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SUPPLEMENTAL RADIOLOGICAL INVESTIGATION SAMPLING AND ANALYSIS RESULTS

Sterling Homes Development
West Hills, CA

June 4, 2007

PREPARED FOR:

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1.0 INTRODUCTION

The Centex Sterling Homes Site is located in West Hills, California, just west of the intersection of Roscoe Blvd and Valley Circle Blvd. in an area known as Dayton Canyon. The Sterling residential development site encompasses approximately 100 acres of undeveloped land. The proposed Sterling Homes Development site is located approximately 0.5 miles directly east of the eastern boundary of the Rocketdyne/Boeing facility test site, also known as the Santa Susana Field Laboratory (SSFL) in Ventura County, California, as shown in Figure 1. The Rocketdyne/Boeing Facility has been used since 1948 for the research, development and testing of liquid-propellant rocket engines and associated components. The facility was also used by the Department of Energy for nuclear energy research and development, and operated several nuclear reactors onsite.

Due to the proximity of the Sterling Site to the SSFL, a preliminary radiological investigation was conducted as part of the Preliminary Endangerment Assessment. Allwest Remediation collected soil samples for radiological laboratory analysis at a rate of approximately 10 percent of the grids monitored, as described in the November 22, 2005 PEA Workplan approved by DTSC.

The results of the radiological survey and the radiological laboratory analysis are presented in the *June 7, 2006 Radiological Investigation Report*. The *Radiological Investigation Report* was submitted to DTSC for review.

Comments received from DTSC's review of the *Radiological Investigation Report* request additional radiological sampling be performed in areas which may have levels of radioactivity near the upper limits of background concentrations. Additional radiological sampling to increase the spatial coverage of the proposed residential area was also proposed.

The purpose of the Sampling and Analysis Plan was to:

- Present a rationale for the selection of areas for additional radiological sampling.
- Identify the specific areas to be sampled.
- Identify the radio-nuclides to be analyzed for by the laboratory.
- Present the procedures to be used to collect and analyze the samples, and document the collection and laboratory activities.
- Identify the relevant quality assurance and quality control procedures to assure the acceptability of the data collected.
- The Supplemental Radiological Investigation Workplan was reviewed and approved by the DTSC.

2.0 BACKGROUND

As part of the preliminary radiological investigation, described in the *November 22, 2005*, *Preliminary Endangerment Assessment Workplan*, forty-one (41) soil samples were randomly collected for radiological laboratory analysis. These samples were collected from the areas shown in Figure 2. The samples were analyzed for the naturally occurring radionuclides, Actinium-228, Bismuth-212, Bismuth-214, Lead-212, Potassium-41, and Gross Alpha and Beta radiation. The samples were also analyzed for Cesium-137, a man made isotope associated with nuclear research. The results of the analyses are presented in the *June 7, 2006 Radiological Investigation.*

Five (5) of the samples discussed above were submitted to Paragon Laboratories (Fort Collins, Colorado) and ten (10) of the samples to SC & A Laboratories (Montgomery, Alabama) for additional analysis for Strontium-90 and Plutonium-238, 239 and 240. The results of these analyses are summarized in Table 1. The results of the radiological investigation are discussed in more detail in the June 7, 2006, *Radiological Investigation Report.*

DTSC performed a review of the June 7, 2006 *Radiological Investigation Report*. Based on their evaluation of the data, DTSC recommended that additional radiological samples be collected and analyzed, from areas which are near the upper bound statistical limits of the data. The original sample locations approaching the statistical upper bound limits should be re-sampled and four additional "step out" samples collected and analyzed. The DTSC also recommended that additional samples be taken from a larger portion of the development site. This portion of the investigation was referred to as spatial sampling. The approved scope of work for the Supplemental Radiological Investigation Sampling and Analysis Workplan is included in Appendix A.

3.0 SUPPLEMENTAL RADIOLOGICAL SAMPLING AND RESULTS

3.1 Step Out Sampling

3.1.1 Radionuclides of Concern

Based on DTSC's comments, the following radionuclides were analyzed for by the laboratory as part of the step out sampling:

- Strontium 90 (Sr-90)
- Cesium-137 (Cs-137)
- Plutonium-238 and 239/240 (Pu-238/239/240)

3.1.2 Step Out Sampling Locations

To determine the areas where additional "step out" sampling would be conducted, the laboratory data for Cs-137, Sr-90 and Pu-238 and Pu-239/240 were compared to their statistical distributions. By comparing the laboratory data to the upper bound statistical limits for each radionuclide, areas exceeding the upper bound limit were identified. Data values for each nuclide which are greater than the upper bound 98th percentile were identified. Based on the data distribution shown, twelve (12) locations were selected for additional "step out" sampling, as shown in Figure 3.

As shown in Figure 3, for each step out area selected for additional sampling, one (1) sample was collected from the original sampling location. Up to four (4) samples were collected from the adjacent grids, approximately 80 to 100 feet from the original sampling location.

3.1.3 Step Out Sampling Procedures

The work was performed by Allwest Remediation under DTSC oversight. The following procedures were used to collect the supplemental radiological soil samples.

- The prior radiological sampling points were located using GPS coordinates.
- The locations of the proposed samples were identified and staked.
- Vegetation and/or debris was carefully removed to minimize soil disturbance around the proposed sampling location.
- Soil samples were collected using a trowel or hand auger. The samples were collected from 0 to 0.5 foot below ground surface (bgs).
- The soil samples were divided into three portions, and then placed in clean jars.
  - One sample was used for laboratory analysis.
  - One sample was retained for possible future use.
  - One sample was collected for duplicate analysis for each 10 samples analyzed.
- The sample jars were labeled indicating the date, time, sampler, location, and sample Identification number.
- The samples were labeled and shipped under chain of custody to the radiological laboratory.
- The samples were analyzed as indicated in the Supplemental Radiological Investigation Sampling and Analysis Plan.

The above sampling activities were conducted using the procedures presented in the November 22, 2005 *Preliminary Endangerment Assessment Workplan*.

3.1.4 Step Out Sampling Results

A total of 72 locations were sampled as part of the step out sampling. The results of the step out radiological analyses are summarized below.

- Strontium 90 (Sr-90) - A total of 72 samples were analyzed for Sr-90. The analyses showed all of the samples to be below the detection limits, which ranged from 0.206 to 0.42 pci/g, with an average detection limit of 0.248 pci/g. The average reported Sr-90 value was 0.038 pci/g. The Strontium 90 results for the step out sampling are presented in Table 2.
- Cesium 137 (Cs-137) - A total of 72 samples were analyzed for Cs-137. The analyses showed all of the samples to be below the detection limits, which ranged from 0.175 to 0.42 pci/g, with an average detection limit of 0.248 pci/g. The average reported Cesium 137 level was 0.005 pci/g. The Cs-137 results for the step out sampling are presented in Table 3.

- Plutonium 238, 239 and 240 (Pu-238 and Pu-239/240) – A total of 72 samples were analyzed for Pu-238 and Pu-239/240. The analyses showed all 72 of the samples were below the detection limits. The average Pu-238 level was 0.00014 pci/g, and 0.0021 pci/g for Pu-239/240. The plutonium results for the step out sampling are presented in Table 4.

Figure 3 shows the location of each of the step out samples. Copies of the laboratory Reports and Quality Assurance and Quality Control Data are provided in Appendix B.

3.2 Spatial Sampling

The spatial sampling locations are taken from a larger portion of the proposed residential area to increase the spatial coverage of development site. The locations spatial samples are shown in Figure 4. As shown in Figure 4, at least one (1) sample was analyzed from each location. The remaining samples from each location were retained. As indicated in Figure 4, native soil samples were collected from areas with fill or soil piles, at depths of up to 12 feet bgs. Do to the presence of significant rocky conditions, especially in the west parcel, a limited number of 3 foot samples were collected. The sample locations were identified by a licensed surveyor, based on the proposed tract map. The samples were analyzed for Cesium-137, and Strontium-90, as indicated in the Supplemental Radiological Investigation Sampling and Analysis Plan

3.2.1 Spatial Sampling Procedures

The work was performed by Allwest Remediation under DTSC oversight. The following procedures were used to collect the supplemental radiological soil samples.

- The locations of the proposed samples were identified and staked by a licensed surveyor.

- Vegetation and/or debris was carefully removed to minimize soil disturbance around the proposed sampling location.

- Soil samples were collected using a trowel or hand auger. The samples were collected from 0 to 0.5 foot and 3 feet bgs. Samples collected in areas of deeper fill soils were sampled using a backhoe to a depth of 12 feet bgs.

- The soil samples were divided into three portions, and then placed in clean jars.
  - One sample was used for laboratory analysis.
  - One sample was retained for possible future use.
  - One sample was collected for duplicate analysis for each 10 samples analyzed.

- The sample jars were labeled indicating the date, time, sampler, location, and sample Identification number.

- The samples were labeled and shipped under chain of custody to the radiological laboratory.

- The samples were analyzed as indicated in the Supplemental Radiological Investigation Sampling and Analysis Plan.

The above sampling activities were conducted using the procedures presented in the November 22, 2005 *Preliminary Endangerment Assessment Workplan*.

3.2.2 Spatial Sampling Results

A total of 105 locations were sampled as part of the spatial sampling. The samples were collected at depths of 0 to 0.5 foot bgs, and at 3 feet bgs. Additional samples were collected at depths of up to 12 feet bgs in areas of deeper fill materials. At each sampling location, one of the sample depths was sent for analysis, and the other sample retained for potential future use.

- Strontium 90 (Sr-90) - A total of 105 samples were analyzed for Sr-90. A total of 104 of the samples were found to be below the detection limits for Strontium. The detection limits ranged from 0.18 to 0.35 pci/g, with an average detection limit of 0.248 pci/g. One soil pile sample had a detectable level of Sr-90 (WFILL2@1') of 0.73 pci/g. As part of the sampling plan, the other onsite soil fill areas and piles were also sampled and analyzed. As shown in Table 5, none of the other soil piles or fill areas had detectable levels of Sr-90. The average reported Strontium 90 level was 0.074 pci/g. The results of the Strontium 90 analyses for the special sampling are provided in Table 5.

- Cesium 137 (Cs-137) - A total of 105 samples were analyzed for Cs-137. All of the samples analyzed for Cesium-137 were found to be below the detection limits, which ranged from 0.058 to 0.23 pci/g, with an average detection limit of 0.14pci/g. The average reported Cesium 137 level was 0.051 pci/g. The results of the Cesium 137 analyses for the special sampling are provided in Table 6.

Figure 4 shows the spatial sampling locations. Copies of the laboratory Reports and Quality Assurance and Quality Control Data are provided in Appendix C

3.2.3 Quality Assurance/Quality Control Evaluation

Based on the results of the laboratory analyses and the QA/QC data presented, the analyses performed met all of the QA/QC requirements indicated in the Supplemental Radiological Investigation Sampling and Analysis Plan, including detection limits, duplicate samples and laboratory control tests.

The radiological data will be reviewed by a third party data validation service to confirm that the analysis requirements were met. The validation report will be submitted to DTSC at a later date.

4.0 CONCLUSIONS

The Supplemental Radiological Investigation collected samples from 177 locations. A total of 426 laboratory analyses were performed. A summary of the results is provided below:

- Strontium 90 (Sr-90) - A total of 177 samples were analyzed for Sr-90. 176 samples were found to be below acceptable detection limits. One soil pile sample WFILL2@1' had a detectable level of Strontium-90 of 0.73 pci/g. The other soil fill locations were also sampled, and were found to have Sr-90 levels below detection limits.

- Cesium 137 (Cs-137) - A total of 177 samples were analyzed for Cs-137. None of the samples were found to have detectable levels of Cesium 137.

- Plutonium 238 (Pu-238) - A total of 72 step out samples were analyzed for Pu-238. There were no samples with detectable levels of Pu-238.

- Plutonium 239/240 (Pu-239/240) - A total of the 72 step out samples were analyzed for Pu-239/240. There were no samples with detectable levels of Pu-239/240.

Based on the results of the extensive radiological testing conducted, no radiological contamination was encountered, with the exception of one elevated Strontium value in a small fill soil pile. Further, all of the results and the detection limits were below published risk levels for Sr-90, Cs-137 and Pu-238 and Pu-239/240.

5.0 STATEMENT OF LIMITATIONS

Information provided in this report by Allwest Remediation, Inc., Project Number 05-8520 is intended exclusively for the use of Centex in the assessment of potential environmental liability for the subject property. The findings and conclusions discussed in this report are based on field and laboratory data collected during the course of this investigation and our current understanding and interpretation of environmental regulatory agency regulations, guidelines and policies. The professional services have been performed in accordance with practices generally accepted by other construction engineers, geologists, hydrogeologists, environmental engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. There is no guarantee that the work conducted will identify any and all sources or locations of contamination.

Respectfully submitted,

ALLWEST REMEDIATION, INC.

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Operations Manager

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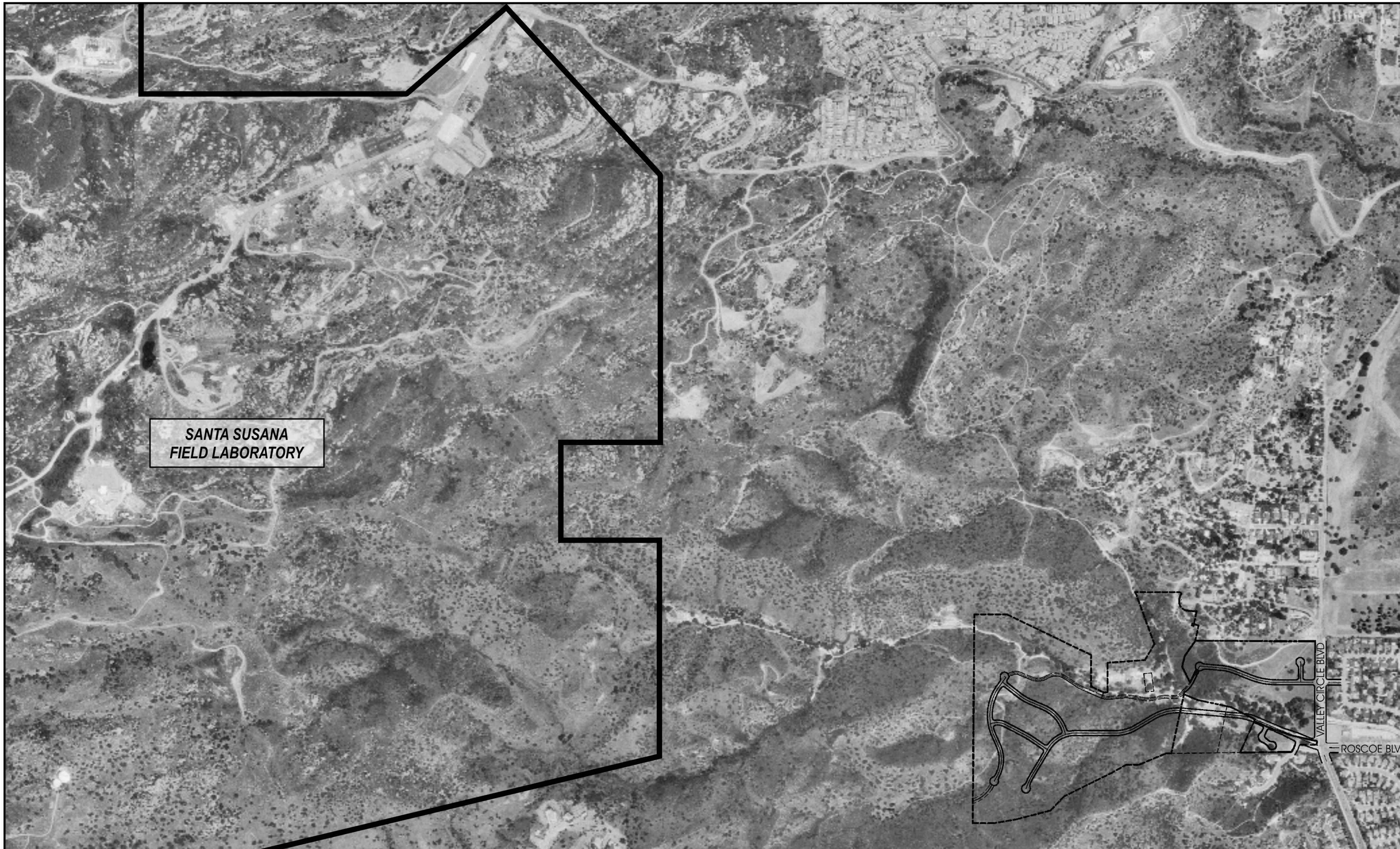
CERTIFIED HYDROGEOLOGIST JOHN A. LANDGARD No. HG452 Exp. 6-30-06 REGISTERED GEOLOGIST STATE OF CALIFORNIA

FIGURES



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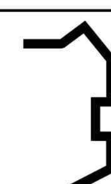
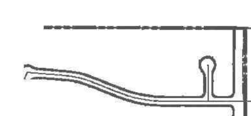


SANTA SUSANA FIELD LABORATORY

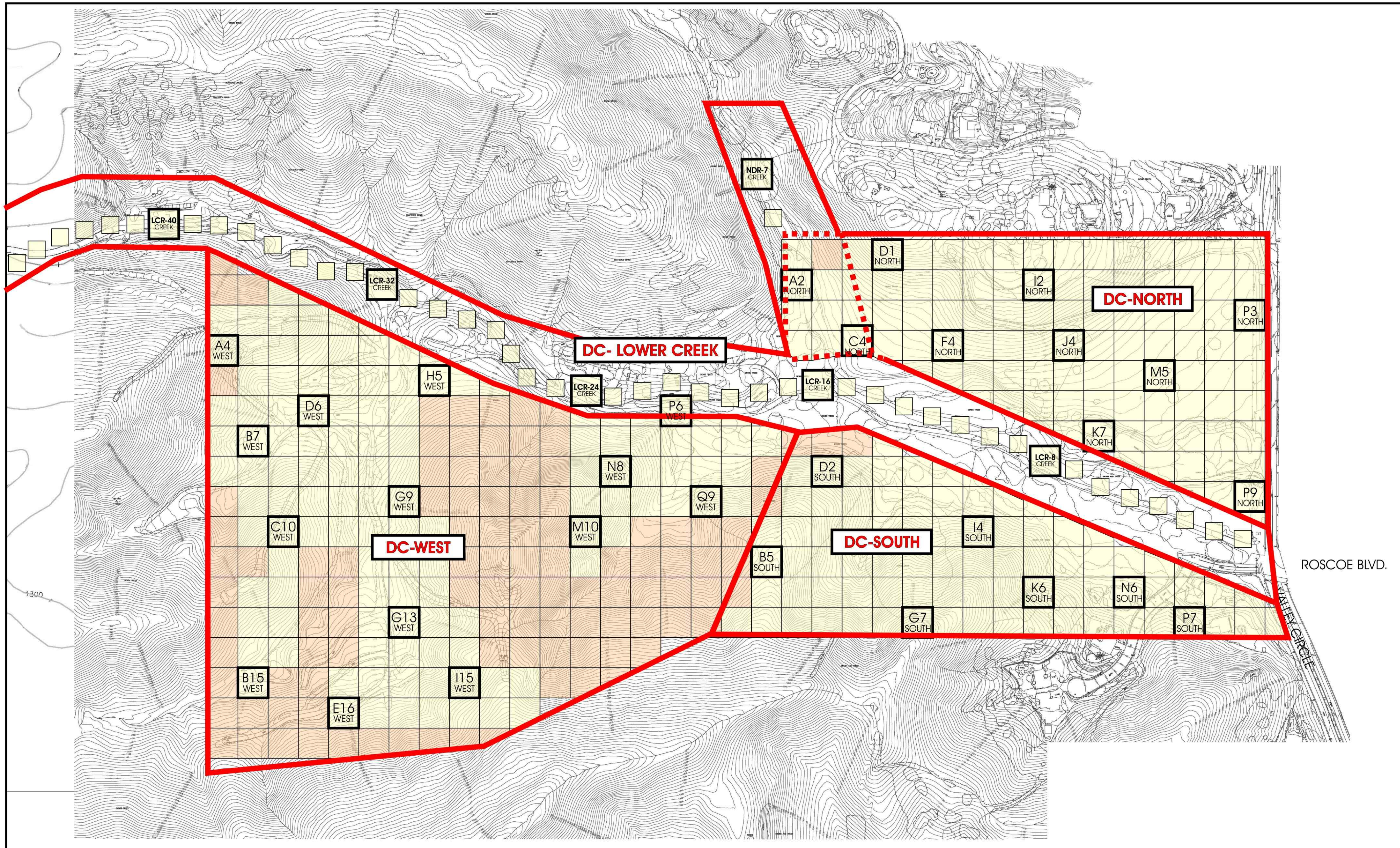


PROJECT LAYOUT

SITE VICINITY MAP
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520	DATE: JUNE 2007	FIGURE NO. 1



N

LEGEND

100'x100' SAMPLE GRID AREA MONITORED

GRID NOT MONITORED AREA NOT ACCESSIBLE

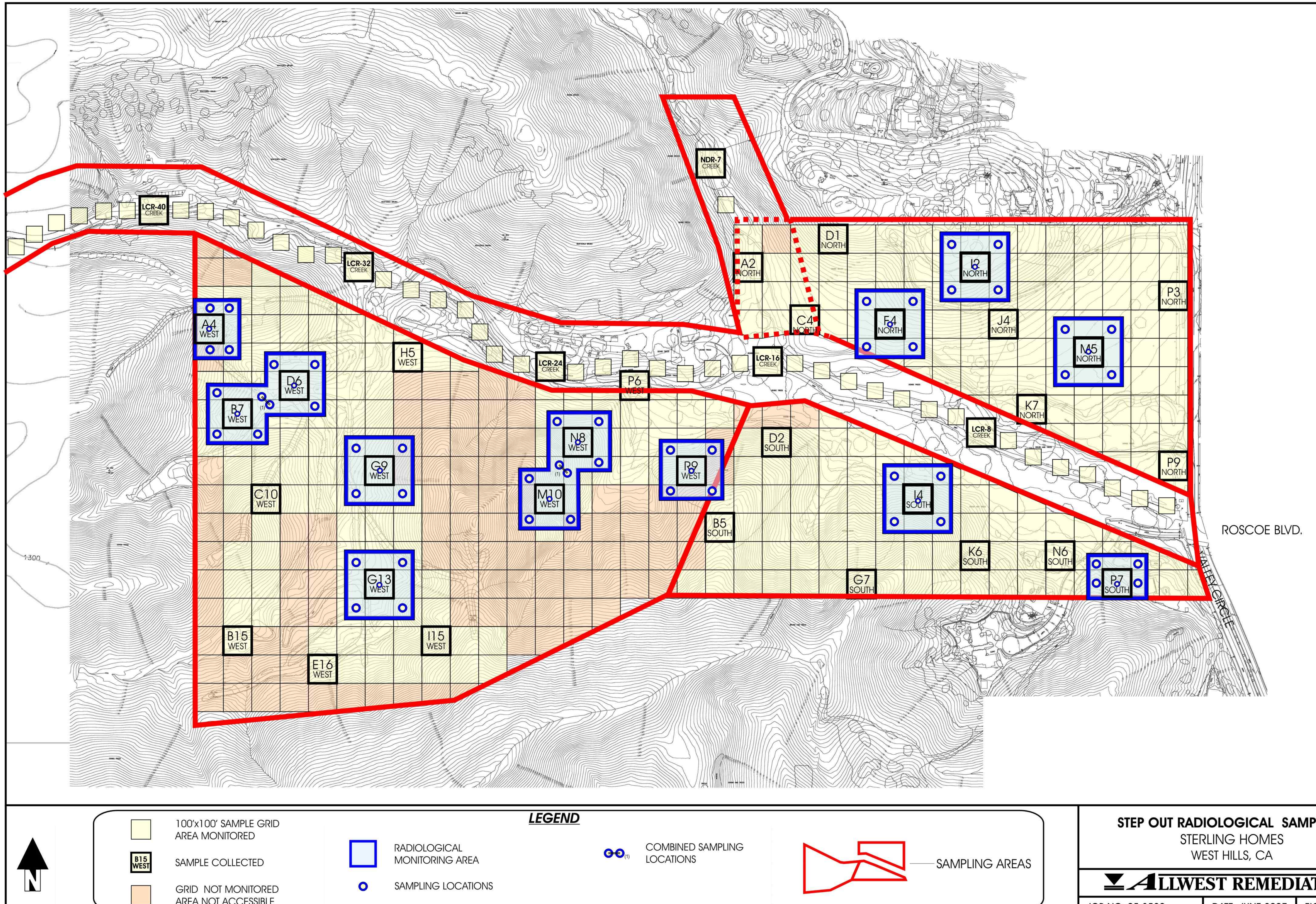
B15 WEST — SAMPLE COLLECTED

SAMPLING AREAS

RADIOLOGICAL SAMPLING SUMMARY
(JUNE 7TH, 2006 RADIOLOGICAL INVESTIGATION REPORT)
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

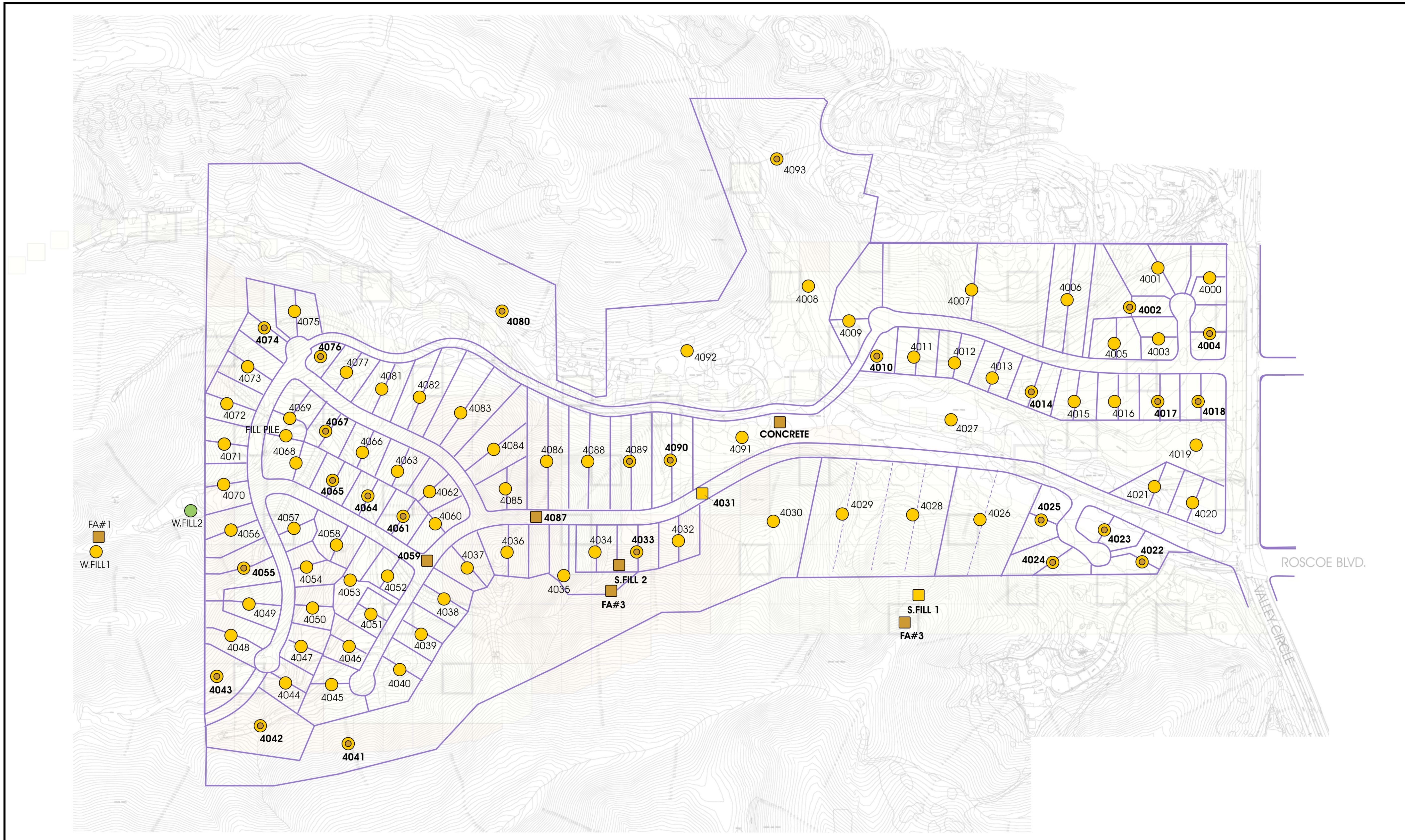
JOB NO. 05 8520	DATE: JUNE 2007	FIGURE NO. 2



STEP OUT RADIOLOGICAL SAMPLING
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520	DATE: JUNE 2007	FIGURE NO. 3



LEGEND

RESIDENTIAL LOT LINES

1' SAMPLE DEPTH

3' SAMPLE DEPTH (1' SAMPLE RETAINED)

SAMPLE OF NATIVE SOIL

SAMPLE DETECTED ABOVE DETECTABLE ANALYTICAL LEVELS

SPATIAL SAMPLING LOCATIONS

STERLING HOMES

WEST HILLS, CA

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JOB NO. 05 8520	DATE: JUNE 2007	FIGURE NO. 4

TABLES

ACRONYMS

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M -The requested MDC was not met.

M3 -The requested MDC was not met, but the reported activity is greater than the reported MDC.

BOLD - Above Detection Limit

Abbreviations:

MDC - Minimum Detectable Concentration

SQ -Spectral quality prevents accurate quantitation. SI - Nuclide identification and/or quantitation is tentative.

TI -Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G -Sample density differs by more than 15% of LCS density.

TPU -Total Propagated Uncertainty

BDL -Below Detection Limit

TABLE 1
SUMMARY OF LABORATORY ANALYSIS FOR
Sr-90, Pu-238, Pu-239, Pu-240
(RADIOLOGICAL INVESTIGATION REPORT)

SAMPLE ID	STRONTIUM-90		PLUTONIUM				LABORATORY
			Pu-238		Pu-239/240		
	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	
F-4-N	**0.30**	0.21	0.005	0.016	0.006	0.008	P
B-5-S	0.038	0.217	0.002	0.016	**0.019**	0.009	P
C-10-W	0.043	0.202	0.003	0.009	-0.001	0.017	P
N-8-W	**0.35**	0.21	0.003	0.019	0.019	0.023	P
M-10-W	0.12	0.21	-0.002	0.020	0.016	0.023	P
A-4-W	0.586	0.778	0.004	0.012	0.006	0.023	SCA
D-6-W	0.192	0.715	0.000	0.012	0.005	0.012	SCA
G-9-W	**0.824**	0.703	0.000	0.011	0.008	0.011	SCA
P-6-W	-0.586	0.904	0.000	0.010	**0.012**	0.010	SCA
G-13-W	0.087	0.872	-0.003	0.023	**0.026**	0.012	SCA
R-9-W	-0.183	0.843	0.000	0.010	0.004	0.010	SCA
I-4-S	0.470	0.782	-0.002	0.020	-0.002	0.020	SCA
N-6-S	-0.256	0.761	0.002	0.021	**0.016**	0.011	SCA
A-2-N	0.155	0.740	-0.003	0.025	0.002	0.025	SCA
M-5-N	0.64	0.655	0.002	0.019	0.002	0.019	SCA
LCR-40	-0.306	0.652	0.000	0.046	0.000	0.046	SCA
LCR-24	-0.198	0.674	0.016	0.043	0.000	0.043	SCA
LCR-8	0.013	0.523	0.000	0.043	0.000	0.043	SCA

P=PARAGON LAROATORIES
SCA = S. COHEN AND ASSOCIATES LABORATORY
p Ci/g = PICO CURIES PRE GRAM
BOLD = ABOVE DETEDCTION LIMIT

TABLE 2
STEP OUT SAMPLING
STRONTIUM-90

SAMPLE ID	NUCLIDE	Result +/- 2 s TPU	MDC	UNITS	NOTES
M5@1'	Sr-90	0.26 +/- 0.15	0.28	pCi/g	U
M5NW@1'	Sr-90	0.16 +/- 0.13	0.27	pCi/g	U
M5NE@1'	Sr-90	0.21 +/- 0.15	0.28	pCi/g	U
M5NE@3'	Sr-90	-0.03 +/- 0.11	0.26	pCi/g	U
M5SW@1'	Sr-90	-0.01 +/- 0.11	0.26	pCi/g	Y1,U
M5SE@1'	Sr-90	0.03 +/- 0.11	0.26	pCi/g	U
I2@1'	Sr-90	0.09 +/- 0.11	0.24	pCi/g	U
I2NW@1'	Sr-90	0.03 +/- 0.10	0.23	pCi/g	Y1,U
I2NE@1'	Sr-90	-0.063 +/- 0.098	0.245	pCi/g	U
I2SW@1'	Sr-90	0 +/- 0.10	0.24	pCi/g	U
I2SE@1'	Sr-90	0.01 +/- 0.11	0.25	pCi/g	U
F4@1'	Sr-90	0.12 +/-0.10	0.21	pCi/g	U
F4NW@1'	Sr-90	0.12 +/-0.11	0.23	pCi/g	U
F4NE@1'	Sr-90	0.22 +/-0.12	0.23	pCi/g	U
F4NE@3'	Sr-90	-0.01 +/-0.13	0.31	pCi/g	U
F4SW@1'	Sr-90	0.24 +/-0.20	0.4	pCi/g	U
F4SE@1'	Sr-90	-0.024 +/-0.089	0.213	pCi/g	Y1,U
A4@1'	Sr-90	0.10 +/-0.13	0.27	pCi/g	U
A4@3'	Sr-90	0.04 +/-0.11	0.23	pCi/g	U
A4NW@1'	Sr-90	0.02 +/-0.11	0.24	pCi/g	U
A4NE@1'	Sr-90	0.11 +/-0.12	0.26	pCi/g	U
A4SW@1'	Sr-90	-0.028 +/-0.094	0.218	pCi/g	U
A4SE@1'	Sr-90	-0.01 +/-0.10	0.24	pCi/g	U
D6@1'	Sr-90	0.07 +/-0.12	0.26	pCi/g	U
D6NW@1'	Sr-90	-0.05 +/-0.10	0.26	pCi/g	U
D6NW@3'	Sr-90	0.16 +/-0.13	0.26	pCi/g	U
D6NE@1'	Sr-90	-0.07 +/-0.11	0.26	pCi/g	U
D6SW@1'	Sr-90	-0.09 +/-0.10	0.25	pCi/g	Y2,U
D6/B7@1'	Sr-90	-0.02 +/-0.11	0.26	pCi/g	U
B7@1'	Sr-90	-0.02 +/-0.11	0.25	pCi/g	U
B7NW@1'	Sr-90	0.15 +/-0.13	0.26	pCi/g	U
B7SW@1'	Sr-90	0.16 +/-0.19	0.42	pCi/g	U
B7SE@1'	Sr-90	-0.05 +/-0.11	0.28	pCi/g	U
B7SE@3'	Sr-90	-0.03 +/-0.11	0.27	pCi/g	U
G9@1'	Sr-90	-0.04 +/- 0.10	0.25	pCi/g	U
G9NW@1'	Sr-90	0.15 +/- 0.12	0.24	pCi/g	U
G9NE@1'	Sr-90	0.07 +/- 0.11	0.24	pCi/g	U
G9SW@1'	Sr-90	0 +/- 0.11	0.25	pCi/g	U
G9SE@1'	Sr-90	-0.04 +/- 0.10	0.25	pCi/g	U
G9SE@3'	Sr-90	0.02 +/- 0.10	0.24	pCi/g	U
G13@1'	Sr-90	0.06 +/- 0.10	0.23	pCi/g	Y1,U
G13NW@1'	Sr-90	0.02 +/- 0.11	0.25	pCi/g	U
G13NE@1'	Sr-90	-0.02 +/- 0.11	0.26	pCi/g	U
G13SW@1'	Sr-90	0.07 +/- 0.11	0.25	pCi/g	U
G13SE@1'	Sr-90	0.08 +/-0.11	0.24	pCi/g	U

