494372

Washington

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Transmittal Letter

Project Name: VB/I-70 004-RICO-089R RAC Contract No. 68-W7-0039	Control No.:	W.O. No.: 4994
	Date: 12/18/01	
To: Bonnie Lavelle, EPA Region VIII/8EPR-SR, 999 18th Street, Suite 500, Denver, CO 80202-2466	**REFERENCES**	
	Name:	
	Equipment No.:	
	Purchase Order No.:	
	Vendor Order No.:	
_X_ TRANSMITTED HEREWITH	__ RETURNING FOR STATUS NOTED	
__ Review and comment __ Approval __ Record __ Information _X_ As requested __ Other	__ Reviewed A __ Review as noted B __ Resubmit C __ For information D __ Other _____ E	

ITEM	QUANTITY	TITLE/DESCRIPTION
1.	1	Paragon P.E. Scores

DISTRIBUTION: M. Goldade, EPA - transmittal A. Hamp, EPA – transmittal J. Powell, EPA – transmittal	REMARKS/INSTRUCTIONS: As requested during 12/4/01, Paragon Audit meeting
	By: KD Wolf
	Name: Kathy Wolf
	Title: Program Manager

PARAGON

P.E.

SCORES

ENVIRONMENTAL
RESOURCE ASSOCIATES®
The Industry Standard™

October 17, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB™ Underground Storage Tank Proficiency Testing (PT) Study, UST-31. The opening date for UST-31 was August 11, 2000 and the closing date was September 25, 2000. ERA's InterLaB reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of California (ELAP). Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. With the exception of California and Iowa, all states will receive the customer report containing all possible UST-31 analytes. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "Comprehensive PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's UST-31 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following approach.

1. All analytes have been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0). The Acceptance Limits are equal to the study mean plus or minus three standard deviations as determined by robust statistical analysis.

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is seeking accreditation by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria uses the following approach.

1. If the analyte is included in the California ELAP Proficiency Testing program (January 2000), the

evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

IOWA REPORT

This report is provided to you if your facility is seeking accreditation by the State of Iowa. This report includes only those analytes included in the Manual for the Certification of Laboratories Analyzing Environmental Samples for the Underground Storage Tank Program of the Iowa Department of Natural Resources, Criteria and Procedures Quality Assurance Document, September 1994. All results have been evaluated using the Iowa Acceptance Criteria. The Iowa evaluation criteria uses the following approach.

1. If the analyte is included in the Manual for the Certification of Laboratories Analyzing Environmental Samples for the Underground Storage Tank Program of the Iowa Department of Natural Resources, Criteria and Procedures Quality Assurance Document, September 1994, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the Iowa guidance.

For the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the UST-31 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

Thank you for your participation in the InterLaB™ Underground Storage Tank, UST-31, Performance Evaluation Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

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Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

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October 17, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of Proficiency Testing study UST-31 for compliance with all USEPA, State and NELAC technical and program requirements in effect during this study as well as those of our ISO 9001 Registered Quality System.

All aspects of the UST-31 study, from standard manufacture to final report generation, were completed by ERA in accordance with the NELAC, Proficiency Testing Program, Chapter 2, July 1999. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, Rev.3.0), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in UST-31.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES®

UST-31 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/17/00

InterLaB™ UST Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Value for the Proficiency Testing Standards is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation as applicable.

The Acceptance Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable	=	Reported Value falls within the Acceptance Limits.
Not Acceptable	=	Reported Value falls outside the Acceptance Limits.
No Evaluation	=	Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ UST Study Discussion:

ERA UST Proficiency Testing Study 31 has been reviewed by ERA Senior Management and certified compliant with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC), Proficiency Testing Program, Chapter 2, July 1999.

Per the requirements of the NELAC Proficiency Testing Program, the UST-31 results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the UST-31 standards met the acceptance criteria contained in the NELAC Proficiency Testing Program, Chapter 2, July 1999.

The data submitted by participating laboratories was also examined for study anomalies. Based upon ERA's review of the data, no study anomolies were found and all Acceptance Limits for the InterLaB™ UST study, UST-31, were calculated based on the NELAC, Proficiency Testing Program, Chapter 2, July 1999, as applicable.

If you have any questions regarding UST Study, UST-31, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

NVLAP®
Lab code: 200386-0

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Study: **UST31**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

ENVIRONMENTAL RESOURCE ASSOCIATES®

UST-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/17/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Gasoline in Soil	Unleaded Gasoline	mg/Kg	411	644	139 - 1020	Acceptable	EPA SW8015M
Diesel in Soil	No. 2 Diesel	mg/Kg	636	602	150 - 903	Acceptable	EPA SW8015M
TPH in Soil	TPH (gravimetric)	mg/Kg		2250	802 - 3320		
	TPH (IR)	mg/Kg		2700	939 - 4000		

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Lab code: 200386-0

ENVIRONMENTAL
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Study: **UST31**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **California ELAP**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES®

UST-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/17/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Gasoline in Soil	Unleaded Gasoline	mg/Kg	411	644	D.L. - 1290	Acceptable	EPA SW8015M
	Benzene	mg/Kg		7.08	D.L. - 7.08		
	Ethylbenzene	mg/Kg		18.0	4.03 - 20.2		
	Toluene	mg/Kg		62.3	D.L. - 69.2		
	Xylenes, total	mg/Kg		61.1	20.2 - 113		
Diesel in Soil	No. 2 Diesel	mg/Kg	636	602	D.L. - 951	Acceptable	EPA SW8015M
TPH in Soil	TPH (gravimetric)	mg/Kg		2250	D.L. - 6990		
	TPH (IR)	mg/Kg		2700	D.L. - 5310		
BTEX in Soil	Benzene	µg/Kg		345	204 - 480		
	Ethylbenzene	µg/Kg		54.5	22.6 - 84.4		
	Toluene	µg/Kg		154	85.5 - 227		
	Xylenes, total	µg/Kg		283	113 - 467		
MTBE in Soil	t-Butylmethylether (MTBE)	µg/Kg		32.1	19.5 - 52.1		
Gasoline in Water	Unleaded Gasoline	µg/l		3540	1400 - 7160		
	Benzene	µg/l		39.3	13.0 - 61.2		
	Ethylbenzene	µg/l		91.3	65.8 - 102		
	Toluene	µg/l		274	99.9 - 494		
	Xylenes, total	µg/l		354	199 - 727		
Diesel in Water	No. 2 Diesel	µg/l		3440	D.L. - 5800		
TPH in Water	TPH (gravimetric)	mg/bttl		54.3	D.L. - 84.7		
	TPH (IR)	mg/bttl		65.2	9.30 - 125		
BTEX in Water	Benzene	µg/l		58.6	33.4 - 81.8		
	Ethylbenzene	µg/l		142	83.3 - 197		
	Toluene	µg/l		73.9	43.2 - 103		
	Xylenes, total	µg/l		112	70.8 - 151		
MTBE in Water	t-Butylmethylether (MTBE)	µg/l		62.1	41.6 - 93.0		

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Lab code: 200386-0

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September 28, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB™ Proficiency Testing (PT) Study, SOIL-31. The opening date for SOIL-31 was July 24, 2000 and the closing date was September 7, 2000. ERA's InterLaB reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of California (ELAP). Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's SOIL-31 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following approach.

1. If the analyte is listed in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

2. If the analyte is not included in the NELAC PT Field of Testing list (February 2000), the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

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NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (February 2000). If the analyte is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the PT samples). If you have two acceptable PT results for an analyte in any PT study completed after July 1, 1999, that meets the NELAC criteria, you have satisfied your NELAC PT requirements. For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP (January 2000) program. All results have been evaluated using the California ELAP guidelines provided to ERA. The Reported Values have been evaluated by comparison to the Acceptance Limits generated using the evaluation criteria contained in the California ELAP (January 2000) guidance.

California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the SOIL-31 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. If you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

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Thank you for your participation in the InterLaB™ Proficiency Testing (PT) Study, SOIL-31. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

ENVIRONMENTAL
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September 28, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of Proficiency Testing study SOIL-31 for compliance with all USEPA, State and NELAC technical and program requirements in effect during this study as well as those of our ISO 9001 Registered Quality System.

All aspects of the SOIL-31 study, from standard manufacture to final report generation, were completed by ERA in accordance with the NELAC, Proficiency Testing Program, Chapter 2, July 1999. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, Rev.3.0), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in SOIL-31.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES® SOIL-31 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

InterLaB™ SOIL Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Value for the Organic Proficiency Testing Standards is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation as applicable. The ERA Assigned Value for the Inorganic Proficiency Testing Standards is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation plus the concentration of the analytes found in the background soil as determined in the background soil by applicable EPA methodologies. A parameter not added to a standard is given an Assigned Value of less than a minimum verified concentration as determined in the background soil by applicable EPA methodologies.

The Acceptance Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable = Reported Value falls within the Acceptance Limits.

Not Acceptable = Reported Value falls outside the Acceptance Limits.

No Evaluation = Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

InterLaB™ SOIL Study Discussion:

ERA Soil Proficiency Testing Study 31 has been reviewed by ERA Senior Management and certified compliant with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC), Proficiency Testing Program, Chapter 2, July 1999.

Per the requirements of the NELAC Proficiency Testing Program, the SOIL-31 results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the SOIL-31 standards met the acceptance criteria contained in the NELAC Proficiency Testing Program, Chapter 2, July 1999.

The data submitted by participating laboratories was also examined for study anomalies. Based upon ERA's review of the data, no study anomolies were found and all Acceptance Limits for the InterLaB™ Soil study, SOIL-31, were calculated based on the NELAC, Proficiency Testing Program, Chapter 2, July 1999, as applicable.

If you have any questions regarding Soil Study, SOIL-31, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

NVLAP®
Lab code: 200386-0

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SOIL-31 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

InterLaB™ SOIL Study Definitions:

D.L. equals the Detection Limit.

InterLaB™ SOIL Study Discussion:

NVLAP®
Lab code: 200386-0

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Study: **SOIL31**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Prep Code	Method Description
Trace Metals - in Soil	Aluminum	mg/Kg	6190	9690	D.L. - 18900	Acceptable		SW6010B
	Antimony	mg/Kg	64.1	174	D.L. - 203	Acceptable		SW6010B
	Arsenic	mg/Kg	51.3	65.9	26.0 - 71.0	Acceptable		SW6010B
	Barium	mg/Kg	542	532	328 - 698	Acceptable		SW6010B
	Beryllium	mg/Kg	62.7	69.3	35.4 - 76.4	Acceptable		SW6010B
	Boron	mg/Kg		166	41.9 - 202			
	Cadmium	mg/Kg	163	182	98.1 - 220	Acceptable		SW6010B
	Calcium	mg/Kg	12400	11300	6630 - 16800	Acceptable		SW6010B
	Chromium	mg/Kg	53.9	60.1	29.8 - 73.2	Acceptable		SW6010B
	Cobalt	mg/Kg	94.6	118	55.7 - 121	Acceptable		SW6010B
	Copper	mg/Kg	71.1	74.2	48.5 - 90.9	Acceptable		SW6010B
	Iron	mg/Kg	13800	14200	1670 - 25700	Acceptable		SW6010B
	Lead	mg/Kg	189	204	107 - 265	Acceptable		SW6010B
	Magnesium	mg/Kg	2800	3100	1480 - 4660	Acceptable		SW6010B
	Manganese	mg/Kg	693	909	377 - 983	Acceptable		SW6010B
	Mercury	mg/Kg	6.58	6.47	3.18 - 9.24	Acceptable		SW7471A
	Molybdenum	mg/Kg		85.5	36.4 - 89.6			
	Nickel	mg/Kg	116	115	69.5 - 157	Acceptable		SW6010B
	Potassium	mg/Kg	2900	3490	1680 - 5490	Acceptable		SW6010B
	Selenium	mg/Kg	117	124	62.5 - 156	Acceptable		SW6010B
	Silver	mg/Kg	91.0	102	33.2 - 135	Acceptable		SW6010B
	Sodium	mg/Kg	847	783	293 - 1370	Acceptable		SW6010B
	Strontium	mg/Kg		82.2	34.6 - 143			
	Thallium	mg/Kg	70.7	75.6	28.4 - 103	Acceptable		SW6010B
	Tin	mg/Kg		239	D.L. - 241			
	Titanium	mg/Kg		278	D.L. - 788			
	Vanadium	mg/Kg	144	139	81.4 - 197	Acceptable		SW6010B
	Zinc	mg/Kg	315	317	164 - 416	Acceptable		SW6010B
Cyanide in Soil	Cyanide, total	mg/Kg	63.3	91.1	D.L. - 568	Acceptable		SW9010B
	Reactive Cyanide	mg/Kg		< 25.0				

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Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Prep Code	Method Description
Hexavalent Chromium	Chromium VI	mg/Kg	45.7	59.7	D.L. - 156	Acceptable		SW7196A

Prep Codes:

A - Hot plate with HNO3, HCl and H2O2. (SW-846 Method 3050 for FLAA & ICP-OES)
B - Hot plate with HNO3 and H2O2. (SW-846 Method 3050 for GFAA & ICP-MS)
C - SW-846 Method 3050b optional section 7.5.
D - Microwave with HNO3 only. (SW-846 Method 3051)
E - Microwave with HNO3 and HCl. (SW-846 method 3051 modified)
F - Other if not listed above.

NVLAP®
Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Base / Neutrals and Acids in Soil	Acenaphthene	µg/Kg	4530	6740	1170 - 8910	Acceptable	SW8270C
	Acenaphthylene	µg/Kg	1690	2820	345 - 3020	Acceptable	SW8270C
	Aniline	µg/Kg		< 330			
	Anthracene	µg/Kg	4160	6470	1420 - 7660	Acceptable	SW8270C
	Benzidine	µg/Kg		< 330			
	Benzoic acid	µg/Kg		< 330			
	Benzo(a)anthracene	µg/Kg		< 330			
	Benzo(b)fluoranthene	µg/Kg	2560	3890	582 - 5840	Acceptable	SW8270C
	Benzo(k)fluoranthene	µg/Kg		< 330			
	Benzo(g,h,i)perylene	µg/Kg		< 330			
	Benzo(a)pyrene	µg/Kg	1110	1730	395 - 2110	Acceptable	SW8270C
	Benzyl alcohol	µg/Kg		< 330			
	4-Bromophenyl-phenylether	µg/Kg	8110	10600	1380 - 15800	Acceptable	SW8270C
	Butylbenzylphthalate	µg/Kg	3220	4510	560 - 7040	Acceptable	SW8270C
	Carbazole	µg/Kg		< 330			
	4-Chloroaniline	µg/Kg		< 330			
	bis(2-Chloroethoxy)methane	µg/Kg	2820	4040	231 - 5770	Acceptable	SW8270C
	bis(2-Chloroethyl)ether	µg/Kg		< 330			
	bis(2-Chloroisopropyl)ether	µg/Kg		< 330			
	4-Chloro-3-methylphenol	µg/Kg	4030	7040	930 - 8070	Acceptable	SW8270C
	1-Chloronaphthalene	µg/Kg		< 330			
	2-Chloronaphthalene	µg/Kg		< 330			
	2-Chlorophenol	µg/Kg	2050	3080	232 - 3270	Acceptable	SW8270C
	4-Chlorophenyl-phenylether	µg/Kg	6930	9920	1340 - 14700	Acceptable	SW8270C
	Chrysene	µg/Kg	2790	3730	785 - 5500	Acceptable	SW8270C
	Dibenz(a,h)anthracene	µg/Kg		< 330			
	Dibenzofuran	µg/Kg	4310	6080	1320 - 7980	Acceptable	SW8270C
	Di-n-butylphthalate	µg/Kg	1800	2400	398 - 3720	Acceptable	SW8270C
	1,2-Dichlorobenzene	µg/Kg	2330	3350	D.L. - 4610	Acceptable	SW8270C
	1,3-Dichlorobenzene	µg/Kg		< 330			
	1,4-Dichlorobenzene	µg/Kg		< 330			
	3,3'-Dichlorobenzidine	µg/Kg		< 330			
	2,4-Dichlorophenol	µg/Kg	3860	6170	410 - 6950	Acceptable	SW8270C
	2,6-Dichlorophenol	µg/Kg		< 330			
	Diethylphthalate	µg/Kg	3190	4450	280 - 6640	Acceptable	SW8270C
	2,4-Dimethylphenol	µg/Kg		< 330			
	Dimethylphthalate	µg/Kg		< 330			
	4,6-Dinitro-2-methylphenol	µg/Kg		< 330			
	2,4-Dinitrophenol	µg/Kg		< 330			
	2,4-Dinitrotoluene	µg/Kg	5850	8740	2110 - 11100	Acceptable	SW8270C
	2,6-Dinitrotoluene	µg/Kg		< 330			
	Di-n-octylphthalate	µg/Kg	7430	9510	160 - 16100	Acceptable	SW8270C
	bis(2-Ethylhexyl)phthalate	µg/Kg	2630	3580	90.0 - 6150	Acceptable	SW8270C
	Fluoranthene	µg/Kg	4330	6060	1340 - 8840	Acceptable	SW8270C
	Fluorene	µg/Kg		< 330			

NVLAP® Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Base / Neutrals and Acids in Soil (cont.)	Hexachlorobenzene	µg/Kg		< 330			
	Hexachlorobutadiene	µg/Kg	< 174	< 330		Acceptable	SW8270C
	Hexachlorocyclopentadiene	µg/Kg	< 235	3480	D.L. - 3480	Acceptable	SW8270C
	Hexachloroethane	µg/Kg		< 330			
	Indeno(1,2,3-cd)pyrene	µg/Kg		< 330			
	Isophorone	µg/Kg	6650	8830	D.L. - 13300	Acceptable	SW8270C
	2-Methylnaphthalene	µg/Kg		< 330			
	2-Methylphenol	µg/Kg	1590	5570	D.L. - 5570	Acceptable	SW8270C
	3-Methylphenol	µg/Kg		< 330			
	4-Methylphenol	µg/Kg		< 330			
	Naphthalene	µg/Kg	795	1090	31.0 - 1530	Acceptable	SW8270C
	2-Nitroaniline	µg/Kg		< 330			
	3-Nitroaniline	µg/Kg		< 330			
	4-Nitroaniline	µg/Kg		< 330			
	Nitrobenzene	µg/Kg	3620	4940	D.L. - 6810	Acceptable	SW8270C
	2-Nitrophenol	µg/Kg	5380	8330	110 - 10100	Acceptable	SW8270C
	3-Nitrophenol	µg/Kg		< 330			
	4-Nitrophenol	µg/Kg		< 330			
	N-Nitrosodimethylamine	µg/Kg		< 330			
	N-Nitrosodiphenylamine	µg/Kg	3480	4510	D.L. - 6480	Acceptable	SW8270C
	N-Nitroso-di-n-propylamine	µg/Kg	6950	9780	D.L. - 13900	Acceptable	SW8270C
	Pentachlorophenol	µg/Kg	3160	5130	D.L. - 6170	Acceptable	SW8270C
	Phenanthrene	µg/Kg	4320	5830	1450 - 8350	Acceptable	SW8270C
	Phenol	µg/Kg	7960	11600	140 - 13500	Acceptable	SW8270C
	Pyrene	µg/Kg	5720	7480	410 - 12400	Acceptable	SW8270C
	Pyridine	µg/Kg		< 330			
	1,2,4-Trichlorobenzene	µg/Kg	7680	9890	D.L. - 13600	Acceptable	SW8270C
	2,4,5-Trichlorophenol	µg/Kg	3720	6460	D.L. - 8140	Acceptable	SW8270C
	2,4,6-Trichlorophenol	µg/Kg	2410	4020	200 - 4520	Acceptable	SW8270C

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SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Additional Base / Neutrals and Acids in Soil	2-Amino-1-methylbenzene (o-touluidine)	µg/Kg		< 330			
	Benzotrichloride	µg/Kg		< 330			
	Benzyl chloride	µg/Kg		< 330			
	bis(2-methoxyethyl)phthalate	µg/Kg		< 330			
	2-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	4-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Diamylphthalate	µg/Kg		< 330			
	2,4-Dibromophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-3-methyl-4-nitrophenylether	µg/Kg		< 330			
	2,3-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,6-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Dicyclohexylphthalate	µg/Kg		< 330			
	4-Nitrophenylphenylether	µg/Kg		< 330			
	Dinonylphthalate	µg/Kg		< 330			
	Hexachlorocyclohexane	µg/Kg		< 330			
	Hexyl-2-ethylhexylphthalate	µg/Kg		< 330			
	Maleic anhydride	µg/Kg		< 330			
	Pentachlorobenzene	µg/Kg		< 330			
	Pentachlorohexane	µg/Kg		< 330			
	1,2,3,4-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,3,5-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,4,5-Tetrachlorobenzene	µg/Kg		< 330			
	2,3,4,5-Tetrachlorophenol	µg/Kg		< 330			
	2,3,4,6-Tetrachlorophenol	µg/Kg		< 330			
	2,3,5,6-Tetrachlorophenol	µg/Kg		< 330			
	1,2,3-Trichlorobenzene	µg/Kg		< 330			
	1,3,5-Trichlorobenzene	µg/Kg		< 330			
	2,3,4-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			

NVLAP®
Lab code: 200388-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Pesticides in Soil	Aldrin	µg/Kg	190	186	45.2 - 295	Acceptable	SW8081A
	alpha-BHC	µg/Kg	348	384	118 - 550	Acceptable	SW8081A
	beta-BHC	µg/Kg	185	237	43.4 - 345	Acceptable	SW8081A
	delta-BHC	µg/Kg	130	132	27.3 - 213	Acceptable	SW8081A
	gamma-BHC(Lindane)	µg/Kg	135	143	8.00 - 260	Acceptable	SW8081A
	alpha-Chlordane	µg/Kg	91	89.0	10.3 - 150	Acceptable	SW8081A
	gamma-Chlordane	µg/Kg	< 5	< 5.00		Acceptable	SW8081A
	4,4'-DDD	µg/Kg	278	271	50.1 - 472	Acceptable	SW8081A
	4,4'-DDE	µg/Kg	137	146	44.6 - 223	Acceptable	SW8081A
	4,4'-DDT	µg/Kg	206	240	59.7 - 342	Acceptable	SW8081A
	Dieldrin	µg/Kg	191	191	50.6 - 307	Acceptable	SW8081A
	Endrin	µg/Kg	165	154	61.8 - 250	Acceptable	SW80811
	Endrin aldehyde	µg/Kg	< 5	< 5.00		Acceptable	SW80811
	Endrin ketone	µg/Kg	< 5	< 5.00		Acceptable	SW80811
	Endosulfan I	µg/Kg	163	188	32.1 - 268	Acceptable	SW80811
	Endosulfan II	µg/Kg	159	263	36.2 - 263	Acceptable	SW80811
	Endosulfan sulfate	µg/Kg	410	384	94.1 - 588	Acceptable	SW80811
	Heptachlor	µg/Kg	131	134	21.3 - 231	Acceptable	SW80811
	Heptachlor epoxide	µg/Kg	156	146	50.7 - 213	Acceptable	SW80811
	Methoxychlor	µg/Kg	466	426	25.0 - 739	Acceptable	SW8081A
Chlordane In Soil	Chlordane, Technical	µg/Kg	391	428	154 - 558	Acceptable	SW8081A
Toxaphene In Soil	Toxaphene	µg/Kg	371	454	D.L. - 728	Acceptable	SW8081A

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SOIL-31 Final Customer Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Base / Neutrals and Acids in Soil	Acenaphthene	µg/Kg	4530	6740	1170 - 8910	Acceptable	SW8270C
	Acenaphthylene	µg/Kg	1690	2820	345 - 3020	Acceptable	SW8270C
	Aniline	µg/Kg		< 330			
	Anthracene	µg/Kg	4160	6470	1420 - 7660	Acceptable	SW8270C
	Benzidine	µg/Kg		< 330			
	Benzoic acid	µg/Kg		< 330			
	Benzo(a)anthracene	µg/Kg		< 330			
	Benzo(b)fluoranthene	µg/Kg	2560	3890	582 - 5840	Acceptable	SW8270C
	Benzo(k)fluoranthene	µg/Kg		< 330			
	Benzo(g,h,i)perylene	µg/Kg		< 330			
	Benzo(a)pyrene	µg/Kg	1110	1730	395 - 2110	Acceptable	SW8270C
	Benzyl alcohol	µg/Kg		< 330			
	4-Bromophenyl-phenylether	µg/Kg	8110	10600	1380 - 15800	Acceptable	SW8270C
	Butylbenzylphthalate	µg/Kg	3220	4510	560 - 7040	Acceptable	SW8270C
	Carbazole	µg/Kg		< 330			
	4-Chloroaniline	µg/Kg		< 330			
	bis(2-Chloroethoxy)methane	µg/Kg	2820	4040	231 - 5770	Acceptable	SW8270C
	bis(2-Chloroethyl)ether	µg/Kg		< 330			
	bis(2-Chloroisopropyl)ether	µg/Kg		< 330			
	4-Chloro-3-methylphenol	µg/Kg	4030	7040	930 - 8070	Acceptable	SW8270C
	1-Chloronaphthalene	µg/Kg		< 330			
	2-Chloronaphthalene	µg/Kg		< 330			
	2-Chlorophenol	µg/Kg	2050	3080	232 - 3270	Acceptable	SW8270C
	4-Chlorophenyl-phenylether	µg/Kg	6930	9920	1340 - 14700	Acceptable	SW8270C
	Chrysene	µg/Kg	2790	3730	785 - 5500	Acceptable	SW8270C
	Dibenz(a,h)anthracene	µg/Kg		< 330			
	Dibenzofuran	µg/Kg	4310	6080	1320 - 7980	Acceptable	SW8270C
	Di-n-butylphthalate	µg/Kg	1800	2400	398 - 3720	Acceptable	SW8270C
	1,2-Dichlorobenzene	µg/Kg	2330	3350	D.L. - 4610	Acceptable	SW8270C
	1,3-Dichlorobenzene	µg/Kg		< 330			
	1,4-Dichlorobenzene	µg/Kg		< 330			
	3,3'-Dichlorobenzidine	µg/Kg		< 330			
	2,4-Dichlorophenol	µg/Kg	3860	6170	410 - 6950	Acceptable	SW8270C
	2,6-Dichlorophenol	µg/Kg		< 330			
	Diethylphthalate	µg/Kg	3190	4450	280 - 6640	Acceptable	SW8270C
	2,4-Dimethylphenol	µg/Kg		< 330			
	Dimethylphthalate	µg/Kg		< 330			
	4,6-Dinitro-2-methylphenol	µg/Kg		< 330			
	2,4-Dinitrophenol	µg/Kg		< 330			
	2,4-Dinitrotoluene	µg/Kg	5850	8740	2110 - 11100	Acceptable	SW8270C
	2,6-Dinitrotoluene	µg/Kg		< 330			
	Di-n-octylphthalate	µg/Kg	7430	9510	160 - 16100	Acceptable	SW8270C
	bis(2-Ethylhexyl)phthalate	µg/Kg	2630	3580	90.0 - 6150	Acceptable	SW8270C
	Fluoranthene	µg/Kg	4330	6060	1340 - 8840	Acceptable	SW8270C
	Fluorene	µg/Kg		< 330			

NVLAP® Lab code: 200388-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Base / Neutrals and Acids in Soil (cont.)	Hexachlorobenzene	µg/Kg		< 330			
	Hexachlorobutadiene	µg/Kg	< 174	< 330		Acceptable	SW8270C
	Hexachlorocyclopentadiene	µg/Kg	< 235	3480	D.L. - 3480	Acceptable	SW8270C
	Hexachloroethane	µg/Kg		< 330			
	Indeno(1,2,3-cd)pyrene	µg/Kg		< 330			
	Isophorone	µg/Kg	6650	8830	D.L. - 13300	Acceptable	SW8270C
	2-Methylnaphthalene	µg/Kg		< 330			
	2-Methylphenol	µg/Kg	1590	5570	D.L. - 5570	Acceptable	SW8270C
	3-Methylphenol	µg/Kg		< 330			
	4-Methylphenol	µg/Kg		< 330			
	Naphthalene	µg/Kg	795	1090	31.0 - 1530	Acceptable	SW8270C
	2-Nitroaniline	µg/Kg		< 330			
	3-Nitroaniline	µg/Kg		< 330			
	4-Nitroaniline	µg/Kg		< 330			
	Nitrobenzene	µg/Kg	3620	4940	D.L. - 6810	Acceptable	SW8270C
	2-Nitrophenol	µg/Kg	5380	8330	110 - 10100	Acceptable	SW8270C
	3-Nitrophenol	µg/Kg		< 330			
	4-Nitrophenol	µg/Kg		< 330			
	N-Nitrosodimethylamine	µg/Kg		< 330			
	N-Nitrosodiphenylamine	µg/Kg	3480	4510	D.L. - 6480	Acceptable	SW8270C
	N-Nitroso-di-n-propylamine	µg/Kg	6950	9780	D.L. - 13900	Acceptable	SW8270C
	Pentachlorophenol	µg/Kg	3160	5130	D.L. - 6170	Acceptable	SW8270C
	Phenanthrene	µg/Kg	4320	5830	1450 - 8350	Acceptable	SW8270C
	Phenol	µg/Kg	7960	11600	140 - 13500	Acceptable	SW8270C
	Pyrene	µg/Kg	5720	7480	410 - 12400	Acceptable	SW8270C
	Pyridine	µg/Kg		< 330			
	1,2,4-Trichlorobenzene	µg/Kg	7680	9890	D.L. - 13600	Acceptable	SW8270C
	2,4,5-Trichlorophenol	µg/Kg	3720	6460	D.L. - 8140	Acceptable	SW8270C
	2,4,6-Trichlorophenol	µg/Kg	2410	4020	200 - 4520	Acceptable	SW8270C

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ENVIRONMENTAL RESOURCE ASSOCIATES®

SOIL-31 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Additional Base / Neutrals and Acids in Soil	2-Amino-1-methylbenzene (o-touluidine)	µg/Kg		< 330			
	Benzotrichloride	µg/Kg		< 330			
	Benzyl chloride	µg/Kg		< 330			
	bis(2-methoxyethyl)phthalate	µg/Kg		< 330			
	2-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	4-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Diamylphthalate	µg/Kg		< 330			
	2,4-Dibromophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-3-methyl-4-nitrophenylether	µg/Kg		< 330			
	2,3-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,6-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Dicyclohexylphthalate	µg/Kg		< 330			
	4-Nitrophenylphenylether	µg/Kg		< 330			
	Dinonylphthalate	µg/Kg		< 330			
	Hexachlorocyclohexane	µg/Kg		< 330			
	Hexyl-2-ethylhexylphthalate	µg/Kg		< 330			
	Maleic anhydride	µg/Kg		< 330			
	Pentachlorobenzene	µg/Kg		< 330			
	Pentachlorohexane	µg/Kg		< 330			
	1,2,3,4-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,3,5-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,4,5-Tetrachlorobenzene	µg/Kg		< 330			
	2,3,4,5-Tetrachlorophenol	µg/Kg		< 330			
	2,3,4,6-Tetrachlorophenol	µg/Kg		< 330			
	2,3,5,6-Tetrachlorophenol	µg/Kg		< 330			
	1,2,3-Trichlorobenzene	µg/Kg		< 330			
	1,3,5-Trichlorobenzene	µg/Kg		< 330			
	2,3,4-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Pesticides in Soil	Aldrin	µg/Kg	190	186	45.2 - 295	Acceptable	SW8081A
	alpha-BHC	µg/Kg	348	384	118 - 550	Acceptable	SW8081A
	beta-BHC	µg/Kg	185	237	43.4 - 345	Acceptable	SW8081A
	delta-BHC	µg/Kg	130	132	27.3 - 213	Acceptable	SW8081A
	gamma-BHC(Lindane)	µg/Kg	135	143	8.00 - 260	Acceptable	SW8081A
	alpha-Chlordane	µg/Kg	91	89.0	10.3 - 150	Acceptable	SW8081A
	gamma-Chlordane	µg/Kg	< 5	< 5.00		Acceptable	SW8081A
	4,4'-DDD	µg/Kg	278	271	50.1 - 472	Acceptable	SW8081A
	4,4'-DDE	µg/Kg	137	146	44.6 - 223	Acceptable	SW8081A
	4,4'-DDT	µg/Kg	206	240	59.7 - 342	Acceptable	SW8081A
	Dieldrin	µg/Kg	191	191	50.6 - 307	Acceptable	SW8081A
	Endrin	µg/Kg	165	154	61.8 - 250	Acceptable	SW80811
	Endrin aldehyde	µg/Kg	< 5	< 5.00		Acceptable	SW80811
	Endrin ketone	µg/Kg	< 5	< 5.00		Acceptable	SW80811
	Endosulfan I	µg/Kg	163	188	32.1 - 268	Acceptable	SW80811
	Endosulfan II	µg/Kg	159	263	36.2 - 263	Acceptable	SW80811
	Endosulfan sulfate	µg/Kg	410	384	94.1 - 588	Acceptable	SW80811
	Heptachlor	µg/Kg	131	134	21.3 - 231	Acceptable	SW80811
	Heptachlor epoxide	µg/Kg	156	146	50.7 - 213	Acceptable	SW80811
	Methoxychlor	µg/Kg	466	426	25.0 - 739	Acceptable	SW8081A
Chlordane In Soil	Chlordane, Technical	µg/Kg	391	428	154 - 558	Acceptable	SW8081A
Toxaphene In Soil	Toxaphene	µg/Kg	371	454	D.L. - 728	Acceptable	SW8081A

