 ug/L 0.2 ug/L 0.2 ug/L 0.2 ug/L 0.2 ug/L 0.2 ug/L BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | 0.1 ug/L BDL BDL BDL BDL BDL BDL BDL BDL BDL | 2.0 ug/L 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8D | 2.0 ug/L 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8DL 8D | 0.35 ug/f BDL BDL BDL BDL BDL | 1.0 ug/L BDL | 2.0 ug/L |
|---|---|---|---|--|-----------------|----------|
| BDL BDL BDL BDL BDL BDL | | | | | BDL | |
| BDL BDL <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | |
| BDL BDL <td></td> <td></td> <td></td> <td></td> <td>ſ</td> <td>BDL</td> | | | | | ſ | BDL |
| BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL | | | | BDL BDL | BUL | BDL |
| BOL BOL <td></td> <td></td> <td></td> <td>BDL PDL</td> <td>JOB</td> <td>BDL</td> | | | | BDL PDL | JOB | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | | | | BDL | BDL | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL< | | | BOL BOL BOL BOL | īCa | BDL | BDL |
| BOL BOL <td></td> <td></td> <td>BDL BDL BDL BDL BDL</td> <td>פער</td> <td>BDL</td> <td>BDL</td> | | | BDL BDL BDL BDL BDL | פער | BDL | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | BOL BOL BOL BOL | | | BDL | BOL | BDL |
| BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL BOL | | | | BDL | BDL | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | | | | BDL | BDL | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | BOL | BDL BDL | BDL | BDL | BDL | BDL |
| 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 | BOL | BOL | BDL | BDL | BDL | BDL |
| BDL BDL BDL BDL | | BDL | - | BDL | BDL | BDL |
| BDL BDL BDL BDL | BDL | | BDL | BOL | BDL | BDL |
| 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 801 | BDL | BDL | BDL | BDL | BDL | BOL |
| BOL BOL BOL BDL BOL BDL BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BOL BOL <td>BDL</td> <td>BDL</td> <td>BDL</td> <td>BDL</td> <td>BDL</td> <td>BDL</td> | BDL | BDL | BDL | BDL | BDL | BDL |
| BOL BDL BDL BDL BDL BDL BDL BDL | BDL | BDL | BDL | BOL | BDL | BDL |
| 8DL 8DL 8DL 8DL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BOL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BOL |
| BDL BDL BDL BDL BDL BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL BDL BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BOL | BDL | BDL |
| BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| BDL BDL BDL BDL | BDL | BDL . | BDL | BDL | BDL | BDL |
| . BDL BDL BDL | BOL | BDL | BDL | BDL | BDL | BDL |
| . BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL |
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|------------------|-----------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Aldicarh Suffond | | | BDL |
| Aldicarh | 1.0 uo/L | | BDL | BOL | BDL |
| Dicloram | 0.35 ug/i | 5 | BDL | BOL | BDL |
| MODA | | | BDL |
| | 2.0 ug/L | | BDL |
| Dicamha | 0.1 ug/L | | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| 0.4.6 | | 1 | BDL | BOL | Ъ | BDL |
| Trifluralin | 0.3 ug/L | | BDL | BOL | BDL | BDL |
| Simerine | | | BDL: | BDL |
| Drometone | 0.1 ug/L |) | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL |
| Dandimethalin | 1.2 ug/L | > | BDL | BOL | BDL | 108 | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BOL | BDL |
| | | | WS98-033 | WS98-034 | WS98-035 | WS98-036 | WS98-037 | WS98-038 | WS98-039 | WS98-041 | WS98-042 | WS98-043 | WS98-044 | WS98-045 | WS98-046 | WS98-047 | WS98-048 | WS98-049 | WS98-051 | WS98-052 | WS98-053 | WS98-054 | WS98-055 | WS98-056 | WS98-057 | WS98-058 | WS98-059 | WS98-061 | WS98-062 | WS98-063 | WS98-064 |

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| Slope | |
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| Western | Colorado |

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| Aldiact Student | Aldicarp Sulfone | 2.0 ug/L | BDL | BDL | BDL | BOL | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BOL | BOL | BDL |
| 4001516 | Algicaro | 1.0 ug/L | BDL | BOL | BDL | BDL | BDL | BDL |
| Diclose | PICIORAIN | 0.35 ug/l | BDL |
| | MCPA | 2.0 ug/L | BDL. | BDL | BC | BDL | BDL | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL |
| | MCPP | 2.0 ug/L | BDL | BOL | BDL |
| | Ulcamba | 0.1 ug/L | BDL | BOL | BDL | BOL | BDL |
| | 2,4-U | 0.2 ug/L | BOL | BOL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL |
| -:1 0: T | | 0.3 ug/L | BOL | BDL | BOL | BDL |
| | Simazine | 0.2 ug/L | BDL | BDL | BDL | BOL | BDL |
| | Prometone | 0.1 ug/L | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BOL | BOL | BDL |
| | Pendimethalin | 1.2 ug/L | BDL | BDL | BOL | BOL | BDL | BDL | BDL | BDL | BOL | BDL | BOL |
| | MELL IU | | WS98-065 | WS98-066 | WS98-067 | WS98-068 | WS98-069 | WS98-071 | WS98-072 | WS98-073 | WS98-074 | WS98-075 | WS98-076 | WS98-077 | WS98-078 | WS98-079 | WS98-081 | WS98-082 | WS98-083 | WS98-084 | WS98-085 | WS98-086 | WS98-087 | WS98-088 | WS98-089 |