TABLE 2
STEP OUT SAMPLING
STRONTIUM-90

SAMPLE ID	NUCLIDE	Result +/- 2 s TPU	MDC	UNITS	NOTES
M10@1'	Sr-90	0 +/-0.12	0.27	pCi/g	U
M10NW@1'	Sr-90	-0.02 +/-0.13	0.3	pCi/g	U
M10SW@1'	Sr-90	-0.05 +/-0.11	0.26	pCi/g	U
M10SE@1'	Sr-90	0.02 +/-0.12	0.27	pCi/g	U
N8/M10@1'	Sr-90	0.05 +/-0.11	0.24	pCi/g	U
N8@1'	Sr-90	0.09 +/-0.10	0.21	pCi/g	Y1,U
N8NW@1'	Sr-90	0.10 +/-0.10	0.22	pCi/g	U
N8NE@1'	Sr-90	0.06 +/-0.10	0.23	pCi/g	U
N8SE@1'	Sr-90	-0.036 +/-0.096	0.23	pCi/g	U
R9@1'	Sr-90	0.13 +/-0.12	0.25	pCi/g	U
R9NW@1'	Sr-90	-0.04 +/-0.10	0.24	pCi/g	U
R9NW@3'	Sr-90	0.01 +/-0.11	0.25	pCi/g	U
R9NE@1'	Sr-90	0.011 +/-0.091	0.211	pCi/g	U
R9SE@1'	Sr-90	0.10 +/-0.11	0.23	pCi/g	U
R9SW@1'	Sr-90	0.043 +/-0.099	0.221	pCi/g	U
I4@1'	Sr-90	0.042 +/-0.099	0.219	pCi/g	U
I4@3'	Sr-90	0.024 +/-0.096	0.216	pCi/g	U
I4NW@1'	Sr-90	-0.018 +/-0.089	0.206	pCi/g	U
I4NE@1'	Sr-90	-0.059 +/-0.098	0.239	pCi/g	U
I4SW@1'	Sr-90	0.15 +/-0.12	0.25	pCi/g	U
I4SE@1'	Sr-90	0.05 +/-0.11	0.26	pCi/g	U
P7@1'	Sr-90	-0.002 +/-0.092	0.21	pCi/g	U
P7NW@1'	Sr-90	-0.012 +/-0.091	0.21	pCi/g	U
P7SW@1'	Sr-90	0.017 +/-0.097	0.22	pCi/g	U
P7SW@3'	Sr-90	0.01 +/-0.11	0.24	pCi/g	U
P7NE@1'	Sr-90	-0.092 +/-0.089	0.213	pCi/g	U
P7SE@1'	Sr-90	0.061 +/-0.096	0.208	pCi/g	U
AVERAGE	Sr-91	0.0389	0.248875	pCi/g	
MAX	Sr-92	0.26	0.42	pCi/g	
MIN	Sr-93	-0.092	0.206	pCi/g	

TABLE 3
STEP OUT SAMPLING
CESIUM 137

SAMPLE	Result +/-2 s TPU	MDC	Lab Qualifier
M5@1'	-0.06 +/-0.13	0.27	U,G
M5NW@1'	0.03 +/-0.16	0.29	U,G
M5NE@1'	-0.10 +/-0.12	0.26	U,G
M5SW@1'	0.03 +/-0.15	0.27	U,G
M5SW@1'	-0.09 +/-0.11	0.24	U,G
I2@1'	0.05 +/-0.11	0.18	U,G
I2NW@1'	-0.057 +/-0.098	0.203	U,G
I2NE@1'	0.04 +/-0.15	0.27	U,G
I2SW@1'	0.02 +/-0.13	0.25	U,G
I2SE@1'	0.06 +/-0.16	0.28	U,G
G9@1'	-0.07 +/-0.12	0.26	U,G
G9NW@1'	0.07 +/-0.13	0.22	U,G
G9NE@1'	0.010 +/-0.099	0.186	U,G
G9SW@1'	0.05 +/-0.12	0.21	U,G
G9SE@1'	-0.05 +/-0.13	0.27	U,G
G9SE@3'	0.01 +/-0.13	0.24	U,G
G13@1'	0.04 +/-0.15	0.27	U,G
G13NW@1'	-0.04 +/-0.11	0.20	U,G
G13NE@1'	-0.03 +/-0.12	0.23	U,G
G13SW@1'	-0.19 +/-0.13	0.29	U
G13SW@1'	-0.02 +/-0.13	0.25	U
G13SE@1'	-0.047 +/-0.097	0.177	U,G
D6@1'	0.05 +/-0.12	0.20	U,G
D6NW@1'	0.04 +/-0.12	0.26	U,G
D6NW@3'	0.04 +/-0.12	0.22	U,G
D6NE@1'	0.044 +/-0.099	0.175	U
D6SW@1'	0.05 +/-0.18	0.32	U,G
D6/B7@1'	-0.14 +/-0.12	0.23	U,G
B7@1'	0.01 +/-0.12	0.20	U,G
B7NW@1'	0.12 +/-0.14	0.23	U,G
B7SW@1'	-0.04 +/-0.13	0.28	U,G
B7SE@1'	-0.01 +/-0.13	0.26	U,G
B7SE@3'	0 +/-0.19	0.36	U,G
M10@1'	0.04 +/-0.10	0.19	U,G
N8/M10@1'	0.04 +/-0.11	0.20	U,G
M10NW@1'	0.17 +/-0.14	0.20	U,G
M10SW@1'	0.07 +/-0.11	0.19	U,G
M10SE@1'	0.03 +/-0.12	0.20	U,G

TABLE 3
STEP OUT SAMPLING
CESIUM 137

SAMPLE	Result +/-2 s TPU	MDC	Lab Qualifier
A4@1'	0.01 +/-0.12	0.20	U,G
A4@3'	0.04 +/-0.11	0.18	U,G
A4NW@1'	-0.01 +/-0.11	0.20	U,G
A4NE@1'	-0.01 +/-0.15	0.27	U,G
A4SW@1'	0.10 +/-0.15	0.26	U,G
A4SE@1'	-0.05 +/-0.22	0.41	U,G
P7@1'	0.03 +/-0.14	0.25	U,G
P7NW@1'	0.13 +/-0.12	0.19	U,G
P7SW@1'	0.01 +/-0.12	0.23	U,G
P7SW@3'	0.01 +/-0.13	0.24	U,G
P7NE@1'	-0.06 +/-0.13	0.23	U,G
P7SE@1'	0.10 +/-0.13	0.22	U,G
I4@1'	-0.08 +/-0.13	0.28	U,G
I4@3'	-0.06 +/-0.10	0.24	U,G
I4NW@1'	0 +/-0.16	0.30	U,G
I4NE@1'	-0.04 +/-0.13	0.24	U,G
I4SW@1'	-0.02 +/-0.13	0.25	U,G
I4SE@1'	0.12 +/-0.14	0.21	U,G
R9@1'	0.13 +/-0.14	0.21	U,G
R9NW@1'	-0.03 +/-0.17	0.32	U,G
R9NW@3'	0 +/-0.14	0.25	U,G
R9NE@1'	-0.11 +/-0.12	0.26	U,G
R9SE@1'	0.18 +/-0.25	0.42	U,G
R9SW@1'	-0.07 +/-0.14	0.30	U,G
N8@1'	0.02 +/-0.10	0.19	U
N8NW@1'	-0.04 +/-0.15	0.30	U,G
N8NE@1'	0.11 +/-0.12	0.19	U,G
N8SE@1'	-0.19 +/-0.15	0.32	U,G
F4@1'	0.07 +/-0.15	0.26	U,G
F4NW@1'	0.13 +/-0.14	0.21	U,G
F4NE@1'	-0.06 +/-0.15	0.30	U,G
F4NE@3'	-0.11 +/-0.18	0.37	U,G
F4SW@1'	-0.03 +/-0.12	0.21	U,G
F4SE@1'	-0.02 +/-0.15	0.28	U,G
AVERAGE	0.0051	0.248	
MAX	0.18	0.420	
MIN	-0.19	0.175	

TABLE 4
STEP OUT SAMPLING
Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Sample ID	Nuclide	Result +/-2 s TPU	MDC	Units	Flags
M5@1'	Pu-238	-0.002 +/-0.011	0.019	pCi/g	U
M5@1'	Pu-239/240	0.011 +/-0.013	0.016	pCi/g	U
M5NW@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U
M5NW@1'	Pu-239/240	0.001 +/-0.012	0.021	pCi/g	U
M5NE@1'	Pu-238	-0.002 +/-0.011	0.019	pCi/g	U
M5NE@1'	Pu-239/240	0.002 +/-0.011	0.016	pCi/g	U
M5NE@3'	Pu-238	-0.001 +/-0.011	0.016	pCi/g	U
M5NE@3'	Pu-239/240	0 +/-0.011	0.022	pCi/g	U
M5SW@1'	Pu-238	-0.002 +/-0.012	0.021	pCi/g	U
M5SW@1'	Pu-239/240	0.002 +/-0.012	0.017	pCi/g	U
M5SW@1'	Pu-238	0.002 +/-0.011	0.017	pCi/g	U
M5SW@1'	Pu-239/240	0.009 +/-0.012	0.017	pCi/g	U
I2@1'	Pu-238	0 +/-0.011	0.008	pCi/g	U
I2@1'	Pu-239/240	0.005 +/-0.011	0.016	pCi/g	U
I2NW@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U
I2NW@1'	Pu-239/240	0.010 +/-0.014	0.024	pCi/g	U
I2NE@1'	Pu-238	0.003 +/-0.011	0.022	pCi/g	U
I2NE@1'	Pu-239/240	-0.002 +/-0.011	0.028	pCi/g	U
I2SW@1'	Pu-238	0.001 +/-0.012	0.021	pCi/g	U
I2SW@1'	Pu-239/240	-0.001 +/-0.012	0.026	pCi/g	U
I2SE@1'	Pu-238	-0.002 +/-0.012	0.02	pCi/g	U
I2SE@1'	Pu-239/240	0.008 +/-0.012	0.02	pCi/g	U
G9@1'	Pu-238	0.001 +/-0.011	0.02	pCi/g	U
G9@1'	Pu-239/240	0.002 +/-0.011	0.017	pCi/g	U
G9NW@1'	Pu-238	0 +/-0.012	0.023	pCi/g	U
G9NW@1'	Pu-239/240	0.009 +/-0.012	0.017	pCi/g	U
G9NE@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U
G9NE@1'	Pu-239/240	0.013 +/-0.014	0.009	pCi/g	LT
G9SW@1'	Pu-238	0.001 +/-0.013	0.022	pCi/g	U
G9SW@1'	Pu-239/240	-0.002 +/-0.013	0.022	pCi/g	U
G9SE@1'	Pu-238	-0.001 +/-0.011	0.017	pCi/g	U
G9SE@1'	Pu-239/240	-0.002 +/-0.011	0.02	pCi/g	U
G9SE@3'	Pu-238	0.008 +/-0.012	0.02	pCi/g	U
G9SE@3'	Pu-239/240	0.007 +/-0.014	0.029	pCi/g	U
G13@1'	Pu-238	0.002 +/-0.011	0.016	pCi/g	U
G13@1'	Pu-239/240	0.001 +/-0.011	0.02	pCi/g	U
G13NW@1'	Pu-238	0.007 +/-0.012	0.023	pCi/g	U
G13NW@1'	Pu-239/240	0.005 +/-0.012	0.017	pCi/g	U
G13NE@1'	Pu-238	-0.003 +/-0.012	0.024	pCi/g	U
G13NE@1'	Pu-239/240	-0.001 +/-0.012	0.018	pCi/g	U
G13SW@1'	Pu-238	-0.002 +/-0.010	0.018	pCi/g	U
G13SW@1'	Pu-239/240	0.008 +/-0.010	0.015	pCi/g	U
G13SE@1'	Pu-238	-0.001 +/-0.011	0.016	pCi/g	U
G13SE@1'	Pu-239/240	-0.001 +/-0.011	0.016	pCi/g	U

TABLE 4
STEP OUT SAMPLING
Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Sample ID	Nuclide	Result +/-2 s TPU	MDC	Units	Flags
D6@1'	Pu-238	0 +/-0.011	0.008	pCi/g	U
D6@1'	Pu-239/240	0.002 +/-0.011	0.016	pCi/g	U
D6NW@1'	Pu-238	-0.003 +/-0.012	0.023	pCi/g	U
D6NW@1'	Pu-239/240	0.007 +/-0.014	0.029	pCi/g	U
D6NW@3'	Pu-238	0.005 +/-0.012	0.021	pCi/g	U
D6NW@3'	Pu-239/240	-0.001 +/-0.012	0.026	pCi/g	U
D6NE@1'	Pu-238	0.001 +/-0.011	0.019	pCi/g	U
D6NE@1'	Pu-239/240	-0.002 +/-0.011	0.019	pCi/g	U
D6SW@1'	Pu-238	-0.002 +/-0.011	0.02	pCi/g	U
D6SW@1'	Pu-239/240	-0.001 +/-0.011	0.017	pCi/g	U
D6/B7@1'	Pu-238	-0.001 +/-0.011	0.017	pCi/g	U
D6/B7@1'	Pu-239/240	0.003 +/-0.011	0.009	pCi/g	U
B7@1'	Pu-238	-0.003 +/-0.012	0.023	pCi/g	U
B7@1'	Pu-239/240	-0.001 +/-0.012	0.017	pCi/g	U
B7NW@1'	Pu-238	0.006 +/-0.012	0.009	pCi/g	U
B7NW@1'	Pu-239/240	0 +/-0.012	0.009	pCi/g	U
B7SW@1'	Pu-238	-0.002 +/-0.012	0.021	pCi/g	U
B7SW@1'	Pu-239/240	0.001 +/-0.012	0.021	pCi/g	U
B7SE@1'	Pu-238	0.007 +/-0.011	0.019	pCi/g	U
B7SE@1'	Pu-239/240	-0.007 +/-0.011	0.029	pCi/g	U
B7SE@3'	Pu-238	-0.0008 +/-0.0099	0.0144	pCi/g	U
B7SE@3'	Pu-239/240	-0.0016 +/-0.0099	0.0173	pCi/g	U
N8/M10@1'	Pu-238	-0.0006 +/-0.0057	0.0089	pCi/g	U
N8/M10@1'	Pu-239/240	0.0011 +/-0.0057	0.011	pCi/g	U
M10@1'	Pu-238	-0.0009 +/-0.0058	0.0091	pCi/g	U
M10@1'	Pu-239/240	-0.0017 +/-0.0058	0.0112	pCi/g	U
M10NW@1'	Pu-238	-0.0031 +/-0.0069	0.0152	pCi/g	U
M10NW@1'	Pu-239/240	0.0041 +/-0.0069	0.0107	pCi/g	U
M10SW@1'	Pu-238	0.0006 +/-0.0057	0.0089	pCi/g	U
M10SW@1'	Pu-239/240	0.0025 +/-0.0057	0.0067	pCi/g	U
M10SE@1'	Pu-238	-0.0008 +/-0.0055	0.0087	pCi/g	U
M10SE@1'	Pu-239/240	0.0005 +/-0.0055	0.0087	pCi/g	U
A4@1'	Pu-238	0 +/-0.0058	0.0039	pCi/g	U
A4@1'	Pu-239/240	-0.0009 +/-0.0058	0.0091	pCi/g	U
A4@3'	Pu-238	-0.0009 +/-0.0061	0.0096	pCi/g	U
A4@3'	Pu-239/240	0.0012 +/-0.0061	0.0118	pCi/g	U
A4NW@1'	Pu-238	-0.0006 +/-0.0062	0.0152	pCi/g	U
A4NW@1'	Pu-239/240	0.0021 +/-0.0062	0.0096	pCi/g	U
A4NE@1'	Pu-238	0.0028 +/-0.0063	0.0121	pCi/g	U
A4NE@1'	Pu-239/240	0.0046 +/-0.0063	0.0042	pCi/g	LT
A4SW@1'	Pu-238	0.0003 +/-0.0061	0.0135	pCi/g	U
A4SW@1'	Pu-239/240	-0.0003 +/-0.0077	0.0184	pCi/g	U
A4SE@1'	Pu-238	0.0012 +/-0.0059	0.0113	pCi/g	U

TABLE 4
STEP OUT SAMPLING
Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Sample ID	Nuclide	Result +/-2 s TPU	MDC	Units	Flags
A4SE@1'	Pu-239/240	0.0020 +/-0.0059	0.0091	pCi/g	U
P7@1'	Pu-238	0 +/-0.0059	0.004	pCi/g	U
P7@1'	Pu-239/240	0.0012 +/-0.0059	0.0114	pCi/g	U
P7NW@1'	Pu-238	0.0031 +/-0.0063	0.0042	pCi/g	U
P7NW@1'	Pu-239/240	0.0046 +/-0.0063	0.0042	pCi/g	LT
P7SW@1'	Pu-238	-0.0026 +/-0.0058	0.0128	pCi/g	U
P7SW@1'	Pu-239/240	0.0020 +/-0.0058	0.009	pCi/g	U
P7SW@3'	Pu-238	-0.0009 +/-0.0059	0.0093	pCi/g	U
P7SW@3'	Pu-239/240	-0.0009 +/-0.0059	0.0093	pCi/g	U
P7NE@1'	Pu-238	-0.0009 +/-0.0060	0.0093	pCi/g	U
P7NE@1'	Pu-239/240	0.0012 +/-0.0060	0.0115	pCi/g	U
P7SE@1'	Pu-238	-0.0009 +/-0.0060	0.0094	pCi/g	U
P7SE@1'	Pu-239/240	-0.0003 +/-0.0060	0.0116	pCi/g	U
I4@1'	Pu-238	0.0006 +/-0.0064	0.01	pCi/g	U
I4@1'	Pu-239/240	0.0009 +/-0.0064	0.0109	pCi/g	U
I4@3'	Pu-238	-0.0006 +/-0.0061	0.0149	pCi/g	U
I4@3'	Pu-239/240	0.0021 +/-0.0061	0.0095	pCi/g	U
I4NW@1'	Pu-238	-0.0003 +/-0.0060	0.0117	pCi/g	U
I4NW@1'	Pu-239/240	0.0030 +/-0.0061	0.0041	pCi/g	U
I4NE@1'	Pu-238	0 +/-0.011	0.008	pCi/g	U
I4NE@1'	Pu-239/240	0.009 +/-0.011	0.008	pCi/g	LT
I4SW@1'	Pu-238	0.003 +/-0.011	0.008	pCi/g	U
I4SW@1'	Pu-239/240	-0.002 +/-0.011	0.019	pCi/g	U
I4SE@1'	Pu-238	-0.002 +/-0.011	0.019	pCi/g	U
I4SE@1'	Pu-239/240	-0.001 +/-0.011	0.016	pCi/g	U
R9@1'	Pu-238	-0.001 +/-0.011	0.015	pCi/g	U
R9@1'	Pu-239/240	0 +/-0.011	0.021	pCi/g	U
R9NW@1'	Pu-238	0 +/-0.011	0.008	pCi/g	U
R9NW@1'	Pu-239/240	0 +/-0.011	0.008	pCi/g	U
R9NW@3'	Pu-238	-0.002 +/-0.011	0.02	pCi/g	U
R9NW@3'	Pu-239/240	0.005 +/-0.011	0.016	pCi/g	U
R9NE@1'	Pu-238	0.002 +/-0.012	0.017	pCi/g	U
R9NE@1'	Pu-239/240	0.002 +/-0.012	0.017	pCi/g	U
R9SE@1'	Pu-238	0.003 +/-0.011	0.008	pCi/g	U
R9SE@1'	Pu-239/240	0.002 +/-0.011	0.016	pCi/g	U
R9SW@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U
R9SW@1'	Pu-239/240	0 +/-0.012	0.023	pCi/g	U
N8@1'	Pu-238	0 +/-0.011	0.022	pCi/g	U
N8@1'	Pu-239/240	0.007 +/-0.013	0.027	pCi/g	U
N8NW@1'	Pu-238	-0.002 +/-0.012	0.02	pCi/g	U
N8NW@1'	Pu-239/240	0.009 +/-0.014	0.025	pCi/g	U
N8NE@1'	Pu-238	-0.002 +/-0.011	0.019	pCi/g	U
N8NE@1'	Pu-239/240	0.011 +/-0.012	0.016	pCi/g	U
N8SE@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U

TABLE 4
STEP OUT SAMPLING
Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Sample ID	Nuclide	Result +/-2 s TPU	MDC	Units	Flags
N8SE@1'	Pu-239/240	0.003 +/-0.012	0.009	pCi/g	U
F4@1'	Pu-238	-0.003 +/-0.012	0.024	pCi/g	U
F4@1'	Pu-239/240	-0.001 +/-0.012	0.018	pCi/g	U
F4NW@1'	Pu-238	0 +/-0.012	0.009	pCi/g	U
F4NW@1'	Pu-239/240	0.007 +/-0.012	0.009	pCi/g	U
F4NE@1'	Pu-238	-0.002 +/-0.011	0.02	pCi/g	U
F4NE@1'	Pu-239/240	-0.002 +/-0.011	0.02	pCi/g	U
F4NE@3'	Pu-238	0.002 +/-0.012	0.017	pCi/g	U
F4NE@3'	Pu-239/240	0.001 +/-0.012	0.021	pCi/g	U
F4SW@1'	Pu-238	0.005 +/-0.012	0.021	pCi/g	U
F4SW@1'	Pu-239/240	-0.008 +/-0.012	0.033	pCi/g	U
F4SE@1'	Pu-238	-0.001 +/-0.011	0.016	pCi/g	U
F4SE@1'	Pu-239/240	-0.002 +/-0.011	0.019	pCi/g	U
AVERAGE	Pu-238	0.0002	0.014922	pCi/g	
MAX	Pu-238	0.008	0.024	pCi/g	
MIN	Pu-238	-0.0031	0.0039	pCi/g	
AVERAGE	Pu-239/241	0.0021	0.016185	pCi/g	
MAX	Pu-239/241	0.013	0.033	pCi/g	
MIN	Pu-239/241	-0.008	0.0041	pCi/g	

TABLE 5
SPATIAL SAMPLING
STRONTIUM - 90

SAMPLE ID	NUCLIDE	Result +/- 2 s TPU	MDC	UNITS	NOTES
4000-1'	Sr-90	0.07 +/-0.11	0.25	pCi/g	U
4001-1'	Sr-90	0.12 +/-0.12	0.26	pCi/g	U
4002-3'	Sr-90	0.09 +/-0.14	0.29	pCi/g	U
4003-1'	Sr-90	0.05 +/-0.12	0.27	pCi/g	U
4004-3'	Sr-90	0.07 +/-0.12	0.27	pCi/g	U
4005-1'	Sr-90	0.03 +/-0.12	0.27	pCi/g	U
4006-1'	Sr-90	0.16 +/-0.13	0.25	pCi/g	U
4007-1'	Sr-90	0.17 +/-0.12	0.24	pCi/g	Y1,U
4008-1'	Sr-90	0.14 +/-0.13	0.26	pCi/g	U
4009-1'	Sr-90	0.02 +/-0.11	0.25	pCi/g	U
4010-3'	Sr-90	0.10 +/-0.14	0.3	pCi/g	U
4011-1'	Sr-90	0.11 +/-0.12	0.24	pCi/g	U
4012-1'	Sr-90	0.07 +/-0.12	0.28	pCi/g	U
4013-1'	Sr-90	0.01 +/-0.11	0.26	pCi/g	U
4014-1'	Sr-90	-0.01 +/-0.15	0.35	pCi/g	U
4015-1'	Sr-90	-0.02 +/-0.14	0.33	pCi/g	U
4016-1'	Sr-90	0.15 +/-0.12	0.25	pCi/g	U
4017-3'	Sr-90	0.016 +/-0.088	0.199	pCi/g	U
4018-3'	Sr-90	0.026 +/-0.091	0.204	pCi/g	U
4019-1'	Sr-90	0.051 +/-0.092	0.201	pCi/g	U
4020-1'	Sr-90	-0.03 +/-0.10	0.24	pCi/g	Y1,U
4021-1'	Sr-90	0.08 +/-0.13	0.28	pCi/g	U
4022-3'	Sr-90	0.06 +/-0.11	0.25	pCi/g	U
4023-1'	Sr-90	-0.03 +/-0.11	0.25	pCi/g	U
4024-1'	Sr-90	-0.02 +/-0.11	0.26	pCi/g	U
4025-3'	Sr-90	0.13 +/-0.12	0.24	pCi/g	U
4026-1'	Sr-90	0.11 +/-0.11	0.24	pCi/g	U
4027-1'	Sr-90	0 +/-0.11	0.27	pCi/g	U
4028-1'	Sr-90	0.10 +/-0.12	0.27	pCi/g	U
4029-1'	Sr-90	0.16 +/-0.12	0.24	pCi/g	U
4030-1'	Sr-90	0.05 +/-0.11	0.25	pCi/g	U
4032@1'	Sr-90	-0.07 +/-0.10	0.25	pCi/g	U
4033@3'	Sr-90	0.02 +/-0.11	0.26	pCi/g	U
4034@1'	Sr-90	0.05 +/-0.11	0.26	pCi/g	U
4035@1'	Sr-90	0.06 +/-0.13	0.28	pCi/g	U
4036@1'	Sr-90	0.18 +/-0.14	0.27	pCi/g	U
4037@1'	Sr-90	0.08 +/-0.12	0.26	pCi/g	U
4038@1'	Sr-90	0.04 +/-0.11	0.26	pCi/g	U
4039@1'	Sr-90	0.03 +/-0.11	0.25	pCi/g	U
4040@1'	Sr-90	0.04 +/-0.13	0.28	pCi/g	U
4041@3'	Sr-90	0.11 +/-0.12	0.25	pCi/g	Y1,U
4042@1'	Sr-90	-0.04 +/-0.12	0.28	pCi/g	U
4043@3'	Sr-90	0.06 +/-0.12	0.27	pCi/g	Y1,U
4044@3'	Sr-90	0.08 +/-0.12	0.25	pCi/g	U
4045@1'	Sr-90	0.14 +/-0.13	0.26	pCi/g	U
4046@1'	Sr-90	-0.05 +/-0.11	0.27	pCi/g	U
4047@1'	Sr-90	0 +/-0.11	0.26	pCi/g	U
4048@1'	Sr-90	0.05 +/-0.12	0.27	pCi/g	U

TABLE 5
SPATIAL SAMPLING
STRONTIUM - 90

SAMPLE ID	NUCLIDE	Result +/- 2 s TPU	MDC	UNITS	NOTES
4049@1'	Sr-90	0.07 +/-0.12	0.27	pCi/g	U
4050@1'	Sr-90	-0.01 +/-0.11	0.26	pCi/g	U
4051@1'	Sr-90	0.05 +/-0.12	0.26	pCi/g	U
4052@1'	Sr-90	0.15 +/-0.11	0.21	pCi/g	U
4053@1'	Sr-90	0.056 +/-0.099	0.217	pCi/g	U
4054@1'	Sr-90	0 +/-0.098	0.226	pCi/g	U
4055@3'	Sr-90	-0.083 +/-0.095	0.226	pCi/g	U
4056@1'	Sr-90	0.09 +/-0.10	0.22	pCi/g	U
4057@1'	Sr-90	0 +/-0.10	0.23	pCi/g	U
4058@1'	Sr-90	0.10 +/-0.11	0.22	pCi/g	U
4060@1'	Sr-90	0.08 +/-0.11	0.23	pCi/g	U
4061@3'	Sr-90	0.01 +/-0.10	0.23	pCi/g	U
4062@1'	Sr-90	0.03 +/-0.11	0.24	pCi/g	U
4063@1'	Sr-90	0.02 +/-0.11	0.25	pCi/g	Y1,U
4064@3'	Sr-90	0.020 +/-0.085	0.192	pCi/g	U
4065@3'	Sr-90	0.070 +/-0.094	0.202	pCi/g	U
4066@1'	Sr-90	0.13 +/-0.10	0.2	pCi/g	U
4067@3'	Sr-90	0.049 +/-0.086	0.187	pCi/g	U
4068@1'	Sr-90	0.113 +/-0.096	0.195	pCi/g	U
4069@1'	Sr-90	0.046 +/-0.090	0.198	pCi/g	U
4070@1'	Sr-90	0.001 +/-0.093	0.214	pCi/g	U
4071@1'	Sr-90	0.082 +/-0.095	0.201	pCi/g	U
4072@1'	Sr-90	0.003 +/-0.086	0.197	pCi/g	U
4073@1'	Sr-90	0.14 +/-0.12	0.24	pCi/g	U
4074@1'	Sr-90	0.07 +/-0.12	0.27	pCi/g	U
4075@1'	Sr-90	0.14 +/-0.12	0.24	pCi/g	Y1,U
4076@3'	Sr-90	0 +/-0.11	0.27	pCi/g	U
4077@1'	Sr-90	0.05 +/-0.11	0.25	pCi/g	U
4080@1'	Sr-90	0.14 +/-0.14	0.3	pCi/g	U
4081@1'	Sr-90	0 +/-0.11	0.25	pCi/g	U
4082@1'	Sr-90	0.03 +/-0.12	0.27	pCi/g	U
4083@1'	Sr-90	0.14 +/-0.13	0.27	pCi/g	U
4084@1'	Sr-90	0.01 +/-0.12	0.27	pCi/g	U
4085@1'	Sr-90	0.048 +/-0.099	0.223	pCi/g	Y1,U
4086@1'	Sr-90	0.06 +/-0.12	0.26	pCi/g	U
4088@1'	Sr-90	0.07 +/-0.11	0.23	pCi/g	U
4089@3'	Sr-90	0.05 +/-0.10	0.23	pCi/g	U
4090@3'	Sr-90	0.02 +/-0.10	0.23	pCi/g	U
4091@1'	Sr-90	0.21 +/-0.14	0.27	pCi/g	U
4031@1'	Sr-90	0.48 +/-0.17	0.22	pCi/g	LT
4031@5'	Sr-90	0.37 +/-0.15	0.21	pCi/g	LT
4093@3'	Sr-90	-0.069 +/-0.087	0.216	pCi/g	U
S.FILL1@5'	Sr-90	0.38 +/-0.15	0.22	pCi/g	LT
S.FILL1@7'	Sr-90	0.038 +/-0.092	0.208	pCi/g	U
4092@1'	Sr-90	0.31 +/-0.15	0.26	pCi/g	LT
S.FILL2@8'	Sr-90	0 +/-0.11	0.25	pCi/g	U
W.FILL1@3'	Sr-90	-0.016 +/-0.089	0.213	pCi/g	U
W.FILL2@1'	Sr-90	**0.73 +/-0.23**	**0.24**	pCi/g	

TABLE 5

SPATIAL SAMPLING

STRONTIUM - 90

SAMPLE ID	NUCLIDE	Result +/- 2 s TPU	MDC	UNITS	NOTES
CONCRETE@5'	Sr-90	0.08 +/-0.12	0.26	pCi/g	Y1,U
CONCRETE@12'	Sr-90	0.10 +/-0.12	0.25	pCi/g	U
FILL PILE@3'	Sr-90	0.19 +/-0.15	0.29	pCi/g	U
FA#1@5'	Sr-90	-0.02 +/-0.11	0.27	pCi/g	U
FA#1@12'	Sr-90	0.10 +/-0.13	0.27	pCi/g	U
FA#2@5'	Sr-90	-0.04 +/-0.10	0.25	pCi/g	U
FA#2@12'	Sr-90	0.09 +/-0.11	0.24	pCi/g	U
FA#3@5'	Sr-90	0.03 +/-0.12	0.27	pCi/g	U
FA#3@12'	Sr-90	0.03 +/-0.11	0.26	pCi/g	U
AVERAGE	Sr-90	0.0748	0.248	pCi/g	
MAX	Sr-90	0.73	0.35	pCi/g	
MIN	Sr-90	-0.083	0.187	pCi/g	

TABLE 6
SPATIAL SAMPLING
CESIUM 137

SAMPLE	Result +/-2 sTPU	MDC	Lab Qualifier
4000-1'	0.096 +/-0.078	0.122	U,G
4001-1'	-0.075 +/-0.080	0.164	U,G
4002-3'	0.036 +/-0.082	0.143	U,G
4003-1'	0.093 +/-0.094	0.148	U,G
4004-3'	0.012 +/-0.076	0.138	U,G
4005-1	0.033 +/-0.086	0.151	U,G
4009-1'	0.049 +/-0.061	0.099	U,G
4010-3'	0.050 +/-0.074	0.124	U,G
4011-1'	0.070 +/-0.098	0.162	U,G
4012-1'	0.039 +/-0.066	0.110	U,G
4013-1'	0.024 +/-0.068	0.116	U,G
4014-1'	0.025 +/-0.058	0.098	U,G
4015-1'	0.115 +/-0.079	0.121	U,G
4016-1'	0.021 +/-0.068	0.115	U,G
4017-3'	-0.018 +/-0.079	0.151	U,G
4018-3'	-0.001 +/-0.075	0.140	U,G
4019-1'	-0.018 +/-0.072	0.140	U,G
4020-1'	-0.042 +/-0.064	0.117	U,G
4021-1'	-0.05 +/-0.12	0.23	U,G
4022-3'	-0.006 +/-0.064	0.123	U,G
4023-1'	0.127 +/-0.093	0.138	U,G
4024-1'	0.16 +/-0.10	0.14	LT,G
4025-3'	0.053 +/-0.081	0.135	U,G
4026-1'	0.18 +/-0.10	0.15	LT,G
4027-1'	0.087 +/-0.080	0.123	U,G
4028-1	0.085 +/-0.094	0.150	U,G
4029-1'	0.15 +/-0.11	0.16	U,G
4030-1'	0.03 +/-0.11	0.19	U,G
4032@1'	0.037 +/-0.071	0.122	U,G
4033@3'	0.083 +/-0.080	0.124	U,G
4034@1'	0.11 +/-0.10	0.16	U,G
4035@1'	0.24 +/-0.11	0.14	LT,G
4036@1'	0.36 +/-0.16	0.21	LT,G
4037@1'	0.09 +/-0.10	0.17	U,G
4038@1'	0.032 +/-0.075	0.130	U,G
4039@1'	0.090 +/-0.088	0.139	U,G
4040@1'	-0.071 +/-0.082	0.167	U,G
4041@3'	0.083 +/-0.074	0.111	U,G
4042@1'	-0.051 +/-0.081	0.159	U,G
4043@3'	0.024 +/-0.084	0.147	U,G

TABLE 6

SPATIAL SAMPLING

CESIUM 137

SAMPLE	Result +/-2 sTPU	MDC	Lab Qualifier
4044@3'	-0.056 +/-0.077	0.154	U,G
4045@1'	0.021 +/-0.092	0.165	U,G
4046@1'	0.12 +/-0.11	0.17	U,G
4047@1'	-0.019 +/-0.074	0.140	U,G
4048@1'	0.17 +/-0.12	0.18	U,G
4049@1'	0.018 +/-0.081	0.144	U,G
4050@1'	0.019 +/-0.094	0.168	U,G
4051@1'	0.021 +/-0.070	0.123	U,G
4052@1'	0.117 +/-0.085	0.122	U,G
4053@1'	0.058 +/-0.086	0.144	U,G
4054@1'	0.07 +/-0.10	0.17	U,G
4055@3'	0.031 +/-0.064	0.110	U,G
4056@1'	0.077 +/-0.075	0.117	U,G
4057@1'	0.123 +/-0.096	0.142	U,G
4058@1'	0.006 +/-0.068	0.125	U,G
4060@1'	0.039 +/-0.083	0.144	U,G
4061@3'	0.038 +/-0.070	0.120	U,G
4062@1'	0.098 +/-0.096	0.152	U,G
4063@1'	0.19 +/-0.12	0.17	LT,G
4064@3'	0.023 +/-0.081	0.143	U,G
4065@3'	0.046 +/-0.080	0.136	U,G
4066@1'	0.27 +/-0.13	0.17	LT,G
4067@3'	0 +/-0.076	0.142	U,G
4068@1'	0.109 +/-0.091	0.140	U,G
4069@1'	0.047 +/-0.088	0.150	U,G
4070@1'	0.016 +/-0.064	0.116	U,G
4071@1'	0.090 +/-0.097	0.155	U,G
4072@1'	0.044 +/-0.070	0.118	U,G
4073@1'	-0.006 +/-0.086	0.158	U,G
4074@1'	0.031 +/-0.079	0.138	U,G
4075@1'	0.04 +/-0.10	0.17	U,G
4076@3'	-0.006 +/-0.077	0.145	U,G
4077@1'	0.057 +/-0.095	0.160	U,G
4080@1'	0.20 +/-0.12	0.18	LT,G
4081@1'	0.010 +/-0.095	0.171	U,G
4082@1'	0.10 +/-0.10	0.17	U,G
4083@1'	0.08 +/-0.10	0.17	U,G
4084@1'	0.15 +/-0.11	0.15	LT,G
4085@1'	-0.025 +/-0.066	0.128	U,G
4086@1'	0.06 +/-0.10	0.17	U,G

TABLE 6
SPATIAL SAMPLING
CESIUM 137

SAMPLE	Result +/-2 sTPU	MDC	Lab Qualifier
4088@1'	0.30 +/-0.14	0.17	LT,G
4089@3'	0.010 +/-0.069	0.124	U,G
4090@3'	0.036 +/-0.088	0.152	U,G
4091@1'	0.040 +/-0.096	0.166	U,G
4031@1'	0.018 +/-0.057	0.097	U,G
4031@5'	0 +/-0.070	0.129	U,G
4093@3'	-0.006 +/-0.084	0.155	U,G
S.FILL1@5'	-0.047 +/-0.071	0.141	U,G
S.FILL1@7'	-0.016 +/-0.058	0.103	U,G
4092@1'	0.013 +/-0.092	0.166	U,G
S.FILL2@8'	0.005 +/-0.072	0.132	U,G
W.FILL1@3'	0.065 +/-0.077	0.124	U,G
W.FILL2@1'	0.054 +/-0.038	0.058	U
CONCRETE@5'	-0.010 +/-0.066	0.129	U,G
CONCRETE@12'	-0.008 +/-0.088	0.165	U,G
FILL PILE@3'	-0.13 +/-0.11	0.23	U,G
FA#1@5'	0.051 +/-0.072	0.119	U,G
FA#1@12'	-0.017 +/-0.074	0.141	U,G
FA#2@5'	0.037 +/-0.085	0.147	U,G
FA#2@12'	0 +/-0.079	0.145	U,G
FA#3@5'	0.034 +/-0.069	0.119	U,G
FA#3@12'	-0.071 +/-0.091	0.179	U,G
AVERAGE	0.0509	0.1435	
MAX	0.36	0.23	
MIN	-0.13	0.058	

APPENDIX

ALLWEST REMEDIATION Inc.