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SOIL-31 Final Customer Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Volatiles - in Soil	Acetone	µg/Kg		190	D.L. - 368		
	Acetonitrile	µg/Kg		< 5.00			
	Acrolein	µg/Kg		< 5.00			
	Benzene	µg/Kg		62.0	40.4 - 83.6		
	Bromodichloromethane	µg/Kg		78.8	45.7 - 114		
	Bromoform	µg/Kg		74.5	24.6 - 124		
	Bromomethane	µg/Kg		< 5.00			
	2-Butanone (MEK)	µg/Kg		41.6	D.L. - 97.9		
	Carbon disulfide	µg/Kg		< 5.00			
	Carbon tetrachloride	µg/Kg		97.0	43.4 - 147		
	Chlorobenzene	µg/Kg		57.8	30.2 - 84.6		
	Chlorodibromomethane	µg/Kg		181	66.8 - 279		
	Chloroethane	µg/Kg		< 5.00			
	2-Chloroethylvinylether	µg/Kg		< 5.00			
	Chloroform	µg/Kg		111	53.8 - 164		
	Chloromethane	µg/Kg		< 5.00			
	1,2-Dibromo-3-chloropropane	µg/Kg		< 5.00			
	1,2-Dibromoethane (EDB)	µg/Kg		< 5.00			
	Dibromomethane	µg/Kg		< 5.00			
	1,2-Dichlorobenzene	µg/Kg		24.8	5.82 - 38.6		
	1,3-Dichlorobenzene	µg/Kg		62.3	19.7 - 95.9		
	1,4-Dichlorobenzene	µg/Kg		36.4	8.80 - 56.8		
	Dichlorodifluoromethane	µg/Kg		< 5.00			
	1,1-Dichloroethane	µg/Kg		86.5	41.3 - 139		
	1,2-Dichloroethane	µg/Kg		130	70.1 - 186		
	1,1-Dichloroethylene	µg/Kg		< 5.00			
	cis-1,2-Dichloroethylene	µg/Kg		< 5.00			
	trans-1,2-Dichloroethylene	µg/Kg		< 5.00			
	1,2-Dichloropropane	µg/Kg		< 5.00			
	cis-1,3-Dichloropropylene	µg/Kg		< 5.00			
	trans-1,3-Dichloropropylene	µg/Kg		< 5.00			
	Ethylbenzene	µg/Kg		96.2	44.2 - 144		
	2-Hexanone	µg/Kg		25.1	D.L. - 50.9		
	Methylene chloride	µg/Kg		63.5	15.9 - 111		
	4-Methyl-2-pentanone (MIBK)	µg/Kg		144	D.L. - 250		
	Styrene	µg/Kg		< 5.00			
	1,1,1,2-Tetrachloroethane	µg/Kg		< 5.00			
	1,1,2,2-Tetrachloroethane	µg/Kg		112	10.3 - 214		
	Tetrachloroethylene	µg/Kg		105	42.9 - 153		
	Toluene	µg/Kg		52.7	29.2 - 77.2		
	1,1,1-Trichloroethane	µg/Kg		103	46.9 - 153		
	1,1,2-Trichloroethane	µg/Kg		130	67.3 - 193		
	Trichloroethylene	µg/Kg		190	98.0 - 266		
	Trichlorofluoromethane	µg/Kg		< 5.00			
	1,2,3-Trichloropropane	µg/Kg		26.0	D.L. - 54.1		

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SOIL-31 Final Customer Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Volatiles - in Soil (cont.)	Vinyl acetate	µg/Kg		< 5.00			
	Vinyl chloride	µg/Kg		< 5.00			
	Total, Xylenes	µg/Kg		< 5.00			
Herbicides - in Soil	2,4-D	µg/Kg		276	D.L. - 647		
	Dicamba	µg/Kg		160	D.L. - 293		
	Disulfoton	µg/Kg		462	D.L. - 462		
	2,4,5-T	µg/Kg		204	D.L. - 444		
	2,4,5-TP (Silvex)	µg/Kg		274	D.L. - 558		
PCBs in Soil	Aroclor 1254	mg/Kg	18.6	20.5	5.32 - 29.1	Acceptable	SW8082
	PCB Aroclor Identity		1254	1254	1254	Acceptable	SW8082

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PAHs - in Soil	Acenaphthene	µg/Kg	< 80	< 100		Acceptable	SW8310
	Acenaphthylene	µg/Kg	< 80	< 100		Acceptable	SW8310
	Anthracene	µg/Kg	804	1400	D.L. - 1510	Acceptable	SW8310
	Benzo(a)anthracene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(b)fluoranthene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(k)fluoranthene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(g,h,i)perylene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(a)pyrene	µg/Kg	275	456	56.2 - 468	Acceptable	SW8310
	Chrysene	µg/Kg	311	408	77.4 - 601	Acceptable	SW8310
	Dibenz(a,h)anthracene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Fluoranthene	µg/Kg	757	973	260 - 1290	Acceptable	SW8310
	Fluorene	µg/Kg	607	983	154 - 1290	Acceptable	SW8310
	Indeno(1,2,3-cd)pyrene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Naphthalene	µg/Kg	1160	1840	D.L. - 2700	Acceptable	SW8310
	Phenanthrene	µg/Kg	707	836	165 - 1180	Acceptable	SW8310
	Pyrene	µg/Kg	375	470	110 - 635	Acceptable	SW8310

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CA Volatiles -	Acetone	µg/Kg	< 1250	322	D.L. - 1250	Acceptable	SW8260B
	Acetonitrile	µg/Kg		< 250			
	Acrolein	µg/Kg	< 2500	< 250		Acceptable	SW8260B
	Benzene	µg/Kg	3450	3100	2260 - 4140	Acceptable	SW8260B
	Bromobenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Bromodichloromethane	µg/Kg	4230	3940	2680 - 5660	Acceptable	SW8260B
	Bromoform	µg/Kg	3680	3720	2440 - 5480	Acceptable	SW8260B
	Bromomethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	2-Butanone (MEK)	µg/Kg	< 1250	960	D.L. - 1710	Acceptable	SW8260B
	Carbon disulfide	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Carbon tetrachloride	µg/Kg	5290	4850	3270 - 6900	Acceptable	SW8260B
	Chloroacetaldehyde	µg/Kg		< 250			
	Chlorobenzene	µg/Kg	3300	2890	2180 - 3960	Acceptable	SW8260B
	Chlorodibromomethane	µg/Kg	9200	9030	6210 - 12200	Acceptable	SW8260B
	Chloroethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	bis(2-Chloroethyl)ether	µg/Kg		< 250			
	bis(2-Chloroethyloxymethane)	µg/Kg		< 250			
	bis(2-Chloroisopropyl)ether	µg/Kg		< 250			
	2-Chloroethylvinylether	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Chloroform	µg/Kg	5920	5530	3850 - 7430	Acceptable	SW8260B
	Chloromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2-Dibromo-3-chloropropane	µg/Kg	< 500	< 250		Acceptable	SW8260B
	1,2-Dibromoethane (EDB)	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Dibromomethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2-Dichlorobenzene	µg/Kg	1370	1240	748 - 1790	Acceptable	SW8260B
	1,3-Dichlorobenzene	µg/Kg	3530	3110	2230 - 4210	Acceptable	SW8260B
	1,4-Dichlorobenzene	µg/Kg	2020	1820	1340 - 2480	Acceptable	SW8260B
	Dichlorodifluoromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1-Dichloroethane	µg/Kg	3670	4320	2480 - 6580	Acceptable	SW8260B
	1,2-Dichloroethane	µg/Kg	6720	6480	4460 - 8620	Acceptable	SW8260B
	1,1-Dichloroethylene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	cis-1,2-Dichloroethylene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	trans-1,2-Dichloroethylene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2-Dichloropropane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	cis-1,3-Dichloropropylene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	trans-1,3-Dichloropropylene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Ethylbenzene	µg/Kg	5390	4810	3020 - 6900	Acceptable	SW8260B
	2-Hexanone	µg/Kg	1250	< 250		No Evaluation	SW8260B
	Hexylchloroethane	µg/Kg		< 250			
	Isopropylbenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Methylene chloride	µg/Kg	2420	3180	1480 - 4760	Acceptable	SW8260B
	4-Methyl-2-pentanone (MIBK)	µg/Kg	5540	5760	4080 - 7170	Acceptable	SW8260B
	Methyl-t-butylether	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Styrene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1,1,2-Tetrachloroethane	µg/Kg	< 250	< 250		Acceptable	SW8260B

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SOIL-31 Final Customer Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
CA Volatiles - (cont.)	1,1,2,2-Tetrachloroethane	µg/Kg	5980	5600	3100 - 8440	Acceptable	SW8260B
	Tetrachloroethylene	µg/Kg	5800	5230	2970 - 7830	Acceptable	SW8260B
	Toluene	µg/Kg	2600	2640	1730 - 3620	Acceptable	SW8260B
	1,2,4-Trichlorobenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1,1-Trichloroethane	µg/Kg	5670	5150	3480 - 7180	Acceptable	SW8260B
	1,1,2-Trichloroethane	µg/Kg	7040	6520	4500 - 8500	Acceptable	SW8260B
	Trichloroethylene	µg/Kg	9660	9500	6200 - 12600	Acceptable	SW8260B
	Trichlorofluoromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2,3-Trichloropropane	µg/Kg	1320	1300	573 - 2070	Acceptable	SW8260B
	Vinyl acetate	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Vinyl chloride	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Total, Xylenes	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Methanol	µg/Kg		< 20000			

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CA NTK	4-amino-2,6-dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2-amino-4,6-dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1-Chloro-2,4-dinitrobenzene	µg/Kg		< 2600			
	1-Chloro-4-nitrobenzene	µg/Kg		< 2600			
	4-Chloro-3-nitrotoluene	µg/Kg		< 2600			
	3,5-Dichloronitrobenzene	µg/Kg		< 2600			
	1,3-Dinitrobenzene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1,4-Dinitrobenzene	µg/Kg		< 2600			
	2,4-Dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,6-Dinitrotoluene	µg/Kg	3940	3540	1550 - 5210	Acceptable	SW8330
	Dinitramine	µg/Kg		< 2600			
	HMX	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1,2-Napthoquinone	µg/Kg		< 2600			
	1,4-Napthoquinone	µg/Kg		< 2600			
	Nitrobenzene	µg/Kg	11500	12400	5880 - 16900	Acceptable	SW8330
	2-Nitrotoluene	µg/Kg	7700	7500	2090 - 12900	Acceptable	SW8330
	3-Nitrotoluene	µg/Kg	4100	4100	3150 - 4630	Acceptable	SW8330
	4-Nitrotoluene	µg/Kg	12400	13000	9370 - 15000	Acceptable	SW8330
	Pentachloronitrobenzene	µg/Kg		< 2600			
	RDX	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,3,4,5-Tetrachloronitrobenzene	µg/Kg		< 2600			
	Tetryl	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,4,6-Trichloronitrobenzene	µg/Kg		< 2600			
	Trifluralin	µg/Kg		< 2600			
	1,3,5-Trinitrobenzene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,4,6-Trinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
CA OHC	Diazinon	µg/Kg	451	581	D.L. - 988	Acceptable	SW8141A
	Dichlorvos (DDVP)	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Malathion	µg/Kg		622	D.L. - 973		
	Phorate	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Ronnel	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Stirophos (tetrachlorovinphos)	µg/Kg	< 25	< 250		Acceptable	SW8141A
	2,4-D	µg/Kg	< 25	349	43.6 - 468	Not Acceptable	SW8151A
	2,4-DB	µg/Kg	150	259	D.L. - 728	Acceptable	SW8151A
	2,4,5-T	µg/Kg	< 25	< 250		Acceptable	SW8151A
	2,4,5-TP (Silvex)	µg/Kg	50.3	297	D.L. - 642	Acceptable	SW8151A
	Dalapon	µg/Kg	< 25	< 250		Acceptable	SW8151A
	Dicamba	µg/Kg	11.6	220	D.L. - 439	Acceptable	SW8151A
	Dinoseb	µg/Kg	< 25	< 250		Acceptable	SW8151A
	MCPP	µg/Kg	< 25	< 250		Acceptable	SW8151A
	Pentachlorophenol	µg/Kg		< 250			
	Aldicarb	µg/Kg		< 250			
	Aldicarb sulfone	µg/Kg		723	134 - 723		
	Aldicarb sulfoxide	µg/Kg		< 250			
	Carbaryl	µg/Kg		768	260 - 768		
	Carbofuran	µg/Kg		< 250			
	Dioxacarb	µg/Kg		< 250			
	Diuron	µg/Kg		< 250			
	3-Hydroxycarbofuran	µg/Kg		< 250			
	Methiocarb	µg/Kg		< 250			
	Methomyl	µg/Kg		< 250			
	Promecarb	µg/Kg		< 250			
	Propoxur	µg/Kg		< 250			
Ignitability	Ignitability (Flashpoint)	°F	128.4	120	102 - 144	Acceptable	SW1010
Corrosivity (pH)	Corrosivity (pH)	S.U.	4.24	4.32	3.79 - 4.77	Acceptable	SW9045C
Fluoride	Fluoride	mg/Kg	40.3	46.0	23.9 - 59.3	Acceptable	EPA340.2

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Study: **SOIL31**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **California ELAP**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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SOIL-31 Final California ELAP Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Prep Code	Method Description
Trace Metals - in Soil	Antimony	mg/Kg	64.1	174	D.L. - 174	Acceptable		SW6010B
	Arsenic	mg/Kg	51.3	65.9	27.6 - 77.0	Acceptable		SW6010B
	Barium	mg/Kg	542	532	368 - 658	Acceptable		SW6010B
	Beryllium	mg/Kg	62.7	69.3	38.9 - 74.0	Acceptable		SW6010B
	Cadmium	mg/Kg	163	182	101 - 191	Acceptable		SW6010B
	Chromium	mg/Kg	53.9	60.1	30.6 - 61.3	Acceptable		SW6010B
	Cobalt	mg/Kg	94.6	118	69.5 - 128	Acceptable		SW6010B
	Copper	mg/Kg	71.1	74.2	42.9 - 82.6	Acceptable		SW6010B
	Lead	mg/Kg	189	204	106 - 243	Acceptable		SW6010B
	Mercury	mg/Kg	6.58	6.47	2.18 - 7.56	Acceptable		SW7471A
	Molybdenum	mg/Kg		85.5	47.2 - 93.1			
	Nickel	mg/Kg	116	115	66.2 - 123	Acceptable		SW6010B
	Selenium	mg/Kg	117	124	63.6 - 141	Acceptable		SW6010B
	Silver	mg/Kg	91.0	102	53.0 - 113	Acceptable		SW6010B
	Thallium	mg/Kg	70.7	75.6	16.2 - 94.4	Acceptable		SW6010B
	Vanadium	mg/Kg	144	139	95.1 - 183	Acceptable		SW6010B
	Zinc	mg/Kg	315	317	163 - 346	Acceptable		SW6010B
Cyanide in Soil	Cyanide, total	mg/Kg	63.3	91.1	D.L. - 490	Acceptable		SW9010B
	Reactive Cyanide	mg/Kg		< 25.0				

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Hexavalent Chromium	Chromium VI	mg/Kg	45.7	59.7	D.L. - 113	Acceptable		SW7196A

Prep Codes:

A - Hot plate with HNO3, HCl and H2O2. (SW-846 Method 3050 for FLAA & ICP-OES)
B - Hot plate with HNO3 and H2O2. (SW-846 Method 3050 for GFAA & ICP-MS)
C - SW-846 Method 3050b optional section 7.5.
D - Microwave with HNO3 only. (SW-846 Method 3051)
E - Microwave with HNO3 and HCl. (SW-846 method 3051 modified)
F - Other if not listed above.

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Semivolatiles Base / Neutrals and Acids in Soil	Acenaphthene	µg/Kg	4530	6740	2110 - 7230	Acceptable	SW8270C
	Acenaphthylene	µg/Kg	1690	2820	541 - 2820	Acceptable	SW8270C
	Aniline	µg/Kg		< 330			
	Anthracene	µg/Kg	4160	6470	1550 - 6470	Acceptable	SW8270C
	Benzo(a)anthracene	µg/Kg		< 330			
	Benzo(b)fluoranthene	µg/Kg	2560	3890	1000 - 4500	Acceptable	SW8270C
	Benzo(k)fluoranthene	µg/Kg		< 330			
	Benzo(g,h,i)perylene	µg/Kg		< 330			
	Benzo(a)pyrene	µg/Kg	1110	1730	326 - 1730	Acceptable	SW8270C
	4-Bromophenyl-phenylether	µg/Kg	8110	10600	3700 - 13400	Acceptable	SW8270C
	Butylbenzylphthalate	µg/Kg	3220	4510	1380 - 5910	Acceptable	SW8270C
	4-Chloro-3-methylphenol	µg/Kg	4030	7040	2210 - 7040	Acceptable	SW8270C
	2-Chloronaphthalene	µg/Kg		< 330			
	2-Chlorophenol	µg/Kg	2050	3080	540 - 3080	Acceptable	SW8270C
	Chrysene	µg/Kg	2790	3730	1310 - 4380	Acceptable	SW8270C
	Dibenz(a,h)anthracene	µg/Kg		< 330			
	Dibenzofuran	µg/Kg	4310	6080	1840 - 6870	Acceptable	SW8270C
	Di-n-butylphthalate	µg/Kg	1800	2400	694 - 2950	Acceptable	SW8270C
	1,2-Dichlorobenzene	µg/Kg	2330	3350	879 - 3350	Acceptable	SW8270C
	1,3-Dichlorobenzene	µg/Kg		< 330			
	1,4-Dichlorobenzene	µg/Kg		< 330			
	Diethylphthalate	µg/Kg	3190	4450	1680 - 4970	Acceptable	SW8270C
	2,4-Dimethylphenol	µg/Kg		< 330			
	Dimethylphthalate	µg/Kg		< 330			
	Di-n-octylphthalate	µg/Kg	7430	9510	759 - 16400	Acceptable	SW8270C
	bis(2-Ethylhexyl)phthalate	µg/Kg	2630	3580	1070 - 4870	Acceptable	SW8270C
	Fluoranthene	µg/Kg	4330	6060	2110 - 7150	Acceptable	SW8270C
	Fluorene	µg/Kg		< 330			
	Hexachlorobenzene	µg/Kg		< 330			
	Hexachlorobutadiene	µg/Kg	< 174	< 330		Acceptable	SW8270C
	Hexachlorocyclopentadiene	µg/Kg	< 235	3480	D.L. - 3480	Acceptable	SW8270C
	Hexachloroethane	µg/Kg		< 330			
	Indeno(1,2,3-cd)pyrene	µg/Kg		< 330			
	2-Methylphenol	µg/Kg	1590	5570	624 - 5570	Acceptable	SW8270C
	3-Methylphenol	µg/Kg		< 330			
	4-Methylphenol	µg/Kg		< 330			
	Naphthalene	µg/Kg	795	1090	250 - 1310	Acceptable	SW8270C
	2-Nitrophenol	µg/Kg	5380	8330	1460 - 8330	Acceptable	SW8270C
	4-Nitrophenol	µg/Kg		< 330			
	N-Nitrosodimethylamine	µg/Kg		< 330			
	N-Nitrosodiphenylamine	µg/Kg	3480	4510	989 - 5240	Acceptable	SW8270C
	N-Nitroso-di-n-propylamine	µg/Kg	6950	9780	2930 - 11500	Acceptable	SW8270C
	Pentachlorophenol	µg/Kg	3160	5130	361 - 6020	Acceptable	SW8270C
	Phenanthrene	µg/Kg	4320	5830	2010 - 6510	Acceptable	SW8270C
	Phenol	µg/Kg	7960	11600	2320 - 11800	Acceptable	SW8270C

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Semivolatiles Base / Neutrals and Acids	Pyrene	µg/Kg	5720	7480	2020 - 8480	Acceptable	SW8270C
	1,2,4-Trichlorobenzene	µg/Kg	7680	9890	2550 - 9890	Acceptable	SW8270C
	2,4,5-Trichlorophenol	µg/Kg	3720	6460	1310 - 6930	Acceptable	SW8270C
	2,4,6-Trichlorophenol	µg/Kg	2410	4020	824 - 4060	Acceptable	SW8270C

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Additional Base / Neutrals and Acids in Soil	2-Amino-1-methylbenzene (o-touluidine)	µg/Kg		< 330			
	Benzotrichloride	µg/Kg		< 330			
	Benzyl chloride	µg/Kg		< 330			
	bis(2-methoxyethyl)phthalate	µg/Kg		< 330			
	2-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	4-Chlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Diamylphthalate	µg/Kg		< 330			
	2,4-Dibromophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-3-methyl-4-nitrophenylether	µg/Kg		< 330			
	2,3-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,6-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,5-Dichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	Dicyclohexylphthalate	µg/Kg		< 330			
	4-Nitrophenylphenylether	µg/Kg		< 330			
	Dinonylphthalate	µg/Kg		< 330			
	Hexachlorocyclohexane	µg/Kg		< 330			
	Hexyl-2-ethylhexylphthalate	µg/Kg		< 330			
	Maleic anhydride	µg/Kg		< 330			
	Pentachlorobenzene	µg/Kg		< 330			
	Pentachlorohexane	µg/Kg		< 330			
	1,2,3,4-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,3,5-Tetrachlorobenzene	µg/Kg		< 330			
	1,2,4,5-Tetrachlorobenzene	µg/Kg		< 330			
	2,3,4,5-Tetrachlorophenol	µg/Kg		< 330			
	2,3,4,6-Tetrachlorophenol	µg/Kg		< 330			
	2,3,5,6-Tetrachlorophenol	µg/Kg		< 330			
	1,2,3-Trichlorobenzene	µg/Kg		< 330			
	1,3,5-Trichlorobenzene	µg/Kg		< 330			
	2,3,4-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,3,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	2,4,6-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			
	3,4,5-Trichlorophenyl-4-nitrophenylether	µg/Kg		< 330			

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Semivolatiles Pesticides in Soil	Aldrin	µg/Kg	190	186	59.9 - 247	Acceptable	SW8081A
	alpha-BHC	µg/Kg	348	384	109 - 489	Acceptable	SW8081A
	beta-BHC	µg/Kg	185	237	62.9 - 309	Acceptable	SW8081A
	delta-BHC	µg/Kg	130	132	34.9 - 192	Acceptable	SW8081A
	gamma-BHC(Lindane)	µg/Kg	135	143	33.0 - 204	Acceptable	SW8081A
	alpha-Chlordane	µg/Kg	91	89.0	44.0 - 109	Acceptable	SW8081A
	gamma-Chlordane	µg/Kg	< 5	< 5.00		Acceptable	SW8081A
	4,4'-DDD	µg/Kg	278	271	101 - 354	Acceptable	SW8081A
	4,4'-DDE	µg/Kg	137	146	57.8 - 192	Acceptable	SW8081A
	4,4'-DDT	µg/Kg	206	240	71.1 - 287	Acceptable	SW8081A
	Dieldrin	µg/Kg	191	191	62.5 - 248	Acceptable	SW8081A
	Endrin	µg/Kg	165	154	60.2 - 211	Acceptable	SW80811
	Endosulfan I	µg/Kg	163	188	51.1 - 248	Acceptable	SW80811
	Endosulfan II	µg/Kg	159	263	34.9 - 263	Acceptable	SW80811
	Endosulfan sulfate	µg/Kg	410	384	2.15 - 598	Acceptable	SW80811
	Heptachlor	µg/Kg	131	134	51.2 - 177	Acceptable	SW80811
	Heptachlor epoxide	µg/Kg	156	146	43.4 - 195	Acceptable	SW80811
	Methoxychlor	µg/Kg	466	426	66.6 - 619	Acceptable	SW8081A
Chlordane In Soil	Chlordane, Technical	µg/Kg	391	428	180 - 532	Acceptable	SW8081A
Toxaphene In Soil	Toxaphene	µg/Kg	371	454	34.4 - 625	Acceptable	SW8081A

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PCBs in Soil	Aroclor 1254	mg/Kg	18.6	20.5	3.11 - 29.2	Acceptable	SW8082
	PCB Aroclor Identity		1254	1254	1254	Acceptable	SW8082

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PAHs - in Soil	Acenaphthene	µg/Kg	< 80	< 100		Acceptable	SW8310
	Acenaphthylene	µg/Kg	< 80	< 100		Acceptable	SW8310
	Anthracene	µg/Kg	804	1400	D.L. - 1400	Acceptable	SW8310
	Benzo(a)anthracene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(b)fluoranthene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(k)fluoranthene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(g,h,i)perylene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Benzo(a)pyrene	µg/Kg	275	456	101 - 456	Acceptable	SW8310
	Chrysene	µg/Kg	311	408	114 - 575	Acceptable	SW8310
	Dibenz(a,h)anthracene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Fluoranthene	µg/Kg	757	973	300 - 1260	Acceptable	SW8310
	Fluorene	µg/Kg	607	983	256 - 1200	Acceptable	SW8310
	Indeno(1,2,3-cd)pyrene	µg/Kg	< 5	< 100		Acceptable	SW8310
	Naphthalene	µg/Kg	1160	1840	D.L. - 3150	Acceptable	SW8310
	Phenanthrene	µg/Kg	707	836	257 - 1080	Acceptable	SW8310
	Pyrene	µg/Kg	375	470	162 - 583	Acceptable	SW8310

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
CA Volatiles -	Acetonitrile	µg/Kg		< 250			
	Benzene	µg/Kg	3450	3100	2110 - 3980	Acceptable	SW8260B
	Bromobenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Bromoform	µg/Kg	3680	3720	2360 - 5450	Acceptable	SW8260B
	Carbon tetrachloride	µg/Kg	5290	4850	2950 - 6800	Acceptable	SW8260B
	Chloroacetaldehyde	µg/Kg		< 250			
	Chlorobenzene	µg/Kg	3300	2890	2080 - 3800	Acceptable	SW8260B
	bis(2-Chloroethyl)ether	µg/Kg		< 250			
	bis(2-Chloroethyloxymethane)	µg/Kg		< 250			
	bis(2-Chloroisopropyl)ether	µg/Kg		< 250			
	Chloroform	µg/Kg	5920	5530	3620 - 7320	Acceptable	SW8260B
	Chloromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2-Dibromo-3-chloropropane	µg/Kg	< 500	< 250		Acceptable	SW8260B
	1,2-Dibromoethane (EDB)	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2-Dichlorobenzene	µg/Kg	1370	1240	764 - 1890	Acceptable	SW8260B
	1,3-Dichlorobenzene	µg/Kg	3530	3110	2020 - 4330	Acceptable	SW8260B
	1,4-Dichlorobenzene	µg/Kg	2020	1820	1170 - 2560	Acceptable	SW8260B
	Dichlorodifluoromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1-Dichloroethane	µg/Kg	3670	4320	2890 - 5760	Acceptable	SW8260B
	1,2-Dichloroethane	µg/Kg	6720	6480	4230 - 8800	Acceptable	SW8260B
	Ethylbenzene	µg/Kg	5390	4810	3450 - 6310	Acceptable	SW8260B
	Hexylchloroethane	µg/Kg		< 250			
	Isopropylbenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Methylene chloride	µg/Kg	2420	3180	1600 - 4520	Acceptable	SW8260B
	Methyl-t-butylether	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1,1,2-Tetrachloroethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1,2,2-Tetrachloroethane	µg/Kg	5980	5600	3960 - 7410	Acceptable	SW8260B
	Tetrachloroethylene	µg/Kg	5800	5230	3390 - 6830	Acceptable	SW8260B
	Toluene	µg/Kg	2600	2640	1810 - 3480	Acceptable	SW8260B
	1,2,4-Trichlorobenzene	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,1,1-Trichloroethane	µg/Kg	5670	5150	3240 - 7190	Acceptable	SW8260B
	1,1,2-Trichloroethane	µg/Kg	7040	6520	5330 - 8170	Acceptable	SW8260B
	Trichloroethylene	µg/Kg	9660	9500	5910 - 12300	Acceptable	SW8260B
	Trichlorofluoromethane	µg/Kg	< 250	< 250		Acceptable	SW8260B
	1,2,3-Trichloropropane	µg/Kg	1320	1300	679 - 1800	Acceptable	SW8260B
	Vinyl chloride	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Total, Xylenes	µg/Kg	< 250	< 250		Acceptable	SW8260B
	Methanol	µg/Kg		< 20000			

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 09/28/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
CA NTK	4-amino-2,6-dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2-amino-4,6-dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1-Chloro-2,4-dinitrobenzene	µg/Kg		< 2600			
	1-Chloro-4-nitrobenzene	µg/Kg		< 2600			
	4-Chloro-3-nitrotoluene	µg/Kg		< 2600			
	3,5-Dichloronitrobenzene	µg/Kg		< 2600			
	1,3-Dinitrobenzene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1,4-Dinitrobenzene	µg/Kg		< 2600			
	2,4-Dinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,6-Dinitrotoluene	µg/Kg	3940	3540	2100 - 4180	Acceptable	SW8330
	Dinitramine	µg/Kg		< 2600			
	HMX	µg/Kg	< 260	< 2600		Acceptable	SW8330
	1,2-Napthoquinone	µg/Kg		< 2600			
	1,4-Napthoquinone	µg/Kg		< 2600			
	Nitrobenzene	µg/Kg	11500	12400	5510 - 15400	Acceptable	SW8330
	2-Nitrotoluene	µg/Kg	7700	7500	5390 - 8700	Acceptable	SW8330
	3-Nitrotoluene	µg/Kg	4100	4100	2940 - 4760	Acceptable	SW8330
	4-Nitrotoluene	µg/Kg	12400	13000	9330 - 15100	Acceptable	SW8330
	Pentachloronitrobenzene	µg/Kg		< 2600			
	RDX	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,3,4,5-Tetrachloronitrobenzene	µg/Kg		< 2600			
	Tetryl	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,4,6-Trichloronitrobenzene	µg/Kg		< 2600			
	Trifluralin	µg/Kg		< 2600			
	1,3,5-Trinitrobenzene	µg/Kg	< 260	< 2600		Acceptable	SW8330
	2,4,6-Trinitrotoluene	µg/Kg	< 260	< 2600		Acceptable	SW8330

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SOIL-31 Final California ELAP Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID: CO00078** **Report Issued: 09/28/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
CA OHC	Diazinon	µg/Kg	451	581	D.L. - 1010	Acceptable	SW8141A
	Dichlorvos (DDVP)	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Malathion	µg/Kg		622	224 - 865		
	Phorate	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Ronnel	µg/Kg	< 25	< 250		Acceptable	SW8141A
	Stirophos (tetrachlorovinphos)	µg/Kg	< 25	< 250		Acceptable	SW8141A
	2,4-D	µg/Kg	< 25	349	D.L. - 558	Acceptable	SW8151A
	2,4-DB	µg/Kg	150	259	D.L. - 467	Acceptable	SW8151A
	2,4,5-T	µg/Kg	< 25	< 250		Acceptable	SW8151A
	2,4,5-TP (Silvex)	µg/Kg	50.3	297	D.L. - 484	Acceptable	SW8151A
	Dalapon	µg/Kg	< 25	< 250		Acceptable	SW8151A
	Dicamba	µg/Kg	11.6	220	D.L. - 362	Acceptable	SW8151A
	Dinoseb	µg/Kg	< 25	< 250		Acceptable	SW8151A
	MCPP	µg/Kg	< 25	< 250		Acceptable	SW8151A
	Pentachlorophenol	µg/Kg		< 250			
	Aldicarb	µg/Kg		< 250			
	Aldicarb sulfone	µg/Kg		723	494 - 1080		
	Aldicarb sulfoxide	µg/Kg		< 250			
	Carbaryl	µg/Kg		768	640 - 848		
	Carbofuran	µg/Kg		< 250			
	Dioxacarb	µg/Kg		< 250			
	Diuron	µg/Kg		< 250			
	3-Hydroxycarbofuran	µg/Kg		< 250			
	Methiocarb	µg/Kg		< 250			
	Methomyl	µg/Kg		< 250			
	Promecarb	µg/Kg		< 250			
	Propoxur	µg/Kg		< 250			
Ignitability	Ignitability (Flashpoint)	°F	128.4	120	102 - 136	Acceptable	SW1010
Corrosivity (pH)	Corrosivity (pH)	S.U.	4.24	4.32	3.99 - 4.70	Acceptable	SW9045C
Fluoride	Fluoride	mg/Kg	40.3	46.0	26.5 - 60.2	Acceptable	EPA340.2

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Lab code: 200386-0

ENVIRONMENTAL
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The Industry Standard™

September 28, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Fort Collins, Colorado 80524

Dear Debra:

I am writing in response to your e-mail dated September 25, 2000 concerning the acceptance limits used to evaluate the Nitroaromatics/Amines standard for project 07270009. As you are aware, in June of this year we had a similar situation which was resolved when ERA located some historical data that could be used to establish more realistic acceptance limits for some of the 8330 compounds. At that time, we concluded that the data from Table 8 of Method 8330 would only be used when no other source of acceptance limits was available. Unfortunately, the implementation of this policy had just enough lag time for this current project to slip through the cracks. Please accept my apologies for this error. As required by ERA Standard Operating Procedure 0150, Technical and Customer Service Problem Response, we have implemented the following corrective and preventive actions.

- Attached is the revised final report for ERA Project Number 07270009. The QuiK™ Response limits used to evaluate this sample were generated using data obtained from multiple laboratories analyzing blind proficiency testing standards.

- A system that will incorporate up to four levels of review has been initiated in order to catch any samples that may contain acceptance limits assigned prior to our change in procedure.

Again, please accept my apologies for any inconvenience this situation may have caused you. If you have any questions or if I may be of any further assistance, please do not hesitate to call me.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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QuiK™ Response PE Standards

Final Report

Custom Nitroaromatics/Amines

Customer: Paragon Analytics
Lot Number: 07270009
State ID Number: CO00078

Parameter	Units	Reported Value	Certified Value	QuiK™ Response Limits	Comment
4-Amino-2,6-dinitrotoluene	µg/l	2.77	3.00	2.63 - 3.48	Acceptable
1,3-Dinitrobenzene	µg/l	3.78	4.60	3.44 - 4.97	Acceptable
2,4-Dinitrotoluene	µg/l	3.52	4.10	3.39 - 4.30	Acceptable
Nitrobenzene	µg/l	0.929	1.25	0.816 - 1.41	Acceptable
2-Nitrotoluene	µg/l	6.95	8.20	6.00 - 8.69	Acceptable
RDX	µg/l	1.45	1.45	1.08 - 1.55	Acceptable
1,3,5-Trinitrobenzene	µg/l	1.96	2.50	1.57 - 2.68	Acceptable
2,4,6-Trinitrotoluene	µg/l	9.09	10.5	6.97 - 14.2	Acceptable

Results reported by: D. Henderer - Paragon Analytics

Date of Revised Report: 9/28/00

ENVIRONMENTAL
RESOURCE ASSOCIATES®
The Industry Standard™

June 14, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Fort Collins, Colorado 80524

Dear Debra:

Your office contacted ERA on May 8, 2000, inquiring about the supportability of the QuiK™Response limits used by ERA to evaluate the data submitted by Paragon for QuiK™Response Study 03160001. As required by ERA Standard Operating Procedure 0150, *Technical and Customer Service Problem Response,* an internal investigation was initiated. This letter summarizes the results of that investigation and ERA's corrective and preventive actions taken in response.