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|---------------------|----------|-----|-----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|
| Propoxur | 1.0 ug/L | | סער | BDL | BOL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDĽ | BDL |
| Oxamyl | 2.0 ug/L | Č | סער | BDL | BDL | BDL | BDL | BOL | BDL |
| Naphthol | 1.0 ug/L | 20 | סער | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Methomyl | 1.0 ug/L | Č | סער | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| Methiocarb | 4.0 ug/L | | פער | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BOL | BOL | BDL |
| 3-Hydroxycarbofuran | | 100 | סטר | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| Carbofuran | 1.5 ug/L | Č | פער | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| Carbaryl | 2.0 ug/L | | פער | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BOL | BOL | BDL | BDL | BDL |
| Aldicarb Sulfoxide | 2.0 ug/L | ā | BUL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL |
| | | | LUU-085VV | WS98-002 | WS98-003 | WS98-004 | WS98-005 | WS98-006 | WS98-007 | WS98-008 | WS98-009 | WS98-011 | WS98-012 | WS98-013 | WS98-014 | WS98-015 | WS98-016 | WS98-017 | WS98-018 | WS98-019 | WS98-021 | WS98-022 | WS98-023 | WS98-024 | WS98-025 | WS98-026 | WS98-027 | WS98-028 | WS98-029 | WS98-031 | WS98-032 |

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BDL - Below detection limit listed at head of collum

Appendix

| Slope | • |
|---------|----------|
| Western | Colorado |

| WELLID | Aldicarb Sulfoxide | Carbaryl | Carbofuran | 3-Hydroxycarbofuran | Methiocarb | Methomyl | Naphthol | Oxamyl | Propoxur |
|----------|--------------------|----------|------------|---------------------|------------|----------|----------|----------|----------|
| | 2.0 ug/L | 2.0 ug/L | 1.5 ug/L | 2.0 ug/L | 4.0 ug/L | 1.0 ug/L | 1.0 ug/L | 2.0 ug/L | 1.0 ug/L |
| WS98-033 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-034 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-035 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-036 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-037 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-038 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-039 | BDL | BDL | BDL | BOL | JOB | BDL | BDL | BDL | BDL |
| WS98-041 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BOL |
| WS98-042 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-043 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-044 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-045 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-046 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-047 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-048 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-049 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL |
| WS98-051 | BDL | BOL | BDL | BDL | BOL | BDL | BDL | BOL | BDL |
| WS98-052 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-053 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-054 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-055 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-056 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-057 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-058 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-059 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-061 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-062 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-063 | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BDL | BDL |
| WS98-064 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | | | | | | | | | |

BDL - Below detection limit listed at head of collum

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| Slope | |
|--------|----------|
| Westem | Colorado |

| | 2.0 ug/L BDL BDL BDL BDL BDL BDL BDL BDL BDL | 2.0 ug/L BDL BDL BDL BDL BDL | 1.5 ug/L BDL | 10.0 C | 0 | 10.01 | | | 1 0 III/I |
|--|---|---|-----------------|----------|----------|----------|----------|----------|-----------|
| WS98-065 WS98-067 WS98-067 WS98-067 WS98-067 WS98-071 | | | BDL | 2.V uyrt | 4.0 ug/L | 1.0 ug/L | 1.0 ug/L | z.u ug/L | |
| WS98-066 WS98-067 WS98-068 WS98-068 WS98-069 WS98-071 | | | | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-067 WS98-068 WS98-068 WS98-071 | | BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-068 WS98-069 WS98-071 WS08-077 | | BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-069 WS98-071 WS08-072 | 801 801 801 | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-071 | BDL BDL BDL BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| VA/COR_070 | BDL | - | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-073 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-074 | | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-075 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-076 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-077 | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-078 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-079 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-081 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-082 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BOL |
| WS98-083 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-084 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-085 | BDL | BDL | BOL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-086 | BOL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-087 | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| WS98-088 | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL | BOL |
| WS98-089 | BDL | BDL | BDL | BDL | BDL | BDL | BOL | BDL | BDL |

BDL - Below detection limit listed at head of collum

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