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SUPPLEMENTAL RADIOLOGICAL INVESTIGATION SAMPLING AND ANALYSIS PLAN

Sterling Homes Development
West Hills, CA

March 9, 2007

PREPARED FOR:

Centex Homes
27200 Tourney Road Suite 200
Valencia, CA 91355

PREPARED BY:

Allwest Remediation Inc.
1201 North Barsten Way
Anaheim, CA 92806

TABLE OF CONTENTS

1.0 INTRODUCTION

The Centex Sterling Homes Site is located in West Hills, California, just west of the intersection of Roscoe Blvd and Valley Circle Blvd. in an area known as Dayton Canyon. The Sterling residential development site encompasses approximately 100 acres of undeveloped land. The proposed Sterling Homes Development site is located approximately 0.5 miles directly east of the eastern boundary of the Rocketdyne/Boeing facility test site, also known as the Santa Susana Field Laboratory (SSFL) in Ventura County, California, as shown in Figure 1. The Rocketdyne/Boeing Facility has been used since 1948 for the research, development and testing of liquid-propellant rocket engines and associated components. The facility was also used by the Department of Energy for nuclear energy research and development, and operated several nuclear reactors onsite.

Due to the proximity of the Sterling Site to the SSFL, a radiological survey was conducted as part of the Preliminary Endangerment Assessment. Allwest Remediation performed a radiological survey and collected samples for laboratory analysis at a rate of approximately 10 percent of the grids monitored, as described in the November 22, 2005 PEA Workplan approved by DTSC.

The results of the radiological survey and the radiological laboratory analysis are presented in the *June 7, 2006 Radiological Investigation Report*. The *Radiological Investigation Report* was submitted to DTSC for review.

Comments received from DTSC's review of the *Radiological Investigation Report* request additional radiological sampling be performed in areas which may have levels of radioactivity near the upper limits of background concentrations. Additional radiological sampling to increase the spatial coverage of the proposed residential area is also planned.

The purpose of this Sampling and Analysis Plan is to:

- Present a rationale for the selection of areas for additional radiological sampling.
- Identify the specific areas to be sampled.
- Identify the radio-nuclides to be analyzed for by the laboratory.
- Present the procedures to be used to collect and analyze the samples, and document the collection and laboratory activities.
- Identify the relevant quality assurance and quality control procedures to assure the acceptability of the data collected.

2.0 BACKGROUND

A radiological survey was conducted in October 2005, and the highest and lowest exposure rate readings were recorded for each of the 100 foot by 100 foot grid areas shown in Figure 2. The results of the radiological survey are discussed in more detail in the *Radiological Investigation Report.* The radiological survey and soil sampling for radiological laboratory analysis were performed as indicated in the *November 22, 2005*, *Preliminary Endangerment Assessment Workplan.*

Based on the results to the radiological survey, forty-one (41) samples were randomly collected for radiological laboratory analysis. These samples were collected from the areas shown in Figure 2. The samples were analyzed by FGL Laboratories, located in Santa

Paula, California. The samples were analyzed for the naturally occurring radionuclides, Actinium-228, Bismuth-212, Bismuth-214, Lead-212, Potassium-41, and Gross Alpha and Beta radiation. The samples were also analyzed for Cesium-137, a man made isotope associated with nuclear research. The results of the analyses are summarized in Table 1.

Five (5) of the samples discussed above were submitted to Paragon Laboratories (Fort Collins, Colorado) and ten (10) of the samples to SC & A Laboratories (Montgomery, Alabama) for additional analysis for Strontium-90 and Plutonium-238, 239 and 240. The results of these analyses are summarized in Table 2. The results of the radiological investigation are discussed in more detail in the June 7, 2006, *Radiological Investigation Report.*

DTSC performed a review of the June 7, 2006 *Radiological Investigation Report*. Based on their evaluation of the data, DTSC recommended that additional radiological samples be collected and analyzed, from areas which are near the upper bound statistical limits of the data. The original sample locations approaching the statistical upper bound limits should be re-sampled and four additional step out samples collected and analyzed.

3.0 PROPOSED SCOPE OF WORK

3.1 Radionuclides of Concern

Based on DTSC's comments, the following radionuclides will be analyzed for by the laboratory as part of the step out sampling:

- Cesium-137 (Cs-137)
- Strontium 90 (Sr-90)
- Plutonium-238/239 and 240 (Pu-238/239/240)

3.2 Proposed Step Out Sampling Locations

To determine the areas where additional "step out" sampling would be conducted, the laboratory data for Cs-137, Sr-90 and Pu-238/239 and 240 were compared to their statistical distributions. By comparing the laboratory data to the upper bound statistical limits for each radionuclide, areas exceeding the upper bound limit are identified. Table 3 presents an evaluation of the laboratory data for Cs-137, Sr-90 and Pu-238/239 and 240. Data values for each nuclide which are greater than the upper bound 98th percentile are highlighted in red. Based on the data distribution shown in Table 3, twelve (12) locations were selected for additional "step out" sampling, as shown in Figure 3.

As shown in Figure 3, for each step out area selected for additional sampling, one (1) sample will be collected from the original sampling location. Up to four (4) samples will be collected from the adjacent grids, approximately 80 to 100 feet from the original sampling location.

3.3 Step Out Sampling Procedures

The scope of work for this proposal includes the collection and analysis of soil samples for radiological analysis. The work will be performed by Allwest Remediation under

DTSC oversight. The following procedures will be used to collect the supplemental radiological soil samples.

1) The prior radiological sampling points will be located using GPS coordinates.

2) The locations of the proposed samples will be identified and staked.

3) Vegetation and/or debris will be carefully removed to minimize soil disturbance around the proposed sampling location.

4) Soil samples will be collected using a trowel or hand auger. The samples will be collected from 0 to 1 foot below ground surface.

5) The soil sample will be divided into three portions, and then placed in clean jars.
   - One sample will be used for laboratory analysis
   - One sample will be retained for possible future use
   - One sample will be collected for duplicate analysis for each 10 samples analyzed.

6) The sample jars will be labeled indicating the date, time, sampler, location and sample Identification number.

7) The samples will be labeled and shipped under chain of custody to the radiological laboratory.

8) The samples will be analyzed as indicated in Table 4. Tables 4 and 5 indicate the minimum quality assurance/quality control criteria for the samples.

9) On receipt of the radiological data, a brief report will be prepared comparing the results of the previous investigation and the supplemental radiological investigation.

The above sampling activities will be conducted using the procedures presented in the November 22, 2005 *Preliminary Endangerment Assessment Workplan*.

3.4 Residential Spatial Sampling

The proposed additional spatial sampling is shown in Figure 4. The proposed spatial sampling will be conducted using the same procedures shown in Section 3.3, with the exception that samples will be collected at additional depths, as indicated in Figure 4. Samples to be collect at depths bellow one foot will be collected using a hand auger, or hollow stem auger. As shown in Figure 4, at least one (1) sample will be analyzed from each location. The remaining samples from each location will be retained for later analysis. As indicated in Figure 4, native soil samples will be collected from areas with fill or soil piles. The samples will be analyzed for Cesium-137, and Strontium-90. Samples will not be analyzed for Plutionium, unless significant levels are identified during the step out sampling described in Section 3.2

4.0 SCHEDULE

The sampling activities described above will be initiated on receipt of DTSC's approval. The field sampling activities will require approximately two to three weeks to complete. Due to the large number of samples, approximately 30 days will be required to complete the laboratory analyses.

5.0 STATEMENT OF LIMITATIONS

Information provided in this report by Allwest Remediation, Inc., Project Number 05-8520 is intended exclusively for the use of Centex in the assessment of potential environmental liability for the subject property. The findings and conclusions discussed in this report are based on field and laboratory data collected during the course of this investigation and our current understanding and interpretation of environmental regulatory agency regulations, guidelines and policies. The professional services have been performed in accordance with practices generally accepted by other construction engineers, geologists, hydrogeologists, environmental engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. There is no guarantee that the work conducted will identify any and all sources or locations of contamination.

Respectfully submitted,

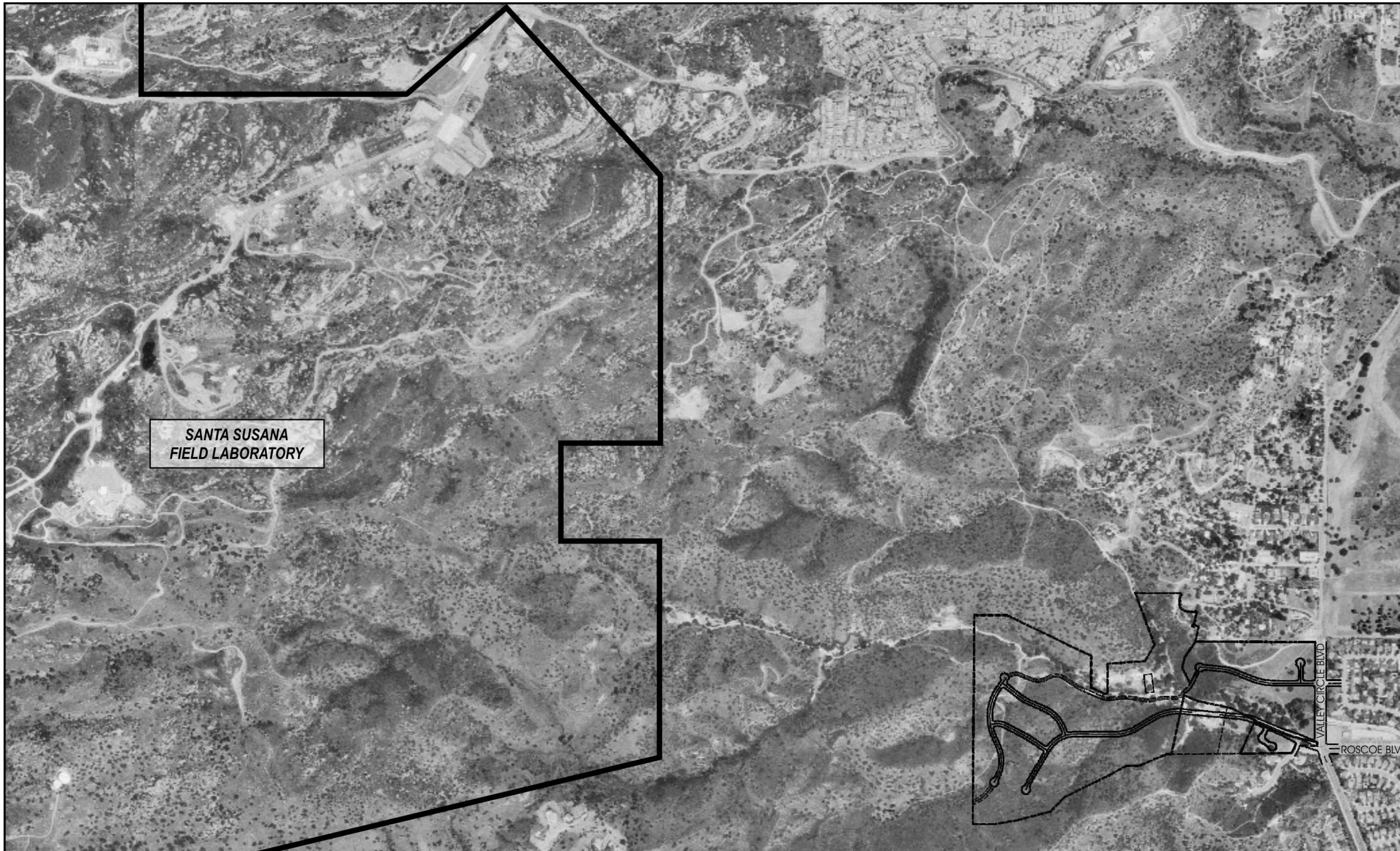
ALLWEST REMEDIATION, INC.

RICHARD SCOTT
Operations Manager

JOHN LANDGARD
President, RG, CHG

CERTIFIED HYDROGEOLOGIST
JOHN A. LANDGARD
No. HG452
Exp. 6-30-08
REGISTERED GEOLOGIST
STATE OF CALIFORNIA

FIGURES



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LEGEND

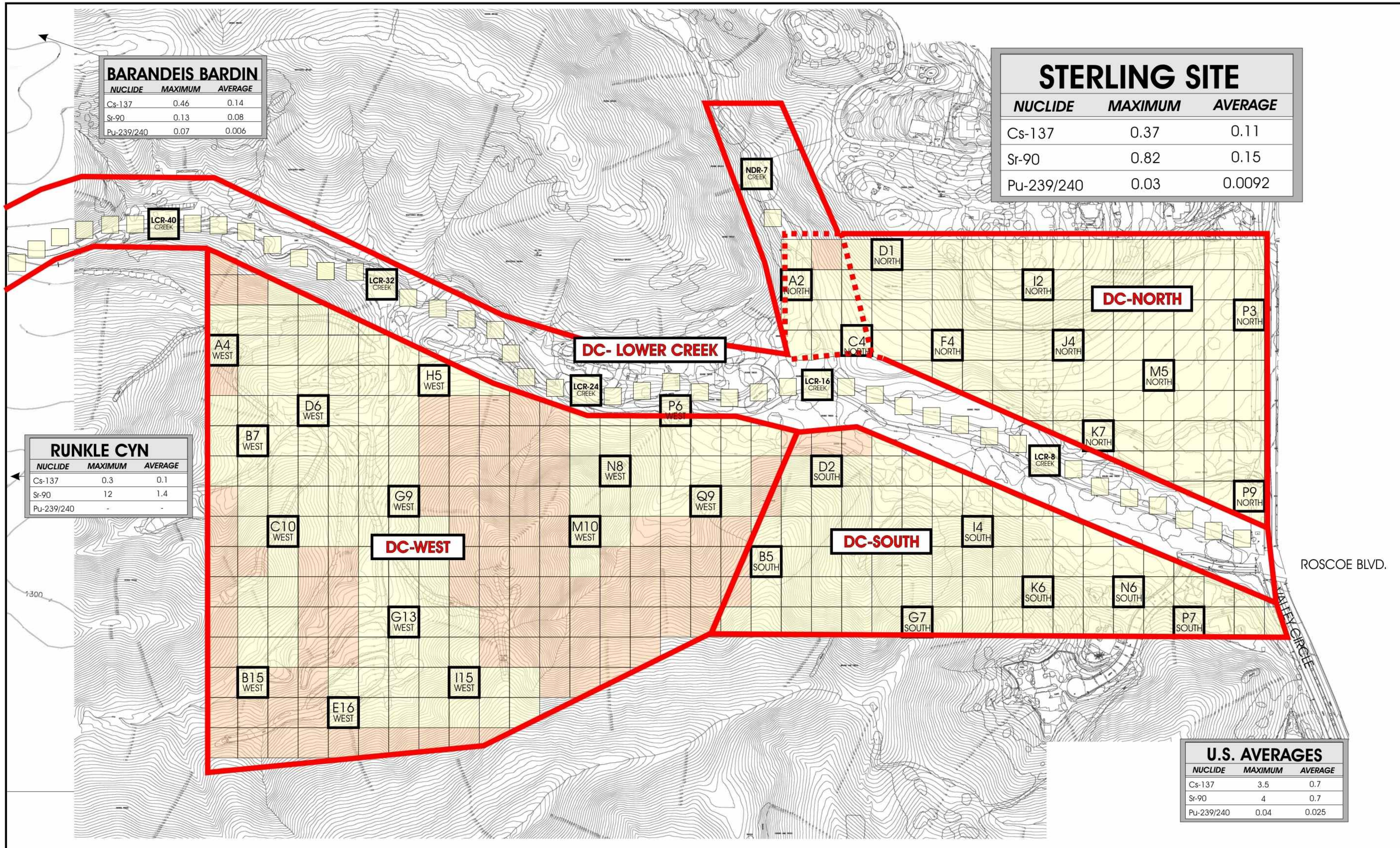
SANTA SUSANA FIELD LABORATORY

PROJECT LAYOUT

SITE VICINITY MAP
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520	DATE: FEB 2007	FIGURE NO. 1



BARANDEIS BARDIN

NUCLIDE	MAXIMUM	AVERAGE
Cs-137	0.46	0.14
Sr-90	0.13	0.08
Pu-239/240	0.07	0.006

STERLING SITE

NUCLIDE	MAXIMUM	AVERAGE
Cs-137	0.37	0.11
Sr-90	0.82	0.15
Pu-239/240	0.03	0.0092

RUNKLE CYN

NUCLIDE	MAXIMUM	AVERAGE
Cs-137	0.3	0.1
Sr-90	12	1.4
Pu-239/240	-	-

U.S. AVERAGES

NUCLIDE	MAXIMUM	AVERAGE
Cs-137	3.5	0.7
Sr-90	4	0.7
Pu-239/240	0.04	0.025

N

LEGEND

100'x100' SAMPLE GRID AREA MONITORED

GRID NOT MONITORED AREA NOT ACCESSIBLE

B15 WEST — SAMPLE COLLECTED

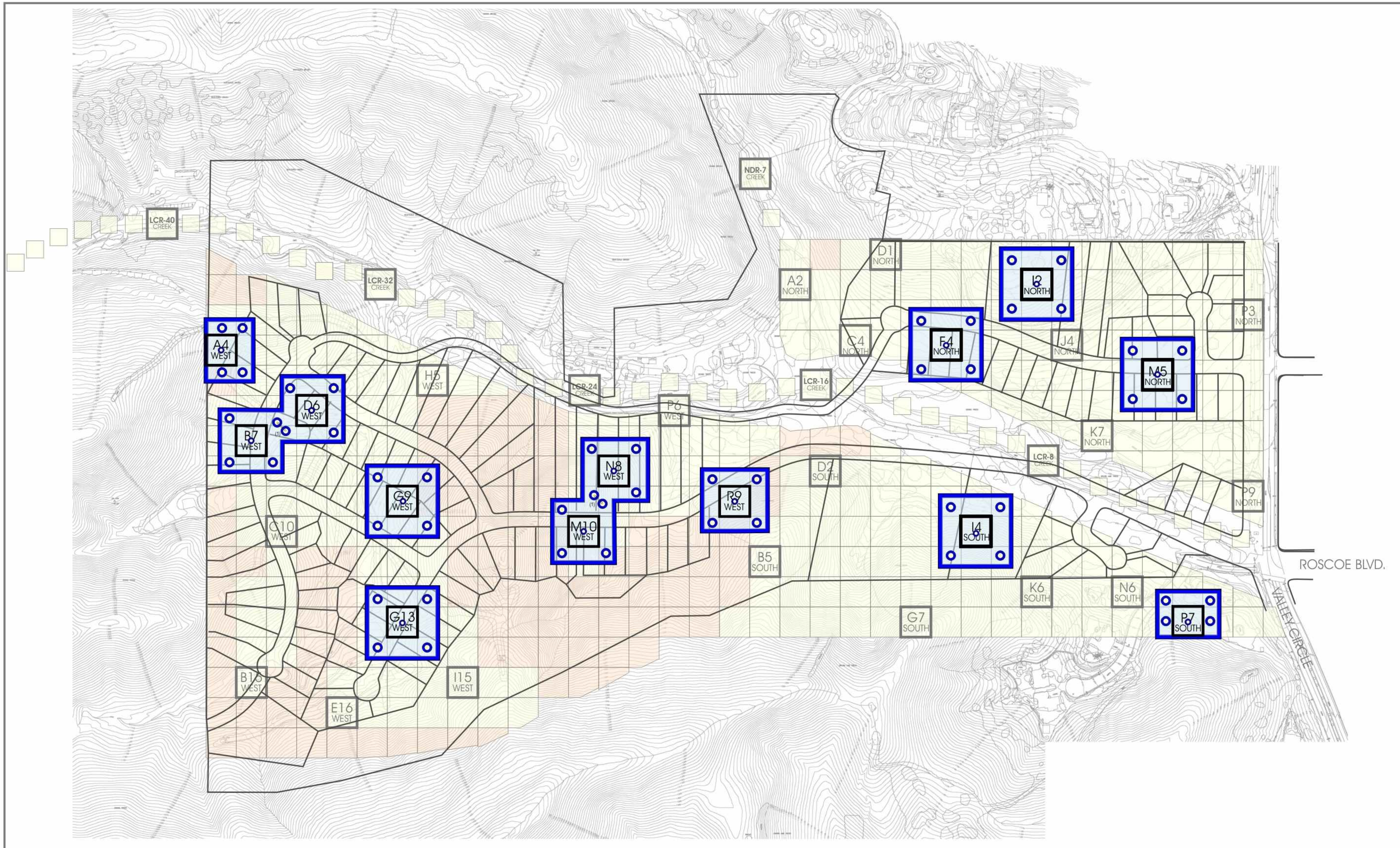
SAMPLING AREAS

RADIOLOGICAL SAMPLING SUMMARY RESULTS AND BACKGROUND COMPARISON

STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520	DATE: FEB 2007	FIGURE NO. 2



LEGEND

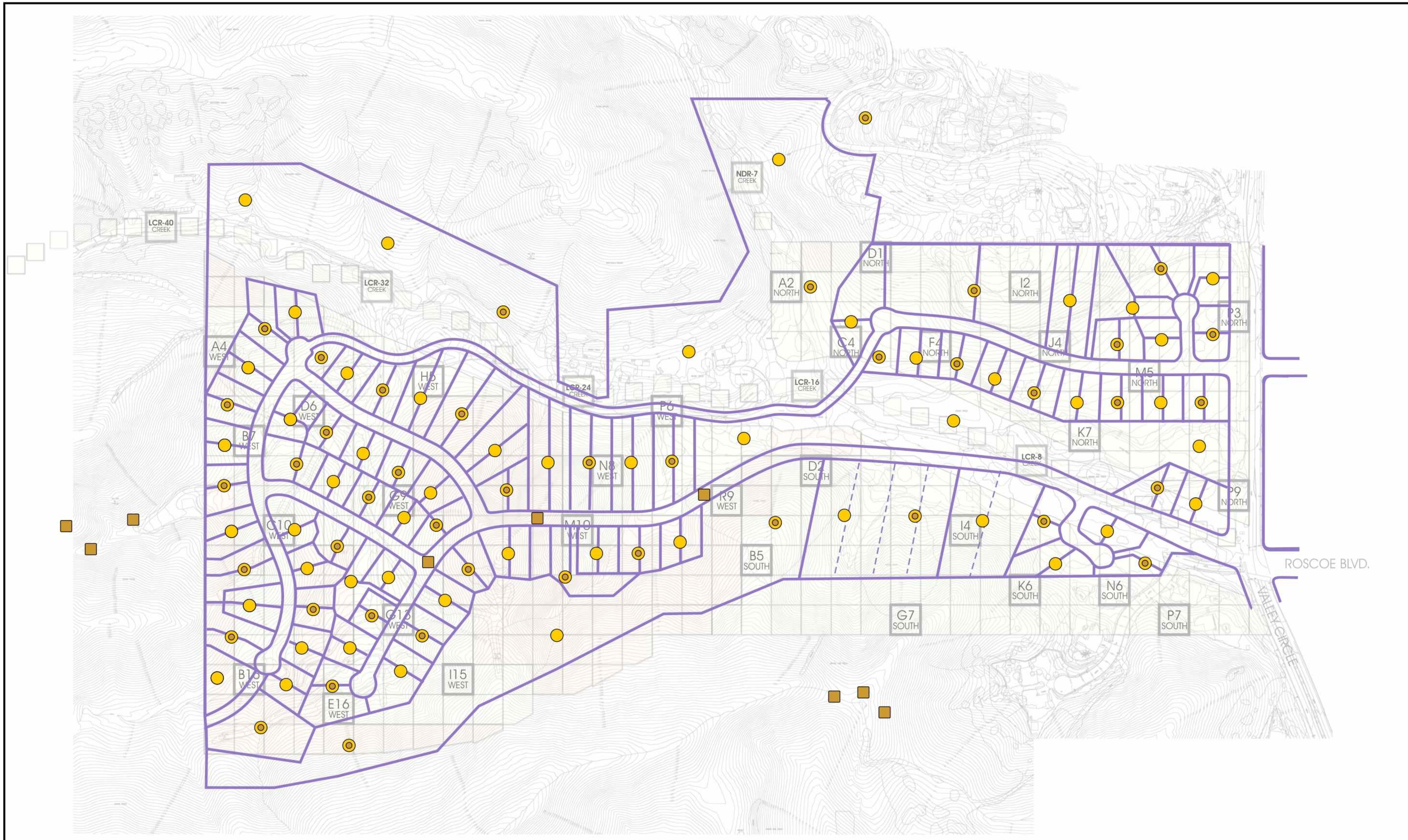
- 100'x100' SAMPLE GRID AREA MONITORED
- B15 WEST — SAMPLE COLLECTED
- GRID NOT MONITORED AREA NOT ACCESSIBLE
- PROPOSED RADIOLOGICAL MONITORING AREA
- PROPOSED SAMPLING LOCATIONS
- (1) PROPOSED COMBINED SAMPLING LOCATIONS

N

PROPOSED RADIOLOGICAL SAMPLING
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520	DATE: FEB 2007	FIGURE NO. 3



LEGEND

- RESIDENTIAL LOT LINES
- 1' SAMPLE DEPTH (TO BE ANALYZED, 3' SAMPLE TO BE RETAINED)
- 3' SAMPLE DEPTH (TO BE ANALYZED, 1' SAMPLE TO BE RETAINED)
- SAMPLE OF NATIVE SOIL (DEPTH TO BE DETERMINED)

PROPOSED SPATIAL SAMPLING OF RESIDENTIAL LOTS

STERLING HOMES

WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520 | DATE: FEB 2007 | FIGURE NO. 4

TABLES

TABLE 2

SUMMARY OF LABORATORY ANALYSIS FOR
Sr-90, Pu-238, Pu-239, Pu-240

SAMPLE ID	STRONTIUM-90		PLUTONIUM				LABORATORY
			Pu-238		Pu-239/240		
	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	ACTIVITY p Ci/g	DETECTION LIMIT p Ci/g	
F-4-N	**0.30**	0.21	0.005	0.016	0.006	0.008	P
B-5-S	0.038	0.217	0.002	0.016	**0.019**	0.009	P
C-10-W	0.043	0.202	0.003	0.009	-0.001	0.017	P
N-8-W	**0.35**	0.21	0.003	0.019	0.019	0.023	P
M-10-W	0.12	0.21	-0.002	0.020	0.016	0.023	P
A-4-W	0.586	0.778	0.004	0.012	0.006	0.023	SCA
D-6-W	0.192	0.715	0.000	0.012	0.005	0.012	SCA
G-9-W	**0.824**	0.703	0.000	0.011	0.008	0.011	SCA
P-6-W	-0.586	0.904	0.000	0.010	**0.012**	0.010	SCA
G-13-W	0.087	0.872	-0.003	0.023	**0.026**	0.012	SCA
R-9-W	-0.183	0.843	0.000	0.010	0.004	0.010	SCA
I-4-S	0.470	0.782	-0.002	0.020	-0.002	0.020	SCA
N-6-S	-0.256	0.761	0.002	0.021	**0.016**	0.011	SCA
A-2-N	0.155	0.740	-0.003	0.025	0.002	0.025	SCA
M-5-N	0.64	0.655	0.002	0.019	0.002	0.019	SCA
LCR-40	-0.306	0.652	0.000	0.046	0.000	0.046	SCA
LCR-24	-0.198	0.674	0.016	0.043	0.000	0.043	SCA
LCR-8	0.013	0.523	0.000	0.043	0.000	0.043	SCA

P=PARAGON LAROATORIES

SCA = S. COHEN AND ASSOCIATES LABORATORY

p Ci/g = PICO CURIES PRE GRAM

BOLD = ABOVE DETEDCTION LIMIT

TABLE 3

Statistical Evaluation of Radiological Data

METHOD 901.1/9310 (Results in pCi/g)

Sample I.D.	Sample Date	(Cs-137)	(Sr-90)	(Pu-238)	(Pu-239/240)	LOCATION SELECTED FOR SUPPLEMENTAL RADIOLOGICAL INVESTIGATION
UPPER BOUND 98TH PERCENTILE pCi/g		0.21	0.34	0.005	0.025	-
A2-N	10/27/2005	0.00201	0.155	-0.003	0.002	
C4-N	10/27/2005	0.15				
D1-N	10/27/2005	0.0424				
F4-N	10/27/2005	0.134	0.3	0.005	0.006	√
I2-N	10/27/2005	0.26				√
J4-N	10/27/2005	0.093				
M5-N	10/27/2005	0.0434	0.064	0.002	0.002	√
K7-N	10/27/2005	0.0408				
P3-N	10/27/2005	0.05				
P9-N	10/27/2005	0.128				
B5-S	10/27/2005	0.167	0.038	0.002	0.019	
D2-S	10/28/2005	0.031				
G7-S	10/28/2005	0.133				
I4-S	10/27/2005	0.0316	0.47	-0.002	-0.002	√
N6-S	10/28/2005	0.055	-0.256	0.002	0.016	
K6-S	10/28/2005	0.0965				
P7-S	10/28/2005	0.0356				
A4-W	10/31/2005	0.0552	0.586	0.004	0.006	√
B7-W	10/31/2005	0.215				√
E16-W	10/31/2005	0.0127				
B15-W	10/31/2005	0.0769				
C10-W	10/31/2005	0.0578	0.043	0.003	-0.001	
D6-W	10/31/2005	0.217	0.192	0	0.005	√
G9-W	10/31/2005	0.31	0.824	0	0.008	√
G13-W	10/31/2005	0.262	0.087	-0.003	0.026	√
H5-W	10/31/2005	0.0889				
I15-W	10/31/2005	0.187				
M10-W	10/31/2005	0.377	0.12	-0.002	0.016	√
N8-W	10/28/2005	0.378	0.35	0.003	0.019	√
P6-W	10/28/2005	0.0989	-0.586	0	0.012	
R9-W	10/28/2005	0.036	-0.183	0	0.004	√
LCR-40			-0.306	0	0	
LCR-24			-0.198	0.016	0	
LCR-8			0.013	0	0	

Samples highlighted in red exceed the upperbound 98th Percentile

TABLE 4
LABORATORY-SPECIFIC ANALYTICAL DATA QUALITY OBJECTIVES

ANALYTE (S)	ANALYTICAL METHOD	DETECTION LIMIT (1)	ACCURACY (%) (2)	PRECISION (%)	COMPLETENESS (%)	CONTAINER	PRESERVATIVE	HOLDING TIME
Cesium 137	901.1	0.01 pCi/g	75-125	± 25	90	Tube or jar Teflon sealed	None < 4° C	6 months
Strontium 90	SRW-01	0.250 pCi/g	75-125	± 25	90	Tube or jar Teflon sealed	None < 4° C	6 months
Plutonium 238	ACW-03	0.02 pCi/g	75-125	± 30	90	Tube or jar Teflon sealed	None < 4° C	6 months
Plutonium 239/240	ACW-03	0.01 pCi/g	75-125	± 25	90	Tube or jar Teflon sealed	None < 4° C	6 months

(1) Detection limits and data management considerations per SW-846 and EPA procedure (Detection limits can vary do to sample matrix).

(2) Acurracy and precision are matrix- and analyte-specific

(3) Lower detection limits may be achieved with large sample size and extended counting times.

TABLE 5

DETAILED QA/QC REPORTING REQUIREMENTS

METHODS OF ANALYSIS		REQUIRED QA/QC REPORTS				
METHOD	EPA TEST METHOD	DUPLICATE	REAGENT OR LABORATORY BLANK	MATRIX SPIKE	MATRIX SPIKE DUPLICATE	SURROGATE RECOVERY
Cesium 137	901.1	(10%)	√			√
Strontium 90	SRW-01	(10%)	√			√
Plutonium 238	ACW-03	(10%)	√			√
Plutonium 239/240	ACW-03	(10%)	√			√

Laborartory QAPP is provided in Appendix B

TABLE 1

RADIOMETRIC RESULTS FOR SOIL SAMPLES

METHOD 901.1/9310 (Results in pCi/g)

Sample I.D.	Sample Date	γ (Ac-228)	γ (Bi-212)	γ (Bi-214)	γ (Cs-137)	γ (Pb-212)	γ (Pb-214)	γ (K-40)	GROSS α	GROSS β
A2-N	10/27/2005	0.561	0.327	0.627	0.00201	0.791	0.705	21.4	16.8	27.6
C4-N	10/27/2005	0.446	0.396	0.937	0.15	1	1.09	19.8	9.39	16.5
D1-N	10/27/2005	0.571	0.496	1.26	0.0424	0.669	1.28	12.6	3.82	2.11
F4-N	10/27/2005	1.3	0.504	0.905	0.134	1.24	0.929	16.8	32.1	43.2
I2-N	10/27/2005	0.887	0.494	0.712	0.26	0.918	0.903	16.2	38.1	29.1
J4-N	10/27/2005	1.15	0.722	1.14	0.093	1.22	1.21	20.6	21.9	19.9
M5-N	10/27/2005	0.833	0.983	NA	0.0434	1.28	1.17	26.5	12.8	17.8
K7-N	10/27/2005	NA	NA	NA	0.0408	1.21	1.04	22.8	7.83	19.6
P3-N	10/27/2005	0.53	NA	0.648	0.05	0.693	0.6	21.3	12.8	18.2
P9-N	10/27/2005	0.887	1.27	1.14	0.128	1.21	1.01	20.7	9.46	20.6
B5-S	10/27/2005	0.867	1.06	1.02	0.167	0.991	NA	13.6	16.8	16
D2-S	10/28/2005	0.442	0.498	0.709	0.031	0.667	0.771	17.4	7.63	16.5
G7-S	10/28/2005	1.31	1.11	1	0.133	1.4	1.17	23.2	17.2	21.6
I4-S	10/27/2005	0.813	0.924	0.961	0.0316	0.857	1.09	17	41.3	49.1
N6-S	10/28/2005	0.939	0.747	1.16	0.055	1.77	1.59	28.1	13.2	26.3
K6-S	10/28/2005	1.16	1.3	0.661	0.0965	1.13	0.625	19.5	16.2	17.5
P7-S	10/28/2005	NA	0.559	1.66	0.0356	1.03	1.68	15	21.9	20.3
A4-W	10/31/2005	1.07	0.46	0.967	0.0552	1.2	0.705	18.5	22.6	28.9
B7-W	10/31/2005	0.859	0.208	0.902	0.215	1.12	0.868	18.3	36.1	38.2
E16-W	10/31/2005	0.862	0.348	0.666	0.0127	0.974	0.816	16.8	12	15.6
B15-W	10/31/2005	1.2	NA	1.1	0.0769	1.08	1.2	15.4	13	10.4
C10-W	10/31/2005	0.79	0.941	0.828	0.0578	0.888	1.03	15.5	38.4	42.1
D6-W	10/31/2005	1.2	NA	1.76	0.217	1.2	1.88	19.5	7.3	14.3
G9-W	10/31/2005	0.921	1.28	1	0.31	1.3	1.27	19.6	11.8	15
G13-W	10/31/2005	1.24	0.899	0.976	0.262	1.18	1.08	20.8	11.5	8.38
H5-W	10/31/2005	NA	0.457	0.756	0.0889	1.22	1.01	18.8	16.6	16.3
I15-W	10/31/2005	1.39	0.569	1.1	0.187	1.39	1.12	21.1	6.95	9.56
M10-W	10/31/2005	0.775	0.771	NA	0.377	1.73	1.56	24	15.9	15
N8-W	10/28/2005	1.48	1.07	1.36	0.378	2.76	1.63	33.7	17.8	17.5
P6-W	10/28/2005	1.22	0.929	1.15	0.0989	1.3	1.26	21.2	15.6	17
R9-W	10/28/2005	0.482	0.346	0.764	0.036	0.924	0.771	14.2	14.2	14.7
Debris P6	10/28/2005	0.714	NA	1.82	0.035	0.803	1.8	13.6	28.4	17.4

NOTE: alpha-numeric string denotes sample location, subsequent letter denotes sampling area

Laboratory Quality Assurance Plan
(LQAP)

PARAGON ANALYTICS

A Division of DataChem Laboratories, Inc.