Project History

QuiK"Response Limits are used by ERA to evaluate analytical results submitted by laboratories. The limits are designed to approximate the 95% confidence interval for results generated using EPA promulgated methods. The limits are generated following the procedures outlined in ERA Standard Operating Procedure 0260, Generation of Performance Acceptance Limits™. For the nitroaromatic analytes present in lot 03160001, the procedure described in Section 5.1.4 was used.

> *"Method D is used for the generation of Performance Acceptance Limits™ for all ERA products for which extensive interlaboratory data bases are not available....The Performance Acceptance Limits™ for these standards are set only upon the concurrence of one product chemist and one senior level manager. The chemist and manager will establish the Limits™ after a review of available data sources including published method performance data, in house verification data, customer feedback and any other relevant sources."*

The QuiK™Response limits were established using this procedure. The chemist and manager who established the limits relied exclusively on method performance data published by the EPA for Method 8330. It should be noted that the Limits were established at the 95% confidence limits, i.e., ± 2 standard deviations. The Limits were also centered around the EPA published expected mean recovery.

Review and evaluation of the Limits established by ERA

ERA has reviewed the Limits and also searched for other quality data information. We was able to locate data for these components from an interlaboratory round robin study

conducted by ERA in 1996. Seven components, including HMX and 2,4,6-Trinitotoluene, were part of that study. The average recovery and standard deviation from that study are summarized below along those contained in EPA Method 8330. It should be noted that the EPA method performance data is generally produced by a single laboratory.

Analyte	ERA Study Mean Recovery	EPA Method 8330 Mean Recovery	ERA Study SD	EPA Method 8330 SD
HMX	80.0%	106%	12.7%	10.5%
RDX	–	106%	–	8.7%
2,4,6-Trinitrotoluene	87.1%	105%	14.0%	7.6%

Based upon our review of the available data and experience with Method 8330, it is ERA's opinion that the QuiK™Response limits for lot 03160001 should be established using the following factors. A revised report incorporating these revised limits has been issued (copy attached).

Analyte	QuiK™Response Acceptance Limits
HMX	(0.800 × Certified Value) ± (2 × (0.127 × Certified Value))
RDX	(0.800 × Certified Value) ± (2 × (0.127 × Certified Value))
2,4,6-Trinitrotoluene	(0.871 × Certified Value) ± (2 × (0.140 × Certified Value))

Again, please accept my apologies on behalf of ERA for any inconvenience we may have caused you to date. If you have any questions or require additional information, please do not hesitate to call Curtis Wood, ERA Quality Manager, or me directly at 1-800-372-0122.

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Sincerely,

Chuck Wibby
Senior Vice President/Chief Operating Officer

Cc: Curtis Wood, ERA QA Manager
Jeff Lowry, ERA Product Manager
Michael Blades, ERA Deputy Product Manager
Tony Ciacco, ERA Chemist

ENVIRONMENTAL RESOURCE ASSOCIATES®
The Industry Standard™

QuiK™ Response PE Standards

Final Report
Revised June 15, 2000

Custom Nitroaromatics

Customer: Paragon Analytics
Lot Number: 3160001
State ID Number: CO000078

Parameter	Units	Reported Value	Certified Value	QuiK™ Response Limits	Comment
HMX	µg/l	5.22	6.34	3.46 - 6.68	Acceptable
RDX	µg/l	9.73	11.8	6.44 - 12.4	Acceptable
2,4,6-Trinitrotoluene	µg/l	14.0	15.5	9.16 - 17.8	Acceptable

Results reported by: Debra Henderer – Paragon Analytics

Date of Report: 4/18/00

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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ENVIRONMENTAL RESOURCE ASSOCIATES®
The Industry Standard™

January 19, 2001

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB WatR™ Supply Proficiency Testing (PT) Study, WS-52. The opening date for WS-52 was November 14, 2000 and the closing date was December 29, 2000. ERA's WS reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of Utah. Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. For all other states, the report for your facility will contain only those analytes contained in the EPA's National Standards. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's WS-52 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

3. If the analyte is not included in either national PT program listed above but is included in a state specific PT program, the analyte has been evaluated against acceptance limits generated using the state specific evaluation criteria.

4. If the analyte is not included in any national or state PT program, the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

NATIONAL STANDARDS REPORT

This report is provided to you if your facility is accredited by a National Standard state. This report includes only those analytes included in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998. All results have been evaluated using the EPA's National Standards Acceptance Criteria. Every analyte has been evaluated using the following approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (February 2000). All results have been evaluated using the NELAC Acceptance Criteria. The NELAC evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the

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PT samples). If you have two acceptable PT results for an analyte in any PT study completed after July 1, 1999, that meets the NELAC criteria, you have satisfied your NELAC PT requirements. For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the California ELAP Proficiency Testing program (January 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For all of the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the WS-52 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

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Thank you for your participation in the InterLaB WatR™ Pollution, WS-52, Proficiency Testing Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

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January 19, 2001

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of WatR™ Supply study 52 for compliance with all USEPA, State, NELAC and NIST NVLAP technical and program requirements as well as those of our ISO 9001 Registered Quality System.

All aspects of the WS-52 study, from standard manufacture to final report generation, were completed by ERA in accordance with the "National Standards for Water Proficiency Testing Studies Criteria Document", USEPA December 30, 1998. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, most recent revision), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in WS-52.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

ENVIRONMENTAL RESOURCE ASSOCIATES®

WS-52 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: Report Issued: 01/19/01

InterLaB™ WS Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998 as applicable. A parameter not added to the standard is given an Assigned Value of "Zero" per the guidelines contained in the USEPA's Criteria Document.

The Acceptance Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable = Reported Value falls within the Acceptance Limits.

Not Acceptable = Reported Value falls outside the Acceptance Limits.

No Evaluation = Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ WS Study Discussion:

ERA WatR™ Supply Proficiency Testing Study 52 has been reviewed by ERA Senior Management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), the NELAC Standards Chapter 2 and Associated Appendices (July 1999), applicable state PT programs, and those contained in the National Institute of Standards and Technology NVLAP Handbooks 150 and 150-19. ERA is a NIST NVLAP accredited PT Provider (Lab Code 2003860).

The WatR™ Supply 52 (WS-52) results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the WS-52 standards met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the National Voluntary Laboratory Accreditation Program, Handbook 150-19 for Chemical Calibration for Providers of Proficiency Testing, June 1999.

The data submitted by participating laboratories was also examined for study anomalies. There was one anomaly found during the review of the study data. The anomaly is listed on the next page.

If you have any questions regarding WatR™ Supply Study, WS-52, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

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WS-52 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: Report Issued: 01/19/01

- Study Discussion Concerning WS-52 Nutrients: ortho-Phosphate as P

During the review of the WS-52 study data, ERA observed a failure rate of 34.0% for ortho-Phosphate as P in the WS Nutrients standard. As we believe this failure rate is very high, we carefully reviewed all data related to proving the efficacy of the standard including manufacturing and internal analytical verification data for both accuracy and homogeneity. Our review of the data confirmed that the standard meets all requirements contained within the USEPA Criteria Document as well as NIST NVLAP criteria to be judged 'fit for use'.

The WS-52 study data indicated a normal distribution around the USEPA estimated mean calculated from ERA's assigned value. The acceptance limits for this analyte are calculated using the regression equations found in the USEPA Criteria Document. The average failure rate for ortho-Phosphate as P in ERA's last seventeen PT studies is 31.4%. The range of failure rates for these ERA studies is 16.7% to 43.8%. USEPA reported a historical failure rate of 21.8% for five of its WS studies. The range of failure rates for the USEPA studies is not available.

Our review of the acceptance ranges for five of the historical USEPA studies for which we have data indicates that the acceptance limits used historically by USEPA: 1) varied from study to study; and 2) were considerably wider in four out of five studies than is required currently. Therefore, the higher failure rate currently observed is not surprising. ERA will communicate this information on failure rates to USEPA. When reviewing each laboratory's performance evaluation for this analyte one must take the above information into consideration.

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Study: **WS52**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

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WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Metals	Aluminum	µg/l	928	954	858 - 1050	Acceptable	EPA200.7
	Antimony	µg/l	23.5	24.6	17.2 - 32.0	Acceptable	EPA200.7
	Arsenic	µg/l	48.7	49.3	43.1 - 55.1	Acceptable	EPA200.7
	Barium	µg/l	598	626	532 - 720	Acceptable	EPA200.7
	Beryllium	µg/l	7.55	7.14	6.07 - 8.21	Acceptable	EPA200.7
	Boron	µg/l	602	611	573 - 670	Acceptable	EPA200.7
	Cadmium	µg/l	30.4	31.2	25.0 - 37.4	Acceptable	EPA200.7
	Chromium	µg/l	150	160	136 - 184	Acceptable	EPA200.7
	Copper	µg/l	1590	1640	1480 - 1800	Acceptable	EPA200.7
	Iron	µg/l	76.8	85.1	75.6 - 96.9	Acceptable	EPA200.7
	Lead	µg/l	19.6	20.0	14.0 - 26.0	Acceptable	EPA200.7
	Manganese	µg/l	36.6	37.9	33.7 - 40.7	Acceptable	EPA200.7
	Molybdenum	µg/l	120	126	106 - 145	Acceptable	EPA200.7
	Nickel	µg/l	388	387	329 - 445	Acceptable	EPA200.7
	Selenium	µg/l	34.1	35.7	28.6 - 42.8	Acceptable	EPA200.7
	Silver	µg/l	81.0	83.0	74.7 - 91.2	Acceptable	EPA200.7
	Thallium	µg/l	5.22	5.43	3.80 - 7.06	Acceptable	EPA200.7
	Vanadium	µg/l	667	706	658 - 752	Acceptable	EPA200.7
	Zinc	µg/l	1200	1140	1050 - 1220	Acceptable	EPA200.7
Mercury	Mercury	µg/l	6.76	7.22	5.05 - 9.39	Acceptable	EPA200.7

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WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
pH	pH	S.U.	8.90	8.90	8.01 - 9.79	Acceptable	EPA150.1
Inorganics	Chloride	mg/l	94.0	89.2	83.6 - 94.7	Acceptable	EPA300.3
	Conductivity	µmhos	508	533	504 - 562	Acceptable	EPA120.1
	Fluoride	mg/l	2.58	2.60	2.34 - 2.86	Acceptable	EPA300.0
	Nitrate as N	mg/l	6.09	5.98	5.38 - 6.58	Acceptable	EPA300.0
	Potassium	mg/l	22.7	22.1	20.0 - 24.2	Acceptable	EPA200.7
	Sulfate	mg/l	8.66	8.79	7.21 - 10.0	Acceptable	EPA300.0
	Total dissolved solids	mg/l	398	376	242 - 510	Acceptable	EPA160.1
Alkalinity & Sodium	Alkalinity (as CaCO3)	mg/l	21.3	38.6	36.7 - 43.6	Not Acceptable	EPA310.1
	Sodium	mg/l	18.6	17.8	16.5 - 19.6	Acceptable	EPA200.7
Turbidity	Turbidity	NTU		5.12	4.50 - 6.08		
Residual Chlorine	Free residual chlorine	mg/l		1.10	0.887 - 1.31		
	Total residual chlorine	mg/l		1.29	0.968 - 1.61		
Nitrite	Nitrite as N	mg/l	1.68	1.66	1.41 - 1.91	Acceptable	EPA300.0
Nutrients	ortho-Phosphate as P	mg/l	1.14	1.09	1.01 - 1.15	Acceptable	EPA365.2
Cyanide	Cyanide	mg/l	0.204	0.180	0.135 - 0.225	Acceptable	EPA335.2
TOC	Total organic carbon	mg/l	5.00	3.90	3.51 - 4.49	Not Acceptable	EPA415.1
Chlorite	Chlorite	µg/l		251	174 - 370		
Bromate & Chlorate	Bromate	µg/l		14.6	3.08 - 28.7		
	Chlorate	µg/l		127	104 - 146		
Bromide	Bromide	µg/l	198	178	151 - 208	Acceptable	EPA300.0
Hardness	Total Hardness as CaCO3	mg/l	171	175	149 - 201	Acceptable	EPA200.7
	Calcium Hardness as CaCO3	mg/l	151	155	145 - 166	Acceptable	EPA200.7
	Calcium	mg/l	60.4	62.2	56.2 - 69.8	Acceptable	EPA200.7
	Magnesium	mg/l	4.95	4.88	4.42 - 5.33	Acceptable	EPA200.7
Heterotrophic Plate Ct	Heterotrophic Plate Count	CFU/ml		53	36 - 66		

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WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Volatiles	Benzene	µg/l	6.12	6.89	4.13 - 9.65	Acceptable	EPA524.2
	Carbon tetrachloride	µg/l	16.2	18.4	14.7 - 22.1	Acceptable	EPA524.2
	Chlorobenzene	µg/l	11.7	13.4	10.7 - 16.1	Acceptable	EPA524.2
	1,2-Dichlorobenzene	µg/l	8.47	10.3	8.24 - 12.4	Acceptable	EPA524.2
	1,4-Dichlorobenzene	µg/l	10.5	13.5	10.8 - 16.2	Not Acceptable	EPA524.2
	1,2-Dichloroethane	µg/l	14.8	16.8	13.4 - 20.2	Acceptable	EPA524.2
	1,1-Dichloroethylene	µg/l	3.52	4.73	2.84 - 6.62	Acceptable	EPA524.2
	cis-1,2-Dichloroethylene	µg/l	38.0	45.6	36.5 - 54.7	Acceptable	EPA524.2
	trans-1,2-Dichloroethylene	µg/l	18.8	22.5	18.0 - 27.0	Acceptable	EPA524.2
	1,2-Dichloropropane	µg/l	15.4	18.4	14.7 - 22.1	Acceptable	EPA524.2
	Ethylbenzene	µg/l	7.72	8.82	5.29 - 12.3	Acceptable	EPA524.2
	Methylene chloride	µg/l	3.76	5.36	3.22 - 7.50	Acceptable	EPA524.2
	Styrene	µg/l	14.2	16.5	13.2 - 19.8	Acceptable	EPA524.2
	Tetrachloroethylene	µg/l	4.35	5.83	3.50 - 8.16	Acceptable	EPA524.2
	Toluene	µg/l	16.9	19.3	15.4 - 23.2	Acceptable	EPA524.2
	1,2,4-Trichlorobenzene	µg/l	5.00	6.74	4.04 - 9.44	Acceptable	EPA524.2
	1,1,1-Trichloroethane	µg/l	3.34	3.96	2.38 - 5.54	Acceptable	EPA524.2
	1,1,2-Trichloroethane	µg/l	8.95	9.58	5.75 - 13.4	Acceptable	EPA524.2
	Trichloroethylene	µg/l	5.43	6.14	3.68 - 8.60	Acceptable	EPA524.2
	Vinyl chloride	µg/l	5.64	6.60	3.96 - 9.24	Acceptable	EPA524.2
	Xylenes, total	µg/l	27.0	35.4	28.3 - 42.5	Not Acceptable	EPA524.2
Halomethanes	Bromodichloromethane	µg/l	22.0	22.7	18.2 - 27.2	Acceptable	EPA524.2
	Bromoform	µg/l	28.9	27.9	22.3 - 33.5	Acceptable	EPA524.2
	Chlorodibromomethane	µg/l	26.3	26.8	21.4 - 32.2	Acceptable	EPA524.2
	Chloroform	µg/l	4.77	4.64	2.78 - 6.50	Acceptable	EPA524.2
	Total Trihalomethanes	µg/l	82.0	82.0	65.6 - 98.4	Acceptable	EPA524.2

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WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Unregulated Volatiles	Bromobenzene	µg/l	15.6	16.5	13.2 - 19.8	Acceptable	EPA524.2
	Bromochloromethane	µg/l	10.6	9.10	5.46 - 12.7	Acceptable	EPA524.2
	Bromomethane	µg/l	5.83	9.00	5.40 - 12.6	Acceptable	EPA524.2
	n-Butylbenzene	µg/l	8.44	8.47	5.08 - 11.9	Acceptable	EPA524.2
	sec-Butylbenzene	µg/l	3.94	3.76	2.26 - 5.26	Acceptable	EPA524.2
	tert-Butylbenzene	µg/l	17.3	19.6	15.7 - 23.5	Acceptable	EPA524.2
	tert-Butylmethyl ether (MTBE)	µg/l	24.4	26.7	17.7 - 35.1	Acceptable	EPA524.2
	Chloroethane	µg/l	10.7	12.0	9.60 - 14.4	Acceptable	EPA524.2
	Chloromethane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	2-Chlorotoluene	µg/l	13.7	15.8	12.6 - 19.0	Acceptable	EPA524.2
	4-Chlorotoluene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Dibromomethane	µg/l	4.51	4.78	2.87 - 6.69	Acceptable	EPA524.2
	1,3-Dichlorobenzene	µg/l	20.9	22.5	18.0 - 27.0	Acceptable	EPA524.2
	Dichlorodifluoromethane	µg/l	8.15	8.00	4.80 - 11.2	Acceptable	EPA524.2
	1,1-Dichloroethane	µg/l	4.57	4.46	2.68 - 6.24	Acceptable	EPA524.2
	1,3-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	2,2-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	1,1-Dichloropropene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	cis-1,3-Dichloropropene	µg/l	15.6	16.6	13.3 - 19.9	Acceptable	EPA524.2
	trans-1,3-Dichloropropene	µg/l	4.11	4.26	2.56 - 5.96	Acceptable	EPA524.2
	Fluorotrichloromethane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Hexachlorobutadiene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Isopropylbenzene	µg/l	10.4	11.1	8.88 - 13.3	Acceptable	EPA524.2
	4-Isopropyltoluene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	n-Propylbenzene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	1,1,1,2-Tetrachloroethane	µg/l	12.0	13.0	10.4 - 15.6	Acceptable	EPA524.2
	1,1,2,2-Tetrachloroethane	µg/l	5.07	5.49	3.29 - 7.69	Acceptable	EPA524.2
	1,2,3-Trichlorobenzene	µg/l	5.64	5.87	3.52 - 8.22	Acceptable	EPA524.2
	1,2,3-Trichloropropane	µg/l	5.55	6.31	3.79 - 8.83	Acceptable	EPA524.2
	1,2,4-Trimethylbenzene	µg/l	12.6	12.7	10.2 - 15.2	Acceptable	EPA524.2
	1,3,5-Trimethylbenzene	µg/l	7.64	7.85	4.71 - 11.0	Acceptable	EPA524.2

NVLAP®
Lab code: 200388-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Pesticides	Alachlor	µg/l		12.5	6.88 - 18.1		
	Aldrin	µg/l	1.35	1.74	0.739 - 2.19	Acceptable	EPA505
	Atrazine	µg/l		8.73	4.80 - 12.7		
	Bromacil	µg/l		< 0.100			
	Butachlor	µg/l		20.5	11.3 - 29.7		
	Chlorothalonil	µg/l		< 0.100			
	Diazinon	µg/l		< 0.100			
	Dieldrin	µg/l	2.40	2.61	1.83 - 3.26	Acceptable	EPA505
	Dimethoate	µg/l		< 0.100			
	Endrin	µg/l	4.75	4.95	3.47 - 6.44	Acceptable	EPA505
	Heptachlor	µg/l	0.950	1.18	0.649 - 1.71	Acceptable	EPA505
	Heptachlor epoxide	µg/l	1.77	1.61	0.886 - 2.33	Acceptable	EPA505
	Hexachlorobenzene	µg/l		1.47	0.670 - 1.90		
	Hexachlorocyclopentadiene	µg/l		1.32	0.132 - 1.70		
	gamma-BHC (Lindane)	µg/l	2.33	2.98	1.64 - 4.32	Acceptable	EPA505
	Methoxychlor	µg/l	19.9	11.6	6.38 - 16.8	Not Acceptable	EPA505
	Metolachlor	µg/l		16.2	8.91 - 23.5		
	Metribuzin	µg/l		3.66	2.01 - 5.31		
	Molinate (ordram)	µg/l		< 0.100			
	Prometon	µg/l		< 0.100			
	Prometryn	µg/l		< 0.100			
	Propachlor	µg/l		1.64	0.915 - 2.41		
	Simazine	µg/l		6.71	1.65 - 10.7		
	Thiobencarb	µg/l		< 0.100			
	Trifluralin	µg/l		4.16	1.89 - 5.58		
Toxaphene	Toxaphene	µg/l	11.9	11.7	6.44 - 17.0	Acceptable	EPA505
Chlordane	Chlordane, technical	µg/l	3.52	3.30	1.82 - 4.79	Acceptable	EPA505
EDB/DBCP	Dibromochloropropane	µg/l	0.869	0.820	0.492 - 1.15	Acceptable	EPA504.1
	Ethylene Dibromide (EDB)	µg/l	1.02	1.06	0.636 - 1.48	Acceptable	EPA504.1
	1,2,3-Trichloropropane	µg/l		ZERO			

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Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WS-52 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID: CO00078** **State ID:** **Report Issued: 01/19/01**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PCB's as DCB	PCB as Decachlorobiphenyl	µg/l		4.21	D.L. - 8.42		
	PCB Aroclor Identity			1260	1260		

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Semi - Volatiles #1	Acenaphthene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Acenaphthylene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Anthracene	µg/l	10.2	12.8	6.40 - 19.2	Acceptable	EPA625
	Benzo(a)anthracene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Benzo(b)fluoranthene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Benzo(k)fluoranthene	µg/l	24.3	31.0	15.5 - 46.5	Acceptable	EPA625
	Benzo(g,h,i)perylene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Benzo(a)pyrene	µg/l	< 10	2.13	0.497 - 2.73	Not Acceptable	EPA625
	Butylbenzylphthalate	µg/l	< 10	< 0.200		Acceptable	EPA625
	Chrysene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Dibenz(a,h)anthracene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Di-n-butylphthalate	µg/l	< 10	< 0.200		Acceptable	EPA625
	Diethylphthalate	µg/l	22.1	26.0	7.80 - 44.2	Acceptable	EPA625
	Dimethylphthalate	µg/l	< 10	< 0.200		Acceptable	EPA625
	Di-n-octylphthalate	µg/l	< 10	< 0.200		Acceptable	EPA625
	bis(2-Ethylhexyl)adipate	µg/l	< 10	18.0	6.31 - 26.4	Not Acceptable	EPA625
	bis(2-Ethylhexyl)phthalate	µg/l	13.3	15.6	6.19 - 24.1	Acceptable	EPA625
	Fluoranthene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Fluorene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Indeno(1,2,3-cd)pyrene	µg/l	< 10	5.35	2.68 - 8.03	Not Acceptable	EPA625
	1-Methylnaphthalene	µg/l	< 10	< 0.200		Acceptable	EPA625
	2-Methylnaphthalene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Naphthalene	µg/l	< 10	< 0.200		Acceptable	EPA625
	Phenanthrene	µg/l	34.0	39.6	19.8 - 59.4	Acceptable	EPA625
	Pyrene	µg/l	< 10	< 0.200		Acceptable	EPA625
Regulated Semi - Volatiles #2	Diquat	µg/l		15.3	3.68 - 21.5		
	Endothall	µg/l		422	139 - 596		
	Glyphosate	µg/l		486	405 - 579		
	Paraquat	µg/l		ZERO			

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Regulated Herbicides	Acifluorfen	µg/l		40.8	18.1 - 54.5		
	Bentazon	µg/l		< 0.100			
	Chloramben	µg/l		< 0.100			
	2,4-D	µg/l	2.01	16.4	8.20 - 24.6	Not Acceptable	EPA515.1
	2,4-DB	µg/l	34.0	37.5	18.5 - 56.3	Acceptable	EPA515.1
	Dacthal diacid (DCPA)	µg/l		37.4	11.4 - 44.5		
	Dalapon	µg/l	106	140	D.L. - 189	Acceptable	EPA515.1
	Dicamba	µg/l	26.4	25.0	7.04 - 35.3	Acceptable	EPA515.1
	3,5-Dichlorobenzoic acid	µg/l		< 0.100			
	Dichlorprop	µg/l	29.3	35.5	19.5 - 51.5	Acceptable	EPA515.1
	Dinoseb	µg/l	24.9	27.5	0.686 - 41.3	Acceptable	EPA515.1
	5-Hydroxydicamba	µg/l		< 0.100			
	4-Nitrophenol	µg/l		30.8	19.1 - 42.2		
	Pentachlorophenol	µg/l		18.3	9.15 - 27.5		
	Picloram	µg/l		22.7	0.441 - 32.4		
	2,4,5-T	µg/l	40.4	44.4	3.70 - 67.3	Acceptable	EPA515.1
	2,4,5-TP (Silvex)	µg/l	28.7	29.8	14.9 - 44.7	Acceptable	EPA515.1
Carbamate / Carbamoxyloxime Pesticides	Aldicarb	µg/l		40.5	30.8 - 50.6		
	Aldicarb sulfone	µg/l		31.7	24.9 - 38.7		
	Aldicarb sulfoxide	µg/l		42.6	29.3 - 49.1		
	Baygon	µg/l		< 5.00			
	Carbaryl	µg/l		20.6	11.3 - 29.9		
	Carbofuran	µg/l		49.9	27.4 - 72.4		
	3-Hydroxycarbofuran	µg/l		64.2	35.3 - 93.1		
	Methiocarb	µg/l		64.6	40.7 - 80.1		
	Methomyl	µg/l		38.4	30.6 - 44.7		
	Oxamyl	µg/l		55.4	41.7 - 67.1		
Haloacetic Acids	Bromoacetic acid	µg/l		10.4	4.21 - 15.4		
	Bromochloroacetic acid	µg/l		15.3	7.33 - 20.9		
	Chloroacetic acid	µg/l		13.2	3.91 - 20.2		
	Dibromoacetic acid	µg/l		8.90	3.01 - 12.3		
	Dichloroacetic acid	µg/l		20.2	5.93 - 29.8		
	Trichloroacetic acid	µg/l		30.6	11.3 - 43.1		
Chloral Hydrate	Chloral Hydrate	µg/l		14.9	2.98 - 23.9		

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Study: **WS52**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **NELAC**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WS-52 Final NELAC Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Metals	Aluminum	µg/l	928	954	858 - 1050	Acceptable	EPA200.7
	Antimony	µg/l	23.5	24.6	17.2 - 32.0	Acceptable	EPA200.7
	Arsenic	µg/l	48.7	49.3	43.1 - 55.1	Acceptable	EPA200.7
	Barium	µg/l	598	626	532 - 720	Acceptable	EPA200.7
	Beryllium	µg/l	7.55	7.14	6.07 - 8.21	Acceptable	EPA200.7
	Boron	µg/l	602	611	573 - 670	Acceptable	EPA200.7
	Cadmium	µg/l	30.4	31.2	25.0 - 37.4	Acceptable	EPA200.7
	Chromium	µg/l	150	160	136 - 184	Acceptable	EPA200.7
	Copper	µg/l	1590	1640	1480 - 1800	Acceptable	EPA200.7
	Iron	µg/l	76.8	85.1	75.6 - 96.9	Acceptable	EPA200.7
	Lead	µg/l	19.6	20.0	14.0 - 26.0	Acceptable	EPA200.7
	Manganese	µg/l	36.6	37.9	33.7 - 40.7	Acceptable	EPA200.7
	Molybdenum	µg/l	120	126	106 - 145	Acceptable	EPA200.7
	Nickel	µg/l	388	387	329 - 445	Acceptable	EPA200.7
	Selenium	µg/l	34.1	35.7	28.6 - 42.8	Acceptable	EPA200.7
	Silver	µg/l	81.0	83.0	74.7 - 91.2	Acceptable	EPA200.7
	Thallium	µg/l	5.22	5.43	3.80 - 7.06	Acceptable	EPA200.7
	Vanadium	µg/l	667	706	658 - 752	Acceptable	EPA200.7
	Zinc	µg/l	1200	1140	1050 - 1220	Acceptable	EPA200.7
Mercury	Mercury	µg/l	6.76	7.22	5.05 - 9.39	Acceptable	EPA200.7

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
pH	pH	S.U.	8.90	8.90	8.01 - 9.79	Acceptable	EPA150.1
Inorganics	Chloride	mg/l	94.0	89.2	83.6 - 94.7	Acceptable	EPA300.3
	Conductivity	µmhos	508	533	504 - 562	Acceptable	EPA120.1
	Fluoride	mg/l	2.58	2.60	2.34 - 2.86	Acceptable	EPA300.0
	Nitrate as N	mg/l	6.09	5.98	5.38 - 6.58	Acceptable	EPA300.0
	Potassium	mg/l	22.7	22.1	20.0 - 24.2	Acceptable	EPA200.7
	Sulfate	mg/l	8.66	8.79	7.21 - 10.0	Acceptable	EPA300.0
	Total dissolved solids	mg/l	398	376	242 - 510	Acceptable	EPA160.1
Alkalinity & Sodium	Alkalinity (as CaCO3)	mg/l	21.3	38.6	36.7 - 43.6	Not Acceptable	EPA310.1
	Sodium	mg/l	18.6	17.8	16.5 - 19.6	Acceptable	EPA200.7
Turbidity	Turbidity	NTU		5.12	4.50 - 6.08		
Residual Chlorine	Free residual chlorine	mg/l		1.10	0.887 - 1.31		
Nitrite	Nitrite as N	mg/l	1.68	1.66	1.41 - 1.91	Acceptable	EPA300.0
Nutrients	ortho-Phosphate as P	mg/l	1.14	1.09	1.01 - 1.15	Acceptable	EPA365.2
Cyanide	Cyanide	mg/l	0.204	0.180	0.135 - 0.225	Acceptable	EPA335.2
TOC	Total organic carbon	mg/l	5.00	3.90	3.51 - 4.49	Not Acceptable	EPA415.1
Chlorite	Chlorite	µg/l		251	174 - 370		
Bromate & Chlorate	Bromate	µg/l		14.6	3.08 - 28.7		
	Chlorate	µg/l		127	104 - 146		
Bromide	Bromide	µg/l	198	178	151 - 208	Acceptable	EPA300.0
Hardness	Calcium Hardness as CaCO3	mg/l	151	155	145 - 166	Acceptable	EPA200.7
	Calcium	mg/l	60.4	62.2	56.2 - 69.8	Acceptable	EPA200.7
	Magnesium	mg/l	4.95	4.88	4.42 - 5.33	Acceptable	EPA200.7
Heterotrophic Plate Ct	Heterotrophic Plate Count	CFU/ml		53	36 - 66		

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Regulated Volatiles	Benzene	µg/l	6.12	6.89	4.13 - 9.65	Acceptable	EPA524.2
	Carbon tetrachloride	µg/l	16.2	18.4	14.7 - 22.1	Acceptable	EPA524.2
	Chlorobenzene	µg/l	11.7	13.4	10.7 - 16.1	Acceptable	EPA524.2
	1,2-Dichlorobenzene	µg/l	8.47	10.3	8.24 - 12.4	Acceptable	EPA524.2
	1,4-Dichlorobenzene	µg/l	10.5	13.5	10.8 - 16.2	Not Acceptable	EPA524.2
	1,2-Dichloroethane	µg/l	14.8	16.8	13.4 - 20.2	Acceptable	EPA524.2
	1,1-Dichloroethylene	µg/l	3.52	4.73	2.84 - 6.62	Acceptable	EPA524.2
	cis-1,2-Dichloroethylene	µg/l	38.0	45.6	36.5 - 54.7	Acceptable	EPA524.2
	trans-1,2-Dichloroethylene	µg/l	18.8	22.5	18.0 - 27.0	Acceptable	EPA524.2
	1,2-Dichloropropane	µg/l	15.4	18.4	14.7 - 22.1	Acceptable	EPA524.2
	Ethylbenzene	µg/l	7.72	8.82	5.29 - 12.3	Acceptable	EPA524.2
	Methylene chloride	µg/l	3.76	5.36	3.22 - 7.50	Acceptable	EPA524.2
	Styrene	µg/l	14.2	16.5	13.2 - 19.8	Acceptable	EPA524.2
	Tetrachloroethylene	µg/l	4.35	5.83	3.50 - 8.16	Acceptable	EPA524.2
	Toluene	µg/l	16.9	19.3	15.4 - 23.2	Acceptable	EPA524.2
	1,2,4-Trichlorobenzene	µg/l	5.00	6.74	4.04 - 9.44	Acceptable	EPA524.2
	1,1,1-Trichloroethane	µg/l	3.34	3.96	2.38 - 5.54	Acceptable	EPA524.2
	1,1,2-Trichloroethane	µg/l	8.95	9.58	5.75 - 13.4	Acceptable	EPA524.2
	Trichloroethylene	µg/l	5.43	6.14	3.68 - 8.60	Acceptable	EPA524.2
	Vinyl chloride	µg/l	5.64	6.60	3.96 - 9.24	Acceptable	EPA524.2
	Xylenes, total	µg/l	27.0	35.4	28.3 - 42.5	Not Acceptable	EPA524.2
Halomethanes	Bromodichloromethane	µg/l	22.0	22.7	18.2 - 27.2	Acceptable	EPA524.2
	Bromoform	µg/l	28.9	27.9	22.3 - 33.5	Acceptable	EPA524.2
	Chlorodibromomethane	µg/l	26.3	26.8	21.4 - 32.2	Acceptable	EPA524.2
	Chloroform	µg/l	4.77	4.64	2.78 - 6.50	Acceptable	EPA524.2
	Total Trihalomethanes	µg/l	82.0	82.0	65.6 - 98.4	Acceptable	EPA524.2