Laboratory Quality Assurance Plan (LQAP)

Revision 10

September 1st, 2006

Paragon Analytics

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Summary of 2006 LQAP Changes

- Added newly acquired Everett, WA laboratory to Introduction
- 1.3 removed CLP SOW from list
- 1.4 comments on Waste, Abuse and Fraud training added
- 1.5 Ethics and Data Integrity training better highlighted
- 1.6 client QA documents also iterated; retired SOP 929 reference deleted; 1.6.1 contractual specifications also cited; 1.6.2 timeframe in which specific SOP iterations were in force added; biennial technical review and publication added. Statement re: general practices, admin. and Health and Safety SOPs added.
- 2.2.2 removed SOQ item; added MDLs
- 2.2.8 Operations Manager removed
- 2.3 Reorganized to feature General Technical Personnel responsibilities
- 3.13 Included comment about use of reduced aliquots
- 4.2 Added comment that clean containers are segregated
- 4.3 expanded chemical preservatives discussion, and added trace metals grade nitric acid statement
- 4.4 added advance notice of RUSH and short holds
- 4.5 designations of MS/MSD samples by clients made optional, more volume needed statement added; statements about barcodes/scanning, and COC record retention added
- 4.6 added statement about prescreening and SOP reference
- 4.9 added statements referring to refrigerator blanks and catastrophic failure
- 4.10 updated to barcode/scanning
- 4.11 added brief subsampling section.
- 5.1 added prescreen area
- 5.3 updated numbers
- 5.4 added statements about two standards prep labs
- 5.5 added individual lab areas
- 5.6 added other laboratory areas
- 5.7 added 3rd treatment system, updated benchtop reference, added corrective action and maintenance comments
- Chapter 6 - added filters as a matrix, comment that air or biological materials analyses may be available thru our sister laboratories. Also added that proprietary methods can also be used for analysis upon client request
- 7.3 added reference re: verification/ re-verification of radiochemical standards SOP 798
- Chapter 8 - added reference to the ECP
- 9. QC 9.21 added statement allowing for background correction if required by the method
- Added addendum change (QC limits evaluated semi-annually)
- 10.1 added statement that raw data must also be retained as part of laboratory records
- 10.2 added statement that if not evident, reason for the data change must be indicated
- 10.5 added Rad data review SOP reference
- 10.8.2 added that email request for archived information is also acceptable; deleted retired SOP 332 reference; removed ‘backfile conversion’ discussion (not applicable anymore); stated that hardcopy records that have been imaged and verified may be confidentially destroyed (i.e., shredded)
- 10.9 Revamped Client Inquiries/Complaints
- 10.10 Augmented Confidentiality section
- 11. Included SOP revision and retraining as long-term corrective action; discussed time lines/notification to the client; added discussion on corrective action tracking and initiation for internal observations and PT failures
- 12. Included LIMS as a system audit example, and standards and reagents database; left WS PT participation in for now (we may drop this if we drop our SDWA certs)
- 13. Waste and Health & Safety training records kept by those managers statement added

TABLE OF CONTENTS

1. INTRODUCTION

Paragon Analytics (Paragon) is a full service environmental and radiochemistry laboratory located in Fort Collins, Colorado. Paragon is a division of DataChem Laboratories, Inc., and as such, has sister laboratories located in Salt Lake City, Utah; Cincinnati, Ohio; and Everett, Washington. Technical operations at each facility are conducted autonomously.

Paragon performs analyses for organic, inorganic, and radiological constituents in a variety of matrices. Paragon specializes in serving the Department of Energy (DOE), Department of Defense (DoD), and architect-engineering firms. Paragon routinely provides hardcopy data packages and electronic data deliverables that are easily validated by external validators.

The management team at Paragon applies an integrated approach to quality assurance, client service, and efficient operations, that enables Paragon to produce compliant data that meet or exceed all technical and service requirements as prescribed by our clients. This Laboratory Quality Assurance Plan (LQAP) defines Paragon's quality assurance program, and communicates Paragon's goals, values and policies regarding quality, ethical conduct, data integrity, and optimized operations.

1.1 MISSION STATEMENT

A mission statement is a broad statement that is intended to capture why an organization exists and how it is to serve its shareholders, customers and employees. The mission statement is the pinnacle of what an organization is ultimately striving to achieve. Paragon's Mission is to provide high quality analytical chemistry and radiochemistry services on time, and to maintain a stimulating workplace that provides personal growth for employees.

1.2 VISION STATEMENT

A vision statement is a statement intended to capture the one or two things that an organization wants to achieve over the mid- to long-term. It is the integration of an articulated set of longer-range goals. It is that which is just over the horizon. Paragon's Vision is to be recognized by our peers and clients as the premier analytical chemistry and radiochemistry laboratory in the United States.

1.3 QUALITY POLICY

Paragon's goal is to produce data of known, documented, and appropriate quality in accordance with applicable Federal or state regulations and requirements, and National Environmental Laboratory Accreditation Conference (NELAC) standards.

Within this framework, Paragon performs analyses in strict accordance with promulgated methodologies, including:

- USEPA, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods;

- USEPA, Methods for Chemical Analysis of Waters and Wastes (MCAWW);
- USEPA, Methods for Determination of Metals in Environmental Samples;
- American Public Health Association (APHA), Standard Methods for the Examination of Water and Wastewater (SM);
- USEPA, Methods for Determination of Organic Compounds in Drinking Water;
- American Society for Testing and Materials (ASTM), Annual Book of ASTM Standards, Volume 11 – Water and Environmental Technology;
- USDOE, Environmental Measurements Laboratory (EML), Procedures Manual (HASL-300);
- USEPA, Eastern Environmental Radiation Facility (EERF), Radiochemistry Procedures Manual;
- USDOE, Radiological and Environmental Sciences (RESL), Procedures Manual;
- USEPA, Prescribed Procedures for Measurement of Radioactivity in Drinking Water; and
- US, Code of Federal Regulations (40 CFR).

1.4 STATEMENT ON WASTE, ABUSE AND FRAUD

Paragon is committed to achieving our goals in the most efficient and effective manner possible, thus avoiding wasteful use of resources. This is accomplished by assuring the proper utilization of Paragon's purchased materials and equipment, and time and ability of our personnel. Any Paragon employee who has any suggestion or concern regarding Paragon's practices, is encouraged to discuss his/her idea or question with their Department Manger, the Quality Assurance Manager, and/or the Laboratory Director. A means of confidentially reporting concerns anonymously is also available. Grievances and allegations of unethical conduct will be fully investigated and appropriate actions taken.

Training regarding Paragon's Waste, Abuse and Fraud policies is provided to every new staff member, and to all employees lab-wide as an annual refresher. Paragon's policies regarding waste, abuse and fraud are included in **Appendix A**.

1.5 CODE OF ETHICS AND DATA INTEGRITY STATEMENTS

Paragon is responsible for creating a work environment that enables all employees to perform their duties in an ethical manner. It is Paragon's expectation that all employees exhibit professionalism and respect for clients and each other in all interactions and tasks. Paragon requires that each employee abide by the following guidelines:

- Every Paragon employee is responsible for the propriety and consequences of his or her actions. Each employee shall conduct him or herself in a professional manner toward all clients, regulators, auditors, vendors, and other employees. Professional conduct relates to honesty, integrity, respect, and tolerance for cultural diversity.

- Every Paragon employee shall perform all assigned duties in accordance with Paragon's established quality assurance policies and quality control procedures that have been developed to ensure conformance with contractual and regulatory requirements.

- Paragon expects all employees to use professional judgment and to document all situations thoroughly. It is the responsibility of each Paragon employee to consult the Department Manager or Quality Assurance Manager when atypical or unusual situations occur and to disclose and document the decision-making process. Every employee must disclose any instance of noncompliance. Paragon reports all noncompliance issues affecting data to the client.

- It is the responsibility of each Paragon employee to report any suspicion of unethical conduct to the Quality Assurance Manager or the Laboratory Director.

Data integrity procedures provide assurance that a highly ethical approach to testing is a key component of all laboratory planning, training and implementation of methods. The following list provides examples of improper, unethical, or illegal practices that Paragon ***does*** ***not*** tolerate:

- Falsification of records to meet method requirements (e.g., sample records, logbooks, sample results, electronic records). This includes intentional misrepresentation of the date or time of analysis (e.g., intentionally resetting a computer system's or instrument's date and/or time to make it appear that a date/time requirement has been achieved); and unwarranted manipulation of computer software (e.g., improper background subtraction to meet ion abundance criteria for GC/MS tuning compounds).

- Improper use of manual integrations performed to meet calibration or method quality control criteria (e.g., peak shaving or peak enhancement performed solely to meet quality control requirements).

- Selective exclusion of data to meet quality control criteria (e.g., eliminating initial calibration points without technical justification).

- Misrepresentation of quality control samples (e.g., adding surrogates or tracers after sample extraction, omitting preparation steps for quality control samples; over- or under- spiking).

- Reporting results without analyses to support the results (i.e., dry labbing).

- Notation of matrix interference as basis for exceeding acceptance limits in interference-free matrices.

- Intentional plagiarism or willful misrepresentation of another employee's work as one's own (e.g., Initial or Continuing Demonstration of Capability study (IDOC, CDOC) or Proficiency Testing (PT) study).

Strict adherence to Paragon's Code of Ethics and Data Integrity is essential to the reputation and continued health of our business. All Paragon employees are required to acknowledge their responsibility and intent to behave in an ethical manner by attesting to the requirements described above upon joining the Paragon staff, and annually thereafter. Included in **Appendix A** are the ethics documents that every employee is required to review and attest to.

1.6 REVIEW, REVISION, DISTRIBUTION AND HIERARCHY OF QUALITY ASSURANCE DOCUMENTS

Current copies of pertinent quality assurance guidance documents, such as Paragon's LQAP, the NELAC standards, the US DOE Quality Systems for Analytical Services (QSAS), the US DoD Quality Systems Manual (QSM) and others, are posted to the Paragon network so that they are accessible to every employee. Laboratory Standard Operating Procedures (SOPs) and other method references are also posted to the network for lab-wide employee access. Project-specific requirements are disseminated to the laboratory via Laboratory Information Management Systems (LIMS) program specifications (discussed further below).

Paragon's recognizes a hierarchy of guidance that provides for comprehensive definition, yet flexible coverage, thus enabling both overall program and site-specific needs to be met. An overview explaining this hierarchy is given below. **SOP 926** provides detailed guidance on the review, revision, and distribution of laboratory-generated controlled documents.

1.6.1 LABORATORY QUALITY ASSURANCE PLAN

The LQAP is the primary document that describes Paragon's quality assurance program and policies. All programs, policies, and procedures have been developed and implemented in accordance with applicable USEPA requirements, regulations, and guidance; the NELAC standards; and requirements set forth in various client quality assurance documents and contractual specifications. This document has been prepared in accordance with these referenced documents, as well as others, cited in **Appendix B**.

The LQAP serves to provide a framework for the quality assurance (QA) program and policies, and quality control (QC) procedures to be followed in the absence of project-specific requirements.

The Quality Assurance Manager (QAM) bears primary responsibility for ensuring that the LQAP meets industry standards. Proposed revisions to the LQAP are approved by key laboratory personnel (i.e., Laboratory Director, Quality Assurance Manager, and every Technical or Department Manager). Following approval, the QAM posts the revised LQAP to the Paragon network, and distributes attestation notifications to each laboratory Department, which are returned signed to the QA Department, to document implementation of the revised LQAP. Every employee must review the LQAP upon hire and annually thereafter. Archival records of all LQAP iterations are maintained by the Quality Assurance Department.

1.6.2 STANDARD OPERATING PROCEDURES

The second kind of document in the hierarchy of quality assurance guidance are the Standard Operating Procedures (SOPs). An SOP defines the QA/QC requirements for each method and describes in detail how personnel perform procedures and evaluate data. SOPs pertaining to general practices (e.g., standards, temperature monitoring, etc.), administrative procedures (e.g., procurement of supplies and materials, etc.) and healthy & safety requirements are also maintained by Paragon. Where SOPs differ from concepts discussed in the LQAP, the requirements of the SOPs supersede the requirements of the LQAP.

Every employee must review assigned SOPs upon hire and annually thereafter. Technical and Department Managers are responsible for coordinating and approving the update of SOPs. Prior to distribution, SOPs are reviewed and approved by the following key personnel: the appropriate Technical Manager, the QAM, and the Laboratory Director. Following approval, the QAM posts the revised SOP to the Paragon network, and distributes attestation notifications to each laboratory Department, which are returned signed to the QA Department to document implementation of the revised SOP. Dated copies of SOPs are removed from access as new revisions become available. Laboratory personnel may only refer to current, controlled SOPs while performing procedures. These practices ensure that the timeframe in which specific SOP iterations were in force is traceable.

With the exception of Drinking Water, and any other SOPs that may be identified as due annually, Paragon has established a biennial technical review and publication schedule. Paragon has approximately

180 SOPs, half are due to be processed in year one of the biennial cycle, with the other half to be processed in year two of the biennial cycle. All employees must still read their assigned SOPs annually.

A list of current SOPs is provided in **Appendix I**. The Quality Assurance Department manages the review, revision and controlled distribution of SOPs and maintains associated records.

1.6.3 LABORATORY MANAGEMET INFORMATION SYSTEMS (LIMS) PROGRAM SPECIFICATION

The last and most specific document in this hierarchy is the distillation of client Quality Assurance Project Plan (QAPjP) or other client requirements, prepared electronically by the Paragon Project Manager in collaboration with applicable Department Managers, as a LIMS program specification. This custom program specification contains controls and directives that govern reporting data. The program specification is often limited in scope and addresses only those QA/QC criteria required for a specific project. When the client's requirements differ from those stated in the SOPs and/or LQAP, the project-specific LIMS program specification requirements supersede the others. It is the responsibility of all personnel who work with samples or data to consult the applicable LIMS program specification for client-specific requirements prior to initiating handling of the samples or data.

2. LABORATORY ORGANIZATION AND RESPONSIBILITIES

This section provides an overview of Paragon's organization and defines key personnel, their responsibilities, and the lines of communication between these employees. An organization chart that illustrates reporting relationships is provided in **Appendix C**.

2.1 GENERAL REQUIREMENTS FOR LABORATORY PERSONNEL

Paragon maintains sufficient personnel to perform analytical services for our clients. Each employee must have a combination of experience and education that enables him/her to demonstrate a specific knowledge of his/her job function, and a general knowledge of laboratory operations, test methods, QA/QC procedures, and records management. All personnel are responsible for complying with the requirements that pertain to his/her assigned duties.

2.2 KEY PERSONNEL

Education, experience and skill requirements for these positions are addressed in the **DataChem Career Ladder** document.

In the event of a temporary absence, key personnel must notify all employees of their absence and reassign their duties to another employee who is qualified to perform the assigned duties. For example, a Project Manger may assign another Project Manager to cover his/her duties; a Department Manager may assign a senior chemist to cover his/her duties within the Department; and the Laboratory Director may assign a Project or Technical Manager to cover his/her duties.

2.2.1 LABORATORY DIRECTOR

The Laboratory Director (and/or designee) is responsible for:

- All laboratory operations, including: business functions such as marketing, sales and financial issues; technical functions such as sample control, preparation, analysis, data management; and quality assurance;
- Providing input and support to proposal processes, including interacting with the Sales, Technical and Quality Assurance staff to ensure that the laboratory is capable of complying with client and regulatory requirements;
- Supervising all personnel through Management staff, who ensure that QA/QC procedures are being performed and that any nonconformances or discrepancies are documented and remedied properly and promptly;
- Ensuring that corrective actions relating to Findings from internal and external audits are completed in a timely fashion;
- Ensuring that the laboratory has the appropriate resources and facilities to perform analytical services;
- Ensuring that sufficient numbers of qualified personnel are employed to supervise and perform the work of the laboratory;
- Defining the minimum level of education, experience, and skills necessary for all positions in the laboratory;
- Ensuring that only those vendors and supplies that are of adequate quality are used; and
- Directing the performance of the annual Managerial Review.

2.2.2 QUALITY ASSURANCE MANAGER

The Quality Assurance Manger reports to the Laboratory Director and is independent of daily operation and production requirements. Therefore, the QAM is able to evaluate data objectively and perform assessments without production influence. The QAM has authority to stop work if systems are sufficiently out of control to compromise the integrity of the data generated.

The QAM shall have documented training and/or experience in QA/QC procedures; knowledge of quality systems as defined by NELAC; and a general knowledge of the analytical test methods for which data review is performed.

The QAM (and/or designee) is responsible for:

- Defining and implementing the quality system;
- Developing and maintaining a pro-active program for prevention and detection of improper, unethical, or illegal practices (e.g., single- or double-blind proficiency testing studies, electronic data audits, maintaining documents that identify appropriate and inappropriate laboratory and data manipulation practices);
- Ensuring continuous improvement of laboratory procedures via training, control charts, proficiency testing studies, internal audits, and external audits;
- Coordinating the laboratory's participation in state and Federal certification programs;
- Scheduling the review and distribution and maintaining distribution records of controlled documents, including Standard Operating Procedures (SOPs);
- Reviewing Requests For Proposal (RFPs) to ensure compliance with required QA/QC practices;
- Facilitating external audits;
- Overseeing or conducting internal audits of the entire operation annually (technical, system, data, electronic);
- Coordinating and preparing external and internal audit responses and corrective actions;
- Managing the laboratory's participation in proficiency testing studies;
- Reviewing nonconformances and approving corrective actions;
- Reviewing and updating control chart quality control (QC) limits per established procedures;

- Ensuring that Method Detection Limit (MDL) studies are analyzed per requirements;

- Managing the reference standards used in the calibration and/or verification of support equipment (e.g., weights, thermometers, balances);

- Revising the LQAP annually in accordance with industry standards;

- Maintaining an archival system for data records; and

- Maintaining technical and quality assurance training records including employee demonstrations of capability (DOCs).

2.2.3 HEALTH & SAFETY MANAGER/RADIATION SAFTETY OFFICER (RSO)

The Health & Safety Manager/Radiation Safety Officer (RSO) reports to the Laboratory Director. This Manager is responsible for establishing and monitoring adequate systems, procedures and training to ensure that the laboratory staff, facilities and operational activities conducted, function in a manner that minimizes employee risk of illness and injury, is compliant with all applicable regulations pertaining to matters of safety and health, and that limits the financial liability of the corporation as it relates to these matters. As RSO, this Manager is also responsible for discharging the duties and requirements prescribed by Paragon's Radioactive Materials License.

The Health & Safety Manager/RSO (and/or designee) is responsible for:

- Providing health and safety, including radiation safety, training for new employees;

- Ensuring that all employees have sufficient training to perform their job without unnecessary risk of illness or injury;

- Providing procedural guidance in the form of the Chemical Hygiene Plan (CHP), Radiation Protection Plan (RPP), Emergency and Contingency Plan (ECP) and Health and Safety SOPs, and ensuring that these guidances are reviewed annually by laboratory staff;

- Ensuring that the laboratory facilities are maintained and operated in a safe manner, including:

(a) Performing routine safety inspections of all operational areas;

(b) Performing routine radiation surveys and managing the radiation dosimetry program; and

(c) Performing personal monitoring, as indicated, for chemical and other exposures.

- Maintaining the laboratory's Colorado Radioactive Materials License and ensuring compliance with the terms of the license. Included in this responsibility are:

  (a) Procuring and managing radioactive sources and standards;

  (b) Maintaining the laboratory's radioactive materials inventory, which also includes directing prescreen analyses that provide initial characterization of potential sample radioactivity;

  (c) Overseeing permitted low level radioactive materials releases to the sanitary sewer; and

  (d) Ensuring that radioactive materials waste are transported in accordance with all Federal and state regulations, and are transferred only to facilities that possess a radioactive materials license.

2.2.4 FACILITIES/WASTE COMPLIANCE MANAGER

The Facilities/Waste Compliance Manager, reports to the Laboratory Director. This Manger is responsible for day-to-day management of the building and serves as the primary point of contact for all matters related to waste collection and disposal. The Facilities/Waste Compliance Manager (and/or designee) is responsible for:

- Coordinating heating, ventilation, and air-conditioning (HVAC) systems operation and maintenance;
- Maintaining the uninterruptible power supply (UPS) and coordinating maintenance and repairs to the electrical system;
- Maintaining the in-house vacuum system;
- Coordinating repairs to the building (e.g., doors, locks, windows, cabinetry);
- Maintaining the building's security and fire alarm system;

- Interfacing with fire inspectors; and responding to security and fire alarms on a 24-hour basis;

- Implementing waste reduction procedures;

- Managing the accumulation of radioactive waste in the laboratory;

- Developing and maintaining Satellite Accumulation Areas (SAAs) and 90-Day Storage Areas;

- Overseeing all waste disposal operations performed by Paragon, including (1) ensuring compliance with Federal, state, and local regulations for waste handling and disposal in accordance with RCRA, TSCA, and radioactive waste disposal regulations; (2) managing hazardous waste shipments to Temporary Storage and Disposal Facilities (TSDFs); (3) managing sanitary sewer releases; and (4) managing sample archives and the return of samples and sample residues to clients;

- Training personnel on proper techniques for sample handling and waste disposal, according to standards implemented by Federal, state, and local authorities; and

- Supervising the Sample Receiving Department.

2.2.5 INFORMATION SYSTEMS MANAGER

The Information Systems (IS) Manager reports to the Laboratory Director. This Manager is responsible for supporting the LIMS and network, which serves the needs of the technical, business, and management functions of the laboratory. The IS Manger (and/or designee) is responsible for:

- Managing and maintaining the laboratory computer system. This function includes establishing network server structure, maintenance, and backup procedures;

- Documenting operating procedures through SOPs, manuals or other proprietary documentation;

- Serving as a technical resource on computer related issues;

- Along with the Laboratory Information Systems Manager, analyzing information flow in the laboratory and suggesting the most effective hardware, applications software, and/or programming changes as solutions to meet long term customer requirements. Implementing those changes in data by purchasing of hardware or software, where software is not developed internally;

- Supervising recovery of all systems in the event of a disaster; and

- Maintaining and implementing existing and future communications systems, including all internet and telephone systems.

2.2.6 LABORATORY INFORMATION MANAGEMENT SYSTEMS MANAGER

The Laboratory Information Management Systems (LIMS) Manager reports to the Laboratory Director. This Manager (and/or designee) is responsible for:

- Designing and developing information systems that relate to data capture and reporting;

- Maintaining and supporting applications that access LIMS and maintaining and supporting database back-end applications used for LIMS;

- Coordinating all efforts to automate and improve electronic systems and processes throughout the laboratory;

- Developing software, as needed, using the appropriate tools, methodology and validations;

- Providing training and user documentation for all LIMS related applications;

- Determining specific customer requirements for electronic data deliverables (EDDs) format, then developing the interface to achieve the requirements for data submission; and managing all deliverable formats provided to clients (hardcopy, electronic).

2.2.7 PROJECT MANAGER

Project Managers report to the Laboratory Director. The Project Manager serves as the primary point of contact between clients and Paragon. This Manager (and/or designee) is responsible for:

- Managing and coordinating the laboratory's performance after contract award, by defining technical and service requirements for personnel via LIMS and interacting with clients and laboratory personnel to ensure that technical criteria and client service needs are met, including monitoring holding times (if appropriate) and deliverable deadlines for all project sample analyses;

- Reviewing and approving any nonconformances reported by the laboratory and notifying the client, if appropriate and Communicating with clients pro-actively to ensure that all client service and technical concerns are resolved promptly;

- Reviewing all final reports for completeness, compliance with project requirements, clerical accuracy, and reasonableness; and, managing and transmitting electronic data deliverables (EDDs) to their clients; and

- Communicating to the Laboratory Director any potential need for new or improved capabilities based on clients' feedback.

2.2.8 TECHNICAL OR DEPARTMENT MANAGER

Technical and Department Mangers report to the Laboratory Operations Manager. These Managers exercise day-to-day supervision of laboratory personnel, procedures, and reporting of results. They maintain technical expertise in their area of specialization (e.g., organics, inorganics, radiochemistry). Technical Mangers and Department Managers (and/or their designee) are responsible for:

- Providing technical education and training to personnel; certifying that personnel with appropriate educational and/or technical background perform all tests for which the laboratory is accredited, and providing documentation of employee capability and training to the Quality Assurance Department and ensuring that training and documentation are up to date;

- Assigning job tasks and prioritizing analyses;

- Developing and implementing a preventive maintenance program for instrumentation in their laboratory and ensuring that all equipment is maintained, serviced, and properly calibrated;

- Monitoring standards of performance in quality assurance and quality control, including ensuring that corrective actions are developed, documented, and implemented for external and internal audit Findings and PT study failures;

- Monitoring the validity of the analyses performed and data generated in the laboratory to ensure the production of compliant data, including contributing to and/or overseeing data review processes;

- Reviewing and revising (if appropriate) assigned SOPs annually to ensure that SOPs are compliant with promulgated methodologies and reflect current practice;

- Maintaining current, compliant MDL studies for all methods, matrices, analytes, columns, and instruments;

- Coordinating and approving the purchase of reagents, standards, glassware, and equipment that meet requirements;

- Providing input to the Laboratory Operations Manager regarding methodologies, personnel resources, software, and instrumentation; and assisting in the evaluation and/or development of new methods and technologies that improve Paragon's ability to meet clients' needs.

- Reviewing RFPs; assisting in the preparation and submission of proposals; and

- Interacting with the Quality Assurance, Information Systems, and Health and Safety Departments to ensure that the laboratory is capable of complying with client or regulatory requirements.

2.3 GENERAL TECHNICAL PERSONNEL

A chemist (analyst) or technician reports to a Technical or Department Manager. This employee performs work in accordance with Paragon's controlled documents (e.g., SOPs, LQAP) and project-specific requirements as defined by LIMS specifications. Paragon believes that quality begins at the bench. Accordingly, these employees are key contributors to Paragon's success. A chemist or technician is responsible for:

- Demonstrating proficiency in the analyses for which they are responsible before analyzing samples (e.g., performing acceptable Initial Demonstration of Capability, IDOC studies), and documenting this demonstration of proficiency as well as Continuing Demonstrations of Capability (CDOCs);

- Performing analyses, recording all data accurately, directly, and promptly, and interpreting and reviewing data according to established procedures as described in Paragon's controlled documents;

- Performing an annual review of assigned SOPs and the LQAP;
- Complying with all QA/QC requirements that pertain to their job function;
- Complying with all health, safety, and waste disposal requirements, as applicable;
- Maintaining and repairing instrumentation;
- Demonstrating good house-keeping practices;
- Disclosing all instances of nonconformances promptly and in writing using the NCR process (**SOP 928**); and
- Participating in training sessions.

3. QUALITY ASSURANCE INDICATORS

Paragon's objective is to develop and implement policies and procedures that will provide results of known, documented, and appropriate quality. This LQAP defines policies for the analysis, documentation, evaluation, validation, and reporting of data. SOPs describe specific, detailed procedures for chain of custody, calibration of instruments, analysis, reporting, quality control, audits, preventative maintenance, and corrective actions.

In order to produce data of known, documented, and appropriate quality, Paragon:

- maintains an effective quality assurance program that measures and verifies laboratory performance;
- provides for a Quality Assurance Department that is independent of the operational groups and that has the responsibility and authority to audit the laboratory and develop and enforce corrective actions;
- evaluates technical and service requirements of all analytical services requests before accepting samples from a client/project. This evaluation includes a review of facilities, instrumentation, staffing, turnaround times, and any project-specific quality control or reporting requirements;
- provides sufficient flexibility to allow controlled changes in routine methodology in order to achieve client-specific data requirements as prescribed in project-specific quality plans
- demonstrates initial demonstration of capability (IDOC) and continuing demonstration of capability (CDOC) with all methods according to Appendix C of the NELAC standard;

- performs all analyses according to promulgated methods or methods developed and validated by Paragon and documented in SOPs;

- recognizes as soon as possible and discloses and corrects any factors that adversely affect data quality; and

- maintains complete records of sample submittal, raw data, laboratory performance, and completed analyses to support reported data.

3.1 DATA QUALITY INDICATORS

Data Quality Indicators (DQIs) are qualitative and quantitative statements developed by data users that specify the quality of data from field and laboratory data collection activities in order to support specific decisions or regulatory actions. The DQIs describe what data are needed, why the data are needed, and how the data will be used to address the problem being investigated. DQIs also establish qualitative and quantitative goals that allow the data user to determine whether the data are of sufficient quality for the intended application.

The principal DQIs are precision, accuracy (bias), representativeness, completeness, and comparability (i.e., the PARCC parameters). The following Sections define and describe the application of these parameters. The QA/QC protocols used for the majority of analyses are adopted from SW-846 and 40 CFR methodologies, the USEPA Organics and Inorganics CLP SOWs, and various radiochemistry guidances, which contain detailed description of the quality control measures routinely employed.

3.2 PRECISION

Precision is an expression of the reproducibility or degree of mutual agreement among independent measurements as the result of repeated application of the same process under similar conditions. Precision refers to the distribution of a set of reported values about the mean, or the closeness of agreement between individual test results obtained under prescribed conditions. Precision reflects random error and may be affected by systematic error. Precision characterizes the natural variation of the matrix and the contamination that may vary within that matrix. For chemical parameters that do not allow homogenization prior to analysis (e.g., volatile organics analysis), one must review precision values carefully.

Analytical precision is a measurement of the variability associated with duplicate or replicate analyses of the same sample in the laboratory. Analytical precision is determined by the analysis of matrix spike/matrix spike duplicates (MS/MSD), laboratory control sample pairs (LCS/LCSD), or by unspiked duplicate samples. Total precision is a measurement of the variability associated with the entire sampling and analysis process, and is determined by analysis of duplicate or replicate *field* samples, thus incorporating the variability introduced by both the field and laboratory operations.

Precision is independent of bias or accuracy, and reflects only the degree to which the measurements agree with one another, not the degree to which they agree with the true or accepted value of the parameter measured. Precision for stable chemistry analyses is expressed as relative percent difference (RPD), defined below:

$$RPD(\%) \quad = \quad \frac{X_1 - X_2}{(X_1 + X_2)/2} \quad (100)$$

where:

RPD = Relative Percent Difference

X_1, X_2 = analyte value of sample 1 and sample 2

Precision, for radiochemical analyses, is measured in terms of Duplicate Error Ratio (DER), calculated as follows:

$$DER \quad = \quad \frac{|S - D|}{2 * \sqrt{\sigma^2{}_S + \sigma^2{}_D}}$$

where:

DER = Duplicate Error Ratio

S, D = analyte values of (S)ample and (D)uplicate

σ = One Sigma error value associated with sample result

RPDs or DERs are compared to the control limits established for the analysis method, or other quality control criteria as prescribed in the applicable LIMS Program Specification. Precision objectives vary per analytical method. Sample homogeneity/non-homogeneity is an important factor that influences the precision of duplicate sample results.

3.3 ACCURACY

Accuracy is an expression of agreement between the measured and known or accepted reference values. Accuracy is the measure of the closeness of an observed value to the “true” value (e.g., theoretical or reference value or population mean). Accuracy is influenced by random error and systematic error (bias) that occur during sampling and analytical procedures; therefore, accuracy reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ significantly from the known concentration of the spike or standard.

Accuracy is typically measured by determining the percent recovery of known target analytes (i.e., a surrogate or matrix spike) that are spiked into a field sample or reagent water or simulated solid matrix (laboratory control sample). Surrogate recovery is reported and is used to assess method performance for each sample analyzed for volatile and semivolatile organic compounds. For organic and inorganic parameters, the stated accuracy objectives apply to spiking levels at or near the midpoint of the calibration curve. For radiochemical analyses, the spiking levels for the control spikes may vary from five to fifty times the method reporting limit.

Percent recovery is calculated as:

$$R(\%) = \frac{(C_1 - C_2)(100)}{C_3}$$

where:

R% = Spike amount recovered
C_1 = Concentration of analyte in spiked sample
C_2 = Concentration of analyte in unspiked sample
C_3 = Concentration of spike added

Acceptance limits are usually based upon established laboratory performance for similar samples. Other quality control criteria may be prescribed in the applicable LIMS program specification. Recoveries outside the established limits may indicate some assignable cause other than normal measurement error and the need for corrective action. This corrective action may include reanalysis of the quality control sample, recalibration of the instrument, reanalysis of the affected samples in the batch, re-preparation of samples in the batch, or flagging and qualifying the data as suspect if the problems cannot be resolved. For contaminated samples, recovery of matrix spikes may depend on homogeneity, matrix interference and dilution requirements for quantitation.

Both accuracy and precision are calculated for each batch and the associated sample results must be interpreted by considering theses specific measures. The quality assurance objectives for precision and accuracy are to achieve the quality control acceptance criteria specified in the appropriate analytical procedure.

For organic analyses, precision and accuracy are determined by using matrix spike and matrix spike duplicate samples and/or surrogate spike compounds and laboratory control samples. For inorganic analyses, precision and accuracy are determined by using duplicate samples or matrix spike duplicate samples (precision) and matrix spike and laboratory control samples (accuracy). For radiological analyses, precision and accuracy are determined from the results of duplicate samples or matrix spike duplicate samples (precision), laboratory control sample duplicates (precision) and laboratory control samples (accuracy).

Samples identified as field blanks cannot be used for duplicate or matrix spike sample analyses.

Quality control (QC) limits for accuracy and precision may be developed from intra-laboratory historical data or adopted from prescribed limits required by the client. If quality control acceptance criteria do not exist for a given method, then the laboratory may establish advisory control limits derived from a minimum of four data points. Until verified by a statistically significant data population, the control limits will be considered as advisory limits only, and the laboratory will not automatically initiate reanalysis if these limits are not achieved.

Bias describes the systematic error of a measurement process that causes errors in one direction from the true value. Sources of bias include incomplete homogenization before subsampling and incomplete extraction of target analytes. Calibration drift, which is the nonrandom change in a measurement system over time, is another example of systematic error and is detectable by the periodic measurement of calibration check standards. Bias is ***not*** equivalent to accuracy.

3.4 REPRESENTATIVENESS

Representativeness is a qualitative element. It expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition within a defined spatial and/or temporal boundary.