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Unregulated Volatiles	Bromobenzene	µg/l	15.6	16.5	13.2 - 19.8	Acceptable	EPA524.2
	Bromochloromethane	µg/l	10.6	9.10	5.46 - 12.7	Acceptable	EPA524.2
	Bromomethane	µg/l	5.83	9.00	5.40 - 12.6	Acceptable	EPA524.2
	n-Butylbenzene	µg/l	8.44	8.47	5.08 - 11.9	Acceptable	EPA524.2
	sec-Butylbenzene	µg/l	3.94	3.76	2.26 - 5.26	Acceptable	EPA524.2
	tert-Butylbenzene	µg/l	17.3	19.6	15.7 - 23.5	Acceptable	EPA524.2
	Chloroethane	µg/l	10.7	12.0	9.60 - 14.4	Acceptable	EPA524.2
	Chloromethane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	2-Chlorotoluene	µg/l	13.7	15.8	12.6 - 19.0	Acceptable	EPA524.2
	4-Chlorotoluene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Dibromomethane	µg/l	4.51	4.78	2.87 - 6.69	Acceptable	EPA524.2
	1,3-Dichlorobenzene	µg/l	20.9	22.5	18.0 - 27.0	Acceptable	EPA524.2
	Dichlorodifluoromethane	µg/l	8.15	8.00	4.80 - 11.2	Acceptable	EPA524.2
	1,1-Dichloroethane	µg/l	4.57	4.46	2.68 - 6.24	Acceptable	EPA524.2
	1,3-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	2,2-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	1,1-Dichloropropene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	cis-1,3-Dichloropropene	µg/l	15.6	16.6	13.3 - 19.9	Acceptable	EPA524.2
	trans-1,3-Dichloropropene	µg/l	4.11	4.26	2.56 - 5.96	Acceptable	EPA524.2
	Fluorotrichloromethane	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Hexachlorobutadiene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	Isopropylbenzene	µg/l	10.4	11.1	8.88 - 13.3	Acceptable	EPA524.2
	4-Isopropyltoluene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	n-Propylbenzene	µg/l	< 1.0	ZERO		Acceptable	EPA524.2
	1,1,1,2-Tetrachloroethane	µg/l	12.0	13.0	10.4 - 15.6	Acceptable	EPA524.2
	1,1,2,2-Tetrachloroethane	µg/l	5.07	5.49	3.29 - 7.69	Acceptable	EPA524.2
	1,2,3-Trichlorobenzene	µg/l	5.64	5.87	3.52 - 8.22	Acceptable	EPA524.2
	1,2,3-Trichloropropane	µg/l	5.55	6.31	3.79 - 8.83	Acceptable	EPA524.2
	1,2,4-Trimethylbenzene	µg/l	12.6	12.7	10.2 - 15.2	Acceptable	EPA524.2
	1,3,5-Trimethylbenzene	µg/l	7.64	7.85	4.71 - 11.0	Acceptable	EPA524.2

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Regulated Pesticides	Alachlor	µg/l		12.5	6.88 - 18.1		
	Aldrin	µg/l	1.35	1.74	0.739 - 2.19	Acceptable	EPA505
	Atrazine	µg/l		8.73	4.80 - 12.7		
	Dieldrin	µg/l	2.40	2.61	1.83 - 3.26	Acceptable	EPA505
	Endrin	µg/l	4.75	4.95	3.47 - 6.44	Acceptable	EPA505
	Heptachlor	µg/l	0.950	1.18	0.649 - 1.71	Acceptable	EPA505
	Heptachlor epoxide	µg/l	1.77	1.61	0.886 - 2.33	Acceptable	EPA505
	Hexachlorobenzene	µg/l		1.47	0.670 - 1.90		
	Hexachlorocyclopentadiene	µg/l		1.32	0.132 - 1.70		
	gamma-BHC (Lindane)	µg/l	2.33	2.98	1.64 - 4.32	Acceptable	EPA505
	Methoxychlor	µg/l	19.9	11.6	6.38 - 16.8	Not Acceptable	EPA505
	Propachlor	µg/l		1.64	0.915 - 2.41		
	Simazine	µg/l		6.71	1.65 - 10.7		
	Trifluralin	µg/l		4.16	1.89 - 5.58		
Toxaphene	Toxaphene	µg/l	11.9	11.7	6.44 - 17.0	Acceptable	EPA505
Chlordane	Chlordane, technical	µg/l	3.52	3.30	1.82 - 4.79	Acceptable	EPA505
EDB/DBCP	Dibromochloropropane	µg/l	0.869	0.820	0.492 - 1.15	Acceptable	EPA504.1
	Ethylene Dibromide (EDB)	µg/l	1.02	1.06	0.636 - 1.48	Acceptable	EPA504.1

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PCB's as DCB	PCB as Decachlorobiphenyl	µg/l		4.21	D.L. - 8.42		
	PCB Aroclor Identity			1260	1260		

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Semi - Volatiles #1	Benzo(a)pyrene	µg/l	< 10	2.13	0.497 - 2.73	Not Acceptable	EPA625
	bis(2-Ethylhexyl)adipate	µg/l	< 10	18.0	6.31 - 26.4	Not Acceptable	EPA625
	bis(2-Ethylhexyl)phthalate	µg/l	13.3	15.6	6.19 - 24.1	Acceptable	EPA625
Regulated Semi - Volatiles #2	Diquat	µg/l		15.3	3.68 - 21.5		
	Endothall	µg/l		422	139 - 596		
	Glyphosate	µg/l		486	405 - 579		

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Herbicides	Acifluorfen	µg/l		40.8	18.1 - 54.5		
	2,4-D	µg/l	2.01	16.4	8.20 - 24.6	Not Acceptable	EPA515.1
	Dalapon	µg/l	106	140	D.L. - 189	Acceptable	EPA515.1
	Dicamba	µg/l	26.4	25.0	7.04 - 35.3	Acceptable	EPA515.1
	Dinoseb	µg/l	24.9	27.5	0.686 - 41.3	Acceptable	EPA515.1
	Pentachlorophenol	µg/l		18.3	9.15 - 27.5		
	Picloram	µg/l		22.7	0.441 - 32.4		
	2,4,5-TP (Silvex)	µg/l	28.7	29.8	14.9 - 44.7	Acceptable	EPA515.1
Carbamate / Carbamoxyloxime Pesticides	Aldicarb	µg/l		40.5	30.8 - 50.6		
	Aldicarb sulfone	µg/l		31.7	24.9 - 38.7		
	Aldicarb sulfoxide	µg/l		42.6	29.3 - 49.1		
	Carbofuran	µg/l		49.9	27.4 - 72.4		
	Methomyl	µg/l		38.4	30.6 - 44.7		
	Oxamyl	µg/l		55.4	41.7 - 67.1		
Haloacetic Acids	Bromoacetic acid	µg/l		10.4	4.21 - 15.4		
	Bromochloroacetic acid	µg/l		15.3	7.33 - 20.9		
	Chloroacetic acid	µg/l		13.2	3.91 - 20.2		
	Dibromoacetic acid	µg/l		8.90	3.01 - 12.3		
	Dichloroacetic acid	µg/l		20.2	5.93 - 29.8		
	Trichloroacetic acid	µg/l		30.6	11.3 - 43.1		
Chloral Hydrate	Chloral Hydrate	µg/l		14.9	2.98 - 23.9		

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July 24, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB WatR™ Supply Proficiency Testing (PT) Study, WS-46. The opening date for WS-46 was May 9, 2000 and the closing date was June 23, 2000. ERA's WS reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of Colorado. Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. For all other states, the report for your facility will contain only those analytes contained in the EPA's National Standards. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's WS-46 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

3. If the analyte is not included in either national PT program listed above but is included in a state specific PT program, the analyte has been evaluated against acceptance limits generated using the state specific evaluation criteria.

4. If the analyte is not included in any national or state PT program, the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

NATIONAL STANDARDS REPORT

This report is provided to you if your facility is accredited by a National Standard state. This report includes only those analytes included in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998. All results have been evaluated using the EPA's National Standards Acceptance Criteria. Every analyte has been evaluated using the following approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (February 2000). All results have been evaluated using the NELAC Acceptance Criteria. The NELAC evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the

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PT samples). If you have two acceptable PT results for an analyte in any PT study completed after July 1, 1999, that meets the NELAC criteria, you have satisfied your NELAC PT requirements. For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the California ELAP Proficiency Testing program (January 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For all of the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study. For your convenience we have included the appropriate FAX BACK Order Form for ERA's future PT studies.

This concludes the WS-46 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

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Thank you for your participation in the InterLaB WatR™ Pollution, WS-46, Performance Evaluation Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

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July 24, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of WatR™ Supply study 46 for compliance with all USEPA, State, NELAC and NIST NVLAP technical and program requirements as well as those of our ISO 9001 Registered Quality System.

All aspects of the WS-46 study, from standard manufacture to final report generation, were completed by ERA in accordance with the "National Standards for Water Proficiency Testing Studies Criteria Document", USEPA December 30, 1998. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, most recent revision), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in WS-46.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

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WS-46 Definitions & Study Discussion

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

InterLaB™ WS Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998 as applicable. A parameter not added to the standard is given an Assigned Value of "Zero" per the guidelines contained in the USEPA's Criteria Document.

The Acceptance Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable	=	Reported Value falls within the Acceptance Limits.
Not Acceptable	=	Reported Value falls outside the Acceptance Limits.
No Evaluation	=	Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ WS Study Discussion:

ERA WatR™ Supply Proficiency Testing Study 46 has been reviewed by ERA Senior Management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), the NELAC Standards Chapter 2 and Associated Appendices (July 1999), applicable state PT programs, and those contained in the National Institute of Standards and Technology NVLAP Handbooks 150 and 150-19. ERA is a NIST NVLAP accredited PT Provider (Lab Code 2003860).

The WatR™ Supply 46 (WS-46) results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the WS-46 standards met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the National Voluntary Laboratory Accreditation Program, Handbook 150-19 for Chemical Calibration for Providers of Proficiency Testing, June 1999.

The data submitted by participating laboratories was also examined for study anomalies. There were two anomalies found during the review of the study data. These anomalies are listed on the next page.

If you have any questions regarding WatR™ Supply Study, WS-46, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

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- Study Discussion Concerning WS-46 Nutrients: ortho-Phosphate as P

During the review of the WS-46 study data, ERA observed a failure rate of 34.2% for ortho-Phosphate as P in the WS Nutrients standard. As we believe this failure rate is very high, we carefully reviewed all data related to proving the efficacy of the standard including manufacturing and internal analytical verification data for both accuracy and homogeneity. Our review of the data confirmed that the standard meets all requirements contained within the USEPA Criteria Document as well as NIST NVLAP criteria to be judged 'fit for use'.

The WS-46 study data indicated a normal distribution around the USEPA estimated mean calculated from ERA's assigned value. The acceptance limits for this analyte are calculated using the regression equations found in the USEPA Criteria Document. The average failure rate for ortho-Phosphate as P in ERA's last ten PT studies is 30.8%. The range of failure rates for these ERA studies is 16.7% to 43.8%. USEPA reported a historical failure rate of 21.8% for five of its WS studies. The range of failure rates for the USEPA studies is not available.

Our review of the acceptance ranges for five of the historical USEPA studies for which we have data indicates that the acceptance limits used historically by USEPA: 1) varied from study to study; and 2) were considerably wider in four out of five studies than is required currently. Therefore, the higher failure rate currently observed is not surprising. ERA will communicate this information on failure rates to USEPA. When reviewing each laboratory's performance evaluation for this analyte one must take the above information into consideration.

- Study Discussion Concerning WS-46 Unregulated Volatiles: Dichlorodifluoromethane

During the review of the WS-46 study data, ERA observed a failure rate of 33.3% for the compound dichlorodifluoromethane in the WS Unregulated Volatiles standard. As we believe this failure rate is very high, we carefully reviewed all data related to proving the efficacy of the standard including manufacturing and internal analytical verification data for both accuracy and homogeneity. ERA's analytical verification of the accuracy of this standard involved analysis against standards from three independent sources. Our review of this data confirmed that the standard meets all requirements contained within the USEPA National Criteria Document for Water Proficiency Testing Studies as well as NIST NVLAP criteria to be judged 'fit for use'.

The WS-46 study data indicated a normal distribution around the USEPA estimated mean calculated from ERA's assigned value. Per the USEPA Criteria Document, the acceptance limit for this compound is ±20% of the assigned value when the concentration is equal to or greater than 10.0 µg/l as was the case for WS-46 and ±40% of the assigned value when the concentration is below 10.0 µg/l. USEPA and NIST NVLAP criteria require that this analyte be manufactured at concentrations both above and below 10.0 µg/l randomly assigned in each study.

We have reviewed our historical data for this analyte and not surprisingly have found that the failure rate is considerably higher when the 20% window is used. In the last fifteen months, ERA conducted seven studies with dichlorodifluoromethane at less than 10.0 µg/l evaluated against ±40% limits. This studies had a mean failure rate of 31.8%. In that same period of time, ERA also conducted eight studies at greater than 10.0 µg/l evaluated against ±20% limits. These studies had a mean failure rate of 55.2%.

To the best of our knowledge. USEPA has never conducted a study containing dichlorodifluoromethane in the past . The failure rate for that USEPA study was not available to ERA for comparison. Obviously, this USEPA acceptance criteria is not based on historical data from PT studies. The high failure rate, especially for PT standard concentrations above 10.0 µg/l, causes us to question the appropriateness of the acceptance

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Study: **WS46**

ERA Laboratory Code: **P0615-01W**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Metals	Aluminum	µg/l	470	499	444 - 554	Acceptable	sw6010
	Antimony	µg/l	46.8	47.7	33.4 - 62.0	Acceptable	sw6010
	Arsenic	µg/l	35.6	35.5	31.0 - 39.7	Acceptable	sw6010
	Barium	µg/l	623	612	520 - 704	Acceptable	sw6010
	Beryllium	µg/l	5.93	5.52	4.69 - 6.35	Acceptable	sw6010
	Boron	µg/l	528	514	484 - 562	Acceptable	sw6010
	Cadmium	µg/l	40.2	39.0	31.2 - 46.8	Acceptable	sw6010
	Chromium	µg/l	27.0	25.8	21.9 - 29.7	Acceptable	sw6010
	Copper	µg/l	584	572	515 - 629	Acceptable	sw6010
	Iron	µg/l	548	609	559 - 662	Not Acceptable	sw6010
	Lead	µg/l	85.6	81.2	56.8 - 106	Acceptable	sw6010
	Manganese	µg/l	763	752	701 - 790	Acceptable	sw6010
	Molybdenum	µg/l	32.0	29.2	24.2 - 34.1	Acceptable	sw6010
	Nickel	µg/l	426	400	340 - 460	Acceptable	sw6010
	Selenium	µg/l	36.9	33.8	27.0 - 40.6	Acceptable	sw6010
	Silver	µg/l	36.9	35.9	32.0 - 39.5	Acceptable	sw6010
	Thallium	µg/l	5.17	5.43	3.80 - 7.06	Acceptable	sw6010
	Vanadium	µg/l	1320	1280	1200 - 1360	Acceptable	sw6010
	Zinc	µg/l	750	740	679 - 796	Acceptable	sw6010
Mercury	Mercury	µg/l	6.09	6.22	4.35 - 8.09	Acceptable	sw7470

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
pH	pH	S.U.	9.72	9.50	8.55 - 10.5	Acceptable	sw9040
Inorganics	Chloride	mg/l	19.9	19.8	17.5 - 21.4	Acceptable	sw9056
	Conductivity	µmhos	319	335	318 - 352	Acceptable	epa120.1
	Fluoride	mg/l	3.88	4.03	3.63 - 4.43	Acceptable	sw9056
	Nitrate as N	mg/l	8.45	8.51	7.66 - 9.36	Acceptable	sw9056
	Potassium	mg/l	32.4	32.0	29.1 - 35.0	Acceptable	sw9056
	Sulfate	mg/l	17.1	17.8	15.4 - 19.9	Acceptable	sw9056
	Total dissolved solids	mg/l	283	281	184 - 378	Acceptable	epa160.1
Alkalinity & Sodium	Alkalinity (as CaCO3)	mg/l	49.7	49.1	46.5 - 54.9	Acceptable	epa310.1
	Sodium	mg/l	22.2	22.1	20.5 - 24.3	Acceptable	sw6010
Turbidity	Turbidity	NTU		2.59	2.24 - 3.19		
Residual Chlorine	Free residual chlorine	mg/l		0.520	0.379 - 0.661		
	Total residual chlorine	mg/l		0.556	0.417 - 0.695		
Nitrite	Nitrite as N	mg/l	1.31	1.30	1.11 - 1.50	Acceptable	sw9056
Nutrients	ortho-Phosphate as P	mg/l	1.27	1.03	0.955 - 1.09	Not Acceptable	sw9056
Cyanide	Cyanide	mg/l	0.263	0.249	0.187 - 0.311	Acceptable	sw9010
TOC	Total organic carbon	mg/l	2.90	2.98	2.64 - 3.49	Acceptable	sw9060
Chlorite	Chlorite	µg/l		248	172 - 365		
Bromate & Chlorate	Bromate	µg/l		40.2	18.5 - 59.9		
	Chlorate	µg/l		93.2	75.2 - 111		
Bromide	Bromide	µg/l	111	111	92.7 - 131	Acceptable	sw9056
Hardness	Total Hardness as CaCO3	mg/l	236	234	199 - 269	Acceptable	sw6010
	Calcium Hardness as CaCO3	mg/l	231	229	215 - 244	Acceptable	sw6010
	Calcium	mg/l	92.7	91.7	83.9 - 102	Acceptable	sw6010
	Magnesium	mg/l	1.19	1.23	1.12 - 1.37	Acceptable	sw6010

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Volatiles	Benzene	µg/l	8.84	9.29	5.57 - 13.0	Acceptable	sw8260
	Carbon tetrachloride	µg/l	9.93	11.0	8.80 - 13.2	Acceptable	sw8260
	Chlorobenzene	µg/l	8.83	9.57	5.74 - 13.4	Acceptable	sw8260
	1,2-Dichlorobenzene	µg/l	10.2	12.3	9.84 - 14.8	Acceptable	sw8260
	1,4-Dichlorobenzene	µg/l	16.3	18.8	15.0 - 22.6	Acceptable	sw8260
	1,2-Dichloroethane	µg/l	11.7	14.0	11.2 - 16.8	Acceptable	sw8260
	1,1-Dichloroethylene	µg/l	10.6	11.1	8.88 - 13.3	Acceptable	sw8260
	cis-1,2-Dichloroethylene	µg/l	30.0	34.0	27.2 - 40.8	Acceptable	sw8260
	trans-1,2-Dichloroethylene	µg/l	21.6	24.0	19.2 - 28.8	Acceptable	sw8260
	1,2-Dichloropropane	µg/l	11.1	12.7	10.2 - 15.2	Acceptable	sw8260
	Ethylbenzene	µg/l	16.1	16.9	13.5 - 20.3	Acceptable	sw8260
	Methylene chloride	µg/l	5.84	8.08	4.85 - 11.3	Acceptable	sw8260
	Styrene	µg/l	7.69	8.00	4.80 - 11.2	Acceptable	sw8260
	Tetrachloroethylene	µg/l	4.42	4.32	2.59 - 6.05	Acceptable	sw8260
	Toluene	µg/l	9.27	9.25	5.55 - 13.0	Acceptable	sw8260
	1,2,4-Trichlorobenzene	µg/l	10.8	12.6	10.1 - 15.1	Acceptable	sw8260
	1,1,1-Trichloroethane	µg/l	10.1	12.0	9.60 - 14.4	Acceptable	sw8260
	1,1,2-Trichloroethane	µg/l	14.5	16.9	13.5 - 20.3	Acceptable	sw8260
	Trichloroethylene	µg/l	4.69	5.37	3.22 - 7.52	Acceptable	sw8260
	Vinyl chloride	µg/l	9.97	14.2	8.52 - 19.9	Acceptable	sw8260
	Xylenes, total	µg/l	29.2	30.0	24.0 - 36.0	Acceptable	sw8260
Halomethanes	Bromodichloromethane	µg/l	21.2	24.5	19.6 - 29.4	Acceptable	sw8260
	Bromoform	µg/l	19.1	20.8	16.6 - 25.0	Acceptable	sw8260
	Chlorodibromomethane	µg/l	30.3	31.8	25.4 - 38.2	Acceptable	sw8260
	Chloroform	µg/l	22.3	24.7	19.8 - 29.6	Acceptable	sw8260
	Total Trihalomethanes	µg/l	93.0	102	81.6 - 122	Acceptable	sw8260

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Unregulated Volatiles	Bromobenzene	µg/l	9.80	11.8	9.44 - 14.2	Acceptable	sw8260
	Bromochloromethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Bromomethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	n-Butylbenzene	µg/l	9.25	9.15	5.49 - 12.8	Acceptable	sw8260
	sec-Butylbenzene	µg/l	10.7	10.4	8.32 - 12.5	Acceptable	sw8260
	tert-Butylbenzene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Chloroethane	µg/l	6.50	8.00	4.80 - 11.2	Acceptable	sw8260
	Chloromethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	2-Chlorotoluene	µg/l	5.92	5.05	3.03 - 7.07	Acceptable	sw8260
	4-Chlorotoluene	µg/l	9.61	10.0	8.00 - 12.0	Acceptable	sw8260
	Dibromomethane	µg/l	5.51	6.84	4.10 - 9.58	Acceptable	sw8260
	1,3-Dichlorobenzene	µg/l	24.5	27.2	21.8 - 32.6	Acceptable	sw8260
	Dichlorodifluoromethane	µg/l	12.7	22.1	17.7 - 26.5	Not Acceptable	sw8260
	1,1-Dichloroethane	µg/l	7.03	8.23	4.94 - 11.5	Acceptable	sw8260
	1,3-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	2,2-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,1-Dichloropropene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	cis-1,3-Dichloropropene	µg/l	8.58	10.4	8.32 - 12.5	Acceptable	sw8260
	trans-1,3-Dichloropropene	µg/l	13.9	17.4	13.9 - 20.9	Acceptable	sw8260
	Fluorotrichloromethane	µg/l	9.93	11.6	9.28 - 13.9	Acceptable	sw8260
	Hexachlorobutadiene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Isopropylbenzene	µg/l	8.10	8.01	4.81 - 11.2	Acceptable	sw8260
	4-Isopropyltoluene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	tert-Butylmethyl ether (MTBE)	µg/l	8.79	11.1	6.38 - 14.6	Acceptable	sw8260
	n-Propylbenzene	µg/l	11.3	11.9	9.52 - 14.3	Acceptable	sw8260
	1,1,1,2-Tetrachloroethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,1,2,2-Tetrachloroethane	µg/l	3.41	4.11	2.47 - 5.75	Acceptable	sw8260
	1,2,3-Trichlorobenzene	µg/l	17.4	18.4	14.7 - 22.1	Acceptable	sw8260
	1,2,3-Trichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,2,4-Trimethylbenzene	µg/l	8.37	8.34	5.00 - 11.7	Acceptable	sw8260
	1,3,5-Trimethylbenzene	µg/l	14.7	14.7	11.8 - 17.6	Acceptable	sw8260

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Lab code: 200388-0

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Pesticides	Alachlor	µg/l		5.34	2.94 - 7.74		sw8081
	Aldrin	µg/l	1.25	1.12	0.469 - 1.41	Acceptable	sw8081
	Atrazine	µg/l		10.0	5.50 - 14.5		sw8081
	Bromacil	µg/l		9.95	5.47 - 14.4		sw8081
	Butachlor	µg/l		45.2	24.9 - 65.5		sw8081
	Chlorothalonil	µg/l		< 0.100			sw8081
	Diazinon	µg/l		< 0.100			sw8081
	Dieldrin	µg/l	2.34	2.21	1.55 - 2.76	Acceptable	sw8081
	Dimethoate	µg/l		< 0.100			sw8081
	Endrin	µg/l	2.87	2.52	1.76 - 3.28	Acceptable	sw8081
	Heptachlor	µg/l	1.93	2.02	1.11 - 2.93	Acceptable	sw8081
	Heptachlor epoxide	µg/l	2.18	2.14	1.18 - 3.10	Acceptable	sw8081
	Hexachlorobenzene	µg/l		1.43	0.651 - 1.85		sw8081
	Hexachlorocyclopentadiene	µg/l		1.98	0.128 - 2.54		sw8081
	gamma-BHC (Lindane)	µg/l	1.83	2.04	1.12 - 2.96	Acceptable	sw8081
	Methoxychlor	µg/l	37.6	36.9	20.3 - 53.5	Acceptable	sw8081
	Metolachlor	µg/l		< 0.100			sw8081
	Metribuzin	µg/l		76.8	42.2 - 111		sw8081
	Molinate (ordram)	µg/l		< 0.100			sw8081
	Prometon	µg/l		< 0.100			sw8081
	Prometryn	µg/l		< 0.100			sw8081
	Propachlor	µg/l		2.47	1.48 - 3.47		sw8081
	Simazine	µg/l		21.1	4.74 - 30.1		sw8081
	Thiobencarb	µg/l		< 0.100			sw8081
	Trifluralin	µg/l		3.46	1.54 - 4.59		sw8081
Toxaphene	Toxaphene	µg/l	7.09	7.48	4.11 - 10.8	Acceptable	sw8081
Chlordane	Chlordane, technical	µg/l	7.52	8.34	4.59 - 12.1	Acceptable	sw8081
EDB/DBCP	Dibromochloropropane	µg/l	0.183	0.204	0.122 - 0.286	Acceptable	sw8081
	Ethylene Dibromide (EDB)	µg/l	0.546	0.672	0.403 - 0.941	Acceptable	sw8081
	1,2,3-Trichloropropane	µg/l		ZERO			

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WS-46 Final Customer Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PCB's as DCB	PCB as Decachlorobiphenyl	µg/l		2.18	D.L. - 4.36		
	PCB Aroclor Identity			1248	1248		

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ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Semi - Volatiles #1	Acenaphthene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Acenaphthylene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Anthracene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Benzo(a)anthracene	µg/l	24.6	32.8	16.4 - 49.2	Acceptable	sw8270
	Benzo(b)fluoranthene	µg/l	25.0	35.5	17.8 - 53.3	Acceptable	sw8270
	Benzo(k)fluoranthene	µg/l	< 2.0	< 0.200		Acceptable	sw8270
	Benzo(g,h,i)perylene	µg/l	< 5.0	< 0.200		Acceptable	sw8270
	Benzo(a)pyrene	µg/l	1.13	1.64	0.389 - 2.11	Acceptable	sw8270
	Butylbenzylphthalate	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Chrysene	µg/l	15.8	18.9	9.45 - 28.4	Acceptable	sw8270
	Dibenz(a,h)anthracene	µg/l	< 5.0	< 0.200		Acceptable	sw8270
	Di-n-butylphthalate	µg/l	15.4	17.9	5.37 - 30.4	Acceptable	sw8270
	Diethylphthalate	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Dimethylphthalate	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Di-n-octylphthalate	µg/l	15.8	23.8	6.50 - 40.5	Acceptable	sw8270
	bis(2-Ethylhexyl)adipate	µg/l		30.4	12.1 - 44.0		sw8270
	bis(2-Ethylhexyl)phthalate	µg/l	12.4	15.6	6.19 - 24.1	Acceptable	sw8270
	Fluoranthene	µg/l	< 2.0	< 0.200		Acceptable	sw8270
	Fluorene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Indeno(1,2,3-cd)pyrene	µg/l	< 5.0	< 0.200		Acceptable	sw8270
	1-Methylnaphthalene	µg/l		< 0.200			sw8270
	2-Methylnaphthalene	µg/l	< 2.0	< 0.200		Acceptable	sw8270
	Naphthalene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Phenanthrene	µg/l	< 1.0	< 0.200		Acceptable	sw8270
	Pyrene	µg/l	< 2.0	< 0.200		Acceptable	sw8270
Regulated Semi - Volatiles #2	Diquat	µg/l		34.6	2.53 - 50.1		
	Endothal	µg/l		291	99.5 - 413		
	Glyphosate	µg/l		420	353 - 509		
	Paraquat	µg/l		ZERO			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Herbicides	Acifluorfen	µg/l		34.0	13.3 - 47.3		sw8151
	Bentazon	µg/l		< 0.100			sw8151
	Chloramben	µg/l		< 0.100			sw8151
	2,4-D	µg/l	88.7	100	50.0 - 150	Acceptable	sw8151
	2,4-DB	µg/l	< 0.5	< 0.100		Acceptable	sw8151
	Dacthal diacid (DCPA)	µg/l		< 0.100			sw8151
	Dalapon	µg/l	40.7	64.1	D.L. - 89.6	Acceptable	sw8151
	Dicamba	µg/l	26.5	80.3	21.1 - 111	Acceptable	sw8151
	3,5-Dichlorobenzoic acid	µg/l		< 0.100			sw8151
	Dichlorprop	µg/l	15.1	18.0	9.62 - 26.1	Acceptable	sw8151
	Dinoseb	µg/l	0.978	26.3	0.604 - 39.5	Acceptable	sw8151
	5-Hydroxydicamba	µg/l		< 0.100			sw8151
	4-Nitrophenol	µg/l		32.3	D.L. - 55.2		sw8151
	Pentachlorophenol	µg/l		8.42	4.21 - 12.6		sw8151
	Picloram	µg/l		13.1	0.630 - 20.2		sw8151
	2,4,5-T	µg/l	41.7	44.2	29.1 - 66.3	Acceptable	sw8151
	2,4,5-TP (Silvex)	µg/l	81.9	83.8	41.9 - 126	Acceptable	sw8151
Carbamate / Carbamoxyloxime Pesticides	Aldicarb	µg/l		17.6	12.9 - 21.9		
	Aldicarb sulfone	µg/l		41.0	31.6 - 50.5		
	Aldicarb sulfoxide	µg/l		29.7	20.5 - 34.8		
	Baygon	µg/l		20.5	D.L. - 46.4		
	Carbaryl	µg/l		121	66.6 - 175		
	Carbofuran	µg/l		9.68	5.32 - 14.0		
	3-Hydroxycarbofuran	µg/l		< 5.00			
	Methiocarb	µg/l		19.2	15.9 - 23.8		
	Methomyl	µg/l		74.4	59.2 - 87.2		
	Oxamyl	µg/l		26.5	20.8 - 31.5		
Haloacetic Acids	Bromoacetic acid	µg/l		11.9	4.88 - 17.2		
	Bromochloroacetic acid	µg/l		14.6	6.99 - 20.1		
	Chloroacetic acid	µg/l		14.7	4.35 - 22.2		
	Dibromoacetic acid	µg/l		8.90	3.01 - 12.3		
	Dichloroacetic acid	µg/l		28.4	14.2 - 33.0		
	Trichloroacetic acid	µg/l		29.7	11.2 - 41.5		
Chloral Hydrate	Chloral Hydrate	µg/l		11.5	2.06 - 18.5		

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Study: **WS46**

ERA Laboratory Code: **P0615-01W**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **NELAC**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Metals	Aluminum	µg/l	470	499	444 - 554	Acceptable	sw6010
	Antimony	µg/l	46.8	47.7	33.4 - 62.0	Acceptable	sw6010
	Arsenic	µg/l	35.6	35.5	31.0 - 39.7	Acceptable	sw6010
	Barium	µg/l	623	612	520 - 704	Acceptable	sw6010
	Beryllium	µg/l	5.93	5.52	4.69 - 6.35	Acceptable	sw6010
	Boron	µg/l	528	514	484 - 562	Acceptable	sw6010
	Cadmium	µg/l	40.2	39.0	31.2 - 46.8	Acceptable	sw6010
	Chromium	µg/l	27.0	25.8	21.9 - 29.7	Acceptable	sw6010
	Copper	µg/l	584	572	515 - 629	Acceptable	sw6010
	Iron	µg/l	548	609	559 - 662	Not Acceptable	sw6010
	Lead	µg/l	85.6	81.2	56.8 - 106	Acceptable	sw6010
	Manganese	µg/l	763	752	701 - 790	Acceptable	sw6010
	Molybdenum	µg/l	32.0	29.2	24.2 - 34.1	Acceptable	sw6010
	Nickel	µg/l	426	400	340 - 460	Acceptable	sw6010
	Selenium	µg/l	36.9	33.8	27.0 - 40.6	Acceptable	sw6010
	Silver	µg/l	36.9	35.9	32.0 - 39.5	Acceptable	sw6010
	Thallium	µg/l	5.17	5.43	3.80 - 7.06	Acceptable	sw6010
	Vanadium	µg/l	1320	1280	1200 - 1360	Acceptable	sw6010
	Zinc	µg/l	750	740	679 - 796	Acceptable	sw6010
Mercury	Mercury	µg/l	6.09	6.22	4.35 - 8.09	Acceptable	sw7470

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
pH	pH	S.U.	9.72	9.50	8.55 - 10.5	Acceptable	sw9040
Inorganics	Chloride	mg/l	19.9	19.8	17.5 - 21.4	Acceptable	sw9056
	Conductivity	µmhos	319	335	318 - 352	Acceptable	epa120.1
	Fluoride	mg/l	3.88	4.03	3.63 - 4.43	Acceptable	sw9056
	Nitrate as N	mg/l	8.45	8.51	7.66 - 9.36	Acceptable	sw9056
	Potassium	mg/l	32.4	32.0	29.1 - 35.0	Acceptable	sw9056
	Sulfate	mg/l	17.1	17.8	15.4 - 19.9	Acceptable	sw9056
	Total dissolved solids	mg/l	283	281	184 - 378	Acceptable	epa160.1
Alkalinity & Sodium	Alkalinity (as CaCO3)	mg/l	49.7	49.1	46.5 - 54.9	Acceptable	epa310.1
	Sodium	mg/l	22.2	22.1	20.5 - 24.3	Acceptable	sw6010
Turbidity	Turbidity	NTU		2.59	2.24 - 3.19		
Residual Chlorine	Free residual chlorine	mg/l		0.520	0.379 - 0.661		
Nitrite	Nitrite as N	mg/l	1.31	1.30	1.11 - 1.50	Acceptable	sw9056
Nutrients	ortho-Phosphate as P	mg/l	1.27	1.03	0.955 - 1.09	Not Acceptable	sw9056
Cyanide	Cyanide	mg/l	0.263	0.249	0.187 - 0.311	Acceptable	sw9010
TOC	Total organic carbon	mg/l	2.90	2.98	2.64 - 3.49	Acceptable	sw9060
Chlorite	Chlorite	µg/l		248	172 - 365		
Bromate & Chlorate	Bromate	µg/l		40.2	18.5 - 59.9		
	Chlorate	µg/l		93.2	75.2 - 111		
Bromide	Bromide	µg/l	111	111	92.7 - 131	Acceptable	sw9056
Hardness	Calcium Hardness as CaCO3	mg/l	231	229	215 - 244	Acceptable	sw6010
	Calcium	mg/l	92.7	91.7	83.9 - 102	Acceptable	sw6010
	Magnesium	mg/l	1.19	1.23	1.12 - 1.37	Acceptable	sw6010