Sample handling protocols (e.g., holding times, storage, preservation and transportation) have been developed to preserve the representativeness of the samples. Proper documentation establishes that quality control protocols have been followed and sample identification and integrity are ensured. Paragon makes every attempt to ensure that the aliquots taken for analysis are homogenous and representative of the samples received.

3.5 COMPARABILITY

Comparability is a qualitative expression of the confidence with which one data set can be compared to another. Comparability is achieved by:

- following established, standardized, and approved sample collection techniques and analytical methods
- achieving holding times
- reporting results in common units
- using consistent detection levels; and
- reporting data according to consistent rules.

See Chapter 10 of this LQAP for further discussion of standard units typically used to report various analytical parameters.

3.6 COMPLETENESS

Completeness is an expression of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions. Completeness is the percentage of measurements that are judged to be usable (i.e., that meet project-specific requirements).

Completeness goals are defined in the site sampling and analysis plan, QAPjP or contract, and vary with the size and complexity of the project. Completeness goals of 80-95% are traditionally accepted as realistic. Paragon's objective is 100% completeness for samples unaffected by matrix interferences.

It is recognized that some samples are highly contaminated with target and/or non-target compounds, which necessitate cleanups, multiple analyses, and/or extensive dilutions. In these instances, the internal quality control results for a sample help to demonstrate the impact upon recoveries and detection limits due to these atypical applications.

Factors that adversely affect completeness include:

- receipt of samples in which chain of custody or sample integrity is compromised in some manner (e.g., broken containers, improperly preserved);
- receipt of insufficient volume to perform initial analyses or repeat analysis if initial efforts do not meet QC acceptance criteria;
- receipt of samples for which more than 50% of the holding time has expired; and
- receipt of samples that contain high levels of contamination that can cause persistent effects on instrumentation designed for trace-level analyses.

The equation used to calculate completeness is:

$$C\% = \frac{S}{R}(100)$$

where:

C = completeness
S = number of successful analyses
R = number of requested analyses

The USEPA has established that there is a 5% probability that the results obtained for any one analyte will exceed the control limits established for the test as a result of random error, assuming the confidence interval is established at 95% (preamble to 40 CFR Part 136, Vol. 49, No. 209, October 26, 1984). As the number of compounds measured increases in a given sample, the probability for realizing statistical error also increases. The number of compounds present in various methods increases the probability that one or more analytes will not meet acceptance criteria to significantly more than the 5% per analyte frequency (e.g., GC/MS Methods SW8260B and SW8270C, ICAP Method SW6010B and Gamma Spectroscopy Method EPA 901.1). The number of target analytes included in these methods can be used to show that a minimum of four to seven target analytes will exceed the control limits established for these methods as a result of the statistical probability for random error. Establishing quality control criteria that are not consistent with the measurement of the quality objectives for which they are intended should be discouraged.

3.7 METHOD DETECTION LIMIT

The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte. The MDL is defined as follows in *40 CFR Part 136 Appendix B*:

$$\text{MDL} = t(n\text{-}1, 1\text{-}\alpha, = 0.99) \;\; \text{X} \;\; \sigma$$

where:

σ = Standard deviation of the replicate analyses

$t(n\text{-}1, 1\text{-}\alpha, = 0.99)$ = Student's t-value appropriate to a 99% confidence level

Paragon performs MDL studies for each preparatory and determinative method combination, matrix, instrument, and analytical column. Paragon performs MDL studies annually (or at a frequency prescribed by the method), during method validation, or whenever the basic chemistry of a procedure changes. An MDL check standard at approximately twice the calculated MDL value is used for analysis to ensure that the MDL is valid.

Results calculated between the MDL and the method quantitation limit (MQL) contain a significant amount of error (approximately ±100%). Therefore, values reported between the MDL and MQL are qualified as estimated, J flagged for organic parameters, and B flagged for inorganic parameters. In addition, the calculated MDL value may not be attainable for a given matrix.

An MDL study is not performed for radiological analyses or any components for which spiking solutions are not available or relevant (e.g., pH, ignitability). Reporting limits for these kinds of parameters, where applicable, are established based on the laboratory's knowledge of extraction efficiency, instrument sensitivity, and experience with the procedure. **SOP 329** provides additional information about MDL studies.

3.8 METHOD QUANTITATION LIMIT OR METHOD REPORTING LIMIT

Paragon defines a method quantitation limit (MQL) or method reporting limit (MRL) as the analyte concentration at or above which the laboratory's precision and accuracy requirements can be routinely demonstrated and achieved. The statistical error associated with this region of a curve is significantly smaller than that associated with the region near the MDL. The MQL or MRL values for most analytes reported by Paragon are numbers that are approximately 3 to 5 times the values of the MDL for those analytes. It is Paragon's policy to analyze a calibration standard at or below the MQL or MRL when performing an initial calibration. For analyte concentrations measured between the MDL and the MQL or MRL, the laboratory is not able to maintain the precision and accuracy for an analysis technique; therefore, sample concentrations in this range are flagged as being estimated (J or B flagged).

3.9 MINIMUM DETECTABLE CONCENTRATION

The minimum detectable concentration (MDC) is used for radiochemical procedures and is defined as the concentration at which there is a 95% confidence that an analyte signal will be distinguishable from an analyte-free sample.

The general formula for calculating the MDC is based on calculations derived by Currie (Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination," Analytical Chemistry 40(3); pp. 586-693; 1968) and is calculated as follows:

$$MDC = \frac{(4.65\ X\ \sigma_b) + 2.73}{T * K}$$

where:

MDC = Minimum Detectable Concentration
σb = Standard deviation of the measurement background
T = Sample count time
K = Factor for incorporating efficiency, abundance, aliquot yield, ingrowth and decay, and activity conversion factors

3.10 TOTAL PROPAGATED UNCERTAINTY

Total propagated uncertainty (TPU) is an estimated measure of "total uncertainty" in a radiochemical result. It is an integral part of every radiochemical result and is reported as ±TPU.

The components of the TPU are classified as either random or systematic. Random uncertainties, also called counting uncertainties (CU), derive from the statistically random (normally distributed) nature of radioactive decay and are estimated as the square root of the total number of counts acquired during analysis. In cases where the chemical yield is determined by the analysis of a radioactive tracer, the yield uncertainty (YU) is also a random uncertainty and is estimated as the square root of the total number of tracer counts acquired. CU and YU are calculated in activity units to afford comparability to the sample result.

Systematic uncertainties are attributable to actual errors in the measurement of a physical quantity. For example, if a balance has an accuracy of ±0.1%, the results of those gravimetric measurements are not normally distributed, but rather are assumed to be biased by that amount. Estimates of systematic uncertainties in the lab are somewhat subjective, but should be supported by empirical data whenever possible. Systematic uncertainties associated with the preparation of a sample are called preparation uncertainties (PU) and are defined based on the number of volumetric and gravimetric measurements, quantitative transfers, etc. Systematic uncertainties associated with the analysis, called instrument uncertainties (IU) include biases associated with sample positioning, standard values, calibration coefficients, etc. PU and IU are typically provided as a percentage of the final result. To afford comparability to the sample results, PU and IU are expressed in activity units by multiplying the percentage by the sample activity (A).

All contributions to TPU are considered to be independent of each other and the individual contributions are combined as the square root of the sum of the squares (see equation below). The final TPU result is expressed in activity units, such as pCi/g or pCi/L.

$$TPU = \sqrt{CU^2 + YU^2 + (A * PU)^2 + (A * IU)^2}$$

TPU is expressed as a value at a specific confidence interval. The default convention at Paragon is to provide the TPU at the 2-sigma confidence interval. This asserts approximately a 96% confidence level that the actual sample value is within the reported uncertainty range of the calculated result. **SOP 743** provides more information about the calculation and use of TPU.

3.11 SENSITIVITY

The term sensitivity is used in a broad sense to describe the various limits that enable a laboratory to meet project-specific DQOs (e.g., instrument detection limit, method detection limit, method quantitation limit, method reporting limit, contractor required detection limit, contractor required quantitation limit). The instrument detection limit (IDL) is a minimum value that addresses the detection capability of the instrument only. The method detection limit (MDL) is a minimum value that addresses the detection capability for the sample preparation procedures and the instrument. The IDL and the MDL values are based on an interference-free matrix and cannot evaluate the effects of sample matrix on the calculated IDL or MDL value. Therefore, calculated IDL and MDL values may not be applicable to environmental matrices.

The method quantitation limit (MQL) or method reporting limit (MRL) is defined as the lowest level that can be reliably measured by a laboratory with defined limits of precision and accuracy. The USEPA CLP SOW uses the terms contract required detection limit (CRDL) and contract required quantitation limit (CRQL) to describe a contractually required levels of reporting. These reporting terms do not describe instrument sensitivity.

3.12 TRACEABILITY

Traceability is the extent to which results can be substantiated by hard-copy documentation, electronic or computer-generated data calculations, computer software, and data generation. Traceability documentation exists in two forms: (1) that which links final numerical results to authoritative measurement standards, and (2) that which explicitly describes the history of each sample from collection to analysis. Measurement traceability is further discussed in Chapter 7 of this LQAP.

3.13 QUALITY ASSURANCE PROJECT PLAN (QAPjP) EXCEPTIONS

As a result of the unknown nature of environmental samples prior to analysis, Paragon has minimal control over analytical and quality control complications that result from sample matrix conditions. These conditions may include highly concentrated samples that contain target compounds of interest and/or non-target components; high organic content (both natural and synthetic); and extremes in pH, viscosity, solubility, etc. Each of these conditions may require a different approach.

Analysis for some samples may be achieved through the use of reduced aliquot sizes. Some sample matrices may require the laboratory cleanup and/or dilution techniques to be employed in order to analyze the sample by the desired protocol. Unfortunately, reduction of analysis aliquot or diluting a sample necessitates raising reporting limits (RLs) or MDCs, and often adversely impacts the calculation of surrogate, tracer, and matrix spike compound recoveries.

Paragon has the responsibility to identify matrix interferences that preclude the generation of “compliant” data. This determination may be made by demonstrating reproducibility (i.e., reanalysis of the affected sample) to show that the quality control measurement failure resulted from sample matrix conditions beyond the laboratory’s control and not as a result of analytical error. For example, if the surrogate or tracer standard recoveries are outside of control limits, then samples may be re-extracted and/or reanalyzed. Repeated “non-compliant” results indicate that sample matrix probably prevented the laboratory from reporting results deemed compliant.

Analytical projects containing particularly “dirty” samples (i.e., highly contaminated with target compounds and/or matrix co-extractives) will often fail to meet pre-established completeness goals (set forth in the QAPjP) when prior site history does not reveal the matrix constituents issues. Although the laboratory performs all analytical testing and cleanup procedures by the prescribed protocols, the results obtained may not meet validation criteria as a result of elevated reporting limits or the frequency at which surrogate, internal, tracer, or matrix spike standard recoveries failed to meet acceptance limits. In cases where the laboratory is unable to meet quality control criteria as a result of sample matrix complications, results that are qualified by data validation guidelines may still be useful to the end user of the data.

Paragon is committed to adhering to the method requirements and quality control procedures prescribed by our clients. Paragon strives to produce compliant data, however, uncertainties associated with environmental samples may preclude the laboratory’s ability to generate fully compliant data. Paragon will not assume responsibility for conditions beyond our reasonable control that directly impact the "validity" versus the usability of the associated analytical data generated by the laboratory.

4. SAMPLE CONTAINERS, PRESERVATION, HANDLING, AND HOLDING TIMES POLICIES

Defining the magnitude and nature of an environmental problem and developing an appropriate solution requires the collection of representative samples for laboratory analysis and data evaluation. The objective of field sampling is to remove a small portion of an environment that is representative of the entire body. Analytical methods have been standardized, but the results of analyses are only as good as the sampling protocol and the sample preservation and handling methods. Defining sampling procedures and the quality elements applicable to environmental testing is beyond the scope of this document and beyond the responsibility of the laboratory.

Although the laboratory is not responsible for sample collection, it is responsible for maintaining the integrity of the sample after receipt. After the sample has been collected, the constituents of the sample must remain as close as possible to the field condition (i.e., degradation must be prevented). The length of time that these constituents will remain stable is related to their character and the preservation method used. Preservation is accomplished by the addition of chemical preservatives and/or storage at a controlled temperature, and by the strict observation of prescribed maximum holding time allowances. **Appendix D** lists sample container types, preservation requirements, and holding times.

4.1 FIELD SUPPORT

Sample kits are prepared at the laboratory to provide the client with all of the sample containers, preservatives and documentation needed for the analyses required by a project. Paragon provides shipping containers, custody documents, custody seals, clean sample bottles, labels, applicable high purity chemical preservatives for water samples, trip blanks, and, upon request, "blue ice" packs to support field-sampling events. Hard-sided, insulated, "picnic" coolers are typically used to transport samples from the field to the laboratory. These coolers meet or exceed all protocol requirements (i.e., USDOT, USEPA, ASTM) for shipping. Paragon **SOP 205** provides further information on sample kits.

4.2 SAMPLE CONTAINERS

Paragon provides certified clean (I-Chem 300™, Eagle Pitcher Level 1 or equivalent) sample bottles for sample collection. Used sample bottles are never used by the laboratory. The Sample Receiving Department maintains certificates of cleanliness that are provided by the vendor for all sample bottles. These certificates are provided to the client upon request. Containers are stored in clean areas, away from laboratory processes, to prevent exposure to fuels, solvents, and other contaminants.

4.3 SAMPLE PRESERVATION AND HOLDING TIMES

Paragon provides the required chemical preservatives for water samples and, upon request, "blue ice" packs, for thermal preservation during transport. Typically, high quality reagent grade chemical preservatives (i.e., acids, solutions, etc.) are added to individual sample bottles, as appropriate per method and US Department of Transportation (DOT) requirements. Only trace metals grade nitric acid is used for preservation of metals or radiochemical samples, as applicable. It is the responsibility of those collecting the samples to properly use these materials (e.g., don't rinse or overfill container such that the preservative is washed out), and to ensure that chemical preservation requirements are met, and proper preservation techniques (chilling) are performed. Holding times begin with the collection of samples and continue until analysis is complete. See **Appendix D** for a summary of container, preservation and holding time requirements specific to various analyses and matrices.

4.4 SAMPLE RECEIPT SCHEDULE

Paragon receives samples six days of the week, Monday through Saturday. Paragon requests that clients ship samples for delivery within one day of collection, and give advance notice to the laboratory regarding shipment of RUSH samples or samples with short hold time requirements. Shipping containers received at the laboratory on holidays or after business hours are placed in a walk-in refrigerator and opened on the next business day, unless other arrangements are made in advance.

4.5 CHAIN-OF-CUSTODY (COC)

Chain-of-custody documentation begins with field sampling and continues through laboratory analysis and disposal. A chain-of-custody record that identifies all individuals who handle the sample is used to establish an intact, continuous record of the physical possession, storage, and disposal of collected samples, including their aliquots, extracts or digestates. The chain-of-custody record is initiated in the field by field personnel who complete a COC form listing all samples. This form contains the following information and remains with the samples during transport:

- client project name and project location;
- field sample number/identification;
- date and time of sample collection;
- matrix;
- container type and number of containers for each sample;
- preservative;
- analysis requested;
- sampler's remarks and signature;
- signature of person relinquishing samples and date and time relinquished;
- custody seal number (if applicable); and

- designation of matrix spike/matrix spike duplicate (MS/MSD) samples (optional).

  Note that contingent upon the sample matrix and analysis to be performed, additional sample volume may need to be submitted to accommodate MS/MSD analyses.

All transfers of samples, except directly between commercial couriers, must be recorded on the chain-of-custody form via the "relinquished" and "received by" sections. All information except signatures should be clearly printed.

The USEPA National Enforcement Investigations Center (NEIC) defines evidence of custody as:

- in one's actual possession, or
- in one's view, after being in one's physical possession, or
- having been in one's possession and then locked or sealed to prevent tampering, or
- kept in a secure area, restricted to authorized personnel only.

To ensure that sample custody objectives of traceability are achieved for every project, the chain-of-custody initiated in the field, is continued and maintained internally throughout the laboratory per the requirements specified in **SOP 318.** Internal chain-of-custody begins with sample acceptance and login (**SOP 202**), is maintained as samples are distributed for use throughout the laboratory (further discussed in LQAP Section 4.10), and concludes with final sample disposition (i.e., return to the client or disposal). Paragon applies a unique barcode to each sample bottle received, and maintains several scanners and PCs throughout the laboratory to document and assist with sample, aliquot, extract and digestate movement throughout the facility. This electronic process is accomplished through LIMS, which retains records of all sample and fraction transactions made.

4.6 SAMPLE ACCEPTANCE POLICY

Paragon's sample acceptance policy requires that a sample meet the following conditions:

- The sample shall be completely documented (sample identification, location, date and time of collection, collector's name, preservation type, sample type, any special remarks concerning the sample).
- The sample shall be identified by a unique identifier using durable labels completed in indelible ink.
- The sample shall be collected in adequate volume.
- The sample shall be collected in an appropriate container.

- The sample shall be delivered to the laboratory with at least one-half the holding time remaining.
- The sample shall not exceed allowed radioactivity levels; and
- The sample shall not show signs of contamination, breakage, or leakage.

Sample receipt discrepancies are documented by Sample Receiving Department personnel on the Condition of Sample Upon Receipt, Form 201 (**Appendix E**), which is forwarded to the Project Manager as part of the workorder folder. Where samples do not meet the criteria stated above, the Project Manager requests information from the client before proceeding. If the client can provide the information and, in cases of compromised sample integrity, directs the laboratory to proceed, then data acquired from the sample(s) analysis is reported and the problems noted during sample receipt are disclosed in the narrative of the final data report.

In support of the protection of employee health and of Paragon's radioactive materials license, Paragon observes "prescreening" protocols that designate or determine samples with radioactive content. Detailed procedures for conducting radiological survey of incoming sample packages are given in **SOP 008**, further details regarding prescreening protocols are given in **SOP 703**.

4.7 SAMPLE RECEIPT PROTOCOLS

Upon receipt of the field samples at the laboratory, personnel ensure that sample bottles are maintained according to storage requirements, and in a manner that does not contaminate the samples. Paragon provides separate areas for samples according the following parameter groups: metals, inorganics, semivolatile organics, volatile organics, fuels, and radiochemical analyses. In addition, Paragon segregates standards, low-level samples, and (known) high-level samples via separate storage in dedicated areas. Sample segregation minimizes the possibility of cross-contamination of samples.

Ascension numbers that increment serially each month are made available in LIMS as workorder number assignments. Following sample arrival and initial screen for USDOT compliance and removable radioactivity, sample receiving personnel inspect the sample and record any discrepancies using Form 201. The following information is documented:

- client and project name, as applicable;
- presence/absence and condition of (i.e., intact, broken) custody seals on the shipping containers;
- presence/absence of chain-of-custody and completeness;
- sample condition (intact, broken, leaking);
- presence/absence of removable sample tags;

- agreement/non-agreement between the sample labels, tags, chain-of-custody, and any other client documentation;
- receipt of adequate sample volume;
- sample temperature, where applicable;
- presence/absence of headspace in VOA and ^{222}Radon vials; and
- chemical preservation, where applicable.

Sample temperature is verified upon receipt by measuring the temperature of the temperature blank (if available) or by measuring the temperature of a representative samples(s) with an infrared (IR) temperature device. See **SOP 210** for instructions and procedures related to IR temperature guns. Samples that require thermal preservation are considered acceptable if the temperature upon arrival is between just above freezing to 6ºC. Samples requiring thermal preservation but are hand-delivered to the laboratory immediately after collection, may not meet the temperature requirement. If the hand-delivered sample is packed in ice, then Sample Receiving personnel record its temperature and note that the chilling process was initiated.

4.8 SAMPLE LOGIN POLICIES AND PROCEDURES

After completing sample receipt procedures, the following sample information and analytical requests are entered into LIMS under the unique workorder number assigned:

- client name, contact, address, phone number;
- Paragon Project Manager;
- date and time of sample receipt;
- unique laboratory identifier for each sample;
- sample description;
- analyses requested (LIMS calculates holding times for each analysis);
- program specification or other special instructions, if applicable; and
- due date.

In general, a group of delivered samples is assigned one workorder number in LIMS. Each sample container is assigned a unique Paragon identifier (barcode) that is placed on each container. This unique identification includes all samples, subsamples, and subsequent extracts and/or digestates.

See **SOPs 201 and 202** for additional information about sample login and distribution.

4.9 SAMPLE STORAGE

Samples requiring thermal preservation are stored in designated refrigerated storage areas that are maintained just above freezing to 6ºC, centered at 4±2ºC. Freezer storage areas are maintained at freezing to $^{-}$20ºC, centered at $^{-}$15±5ºC. The temperature of refrigeration units is monitored continuously using electronic min/max thermometers and recorded each business day, near to the beginning of the workshift. If the temperature exceeds the prescribed range, then corrective action is taken and documented immediately and the client notified, if appropriate. See **SOP 326** for further details. Directives for corrective action pertaining to catastrophic failure of cooling units (as well as laboratory ovens, etc.) are included in Paragon's Emergency and Contingency Plan (ECP).

Samples are stored away from all standards, reagents, food and other sources of contamination. Samples are stored in such a manner as to prevent cross-contamination. For example, pure product or potentially contaminated samples are tagged as "hazardous" and stored within a secured area, separate from other samples. All samples are stored in secondary containment bins, see **SOP 023** for further information.

Samples having suspected radioactive activity and scheduled also for stable chemical analyses are refrigerated. Samples to receive tritium analyses are refrigerated. Samples designated for radiochemistry analyses _only_, with the exception of tritium, are segregated and maintained at ambient temperature.

To effectively monitor the storage and potential contamination of volatile organic samples, Paragon observes a "refrigerator blank" program (detailed in **SOPs 511, 512**).

4.10 SAMPLE ACCESS

It is Paragon's policy that neither samples nor data may be released to unauthorized personnel. In order to ensure that this policy is maintained, the laboratory facilities are maintained under controlled access and are restricted to authorized personnel only (see **SOP 132** for further details pertaining to building security).

As discussed previously, Paragon personnel follow strict sample handling and internal chain-of-custody procedures to ensure the integrity of all data generated. Limited access electronic controls in LIMS further protect the validity of the data results. Samples are scanned and transacted in LIMS when they are removed from a storage area for preparation or analysis. The sample ID, analyst, date, time, and location are recorded with each transaction. Likewise, the samples are scanned and transacted in LIMS upon their return to the storage unit. Barcode scanning and LIMS transaction is also observed for the return of sample remainders to the client, and for disposal (see LQAP Section 4.13). Paragon **SOP 318** contains internal chain-of-custody details; procedures for sample return to the client are described in **SOP 027**.

4.11 SAMPLE HOMOGENIZATION AND SUBSAMPLING

Obtaining a representative aliquot of sample for testing is critical to the representativeness of the analytical results obtained. Sample homogenization procedures are discussed in individual preparatory SOPs, as applicable. Proper subsampling techniques for solid matrices are a component of each bench employee's technical instruction. Guidance regarding subsampling is also posted to the Paragon network for ready reference.

4.12 SUBCONTRACTING ANALYTICAL SERVICES

Paragon strives to identify the need to subcontract specific analytical procedures during the bid response process. Analyses may also need to be subcontracted, however, in cases of emergency where the ability to meet sample holding time criteria is endangered. In these instances, Paragon compiles a list of qualified subcontract laboratories that are suitable to perform the needed analyses, then submits the list to the client for selection and approval. If NELAC certified analyses are to be subcontracted, the subcontract laboratory must also hold NELAC certification for the analyses that are to be conducted.

Paragon's Project Manager must receive permission from the client, in writing, before the subcontract laboratory can be procured and samples forwarded to the laboratory. At a minimum, the specific terms of the subcontract laboratory agreement must include:

- analytical method required (e.g., SW-846, 40 CFR, etc.);
- number and type of samples expected;
- project-specific quality control requirements;
- deliverables required (hardcopy, electronic);
- laboratory certifications required;
- price per analysis; and
- turnaround time requirements.

See **SOP 103** for guidance on evaluating a subcontract laboratory's qualifications. Detailed procedures pertaining to submitting samples to a subcontract laboratory are provided in **SOP 207**.

4.13 SAMPLE DISPOSAL

After completion of sample analysis and submission of the project report, unused portions of samples are retained by the laboratory for a minimum of 90 days from date of invoice. Samples will be disposed or returned to the client according to the nature of the samples and the client's specifications. Paragon documents and retains all conditions of disposal and correspondence between all parties concerning the final disposition of the sample.

Samples, digestates, leachates, extracts, and process waste that are characterized as hazardous, radioactive, or mixed waste are disposed in accordance with Federal and state laws and regulations. Paragon maintains records to demonstrate that all disposal efforts were conducted in compliance with these laws and regulations. This documentation includes the unique sample identity, date of disposal, nature of disposal (e.g., sample depleted, sample disposed in hazardous waste facility, sample disposed in mixed waste facility, sample returned to client); and name of the individual responsible for disposal.

5. LABORATORY FACILITIES

Appendix F contains a diagram of the Paragon laboratory facility. Paragon maintains constant and consistent test conditions throughout the facility (e.g., temperature, air purification, lighting). All entrances and exits are wired to a laboratory-wide security system that is monitored continuously. Access to the laboratory area from the front offices is restricted by means of keypad locks requiring numeric security code entry. Visitors must sign in at the front desk and must be escorted at all times (some vendors are allowed access without continuous escort, in order to facilitate repairs or deliveries). Further details pertaining to building security are provided in **SOP 132**.

The following paragraphs highlight areas of the laboratory that are involved with sample receipt, handling, preparation, and analysis of samples.

5.1 SAMPLE RECEIPT AREAS

Paragon's sample receiving area consists of a large dedicated room of more than 500 ft^2. It contains two fume hoods and radiation survey equipment to safely handle incoming radioactive and mixed waste samples. There is an outside access door to facilitate sample delivery and shipping of sample kits. Adjacent to the sample receiving area is the bottle storage room and the radioactivity prescreening lab.

5.2 SAMPLE STORAGE AREAS

Paragon's sample receiving area has a walk-in cooler and a freezer that are used for temporary storage of samples that require thermal preservation. In addition, there are several designated sample storage locations throughout the laboratory that are used to store samples scheduled for specific analyses. Segregated, refrigerated storage is provided for organic extractions, volatiles, fuels, wet chemistry and metals. Additionally, an ambient storage area is located in the laboratory for the storage of samples that are to receive radiochemical analyses only; samples for tritium analyses are refrigerated.

5.3 SAMPLE PREPARATION AREAS

The laboratory has nine sample preparation/extraction/digestion areas. These areas are divided as follows: six radiochemistry preparation laboratories; two organics extraction laboratories; and one metals digestion laboratory. The total floor space of these six laboratories is approximately 4500 ft^2.

Laboratory preparation procedures are segregated as much as possible to minimize the potential for contamination, maximize processing efficiency, and maintain analytical integrity. Rigorous cleaning of glassware (**SOPs 334** and **720**) and apparatus ensures that cross-contamination is minimized. Each laboratory area has a dedicated or locally shared HVAC system that continuously exchanges the laboratory air with filtered and conditioned outside air. There are 34 laboratory hoods in the six sample preparation areas, and each sample preparation area has at least one hood that is capable of maintaining an average face velocity of 100 feet per minute.

5.4 STANDARDS PREPARATION AREAS

A dedicated radiochemical standards preparations room, and an organics standards preparation area are maintained. Metals and inorganic standards are stored independently from sample storage areas and are prepared in their respective laboratory areas.

5.5 ANALYTICAL LABORATORIES

The Paragon facility houses a volatile organics analysis (VOAs) laboratory that is on an upper level of the building, away from all other laboratory operations. The Paragon facility also houses one general chemistry (WetChem) laboratory, two radiochemical counting rooms, a total organic carbon (TOC) laboratory area, two gas chromatograph (GC)/high performance liquid chromatography (HPLC) labs, a semivolatile organic compounds (SVOCs) laboratory, and a metals laboratory that contains separate inductively coupled plasma (ICP), mercury, and inductively coupled plasma/mass spectrometry (ICP/MS) rooms.

5.6 OTHER LABORATORY AREAS

Other areas of the Paragon facility include a tank room for compressed gasses, several waste management areas, telephone and computer storage rooms, staff offices, Reporting Group and Reports Management data processing rooms, and various scanning/reproduction and supply storage areas.

5.7 DEIONIZED WATER SYSTEM

Within the laboratory, there are two main deionized (DI) water distribution systems available for glassware cleaning, bulk reagent preparation and general use. One system is located in the janitor's area and serves the radiochemistry side of the facility. The other system is located adjacent to the metals laboratory area and serves the stable chemistry side of the facility. These DI water systems are capable of continuously delivering water that meets the requirements specified for ASTM Type I water, and are monitored and documented each business day to ensure that the water meets these requirements. Paragon also maintains a third treated water system that is used to support washing of laboratory glassware.

DI water is defined as municipal tap water that has been treated by passing it through a particulate filter, activated carbon unit, cation exchange resin, anion exchange resin, mixed bed resin, and a final "polishing" cartridge. This water contains no detectable heavy metals or inorganic compounds of interest, and is free of organic compounds of analytical interest above Paragon's routine reporting limit. Additionally, a benchtop Millipore Synergy 185^{TM} unit is available for laboratory use should further finishing be desired.

SOP 319 provides detailed information pertaining to Paragon's DI water systems, including discussions of independent monthly testing to verify that electronic readouts of water quality are accurate, maintenance by a vendor contractor, and corrective measures to be taken should water quality degrade to below acceptable limits.

6. ANALYTICAL PROCEDURES

Paragon is capable of analyzing various matrices, including surface and groundwater, drinking water, soil, sediment, tissue, filter and aqueous and solid wastes. Paragon does not currently perform analyses on air (non-particulate) or biological materials, however, analysis of these matrices may be available through our sister laboratories. Analyses are performed using promulgated methodologies as requested by the client and their regulators, and as required by Paragon's certifying authorities. New iterations of established methodologies are evaluated on an ongoing basis and implemented as client needs dictate. Analytical procedures are conducted in strict adherence with SOPs that fully describe the preparation, analysis, review and reporting of samples. In some cases, these SOPs may also describe proprietary methods developed by Paragon and used per the client's request. A list of Paragon's analytical capabilities is presented in **Appendix D.** A list of Paragon's SOPs is provided in **Appendix I**. References for analytical procedures used are presented in **Appendix B**. Paragon also, upon request, develops and validates procedures that are more applicable to a specific client objective.

6.1 ANALYTICAL METHODS

Selection of the appropriate method is dependent upon data usage and regulatory requirements. Paragon may modify existing methods in order to:

- achieve project-specific objectives;
- incorporate modifications or improvements in analytical technology;
- address unusual matrices not covered in available methods; and
- provide analytical capabilities for an analyte for which there are no promulgated methodologies.

Paragon discloses method modifications to our clients by providing the appropriate SOP for review.

6.2 METHOD COMPLIANCE

Compliance is the proper execution of recognized, documented procedures that are either approved or required. Strict adherence to these procedures is necessary to provide data acceptable to a regulatory body of competent jurisdiction in a specific regulatory context.

Compliance is, however, separate from, but not inconsistent with, technical scientific quality. Paragon understands that the expectations of our clients commonly include the assumption that data and reports will satisfy a regulatory purpose and will be found acceptable and compliant with regulatory requirements.

6.2.1 UNDERSTANDING THE REGULATORY FRAMEWORK

Compliance is not likely to be achieved in the absence of an understanding of the regulatory framework. Upon receipt of a statement of work (SOW), Paragon attempts to ascertain, prior to accepting samples:

- what regulatory jurisdiction pertains to a project (USEPA, State Department of Health, etc.)
- within the regulatory jurisdiction, what body of regulations has primacy (RCRA, SDWA, CWA, etc.); and
- within this context, what QA/QC protocols are required (DOE, DoD -- AFCEE, NFESC, USACE, etc.).

Paragon works with our clients to achieve a mutual understanding of all requirements and makes the following commitments:

- Paragon will proactively attempt to identify and understand the regulatory context of client's needs.
- Paragon will strive to be expert in understanding and executing the regulatory requirements for compliance.
- Paragon will ensure that we have the capabilities, resources and facilities to perform the requested analyses.
- Paragon will identify and disclose to clients instances of non-compliance in a forthright and timely fashion.

6.2.2 RESOLVING COMPLIANCE CONTRADICTIONS

Multiple regulatory jurisdictions may overlap for a specific project, which may cause uncertainty or contradictions to arise. Similarly, methods and protocols may be prescribed in a scope of work or QAPjP that either will not achieve stated or implied DQOs, or that conflict with the regulatory requirements. Paragon will attempt to detect these inconsistencies and contradictions and will disclose them to clients in a timely fashion. Paragon voluntarily accepts a responsibility to provide information to our clients; however, the primary responsibility for resolving inconsistencies with regulators remains with the client.

6.2.3 DISCLOSURE OF NON-COMPLIANCE

As previously stated, it is Paragon's policy to disclose in a forthright manner any detected non-compliance that may affect the usability of data produced by Paragon. It is not within our expertise to predict the manner in which a specific regulator or regulatory body will interpret the rules governing analysis; therefore, Paragon is unable to guarantee compliance. It is Paragon's policy that our responsibility begins with a bona-fide and competent attempt to evaluate potential compliance issues, and ends with disclosure of any findings that may enable our clients to make an informed decision.

Procedures for documenting non-compliances and applying corrective actions are given in **SOP 928**. A copy of Paragon's Nonconformance Report (NCR), Form 313, is provided in **Appendix G**.

6.3 NON-STANDARD METHOD VALIDATION

When a non-promulgated method (i.e., methods other than EPA, ASTM, etc.) is required for specific projects or analytes of interest or when the laboratory develops a procedure, the laboratory must establish the validity of the method prior to extracting or analyzing a client's samples. Validity is established by meeting criteria for precision and accuracy. Method development and validation must include the following:

- Initial Demonstration of Capability (IDOC) for each analyst performing the method;
- MDL and IDL studies for every analyte, matrix, instrument, and column (if applicable);
- validated extraction and analytical criteria; and
- SOP generation and approval.

7. MEASUREMENT TRACEABILITY AND CALIBRATION

Paragon follows a well-defined calibration routine for all instruments and equipment. Calibration may be performed by laboratory personnel using certified reference materials traceable to NIST or equivalent certified materials, or by external calibration agencies or equipment manufacturers. The discussion in this section of the LQAP is general in nature because the requirements for calibration are instrument or equipment and method specific. Details of calibration procedures and requirements can be found in Paragon's standard operating procedures (SOPs), analytical methods and operations manuals.

A list of all major instrumentation available at Paragon is provided in **Appendix H**. The Quality Assurance Department maintains this list.

7.1 TRACEABILITY OF CALIBRATION

Paragon's program of calibration and/or verification and validation of equipment must ensure that, wherever possible, measurements performed by the laboratory are traceable to national standards of measurement. Paragon requests and maintains calibration certificates (e.g., weights, thermometers, balances) that demonstrate traceability to national standards of measurement. If traceability to national standards of measurement is not available or applicable, then Paragon provides evidence of correlation of results (e.g., verifying an in-line resistivity meter by reading the system's output with a conductivity meter; participating in a proficiency testing studies).

7.2 REFERENCE STANDARDS OF MEASUREMENT

Paragon uses reference standards of measurement (such as Class S weights or NIST-traceable thermometers) for calibration verification purposes only (i.e., these reference standards are not available to laboratory staff for general use). Reference standards of measurement are calibrated or verified annually by a qualified vendor that must provide, where possible, traceability to a national standard of measurement. Certificates of vendor calibration/verification for the reference standards are maintained by the Quality Assurance Department.

The certified reference standards are then used to annually verify other measurement devices (e.g., laboratory thermometers, laboratory weight sets) in-house. The in-house verification efforts are managed by the Quality Assurance Department. All items so verified are tagged with a sticker indicating the unique identity of the device, the date of verification and the initials of the technician who performed the verification. Procedures for the in-house verification of thermometers are given in **SOP 923**. Procedures for the verification of weight sets are given in **SOP 901**.

7.3 TRACEABILITY OF STANDARDS, SOLVENTS AND REAGENTS

Paragon purchases the highest quality standards, solvents, and reagents appropriate to the analytical methodologies employed. The vendor must supply a Certificate of Analysis, Certificate of Purity, or equivalent. These certificates are maintained by the Department who uses the materials.

With the exception of extraction solvents, each Department documents the date of receipt, date opened and an expiration date for all standards and reagents by labeling the original container, or certificate and/or by entering this information in Paragon's Standards and Reagents database. Because of the quantity of solvents consumed in a short time frame, solvents are labeled only with the date received.

Each Department is responsible for the preparation, documentation, storage and disposal of its chemicals. Standards preparation information is documented by entry in a Paragon's Standards and Reagents database. The following information, needed to maintain traceability of the standard, is recorded for each standard:

- date of receipt of reference standard;
- date opened (noted on each bottle);
- traceability to purchased stock or neat compounds (vendor, lot number);
- unique internal identification number;
- date of preparation;
- name of preparer;
- amount of reference material used;
- volume of reagents and solvents used;
- final volume;
- concentration;
- expiration date of the stock and diluted standards.

See **SOPs 300** and **734** for additional information about standards preparation, storage, and expiration. Verification (re-verification) of radiochemical standards is addressed in **SOP 798**.

7.4 GENERAL REQUIREMENTS FOR CALIBRATION

Each calibration is dated and documented to ensure that it is traceable to the method, instrument, date of analysis, analyte, concentration, and response. Sufficient information must be recorded to permit reconstruction of the calibration. Acceptance criteria for calibrations must comply with method requirements.

7.5 INSTRUMENT CALIBRATION

This section defines the essential elements of initial instrument calibration and continuing instrument calibration verification. These procedures ensure that the data will be of known, documented, and appropriate quality for a given application. Samples yielding concentrations that exceed the upper limit of the calibration curve shall be diluted and reanalyzed, if possible, to bring the results within the calibrated range. Results of samples outside the known calibration range, above or below, must be reported as qualified values and discussed in the case narrative).

Initial instrument calibration is used for quantitation and continuing instrument calibration verification is used to confirm the validity of the initial calibration. The following items are required of both initial and continuing instrument calibrations:

- The details of the instrument calibration procedures must be included or referenced in the test method SOP (includes calculations, integrations, statistics).

- Sufficient raw data records must be retained to allow reconstruction of the instrument calibration (e.g., calibration date, test method, instrument, date of analysis, name of analyst, concentration of standard(s), response, response factor).

Additional essential elements of initial as well as continuing instrument calibrations are discussed below.

7.5.1 INITIAL INSTRUMENT CALIBRATION

The following items are essential elements of initial instrument calibration:

- Samples must be quantitated from the initial instrument calibration, unless the reference method states otherwise.

- The initial calibration range must consist of at least the minimum number of calibration points specified by the reference method. If the reference method does not specify the number of calibration standards, then the minimum number is two, not including blanks or a zero standard. Exception: multicomponent analytes, such as chlordane, toxaphene or Aroclors, may be analyzed using a one-point calibration, per SW-846 guidance, if so requested by the client.

- The lowest calibration standard must be above the detection limit and at or below the method reporting limit (i.e., the method reporting limit must be within the calibrated range of the method).

- Calibration standards must include concentrations at or below the regulatory limits, if these limits are known to the laboratory.

- Criteria for the acceptance of an initial instrument calibration must be established (e.g., RSD, correlation coefficient, etc.).

- If the initial instrument calibration results are outside acceptance criteria, then corrective action must be performed and the instrument recalibrated before analyzing samples.

- Exclusion of initial calibration points without technical justification is not allowed (poor injection or power failure are valid reasons to exclude a calibration point).

- All reported target analytes and surrogates must be included in the initial calibration.

- The initial calibration must be verified (see LQAP Section 7.5.3) before samples can be analyzed.

7.5.2 CONTINUING INSTRUMENT CALIBRATION

A continuing calibration verification (CCV) standard must be analyzed with the frequency prescribed in the reference method, or as dictated by the applicable LIMS program specification. For example:

- When an initial instrument calibration is not performed on the day of analysis, then validity of the initial calibration must be verified with an acceptable CCV prior to sample analysis.

- A CCV must be repeated at the beginning and end of each analytical sequence. (For GC/MS methods that use an internal standard, only one CCV must be analyzed before each analytical sequence). Some methods additionally prescribe that a CCV must be analyzed after every 10 (or 20) samples analyzed.

The following items are essential elements of continuing instrument calibration:

- With the exception of multi-component analytes, all reported target analytes must be included in the continuing instrument calibration standard.

- Criteria for the acceptance of a continuing instrument calibration must be established (e.g., %D, %Drift, from the initial calibration).

- If the CCV results exceed acceptance criteria, then corrective actions must be performed. If routine corrective action procedures do not produce a second consecutive calibration verification within acceptance criteria, then a new calibration must be performed and successfully verified.

Additional aspects of calibration verification are discussed below.

7.5.3 CALIBRATION VERIFICATIONS

All initial instrument calibrations must be verified with a ***second source*** standard obtained from a different manufacturer/vendor and traceable to a national standard, when available. If a different manufacturer/vendor is not available, the laboratory must request a different lot number of the standard.

In most cases, a second-source initial calibration verification (ICV) standard is analyzed immediately after the initial calibration and before any samples are analyzed. However, analysis of an ICV is not required, if the continuing calibration verification (CCV) standard is from a second source.

The concentrations of the calibration verification standards must be varied within the established calibration range. At least one of the standards must fall below the middle of the calibration range. Paragon usually accomplishes this criterion by analyzing the ICV at a different and lower concentration than the CCV. Acceptance criteria for an ICV are usually the same as those for a CCV.

Sample data associated with an unacceptable calibration verification standard may be reported as qualified data in the following cases:

- When the acceptance criteria for the continuing calibration verification are exceeded high (i.e., high bias) and there are associated samples that are non-detects, then those non-detects may be reported.

- When the acceptance criteria for the continuing calibration verification are exceeded low (i.e., low bias), then these sample results may be reported if they exceed a maximum regulatory limit.

- When the acceptance criteria for the CCV are exceeded high or low and the effect on the system from previous sample analysis is substantiated (e.g., by reanalysis or sample response characteristics on a different detector), then the sample results may be reported.

Other levels of concentrations and frequencies of analysis for calibration checks (ICVs, CCVs) may be required by specific client programs. These requirements, which supercede method, SOP or LQAP requirements otherwise stated, are communicated to the laboratory staff via LIMS program specifications.

7.6 SUPPORT EQUIPMENT

The requirements in this section apply to all equipment that supports laboratory operation. Support equipment includes balances, ovens, refrigerators, freezers, water baths, temperature measurement devices and mechanical pippettors (e.g., Eppendorf™ pipets).

Support equipment must be calibrated or verified, typically annually, within the applied range of use. NIST traceable references must be used when available; the results of said calibration/verification must be documented and within the specifications required of the application for which the equipment is intended.

All support equipment must be maintained in proper working order, and records must be retained to document the equipment's performance, maintenance, and repair. Each business day, near to the beginning of the workshift, the proper functioning and calibration of the following equipment must be verified: balances, ovens, refrigerators, freezers, and water baths. Additional monitoring must also be performed and documented if so prescribed by a test method (e.g., recording the temperature of a water bath during digestion).

Per **SOP 321**, the volumes dispensed from mechanical pippettors (e.g., Eppendorf™ pipets) are verified prior to each use, as these volumes are critical measurements. Because automatic dispensing devices used to deliver solvents or reagents (e.g., for sample preservation and extractions) are not used to deliver critical volumes, these devices are exempt from daily verification.

Where necessary, in-house verifications are performed to document the capability of graduated laboratory glassware (e.g., records are on file in the Quality Assurance Department that document the capacity of the cyanide Midi-Dist sample tube glassware).

Certificates of Accuracy are acquired from the manufacturer and are retained on file within each Department for glass microliter syringes.

The following SOPs provide additional information about calibration and verification of support equipment:

- **SOP 305** -- balance calibration and verification
- **SOP 320** -- monitoring and recording of oven temperatures
- **SOP 326** -- monitoring refrigerator and freezer temperatures.

8. PREVENTIVE MAINTENANCE

The objective of Paragon's preventive maintenance program is to provide a system for instrument care that prevents quality control failures and minimizes lost productivity that results from instrument failure. This program includes a system for documenting all routine and non-routine instrument maintenance and repairs.

8.1 MAINTENANCE RESPONSIBILITIES AND SCHEDULES

The Department Manager is responsible for providing technical leadership to all employees who perform analyses. This leadership role includes: (1) serving as a technical resource to help solve equipment and method problems; (2) evaluating and recommending investments in new technologies; (3) improving efficiency; (4) coordinating instrument repair and maintenance. The Department Manager is further responsible for developing procedures and schedules for maintaining each major instrument or piece of equipment and for delegating specific maintenance responsibilities to employees.

Analysts maintain calibration and maintenance records of all equipment and instruments that generate analytical data. Paragon maintains service contracts for most major analytical equipment, including gas and high-performance liquid chromatographs, mass spectrometers, liquid scintillation counters, and cold vapor atomic absorption and inductively coupled plasma spectrophotometers. Manufacturer's recommendations and analysts' experience provide the basis for developing maintenance schedules.

8.2 MAINTENANCE DOCUMENTATION

With the exception of ICP-AES maintenance which is entered into the instrument's PC and printed out as the raw data header, routine and non-routine instrument maintenance is documented in maintenance logbooks assigned to each instrument. The maintenance log depicts the unique instrument identifier (e.g., serial number) that the logbook is assigned to. To provide a clear and complete history of repairs and maintenance associated with the instrument, each entry must include the following elements:

- the date of the maintenance or repair:
- the reason for the maintenance or repair (e.g., was this action taken to correct a problem or was this action routine instrument maintenance);
- a full description of the maintenance or repair conducted;
- the name of the analyst or vendor who performed the maintenance or repair;
- a description of how the analyst demonstrated that the analytical system was operating in control after completion of the maintenance or repair and before the resumption of sample analysis (only applies if the instrument was taken out of service); and
- the initials of the analyst making the entry and date of entry.

8.3 SPARE PARTS

An adequate inventory of spare parts is required to minimize equipment downtime. This inventory should include those parts and supplies that:

- are subject to frequent failure;
- have limited useful lifetimes, or
- cannot be obtained in a timely manner should failure occur.

Department Managers are responsible for maintaining an adequate inventory of necessary spare parts for all major instruments and equipment items. Examples of spare parts maintained for major instrumentation include septa, inserts, columns, tube fittings, filaments, source parts, and traps.

8.4 CONTINGENCY PLAN

In the event of a catastrophic instrument failure, Paragon will make every effort to analyze samples within holding times by alternate means. If the redundancy in instrumentation is insufficient to handle the affected samples, then the Department Manager will notify the Project Manager immediately. In turn, the Project Manager will notify the client to discuss options that will ensure successful completion of the project.

Paragon will also take appropriate mitigating steps and notify the client should significant power, cooling unit, etc. failures occur that create circumstances which could adversely impact the client's sample results. An automated system is in place to notify the IS Manager and Laboratory Director should a power outage of significant duration occur. However, any employee who notes an outage or unit failure is responsible for contacting the Laboratory Director or Department Manager, who will in turn direct the necessary actions. The specific course of action taken is dependent upon the nature and extent of the failure. Procedures to be followed in the event of catastrophic failure are also included as an appendix to Paragon's Emergency and Contingency Plan (ECP).

9. QUALITY CONTROL (QC) PROCEDURES

Paragon's quality control program provides a systematic process that enables the laboratory to evaluate and control the validity of analytical results by measuring and monitoring the accuracy and precision by method and matrix; developing control limits and using these limits to detect errors or out-of-control events; and requiring corrective actions to prevent or minimize the recurrence of these events. Paragon observes QC procedures to ensure that sample data meet the quality objectives of the laboratory and the client.

The purpose of preparing and analyzing QC samples is to demonstrate accuracy and precision of the sample data and efficacy of the method for the target analytes being investigated. Acceptance criteria may be dictated by methods or by project requirements. All assessments of QC data are performed after all rounding and significant figure truncations have been performed.

For all analyses performed by Paragon, the QC samples described in the following section are mandatory. Determinative SOPs contain a Table that summarizes the types and frequency of QC samples, acceptance criteria, and corrective actions required. Observation of maximum holding time allowances is discussed in LQAP Chapter 4.

9.1 DEFINITION OF BATCH

9.1.1 PREPARATION BATCH

A preparation batch consists of as many as 20 field samples of the same or similar matrix that are prepared together by the same analyst(s) within a limited or continuous time period, following the same method, using the same kind of equipment, and same lots of reagents. Each batch must contain the appropriate number and kind of method control samples (e.g., MB, LCS) and matrix specific QC samples (e.g., MS/MSD, DUP). Cleanup procedures may be included as part of the preparation batch. All field and QC samples in the batch should be subjected to the same preparation and cleanup procedures.

9.1.2 ANALYSIS BATCH

The analysis batch (or sequence) consists of samples that are analyzed together within the same or continuous time period, on the same instrument and processed against the same calibration. Each analysis sequence must contain the appropriate number and kind of standards and samples as defined by the method. If samples from a preparation batch are analyzed in multiple analysis batches, extended method control and matrix specific QC samples need not be analyzed with every analysis batch.

Where no sample pre-treatment (such as extraction or digestion) is required prior to analysis (e.g., analysis of volatile organic compounds, anions analysis by ion chromatography, etc.), the preparation batch and analysis sequence are combined.

9.2 PREPARATION BATCH QC SAMPLES AND STANDARDS – DEFINITION AND USE

The results of quality control samples provide an estimate of accuracy and precision for the preparation and analysis steps of sample handling. The following sections describe the QC information provided by each of these analytical measurements.

9.2.1 METHOD BLANK

A method blank (MB) consists of an aliquot of well-characterized, controlled, or certified matrix (e.g., reagent water, Ottawa sand, solid reference material, boiling chips) that is processed through the sample preparation, cleanup, and analysis procedure. For radiochemical analyses, a suitable blank solid matrix has not been identified; therefore, reagent water is routinely used for the blank for most solid matrices. The volume or weight of the blank must be approximately equal to the sample volume or weight processed for sample analyses.

The purpose of the method blank is to demonstrate that interferences caused by contaminants in solvents, reagents, glassware, and other sample processing hardware, are known and minimized. A method blank should not contain target analytes at or above the reporting limit, unless otherwise permitted in the method. Other maximum blank contamination control criteria may apply, as indicated in the associated LIMS program specification.

While some methods may require background correction, sample results are not corrected for blank contamination.

9.2.2 LABORATORY CONTROL SAMPLE

A Laboratory Control Sample (LCS) consists of an aliquot of well characterized, controlled, certified matrix (e.g., reagent water, sand, solid reference material, Teflon™ chips) that is spiked with analytes of interest and processed through the sample preparation, cleanup, and analysis procedure.

The purpose of the LCS is to provide an estimate of bias based on recovery of the compounds from the clean, controlled matrix and to demonstrate that the laboratory is performing the method within accepted guidelines without potential non-matrix interferences.

Where sample pretreatment is not required, such as with ion chromatography or gamma spectroscopy analysis, or the analysis of volatile organic compounds, the ICV standard or other appropriate control standard may be employed as the LCS.

An LCS for methods with extensive lists of analytes that may interfere with one another may include a limited number of analytes, but the analytes included must be representative of as many analytes as is practical.

Other client-specific quality control requirements may be prescribed in the applicable LIMS program specification. The requirements set forth in the LIMS program specification supercede those stated in the method, SOP or LQAP.

9.2.3 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A matrix spike (MS) or matrix spike duplicate (MSD) is a field sample to which known concentrations of target analytes are added before the sample is processed. The purpose of MS/MSD samples is to assess the performance of the method for a particular matrix and to provide information about the sample's homogeneity. Results of the MS/MSD samples are evaluated in relation to the method QC samples to determine the effect of the matrix in regards to accuracy and precision. Sample results are not corrected for MS/MSD excursions.

To generate MS/MSD pairs for any analysis, there must be an adequate volume/weight of field sample available. Inadequate sample volumes preclude the possibility of generating this pair of QC samples. Paragon asks clients to designate the sample to be used for MS/MSD analysis to ensure that adequate sample volumes are collected.

For some analyses, changing the composition of the sample in any way invalidates the analysis to be performed (e.g., hardness, alkalinity, pH). Therefore, an MS/MSD pair cannot be generated for these analyses. Normally, duplicate sample aliquots are analyzed in order to generate an estimate of the method's precision.

Other client-specific quality control requirements may be prescribed in the applicable LIMS program specification. The requirements set forth in the LIMS program specification supercede those stated in the method, SOP or LQAP.

9.2.4 SAMPLE DUPLICATE

A sample duplicate (DUP) is a second representative portion of sample that is carried through the preparation, cleanup and analysis process. Results for the duplicate sample are compared to the initial sample analysis results as a means of evaluating precision. For organic analyses, the MS/MSDs fulfill this function. The degree of sample homogeneity directly impacts the integrity of the sample duplicate analysis.

Precision criteria for sample duplicate analyses are those prescribed in the reference method and/or SOP, unless otherwise superceded by client-specific requirements contained in the applicable LIMS program specification.

9.2.5 SURROGATES

Surrogates are organic compounds that are similar to the target analytes, but are unlikely to be present in actual field samples. They are introduced into all field and QC samples in a batch prior to sample preparation, and provide an estimate of bias based on recovery of similar compounds, for a given extraction technique and analysis method combination. Sample results are not corrected for surrogate recoveries.

Acceptance criteria for surrogates are those prescribed in the reference method and/or SOP, unless otherwise superceded by client-specific requirements contained in the applicable LIMS program specification.

9.2.6 CHEMICAL YIELD MONITORS OR ISOTOPIC TRACERS

Chemical yield monitors are used in radiochemical analyses and provide information similar to the surrogate spikes discussed above. The primary difference between a chemical yield monitor and a surrogate is that sample results are corrected for chemical yield recoveries and not corrected for surrogate recoveries. A chemical yield monitor is a substance that has similar chemical characteristics as the parameter being measured. It is introduced into all field and QC samples in a batch during the preparation procedure. Chemical yield monitors provide information regarding the performance of a method on a sample-by-sample basis.

Chemical yield monitors are evaluated against established laboratory control limits. These Paragon default control limits may be superceded by other quality control criteria specified in the applicable LIMS program specification.

9.3 CONTROL CHARTS

Control charts are a tool that can assist the laboratory in evaluating method control and assessing trends. Control charts can clarify the routine performance expectations for a method and can give warning before a measurement system drifts into an out-of-control situation. Control charts are accessible to all bench personnel through LIMS.

9.3.1 ACCURACY CONTROL CHARTS

Accuracy (recovery) for a batch can be evaluated by plotting the individual percent recovery points for analytes on a control chart and comparing the values against the current control limits. If the spike recovery values for the current analytical batch meets the acceptance criteria for that method, then the data point (and batch) are accepted.

Accuracy control charts are generally maintained for each method that utilizes an LCS. For methods that cannot use LCS samples (e.g., pH, flashpoint, conductivity), other tools are used to assess method control. If fewer than 20 data points for a method, matrix, and analyte combination are acquired, then control charts yield scant information.

9.3.2 CONTROL LIMITS

Control limits for each controlled analyte are calculated, and can be updated, using Paragon's LIMS. The recovery values from all data processed within a specified date range, are used to calculate the control limits and compile the control chart.

The upper and lower control limits of the control chart are designated as the value equal to the average recovery plus or minus three times the standard deviation (i.e., 99% confidence interval).

The upper and lower warning limits for the control chart are designated as the value equal to the average recovery plus or minus two times the standard deviation (i.e., 95% confidence interval).

The average recovery, standard deviation, minimum value, maximum value, and population are displayed on each control chart.

Control limits are updated as needed (e.g., acquisition of a sufficient number of datapoints to establish meaningful control limits for a newly implemented method; if deemed appropriate as a result of a corrective action investigation; etc.). The frequency with which control limits are updated may vary for different methods. Generally, intra-laboratory historical control limits are not updated more than once per year. The Quality Assurance Department reviews control charts on a semi-annual basis.

9.3.3 OUTLIER REJECTION

For the generation of control charts, and other quality control data that monitor the laboratory's performance, it is essential to prevent spurious or erroneous data from being incorporated. It may be necessary to reject data as an outlier to prevent an adverse effect on the values being calculated. In every case, the cause of the outlier rejection must be clearly understood before any data point is manually rejected.

For the purposes of statistically determining whether a data point is an outlier or not, Paragon may use the procedures discussed in the Dixon Rank Sum Test or the Grubbs Test. If a data point is determined to be an outlier, it will not be incorporated into the dataset when updating QC limits.

9.3.4 TREND EVALUATION

Trend analysis techniques can be applied to control charts as a preventive tool to help indicate conditions that could cause an analysis to become out of control. In evaluating control charts, a trend is recognized if one or more of the following situations exist:

- A series of seven successive points occur on the same side of the mean;
- A series of five successive points occur going in the same direction;
- Two consecutive points occur between the warning and control limits;
- A single value occurs outside of control limits.

Corrective action investigation should be employed for every trend identified. Items to be considered upon investigation may include, but are not limited to, the following:

- Has there been a change in instrumentation or personnel?
- Has instrument maintenance been properly performed?
- What conditions have changed since the trend began?

- Have standard or spike solutions changed?

9.4 SECOND COLUMN OR SECOND DETECTOR CONFIRMATION

Second column or detector confirmation is performed for several GC and HPLC methods. Whenever two dissimilar chromatography columns or two detectors of a different nature are available for a given method, the laboratory performs second column or second detector confirmation analysis to confirm the identity of target analytes in field samples. When second column analysis is performed for any chromatography technique, the following policies apply:

- Every attempt will be made to calibrate the second (confirmatory) column in the same manner as the quantitative (primary) column. The same initial and continuing calibration standards will be analyzed on the confirmation column in the same manner as the quantitation column. The purpose of this dual calibration requirement is to allow the possibility of reporting quantitative results from the confirmation column if interferences on the primary column prevent accurate target analyte quantitation.

- For chromatographic techniques, the determination of target analytes in a sample depends solely on peak retention times observed in both primary and secondary column chromatograms. If target analyte peaks are present at the proper retention times in both confirmation and quantitation column chromatograms at levels above the MDL, then Paragon considers this analyte to be confirmed.

- In general, Paragon reports the higher value of the two columns per SW8000 guidance (e.g., 8011, 8081, 8082, 8141, 8151, 8021). It is also Paragon's policy to report the higher value of the two columns for other EPA methods (e.g., 504.1, 608, 615).

  If no interferences are present, and an analyte's value from either the primary or secondary column is greater than the reporting limit but between the MDL and the reporting limit on the other column, then Paragon reports the higher value that is greater than the reporting limit for that analyte.

- Paragon customarily reports the value from the primary column for methods SW8330 and SW8332. Co-elutions or interferences are frequently observed on the secondary column for these HPLC methods.

- Other reporting rules may apply as dictated in the applicable LIMS program specification. The rules of the LIMS program specification supercede standard Paragon policy.

9.5 MANUAL RE-INTEGRATION POLICIES AND PROCEDURES

Many data collection systems allow the analyst to reprocess data, thereby allowing for the manual re-integration of analyte peaks. Paragon makes every attempt to optimize peak integration parameters; however, manual reprocessing of data must be performed to correct a data system's integration error (e.g., incorrect or missed peak assignment, over- or under-integration of area). Manual re-integrations may not be performed solely to meet initial or continuing calibration criteria or any QC criteria (e.g., tuning, or surrogate or spiking compound recovery).

Whenever a manual integration is performed, the analyst performing this process must include a hardcopy of the original and re-integrated peak in the final report. In addition, the analyst must sign and date the re-integrated page and document the reason for re-integration on the printout. The re-integration must be documented in the case narrative.

Further details regarding manual integration procedures are given in **SOP 939**.

10. DATA REDUCTION, VALIDATION AND REPORTING

Data transfer and reduction are essential functions in summarizing information to support conclusions. It is essential that these processes are performed accurately and are followed by multiple reviews before data are submitted to the client. All analytical data generated by Paragon are extensively reviewed for accuracy and completeness. The data validation process consists of data generation, reduction, and multiple levels of review, as described below.

10.1 DOCUMENTATION OF RAW DATA

Where possible, raw data are captured and processed electronically using verified software programs (see **SOP 1400** for further information regarding software verification).

To facilitate manual documentation of raw data, Paragon creates custom logbooks comprised of forms or benchsheets that are tailored to contain the information required to adequately document the process being performed, and the associated data. The Quality Assurance Department controls these forms and benchsheets, and issues bound and paginated logbooks to the laboratory as needed via controlled distribution. As applicable, hardcover, bound laboratory notebooks (most frequently used for instrument maintenance logs or Project Manager notebooks) are also issued via controlled distribution to laboratory staff as needed.

The manually recorded raw data are entered into the laboratory logbook directly, promptly, and legibly in indelible ink. All raw data entries must, at a minimum, contain the following information:

- the initials of the individual who performed the process;

- the date the process was performed;
- the methodology used; and
- the identity of all samples or standard solutions that were employed in carrying out the process.

Raw data must be maintained as part of the laboratory's records. Raw data not only includes instrument outputs, but sample preparation, standard materials documentation, and equipment maintenance information as well. Raw data may be archived electronically or as hardcopy.

10.2 CORRECTION OF ERRORS IN DOCUMENTS

During the course of processing and reviewing sample preparations and analysis results, it may be necessary to correct documentation errors. Detailed requirements for the correction of manual documentation errors are prescribed in **SOP 303**. In summary, manual entries may not be obliterated by erasure, use of correction fluid, or other means. In order to maintain the integrity of the documentation generated by the laboratory, changes to documentation must be made in the following manner:

- A single line must be struck through the error so that the original text remains legible;
- A corrected entry must be made adjacent to the error; and
- The person making the change must initial and date the corrective entry.

If corrections to computerized data are required, Paragon's LIMS controls the ability to make data changes and provides an electronic audit trail for corrections that are made.

If not clearly evident, the reason for the data change must be indicated.

10.3 DATA REDUCTION

Paragon's analysts perform data reduction. This process consists of interpreting instrument results and verifying calculated concentrations in samples from the raw data. The complexity of the data reduction is dependent on the specific analytical method and the number of discrete operations involved in obtaining a measurement (e.g., digestions, dilutions, cleanups, or concentrations). The analyst calculates the final reportable values from raw data or enters all necessary raw data into the LIMS so that the LIMS can calculate the final reportable values.

Data are reduced according to protocols described in SOPs and method-specific review checklists. Computer software used for data reduction is validated before use and verified regularly by manual calculations. All information used in calculation is recorded in order to facilitate reconstruction of the final results (e.g., raw data, calibration files, tuning records, results of standard additions, interference check results, sample response, and blank or background-correction protocols). Information about the preparation of the samples is maintained in order to facilitate reconstruction of the final results (e.g., weight or volume, percent moisture for solids, extract volume, dilution factor).

Copies of all raw data and the calculations used to generate the final results, as recorded in hardbound laboratory notebooks, spreadsheets, electronic data files and LIMS record files, are retained in the project file to allow reconstruction of the data reduction process.

10.4 REPORTING OF SAMPLE RESULTS

Sample results are reported either on an "as-received" basis, or in units of dry-weight measure. The number of significant figures reported is consistent with the limits of uncertainty inherent to the analytical method. In most cases, results are reported to no more than two or three significant figures. Analytical problems, and/or any modifications of referenced methods are noted in the case narrative.

Standard units appropriate to the analytical method are used to report all sample results. Measurements for radiochemical analyses are reported in units of activity such as:

- picocuries per liter (pCi/L), aqueous; or picocuries per gram (pCi/g), solid matrix samples.
- disintegrations per minute per liter (dpm/L) or disintegrations per minute per gram (dpm/g).
- Becquerels per liter (Bq/L) or Becquerels per gram (Bq/g).

It should be noted that one (1) Currie is equal to 2.22×10^{12} dpm; and is also equal to 3.7×10^{10} Bq.

Standard units for inorganic and organic analyses are units of mass per volume (aqueous samples), or mass per weight (solid matrix samples). For example, Wet Chemistry parameters such as hardness, total organic carbon (TOC), etc., are typically reported in milligrams per liter (mg/L) or milligrams per kilogram (mg/kg). Metals results for liquid samples may be reported as mg/L or as micrograms per liter (µg/L). Some miscellaneous parameters have specific reporting units mandated by their analysis technique. For example, pH is reported as pH units, and specific conductance is reported as milli-Siemens (mmho/cm) or micro-Siemens (µmho/cm).

10.5 DATA REVIEW

Paragon employs multiple levels of data review. All data generated and reduced follow review protocols specified in laboratory SOPs (such as **SOPs 052** and **715**),and method-specific checklists. The preparatory technician and analyst who generates the analytical data perform a **Level 1** review of the data for correctness and completeness. This data review verifies that:

- the appropriate SOPs have been followed;
- any special sample preparation or analytical requirements that were communicated to the laboratory via the LIMS program specification have been met;
- all sample preparation information is correct and complete;
- all analysis information is correct and complete;
- QC samples meet criteria for frequency, accuracy and precision;
- all calculations, conversions, and data transfers are accurate;
- all documentation is present and complete, including benchsheets and/or run logs, any applicable NCRs, and documentation and presentation of manual integrations per SOP 939, as applicable.

Procedures for handling unacceptable data are discussed subsequently (LQAP Section 10.6).

Following completion of the Level 1 Review, the analyst then forwards the data to the Department Manager or another qualified reviewer whose function is to provide an independent **Level 2** review of the data. In addition to the elements evaluated in the Level 1 review described above, the Level 2 reviewer verifies that:

- the calibration data are scientifically sound, appropriate to the method, and completely documented;
- qualitative identification of target analytes is correct;
- quantitative results are correct.

The Level 2 reviewer selects a sample and verifies it to the benchsheet. If no errors are found, then the review is considered complete. If any problems are discovered, then additional samples are verified to the benchsheet with the process continuing until no additional errors are found or until the data package has been reviewed in its entirety. The Level 2 review is documented by recording the date and initials of the reviewer. This sign-off signifies that the data are approved for release and a final report is prepared.

Once the final report is prepared, an additional overall technical review is performed before it is routed to the Project Manager for a **Level 3** review. The intent of this review is to verify that the report is complete and that the data meet the overall objectives of the project.

Each step of the review process involves evaluation of data quality based on both the results of the QC data and the professional judgment of those conducting the review. This application of technical knowledge and experience to the evaluation of the data is essential in ensuring that data produced are consistently of known, documented, and appropriate quality.

10.6 PROCEDURES FOR HANDLING UNACCEPTABLE DATA

All QC information is recorded in the same format, with the same units, as that of the associated sample results. It is the analyst's responsibility to evaluate QC data against prescribed limits. When an analysis of a QC sample (e.g., method blank, laboratory control sample, calibration verification standard, etc.), indicates that the associated samples do not meet requirements, the analyst must immediately notify the Department Manager. The Department Manger then consults with the Project Manager (and Quality Assurance Manager, as applicable) to determine whether or not the affected samples must be re-prepped and/or re-analyzed, and/or if specific corrective action needs to be taken before additional analysis may proceed. A Nonconformance Report (NCR) as discussed in Chapter 11 of this LQAP is initiated per **SOP 928**, as applicable. If the non-compliant data cannot be corrected, then the affected results must be flagged as discussed below and the discrepancy disclosed in the case narrative. The completed NCR Form is included in the data report.

10.7 DATA REPORTING

Data reports contain final sample results, the methods of analysis used and limits of detection, and QC data. The extent of supportive data included (e.g., benchsheets, run logs, calibration data, instrument raw data printouts, etc.), is contingent upon the type of report contracted by the client.

Results of subcontracted data are clearly indicated as subcontract laboratory results when incorporated into the data package report.

10.7.1 FACSIMILE OR IMAGED REPORTS

For projects that require rapid turnaround of sample analysis results, the laboratory may provide a facsimile or imaged e-mail attachment to the client, followed by the full data report at a later date. If the analysis results provided by facsimile or imaged e-mail attachment have undergone the same review processes followed for final data packages, then this forwarded report indicates that the sample analysis results are final. However, if the accelerated turnaround time requirements preclude a full review/validation of the sample data, then the report is stamped as "PRELIMINARY" to indicate that results may change as the review process is completed.

10.7.2 HARDCOPY DATA PACKAGES

The format and content of a data report is dependent upon project specifications, and it is beyond the scope of this document to describe project-specific report requirements. In the absence of client-specified data package deliverables, the following sections describe the items that must be included in all data reports.

10.7.2.1 COVER LETTER

Items contained in the cover letter include:

- the client's name and address;
- Paragon's name and address, name of contact and telephone number;
- a tabular presentation of field/client sample ID, Paragon Sample ID, date received, matrix, and date collected. This item is presented as an attachment, the Sample Cross Reference Table;
- a list of each analysis performed and total number of pages for each analytical report;
- identification of all test data provided by a subcontract laboratory;
- a discussion of previously submitted or partial reports that pertain to the samples discussed in the current report; and
- the signature of Paragon's Project Manager or designee.

10.7.2.2 REPORT FORMAT

Analysis reports are presented in tabular format, and consistent significant figures and units of measurement are used. The following information is included in each report:

- laboratory name, client name, project name and/or number;
- client/field sample ID and Paragon sample ID;
- date of sample receipt, date and time of sample collection, and date/time of sample preparation and/or analysis;
- sample matrix;

- reporting units and identification of whether the sample results are reported on an "as-received" or dry weight basis;
- method reference for the parameter analyzed and method reporting limits;
- identification of numerical results with values below the method reporting limit;
- case narrative that identifies test methods, describes any deviation from the method or contractual requirements, additions or exceptions to the SOP, and discloses any conditions that may affect the quality of the results;
- identification of sample results that did not meet sample acceptance criteria;
- footnotes or qualifiers referenced to specific data (as applicable) and explanations or keys to flags and abbreviations used;
- surrogate and tracer recoveries, where applicable;
- where applicable, a statement of the estimated uncertainty of the test result; and
- a signature and title, or equivalent electronic identification, of the personnel who accepts responsibility for the content of the report and the date of issue.

If a report is reissued, the amendments must clearly state that the report is reissued. The cover letter and case narrative must describe why the report has been reissued and which sample results have been reissued.

10.7.2.3 QC REPORTS

Each final report includes QC reports that summarize results from the associated laboratory control sample (LCS), method blank, and matrix QC samples. Additional QC samples may be prepared and reported to comply with project-specific requirements.

10.7.2.4 DATA QUALIFIERS – FLAGGING CODES

Whenever the data quality objectives of the LQAP are not met, the associated sample results must be flagged with the appropriate flagging codes. These codes are applied only in the event that the laboratory cannot generate (through reanalysis) fully compliant data. If sample values are reported outside the calibration range of the method or unreliable interferences exist in the sample, then descriptive codes are applied to the result.

Data qualifiers are added by the laboratory prior to reporting the analysis results. The laboratory appends data qualifiers to each environmental field sample based on an evaluation of all available QC information (e.g., matrix spike/matrix spike duplicate samples, laboratory blanks, laboratory control samples, calibration verification standards, etc.). Analytical batch comments are added to the narrative section of each data report to explain any nonconformance or other issues.

Other flagging practices may be observed if so dictated by the applicable LIMS program specification.

10.7.3 ELECTRONIC DATA DELIVERABLES (EDDS)

The electronic data deliverables generated by the laboratory are project-specific and are produced in a format specified by the client. Information presented in corresponding fields of the hardcopy report and EDD are identical as both are generated from LIMS. Before submitting the EDD file, the Project Manger or designee verifies that the EDD is complete and meets the client's format requirements. All EDDs are submitted to the client on computer disks or are transmitted electronically.

10.8 RECORDS AND DATA STORAGE

Records provide the direct evidence and support for the necessary technical interpretations, judgments, and discussion concerning laboratory results. These records, particularly those that are anticipated to be used as evidentiary data, provide the historical evidence needed for later review and evaluation. Records must be legible, identifiable, and retrievable. They must be protected against damage, deterioration, fire, theft, vermin, and loss. Paragon retains all records for a minimum of seven (7) years.

Laboratory records include the following kinds of documentation:

- personnel qualifications, experience, and training;
- correspondence between Paragon and clients;
- quality assurance records (e.g., retired SOPs and LQAPs, PT study results, internal and external audit reports and responses);
- contents of laboratory logbooks;
- equipment maintenance records;

- traceability of standards, solvents and reagents;
- instrument checks and calibrations;
- raw data;
- final data reports; and
- sample management records (e.g., sample login, field and internal chain-of-custody, storage, disposal).