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Volatiles	Benzene	µg/l	8.84	9.29	5.57 - 13.0	Acceptable	sw8260
	Carbon tetrachloride	µg/l	9.93	11.0	8.80 - 13.2	Acceptable	sw8260
	Chlorobenzene	µg/l	8.83	9.57	5.74 - 13.4	Acceptable	sw8260
	1,2-Dichlorobenzene	µg/l	10.2	12.3	9.84 - 14.8	Acceptable	sw8260
	1,4-Dichlorobenzene	µg/l	16.3	18.8	15.0 - 22.6	Acceptable	sw8260
	1,2-Dichloroethane	µg/l	11.7	14.0	11.2 - 16.8	Acceptable	sw8260
	1,1-Dichloroethylene	µg/l	10.6	11.1	8.88 - 13.3	Acceptable	sw8260
	cis-1,2-Dichloroethylene	µg/l	30.0	34.0	27.2 - 40.8	Acceptable	sw8260
	trans-1,2-Dichloroethylene	µg/l	21.6	24.0	19.2 - 28.8	Acceptable	sw8260
	1,2-Dichloropropane	µg/l	11.1	12.7	10.2 - 15.2	Acceptable	sw8260
	Ethylbenzene	µg/l	16.1	16.9	13.5 - 20.3	Acceptable	sw8260
	Methylene chloride	µg/l	5.84	8.08	4.85 - 11.3	Acceptable	sw8260
	Styrene	µg/l	7.69	8.00	4.80 - 11.2	Acceptable	sw8260
	Tetrachloroethylene	µg/l	4.42	4.32	2.59 - 6.05	Acceptable	sw8260
	Toluene	µg/l	9.27	9.25	5.55 - 13.0	Acceptable	sw8260
	1,2,4-Trichlorobenzene	µg/l	10.8	12.6	10.1 - 15.1	Acceptable	sw8260
	1,1,1-Trichloroethane	µg/l	10.1	12.0	9.60 - 14.4	Acceptable	sw8260
	1,1,2-Trichloroethane	µg/l	14.5	16.9	13.5 - 20.3	Acceptable	sw8260
	Trichloroethylene	µg/l	4.69	5.37	3.22 - 7.52	Acceptable	sw8260
	Vinyl chloride	µg/l	9.97	14.2	8.52 - 19.9	Acceptable	sw8260
	Xylenes, total	µg/l	29.2	30.0	24.0 - 36.0	Acceptable	sw8260
Halomethanes	Bromodichloromethane	µg/l	21.2	24.5	19.6 - 29.4	Acceptable	sw8260
	Bromoform	µg/l	19.1	20.8	16.6 - 25.0	Acceptable	sw8260
	Chlorodibromomethane	µg/l	30.3	31.8	25.4 - 38.2	Acceptable	sw8260
	Chloroform	µg/l	22.3	24.7	19.8 - 29.6	Acceptable	sw8260
	Total Trihalomethanes	µg/l	93.0	102	81.6 - 122	Acceptable	sw8260

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Unregulated Volatiles	Bromobenzene	µg/l	9.80	11.8	9.44 - 14.2	Acceptable	sw8260
	Bromochloromethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Bromomethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	n-Butylbenzene	µg/l	9.25	9.15	5.49 - 12.8	Acceptable	sw8260
	sec-Butylbenzene	µg/l	10.7	10.4	8.32 - 12.5	Acceptable	sw8260
	tert-Butylbenzene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Chloroethane	µg/l	6.50	8.00	4.80 - 11.2	Acceptable	sw8260
	Chloromethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	2-Chlorotoluene	µg/l	5.92	5.05	3.03 - 7.07	Acceptable	sw8260
	4-Chlorotoluene	µg/l	9.61	10.0	8.00 - 12.0	Acceptable	sw8260
	Dibromomethane	µg/l	5.51	6.84	4.10 - 9.58	Acceptable	sw8260
	1,3-Dichlorobenzene	µg/l	24.5	27.2	21.8 - 32.6	Acceptable	sw8260
	Dichlorodifluoromethane	µg/l	12.7	22.1	17.7 - 26.5	Not Acceptable	sw8260
	1,1-Dichloroethane	µg/l	7.03	8.23	4.94 - 11.5	Acceptable	sw8260
	1,3-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	2,2-Dichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,1-Dichloropropene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	cis-1,3-Dichloropropene	µg/l	8.58	10.4	8.32 - 12.5	Acceptable	sw8260
	trans-1,3-Dichloropropene	µg/l	13.9	17.4	13.9 - 20.9	Acceptable	sw8260
	Fluorotrichloromethane	µg/l	9.93	11.6	9.28 - 13.9	Acceptable	sw8260
	Hexachlorobutadiene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	Isopropylbenzene	µg/l	8.10	8.01	4.81 - 11.2	Acceptable	sw8260
	4-Isopropyltoluene	µg/l	< 1.0	ZERO		Acceptable	sw8260
	n-Propylbenzene	µg/l	11.3	11.9	9.52 - 14.3	Acceptable	sw8260
	1,1,1,2-Tetrachloroethane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,1,2,2-Tetrachloroethane	µg/l	3.41	4.11	2.47 - 5.75	Acceptable	sw8260
	1,2,3-Trichlorobenzene	µg/l	17.4	18.4	14.7 - 22.1	Acceptable	sw8260
	1,2,3-Trichloropropane	µg/l	< 1.0	ZERO		Acceptable	sw8260
	1,2,4-Trimethylbenzene	µg/l	8.37	8.34	5.00 - 11.7	Acceptable	sw8260
	1,3,5-Trimethylbenzene	µg/l	14.7	14.7	11.8 - 17.6	Acceptable	sw8260

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WS-46 Final NELAC Report

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Pesticides	Alachlor	µg/l		5.34	2.94 - 7.74		sw8081
	Aldrin	µg/l	1.25	1.12	0.469 - 1.41	Acceptable	sw8081
	Atrazine	µg/l		10.0	5.50 - 14.5		sw8081
	Dieldrin	µg/l	2.34	2.21	1.55 - 2.76	Acceptable	sw8081
	Endrin	µg/l	2.87	2.52	1.76 - 3.28	Acceptable	sw8081
	Heptachlor	µg/l	1.93	2.02	1.11 - 2.93	Acceptable	sw8081
	Heptachlor epoxide	µg/l	2.18	2.14	1.18 - 3.10	Acceptable	sw8081
	Hexachlorobenzene	µg/l		1.43	0.651 - 1.85		sw8081
	Hexachlorocyclopentadiene	µg/l		1.98	0.128 - 2.54		sw8081
	gamma-BHC (Lindane)	µg/l	1.83	2.04	1.12 - 2.96	Acceptable	sw8081
	Methoxychlor	µg/l	37.6	36.9	20.3 - 53.5	Acceptable	sw8081
	Propachlor	µg/l		2.47	1.48 - 3.47		sw8081
	Simazine	µg/l		21.1	4.74 - 30.1		sw8081
	Trifluralin	µg/l		3.46	1.54 - 4.59		sw8081
Toxaphene	Toxaphene	µg/l	7.09	7.48	4.11 - 10.8	Acceptable	sw8081
Chlordane	Chlordane, technical	µg/l	7.52	8.34	4.59 - 12.1	Acceptable	sw8081
EDB/DBCP	Dibromochloropropane	µg/l	0.183	0.204	0.122 - 0.286	Acceptable	sw8081
	Ethylene Dibromide (EDB)	µg/l	0.546	0.672	0.403 - 0.941	Acceptable	sw8081

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: **Report Issued: 07/24/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
PCB's as DCB	PCB as Decachlorobiphenyl	µg/l		2.18	D.L. - 4.36		
	PCB Aroclor Identity			1248	1248		

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WS-46 Final NELAC Report

ERA Laboratory Code: P0615-01W EPA ID: CO00078 State ID: Report Issued: 07/24/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Semi - Volatiles #1	Benzo(a)pyrene	µg/l	1.13	1.64	0.389 - 2.11	Acceptable	sw8270
	bis(2-Ethylhexyl)adipate	µg/l		30.4	12.1 - 44.0		sw8270
	bis(2-Ethylhexyl)phthalate	µg/l	12.4	15.6	6.19 - 24.1	Acceptable	sw8270
Regulated Semi - Volatiles #2	Diquat	µg/l		34.6	2.53 - 50.1		
	Endothal	µg/l		291	99.5 - 413		
	Glyphosate	µg/l		420	353 - 509		

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Regulated Herbicides	Acifluorfen	µg/l		34.0	13.3 - 47.3		sw8151
	2,4-D	µg/l	88.7	100	50.0 - 150	Acceptable	sw8151
	Dalapon	µg/l	40.7	64.1	D.L. - 89.6	Acceptable	sw8151
	Dicamba	µg/l	26.5	80.3	21.1 - 111	Acceptable	sw8151
	Dinoseb	µg/l	0.978	26.3	0.604 - 39.5	Acceptable	sw8151
	Pentachlorophenol	µg/l		8.42	4.21 - 12.6		sw8151
	Picloram	µg/l		13.1	0.630 - 20.2		sw8151
	2,4,5-TP (Silvex)	µg/l	81.9	83.8	41.9 - 126	Acceptable	sw8151
Carbamate / Carbamoxyloxime Pesticides	Aldicarb	µg/l		17.6	12.9 - 21.9		
	Aldicarb sulfone	µg/l		41.0	31.6 - 50.5		
	Aldicarb sulfoxide	µg/l		29.7	20.5 - 34.8		
	Carbofuran	µg/l		9.68	5.32 - 14.0		
	Methomyl	µg/l		74.4	59.2 - 87.2		
	Oxamyl	µg/l		26.5	20.8 - 31.5		
Haloacetic Acids	Bromoacetic acid	µg/l		11.9	4.88 - 17.2		
	Bromochloroacetic acid	µg/l		14.6	6.99 - 20.1		
	Chloroacetic acid	µg/l		14.7	4.35 - 22.2		
	Dibromoacetic acid	µg/l		8.90	3.01 - 12.3		
	Dichloroacetic acid	µg/l		28.4	14.2 - 33.0		
	Trichloroacetic acid	µg/l		29.7	11.2 - 41.5		
Chloral Hydrate	Chloral Hydrate	µg/l		11.5	2.06 - 18.5		

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0102077

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April 18, 2001

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB WatR™ Pollution Proficiency Testing (PT) Study, WP-73. The opening date for WP-73 was February 12, 2001 and the closing date was March 29, 2001. ERA's WP reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of Utah. Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. For all other states, the report for your facility will contain only those analytes contained in the EPA's National Standards. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

COMPLETE REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's WP-73 PT standards contain every analyte included in every state and national PT program. In the COMPLETE REPORT, every analyte has been evaluated using the following tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (June 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

3. If the analyte is not included in either national PT program listed above but is included in a state specific PT program, the analyte has been evaluated against acceptance limits generated using the state specific evaluation criteria.

4. If the analyte is not included in any national or state PT program, the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

NATIONAL STANDARDS REPORT

This report is provided to you if your facility is accredited by a National Standard state. This report includes only those analytes included in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998. All results have been evaluated using the EPA's National Standards Acceptance Criteria. Every analyte has been evaluated using the following approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (June 2000). All results have been evaluated using the NELAC Acceptance Criteria. The NELAC evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (June 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

Please note that NELAC only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to

participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the PT samples). For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the California ELAP Proficiency Testing program (January 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

Please note that ELAP only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the WP-73 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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Thank you for your participation in the InterLaB WatR™ Pollution, WP-73, Performance Evaluation Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Coordinator

attachments
smk

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April 18, 2001

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of the the InterLaB WatR™ Pollution study 73 for compliance with all USEPA, State, NELAC and NIST NVLAP technical and program requirements in effect during this study as well as those of our ISO 9001 Registered Quality System.

All aspects of the WP-73 study, from standard manufacture to final report generation, were completed by ERA in accordance with the "National Standards for Water Proficiency Testing Studies Criteria Document", USEPA December 30, 1998. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, Rev.3.0), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in WP-73.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WP-73 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 04/18/01

InterLaB™ WP Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998 and the National Environmental Laboratory Accreditation Conference (NELAC) program criteria as applicable. A parameter not added to the standard is given an Assigned Value of "0" per the guidelines contained in the USEPA's Criteria Document and NELAC standards.

The Acceptance Limits and Warning Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable = Reported Value falls within the Acceptance Limits.

Not Acceptable = Reported Value falls outside the Acceptance Limits.

Check for Error = Reported Value falls within the Acceptance Limits and outside of the Warning Limits

No Evaluation = Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ WP Study Discussion:

ERA WatR™ Pollution Proficiency Testing Study 73 has been reviewed by ERA Senior Management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), the NELAC Standards Chapter 2 and Associated Appendices, applicable state PT programs, and those contained in the National Institute of Standards and Technology NVLAP Handbooks 150 and 150-19. ERA is a NIST NVLAP accredited PT Provider (Lab Code 2003860).

The WatR™ Pollution 73 (WP-73) results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the WP-73 standards met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the National Voluntary Laboratory Accreditation Program, Handbook 150-19 for Chemical Calibration for Providers of Proficiency Testing.

The data submitted by participating laboratories was also examined for study anomalies. There was one study anomaly found during the review of the study data. This anomaly is listed on the next page.

The WatR™ Pollution Proficiency Testing Program study WP-73 report shall not be reproduced except in its entirety and without the full written permission of the participating laboratory. The report must not be used by the participating laboratory to claim product endorsement by NVLAP or any agency of the U. S. government.

If you have any questions regarding WatR™ Pollution Study, WP-73 please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

NVLAP® Lab code: 200386-0

Study Discussion concerning WP-73: Aluminum

During the review of the WP-73 study data, ERA observed an abnormally high failure rate for aluminum in the Trace Metals standard (26 out of 95 results were "Not Acceptable", a failure rate of 27.4%). As required by our Standard Operating Procedures, ERA senior technical staff carefully reviewed all data related to documenting the efficacy of the standard. This review included manufacturing and internal analytical verification data for accuracy, homogeneity and stability. Our review of the data confirmed that the WP-73 Trace Metals standard meets all requirements contained within the USEPA Criteria Document as well as NIST NVLAP criteria to be judged 'fit for use'.

ERA also examined the data for method biases and multiple modal distributions per the requirements of ERA's NIST NVLAP PT Provider Accreditation (Lab code 2003860) and the NELAC Standards (Chapter 2, Section C.4, July 1999).

"PT Providers shall examine all data sets for bimodal distribution and/or situations where results from a given method have disproportionally large failure rates"

An apparent method bias associated with labs utilizing ICP-OES analytical techniques was found in the WP-73 aluminum data set. The mean recovery for laboratories reporting results utilizing ICP-OES techniques was 127% vs. the assigned value. The mean recovery for laboratories reporting results utilizing graphite furnace and flame AA techniques was 99.1% vs. the assigned value. The mean recovery for laboratories reporting results utilizing ICP-MS techniques was 106% vs. the assigned value. The ICP-OES bias is most likely attributable to spectral interference from the vanadium present in the sample.

The standard contains a relatively high concentration of vanadium. The concentration of vanadium in the standard is 1920 µg/l. Although this concentration is within the specifications contained in the EPA National Standards for Water Proficiency Testing Studies, relative to the aluminum concentration it is high. For the analytical methods used by the laboratories reporting the low and high recoveries (ICP-OES), vanadium is a known interferent on aluminum. Incorrect selection of the background correction points will result in low recoveries for aluminum in the presence of vanadium. Conversely, inadequate spectral separation or incorrect interelemental correction will result in a high bias in the reported aluminum result.

ERA recommends that if a laboratory has received an evaluation of "Not Acceptable" for aluminum in the WP-73 study, that the laboratory evaluate both the selection of the background correction points and the adequacy of their interelemental correction for vanadium on aluminum. The evaluation should include the analysis of a 2 ppm vanadium standard. If the analytical problems described in the previous paragraph are present, they will be manifested by an artificially low or high result for aluminum. The laboratory should then implement corrective actions as appropriate. If you have any questions as to how to properly set your instrument corrections for this type of bias, please feel free to call ERA's Inorganic Chemistry department at 1-800-372-0122.

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Study: **WP73**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Complete**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WP-73 Final Complete Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Minerals								
	Alkalinity as CaCO3	mg/l	50.0	45.3	39.9 - 51.3	41.8 - 49.4	Check for Error	EPA310.1
	Chloride	mg/l	40.1	39.9	35.2 - 44.1	36.6 - 42.6	Acceptable	EPA300.0
	Conductivity at 25°C	µmhos	317	312	288 - 336	296 - 328	Acceptable	EPA120.1
	Fluoride	mg/l	0.543	0.542	0.444 - 0.638	0.476 - 0.605	Acceptable	EPA300.0
	Potassium	mg/l	27.8	26.7	23.0 - 30.5	24.3 - 29.2	Acceptable	EPA200.7
	Sodium	mg/l	48.5	46.7	42.0 - 51.6	43.6 - 50.0	Acceptable	EPA200.7
	Sulfate	mg/l	30.9	31.4	25.2 - 36.8	27.1 - 34.9	Acceptable	EPA300.0
	Total Dissolved Solids	mg/l	215	222	163 - 281	183 - 261	Acceptable	EPA160.1
	Total Solids at 105°C	mg/l	220	233	196 - 268		Acceptable	EPA160.3
pH								
	pH	S.U.	8.52	8.50	8.25 - 8.75	8.33 - 8.66	Acceptable	EPA150.1
Hardness								
	Total Suspended Solids	mg/l	40.0	53.0	40.1 - 56.9	42.9 - 54.1	Not Acceptable	EPA160.2
	Calcium	mg/l	18.6	17.2	15.1 - 19.8	15.9 - 19.0	Acceptable	EPA200.7
	Magnesium	mg/l	30.3	29.2	25.5 - 32.7	26.7 - 31.5	Acceptable	EPA200.7
	Calcium hardness (CaCO3)	mg/l	46.5	43.0	36.6 - 49.5		Acceptable	EPA200.7
	Total Hardness (CaCO3)	mg/l	171	163	148 - 179	153 - 174	Acceptable	EPA200.7
Demand								
	BOD	mg/l		83.5	42.1 - 125	55.9 - 111		
	CBOD	mg/l		71.9	32.2 - 112	45.4 - 98.3		
	COD	mg/l		135	103 - 155	111 - 147		
	TOC	mg/l	53.5	53.3	44.5 - 61.4	47.3 - 58.6	Acceptable	EPA415.1
Nutrients - Simple								
	Ammonia as N	mg/l	13.5	11.8	9.16 - 14.3	10.0 - 13.5	Acceptable	EPA350.3
	Nitrate as N	mg/l	2.87	2.93	2.29 - 3.52	2.49 - 3.31	Acceptable	EPA300.0
	Ortho-phosphate as P	mg/l	3.60	3.71	3.17 - 4.29	3.35 - 4.10	Acceptable	EPA365.2
Nutrients - Complex								
	Total phosphorus as P	mg/l	2.38	2.33	1.77 - 2.76	1.93 - 2.59	Acceptable	EPA365.2
	Total kjeldahl nitrogen	mg/l		7.02	4.90 - 9.01	5.58 - 8.33		
Cyanide								
	Cyanide, total	mg/l	0.358	0.373	0.255 - 0.483	0.293 - 0.445	Acceptable	EPA335.2
Grease & Oil								
	Grease & Oil (Gravimetric)	mg/l		22.2	13.2 - 27.1	15.5 - 24.8		
	Grease & Oil (Infrared)	mg/l	30.0	26.6	16.4 - 31.7	19.0 - 29.2	Check for Error	EPA413.2

NVLAP® Lab code: 200386-0

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WP-73 Final Complete Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Hexavalent Chromium								
	Hexavalent Chromium	µg/l	126	119	96.9 - 137		Acceptable	SM3500-CrB
Trace Metals								
	Aluminum	µg/l	285	278	225 - 333	243 - 315	Acceptable	EPA200.7
	Antimony	µg/l	167	163	105 - 200	121 - 185	Acceptable	EPA200.7
	Arsenic	µg/l	612	622	522 - 728	556 - 694	Acceptable	EPA200.7
	Barium	µg/l	1930	1970	1670 - 2230		Acceptable	EPA200.7
	Beryllium	µg/l	96.6	98.0	82.1 - 111	86.9 - 106	Acceptable	EPA200.7
	Boron	µg/l	809	826	603 - 1050		Acceptable	EPA200.7
	Cadmium	µg/l	387	399	340 - 453	359 - 435	Acceptable	EPA200.7
	Chromium	µg/l	203	208	179 - 237	189 - 227	Acceptable	EPA200.7
	Cobalt	µg/l	530	526	462 - 590	483 - 568	Acceptable	EPA200.7
	Copper	µg/l	367	379	343 - 417	355 - 405	Acceptable	EPA200.7
	Iron	µg/l	378	421	369 - 480	388 - 461	Check for Error	EPA200.7
	Lead	µg/l	1730	1750	1540 - 1950	1610 - 1880	Acceptable	EPA200.7
	Manganese	µg/l	2040	2120	1910 - 2360	1980 - 2280	Acceptable	EPA200.7
	Molybdenum	µg/l	496	534	459 - 611	484 - 585	Acceptable	EPA200.7
	Nickel	µg/l	1840	1860	1690 - 2070	1750 - 2010	Acceptable	EPA200.7
	Selenium	µg/l	759	776	616 - 899	663 - 851	Acceptable	EPA200.7
	Silver	µg/l	509	529	454 - 606	479 - 581	Acceptable	EPA200.7
	Strontium	µg/l	244	258	219 - 296	232 - 283	Acceptable	EPA200.7
	Thallium	µg/l	155	156	124 - 184	134 - 174	Acceptable	EPA200.7
	Vanadium	µg/l	1840	1920	1730 - 2110	1800 - 2050	Acceptable	EPA200.7
	Zinc	µg/l	183	180	156 - 207	164 - 198	Acceptable	EPA200.7
Mercury								
	Mercury	µg/l	6.48	7.05	5.22 - 8.86	5.82 - 8.25	Acceptable	EPA245.1

NVLAP® Lab code: 200386-0

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WP-73 Final Complete Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles								
	Acetone	µg/l	< 10.0	0.00			Acceptable	EPA624
	Acetonitrile	µg/l		0.00				EPA624
	Acrylonitrile	µg/l	< 10.0	0.00			Acceptable	EPA624
	Acrolein	µg/l	< 10.0	0.00			Acceptable	EPA624
	Benzene	µg/l	13.8	15.0	10.5 - 19.7	12.0 - 18.2	Acceptable	EPA624
	Bromodichloromethane	µg/l	21.0	21.6	15.1 - 28.3	17.3 - 26.1	Acceptable	EPA624
	Bromoform	µg/l	45.4	43.2	27.9 - 59.2	33.1 - 54.0	Acceptable	EPA624
	Bromomethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	2-Butanone (MEK)	µg/l	< 10.0	0.00			Acceptable	EPA624
	Carbon disulfide	µg/l	< 1.00	0.00			Acceptable	EPA624
	Carbon tetrachloride	µg/l	53.0	55.4	34.2 - 78.1	41.5 - 70.8	Acceptable	EPA624
	Chlorobenzene	µg/l	31.3	32.4	23.1 - 41.2	26.1 - 38.2	Acceptable	EPA624
	Chlorodibromomethane	µg/l	56.8	58.5	38.7 - 77.7	45.2 - 71.2	Acceptable	EPA624
	Chloroethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	2-Chloroethylvinylether	µg/l	< 2.00	0.00			Acceptable	EPA624
	Chloroform	µg/l	29.3	31.1	21.8 - 40.0	24.8 - 37.0	Acceptable	EPA624
	Chloromethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	DBCP	µg/l	< 2.00	0.00			Acceptable	EPA624
	1,2-Dibromoethane (EDB)	µg/l	< 1.00	0.00			Acceptable	EPA624
	Dibromomethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,2-Dichlorobenzene	µg/l	56.9	59.0	41.7 - 74.4	47.2 - 69.0	Acceptable	EPA624
	1,3-Dichlorobenzene	µg/l	47.9	48.9	34.6 - 60.9	39.0 - 56.5	Acceptable	EPA624
	1,4-Dichlorobenzene	µg/l	17.3	16.6	11.3 - 21.8	13.0 - 20.1	Acceptable	EPA624
	Dichlorodifluoromethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,1-Dichloroethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,2-Dichloroethane	µg/l	16.7	17.6	12.3 - 24.0	14.3 - 22.0	Acceptable	EPA624
	1,1-Dichloroethylene	µg/l	38.6	45.0	24.0 - 69.8		Acceptable	EPA624
	cis-1,2-Dichloroethylene	µg/l	< 1.00	0.00			Acceptable	EPA624
	trans-1,2-Dichloroethylene	µg/l	46.2	51.2	31.3 - 71.1		Acceptable	EPA624
	1,2-Dichloropropane	µg/l	75.2	81.9	55.4 - 104		Acceptable	EPA624
	cis-1,3-Dichloropropylene	µg/l	< 1.00	0.00			Acceptable	EPA624
	trans-1,3-Dichloropropylene	µg/l	< 1.00	0.00			Acceptable	EPA624
	Ethylbenzene	µg/l	26.8	27.2	18.3 - 35.4	21.2 - 32.6	Acceptable	EPA624
	2-Hexanone	µg/l	< 10.0	0.00			Acceptable	EPA624
	Methylene chloride	µg/l	31.8	36.9	23.3 - 51.1	28.0 - 46.5	Acceptable	EPA624
	MIBK	µg/l	61.9	66.5	25.3 - 105		Acceptable	EPA624
	Styrene	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,1,1,2-Tetrachloroethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,1,2,2-Tetrachloroethane	µg/l	113	118	69.5 - 165		Acceptable	EPA624
	Tetrachloroethylene	µg/l	65.0	70.4	46.6 - 90.0	53.8 - 82.7	Acceptable	EPA624
	Toluene	µg/l	55.9	64.3	46.3 - 80.0	52.0 - 74.4	Acceptable	EPA624

NVLAP® Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-73 Final Complete Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles (Cont.)								
	1,1,1-Trichloroethane	µg/l	60.9	67.9	43.7 - 89.7	51.4 - 82.0	Acceptable	EPA624
	1,1,2-Trichloroethane	µg/l	176	175	118 - 228		Acceptable	EPA624
	Trichloroethylene	µg/l	29.0	32.5	21.2 - 42.1	24.7 - 38.6	Acceptable	EPA624
	Trichlorofluoromethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,2,3-Trichloropropane	µg/l	< 1.00	0.00			Acceptable	EPA624
	Vinyl acetate	µg/l	< 1.00	0.00			Acceptable	EPA624
	Vinyl chloride	µg/l	10.2	12.0	1.09 - 19.2		Acceptable	EPA624
	Xylenes, total	µg/l	189	204	117 - 273		Acceptable	EPA624

NVLAP® Lab code: 200388-0

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WP-73 Final Complete Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
PCB's in Water (Standard #1)								
	Aroclor 1016/1242	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1221	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1232	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1248	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1254	µg/l	3.20	2.87	1.25 - 3.92	1.70 - 3.48	Acceptable	EPA608
	Aroclor 1260	µg/l	< 0.5	0.00			Acceptable	
PCB's In Water (Standard #2)								
	Aroclor 1016/1242	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1221	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1232	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1248	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1254	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1260	µg/l	2.88	2.82	1.38 - 3.73	1.77 - 3.34	Acceptable	EPA608
PCB's in Oil (Standard #1)								
	Aroclor 1016/1242	mg/Kg	9.61	19.0	2.04 - 28.7	6.49 - 24.3	Acceptable	EPA608M
	Aroclor 1254	mg/Kg	< 5.0	0.00			Acceptable	
	Aroclor 1260	mg/Kg	< 5.0	0.00			Acceptable	
PCB's In Oil (Standard #2)								
	Aroclor 1016/1242	mg/Kg	< 5.0	0.00			Acceptable	
	Aroclor 1254	mg/Kg	25.9	43.0	7.15 - 62.2	16.3 - 53.0	Acceptable	EPA608M
	Aroclor 1260	mg/Kg	< 5.0	0.00			Acceptable	

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Pesticides								
	Aldrin	µg/l	1.66	1.67	0.426 - 2.26	0.731 - 1.95	Acceptable	EPA608
	alpha-BHC	µg/l	6.92	6.97	2.56 - 9.66		Acceptable	EPA608
	beta-BHC	µg/l	10.9	11.2	4.20 - 16.1		Acceptable	EPA608
	delta-BHC	µg/l	30.7	35.5	7.76 - 51.5		Acceptable	EPA608
	gamma-BHC(Lindane)	µg/l	17.6	18.6	5.85 - 27.0		Acceptable	EPA608
	alpha-Chlordane	µg/l	9.63	9.48	4.24 - 13.2		Acceptable	EPA608
	gamma-Chlordane	µg/l	1.13	1.14	0.551 - 1.53		Acceptable	EPA608
	4,4'-DDD	µg/l	6.53	6.76	3.34 - 9.42	4.35 - 8.41	Acceptable	EPA608
	4,4'-DDE	µg/l	1.23	1.36	0.638 - 1.85	0.841 - 1.65	Acceptable	EPA608
	4,4'-DDT	µg/l	3.62	3.70	1.69 - 5.01	2.24 - 4.46	Acceptable	EPA608
	Dieldrin	µg/l	2.82	2.85	1.47 - 3.93	1.88 - 3.52	Acceptable	EPA608
	Endrin	µg/l	10.4	10.9	3.98 - 16.0		Acceptable	EPA608
	Endrin aldehyde	µg/l	11.3	10.7	3.50 - 15.7		Acceptable	EPA608
	Endrin ketone	µg/l	< 0.1	0.512	0.00 - 5.10		Acceptable	EPA608
	Endosulfan I	µg/l	9.93	10.0	4.13 - 14.5		Acceptable	EPA608
	Endosulfan II	µg/l	25.6	33.2	6.24 - 53.6		Acceptable	EPA608
	Endosulfan sulfate	µg/l	14.7	15.2	2.82 - 24.8		Acceptable	EPA608
	Heptachlor	µg/l	2.14	2.22	0.587 - 3.09	1.00 - 2.67	Acceptable	EPA608
	Heptachlor epoxide	µg/l	2.21	1.97	1.00 - 2.53	1.26 - 2.28	Acceptable	EPA608
	Methoxychlor	µg/l	5.23	5.10	1.84 - 7.91		Acceptable	EPA608
Chlordane								
	Chlordane, technical	µg/l	11.8	12.4	5.41 - 17.7	7.45 - 15.6	Acceptable	EPA608
Toxaphene								
	Toxaphene	µg/l	7.27	8.18	0.955 - 15.3		Acceptable	EPA608
Herbicides								
	2,4-D	µg/l	2.31	2.86	0.00 - 4.99		Acceptable	EPA615
	Dicamba	µg/l	4.95	4.99	0.357 - 7.34		Acceptable	EPA615
	2,4,5-T	µg/l	7.02	8.32	0.909 - 12.1		Acceptable	EPA615
	Silvex	µg/l	6.00	6.53	0.333 - 8.80		Acceptable	EPA615

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals								
	Acenaphthene	µg/l	25.1	29.6	12.2 - 37.9		Acceptable	EPA625
	Acenaphthylene	µg/l	36.6	45.8	17.6 - 57.0		Acceptable	EPA625
	Aniline	µg/l	< 25	0.00			Acceptable	EPA625
	Anthracene	µg/l	69.9	93.8	33.9 - 121		Acceptable	EPA625
	Benzidine	µg/l	< 50	0.00			Acceptable	EPA625
	Benzo(a)anthracene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(b)fluoranthene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(k)fluoranthene	µg/l	46.8	51.5	12.2 - 76.5		Acceptable	EPA625
	Benzo(g,h,i)perylene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(a)pyrene	µg/l	49.3	59.2	13.6 - 77.4		Acceptable	EPA625
	Benzyl alcohol	µg/l	< 10	0.00			Acceptable	EPA625
	4-Bromophenyl-phenylether	µg/l	54.3	58.7	26.5 - 75.2		Acceptable	EPA625
	Butylbenzylphthalate	µg/l	28.0	30.5	8.07 - 49.7		Acceptable	EPA625
	Carbazole	µg/l	< 10	0.00			Acceptable	EPA625
	4-Chloroaniline	µg/l	< 25	0.00			Acceptable	EPA625
	bis(2-Chloroethoxy)methane	µg/l	< 10	0.00			Acceptable	EPA625
	bis(2-Chloroethyl)ether	µg/l	< 10	0.00			Acceptable	EPA625
	bis(2-Chloroisopropyl)ether	µg/l	110	156	38.4 - 239		Acceptable	EPA625
	1-Chloronaphthalene	µg/l		0.00				EPA625
	2-Chloronaphthalene	µg/l	< 10	0.00			Acceptable	EPA625
	4-Chlorophenyl-phenylether	µg/l	62.4	75.9	30.5 - 96.4		Acceptable	EPA625
	Chrysene	µg/l	38.7	41.5	18.2 - 53.6		Acceptable	EPA625
	Dibenz(a,h)anthracene	µg/l	29.1	35.8	8.65 - 51.4		Acceptable	EPA625
	Dibenzofuran	µg/l	< 10	0.00			Acceptable	EPA625
	Di-n-butylphthalate	µg/l	47.5	57.2	14.4 - 81.5		Acceptable	EPA625
	1,2-Dichlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625
	1,3-Dichlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625
	1,4-Dichlorobenzene	µg/l	22.6	32.3	0.00 - 45.9		Acceptable	EPA625
	3,3'-Dichlorobenzidine	µg/l	< 50	0.00			Acceptable	EPA625
	Diethylphthalate	µg/l	< 10	0.00			Acceptable	EPA625
	Dimethylphthalate	µg/l	< 10	0.00			Acceptable	EPA625
	2,4-Dinitrotoluene	µg/l	121	128	53.7 - 171		Acceptable	EPA625
	2,6-Dinitrotoluene	µg/l	152	182	69.6 - 242		Acceptable	EPA625
	Di-n-octylphthalate	µg/l	23.3	24.4	8.20 - 38.1		Acceptable	EPA625
	bis(2-ethylhexyl)phthalate	µg/l	58.8	71.2	17.5 - 104		Acceptable	EPA625
	Fluoranthene	µg/l	< 10	0.00			Acceptable	EPA625
	Fluorene	µg/l	< 10	0.00			Acceptable	EPA625
	Hexachlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625
	Hexachlorobutadiene	µg/l	38.2	60.6	9.23 - 74.1		Acceptable	EPA625
	Hexachlorocyclopentadiene	µg/l	28.6	50.7	0.00 - 67.5		Acceptable	EPA625
	Hexachloroethane	µg/l	43.5	70.0	7.56 - 87.7		Acceptable	EPA625