10.8.1 ELECTRONIC RECORDS

Paragon employs a multi-level system that addresses both the frequent backup of sample results (in LIMS) and the periodic backup of raw data (from both networked and non-networked instruments). Additionally, the software that Paragon uses for these backups, contains a disaster recovery module that allows for the complete recovery of the backup database, in its entirety. In short, Paragon's LIMS is backed up hourly, and, along with all network servers, is additionally backed up to tape each business day. As indicated in the IS and LIMS Policy Statement (**Appendix A**), instrument backups are performed approximately monthly. Contingent upon the volume of analysis, the frequency of backup might vary.

Backup of the instrument computers is done centrally by the IS Manager if the instrument computer is on the network. It is the responsibility of the operator\user to coordinate a convenient time for both the IS Manager and the user for non-network instrument backup. The instruments that are not on the network are backed up using portable devices. These devices, as well as media, are checked out from the IS Manager, then are returned to the IS Manager for safe storage.

An electronic archive for maintaining final project reports was implemented in 2001. Upon completion of a workorder, all data reports are scanned to create image files that are catalogued and saved to a dedicated server that is backed up daily as described above. The scanned images remain available on the network for review should any questions regarding the data arise. Retention of hardcopy data reports prior to 2001 is discussed below.

10.8.2 HARDCOPY RECORDS

Prior to electronic compilation and storage, Paragon created paper copies of project reports. These hardcopy data archives are retained off-site by a records storage contractor. The QAM maintains a database inventory of all records that are stored at the contractor's facility. The contractor is responsible for the maintenance and protection of these records. Access to the records is limited to only designated individuals. If any records need to be retrieved from the storage site, the requestor must fill out an archive request form (Form 136) and submit it to the Quality Assurance Department. E-mail requests directed to the QAM are also acceptable. The QA Department then requests the records from the contractor, who retrieves the records and delivers them to the laboratory on the next business day.

Hardcopy originals of records that have been imaged and verified may be destroyed confidentially (i.e., shredded). Detailed procedures for archiving records and submitting archive requests are provided in **SOP 069**.

As of this writing, no provisions have been made to permanently destroy any records generated by Paragon. Should Paragon permanently destroy any records, written notification will be provided to all clients affected. If a specific contractual requirement or government regulation requires that records be maintained for a longer period of time, then project files will be marked and retained as required.

In the event that the laboratory changes ownership, the responsibility for the retention of records in accordance with the guidelines established in this LQAP is conferred to the new owner. Should Paragon go out of business, Paragon will inform our clients in writing of this business decision and will transfer records at the client's request.

10.9 CLIENT INQUIRIES/COMPLAINTS

The focal point of contact with the client is the Paragon Project Manager. If a complaint or any circumstance raises doubt concerning Paragon's compliance with its policies or procedures, or with the requirement of a method or quality system, it is the Project Manager who initiates investigation and follows through to resolution. The QAM, Department Managers, and Laboratory Director are made aware of, and involved in, the resolution process as needed. Documentation of the complaint and its resolution are maintained as part of the project records. Where resubmission of data is required and/or implementation of preventive measures is necessary, an NCR Form (see LQAP Chapter 11, Corrective Actions) is used and processed through the QAM. Paragon will respond to all complaints in a timely fashion.

10.10 CONFIDENTIALITY

All laboratory results and associated raw data are confidential and may not be released to or discussed with any party other than the client who requested the analytical services. Access to laboratory records and LIMS is limited to laboratory personnel, on a restricted basis, based on need (i.e., job function). Records are available for an accrediting authority's on-site review, and records specific to the client (as well as quality system records) are available to the client for client audits. Paragon expects that auditors will honor our clients' and

Paragon's confidentiality requirements and will not discuss any results, documents, or records viewed during the course of an audit.

Confidentiality is included as a component of Paragon's ethics training, which is provided to each person as they join the Paragon staff, and annually as a refresher training, thereafter.

11. CORRECTIVE ACTIONS

Corrective action is necessary when any measurement system fails to meet the requirements of this LQAP, the appropriate SOP or project-specific instructions, or whenever an error is detected. Items that may need corrective action range from a minor problem such as an analyst failing to initial a form, to a major problem such as a chemist preparing a sample using the wrong reference method.

Corrective actions fall into two general categories: short-term and long-term. Short-term corrective actions are those that can be applied immediately. Examples include: having an analyst initial a form where the initial was missed, or correcting an error in a logbook entry per procedures described in SOP 303. Long-term corrective actions are those that require a clarification of practice or a change in policy in order to effectively resolve the problem. Associated SOPs may need to be revised and republished for long-term corrective actions, laboratory staff must be re-trained in accordance with the updated procedures.

11.1 RESPONSIBILITIES FOR CORRECTIVE ACTION INITIATION

The type of corrective action taken is coordinated by the Department, Quality Assurance and applicable Project Managers. A controlled Nonconformance Report (Form 313, **Appendix G**) is used to document the corrective action. *Any* individual who notes a problem or deviation is responsible for signing-out and initiating the NCR form in a timely manner.

It is the responsibility all personnel who work with samples to note any discrepancies or nonconformances that occur with sample handling. It is the responsibility of the chemists who prepare samples for analysis to document any problems that are noted during sample preparation. It is the analyst's responsibility to monitor the proper functioning of the analytical system prior to, during and following sample analysis. To accomplish this, various DQIs as discussed in Chapter 3 of this LQAP are monitored and evaluated against laboratory established or project-specific QA/QC requirements. If the evaluation reveals that any of the QC acceptance criteria are not met, then the analyst must immediately correct the problem. When an acceptable resolution cannot be achieved and/or data quality is negatively impacted, the analyst must notify the Department and Project Managers and must initiate an NCR (**SOP 928**) immediately. Per the guidance contained in SOP 928, the laboratory shall notify all affected clients of potential data quality issues in a timely manner, and corrective actions taken to resolve the issue shall be completed in a reasonable timeframe, with documentation submitted to the client.

11.2 PARAGON'S CORRECTIVE ACTION PROCESS

A notebook containing controlled NCR form blanks is kept in a designated location in the laboratory and is maintained by the Quality Assurance Department. The individual who discovered the problem or deviation signs-out the next available NCR form by completing the date, indicating their Department, and entering their initials, into the NCR notebook's log (Form 354).

Documented on the NCR are the initials of the initiator and descriptions of the method, workorder(s) and samples affected; the type, content and extent of the problem noted; the probable cause and the root of the problem (if known); measures taken to prevent recurrence; the specific corrective actions taken and their outcome; and the final disposition/resolution of the data.

As described in **SOP 928**, the processing of the NCR form flows from the initiator, to their immediate Supervisor and/or Department Manager, then to the Project Manager, and finally to the Quality Assurance Manager. In this manner, a consensus is achieved as to what specific corrective actions are to be taken. The Project Manager, at his or her discretion, may or may not contact the client to discuss options based on the nature of the nonconformance. Whether or not the client is contacted is noted on the NCR, if the client is contacted, the Project Manager documents who was contacted and when. The Project, Department and Quality Assurance Managers sign and date the NCR, documenting their final approval and verification of the disposition of the data.

NCR records are maintained by the Quality Assurance Department. NCRs are imaged as they are processed, and posted to the network for lab-wide access and trending consideration. In this manner, NCRs are retained as part of the laboratory's electronic records.

Corrective actions may also be initiated by the QAM to address internal observations, performance test (PT) sample failures, etc. Typically, NCRs are used to facilitate corrective action investigation and documentation. As discussed further below, these corrective actions are catalogued in a LIMS database that tracks audit findings.

12. AUDITS

12.1 INTERNAL AUDITS

Periodic evaluations conducted by the Quality Assurance Department and the analysis of Proficiency Test (PT) samples are two types of internal audits used to assess and document the performance of laboratory staff and processes. Audit documentation constitutes a permanent record of the conformance of Paragon's measurement systems to quality system requirements.

Internal audits include both technical and systems audits, and are performed periodically per an annual schedule developed and maintained by the Quality

Assurance Department. Considerations taken into account in developing the internal audit schedule include, but are not limited to, requests made by the Laboratory Director; the scheduled occurrence of external audits; as needed to support a specific project's requirements; to verify the continued effectiveness of corrective actions previously taken; or in response to an identified need to evaluate compliance in any area of laboratory operations. The intention of the internal audit schedule is to provide for the evaluation of each laboratory area or system at least once annually, thereby providing an overview of laboratory operations. Form 168 or other audit questionnaire may be used as a guide to conduct and document internal audits. Each year, the internal audits conducted will be compiled into the annual Quality Systems Audit (QSA), which is discussed subsequently (LQAP Section 12.1.3).

All internal audits are conducted by QA staff or designees who, by experience, are deemed to be knowledgeable in the area assessed. The assigned auditor identifies the scope, time frame and expected duration of the audit and communicates this information to the applicable Department Manager. The auditor reviews relevant information such as regulations, contract requirements, published procedures, SOPs, etc., prior to the audit. The criteria set forth in these applicable guidances establish the basis of the audit. These reference materials may also be used as auditor's aids.

The audit is conducted in an efficient and professional manner. Findings, Observations and comments are communicated to the Department Manager. Short-term corrective actions may be taken at the time an item is noted, or an appropriate long-term corrective action plan may be developed. An audit is considered to be closed-out when deficiencies have been satisfactorily corrected.

An audit report summarizing the Determinations made and the corrective actions taken or planned is compiled; the original auditor's notes are customarily included as an attachment of the audit report. The outcome of the audit is communicated to the Laboratory Director. Internal audit corrective actions requiring follow up are tracked in a LIMS database that is available for viewing to all laboratory personnel. The QAM oversees satisfactory completion of corrective measures taken. Internal audit records are maintained by the Quality Assurance Department.

See **SOP 937** for additional information pertaining to internal audit procedures.

12.1.1 INTERNAL TECHNICAL AUDITS

Departmental functions that may be reviewed during a technical audit may include, but are not limited to:

- Adherence to SOPs and compliance with promulgated method requirements during sample preparation and analysis;
- Maintenance of internal chain-of-custody;

- Proper preparation, storage, use and documentation of standards;
- Performance and documentation of instrument maintenance;
- Performance and documentation of data review;
- Evaluation of documentation practices pertaining to benchsheet and logbook entries, Nonconformance Report (NCR) generation and analyst demonstration of capability.

12.1.2 INTERNAL SYSTEM AUDITS

Examples of elements that may be reviewed as a system audit may include, but are not limited to:

- An assessment of the SOP process, including procedures for submitting and approving revisions, update and distribution of SOPs, tracking of employee SOP assignments and sign-offs, SOP electronic file management, and archiving of older SOP iterations and records.
- LIMS data capture and reporting processes.
- Sample handling, storage and disposal practices, including maintenance of sample storage areas, sample tracking and internal chain-of-custody documentation, duration of retention, and disposal designation and documentation.
- Use of Paragon's Standards and Reagents database.
- Performance and documentation of laboratory logbook review.

12.1.3 ANNUAL QUALITY SYSTEMS AUDIT

A lab-wide review of conformance to Paragon's quality system shall be conducted annually by the QA Manager or designee(s) as required by Section 5.5.3.1 of the NELAC Standard. The annual Quality Systems Audit (QSA) shall be managed, conducted and reported according to the audit procedures described above. Inputs to the QSA may include, but are not limited to, summaries of the following: Nonconformance Reports (NCRs), Proficiency Testing (PT) study results, deficiencies noted during data review, internal audit Determinations, and Determinations made via external audits.

12.1.4 PROFICIENCY TESTING STUDIES

Paragon participates in agency studies and/or contracts approved vendors to provide PT samples in accordance with a schedule developed and maintained by the Quality Assurance Department.

Participation in PT studies enables Paragon to demonstrate capability for continued accreditation, competency in a newly developed method, or the effectiveness of corrective actions taken.

Paragon participates in the following inter-laboratory proficiency testing studies:

- Water Supply (WS) -- twice annually
- Water Pollution (WP) -- twice annually
- Soil/Hazardous Waste and UST -- twice annually
- Radiochemistry -- twice annually
- US Department of Energy (USDOE) Mixed Analyte Performance Evaluation Program (MAPEP) -- twice annually

These PT studies support various regulatory programs (SDWA, CWA, RCRA) and require that the laboratory perform analyses per various methodologies (e.g., EPA 500 series, ASTM, EPA 600 series, MCAWW, SW-846), matrices and analytes. Analyte lists include: volatile organics, semivolatile organics, organochlorine pesticides, polychlorinated biphenyls, organophosphorous pesticides, phenoxyacid herbicides, high explosives, petroleum hydrocarbons, metals, minerals, nutrients and radionuclides. The analyses of PT samples are conducted in-house, in the manner prescribed by the provider, and within the turnaround time stipulated. The PT samples are distributed to the laboratory and are processed by qualified analysts who routinely perform the analytical method.

PT study results are evaluated by the Quality Assurance Department and the applicable Department Manager as they become available. The NCR and corrective action process as described in Chapter 11 of this LQAP is used to address any deficiencies that are noted. An archive of PT study reports, maintained by the QA Department, is posted to the network for lab-wide access.

12.1.5 ANNUAL MANAGERIAL REVIEW

A lab-wide Managerial Review shall be performed annually as required by Section 5.5.3.2 of the NELAC Standard. The Managerial Review assesses operational effectiveness in terms of meeting Paragon's business goals. It is a tool used to document and facilitate the consideration and introduction of needed operational changes and improvements.

The Managerial Review is performed by a designee under the direction of the Laboratory Director. The general techniques of scoping, assessment interview, reporting and follow-up as described in the internal audit procedures discussed above and outlined in SOP 937 are used to conduct the annual Managerial Review. The contents of the annual Managerial Review are considered to be confidential. A confidential footer must, therefore, appear as a component of the annual Managerial Review report.

Inputs to the Managerial Review may include, but are not limited to the following: a snapshot summary of product generated (i.e., number of samples analyzed and the types of analyses performed), various business assessment reports (e.g., TAT, on- time delivery), output from the annual QSA (i.e., problem areas identified), interview of laboratory staff, and presentation of items discussed during strategic planning sessions and/or Manager's meetings.

12.2 EXTERNAL AUDITS

External audits may be performed by a state or Federal agency or a client as part of an on-going certification process. Items evaluated by external assessors may include, but are not limited to, reviews of the following: analytical capabilities and procedures; chain-of-custody procedures; document control; quality systems; and quality control procedures. Blind PT samples may be submitted to the laboratory as a form of external audit.

See **Appendix J** for a list of Paragon's state and Federal certifications. Should Paragon drop or lose an accreditation, the Project Manager must notify all clients that may be affected in a timely manner.

13. PERSONNEL TRAINING

The selection of well-qualified personnel is a factor that contributes to Paragon's success. Therefore, qualifications of personnel are based upon education and experience. In order to maintain qualified staff, provide personnel advancement within the laboratory, and to provide for personnel's ongoing awareness of potential hazards and protective measures, Paragon follows a formal documented program of orientation and training. Records of waste and Health & Safety training are maintained by the Facilities/Waste Compliance Manager and Health & Safety Manager/RSO, respectively. Technical training records are forwarded to the Quality Assurance Department for retention.

13.1 ORIENTATION

Before working in the laboratory, new employees receive a four-part orientation as described below:

- Human resources -- involves matters of immediate personal concern, such as benefits and company policies

- Quality assurance -- addresses topics related to ethical conduct, good laboratory practices and on-going documentation of employee capability demonstrations. Required readings (SOPs, LQAP) are assigned at this time.

- Health & safety -- provides for a review of Paragon's various safety program documents (Chemical Hygiene Plan, CHP; Radiation Protection Plan, RPP; Emergency and Contingency Plan, ECP; Waste Management Plan, WMP); as well as other safety and security training.

- Department functional orientation -- focuses on the new employee's basic understanding of their role within the Department and the overall role of Operations within the structure of Paragon. The Departmental training expands upon the employee's scientific background and work experience to provide the employee with a level of competence that enables the individual to successfully function within the defined responsibilities of his/her position.

Temporary employees receive the same orientation as regular staff, with the exception of the human resources orientation.

SOP 143 details information regarding quality assurance orientation and training for new employees.

13.2 TECHNICAL TRAINING

Chemists (analysts) and technicians are qualified to perform specific analytical procedures and methods. The qualification process, at a minimum, consists of background/theory training, on-the-job training, and demonstration of proficiency. Additional training may include further individualized instruction, programmed learning, conferences and seminars, and specialized training by instrument manufacturers.

Department Managers are responsible for providing documentation of analytical training and proficiency for each employee in their group(s) to the Quality Assurance Department for retention.

13.2.1 INITIAL DEMONSTRATION OF CAPABILITY (IDOC)

New analysts and technicians are trained by Department Managers according to the following guidelines:

- The new employee reads the SOP(s) pertinent to the analytical method being learned and receives background/theory instruction, as applicable.

- The new employee observes the procedure in which the analytical method and required process documentation is demonstrated by trained personnel. Job requirements are outlined and quality control measurements are defined. For most methods, the trainee performs an Initial Demonstration of Capability (IDOC) by preparing and/or analyzing four (4) blank spike samples under the supervision of the Technical or Department Manager, or an analyst proficient in that method.

- The results of the new employee's preparation and/or analysis are evaluated and problems and corrective actions are discussed. If the blank spike recovery and precision data meet quality control criteria for that method, the employee is deemed to have demonstrated proficiency and is allowed to work on client samples. If the values generated are outside acceptance limits, then training continues until the trainee can consistently meet the acceptance criteria for the method.

- After the certification process has been successfully completed, the Department Manager forwards the documentation to the Quality Assurance Department for retention.

13.2.2 CONTINUING DEMONSTRATION OF CAPABILITY (CDOC)

Paragon's personnel are required to demonstrate their proficiency upon hire and annually thereafter for the methods they perform. Results from four (4) laboratory control sample (LCS) spikes performed by the chemist (analyst) or technician may be compiled to serve as the employee's Continuing Demonstration of Capability (CDOC). Alternately, method detection limit (MDL) studies and PT sample analysis (discussed below) may be used to demonstrate an employee's CDOC.

13.2.2.1 METHOD DETECTION LIMIT (MDL) STUDIES

Most of the analytical methods employed at Paragon require the periodic generation of MDL data. The generation of acceptable MDL values requires a thorough understanding of the total analytical process and is a rigorous test of the proficiency of the analytical staff that performs the analysis. An analyst's or technician's performance in an MDL study that generates values that are consistent with past performance may be used to demonstrate initial and/or continuing proficiency in a method. This MDL information may be used in lieu of other demonstrations of proficiency, except where a regulatory promulgated method explicitly requires specific procedures to be followed for the initial demonstration of proficiency.

13.2.2.2 PROFICIENCY TEST (PT) SAMPLES

As discussed in Chapter 12 of this LQAP, Paragon participates in several proficiency testing programs. These programs typically submit single-blind standards to the laboratory and return a performance summary after results have been evaluated by the sponsoring agency or qualified vendor. Successful participation in these PT study programs by personnel is a rigorous demonstration of the staff's ability to perform routine analytical procedures. Records of successful participation in these programs may be used to demonstrate that an employee has been adequately trained in the methods that he/she performs. This IDOC/CDOC information may be used in lieu of other demonstrations of proficiency, except where a regulatory promulgated method explicitly requires specific procedures to be followed for the initial demonstration of capability.

13.3 TRAINING RECORDS

Technical and quality assurance training records are maintained by the Quality Assurance Department. Waste management training records are managed and maintained by the Facilities/Waste Compliance Officer. Health & Safety training records are managed and retained by the Health & Safety Manager/RSO. Employee training record files may contain, but are not limited to, the following:

- signed annual Ethics training documents
- resume or personnel qualifications form
- transcript or diploma
- QA training and signature/initial on file
- documentation of annual assigned SOP readings
- documentation of annual LQAP reading
- IDOC/CDOC documentation
- PT study results
- MDL study results
- off-site training certificate

14. GLOSSARY, ACRONYMS AND SYMBOLS

14.1 GLOSSARY

TERM	**DEFINITION**
Acceptance Criteria:	Specified limits placed on characteristics of an item, process, or service defined in requirement documents. (ASQ)
Accreditation:	The process by which an agency or organization evaluates and recognizes a laboratory as meeting certain predetermined qualifications or standards, thereby accrediting the laboratory. In the context of the National Environmental Laboratory Accreditation Program (NELAP), this process is a voluntary one. (NELAC)
Accrediting Authority, Primary:	The agency or department designated at the Territory, State, or Federal level as the recognized authority with responsibility and accountability for granting NELAC accreditation for a specified field of testing. (NELAC) [1.5.2.3]
Accuracy:	The degree of agreement between a observed value and the accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components that are due to sampling and analytical operations. (QAMS)
Aliquot:	A discrete, measured, representative portion of a sample taken for analysis. (EPA QAD)
Ambient:	Usual or natural surrounding conditions, e.g. ambient temperature – the natural, uninfluenced temperature of the surroundings. (NIRP Glossary)
Analyte:	The specific chemicals or components for which a sample is analyzed; may be a group of chemicals that belong to the same chemical family and that are analyzed together. (DoD QSM)
Audit:	A systematic evaluation to determine the conformance to quantitative and qualitative specifications of some operational function or activity. (EPA-QAD)
Background:	Ambient signal response recorded by measuring instruments that is independent of radioactivity contributed by the radionuclides being measured in the sample. (DOE QSM)
Batch:	Environmental samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A **preparation batch** is composed of one to twenty environmental samples of the same NELAC-defined matrix, meeting the above-mentioned criteria and with a maximum time between the

TERM	**DEFINITION**
	start of processing of the first and last sample in the batch to be 24 hours. An analytical batch is composed of prepared environmental samples (extracts, digestates, or concentrates) which are analyzed together as a group. An **analytical batch** can include prepared samples originating from various environmental matrices and can exceed 20 samples. (NELAC Quality Systems Committee)
Bias:	The deviation of a single measured value of a random variable from a corresponding expected value, or a fixed mean deviation from the expected value that remains constant over replicated measurements within the statistical precision of the measurement (Synonyms: deterministic error, fixed error, systematic error). (DOE QSM)
Blank:	A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, or analysis. The blank is subjected to the same analytical and measurement process as the associated samples. Blanks include: Equipment blank: a sample of analyte free media which has been used to rinse common sampling equipment to check effectiveness of decontamination procedures. (NELAC) Field blank: a blank prepared in the field by filling a clean container with pure deionized water and appropriate preservative, if any, for the specific sampling activity being undertaken. (EPA OSWER) Trip blank: Contaminant free water, or appropriate matrix, which accompanies bottles and samples during shipment to assess the potential for sample contamination during shipment. Trip blanks are not opened in the field, and are required for Volatile Organic Analysis only. (NIRP) Instrument Blank: A clean sample (e.g., distilled water) processed through the instrumental steps of the measurement process; used to determine instrument contamination. (EPA-QAD) Method blank: a sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all the steps of the analytical procedures. (NELAC) Reagent blank: a sample consisting of reagent(s), without the target analyte(s) or sample matrix, introduced into the analytical procedure at the appropriate point and carried through all subsequent steps to determine the contribution of the reagents and of the involved analytical steps. (QAMS)

TERM	**DEFINITION**
Blind Sample:	A sub-sample for analysis with a composition known to the submitter. The analyst/laboratory may know the identity of the sample, but not the composition. It is used to test the analyst's or laboratory's proficiency in the execution of the measurement process. (NELAC)
Calibration:	To determine, by measurement or comparison with a standard, the correct value of each scale reading on a meter, instrument, or other device. The levels of the applied calibration standard should bracket the range of planned or expected sample measurements. See Initial Calibration. (NELAC)
Calibration, Continuing:	The process of analyzing standards periodically to verify the maintenance of calibration of the analytical system.
Calibration Curve:	The graphical relationship between the known values, such as concentrations, of a series of calibration standards and their instrument response. (NELAC)
Calibration, Initial:	The process of analyzing standards, prepared at specified concentrations, to define the quantitative response, linearity and dynamic range of the instrument to the analytes of interest. Initial calibration is performed whenever the results of a continuing calibration do not conform to the requirements of the method in use or at a frequency specified in the method. See Calibration.
Calibration, Initial Check/Verification (ICV):	Verification of the ratio of instrument response to analyte amount, a calibration check is done by analyzing for analyte standards in an appropriate solvent. Calibration check solutions are made from a stock solution which is different from the stock used to prepare calibration standards. (NIRP Glossary)
Carrier:	Carriers are typically non-radioactive (e.g. natural strontium, barium, yttrium) elements. They follow similar chemical reactions as the analyte during processing and are added to samples to determine the overall chemical yield for the analytical preparation steps. The yield of the carrier is typically determined gravimetrically or by ICP and is used to correct radiochemical results for acceptable losses occurring during the preparation process. (DOE QSM)
Chain-of-Custody (COC) Form:	Record that documents the possession of the samples from the time of collection to receipt in the laboratory. This record generally includes: the number and types of containers, the mode of collection, preservation, and requested samples. (NELAC)
Confidential Business Information (CBI):	Information that an organization designates as having the potential of providing a competitor with inappropriate insight into its

TERM	**DEFINITION**
Information (CBI):	management, operation or products. NELAC and its representatives agree to safeguarding identified CBI and to maintain information identified as such in full confidentiality. (NELAC)
Confirmation:	Verification of the identity of a component through the use of an approach with a different scientific principle from the original method. These may include, but are not limited to: second column calibration, alternate wavelength, derivatization, mass spectral interpretation, alternative detectors, or additional cleanup procedures. (NELAC)
Conformance:	An affirmative indication or judgment that a product or service has met the requirements of the relevant specifications, contract, or regulation; also the state of meeting the requirements. (ANSI/ASQC E4-1994)
Control Chart:	A graphical plot of test results with respect to time or sequence of measurement, together with limits within which they are expected to lie when the system is in a state of statistical control.
Control Limit:	A range within which specified measurement results must fall to signify compliance. Control limits may be mandatory, requiring corrective action if exceeded, or advisory, requiring that nonconforming data be investigated and flagged.
Corrective Action:	The action taken to eliminate the causes of an existing nonconformity, defect, or other undesirable situation in order to prevent recurrence. (ISO 8402)
Counting Efficiency:	The ratio of the net count rate of a radionuclide standard source to its corresponding known activity. (DOE QSM)
Counting Uncertainty (Poissonian):	A statistical estimate of uncertainty in a radiochemical measurement due to the random nature of decay. Every radiochemical result is reported with an associated counting uncertainty, usually at the 95% confidence interval.
Data Quality Indicators:	The qualitative or quantitative statements that specify the quality of data required to support decision for any process requiring chemical or physical analysis.
Data Reduction:	The process of transforming raw data by arithmetic or statistical calculations, standard curves, concentration factors, etc., and collation into a more useable form. (EPA-QAD)
Daughter:	A nuclide formed by radioactive decay of a parent radionuclide.

TERM	**DEFINITION**
Deficiency:	An unauthorized deviation from acceptable procedures or practices, or a defect in an item. (ASQC)
Demonstration of Capability (DOC):	A procedure to establish the ability of the analyst to generate acceptable accuracy. (NELAC)
Detection Limit, Analyte:	The lowest concentration or amount of the target analyte that can be identified, measured, and reported with confidence that the analyte concentration is not a false positive value. See Method Detection Limit. (NELAC)
Detection Limit, Instrument (IDL):	The concentration of an analyte that produces an output signal twice the root mean square of the background noise, or the parameter determined by multiplying by three the standard deviation obtained of three to five times the desired IDL on three nonconsecutive days with seven consecutive measurements per day. IDL is only required for the metals and analysis. (DOE QSM)
Detection Limit, Method (MDL):	The Method Detection Limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. It may be determined using replicate spike samples prepared by the lab and taken through all steps of the method. The detection limit is calculated using the appropriate student's t-parameter times the standard deviation of a series of spiked samples. (Ref. 40 CFR Part 136, Appx. B)
Digestion:	A process in which a sample is treated (usually in conjunction with heat) to convert the sample into a more easily measured form. (DoD QSM)
Dilution Factor:	The factor by which the dilution level of the sample differs from that of a predefined method blank. The method blank is prepared within the prescribed parameters of the method, and has a dilution factor of one. The dilution factor does not include a dryness factor. (DOE QSM)
Document Control:	The act of ensuring that documents (and revisions thereto) are proposed, reviewed for accuracy, approved for release by authorized personnel, distributed properly, and controlled to ensure use of the correct version at the location where the prescribed activity is performed. (ASQC)
Dry Weight:	The weight of a sample based on percent solids. The weight after drying in an oven at $105 \pm 5^{o}C$.
Duplicate, Replicate	The analyses or measurements of the variable of interest performed

TERM	**DEFINITION**
Analysis:	identically on two sub samples of the same sample. The results from duplicate analyses are used to evaluate analytical or measurement precision but not the precision of sampling, preservation, or storage internal to the laboratory. (EPA-QAD) The measurements of the variable of interest performed identically on two or more sub-samples of the same samples within a short time interval. (NELAC)
Duplicate (Replicate) Error Ratio (DER/RER):	A measure of precision used to assess agreement between radiochemical duplicates (replicates) that compares the discrepancy between two measurements to the associated uncertainties.
Duplicate, Replicate Sample:	A second aliquot of the same sample that is treated the same as the original sample in order to determine the precision of the method. A second, separate sample collected at the same time, from the same place, for the same analysis, as the original sample in order to determine overall precision.
Eluent:	A solvent used to carry the components of a mixture through a stationary phase. (DoD QSM)
Elution:	A process in which solutes are washed through a stationary phase by the movement of a mobile phase. (DoD QSM)
Energy Calibration:	The correlation of the multichannel analyzer (MCA) channel number to decay energy, obtained from the location of peaks from known radioactive standards. (DOE QSM)
False Negative:	An analyte incorrectly reported as absent from the sample, resulting in potential risks from their presence. (DoD QSM)
False Positive:	An item incorrectly identified as present in the sample, resulting in a high reporting value for the analyte of concern. (DoD QSM)
Finding:	An assessment conclusion that identifies a condition having a significant effect on an item or activity. An assessment finding is normally a deficiency and is normally accompanied by specific examples of the observed condition. (NELAC)
Half Life ($T_{½}$):	The time required for 50% of a radioactive isotope to decay. (DOE QSM)
Holding Time (Maximum Allowable):	The maximum times that samples may be held prior to analysis and still be considered valid or not compromised. (40 CFR Part 136)

TERM	**DEFINITION**
Homogeneity:	The degree to which a property or substance is evenly distributed throughout a material.
Interference, Spectral:	Occurs when particulate matter from the atomization scatters the incident radiation from the source or when the absorption or emission of an interfering species either overlaps or is so close to the analyte wavelength that resolution becomes impossible. (DoD QSM)
Interference, Chemical:	Results from the various chemical processes that occur during atomization and later the absorption characteristics of the analyte. (DoD QSM)
Internal Standards:	A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method. (NELAC)
Isomer:	Generally, any two chemicals with the same chemical formula but with a different structure. (DoD QSM)
Isotope:	A variation of an element that has the same atomic number of protons but a different weight because of the number of neutrons. Various isotopes of the same elements may have different radioactive behaviors, some are highly unstable. (NIRP Glossary)
Lot:	A quantity of bulk material of similar composition processed or manufactured at the same time.
Matrix:	The substrate of a test sample. **Field of Accreditation Matrix:** these matrix definitions shall be used when accrediting a laboratory: Drinking Water: any aqueous sample that has been designated a potable or potential potable water source. Non-Potable Water: any aqueous sample excluded from the definition of Drinking Water matrix. Includes surface water, groundwater, effluents, water treatment chemicals, and TCLP or other extracts. Solid and Chemical Materials: includes soils, sediments, sludges, products, and by-products of an industrial process that results in a matrix not previously defined. Biological Tissue: any sample of a biological origin such as fish tissue, shellfish, or plant material. Such samples shall be grouped according to origin. Air and Emissions: whole gas or vapor samples including those contained in flexible or rigid wall containers and the extracted concentrated analytes of interest from a gas or vapor that are collected

TERM	**DEFINITION**
	with a sorbent tube, impinger solution, filter, or other device. (NELAC)
	Non-aqueous Liquid: any organic liquid with <15% settleable solids.
Minimum Detectable Activity (MDA, Lower Limit of Detection):	The minimum detectable activity is the smallest amount (activity or mass) of an analyte in a sample that will be detected with a probability beta of nondetection (Type II error) while accepting the probability alpha of erroneously deciding that a positive (non-zero) quantity of analyte is present in an appropriate blank sample (Type I error). For the purposes of this standard, the alpha and beta probabilities are both set at 0.05 unless otherwise specified. (ANSI N 13.30 and ANSI N42.23)
Minimum Detectable Concentration (MDC):	The Minimum Detectable Activity expressed in concentration units.
National Voluntary Laboratory Accreditation Program (NVLAP):	A program administered by NIST that is used by providers of proficiency testing to gain accreditation for all compounds/matrices for which NVLAP accreditation is available, and for which the provider intends to provide NELAP PT samples. (NELAC)
Negative Control:	Measures taken to ensure that a test, its components, or the environment do not cause undesired effects, or produce incorrect test results. (NELAC)
Nonconformance:	An indication or judgment that a product or service has not met the requirements of the relevant specifications, contract or regulation, also the state of failing to meet the requirements. (DoD QSM)
Performance Based Measurement System (PBMS):	A set of processes wherein the data quality needs, mandates, or limitations of a program or project are specified and serve as criteria for selecting measurement processes which will meet those needs in a cost effective manner. (NELAC)
Positive Control:	Measures taken to ensure that a test and/or its components are working properly and producing correct or expected results from positive test subjects. (NELAC)
Precision:	The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator. Precision is usually expressed as standard deviation, variance, or range, in either absolute or relative terms. (NELAC)
Proficiency Test Sample:	A sample, the composition of which is unknown to the analyst and is provided to test whether the analyst/laboratory can produce analytical

TERM	**DEFINITION**
Sample:	results within specified acceptance criteria. (QAMS)
Qualitative:	Analysis without regard to quantity or specific numeric values. (NIRP Glossary)
Quality Assurance:	An integrated system of activities involving planning, quality control, quality assessment, reporting, and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence. (QAMS)
Quality Control (QC):	The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of the users. (QAMS)
Quality Control Sample:	An uncontaminated matrix spiked with known amounts of analytes. It is generally used to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. (EPA-QAD) <u>Laboratory Control Sample (LCS)</u>: (However named, also Laboratory Fortified Blank, Blank Spike, or QC Check Sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst specific precision and bias, or to assess the performance of all or a portion of the measurement system. (NELAC) <u>Laboratory Duplicate (DUP)</u>: Aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently. (NELAC) <u>Matrix Spike (spiked sample or fortified sample)</u>: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency. (QAMS)
Quantitation Limits, Practical (PQL):	Levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported at a specified degree of confidence. (NELAC) The value at which an instrument can accurately measure an analyte at a specific concentration (i.e. a specific numeric concentration can be quantified). These points are established by the upper and lower limits of the calibration range. (DoD clarification) The lowest concentration where the 95% confidence interval is within

TERM	**DEFINITION**
	20% of the true concentration of the sample. The percent uncertainty at the 95% confidence level shall not exceed 20% of the results for concentrations greater than the practical quantitation limit. (DOE QSM)
Quantitative:	Analysis with regard to quantities or specific numeric values. (NIRP Glossary)
Radioactive Decay:	The process by which a spontaneous change in nuclear state takes place. This process is accompanied by the emission of energy and subatomic particles. (DOE QSM)
Radiation Yield:	The amount of radiation of the type being measured that is produced per each disintegration, which occurs. For gamma spectrometry, this is commonly called gamma abundance. (DOE QSM)
Raw Data:	Any original factual information from a measurement activity or study recorded in a laboratory notebook, worksheets records, memoranda, notes, or exact copies thereof that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm, or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments. If exact copies of raw data have been prepared (e.g. tapes which have been transcribed verbatim, data and verified accurate by signature), the exact copy or exact transcript may be submitted. (EPA-QAD)
Reagent Water:	Shall be water (defined by national or international standard) in which no target analytes or interferences are detected as required by the analytical method. (NELAC)
Region of Interest (ROI):	In radiochemical analysis, the Multichannel Analyzer region defining the isotope of interest displayed in terms of energy or channels. (DOE QSM)
Relative Percent Difference (RPD):	A measure of precision between two duplicate (replicate) results expressed as the percent difference between the results relative to the average of the results.
Reliability Check (Daily):	A periodic check of the Continuing Calibration of an instrument used for radiochemical measurements.
Reporting Limit:	The level at which method, permit, regulatory and client specific objectives are met. The reporting limit may never be lower than the statistically determined MDL, but may be higher based on any of the above considerations. Reporting limits are corrected for sample amounts, including the dry weight of solids, unless otherwise

TERM	**DEFINITION**
	specified.
Retention Time:	The time between sample injection and the appearance of a solute peak at the detector. (DoD QSM)
Rounding Rules:	If the figure following those to be retained is less than 5, the figure is dropped, and the retained figures are kept unchanged. As an example, 11.443 is rounded to 11.44. If the figure following those to be retained is greater than 5, the figure is dropped, and the last retained figure is raised by 1. As an example, 11.446 is rounded to 11.45. If the figure following those to be retained is 5, and if there are no figures other than zeros beyond the five, the figure 5 is dropped, and the last-place figure retained is increased by one if it is an odd number or it is kept unchanged if an even number. As an example, 11.435 is rounded to 11.44, while 11.425 is rounded to 11.42. If a series of multiple operations is to be performed (add, subtract, divide, multiply), all figures are carried through the calculations. Then the final answer is rounded to the proper number of significant figures.
Sample:	A single container or series of containers identified by a unique number comprised of material drawn from a single location or a composite of locations during a fixed period representative of that location (s) and time period(s) for the purpose of analytical testing or physical evaluation. (DOE QSM)
Selectivity:	(Analytical chemistry) The capability of a test method or instrument to respond to a target substance in the presence of non-target substances. (EPA-QAD)
Sensitivity:	Capability of method or instrument to discriminate between measurement responses representing different levels (e.g. concentrations) of a variable of interest. (NELAC)
Signal-to-Noise Ratio:	The signal carries information about the analyte, while noise is made up of extraneous information that is unwanted because it degrades the accuracy and precision of an analysis and also places a lower limit on the amount of analyte that can be detected. In most measurements, the average strength of the noise is constant and independent of the magnitude of the signal. Thus, the effect of noise on the relative error of a measurement becomes greater and greater as the quantity being measured (producing the signal) decreases in amplitude. (DoD QSM)
Split Sample:	A portion or subsample of a total sample obtained in such a manner that is not believed to differ significantly from other portions of the same sample.
Standard Operating	A written document which details the method of an operation,

TERM	**DEFINITION**
Procedure (SOP):	analysis, or action whose techniques and procedures are thoroughly prescribed and which is accepted as the method for performing routine and repetitive tasks. (QAMS)
Reference Material:	A certified reference material produced by the U.S. National Institute of Standards and Technology or other equivalent organization and characterized for absolute content, independent of analytical method. (EPA-QAD) A reference material one or more of whose property values are certified by a technically valid procedure, accompanied by or traceable to a certificate or other documentation which is issued by a certifying body. (ISO Guide 30 – 2.2)
Standard (Spike) Addition:	In radiochemistry, the addition of a known quantity of a radiotracer to a sample and to a split or splits of a sample. Both the sample and split(s) are then processed through the method and the difference in response between the samples used to correct for overall bias resulting measurement bias and from losses during preparation. This method of internal calibration is used in radiochemical determinations where isotopic differentiation between target analyte and tracer is not possible.
Statistical Minimum Significant Difference (SMSD):	The minimum difference between the control and a test concentration that is statistically significant, a measure of test sensitivity or power. The power of a test depends in part on the number of replicates per concentration, the significance level selected, and the type of statistical analysis. If the viability remains constant, the sensitivity of the test increases as the number of replicates is increased. (NELAC)
Surrogate:	A substance with properties that mimic the analyte of interest. It is unlikely to be found in environmental samples and is added to them for quality control purposes. (QAMS)
Target Analytes:	Identified on a list of project-specific analytes for which laboratory analysis is required.
Tolerance Chart:	A chart in which the plotted quality control data is assessed via a tolerance level (e.g. +/-10% of a mean) based on the precision level judged to be acceptable to meet overall quality/data use requirements instead of a statistical acceptance criteria (e.g. +/- 3 sigma) (applies to radio bioassay laboratories). (ANSI)
Total Propagated Uncertainty (TPU):	An estimate or approximation of the total error associated with a measured value by propagation of individual (preparation, determination) uncertainties.