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ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals (Cont.)								
	Indeno(1,2,3-cd)pyrene	µg/l	< 10	0.00			Acceptable	EPA625
	Isophorone	µg/l	107	138	46.6 - 184		Acceptable	EPA625
	1-Methylnaphthalene	µg/l		0.00				EPA625
	2-Methylnaphthalene	µg/l	< 10	0.00			Acceptable	EPA625
	Naphthalene	µg/l	78.3	115	28.6 - 150		Acceptable	EPA625
	2-Nitroaniline	µg/l	< 50	0.00			Acceptable	EPA625
	3-Nitroaniline	µg/l	< 50	0.00			Acceptable	EPA625
	4-Nitroaniline	µg/l	< 50	0.00			Acceptable	EPA625
	Nitrobenzene	µg/l	72.7	92.6	30.5 - 121		Acceptable	EPA625
	N-Nitrosodiethylamine	µg/l		0.00				EPA625
	N-Nitrosodimethylamine	µg/l	38.3	43.2	0.00 - 54.3		Acceptable	EPA625
	N-Nitrosodiphenylamine	µg/l	< 10	0.00			Acceptable	EPA625
	N-Nitroso-di-n-propylamine	µg/l	35.3	39.2	11.1 - 52.1		Acceptable	EPA625
	Phenanthrene	µg/l	71.0	93.5	35.7 - 122		Acceptable	EPA625
	Pyrene	µg/l	29.1	37.7	12.2 - 55.0		Acceptable	EPA625
	Pyridine	µg/l	< 10	0.00			Acceptable	EPA625
	1,2,4-Trichlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625

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Acids								
	Benzoic acid	µg/l	< 50	0.00			Acceptable	EPA625
	4-Chloro-3-methylphenol	µg/l	101	127	49.7 - 163		Acceptable	EPA625
	2-Chlorophenol	µg/l	43.2	52.5	16.7 - 66.9		Acceptable	EPA625
	2,4-Dichlorophenol	µg/l	60.1	73.4	26.5 - 89.8		Acceptable	EPA625
	2,6-Dichlorophenol	µg/l		0.00				EPA625
	2,4-Dimethylphenol	µg/l	107	138	30.3 - 181		Acceptable	EPA625
	4,6-Dinitro-2-methylphenol	µg/l	96.7	102	16.6 - 142		Acceptable	EPA625
	2,4-Dinitrophenol	µg/l	90.0	144	0.00 - 186		Acceptable	EPA625
	2-Methylphenol	µg/l	< 10	0.00			Acceptable	EPA625
	3-Methylphenol	µg/l	< 10	0.00			Acceptable	EPA625
	4-Methylphenol	µg/l	< 10	0.00			Acceptable	EPA625
	2-Nitrophenol	µg/l	120	139	41.2 - 183		Acceptable	EPA625
	3-Nitrophenol	µg/l		0.00				EPA625
	4-Nitrophenol	µg/l	117	126	0.00 - 171		Acceptable	EPA625
	Pentachlorophenol	µg/l	70.5	80.9	19.3 - 112		Acceptable	EPA625
	Phenol	µg/l	30.3	38.2	0.00 - 53.9		Acceptable	EPA625
	2,4,5-Trichlorophenol	µg/l	81.5	103	39.9 - 131		Acceptable	EPA625
	2,4,6-Trichlorophenol	µg/l	41.9	46.9	16.6 - 61.2		Acceptable	EPA625

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PAH's								
	Acenaphthene	µg/l	37.0	47.8	11.0 - 61.8		Acceptable	EPA610
	Acenaphthylene	µg/l	< 1.0	0.00			Acceptable	EPA610
	Anthracene	µg/l	< 0.1	0.00			Acceptable	EPA610
	Benzo(a)anthracene	µg/l	< 0.05	0.00			Acceptable	EPA610
	Benzo(b)fluoranthene	µg/l	32.1	32.1	8.30 - 48.4		Acceptable	EPA610
	Benzo(k)fluoranthene	µg/l	< 0.05	0.00			Acceptable	EPA610
	Benzo(g,h,i)perylene	µg/l	< 0.1	0.00			Acceptable	EPA610
	Benzo(a)pyrene	µg/l	9.90	10.7	3.50 - 16.7		Acceptable	EPA610
	Chrysene	µg/l	13.3	13.4	4.31 - 21.3		Acceptable	EPA610
	Dibenz(a,h)anthracene	µg/l	< 0.1	0.00			Acceptable	EPA610
	Fluoranthene	µg/l	32.8	31.2	10.2 - 43.6		Acceptable	EPA610
	Fluorene	µg/l	< 0.1	0.00			Acceptable	EPA610
	Indeno(1,2,3-cd)pyrene	µg/l	20.0	21.4	3.63 - 33.6		Acceptable	EPA610
	Naphthalene	µg/l	< 0.5	0.00			Acceptable	EPA610
	Phenanthrene	µg/l	0.938	1.27	0.166 - 1.77		Acceptable	EPA610
	Pyrene	µg/l	0.906	2.30	0.00 - 2.53		Acceptable	EPA610

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ENVIRONMENTAL
RESOURCE ASSOCIATES®

Study: **WP73**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **NELAC**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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Minerals								
	Alkalinity as CaCO3	mg/l	50.0	45.3	39.9 - 51.3		Acceptable	EPA310.1
	Chloride	mg/l	40.1	39.9	35.2 - 44.1		Acceptable	EPA300.0
	Conductivity at 25°C	µmhos	317	312	288 - 336		Acceptable	EPA120.1
	Fluoride	mg/l	0.543	0.542	0.444 - 0.638		Acceptable	EPA300.0
	Potassium	mg/l	27.8	26.7	23.0 - 30.5		Acceptable	EPA200.7
	Sodium	mg/l	48.5	46.7	42.0 - 51.6		Acceptable	EPA200.7
	Sulfate	mg/l	30.9	31.4	25.2 - 36.8		Acceptable	EPA300.0
	Total Dissolved Solids	mg/l	215	222	163 - 281		Acceptable	EPA160.1
	Total Solids at 105°C	mg/l	220	233	196 - 268		Acceptable	EPA160.3
pH								
	pH	S.U.	8.52	8.50	8.25 - 8.75		Acceptable	EPA150.1
Hardness								
	Total Suspended Solids	mg/l	40.0	53.0	40.1 - 56.9		Not Acceptable	EPA160.2
	Calcium	mg/l	18.6	17.2	15.1 - 19.8		Acceptable	EPA200.7
	Magnesium	mg/l	30.3	29.2	25.5 - 32.7		Acceptable	EPA200.7
	Total Hardness (CaCO3)	mg/l	171	163	148 - 179		Acceptable	EPA200.7
Demand								
	BOD	mg/l		83.5	42.1 - 125			
	CBOD	mg/l		71.9	32.2 - 112			
	COD	mg/l		135	103 - 155			
	TOC	mg/l	53.5	53.3	44.5 - 61.4		Acceptable	EPA415.1
Nutrients - Simple								
	Ammonia as N	mg/l	13.5	11.8	9.16 - 14.3		Acceptable	EPA350.3
	Nitrate as N	mg/l	2.87	2.93	2.29 - 3.52		Acceptable	EPA300.0
	Ortho-phosphate as P	mg/l	3.60	3.71	3.17 - 4.29		Acceptable	EPA365.2
Nutrients - Complex								
	Total phosphorus as P	mg/l	2.38	2.33	1.77 - 2.76		Acceptable	EPA365.2
	Total kjeldahl nitrogen	mg/l		7.02	4.90 - 9.01			
Cyanide								
	Cyanide, total	mg/l	0.358	0.373	0.255 - 0.483		Acceptable	EPA335.2
Grease & Oil								
	Grease & Oil (Gravimetric)	mg/l		22.2	13.2 - 27.1			
	Grease & Oil (Infrared)	mg/l	30.0	26.6	16.4 - 31.7		Acceptable	EPA413.2

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Hexavalent Chromium								
	Hexavalent Chromium	µg/l	126	119	96.9 - 137		Acceptable	SM3500-CrB
Trace Metals								
	Aluminum	µg/l	285	278	225 - 333		Acceptable	EPA200.7
	Antimony	µg/l	167	163	105 - 200		Acceptable	EPA200.7
	Arsenic	µg/l	612	622	522 - 728		Acceptable	EPA200.7
	Barium	µg/l	1930	1970	1670 - 2230		Acceptable	EPA200.7
	Beryllium	µg/l	96.6	98.0	82.1 - 111		Acceptable	EPA200.7
	Cadmium	µg/l	387	399	340 - 453		Acceptable	EPA200.7
	Chromium	µg/l	203	208	179 - 237		Acceptable	EPA200.7
	Cobalt	µg/l	530	526	462 - 590		Acceptable	EPA200.7
	Copper	µg/l	367	379	343 - 417		Acceptable	EPA200.7
	Iron	µg/l	378	421	369 - 480		Acceptable	EPA200.7
	Lead	µg/l	1730	1750	1540 - 1950		Acceptable	EPA200.7
	Manganese	µg/l	2040	2120	1910 - 2360		Acceptable	EPA200.7
	Molybdenum	µg/l	496	534	459 - 611		Acceptable	EPA200.7
	Nickel	µg/l	1840	1860	1690 - 2070		Acceptable	EPA200.7
	Selenium	µg/l	759	776	616 - 899		Acceptable	EPA200.7
	Silver	µg/l	509	529	454 - 606		Acceptable	EPA200.7
	Strontium	µg/l	244	258	219 - 296		Acceptable	EPA200.7
	Thallium	µg/l	155	156	124 - 184		Acceptable	EPA200.7
	Vanadium	µg/l	1840	1920	1730 - 2110		Acceptable	EPA200.7
	Zinc	µg/l	183	180	156 - 207		Acceptable	EPA200.7
Mercury								
	Mercury	µg/l	6.48	7.05	5.22 - 8.86		Acceptable	EPA245.1

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Volatiles								
	Benzene	µg/l	13.8	15.0	10.5 - 19.7		Acceptable	EPA624
	Bromodichloromethane	µg/l	21.0	21.6	15.1 - 28.3		Acceptable	EPA624
	Bromoform	µg/l	45.4	43.2	27.9 - 59.2		Acceptable	EPA624
	Bromomethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	Carbon tetrachloride	µg/l	53.0	55.4	34.2 - 78.1		Acceptable	EPA624
	Chlorobenzene	µg/l	31.3	32.4	23.1 - 41.2		Acceptable	EPA624
	Chlorodibromomethane	µg/l	56.8	58.5	38.7 - 77.7		Acceptable	EPA624
	Chloroethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	Chloroform	µg/l	29.3	31.1	21.8 - 40.0		Acceptable	EPA624
	Chloromethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	1,2-Dichlorobenzene	µg/l	56.9	59.0	41.7 - 74.4		Acceptable	EPA624
	1,3-Dichlorobenzene	µg/l	47.9	48.9	34.6 - 60.9		Acceptable	EPA624
	1,4-Dichlorobenzene	µg/l	17.3	16.6	11.3 - 21.8		Acceptable	EPA624
	1,2-Dichloroethane	µg/l	16.7	17.6	12.3 - 24.0		Acceptable	EPA624
	1,1-Dichloroethylene	µg/l	38.6	45.0	24.0 - 69.8		Acceptable	EPA624
	trans-1,2-Dichloroethylene	µg/l	46.2	51.2	31.3 - 71.1		Acceptable	EPA624
	1,2-Dichloropropane	µg/l	75.2	81.9	55.4 - 104		Acceptable	EPA624
	trans-1,3-Dichloropropylene	µg/l	< 1.00	0.00			Acceptable	EPA624
	Ethylbenzene	µg/l	26.8	27.2	18.3 - 35.4		Acceptable	EPA624
	Methylene chloride	µg/l	31.8	36.9	23.3 - 51.1		Acceptable	EPA624
	1,1,2,2-Tetrachloroethane	µg/l	113	118	69.5 - 165		Acceptable	EPA624
	Tetrachloroethylene	µg/l	65.0	70.4	46.6 - 90.0		Acceptable	EPA624
	Toluene	µg/l	55.9	64.3	46.3 - 80.0		Acceptable	EPA624
	1,1,1-Trichloroethane	µg/l	60.9	67.9	43.7 - 89.7		Acceptable	EPA624
	1,1,2-Trichloroethane	µg/l	176	175	118 - 228		Acceptable	EPA624
	Trichloroethylene	µg/l	29.0	32.5	21.2 - 42.1		Acceptable	EPA624
	Trichlorofluoromethane	µg/l	< 1.00	0.00			Acceptable	EPA624
	Vinyl chloride	µg/l	10.2	12.0	1.09 - 19.2		Acceptable	EPA624
	Xylenes, total	µg/l	189	204	117 - 273		Acceptable	EPA624

NVLAP® Lab code: 200388-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-73 Final NELAC Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
PCB's in Water (Standard #1)								
	Aroclor 1016/1242	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1221	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1232	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1248	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1254	µg/l	3.20	2.87	1.25 - 3.92		Acceptable	EPA608
	Aroclor 1260	µg/l	< 0.5	0.00			Acceptable	
PCB's In Water (Standard #2)								
	Aroclor 1016/1242	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1221	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1232	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1248	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1254	µg/l	< 0.5	0.00			Acceptable	
	Aroclor 1260	µg/l	2.88	2.82	1.38 - 3.73		Acceptable	EPA608
PCB's in Oil (Standard #1)								
	Aroclor 1016/1242	mg/Kg	9.61	19.0	2.04 - 28.7		Acceptable	EPA608M
	Aroclor 1254	mg/Kg	< 5.0	0.00			Acceptable	
	Aroclor 1260	mg/Kg	< 5.0	0.00			Acceptable	
PCB's In Oil (Standard #2)								
	Aroclor 1016/1242	mg/Kg	< 5.0	0.00			Acceptable	
	Aroclor 1254	mg/Kg	25.9	43.0	7.15 - 62.2		Acceptable	EPA608M
	Aroclor 1260	mg/Kg	< 5.0	0.00			Acceptable	

NVLAP® Labcode: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-73 Final NELAC Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Pesticides								
	Aldrin	µg/l	1.66	1.67	0.426 - 2.26		Acceptable	EPA608
	alpha-BHC	µg/l	6.92	6.97	2.56 - 9.66		Acceptable	EPA608
	beta-BHC	µg/l	10.9	11.2	4.20 - 16.1		Acceptable	EPA608
	delta-BHC	µg/l	30.7	35.5	7.76 - 51.5		Acceptable	EPA608
	gamma-BHC(Lindane)	µg/l	17.6	18.6	5.85 - 27.0		Acceptable	EPA608
	4,4'-DDD	µg/l	6.53	6.76	3.34 - 9.42		Acceptable	EPA608
	4,4'-DDE	µg/l	1.23	1.36	0.638 - 1.85		Acceptable	EPA608
	4,4'-DDT	µg/l	3.62	3.70	1.69 - 5.01		Acceptable	EPA608
	Dieldrin	µg/l	2.82	2.85	1.47 - 3.93		Acceptable	EPA608
	Endrin	µg/l	10.4	10.9	3.98 - 16.0		Acceptable	EPA608
	Endrin aldehyde	µg/l	11.3	10.7	3.50 - 15.7		Acceptable	EPA608
	Endosulfan I	µg/l	9.93	10.0	4.13 - 14.5		Acceptable	EPA608
	Endosulfan II	µg/l	25.6	33.2	6.24 - 53.6		Acceptable	EPA608
	Endosulfan sulfate	µg/l	14.7	15.2	2.82 - 24.8		Acceptable	EPA608
	Heptachlor	µg/l	2.14	2.22	0.587 - 3.09		Acceptable	EPA608
	Heptachlor epoxide	µg/l	2.21	1.97	1.00 - 2.53		Acceptable	EPA608
	Methoxychlor	µg/l	5.23	5.10	1.84 - 7.91		Acceptable	EPA608
Chlordane								
	Chlordane, technical	µg/l	11.8	12.4	5.41 - 17.7		Acceptable	EPA608
Toxaphene								
	Toxaphene	µg/l	7.27	8.18	0.955 - 15.3		Acceptable	EPA608
Herbicides								
	2,4-D	µg/l	2.31	2.86	0.00 - 4.99		Acceptable	EPA615
	Dicamba	µg/l	4.95	4.99	0.357 - 7.34		Acceptable	EPA615
	2,4,5-T	µg/l	7.02	8.32	0.909 - 12.1		Acceptable	EPA615
	Silvex	µg/l	6.00	6.53	0.333 - 8.80		Acceptable	EPA615

NVLAP® Lab code: 200086-0

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals								
	Acenaphthene	µg/l	25.1	29.6	12.2 - 37.9		Acceptable	EPA625
	Acenaphthylene	µg/l	36.6	45.8	17.6 - 57.0		Acceptable	EPA625
	Anthracene	µg/l	69.9	93.8	33.9 - 121		Acceptable	EPA625
	Benzidine	µg/l	< 50	0.00			Acceptable	EPA625
	Benzo(a)anthracene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(b)fluoranthene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(k)fluoranthene	µg/l	46.8	51.5	12.2 - 76.5		Acceptable	EPA625
	Benzo(g,h,i)perylene	µg/l	< 10	0.00			Acceptable	EPA625
	Benzo(a)pyrene	µg/l	49.3	59.2	13.6 - 77.4		Acceptable	EPA625
	4-Bromophenyl-phenylether	µg/l	54.3	58.7	26.5 - 75.2		Acceptable	EPA625
	Butylbenzylphthalate	µg/l	28.0	30.5	8.07 - 49.7		Acceptable	EPA625
	bis(2-Chloroethoxy)methane	µg/l	< 10	0.00			Acceptable	EPA625
	bis(2-Chloroethyl)ether	µg/l	< 10	0.00			Acceptable	EPA625
	bis(2-Chloroisopropyl)ether	µg/l	110	156	38.4 - 239		Acceptable	EPA625
	2-Chloronaphthalene	µg/l	< 10	0.00			Acceptable	EPA625
	4-Chlorophenyl-phenylether	µg/l	62.4	75.9	30.5 - 96.4		Acceptable	EPA625
	Chrysene	µg/l	38.7	41.5	18.2 - 53.6		Acceptable	EPA625
	Dibenz(a,h)anthracene	µg/l	29.1	35.8	8.65 - 51.4		Acceptable	EPA625
	Di-n-butylphthalate	µg/l	47.5	57.2	14.4 - 81.5		Acceptable	EPA625
	3,3'-Dichlorobenzidine	µg/l	< 50	0.00			Acceptable	EPA625
	Diethylphthalate	µg/l	< 10	0.00			Acceptable	EPA625
	Dimethylphthalate	µg/l	< 10	0.00			Acceptable	EPA625
	2,4-Dinitrotoluene	µg/l	121	128	53.7 - 171		Acceptable	EPA625
	2,6-Dinitrotoluene	µg/l	152	182	69.6 - 242		Acceptable	EPA625
	Di-n-octylphthalate	µg/l	23.3	24.4	8.20 - 38.1		Acceptable	EPA625
	bis(2-ethylhexyl)phthalate	µg/l	58.8	71.2	17.5 - 104		Acceptable	EPA625
	Fluoranthene	µg/l	< 10	0.00			Acceptable	EPA625
	Fluorene	µg/l	< 10	0.00			Acceptable	EPA625
	Hexachlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625
	Hexachlorobutadiene	µg/l	38.2	60.6	9.23 - 74.1		Acceptable	EPA625
	Hexachlorocyclopentadiene	µg/l	28.6	50.7	0.00 - 67.5		Acceptable	EPA625
	Hexachloroethane	µg/l	43.5	70.0	7.56 - 87.7		Acceptable	EPA625
	Indeno(1,2,3-cd)pyrene	µg/l	< 10	0.00			Acceptable	EPA625
	Isophorone	µg/l	107	138	46.6 - 184		Acceptable	EPA625
	Naphthalene	µg/l	78.3	115	28.6 - 150		Acceptable	EPA625
	Nitrobenzene	µg/l	72.7	92.6	30.5 - 121		Acceptable	EPA625
	N-Nitrosodimethylamine	µg/l	38.3	43.2	0.00 - 54.3		Acceptable	EPA625
	N-Nitrosodiphenylamine	µg/l	< 10	0.00			Acceptable	EPA625
	N-Nitroso-di-n-propylamine	µg/l	35.3	39.2	11.1 - 52.1		Acceptable	EPA625
	Phenanthrene	µg/l	71.0	93.5	35.7 - 122		Acceptable	EPA625
	Pyrene	µg/l	29.1	37.7	12.2 - 55.0		Acceptable	EPA625

NVLAP® Lab code: 200386-0

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals (Cont.)								
	1,2,4-Trichlorobenzene	µg/l	< 10	0.00			Acceptable	EPA625

NVLAP® Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-73 Final NELAC Report

PARAGON ANALYTICS
225 Commerce Drive
Ft Collins, Co 80524

EPA ID: CO00078 **Report Issued: 04/18/01**
State ID: CO00078
ERA Laboratory Code: P0615-01

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Acids								
	4-Chloro-3-methylphenol	µg/l	101	127	49.7 - 163		Acceptable	EPA625
	2-Chlorophenol	µg/l	43.2	52.5	16.7 - 66.9		Acceptable	EPA625
	2,4-Dichlorophenol	µg/l	60.1	73.4	26.5 - 89.8		Acceptable	EPA625
	2,4-Dimethylphenol	µg/l	107	138	30.3 - 181		Acceptable	EPA625
	4,6-Dinitro-2-methylphenol	µg/l	96.7	102	16.6 - 142		Acceptable	EPA625
	2,4-Dinitrophenol	µg/l	90.0	144	0.00 - 186		Acceptable	EPA625
	2-Nitrophenol	µg/l	120	139	41.2 - 183		Acceptable	EPA625
	4-Nitrophenol	µg/l	117	126	0.00 - 171		Acceptable	EPA625
	Pentachlorophenol	µg/l	70.5	80.9	19.3 - 112		Acceptable	EPA625
	Phenol	µg/l	30.3	38.2	0.00 - 53.9		Acceptable	EPA625
	2,4,5-Trichlorophenol	µg/l	81.5	103	39.9 - 131		Acceptable	EPA625
	2,4,6-Trichlorophenol	µg/l	41.9	46.9	16.6 - 61.2		Acceptable	EPA625

NVLAP® Lab code: 200386-0

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ENVIRONMENTAL RESOURCE ASSOCIATES®
The Industry Standard™

December 14, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB WatR™ Pollution Proficiency Testing (PT) Study, WP-69. The opening date for WP-69 was October 13, 2000 and the closing date was November 27, 2000. ERA's WP reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of Utah. Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. For all other states, the report for your facility will contain only those analytes contained in the EPA's National Standards. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's WP-69 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

3. If the analyte is not included in either national PT program listed above but is included in a state specific PT program, the analyte has been evaluated against acceptance limits generated using the state specific evaluation criteria.

4. If the analyte is not included in any national or state PT program, the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

NATIONAL STANDARDS REPORT

This report is provided to you if your facility is accredited by a National Standard state. This report includes only those analytes included in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998. All results have been evaluated using the EPA's National Standards Acceptance Criteria. Every analyte has been evaluated using the following approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (February 2000). All results have been evaluated using the NELAC Acceptance Criteria. The NELAC evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

Please note that NELAC only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to

participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the PT samples). If you have two acceptable PT results for an analyte in any PT study completed after July 1, 1999, that meets the NELAC criteria, you have satisfied your NELAC PT requirements. For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the California ELAP Proficiency Testing program (January 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

Please note that ELAP only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the WP-69 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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Thank you for your participation in the InterLaB WatR™ Pollution, WP-69, Performance Evaluation Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

ENVIRONMENTAL
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The Industry Standard™

December 14, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of WatR™ Pollution study 69 for compliance with all USEPA, State, NELAC and NIST NVLAP technical and program requirements in effect during this study as well as those of our ISO 9001 Registered Quality System.

All aspects of the WP-69 study, from standard manufacture to final report generation, were completed by ERA in accordance with the "National Standards for Water Proficiency Testing Studies Criteria Document", USEPA December 30, 1998. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, Rev.3.0), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in WP-69.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

InterLaB™ WP Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998 as applicable. A parameter not added to the standard is given an Assigned Value of "Zero" per the guidelines contained in the USEPA's Criteria Document.

The Acceptance Limits and Warning Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable	=	Reported Value falls within the Acceptance Limits.
Not Acceptable	=	Reported Value falls outside the Acceptance Limits.
Check for Error	=	Reported Value falls within the Acceptance Limits and outside of the Warning Limits
No Evaluation	=	Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ WP Study Discussion:

ERA WatR™ Pollution Proficiency Testing Study 69 has been reviewed by ERA Senior Management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), the NELAC Standards Chapter 2 and Associated Appendices (July 1999), applicable state PT programs, and those contained in the National Institute of Standards and Technology NVLAP Handbooks 150 and 150-19. ERA is a NIST NVLAP accredited PT Provider (Lab Code 2003860).

The WatR™ Pollution 69 (WP-69) results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the WP-69 standards met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the National Voluntary Laboratory Accreditation Program, Handbook 150-19 for Chemical Calibration for Providers of Proficiency Testing, June 1999.

The data submitted by participating laboratories was also examined for study anomalies. There were no anomalies found during the review of the study data.

If you have any questions regarding WatR™ Pollution Study, WP-69 please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

NVLAP®
Labcode: 200386-0

ENVIRONMENTAL
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Study: **WP69**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Minerals	Alkalinity as CaCO3	mg/l		71.3	64.1 - 78.4	66.5 - 76.0		
	Chloride	mg/l		48.0	42.7 - 52.8	44.4 - 51.2		
	Conductivity at 25°C	µmhos		381	351 - 411	361 - 401		
	Fluoride	mg/l		2.70	2.35 - 3.02	2.46 - 2.91		
	Potassium	mg/l		28.6	24.7 - 32.6	26.0 - 31.3		
	Sodium	mg/l	62.1	63.9	57.6 - 70.2	59.7 - 68.1	Acceptable	EPA200.7
	Sulfate	mg/l		28.3	22.5 - 33.3	24.3 - 31.5		
	Total Dissolved Solids	mg/l		291	218 - 364	242 - 340		
	Total Solids at 105°C	mg/l		309	268 - 346			
pH	pH	S.U.		8.40	8.15 - 8.64	8.24 - 8.56		
Hardness	Total Suspended Solids	mg/l		43.3	32.3 - 46.3	34.7 - 44.0		
	Calcium	mg/l		54.4	48.6 - 61.7	50.8 - 59.5		
	Magnesium	mg/l		9.68	8.41 - 10.9	8.83 - 10.5		
	Calcium hardness (CaCO3)	mg/l		136	116 - 156			
	Total Hardness (CaCO3)	mg/l		176	160 - 193	166 - 187		
Demand	BOD	mg/l		126	63.7 - 188	84.4 - 167		
	CBOD	mg/l		108	48.5 - 168	68.4 - 148		
	COD	mg/l		204	158 - 231	171 - 219		
	TOC	mg/l		80.6	67.4 - 92.6	71.6 - 88.4		
Nutrients - Simple	Ammonia as N	mg/l		17.8	13.9 - 21.6	15.1 - 20.3		
	Nitrate as N	mg/l		19.1	15.1 - 22.7	16.4 - 21.4		
	Ortho-phosphate as P	mg/l		4.43	3.78 - 5.12	4.01 - 4.89		
Nutrients - Complex	Total phosphorus as P	mg/l		0.530	0.398 - 0.664	0.443 - 0.620		
	Total kjeldahl nitrogen	mg/l		6.31	4.37 - 8.15	5.00 - 7.52		
Cyanide	Cyanide, total	mg/l		0.686	0.476 - 0.882	0.543 - 0.815		
Phenolics	Phenolics, total	mg/l		0.175	0.0886 - 0.261	0.117 - 0.232		
Grease & Oil	Grease & Oil (Gravimetric)	mg/l		40.5	26.7 - 46.2	30.0 - 43.0		
	Grease & Oil (Infrared)	mg/l	55.7	48.6	32.8 - 54.7	36.4 - 51.0	Not Acceptable	EPA413.2
TRC	Total Residual Chlorine	mg/l		0.958	0.737 - 1.18	0.811 - 1.11		

NVLAP®
Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Hexavalent Chromium	Hexavalent Chromium	µg/l	213	206	168 - 237		Acceptable	EPA218.4
Trace Metals	Aluminum	µg/l	924	891	757 - 1020	801 - 977	Acceptable	EPA200.7
	Antimony	µg/l	680	700	494 - 841	552 - 783	Acceptable	EPA200.7
	Arsenic	µg/l	313	317	264 - 373	282 - 355	Acceptable	EPA200.7
	Barium	µg/l	1500	1540	1310 - 1750		Acceptable	EPA200.7
	Beryllium	µg/l	346	342	290 - 386	306 - 370	Acceptable	EPA200.7
	Boron	µg/l	799	781	570 - 993		Acceptable	EPA200.7
	Cadmium	µg/l	502	493	421 - 560	444 - 537	Acceptable	EPA200.7
	Chromium	µg/l	756	759	662 - 858	695 - 825	Acceptable	EPA200.7
	Cobalt	µg/l	561	529	465 - 593	486 - 572	Acceptable	EPA200.7
	Copper	µg/l	457	446	404 - 491	418 - 476	Acceptable	EPA200.7
	Iron	µg/l	984	1090	964 - 1230	1010 - 1190	Check for Error	EPA200.7
	Lead	µg/l	794	785	687 - 880	719 - 847	Acceptable	EPA200.7
	Manganese	µg/l	567	574	515 - 638	535 - 617	Acceptable	EPA200.7
	Molybdenum	µg/l	168	168	142 - 193	151 - 185	Acceptable	EPA200.7
	Nickel	µg/l	2030	1950	1770 - 2170	1840 - 2110	Acceptable	EPA200.7
	Selenium	µg/l	862	885	703 - 1020	757 - 971	Acceptable	EPA200.7
	Silver	µg/l	268	272	233 - 312	246 - 299	Acceptable	EPA200.7
	Strontium	µg/l	147	150	127 - 172	135 - 165	Acceptable	EPA200.7
	Thallium	µg/l	494	477	384 - 554	412 - 526	Acceptable	EPA200.7
	Vanadium	µg/l	4820	4940	4460 - 5430	4620 - 5270	Acceptable	EPA200.7
	Zinc	µg/l	635	630	557 - 710	582 - 684	Acceptable	EPA200.7
Mercury	Mercury	µg/l		2.72	1.93 - 3.50	2.20 - 3.24		
Tin and Titanium	Titanium	µg/l		246	212 - 277	222 - 266		
	Tin	µg/l		1060	839 - 1280			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles	Acetone	µg/l	< 4.00	< 5.00			Acceptable	EPA624
	Acetonitrile	µg/l		< 5.00				EPA624
	Acrylonitrile	µg/l	< 10.0	< 5.00			Acceptable	EPA624
	Acrolein	µg/l	< 10.0	< 5.00			Acceptable	EPA624
	Benzene	µg/l	27.0	29.3	20.9 - 38.0	23.8 - 35.1	Acceptable	EPA624
	Bromodichloromethane	µg/l	55.0	59.1	42.0 - 76.9	47.8 - 71.0	Acceptable	EPA624
	Bromoform	µg/l	53.2	55.9	36.5 - 76.5	43.2 - 69.8	Acceptable	EPA624
	Bromomethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	2-Butanone (MEK)	µg/l	< 4.00	< 5.00			Acceptable	EPA624
	Carbon disulfide	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Carbon tetrachloride	µg/l	55.7	61.1	37.7 - 86.2	45.8 - 78.1	Acceptable	EPA624
	Chlorobenzene	µg/l	32.3	35.1	25.0 - 44.6	28.3 - 41.3	Acceptable	EPA624
	Chlorodibromomethane	µg/l	48.2	46.0	30.4 - 61.1	35.5 - 56.0	Acceptable	EPA624
	Chloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	2-Chloroethylvinylether	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Chloroform	µg/l	44.4	48.4	33.6 - 62.1	38.4 - 57.3	Acceptable	EPA624
	Chloromethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	DBCP	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dibromoethane (EDB)	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Dibromomethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dichlorobenzene	µg/l	22.1	24.8	17.3 - 31.8	19.7 - 29.3	Acceptable	EPA624
	1,3-Dichlorobenzene	µg/l	32.5	38.4	27.1 - 48.0	30.5 - 44.5	Acceptable	EPA624
	1,4-Dichlorobenzene	µg/l	43.6	46.4	31.9 - 59.8	36.6 - 55.2	Acceptable	EPA624
	Dichlorodifluoromethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,1-Dichloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dichloroethane	µg/l	42.4	44.7	30.9 - 59.6	35.7 - 54.8	Acceptable	EPA624
	1,1-Dichloroethylene	µg/l	10.3	12.4	5.07 - 21.5		Acceptable	EPA624
	cis-1,2-Dichloroethylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	trans-1,2-Dichloroethylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dichloropropane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	cis-1,3-Dichloropropylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	trans-1,3-Dichloropropylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Ethylbenzene	µg/l	13.3	15.0	10.3 - 19.4	11.8 - 17.9	Acceptable	EPA624
	2-Hexanone	µg/l	< 4.00	< 5.00			Acceptable	EPA624
	Methylene chloride	µg/l	18.1	29.8	18.8 - 41.5	22.6 - 37.7	Not Acceptable	EPA624
	MIBK	µg/l	84.2	83.1	31.9 - 129		Acceptable	EPA624
	Styrene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,1,1,2-Tetrachloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,1,2,2-Tetrachloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Tetrachloroethylene	µg/l	30.0	36.2	23.9 - 46.5	27.7 - 42.8	Acceptable	EPA624
	Toluene	µg/l	17.1	19.3	13.6 - 24.5	15.4 - 22.7	Acceptable	EPA624
	1,1,1-Trichloroethane	µg/l	30.2	34.7	22.6 - 45.8	26.4 - 41.9	Acceptable	EPA624
	1,1,2-Trichloroethane	µg/l	134	129	87.2 - 168		Acceptable	EPA624
	Trichloroethylene	µg/l	29.5	35.6	23.2 - 46.1	27.0 - 42.3	Acceptable	EPA624
	Trichlorofluoromethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624

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WP-69 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles (cont.)	1,2,3-Trichloropropane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Vinyl acetate	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Vinyl chloride	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Xylenes, total	µg/l	57.3	60.3	34.0 - 82.9		Acceptable	EPA624

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals	Acenaphthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Acenaphthylene	µg/l	41.8	39.8	15.2 - 49.8		Acceptable	EPA625
	Aniline	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Anthracene	µg/l	79.2	91.1	33.2 - 118		Acceptable	EPA625
	Benzidine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Benzo(a)anthracene	µg/l	39.0	42.7	23.9 - 50.4		Acceptable	EPA625
	Benzo(b)fluoranthene	µg/l	44.7	57.6	16.5 - 80.8		Acceptable	EPA625
	Benzo(k)fluoranthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Benzo(g,h,i)perylene	µg/l	24.4	22.8	0.719 - 34.4		Acceptable	EPA625
	Benzo(a)pyrene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Benzyl alcohol	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	4-Bromophenyl-phenylether	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Butylbenzylphthalate	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Carbazole	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	4-Chloroaniline	µg/l	< 25.0	< 10.0			Acceptable	EPA625
	bis(2-Chloroethoxy)methane	µg/l	38.6	47.2	18.4 - 57.3		Acceptable	EPA625
	bis(2-Chloroethyl)ether	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	bis(2-Chloroisopropyl)ether	µg/l	30.9	33.4	8.79 - 40.3		Acceptable	EPA625
	1-Chloronaphthalene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	2-Chloronaphthalene	µg/l	106	124	49.8 - 140		Acceptable	EPA625
	4-Chlorophenyl-phenylether	µg/l	40.9	95.2	36.2 - 121		Acceptable	EPA625
	Chrysene	µg/l	62.0	60.3	24.5 - 78.7		Acceptable	EPA625
	Dibenz(a,h)anthracene	µg/l	32.2	29.8	7.21 - 42.3		Acceptable	EPA625
	Dibenzofuran	µg/l	128	148	12.1 - 212		Acceptable	EPA625
	Di-n-butylphthalate	µg/l	43.0	37.6	13.9 - 54.5		Acceptable	EPA625
	1,2-Dichlorobenzene	µg/l	31.8	37.0	25.9 - 48.1		Acceptable	EPA625
	1,3-Dichlorobenzene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	1,4-Dichlorobenzene	µg/l	75.4	98.0	68.6 - 127		Acceptable	EPA625
	3,3'-Dichlorobenzidine	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	Diethylphthalate	µg/l	75.3	80.9	1.75 - 123		Acceptable	EPA625
	Dimethylphthalate	µg/l	52.0	58.6	0.446 - 89.5		Acceptable	EPA625
	2,4-Dinitrotoluene	µg/l	49.9	57.0	20.8 - 75.2		Acceptable	EPA625
	2,6-Dinitrotoluene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Di-n-octylphthalate	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	bis(2-ethylhexyl)phthalate	µg/l	102	121	19.6 - 177		Acceptable	EPA625
	Fluoranthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Fluorene	µg/l	42.4	42.2	17.9 - 54.9		Acceptable	EPA625
	Hexachlorobenzene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Hexachlorobutadiene	µg/l	142	166	29.5 - 198		Acceptable	EPA625
	Hexachlorocyclopentadiene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Hexachloroethane	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Indeno(1,2,3-cd)pyrene	µg/l	37.7	37.8	6.93 - 50.6		Acceptable	EPA625
	Isophorone	µg/l	102	139	46.9 - 185		Acceptable	EPA625
	1-Methylnaphthalene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	2-Methylnaphthalene	µg/l	< 10.0	< 10.0			Acceptable	EPA625

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ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Final Customer Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals (cont.)	Naphthalene	µg/l	118	140	33.9 - 182		Acceptable	EPA625
	2-Nitroaniline	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	3-Nitroaniline	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	4-Nitroaniline	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	Nitrobenzene	µg/l	55.7	56.8	19.6 - 73.9		Acceptable	EPA625
	N-Nitrosodiethylamine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	N-Nitrosodimethylamine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	N-Nitrosodiphenylamine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	N-Nitroso-di-n-propylamine	µg/l	98.3	131	40.8 - 170		Acceptable	EPA625
	Phenanthrene	µg/l	54.8	53.5	25.5 - 67.8		Acceptable	EPA625
	Pyrene	µg/l	33.8	35.4	11.4 - 52.0		Acceptable	EPA625
	Pyridine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	1,2,4-Trichlorobenzene	µg/l	99.1	114	33.3 - 135		Acceptable	EPA625

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Acids	Benzoic acid	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	4-Chloro-3-methylphenol	µg/l	63.5	58.5	21.8 - 75.3		Acceptable	EPA625
	2-Chlorophenol	µg/l	110	131	37.5 - 164		Acceptable	EPA625
	2,4-Dichlorophenol	µg/l	90.8	112	40.4 - 135		Acceptable	EPA625
	2,6-Dichlorophenol	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	2,4-Dimethylphenol	µg/l	57.0	92.2	19.0 - 121		Acceptable	EPA625
	4,6-Dinitro-2-methylphenol	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	2,4-Dinitrophenol	µg/l	79.0	105	D.L. - 142		Acceptable	EPA625
	2-Methylphenol	µg/l	17.7	20.5	D.L. - 28.2		Acceptable	EPA625
	3-Methylphenol	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	4-Methylphenol	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	2-Nitrophenol	µg/l	18.8	21.3	7.35 - 27.0		Acceptable	EPA625
	3-Nitrophenol	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	4-Nitrophenol	µg/l	70.8	78.4	D.L. - 110		Acceptable	EPA625
	Pentachlorophenol	µg/l	97.7	128	34.1 - 177		Acceptable	EPA625
	Phenol	µg/l	35.9	41.2	D.L. - 57.9		Acceptable	EPA625
	2,4,5-Trichlorophenol	µg/l	119	147	53.3 - 187		Acceptable	EPA625
	2,4,6-Trichlorophenol	µg/l	123	152	49.2 - 202		Acceptable	EPA625

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
PAH's	Acenaphthene	µg/l		5.24	D.L. - 8.39			
	Acenaphthylene	µg/l		< 0.100				
	Anthracene	µg/l		< 0.100				
	Benzo(a)anthracene	µg/l		< 0.100				
	Benzo(b)fluoranthene	µg/l		< 0.100				
	Benzo(k)fluoranthene	µg/l		< 0.100				
	Benzo(g,h,i)perylene	µg/l		< 0.100				
	Benzo(a)pyrene	µg/l		5.21	D.L. - 13.5			
	Chrysene	µg/l		< 0.100				
	Dibenz(a,h)anthracene	µg/l		14.2	D.L. - 30.6			
	Fluoranthene	µg/l		2.30	D.L. - 4.56			
	Fluorene	µg/l		14.4	D.L. - 23.5			
	Indeno(1,2,3-cd)pyrene	µg/l		< 0.100				
	Naphthalene	µg/l		< 0.100				
	Phenanthrene	µg/l		< 0.100				
	Pyrene	µg/l		< 0.100				

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Study: **WP69**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **NELAC**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Minerals	Alkalinity as CaCO3	mg/l		71.3	64.1 - 78.4			
	Chloride	mg/l		48.0	42.7 - 52.8			
	Conductivity at 25°C	µmhos		381	351 - 411			
	Fluoride	mg/l		2.70	2.35 - 3.02			
	Potassium	mg/l		28.6	24.7 - 32.6			
	Sodium	mg/l	62.1	63.9	57.6 - 70.2		Acceptable	EPA200.7
	Sulfate	mg/l		28.3	22.5 - 33.3			
	Total Dissolved Solids	mg/l		291	218 - 364			
	Total Solids at 105°C	mg/l		309	268 - 346			
pH	pH	S.U.		8.40	8.15 - 8.64			
Hardness	Total Suspended Solids	mg/l		43.3	32.3 - 46.3			
	Calcium	mg/l		54.4	48.6 - 61.7			
	Magnesium	mg/l		9.68	8.41 - 10.9			
	Total Hardness (CaCO3)	mg/l		176	160 - 193			
Demand	BOD	mg/l		126	63.7 - 188			
	CBOD	mg/l		108	48.5 - 168			
	COD	mg/l		204	158 - 231			
	TOC	mg/l		80.6	67.4 - 92.6			
Nutrients - Simple	Ammonia as N	mg/l		17.8	13.9 - 21.6			
	Nitrate as N	mg/l		19.1	15.1 - 22.7			
	Ortho-phosphate as P	mg/l		4.43	3.78 - 5.12			
Nutrients - Complex	Total phosphorus as P	mg/l		0.530	0.398 - 0.664			
	Total kjeldahl nitrogen	mg/l		6.31	4.37 - 8.15			
Cyanide	Cyanide, total	mg/l		0.686	0.476 - 0.882			
Phenolics	Phenolics, total	mg/l		0.175	0.0886 - 0.261			
Grease & Oil	Grease & Oil (Gravimetric)	mg/l		40.5	26.7 - 46.2			
	Grease & Oil (Infrared)	mg/l	55.7	48.6	32.8 - 54.7		Not Acceptable	EPA413.2
TRC	Total Residual Chlorine	mg/l		0.958	0.737 - 1.18			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Hexavalent Chromium	Hexavalent Chromium	µg/l	213	206	168 - 237		Acceptable	EPA218.4
Trace Metals	Aluminum	µg/l	924	891	757 - 1020		Acceptable	EPA200.7
	Antimony	µg/l	680	700	494 - 841		Acceptable	EPA200.7
	Arsenic	µg/l	313	317	264 - 373		Acceptable	EPA200.7
	Barium	µg/l	1500	1540	1310 - 1750		Acceptable	EPA200.7
	Beryllium	µg/l	346	342	290 - 386		Acceptable	EPA200.7
	Cadmium	µg/l	502	493	421 - 560		Acceptable	EPA200.7
	Chromium	µg/l	756	759	662 - 858		Acceptable	EPA200.7
	Cobalt	µg/l	561	529	465 - 593		Acceptable	EPA200.7
	Copper	µg/l	457	446	404 - 491		Acceptable	EPA200.7
	Iron	µg/l	984	1090	964 - 1230		Acceptable	EPA200.7
	Lead	µg/l	794	785	687 - 880		Acceptable	EPA200.7
	Manganese	µg/l	567	574	515 - 638		Acceptable	EPA200.7
	Molybdenum	µg/l	168	168	142 - 193		Acceptable	EPA200.7
	Nickel	µg/l	2030	1950	1770 - 2170		Acceptable	EPA200.7
	Selenium	µg/l	862	885	703 - 1020		Acceptable	EPA200.7
	Silver	µg/l	268	272	233 - 312		Acceptable	EPA200.7
	Strontium	µg/l	147	150	127 - 172		Acceptable	EPA200.7
	Thallium	µg/l	494	477	384 - 554		Acceptable	EPA200.7
	Vanadium	µg/l	4820	4940	4460 - 5430		Acceptable	EPA200.7
	Zinc	µg/l	635	630	557 - 710		Acceptable	EPA200.7
Mercury	Mercury	µg/l		2.72	1.93 - 3.50			
Tin and Titanium	Titanium	µg/l		246	212 - 277			
	Tin	µg/l		1060	839 - 1280			

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Lab code: 200366-0

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WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles	Benzene	µg/l	27.0	29.3	20.9 - 38.0		Acceptable	EPA624
	Bromodichloromethane	µg/l	55.0	59.1	42.0 - 76.9		Acceptable	EPA624
	Bromoform	µg/l	53.2	55.9	36.5 - 76.5		Acceptable	EPA624
	Bromomethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Carbon tetrachloride	µg/l	55.7	61.1	37.7 - 86.2		Acceptable	EPA624
	Chlorobenzene	µg/l	32.3	35.1	25.0 - 44.6		Acceptable	EPA624
	Chlorodibromomethane	µg/l	48.2	46.0	30.4 - 61.1		Acceptable	EPA624
	Chloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Chloroform	µg/l	44.4	48.4	33.6 - 62.1		Acceptable	EPA624
	Chloromethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dichlorobenzene	µg/l	22.1	24.8	17.3 - 31.8		Acceptable	EPA624
	1,3-Dichlorobenzene	µg/l	32.5	38.4	27.1 - 48.0		Acceptable	EPA624
	1,4-Dichlorobenzene	µg/l	43.6	46.4	31.9 - 59.8		Acceptable	EPA624
	1,2-Dichloroethane	µg/l	42.4	44.7	30.9 - 59.6		Acceptable	EPA624
	1,1-Dichloroethylene	µg/l	10.3	12.4	5.07 - 21.5		Acceptable	EPA624
	trans-1,2-Dichloroethylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	1,2-Dichloropropane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	trans-1,3-Dichloropropylene	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Ethylbenzene	µg/l	13.3	15.0	10.3 - 19.4		Acceptable	EPA624
	Methylene chloride	µg/l	18.1	29.8	18.8 - 41.5		Not Acceptable	EPA624
	1,1,2,2-Tetrachloroethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Tetrachloroethylene	µg/l	30.0	36.2	23.9 - 46.5		Acceptable	EPA624
	Toluene	µg/l	17.1	19.3	13.6 - 24.5		Acceptable	EPA624
	1,1,1-Trichloroethane	µg/l	30.2	34.7	22.6 - 45.8		Acceptable	EPA624
	1,1,2-Trichloroethane	µg/l	134	129	87.2 - 168		Acceptable	EPA624
	Trichloroethylene	µg/l	29.5	35.6	23.2 - 46.1		Acceptable	EPA624
	Trichlorofluoromethane	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Vinyl chloride	µg/l	< 1.00	< 5.00			Acceptable	EPA624
	Xylenes, total	µg/l	57.3	60.3	34.0 - 82.9		Acceptable	EPA624

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Lab code: 200388-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
PCB's In H2O	Aroclor 1248	µg/l		2.84	1.17 - 3.95			
(Standard 1)	PCB Aroclor Identity	µg/l		1248	1248			
PCB's In H2O	Aroclor 1260	µg/l		1.92	0.816 - 2.58			
(Standard 2)	PCB Aroclor Identity	µg/l		1260	1260			
PCB's In Oil	Aroclor 1016/1242	mg/Kg		26.6	3.95 - 37.8			
(Standard 1)	PCB Aroclor Identity	mg/Kg		1242	1242			
PCB's In Oil	Aroclor 1254	mg/Kg		26.3	2.71 - 40.1			
(Standard 2)	PCB Aroclor Identity	mg/Kg		1254	1254			

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Lab code: 200386-0

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Pesticides	Aldrin	µg/l		1.32	0.336 - 1.79			
	alpha-BHC	µg/l		4.68	1.82 - 6.43			
	beta-BHC	µg/l		2.46	0.767 - 3.74			
	delta-BHC	µg/l		< 0.100				
	gamma-BHC(Lindane)	µg/l		7.42	2.48 - 10.7			
	4,4'-DDD	µg/l		4.94	2.43 - 6.89			
	4,4'-DDE	µg/l		2.23	1.05 - 3.04			
	4,4'-DDT	µg/l		4.02	1.84 - 5.44			
	Dieldrin	µg/l		2.02	1.04 - 2.79			
	Endrin	µg/l		7.24	2.78 - 10.3			
	Endrin aldehyde	µg/l		< 0.100				
	Endosulfan I	µg/l		< 0.100				
	Endosulfan II	µg/l		27.5	5.40 - 44.1			
	Endosulfan sulfate	µg/l		18.8	3.20 - 30.9			
	Heptachlor	µg/l		1.44	0.384 - 2.00			
	Heptachlor epoxide	µg/l		2.00	1.02 - 2.57			
	Methoxychlor	µg/l		2.71	0.775 - 4.69			
Chlordane	Chlordane, technical	µg/l		4.20	1.84 - 5.97			
Toxaphene	Toxaphene	µg/l		2.99	0.794 - 4.93			
Herbicides	2,4-D	µg/l		6.25	D.L. - 9.68			
	Dicamba	µg/l		5.31	0.394 - 7.78			
	2,4,5-T	µg/l		3.60	0.116 - 5.51			
	Silvex	µg/l		3.73	0.126 - 5.30			

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Lab code: 200388-0

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WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals	Acenaphthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Acenaphthylene	µg/l	41.8	39.8	15.2 - 49.8		Acceptable	EPA625
	Anthracene	µg/l	79.2	91.1	33.2 - 118		Acceptable	EPA625
	Benzidine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Benzo(a)anthracene	µg/l	39.0	42.7	23.9 - 50.4		Acceptable	EPA625
	Benzo(b)fluoranthene	µg/l	44.7	57.6	16.5 - 80.8		Acceptable	EPA625
	Benzo(k)fluoranthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Benzo(g,h,i)perylene	µg/l	24.4	22.8	0.719 - 34.4		Acceptable	EPA625
	Benzo(a)pyrene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	4-Bromophenyl-phenylether	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Butylbenzylphthalate	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	bis(2-Chloroethoxy)methane	µg/l	38.6	47.2	18.4 - 57.3		Acceptable	EPA625
	bis(2-Chloroethyl)ether	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	bis(2-Chloroisopropyl)ether	µg/l	30.9	33.4	8.79 - 40.3		Acceptable	EPA625
	2-Chloronaphthalene	µg/l	106	124	49.8 - 140		Acceptable	EPA625
	4-Chlorophenyl-phenylether	µg/l	40.9	95.2	36.2 - 121		Acceptable	EPA625
	Chrysene	µg/l	62.0	60.3	24.5 - 78.7		Acceptable	EPA625
	Dibenz(a,h)anthracene	µg/l	32.2	29.8	7.21 - 42.3		Acceptable	EPA625
	Di-n-butylphthalate	µg/l	43.0	37.6	13.9 - 54.5		Acceptable	EPA625
	3,3'-Dichlorobenzidine	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	Diethylphthalate	µg/l	75.3	80.9	1.75 - 123		Acceptable	EPA625
	Dimethylphthalate	µg/l	52.0	58.6	0.446 - 89.5		Acceptable	EPA625
	2,4-Dinitrotoluene	µg/l	49.9	57.0	20.8 - 75.2		Acceptable	EPA625
	2,6-Dinitrotoluene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Di-n-octylphthalate	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	bis(2-ethylhexyl)phthalate	µg/l	102	121	19.6 - 177		Acceptable	EPA625
	Fluoranthene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Fluorene	µg/l	42.4	42.2	17.9 - 54.9		Acceptable	EPA625
	Hexachlorobenzene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Hexachlorobutadiene	µg/l	142	166	29.5 - 198		Acceptable	EPA625
	Hexachlorocyclopentadiene	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Hexachloroethane	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	Indeno(1,2,3-cd)pyrene	µg/l	37.7	37.8	6.93 - 50.6		Acceptable	EPA625
	Isophorone	µg/l	102	139	46.9 - 185		Acceptable	EPA625
	Naphthalene	µg/l	118	140	33.9 - 182		Acceptable	EPA625
	Nitrobenzene	µg/l	55.7	56.8	19.6 - 73.9		Acceptable	EPA625
	N-Nitrosodimethylamine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	N-Nitrosodiphenylamine	µg/l	< 10.0	< 10.0			Acceptable	EPA625
	N-Nitroso-di-n-propylamine	µg/l	98.3	131	40.8 - 170		Acceptable	EPA625
	Phenanthrene	µg/l	54.8	53.5	25.5 - 67.8		Acceptable	EPA625
	Pyrene	µg/l	33.8	35.4	11.4 - 52.0		Acceptable	EPA625
	1,2,4-Trichlorobenzene	µg/l	99.1	114	33.3 - 135		Acceptable	EPA625

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Lab code: 200386-0

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WP-69 Final NELAC Report

ERA Laboratory Code: P0615-01 **EPA ID:** **State ID:** **Report Issued: 12/14/00**

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Acids	4-Chloro-3-methylphenol	µg/l	63.5	58.5	21.8 - 75.3		Acceptable	EPA625
	2-Chlorophenol	µg/l	110	131	37.5 - 164		Acceptable	EPA625
	2,4-Dichlorophenol	µg/l	90.8	112	40.4 - 135		Acceptable	EPA625
	2,4-Dimethylphenol	µg/l	57.0	92.2	19.0 - 121		Acceptable	EPA625
	4,6-Dinitro-2-methylphenol	µg/l	< 50.0	< 10.0			Acceptable	EPA625
	2,4-Dinitrophenol	µg/l	79.0	105	D.L. - 142		Acceptable	EPA625
	2-Nitrophenol	µg/l	18.8	21.3	7.35 - 27.0		Acceptable	EPA625
	4-Nitrophenol	µg/l	70.8	78.4	D.L. - 110		Acceptable	EPA625
	Pentachlorophenol	µg/l	97.7	128	34.1 - 177		Acceptable	EPA625
	Phenol	µg/l	35.9	41.2	D.L. - 57.9		Acceptable	EPA625
	2,4,5-Trichlorophenol	µg/l	119	147	53.3 - 187		Acceptable	EPA625
	2,4,6-Trichlorophenol	µg/l	123	152	49.2 - 202		Acceptable	EPA625

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The Industry Standard™

October 10, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

Enclosed is your final report for ERA's InterLaB WatR™ Pollution Proficiency Testing (PT) Study, WP-67. The opening date for WP-67 was August 7, 2000 and the closing date was September 21, 2000. ERA's WP reports have changed significantly to provide you with more information geared specifically to the state specific PT program in which you are required to participate. As such, please carefully read the following summary of the enclosed reports.

Your final report includes an evaluation of every result submitted by your laboratory to ERA. As requested a copy of the final report has been sent to the State of Colorado. Please note that the report(s) sent on your behalf to state accrediting agencies will include only those analytes required by each state. Eleven states are currently participating in the NELAC program (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). If you have indicated to ERA that your facility is accredited by a NELAC state, the report sent to these states for your laboratory will contain evaluations for all analytes included in the NELAC PT list. For all other states, the report for your facility will contain only those analytes contained in the EPA's National Standards. The only exception will be if your facility indicated to ERA that it is certified by California ELAP in the "California Only" tier. If your facility falls into this category, the report sent to California will contain all PT analytes included in the California ELAP PT program. A complete list of which analytes are included in each national and state PT program can be downloaded from the ERA website, www.eraqc.com, by clicking on the "ERA's National PT Analyte List" link.

CUSTOMER REPORT

This report is intended for use by your facility in evaluating all results you submitted to ERA. ERA's WP-67 PT standards contain every analyte included in every state and national PT program. In the CUSTOMER REPORT, every analyte has been evaluated using the following tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

3. If the analyte is not included in either national PT program listed above but is included in a state specific PT program, the analyte has been evaluated against acceptance limits generated using the state specific evaluation criteria.

4. If the analyte is not included in any national or state PT program, the analyte has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260, Rev. 2.0).

NATIONAL STANDARDS REPORT

This report is provided to you if your facility is accredited by a National Standard state. This report includes only those analytes included in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998. All results have been evaluated using the EPA's National Standards Acceptance Criteria. Every analyte has been evaluated using the following approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance and Warning Limits generated using the EPA's National Standards.

NELAC REPORT

This report is provided to you if your facility is accredited by a NELAC state. This report includes only those analytes included in the NELAC PT Field of Testing list (February 2000). All results have been evaluated using the NELAC Acceptance Criteria. The NELAC evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing list (February 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the NELAC standards.

Please note that NELAC only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. The NELAC standards require that your facility obtain two "Acceptable" results out of the most recent three results for each PT analyte for each Field of Testing listed for which you are certified. Per NELAC program requirements, you are permitted to

participate in multiple PT studies each year. The PT studies must be at least 30 days apart (as determined by the dates of analysis of the PT samples). If you have two acceptable PT results for an analyte in any PT study completed after July 1, 1999, that meets the NELAC criteria, you have satisfied your NELAC PT requirements. For further information on meeting your NELAC PT requirements, visit ERA's website, www.eraqc.com, and download our "Guide to NELAC".

CALIFORNIA ELAP REPORT

This report is provided to you if your facility is accredited by California ELAP. This report includes only those analytes required by the California ELAP program. All results have been evaluated using the California ELAP guidelines provided to ERA. The California evaluation criteria follow a tiered approach.

1. If the analyte is listed in the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the evaluation has been completed by comparing your result to the Acceptance Limits generated using the EPA's National Standards.

2. If the analyte is not included in the EPA's National Standards but is included in the California ELAP Proficiency Testing program (January 2000), the evaluation has been completed by comparing your result to the Acceptance Limits generated using the evaluation criteria contained in the ELAP guidance.

Please note that ELAP only requires evaluation as "Acceptable" or "Not Acceptable". The "Check for Error" evaluation is not used. California regulations require that your facility obtain an "Acceptable" result for each PT analyte for each Field of Testing listed for which you are certified. Per California ELAP program requirements, you are permitted to participate in up to two PT studies per year.

For the above reports, ERA recommends that you identify the root cause of any "Not Acceptable" result, implement the necessary corrective action, and then satisfy your PT requirements by participating in a future ERA PT study.

This concludes the WP-67 study. ERA realizes that our new PT report presents you with a significant amount of information. We have tried to organize this information in a format that is understandable and easy to follow. We also realize that we can improve the format of our reports. In that vain, if you have any suggestions on improving our PT reports, please contact ERA via phone or email (info@eraqc.com).

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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Thank you for your participation in the InterLaB WatR™ Pollution, WP-67, Performance Evaluation Program. If you have any questions, please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

Sincerely,

Shawn Kassner

Shawn Kassner
InterLaB™ Administrator

attachments
smk

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October 10, 2000

Debra Henderer
Paragon Analytics
225 Commerce Drive
Ft Collins, CO 80524

In my role as ERA Quality Assurance Manager, I have independently reviewed all aspects of WatR™ Pollution study 67 for compliance with all USEPA, State, NELAC and NIST NVLAP technical and program requirements in effect during this study as well as those of our ISO 9001 Registered Quality System.

All aspects of the WP-67 study, from standard manufacture to final report generation, were completed by ERA in accordance with the "National Standards for Water Proficiency Testing Studies Criteria Document", USEPA December 30, 1998. ERA has reviewed all of the data that is contained in this report and has made every possible effort to make it complete, accurate and compliant. However, if you find anything in your report that you feel is incomplete or inaccurate or have any quality related issues, please call me directly at 1-800-372-0122. As required by ERA Standard Operating Procedure for Corrective and Preventive Action (SOP 1050, Rev.3.0), we will initiate an internal investigation and take corrective action as appropriate.

On behalf of ERA, thank you again for your participation in WP-67.

Sincerely,

Curtis J. Wood
Quality Assurance Manager

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WP-67 Definitions & Study Discussion

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/10/00

InterLaB™ WP Study Definitions:

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998 as applicable. A parameter not added to the standard is given an Assigned Value of "Zero" per the guidelines contained in the USEPA's Criteria Document.

The Acceptance Limits and Warning Limits are established per the USEPA's guidelines contained in the National Standards for Water Proficiency Testing Studies Criteria Document, December 1998, the NELAC PT program criteria, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. For a further discussion of how your results were evaluated, please see the cover letter that accompanied the enclosed report.

The Performance Evaluation:

Acceptable	=	Reported Value falls within the Acceptance Limits.
Not Acceptable	=	Reported Value falls outside the Acceptance Limits.
Check for Error	=	Reported Value falls within the Acceptance Limits and outside of the Warning Limits
No Evaluation	=	Reported Value that can not be evaluated.

The Method Description is the method the laboratory reported to ERA.

D.L. equals the Detection Limit.

InterLaB™ WP Study Discussion:

ERA WatR™ Pollution Proficiency Testing Study 67 has been reviewed by ERA Senior Management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), the NELAC Standards Chapter 2 and Associated Appendices (July 1999), applicable state PT programs, and those contained in the National Institute of Standards and Technology NVLAP Handbooks 150 and 150-19. ERA is a NIST NVLAP accredited PT Provider (Lab Code 2003860).

The WatR™ Pollution 67 (WP-67) results were examined for any study anomalies. A full review of all homogeneity, stability, and accuracy verification data was completed. All analytical verification data for all analytes in the WP-67 standards met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the National Voluntary Laboratory Accreditation Program, Handbook 150-19 for Chemical Calibration for Providers of Proficiency Testing, June 1999.

The data submitted by participating laboratories was also examined for study anomalies. There was one anomaly found during the review of the study data. This anomaly is listed on the next page.

If you have any questions regarding WatR™ Pollution Study, WP-67 please contact Shawn Kassner, InterLaB™ Program Coordinator, or Curtis Wood, Quality Assurance Manager, at 1-800-372-0122.

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Lab code: 2003860-0

- Study Discussion Concerning WP-67 Trace Metals: Antimony

During ERA's stability analyses at the conclusion of the WP-67 study, it was observed that the Antimony concentration was lower than what was originally determined during pre-study analytical verification. Further investigation showed that the Antimony values from the WP-67 study participants were generally consistent with ERA's stability testing data. Based on a best-fit straight line calculated using the study data, the Antimony concentration dropped 8.6% over the 38-day period from the earliest to latest reported analysis dates during the WP-67 study.

ERA corrected the assigned value for Antimony using the biweight mean of the study data and scored the data based on the USEPA National Standards Criteria Document in order to determine the viability of using this standard. This evaluation resulted in a standard deviation of 9.0%, versus an expected standard deviation of 8.9%, and a failure rate of 10.3%, versus an EPA historical failure rate of 7.2%. The final evaluations in the WP-67 reports are based on this correction of the assigned value and the USEPA evaluation criteria. ERA feels it is our obligation to make the users of this data aware of this situation so that they may best decide how to evaluate the corresponding data.

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Study: **WP67**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **Customer**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

ENVIRONMENTAL RESOURCE ASSOCIATES®

WP-67 Final Customer Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/10/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Minerals	Total Solids at 105°C	mg/l	353	378	334 - 416		Acceptable	EPA 160.3
	Total Dissolved Solids	mg/l	355	362	274 - 450	304 - 420	Acceptable	EPA 160.1
	Conductivity at 25°C	µmhos	418	432	398 - 466	409 - 455	Acceptable	EPA 120.1
	Alkalinity as CaCO3	mg/l	108	105	95.6 - 114	98.6 - 111	Acceptable	EPA 310.1
	Chloride	mg/l	63.6	62.9	56.5 - 69.0	58.5 - 66.9	Acceptable	EPA 300.0
	Fluoride	mg/l	3.29	3.54	3.10 - 3.94	3.24 - 3.80	Acceptable	EPA 300.0
	Potassium	mg/l	11.9	13.1	11.1 - 15.1	11.8 - 14.5	Acceptable	EPA 200.7
	Sodium	mg/l	77.9	89.3	80.7 - 97.6	83.5 - 94.8	Not Acceptable	EPA 200.7
	Sulfate	mg/l	7.10	7.19	4.73 - 9.54	5.53 - 8.74	Acceptable	EPA 300.0
pH	pH	S.U.	7.52	7.50	7.30 - 7.70	7.36 - 7.64	Acceptable	EPA 150.1
Hardness	Total Suspended Solids	mg/l	54.0	67.3	51.6 - 72.5	55.1 - 69.0	Check for Error	EPA 160.2
	Calcium	mg/l	86.7	88.9	79.6 - 101	83.1 - 97.1	Acceptable	EPA 200.7
	Magnesium	mg/l	13.1	13.0	11.3 - 14.6	11.9 - 14.1	Acceptable	EPA 200.7
	Calcium hardness (CaCO3)	mg/l	217	216	184 - 248		Acceptable	EPA 200.7
	Total Hardness (CaCO3)	mg/l	271	270	247 - 294	255 - 286	Acceptable	EPA 200.7
Demand	BOD	mg/l		49.2	24.7 - 73.8	32.9 - 65.6		
	CBOD	mg/l		42.4	19.0 - 65.9	26.8 - 58.0		
	COD	mg/l		79.4	57.5 - 94.6	63.7 - 88.4		
	TOC	mg/l	31.9	31.4	26.1 - 36.4	27.9 - 34.7	Acceptable	EPA 415.1
Nutrients - Simple	Ammonia as N	mg/l	11.7	11.0	8.53 - 13.4	9.34 - 12.6	Acceptable	EPA 350.3
	Nitrate as N	mg/l	26.5	27.0	21.4 - 32.0	23.2 - 30.3	Acceptable	EPA 300.0
	Ortho-phosphate as P	mg/l	3.02	3.09	2.63 - 3.57	2.79 - 3.42	Acceptable	EPA 365.2
Nutrients - Complex	Total phosphorus as P	mg/l	5.95	6.11	4.65 - 7.15	5.06 - 6.73	Acceptable	EPA 365.2
	Total kjeldahl nitrogen	mg/l		9.27	6.58 - 11.7	7.44 - 10.9		
Cyanide	Cyanide, total	mg/l	0.582	0.592	0.409 - 0.763	0.468 - 0.704	Acceptable	EPA 335.2
Phenolics	Phenolics, total	mg/l		0.179	0.0908 - 0.267	0.120 - 0.237		
Grease & Oil	Grease & Oil (Gravimetric)	mg/l		22.7	13.5 - 27.6	15.9 - 25.3		
	Grease & Oil (Infrared)	mg/l	31.7	27.2	16.9 - 32.3	19.5 - 29.8	Check for Error	EPA 413.2
TRC	Total Residual Chlorine	mg/l		2.31	1.88 - 2.74	2.02 - 2.60		

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Hexavalent Chromium	Hexavalent Chromium	µg/l		285	232 - 328			
Trace Metals	Aluminum	µg/l	980	1080	921 - 1230	973 - 1180	Acceptable	EPA 200.7
	Antimony	µg/l	434	475	331 - 573	371 - 532	Acceptable	EPA 200.7
	Arsenic	µg/l	187	193	159 - 228	170 - 217	Acceptable	EPA 200.7
	Barium	µg/l	360	358	311 - 410		Acceptable	EPA 200.7
	Beryllium	µg/l	431	431	366 - 487	386 - 467	Acceptable	EPA 200.7
	Boron	µg/l	845	828	605 - 1050		Acceptable	EPA 200.7
	Cadmium	µg/l	118	119	101 - 136	107 - 130	Acceptable	EPA 200.7
	Chromium	µg/l	394	404	351 - 458	369 - 440	Acceptable	EPA 200.7
	Cobalt	µg/l	201	191	167 - 215	175 - 207	Acceptable	EPA 200.7
	Copper	µg/l	749	746	678 - 818	702 - 795	Acceptable	EPA 200.7
	Iron	µg/l	1180	1260	1110 - 1420	1170 - 1370	Acceptable	EPA 200.7
	Lead	µg/l	2050	2220	1960 - 2470	2040 - 2390	Acceptable	EPA 200.7
	Manganese	µg/l	2280	2280	2050 - 2530	2130 - 2450	Acceptable	EPA 200.7
	Molybdenum	µg/l	368	385	330 - 441	349 - 422	Acceptable	EPA 200.7
	Nickel	µg/l	1250	1200	1090 - 1340	1130 - 1300	Acceptable	EPA 200.7
	Selenium	µg/l	443	458	362 - 531	390 - 503	Acceptable	EPA 200.7
	Silver	µg/l	186	192	164 - 220	174 - 211	Acceptable	EPA 200.7
	Strontium	µg/l	222	226	192 - 259	203 - 248	Acceptable	EPA 200.7
	Thallium	µg/l	248	246	196 - 288	212 - 272	Acceptable	EPA 200.7
	Vanadium	µg/l	1420	1460	1320 - 1600	1360 - 1560	Acceptable	EPA 200.7
	Zinc	µg/l	682	685	606 - 771	633 - 744	Acceptable	EPA 200.7
Mercury	Mercury	µg/l	6.82	7.52	5.57 - 9.44	6.22 - 8.80	Acceptable	EPA 245.1
Tin and Titanium	Titanium	µg/l		176	151 - 199	159 - 191		
	Tin	µg/l		2780	2190 - 3380			

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Coliforms	Total Coliforms (MF)	CFU		149	78 - 176			
	Fecal Coliforms - E.coli (MF)	CFU		127	1 - 170			
	Total Coliforms (MPN)	CFU		149	4 - 2730			
	Fecal Coliforms - E.coli (MPN)	CFU		127	6 - 1310			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles	Acetone	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Acetonitrile	µg/l		< 5.00				
	Acrylonitrile	µg/l	< 10.0	< 5.00			Acceptable	EPA 624
	Acrolein	µg/l	< 10.0	< 5.00			Acceptable	EPA 624
	Benzene	µg/l	46.6	50.0	36.0 - 64.4	40.8 - 59.6	Acceptable	EPA 624
	Bromodichloromethane	µg/l	26.9	27.3	19.2 - 35.7	21.9 - 32.9	Acceptable	EPA 624
	Bromoform	µg/l	25.4	25.6	16.1 - 35.2	19.2 - 32.0	Acceptable	EPA 624
	Bromomethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	2-Butanone (MEK)	µg/l	< 4.0	< 5.00			Acceptable	EPA 624
	Carbon disulfide	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Carbon tetrachloride	µg/l	38.6	40.7	25.2 - 57.4	30.6 - 52.1	Acceptable	EPA 624
	Chlorobenzene	µg/l	52.5	54.7	38.5 - 69.7	43.7 - 64.5	Acceptable	EPA 624
	Chlorodibromomethane	µg/l	23.2	22.6	14.9 - 29.9	17.4 - 27.4	Acceptable	EPA 624
	Chloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	2-Chloroethylvinylether	µg/l	< 2.0	< 5.00			Acceptable	EPA 624
	Chloroform	µg/l	68.8	72.1	49.9 - 92.3	56.9 - 85.2	Acceptable	EPA 624
	Chloromethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	DBCP	µg/l	< 2.0	< 5.00			Acceptable	EPA 624
	1,2-Dibromoethane (EDB)	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Dibromomethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,2-Dichlorobenzene	µg/l	12.1	11.4	7.69 - 15.0	8.92 - 13.8	Acceptable	EPA 624
	1,3-Dichlorobenzene	µg/l	33.9	32.2	22.6 - 40.3	25.6 - 37.4	Acceptable	EPA 624
	1,4-Dichlorobenzene	µg/l	18.2	17.4	11.8 - 22.9	13.7 - 21.0	Acceptable	EPA 624
	Dichlorodifluoromethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,1-Dichloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,2-Dichloroethane	µg/l	44.4	44.7	30.9 - 59.6	35.7 - 54.8	Acceptable	EPA 624
	1,1-Dichloroethylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	cis-1,2-Dichloroethylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	trans-1,2-Dichloroethylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,2-Dichloropropane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	cis-1,3-Dichloropropylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	trans-1,3-Dichloropropylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Ethylbenzene	µg/l	51.9	58.1	38.7 - 76.0	44.9 - 69.8	Acceptable	EPA 624
	2-Hexanone	µg/l	< 4.0	< 5.00			Acceptable	EPA 624
	Methylene chloride	µg/l	38.3	58.6	37.0 - 80.6	44.3 - 73.3	Check for Error	EPA 624
	MIBK	µg/l	74.5	80.9	13.1 - 140		Acceptable	EPA 624
	Styrene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,1,1,2-Tetrachloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,1,2,2-Tetrachloroethane	µg/l	104	89.0	52.2 - 124		Acceptable	EPA 624
	Tetrachloroethylene	µg/l	27.6	27.1	17.9 - 35.0	20.7 - 32.1	Acceptable	EPA 624
	Toluene	µg/l	42.3	53.0	38.1 - 66.1	42.8 - 61.4	Check for Error	EPA 624
	1,1,1-Trichloroethane	µg/l	34.1	35.6	23.1 - 47.0	27.1 - 43.0	Acceptable	EPA 624
	1,1,2-Trichloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Trichloroethylene	µg/l	33.6	36.6	23.8 - 47.4	27.7 - 43.5	Acceptable	EPA 624
	Trichlorofluoromethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Volatiles (cont.)	1,2,3-Trichloropropane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Vinyl acetate	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Vinyl chloride	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Xylenes, total	µg/l	57.6	54.2	30.4 - 74.9		Acceptable	EPA 624

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PCB's In H2O	Aroclor 1016/1242	µg/l	11.1	11.2	2.94 - 15.9	5.10 - 13.7	Acceptable	EPA 608
(Standard 1)	PCB Aroclor Identity	µg/l	1016/1242	1242	1242	1242	Acceptable	EPA 608
PCB's In H2O	Aroclor 1248	µg/l	6.51	5.31	2.21 - 7.51	3.09 - 6.63	Acceptable	EPA 608
(Standard 2)	PCB Aroclor Identity	µg/l	1248	1248	1248	1248	Acceptable	EPA 608
PCB's In Oil	Aroclor 1254	mg/Kg	13.1	18.9	0.743 - 30.4	5.68 - 25.4	Acceptable	EPA 608M
(Standard 1)	PCB Aroclor Identity	mg/Kg	1254	1254	1254	1254	Acceptable	EPA 608M
PCB's In Oil	Aroclor 1260	mg/Kg	11.7	15.8	3.04 - 22.8	6.33 - 19.5	Acceptable	EPA 608M
(Standard 2)	PCB Aroclor Identity	mg/Kg	1260	1260	1260	1260	Acceptable	EPA 608M

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Pesticides	Aldrin	µg/l	1.22	1.16	0.295 - 1.57	0.507 - 1.36	Acceptable	EPA 608
	alpha-BHC	µg/l	5.03	5.24	2.00 - 7.22		Acceptable	EPA 608
	beta-BHC	µg/l	3.22	3.01	0.983 - 4.51		Acceptable	EPA 608
	delta-BHC	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	gamma-BHC(Lindane)	µg/l	5.98	6.32	2.14 - 9.10		Acceptable	EPA 608
	alpha-Chlordane	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	gamma-Chlordane	µg/l	2.64	2.70	0.744 - 4.78		Acceptable	EPA 608
	4,4'-DDD	µg/l	2.07	2.04	0.995 - 2.85	1.30 - 2.54	Acceptable	EPA 608
	4,4'-DDE	µg/l	1.24	1.05	0.490 - 1.43	0.647 - 1.27	Acceptable	EPA 608
	4,4'-DDT	µg/l	5.01	5.52	2.53 - 7.46	3.35 - 6.64	Acceptable	EPA 608
	Dieldrin	µg/l	2.99	2.88	1.49 - 3.98	1.90 - 3.56	Acceptable	EPA 608
	Endrin	µg/l	1.09	1.09	0.577 - 1.21		Acceptable	EPA 608
	Endrin aldehyde	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	Endrin ketone	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	Endosulfan I	µg/l	2.01	2.19	0.886 - 2.95		Acceptable	EPA 608
	Endosulfan II	µg/l	3.12	3.83	0.823 - 6.09		Acceptable	EPA 608
	Endosulfan sulfate	µg/l	7.22	7.77	2.02 - 12.3		Acceptable	EPA 608
	Heptachlor	µg/l	2.23	2.60	0.686 - 3.62	1.18 - 3.13	Acceptable	EPA 608
	Heptachlor epoxide	µg/l	2.09	2.14	1.09 - 2.75	1.36 - 2.47	Acceptable	EPA 608
	Methoxychlor	µg/l	6.63	6.39	2.42 - 9.64		Acceptable	EPA 608
Chlordane	Chlordane, technical	µg/l	4.39	4.98	2.18 - 7.08	3.00 - 6.27	Acceptable	EPA 608
Toxaphene	Toxaphene	µg/l	4.76	4.79	0.850 - 8.52		Acceptable	EPA 608
Herbicides	2,4-D	µg/l	5.02	6.42	D.L. - 9.92		Acceptable	EPA 615
	Dicamba	µg/l	7.23	7.44	0.643 - 10.8		Acceptable	EPA 615
	2,4,5-T	µg/l	6.33	6.93	0.675 - 10.2		Acceptable	EPA 615
	Silvex	µg/l	3.17	3.54	0.111 - 5.07		Acceptable	EPA 615

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Base Neutrals	Acenaphthene	µg/l		< 10.0				
	Acenaphthylene	µg/l		< 10.0				
	Aniline	µg/l		< 10.0				
	Anthracene	µg/l	42.0	45.7	20.0 - 59.2		Acceptable	EPA 625
	Benzidine	µg/l		< 10.0				
	Benzo(a)anthracene	µg/l		< 10.0				
	Benzo(b)fluoranthene	µg/l		< 10.0				
	Benzo(k)fluoranthene	µg/l		< 10.0				
	Benzo(g,h,i)perylene	µg/l		< 10.0				
	Benzo(a)pyrene	µg/l		< 10.0				
	Benzyl alcohol	µg/l		< 10.0				
	4-Bromophenyl-phenylether	µg/l	105	110	47.1 - 141		Acceptable	EPA 625
	Butylbenzylphthalate	µg/l	24.8	27.6	7.56 - 45.0		Acceptable	EPA 625
	Carbazole	µg/l		< 10.0				
	4-Chloroaniline	µg/l		< 10.0				
	bis(2-Chloroethoxy)methane	µg/l	107	118	46.6 - 140		Acceptable	EPA 625
	bis(2-Chloroethyl)ether	µg/l	112	154	40.8 - 186		Acceptable	EPA 625
	bis(2-Chloroisopropyl)ether	µg/l		< 10.0				
	1-Chloronaphthalene	µg/l		< 10.0				
	2-Chloronaphthalene	µg/l	67.5	87.4	34.8 - 101		Acceptable	EPA 625
	4-Chlorophenyl-phenylether	µg/l	66.8	74.4	30.0 - 94.5		Acceptable	EPA 625
	Chrysene	µg/l	42.2	42.2	18.5 - 54.6		Acceptable	EPA 625
	Dibenz(a,h)anthracene	µg/l		< 10.0				
	Dibenzofuran	µg/l	53.8	61.8	19.6 - 78.3		Acceptable	EPA 625
	Di-n-butylphthalate	µg/l	157	176	17.0 - 245		Acceptable	EPA 625
	1,2-Dichlorobenzene	µg/l	37.8	60.3	29.1 - 60.3		Acceptable	EPA 625
	1,3-Dichlorobenzene	µg/l		< 10.0				
	1,4-Dichlorobenzene	µg/l		< 10.0				
	3,3'-Dichlorobenzidine	µg/l		< 10.0				
	Diethylphthalate	µg/l	63.1	70.9	3.86 - 108		Acceptable	EPA 625
	Dimethylphthalate	µg/l		< 10.0				
	2,4-Dinitrotoluene	µg/l	56.3	68.4	26.1 - 90.5		Acceptable	EPA 625
	2,6-Dinitrotoluene	µg/l		< 10.0				
	Di-n-octylphthalate	µg/l	58.5	76.9	13.1 - 113		Acceptable	EPA 625
	bis(2-ethylhexyl)phthalate	µg/l	94.6	121	19.6 - 177		Acceptable	EPA 625
	Fluoranthene	µg/l	11.0	12.1	8.27 - 15.0		Acceptable	EPA 625
	Fluorene	µg/l	67.1	74.1	31.1 - 95.4		Acceptable	EPA 625
	Hexachlorobenzene	µg/l	112	113	49.5 - 146		Acceptable	EPA 625
	Hexachlorobutadiene	µg/l		< 10.0				
	Hexachlorocyclopentadiene	µg/l	51.3	86.5	D.L. - 112		Acceptable	EPA 625
	Hexachloroethane	µg/l	17.5	31.4	5.44 - 37.9		Acceptable	EPA 625
	Indeno(1,2,3-cd)pyrene	µg/l	< 10.0	14.5	3.61 - 16.9		Not Acceptable	EPA 625
	Isophorone	µg/l	108	127	43.2 - 169		Acceptable	EPA 625
	1-Methylnaphthalene	µg/l		< 10.0				
	2-Methylnaphthalene	µg/l		< 10.0				

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Base Neutrals (cont.)	Naphthalene	µg/l	54.9	76.8	20.7 - 100		Acceptable	EPA 625
	2-Nitroaniline	µg/l		< 10.0				
	3-Nitroaniline	µg/l		< 10.0				
	4-Nitroaniline	µg/l		< 10.0				
	Nitrobenzene	µg/l	85.9	101	33.0 - 132		Acceptable	EPA 625
	N-Nitrosodiethylamine	µg/l		< 10.0				
	N-Nitrosodimethylamine	µg/l	29.2	35.2	D.L. - 45.2		Acceptable	EPA 625
	N-Nitrosodiphenylamine	µg/l	64.6	87.3	20.3 - 119		Acceptable	EPA 625
	N-Nitroso-di-n-propylamine	µg/l		< 10.0				
	Phenanthrene	µg/l		< 10.0				
	Pyrene	µg/l	158	172	57.4 - 230		Acceptable	EPA 625
	Pyridine	µg/l		< 10.0				
	1,2,4-Trichlorobenzene	µg/l	46.4	72.2	20.9 - 87.3		Acceptable	EPA 625

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Acids	Benzoic acid	µg/l		< 10.0				
	4-Chloro-3-methylphenol	µg/l	20.2	25.5	8.34 - 33.0		Acceptable	EPA 625
	2-Chlorophenol	µg/l	27.1	31.0	11.0 - 40.2		Acceptable	EPA 625
	2,4-Dichlorophenol	µg/l	84.4	92.3	33.3 - 112		Acceptable	EPA 625
	2,6-Dichlorophenol	µg/l		< 10.0				
	2,4-Dimethylphenol	µg/l	137	164	36.8 - 214		Acceptable	EPA 625
	4,6-Dinitro-2-methylphenol	µg/l	49.2	88.7	16.5 - 121		Acceptable	EPA 625
	2,4-Dinitrophenol	µg/l	34.5	110	D.L. - 147		Acceptable	EPA 625
	2-Methylphenol	µg/l	75.4	85.6	9.25 - 117		Acceptable	EPA 625
	3-Methylphenol	µg/l		< 10.0				
	4-Methylphenol	µg/l		< 10.0				
	2-Nitrophenol	µg/l	11.8	15.9	5.79 - 19.8		Acceptable	EPA 625
	3-Nitrophenol	µg/l		< 10.0				
	4-Nitrophenol	µg/l	55.6	82.7	D.L. - 116		Acceptable	EPA 625
	Pentachlorophenol	µg/l	22.9	40.1	6.46 - 55.4		Acceptable	EPA 625
	Phenol	µg/l	110	128	D.L. - 172		Acceptable	EPA 625
	2,4,5-Trichlorophenol	µg/l	42.5	54.0	24.9 - 68.1		Acceptable	EPA 625
	2,4,6-Trichlorophenol	µg/l	112	150	48.6 - 199		Acceptable	EPA 625

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PAH's	Acenaphthene	µg/l	< 1.0	< 0.100			Acceptable	EPA 610
	Acenaphthylene	µg/l	< 1.0	< 0.100			Acceptable	EPA 610
	Anthracene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Benzo(a)anthracene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Benzo(b)fluoranthene	µg/l	1.95	2.46	0.638 - 3.53		Acceptable	EPA 610
	Benzo(k)fluoranthene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Benzo(g,h,i)perylene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Benzo(a)pyrene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Chrysene	µg/l	16.2	18.9	8.03 - 25.2		Acceptable	EPA 610
	Dibenz(a,h)anthracene	µg/l	2.30	2.78	D.L. - 4.98		Acceptable	EPA 610
	Fluoranthene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610
	Fluorene	µg/l	7.95	12.2	3.33 - 16.6		Acceptable	EPA 610
	Indeno(1,2,3-cd)pyrene	µg/l	2.27	2.75	0.943 - 4.06		Acceptable	EPA 610
	Naphthalene	µg/l	2.03	3.15	0.573 - 4.28		Acceptable	EPA 610
	Phenanthrene	µg/l	10.6	14.2	3.10 - 19.9		Acceptable	EPA 610
	Pyrene	µg/l	< 0.1	< 0.100			Acceptable	EPA 610

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Study: **WP67**

ERA Laboratory Code: **P0615-01**

Laboratory Name: **PARAGON ANALYTICS**

Report Type: **NELAC**

Report Method: **Method A**

5540 Marshall St., Arvada, CO 80002 1-800-372-0122 fax 303-421-0159 info@eraqc.com www.eraqc.com

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WP-67 Final NELAC Report

ERA Laboratory Code: P0615-01 EPA ID: CO00078 State ID: CO00078 Report Issued: 10/10/00

ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Minerals	Total Solids at 105°C	mg/l	353	378	334 - 416		Acceptable	EPA 160.3
	Total Dissolved Solids	mg/l	355	362	274 - 450		Acceptable	EPA 160.1
	Conductivity at 25°C	µmhos	418	432	398 - 466		Acceptable	EPA 120.1
	Alkalinity as CaCO3	mg/l	108	105	95.6 - 114		Acceptable	EPA 310.1
	Chloride	mg/l	63.6	62.9	56.5 - 69.0		Acceptable	EPA 300.0
	Fluoride	mg/l	3.29	3.54	3.10 - 3.94		Acceptable	EPA 300.0
	Potassium	mg/l	11.9	13.1	11.1 - 15.1		Acceptable	EPA 200.7
	Sodium	mg/l	77.9	89.3	80.7 - 97.6		Not Acceptable	EPA 200.7
	Sulfate	mg/l	7.10	7.19	4.73 - 9.54		Acceptable	EPA 300.0
pH	pH	S.U.	7.52	7.50	7.30 - 7.70		Acceptable	EPA 150.1
Hardness	Total Suspended Solids	mg/l	54.0	67.3	51.6 - 72.5		Acceptable	EPA 160.2
	Calcium	mg/l	86.7	88.9	79.6 - 101		Acceptable	EPA 200.7
	Magnesium	mg/l	13.1	13.0	11.3 - 14.6		Acceptable	EPA 200.7
	Total Hardness (CaCO3)	mg/l	271	270	247 - 294		Acceptable	EPA 200.7
Demand	BOD	mg/l		49.2	24.7 - 73.8			
	CBOD	mg/l		42.4	19.0 - 65.9			
	COD	mg/l		79.4	57.5 - 94.6			
	TOC	mg/l	31.9	31.4	26.1 - 36.4		Acceptable	EPA 415.1
Nutrients - Simple	Ammonia as N	mg/l	11.7	11.0	8.53 - 13.4		Acceptable	EPA 350.3
	Nitrate as N	mg/l	26.5	27.0	21.4 - 32.0		Acceptable	EPA 300.0
	Ortho-phosphate as P	mg/l	3.02	3.09	2.63 - 3.57		Acceptable	EPA 365.2
Nutrients - Complex	Total phosphorus as P	mg/l	5.95	6.11	4.65 - 7.15		Acceptable	EPA 365.2
	Total kjeldahl nitrogen	mg/l		9.27	6.58 - 11.7			
Cyanide	Cyanide, total	mg/l	0.582	0.592	0.409 - 0.763		Acceptable	EPA 335.2
Phenolics	Phenolics, total	mg/l		0.179	0.0908 - 0.267			
Grease & Oil	Grease & Oil (Gravimetric)	mg/l		22.7	13.5 - 27.6			
	Grease & Oil (Infrared)	mg/l	31.7	27.2	16.9 - 32.3		Acceptable	EPA 413.2
TRC	Total Residual Chlorine	mg/l		2.31	1.88 - 2.74			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Hexavalent Chromium	Hexavalent Chromium	µg/l		285	232 - 328			
Trace Metals	Aluminum	µg/l	980	1080	921 - 1230		Acceptable	EPA 200.7
	Antimony	µg/l	434	475	331 - 573		Acceptable	EPA 200.7
	Arsenic	µg/l	187	193	159 - 228		Acceptable	EPA 200.7
	Barium	µg/l	360	358	311 - 410		Acceptable	EPA 200.7
	Beryllium	µg/l	431	431	366 - 487		Acceptable	EPA 200.7
	Cadmium	µg/l	118	119	101 - 136		Acceptable	EPA 200.7
	Chromium	µg/l	394	404	351 - 458		Acceptable	EPA 200.7
	Cobalt	µg/l	201	191	167 - 215		Acceptable	EPA 200.7
	Copper	µg/l	749	746	678 - 818		Acceptable	EPA 200.7
	Iron	µg/l	1180	1260	1110 - 1420		Acceptable	EPA 200.7
	Lead	µg/l	2050	2220	1960 - 2470		Acceptable	EPA 200.7
	Manganese	µg/l	2280	2280	2050 - 2530		Acceptable	EPA 200.7
	Molybdenum	µg/l	368	385	330 - 441		Acceptable	EPA 200.7
	Nickel	µg/l	1250	1200	1090 - 1340		Acceptable	EPA 200.7
	Selenium	µg/l	443	458	362 - 531		Acceptable	EPA 200.7
	Silver	µg/l	186	192	164 - 220		Acceptable	EPA 200.7
	Strontium	µg/l	222	226	192 - 259		Acceptable	EPA 200.7
	Thallium	µg/l	248	246	196 - 288		Acceptable	EPA 200.7
	Vanadium	µg/l	1420	1460	1320 - 1600		Acceptable	EPA 200.7
	Zinc	µg/l	682	685	606 - 771		Acceptable	EPA 200.7
Mercury	Mercury	µg/l	6.82	7.52	5.57 - 9.44		Acceptable	EPA 245.1
Tin and Titanium	Titanium	µg/l		176	151 - 199			
	Tin	µg/l		2780	2190 - 3380			

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Coliforms	Total Coliforms (MF)	CFU		149	78 - 176			
	Fecal Coliforms - E.coli (MF)	CFU		127	1 - 170			
	Total Coliforms (MPN)	CFU		149	4 - 2730			
	Fecal Coliforms - E.coli (MPN)	CFU		127	6 - 1310			

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Volatiles	Benzene	µg/l	46.6	50.0	36.0 - 64.4		Acceptable	EPA 624
	Bromodichloromethane	µg/l	26.9	27.3	19.2 - 35.7		Acceptable	EPA 624
	Bromoform	µg/l	25.4	25.6	16.1 - 35.2		Acceptable	EPA 624
	Bromomethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Carbon tetrachloride	µg/l	38.6	40.7	25.2 - 57.4		Acceptable	EPA 624
	Chlorobenzene	µg/l	52.5	54.7	38.5 - 69.7		Acceptable	EPA 624
	Chlorodibromomethane	µg/l	23.2	22.6	14.9 - 29.9		Acceptable	EPA 624
	Chloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Chloroform	µg/l	68.8	72.1	49.9 - 92.3		Acceptable	EPA 624
	Chloromethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,2-Dichlorobenzene	µg/l	12.1	11.4	7.69 - 15.0		Acceptable	EPA 624
	1,3-Dichlorobenzene	µg/l	33.9	32.2	22.6 - 40.3		Acceptable	EPA 624
	1,4-Dichlorobenzene	µg/l	18.2	17.4	11.8 - 22.9		Acceptable	EPA 624
	1,2-Dichloroethane	µg/l	44.4	44.7	30.9 - 59.6		Acceptable	EPA 624
	1,1-Dichloroethylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	trans-1,2-Dichloroethylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	1,2-Dichloropropane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	trans-1,3-Dichloropropylene	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Ethylbenzene	µg/l	51.9	58.1	38.7 - 76.0		Acceptable	EPA 624
	Methylene chloride	µg/l	38.3	58.6	37.0 - 80.6		Acceptable	EPA 624
	1,1,2,2-Tetrachloroethane	µg/l	104	89.0	52.2 - 124		Acceptable	EPA 624
	Tetrachloroethylene	µg/l	27.6	27.1	17.9 - 35.0		Acceptable	EPA 624
	Toluene	µg/l	42.3	53.0	38.1 - 66.1		Acceptable	EPA 624
	1,1,1-Trichloroethane	µg/l	34.1	35.6	23.1 - 47.0		Acceptable	EPA 624
	1,1,2-Trichloroethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Trichloroethylene	µg/l	33.6	36.6	23.8 - 47.4		Acceptable	EPA 624
	Trichlorofluoromethane	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Vinyl chloride	µg/l	< 1.0	< 5.00			Acceptable	EPA 624
	Xylenes, total	µg/l	57.6	54.2	30.4 - 74.9		Acceptable	EPA 624

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
PCB's In H2O	Aroclor 1016/1242	µg/l	11.1	11.2	2.94 - 15.9		Acceptable	EPA 608
(Standard 1)	PCB Aroclor Identity	µg/l	1016/1242	1242	1242		Acceptable	EPA 608
PCB's In H2O	Aroclor 1248	µg/l	6.51	5.31	2.21 - 7.51		Acceptable	EPA 608
(Standard 2)	PCB Aroclor Identity	µg/l	1248	1248	1248		Acceptable	EPA 608
PCB's In Oil	Aroclor 1254	mg/Kg	13.1	18.9	0.743 - 30.4		Acceptable	EPA 608M
(Standard 1)	PCB Aroclor Identity	mg/Kg	1254	1254	1254		Acceptable	EPA 608M
PCB's In Oil	Aroclor 1260	mg/Kg	11.7	15.8	3.04 - 22.8		Acceptable	EPA 608M
(Standard 2)	PCB Aroclor Identity	mg/Kg	1260	1260	1260		Acceptable	EPA 608M

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ERA Standard	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Warning Limits	Performance Evaluation	Method Description
Pesticides	Aldrin	µg/l	1.22	1.16	0.295 - 1.57		Acceptable	EPA 608
	alpha-BHC	µg/l	5.03	5.24	2.00 - 7.22		Acceptable	EPA 608
	beta-BHC	µg/l	3.22	3.01	0.983 - 4.51		Acceptable	EPA 608
	delta-BHC	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	gamma-BHC(Lindane)	µg/l	5.98	6.32	2.14 - 9.10		Acceptable	EPA 608
	4,4'-DDD	µg/l	2.07	2.04	0.995 - 2.85		Acceptable	EPA 608
	4,4'-DDE	µg/l	1.24	1.05	0.490 - 1.43		Acceptable	EPA 608
	4,4'-DDT	µg/l	5.01	5.52	2.53 - 7.46		Acceptable	EPA 608
	Dieldrin	µg/l	2.99	2.88	1.49 - 3.98		Acceptable	EPA 608
	Endrin	µg/l	1.09	1.09	0.577 - 1.21		Acceptable	EPA 608
	Endrin aldehyde	µg/l	< 0.1	< 0.100			Acceptable	EPA 608
	Endosulfan I	µg/l	2.01	2.19	0.886 - 2.95		Acceptable	EPA 608
	Endosulfan II	µg/l	3.12	3.83	0.823 - 6.09		Acceptable	EPA 608
	Endosulfan sulfate	µg/l	7.22	7.77	2.02 - 12.3		Acceptable	EPA 608
	Heptachlor	µg/l	2.23	2.60	0.686 - 3.62		Acceptable	EPA 608
	Heptachlor epoxide	µg/l	2.09	2.14	1.09 - 2.75		Acceptable	EPA 608
	Methoxychlor	µg/l	6.63	6.39	2.42 - 9.64		Acceptable	EPA 608
Chlordane	Chlordane, technical	µg/l	4.39	4.98	2.18 - 7.08		Acceptable	EPA 608
Toxaphene	Toxaphene	µg/l	4.76	4.79	0.850 - 8.52		Acceptable	EPA 608
Herbicides	2,4-D	µg/l	5.02	6.42	D.L. - 9.92		Acceptable	EPA 615
	Dicamba	µg/l	7.23	7.44	0.643 - 10.8		Acceptable	EPA 615
	2,4,5-T	µg/l	6.33	6.93	0.675 - 10.2		Acceptable	EPA 615
	Silvex	µg/l	3.17	3.54	0.111 - 5.07		Acceptable	EPA 615

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Base Neutrals	Acenaphthene	µg/l		< 10.0				
	Acenaphthylene	µg/l		< 10.0				
	Anthracene	µg/l	42.0	45.7	20.0 - 59.2		Acceptable	EPA 625
	Benzidine	µg/l		< 10.0				
	Benzo(a)anthracene	µg/l		< 10.0				
	Benzo(b)fluoranthene	µg/l		< 10.0				
	Benzo(k)fluoranthene	µg/l		< 10.0				
	Benzo(g,h,i)perylene	µg/l		< 10.0				
	Benzo(a)pyrene	µg/l		< 10.0				
	4-Bromophenyl-phenylether	µg/l	105	110	47.1 - 141		Acceptable	EPA 625
	Butylbenzylphthalate	µg/l	24.8	27.6	7.56 - 45.0		Acceptable	EPA 625
	bis(2-Chloroethoxy)methane	µg/l	107	118	46.6 - 140		Acceptable	EPA 625
	bis(2-Chloroethyl)ether	µg/l	112	154	40.8 - 186		Acceptable	EPA 625
	bis(2-Chloroisopropyl)ether	µg/l		< 10.0				
	2-Chloronaphthalene	µg/l	67.5	87.4	34.8 - 101		Acceptable	EPA 625
	4-Chlorophenyl-phenylether	µg/l	66.8	74.4	30.0 - 94.5		Acceptable	EPA 625
	Chrysene	µg/l	42.2	42.2	18.5 - 54.6		Acceptable	EPA 625
	Dibenz(a,h)anthracene	µg/l		< 10.0				
	Di-n-butylphthalate	µg/l	157	176	17.0 - 245		Acceptable	EPA 625
	3,3'-Dichlorobenzidine	µg/l		< 10.0				
	Diethylphthalate	µg/l	63.1	70.9	3.86 - 108		Acceptable	EPA 625
	Dimethylphthalate	µg/l		< 10.0				
	2,4-Dinitrotoluene	µg/l	56.3	68.4	26.1 - 90.5		Acceptable	EPA 625
	2,6-Dinitrotoluene	µg/l		< 10.0				
	Di-n-octylphthalate	µg/l	58.5	76.9	13.1 - 113		Acceptable	EPA 625
	bis(2-ethylhexyl)phthalate	µg/l	94.6	121	19.6 - 177		Acceptable	EPA 625
	Fluoranthene	µg/l	11.0	12.1	8.27 - 15.0		Acceptable	EPA 625
	Fluorene	µg/l	67.1	74.1	31.1 - 95.4		Acceptable	EPA 625
	Hexachlorobenzene	µg/l	112	113	49.5 - 146		Acceptable	EPA 625
	Hexachlorobutadiene	µg/l		< 10.0				
	Hexachlorocyclopentadiene	µg/l	51.3	86.5	D.L. - 112		Acceptable	EPA 625
	Hexachloroethane	µg/l	17.5	31.4	5.44 - 37.9		Acceptable	EPA 625
	Indeno(1,2,3-cd)pyrene	µg/l	< 10.0	14.5	3.61 - 16.9		Not Acceptable	EPA 625
	Isophorone	µg/l	108	127	43.2 - 169		Acceptable	EPA 625
	Naphthalene	µg/l	54.9	76.8	20.7 - 100		Acceptable	EPA 625
	Nitrobenzene	µg/l	85.9	101	33.0 - 132		Acceptable	EPA 625
	N-Nitrosodimethylamine	µg/l	29.2	35.2	D.L. - 45.2		Acceptable	EPA 625
	N-Nitrosodiphenylamine	µg/l	64.6	87.3	20.3 - 119		Acceptable	EPA 625
	N-Nitroso-di-n-propylamine	µg/l		< 10.0				
	Phenanthrene	µg/l		< 10.0				
	Pyrene	µg/l	158	172	57.4 - 230		Acceptable	EPA 625
	1,2,4-Trichlorobenzene	µg/l	46.4	72.2	20.9 - 87.3		Acceptable	EPA 625

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Acids	4-Chloro-3-methylphenol	µg/l	20.2	25.5	8.34 - 33.0		Acceptable	EPA 625
	2-Chlorophenol	µg/l	27.1	31.0	11.0 - 40.2		Acceptable	EPA 625
	2,4-Dichlorophenol	µg/l	84.4	92.3	33.3 - 112		Acceptable	EPA 625
	2,4-Dimethylphenol	µg/l	137	164	36.8 - 214		Acceptable	EPA 625
	4,6-Dinitro-2-methylphenol	µg/l	49.2	88.7	16.5 - 121		Acceptable	EPA 625
	2,4-Dinitrophenol	µg/l	34.5	110	D.L. - 147		Acceptable	EPA 625
	2-Nitrophenol	µg/l	11.8	15.9	5.79 - 19.8		Acceptable	EPA 625
	4-Nitrophenol	µg/l	55.6	82.7	D.L. - 116		Acceptable	EPA 625
	Pentachlorophenol	µg/l	22.9	40.1	6.46 - 55.4		Acceptable	EPA 625
	Phenol	µg/l	110	128	D.L. - 172		Acceptable	EPA 625
	2,4,5-Trichlorophenol	µg/l	42.5	54.0	24.9 - 68.1		Acceptable	EPA 625
	2,4,6-Trichlorophenol	µg/l	112	150	48.6 - 199		Acceptable	EPA 625

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