TERM	**DEFINITION**
Traceability:	The property of a result of a measurement whereby it can be related to appropriate standards, generally international or national standards, through an unbroken chain of comparisons. (VIM-6.12)
Tracer:	A traceable internal standard, usually a unique isotope of the element being determined, added to each sample in known amount which enables quantitation of analytes of interest independent of external means of calibration.
Tracer Chemical Recovery:	The percent yield of the recovered radioisotope after the sample/tracer aliquot has undergone preparation and instrument analysis. (DOE QSM)
Tune:	An injected standard required by the method as a check on instrument performance for mass spectrometry. (DoD QSM)
Validation:	Confirmation by examination and provision of evidence that specified requirements have been met. (EPA-QAD)
Verification:	Confirmation by examination and provision of evidence that specified requirements have been met. (NELAC) NOTE: In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment. The result of verification leads to a decision either to restore in service, to perform adjustment, to repair or downgrade, or declare obsolete. In all cases, it is required that a written trace of the verification performed shall be kept on the measuring instrument's individual record.
Warning Limits:	The limits (typically 2 standard deviations either side of the mean) shown on a control chart within which most results are expected to lie (within a 95% probability) while the system remains in a state of statistical control.

14.2 ACRONYMS

TERM	**DEFINITION**
AA	Atomic Absorption

TERM	DEFINITION
AFCEE	Air Force Center for Environmental Excellence
ANSI/ASQ	American National Standards Institute/American Society for Quality
APHIS	USDA Animal and Plant Health Inspection Service
API	American Petroleum Institute
ARAR	Applicable or Relevant and Appropriate Requirement
ASCII	American Standard Code Information Interchange
ASTM	American Society for Testing and Materials
BFB	Bromofluorobenzene
BNA	Base-Neutral and Acid Extractable Organic Compounds
BS	Blank Spike
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
°C	Degrees Celsius
CAS	Chemical Abstract Service
CCC	Calibration Check Compound
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CDPHE	Colorado State Department of Public Health and the Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CF	Calibration Factor
CFR	Code of Federal Regulation
CLLE, CLE	Continuous Liquid-Liquid Extractor
CLP	Contract Laboratory Program
COC	Chain of Custody
CVAA	Cold Vapor Atomic Absorption Spectroscopy.
CWA	Clean Water Act
D	Drift or Difference
DBCP	1,2-Dibromo-3-chloropropane

TERM	**DEFINITION**
DCM	Dichloromethane
DENIX	Defense Environmental Management Information Exchange
DER	Duplicate Error Ratio
DFTPP	Decafluorotriphenylphosphine
DI	Deionized
DOC	Demonstration of Capability
DoD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
DPM	Disintegrations per Minute
DQI	Data Quality Indicator
DRO	Diesel Range Organics
ECD	Electron Capture Detector
EDB	Ethylene Dibromide
EDD	Electronic Data Deliverable
EERF	Eastern Environmental Radiation Facility
EMSL	Environmental Monitoring Systems Laboratory
EPA	Environmental Protection Agency
FID	Flame Ionization Detector
FPD	Flame Photometric Detector
GALP	Good Automated Lab Practice
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GFAA	Graphite Furnace Atomic Absorption
GFPC	Gas Flow Proportional Counting
GPC	Gel Permeation Chromatography
GRO	Gasoline range organics

TERM	**DEFINITION**
HECD	(Hall) Electrolytic Conductivity Detector
HEM	Hexane Extractable Material
HDPE	High-Density Polyethylene
HPGe	High Purity Germanium Gamma Spectrometer
HPLC	High-Performance Liquid Chromatography
IC	Ion Chromatography
ICAP-AES	Inductively Coupled Argon Plasma -Atomic Emission Spectroscopy
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICP-MS	Inductively Coupled Plasma - Mass Spectrometry
ICS	Interference Check Standard
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
IPC	Instrument Performance Check
IPN	Incoming Project Notice
IRPIMS	Installation Restoration Program Information Management System
IS	Internal Standard
ISO/IEC	International Standards Organization/International Electrotechnical Commission
KD	Kuderna Danish
LCS	Laboratory Control Sample
LD	Laboratory Duplicate
LFB	Laboratory Fortified Blank
LFM	Laboratory Fortified Matrix
LIMS	Laboratory Information Management System
LLRW	Low Level Radioactive Waste
LQAP	Laboratory Quality Assurance Plan

TERM	**DEFINITION**
LRB	Laboratory Reagent Blank
LSC	Liquid Scintillation Counting
LUFT	Leaking Underground Fuel Tank
LUST	Leaking Underground Storage Tank
MAPEP	Mixed Analyte Performance Evaluation Program
MCAWW	Methods for Chemical Analysis of Waters and Wastes
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
MDL	Method Detection Limit
MEK	Methyl Ethyl Ketone (2-Butanone)
MIBK	Methyl Isobutyl Ketone
MSA	Method of Standard Additions
MSD	Matrix Spike Duplicate
MSDS	Material Safety Data Sheet
MTBE	Methyl tert-butyl ether
N/A	Not applicable
NIST	National Institute of Standards
NCR	Nonconformance Report
ND	Non Detect
NEIC	National Enforcement and Investigations Center
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NEPA	National Environmental Policy Act
NFESC	Naval Facilities Engineering Service Center
NIRP	Navy Installation Restoration Program
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System

TERM	**DEFINITION**
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PARCC	Precision, Accuracy, Representativeness, Completeness, Comparability
PBMS	Performance Based Measurement System
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzo-p-dioxin
PCDF	Polychlorinated dibenzofuran
PEG	Polyethylene Glycol
PEL	Permissible Exposure Limit
PETN	Pentaerthrite tetranitrate
PID	Photoionization Detector
PM	Project Manager
PNA	Polynuclear Aromatic Hydrocarbon
PQL	Practical Quantitation Limit
psi	pounds per square inch
PT	Proficiency Testing
PTFE	Polytetrafluoroethylene
QA	Quality Assurance
QAPjP	Quality assurance project plan
QASS	Quality Assurance Summary Sheet
QC	Quality Control
QIP	Quench Indicating Parameter
r^2	Correlation Coefficient
RCRA	Resource Conservation and Recovery Act
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
RFP	Request for Proposal

TERM	**DEFINITION**
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RL	Reporting Limit
ROI	Region of Interest
RPD	Relative Percent Difference
RPM	Revolutions Per Minute
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RSO	Radiation Safety Officer
RT	Retention Time
RTW	Retention Time Window
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SMSD	Statistical Minimum Significant Difference
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Compound
SPLP, SLP	Synthetic Precipitation Leaching Procedure
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TCMX	Tetrachlorometaxylene
TCL	Target Compound List
TDS	Total Dissolved Solids
TIC	Tentatively Identified Compound
TLV	Threshold Limit Value
TOC	Total Organic Carbon

TERM	DEFINITION
TPH	Total petroleum hydrocarbon
TPU	Total Propagated Uncertainty
TRPH	Total Recoverable Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
TVPH	Total Volatile Petroleum Hydrocarbons
USACE	United Stated Army Corp of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
WET	Waste Extraction Test
ZHE	Zero Headspace Extraction

14.3 SYMBOLS

LENGTH	DEFINITION	SYNOMYM
um	micrometer	10^{-6} meter
mm	millimeter	10^{-3} meter
cm	centimeter	0.01 meter
dm	decimeter	0.1 meter
m	meter	

WEIGHT	DEFINITION	SYNOMYM
pg	picogram	10^{-12} gram
ng	nanogram	10^{-9} gram
ug	microgram	10^{-6} gram

mg	milligram	10^{-3} gram
g	gram	
kg	kilogram	10^{3} gram

VOLUME	**DEFINITION**	**SYNOMYM**
uL	microliter	10^{-6} Liter
mL	milliliter	10^{-3} Liter
dL	deciliter	0.1 Liter
L	Liter	

CONCENTRATION	**DEFINITION**
ng/uL	nanograms per microliter
ug/L	micrograms per liter
ug/kg	microgram per kilogram
ug/g	microgram per gram
ug/mL	microgram per milliliter
mg/kg	milligram per kilogram
mg/L	milligram per liter
ug/m^{3}	microgram per cubic meter
ppb	part per billion
ppm	part per million

TIME	**DEFINITION**	**SYNOMYM**
s or sec	second	1/60 minute
m or min	minute	60 seconds, 1/60 h
h	hour	60 minutes

TEMPERATURE	**DEFINITION**
^{o}C	Degrees Celsius
^{o}F	Degrees Fahrenheit
^{o} K	Degrees Kelvin

ACTIVITY	**DEFINITION**	**SYNOMYM**
Bq	Bequerels	Disintegration/s

Ci	Curie	3.7×10^{10} Bq
dpm	Disintegrations per minute	

ELECTRICAL	**DEFINITION**
V	Volt
A	Ampere
EV	Electron Volt
F	Farad
Ω	Ohm
S or mho	Siemens
W	Watt

PREFIXES	**NUMERIC AMOUNT**
tera	10^{12}
giga	10^{9}
mega	10^{6}
kilo	10^{3}
hecto	10^{2}
deca	10
deci	0.1
centi	10^{-2}
milli	10^{-3}
micro	10^{-6}
nano	10^{-9}
pico	10^{-12}
femto	10^{-15}

Appendix A

ETHICS DOCUMENTS (Form 159, Form 162, Form 166)

Paragon Analytics

Information Systems (IS) Policies

All employees of Paragon Analytics are expected to comply with each of the following policies and/or procedures. Attempts to circumvent these policies and controls are subject to disciplinary action, including immediate termination.

Local Area Network Policies

1. Users of the Paragon network are given a password that is *not* to be shared with anyone else, other than the IS Department, for *any* reason. All work performed is to be done using your own unique account and password identification. Your password shall be changed every 90 days, and the same password cannot be used more than once in a 2-year period. You will be prompted by the system when your password is about to expire. Contact the IS Manager as soon as possible to arrange a new password.
2. Training is provided and access is granted to users dependant on their job function.
3. Each user has a drive mapping to H: which is their own secure area. Storage of more than 10 megabytes should be approved by the IS Manager as there are space restrictions.
4. Creation of directories in the existing network structure should be done by IS Department personnel only. Please send requests via e-mail or contact the IS Manager or staff directly. This prevents multiple entries as well as maintenance problems.
5. Any malicious deletion of files or directories can result in termination.
6. There is an external e-mail system that should be checked *daily* as that is how company information is most often conveyed. You can only check your mail if you are the logged in user of the computer you are using. E-mail is property of Paragon Analytics and no expectation of privacy exists.
7. When you leave your computer or any computer you are logged in to for an extended period of time (like lunch), you are expected to log out from the network. When you leave the building, you are expected to log out from the network. There are only a few exceptions, like some of the instrument computers.

Hardware Policies and Software Policies

1. There is not to be *any* hardware or software brought into Paragon for installation on company computers. This includes screensavers. If, as a part of your job function, you require either hardware or software, please request it via e-mail or in person from the IS Manager.

   Screensavers should be used sparingly. They have been known to cause computer problems especially on instrument computers. The best ones to use are either the 'Blank Screen' or the 'Starfield Simulation'.
2. Paragon computers are not to be used for games.

Virus Protection Procedures

1. In the event of a virus detection, <u>contact the IS Manager immediately</u>. **Do not do anything further. Do not reboot the computer under any circumstance.**

2. All floppies or CDs brought in from outside that you may have been using to do company work at home, must scanned by IS staff prior to inserting them into any computer. Failure to do so could result in termination. Virus signatures are updated daily in most cases, but new viruses are launched at any time.
3. For those people with Internet access, do not open any mail from anyone you do not know. Especially be wary of e-mails with attachments. Best practice is to keep your preview pane closed at all times to limit the possibility of self-extracting viruses.

Computer Failures Procedures

1. You are to contact the IS Department if you have hardware or network failures. You are not to try and 'fix' them yourselves without first calling IS staff.
2. Please report consistent failures like computer lockups to the IS Manager either by e-mail, voice mail, or in person.

Backup Procedures

1. The entire network is backed up daily between 1 AM and 4:30 AM. Users are not allowed on the network during these hours.
2. Backup of the instrument computers is done centrally by the IS Manager if the instrument computer is on the network. It is the responsibility of the operator\user to coordinate a convenient time for both the IS Manager and the user for backup. The instruments that are not on the network are to be backed up using portable devices. Those devices as well as media are to be checked out from the IS Manager at a convenient time for the operator\user and then returned to the IS Manager for safe storage. Backups should be done on the average of once a month. In some instances, depending on the volume of analysis, the frequency of backup might vary.

Telephone Systems

1. For those people with personal extensions, please contact the IS Manager for instructions on configuring the greetings and voice mail.
2. Each extension is password protected for voice mail. In the case of a Department phone where everyone needs access to messages, the password may be shared. In all other cases, the password should be kept confidential.
3. Please contact either the Office Manager or the IS Manager for instructions on all other operations concerning the phone system.

In the case of an emergency, the IS Manager can be contacted 24 hours/day by cell phone. The number is listed on the computer laboratory door.

Paragon Analytics

Laboratory Information Management System (LIMS) Policies

Paragon's Laboratory Information Management System (LIMS) is a data management system, which is used to track, manage, and report data to our clients. Throughout this process, it is the responsibility of Paragon Analytics and its employees to maintain *strict client confidentiality* regarding the handling of client's data and their samples. Consequently, because the LIMS is used as a tool to handle and process all data through the laboratory, it is imperative that all employees follow the basic LIMS operating guidelines listed below. **Note that these policy statements are not intended as a substitute for proper LIMS training - LIMS training is conducted by authorized personnel on topics that are related to the job function of each employee.**

1. Prior to using LIMS, employees must have received proper training in all LIMS processes that are required to help them perform their job. The training schedule will be coordinated between individual Department Managers and the LIMS Manager.
2. Employees must have a user account assigned to them by the LIMS Manager (Mark Roche') before they are allowed to use the LIMS. 'Sharing' or using another person's account is *strictly prohibited*. Similarly, employees are prohibited from performing any work in LIMS while another user is logged on. Additionally, to prevent unauthorized access to restricted areas in LIMS, all employees are required to log off the system before they leave their PC for any extended period of time.
3. All changes to any validated data contained within LIMS must have prior approval by the Department Manager—**unauthorized changes are a serious violation of employee conduct and may result in disciplinary action, including immediate dismissal**. Accidental changes or errors in data entry should immediately be reported to the Department and LIMS Managers.
4. Because of the sensitive nature of our business, LIMS has been equipped with a full set of security and auditing features. Employees are assigned to groups and they are given specific permissions to access menus and operations in LIMS, which are pertinent to the tasks they are required to perform. **Any employee who attempts to circumvent these features in any way will be subject to disciplinary action, including immediate dismissal**.
5. Invariably, in the course of LIMS operations, errors may occur in the application. Some of these errors can lead to extensive data loss, system downtime and, therefore, rework. **When these errors occur, it is the employee's responsibility to immediately notify the LIMS Manager so that data loss may be avoided or minimized**.

Some processes in LIMS may require the system to access thousands or, even hundreds of thousands of records at a time. Therefore, some operations in LIMS may take several minutes to complete. During this processing time, it may appear as if your computer is locked up or not responding. Although there are times when it may be appropriate to forcibly shutdown LIMS when this occurs, **employees must first have the direct approval of the LIMS Manager prior to attempting this shutdown process**. Improper shutdown of LIMS may result in *extensive data loss, system downtime, and rework*.

Please contact the IS and/or LIMS Managers if you have any questions regarding the policies set forth in this document.

Paragon Analytics

By my signature below, I acknowledge that I have read, understood and agree to abide by Paragon's Information Systems (IS) and Laboratory Information Management System (LIMS) Policies, while employed by Paragon:

____
Printed Name

____
Signature

____
Date

Paragon Analytics

Ethics and Data Integrity Policies

The intent of this policy statement is to highlight and clarify Paragon's requirements and expectations for behavior in the work place. Paragon requires that all employees conduct themselves with honesty and integrity at all times. It is Paragon's expectation that all employees exhibit professionalism and respect for clients and each other in all interactions and tasks. To this end, Paragon requires that every employee abide by the following guidelines:

- Every Paragon employee is responsible for the propriety and consequences of his or her actions.
- Every Paragon employee is required to conduct him or herself in a professional manner toward all clients, regulators, auditors, vendors, and other employees. Professional conduct relates to honesty, integrity, respect, and tolerance for cultural diversity.
- Every Paragon employee must perform all assigned duties in accordance with Paragon's established quality assurance policies and quality control procedures, which have been developed in substantial conformity with contractual and regulatory requirements.
- Every employee must disclose any instance of noncompliance. Employees are expected to use professional judgment, and to document all situations thoroughly. It is the responsibility of each Paragon employee to consult the Department Manager or Quality Assurance Manager when atypical situations occur, and to fully disclose and document the decision-making process utilized. Paragon reports all noncompliance issues to the client, if data are affected by the noncompliance.
- It is the responsibility of each Paragon employee to report any suspicion of unethical conduct or fraudulent activities to the Department and/or Quality Assurance Manager, or the Laboratory Director.

Following are examples of improper, unethical, or illegal practices that will <u>not</u> be tolerated by Paragon:

- Improper use of manual integrations performed to meet calibration or method quality control criteria (e.g., peak shaving or peak enhancement performed solely to meet quality control requirements).
- Intentional misrepresentation of the date or time of analysis (e.g., intentionally resetting a computer system's or instrument's date and/or time to make it appear that a date/time requirement has been achieved).
- Falsification of records to meet method requirements (e.g., sample records, logbooks, sample results, LIMS records).
- Reporting results without analyses to support the results (i.e., dry labbing).
- Selective exclusion of data to meet quality control criteria (e.g., eliminating initial calibration points without technical justification).

Paragon Analytics

- Misrepresentation of laboratory performance by presenting calibration data or quality control limits within data reports that are not relevant to the results being reported.
- Notation of matrix interference as basis for exceeding acceptance limits in interference-free matrices.
- Unwarranted manipulation of computer software (e.g., improper background subtraction to meet ion abundance criteria for GC/MS tuning compounds; chromatographic baseline manipulations).
- Improper alteration of analytical conditions from standard analysis to sample analysis (e.g., modifying EM voltage, changing temperature or eluent profiles to shorten analytical run time).
- Misrepresentation of quality control samples (e.g., adding surrogates or tracers after sample extraction, omitting preparation steps for quality control samples; over- or under-spiking).
- Reporting results from the analysis of one sample for another (file substitution).
- Intentional plagiarism or willful misrepresentation of another employee's work as one's own (e.g., IPR or PT study).

Any unethical conduct, such as willful falsification, concealment, or alteration of a material fact or the false, fraudulent or fictitious statement or representation made by any person performing work may subject that person to prosecution and punishment in accordance with applicable Federal statutes. Any breach of ethics will result in disciplinary action, up to and including termination, according to Paragon's disciplinary guidelines.

By my signature below, I acknowledge that I have read, understood and agree to abide by Paragon's Ethics and Data Integrity Policies, while employed by Paragon:

____
Printed Name

____
Signature

____
Date

Page 2 of 2 **Form 162r6.doc (1/5/06)**

Paragon Analytics

Waste, Abuse and Fraud Notification

The DataChem/Paragon quality policy states that we are committed to ‘generating accurate and reliable data in accordance with contractual and regulatory requirements; and to performing work in the most efficient manner possible, thus avoiding waste of resources.’ Hence, it is against corporate policy to improperly manipulate or falsify data, to engage in unethical conduct, or to tolerate wasteful practices that abuse resources.

Additionally, as a Federal contractor, per DOE Order 221.1a, all DataChem/Paragon employees are instructed that ‘whosoever is aware of any case of fraud, data manipulation/ falsification, waste or misuse/abuse of resources, corruption, mismanagement or other unethical practice or misconduct, is obligated to inform the appropriate Department Manger.’ Alternately, the Quality Assurance Manager or Laboratory Director may be contacted.

Furthermore, a Confidential Reporting Procedure page is posted on the DCL intranet. This page explains that in the event of an allegation, the facility Laboratory Director and QA Manager will conduct a confidential investigation using qualified technical and management personnel. The investigation may include interviews, data audits, internal method audits, and surveillance to determine inappropriate practices. All records of the investigation are kept strictly confidential. Client contact and data recall is initiated as applicable.

Note that an anonymous electronic reporting form that may be used by any employee who wishes to report improper laboratory practices is available on the Confidential Reporting Procedure web page. This electronic form goes to the corporate QA office and is then sent to the facility Laboratory Director and QA Manager so that a confidential investigation as previously described can be conducted.

Per the USDOE General Provision DEAR 952.203.70 “Whistleblower Protection for Contractor Employees” policy, to which Paragon also adheres, the Office of the Inspector General (OIG) of the USDOE or USEPA may be contacted where the allegation pertains to DOE or EPA programs, operations, facilities, contracts, or information technology systems. Contact information for these offices are provided below.

Detailed training pertaining to electronic and behavioral ethics, and confidential reporting and investigation of improper practices, is provided to all DataChem/Paragon employees annually.

Paragon Analytics

Employees may report waste, abuse and fraud allegations to the Paragon Analytics representatives listed below, and/or to the Inspector General's Offices of the USDOE or USEPA, using the contact information given below. Employees reporting such allegations pertaining to DOE or EPA programs are afforded "Whistleblower Protection" per DEAR 952.203.70.

Contact Information:

Paragon Analytics: Ken Campbell, Lab Director	(970) 490-1511, ext.217
Paragon Analytics: Deb Scheib, QA Manager	(970) 490-1511, ext.227
USDOE OIG Hotline:	(800) 541-1625
USEPA OIG Hotline:	(888) 546-8740

Further information regarding the USDOE and USEPA policies discussed herein are provided in the following 7 attachments.

By my signature below, I acknowledge that I have read, understood and agree to abide by Paragon's Reporting of Improper Practices and Confidential Investigation (Waste, Abuse and Fraud Notification) Policies, while employed by Paragon:

____
Printed Name

____
Signature

____

Date

Appendix B

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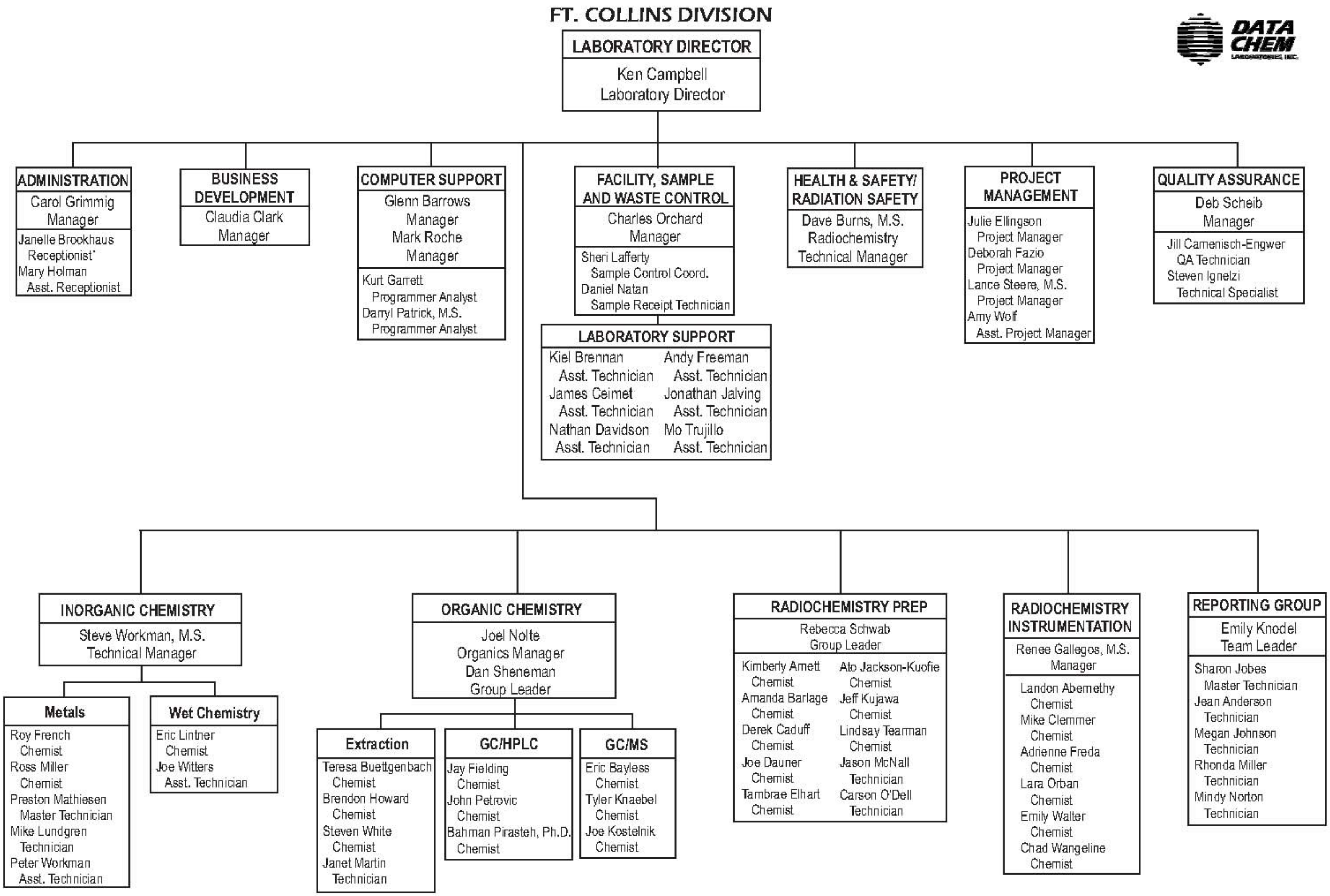
Appendix C

ORGANIZATION CHART



DataChem Laboratories, Inc. Organization Chart

Appendix D

CAPABILITIES,
SAMPLE CONTAINERS, PRESERVATION AND HOLDING TIMES (Form 218)

Paragon Analytics

a Division of DataChem Laboratories, Inc.

Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
ORGANIC COMPOUNDS by GCMS (VOCs & SVOCs)										
VOCs w/TICs	Water	24 Hrs	8260B	1x	3x	40 mL VOA	HCl / Cold	</= 2	14 Days	Must be headspace free
VOCs w/TICs	Water	24 Hrs	8260B	1x	3x	40 mL VOA	Cold		7 Days	Must be headspace free
VOCs w/TICs	Soil	24 Hrs	8260B	5 g	4 oz.	Glass	Cold		14 Days	
VOCs w/TICs	Soil	24 Hrs	5035/8260B	1x	3x	Encore[tm]	Cold		48 hrs/14 Days frozen	Store frozen. Additional volume needed for % s
VOCs w/TICs	Water	24 Hrs	524.2	1x	3x	40 mL VOA	$Na_2S_2O_3$ / Cold	</= 2	24 Hours	Must be headspace free
	Water	24 Hrs	524.2	1x	3x	40 mL VOA	HCl or $Na_2S_2O_3$ / Cold	</= 2	14 Days	Must be headspace free
VOCs w/TICs	Water	24 Hrs	624M	1x	3x	40 mL VOA	$Na_2S_2O_3$ / Cold	</= 2	7 Days	Must be headspace free
	Water	24 Hrs	624M	1x	3x	40 mL VOA	HCl or $Na_2S_2O_3$ / Cold	</= 2	14 Days	Must be headspace free
SVOCs w/TICs	Water	72 Hrs	8270C	1liter	2 liters	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
SVOCs w/TICs	Soil	72 Hrs	8270C	30 g	4 oz.	Glass	Cold		14 Days	
FUELS										
BTEX only	Water	24 Hrs	8021B	1x	3x	40 mL VOA	HCl / Cold	</= 2	14 Days	Must be headspace free
BTEX only	Water	24 Hrs	8021B	1x	3x	40 mL VOA	Cold		7 Days	Must be headspace free
BTEX only	Soil	24 Hrs	8021B	5 g	4 oz.	Glass	Cold		14 Days	
TVPH as Gasoline	Water	24 Hrs	8015M	1x	3x	40 mL VOA	HCl / Cold	</= 2	14 Days	Must be headspace free
TVPH as Gasoline	Water	24 Hrs	8015M	1x	3x	40 mL VOA	Cold		7 Days	Must be headspace free
TVPH as Gasoline	Soil	24 Hrs	8015M	5g	4 oz.	Glass	Cold		14 Days	
TEPH as Diesel	Water	24 Hrs	8015M	100 ml	2 x 500	Amber Glass	HCl / Cold	</= 2	14 Days	Check for residual chlorine per PM direction
TEPH as Diesel	Water	24 Hrs	8015M	100 ml	2 x 500	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
TEPH as Diesel	Soil	24 Hrs	8015M	20 g	4 oz.	Glass	Cold		14 Days	
Oil and Grease	Water	24 Hrs	9070	1 Liter	2 Liter	Amber Glass	HCl / Cold	</= 2	28 Days	
Oil and Grease	Solid	24 Hrs	9071A	50 g	4 oz.	Amber Glass	Cold		28 Days	
TRPH - Hexane Extractable	Water	24 Hrs	1664	1 Liter	2x1 Liter	Amber Glass	HCl / Cold	</= 2	28 Days	
TRPH - Hexane Extractable	Solid	24 Hrs	1664	10 g	4 oz.	Amber Glass	Cold		28 Days	
PESTICIDES/HERBICIDES/PCBs/MISCELLANEOUS ORGANIC COMPOUNDS										
Organochlorine Pest/PCBs	Water	48 Hrs	8081A *	1 Liter	2 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
Organochlorine Pest/PCBs	Soil	48 Hrs	8081A *	30 g	8 oz.	Glass	Cold		14 Days	
PCBs Only	Water	48 Hrs	8082	1 Liter	2 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
PCBs Only	Soil	48 Hrs	8082	30 g	8 oz.	Glass	Cold		14 Days	
PCBs Only	Oil	48 Hrs	8082	1 g	2 oz.	Glass	Cold		14 Days	
Organophosphorus Pesticides	Water	48 Hrs	8141 *	1 Liter	2 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
Organophosphorus Pesticides	Soil	48 Hrs	8141 *	30 g	8 oz.	Glass	Cold		14 Days	
Chlorinated Herbicides	Water	72 Hrs	8151 *	1 Liter	2 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
Chlorinated Herbicides	Soil	96 Hrs	8151 *	30 g	8 oz.	Glass	Cold		14 Days	
PNAs (a.k.a. PAHs)	Water	48 Hrs	8310 *	1 Liter	1 liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
PNAs (a.k.a. PAHs)	Soil	96 Hrs	8310 *	30 g	4 oz.	Glass	Cold		14 Days	
EDB/DBCP	Water	48 Hrs	8011	1 x	3 x	40 ml VOA	HCl / Cold		14 Days	Must be headspace free
EDB/DBCP	Water	48 Hrs	504.1	1 x	3 x	40 ml VOA	HCl or $Na_2S_2O_3$ / Cold		14 Days	Must be headspace free

***SDWA (500 Series) and CWA (NPDES-600 Series) modified methods are available upon request (e.g. 515.1, 608, 610, & 614)**

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
EXPLOSIVES										
Nitroaromatics & Nitroamines	Water	24 Hrs	8330	350 ml	1 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
Nitroaromatics & Nitroamines	Soil	48 Hrs	8330	2 g	4 oz.	Glass	Cold		14 Days	
Nitroglycerin and PETN	Water	24 Hrs	8330M	350 ml	1 Liter	Amber Glass	Cold		7 Days	Check for residual chlorine per PM direction
Nitroglycerin and PETN	Soil	48 Hrs	8330M	2 g	4 oz.	Glass	Cold		14 Days	
Perchlorate	Water	24 Hrs	314.0	5 ml	125 ml	Plastic/Glass	Cold		28 Days	
Perchlorate	Soil	24 Hrs	314.0M	4 g	4 oz.	Plastic/Glass	Cold		28 Days	
Nitroguanidine	Water	24 Hrs	PAI SOP	1 x	3 x	40 ml VOA	Cold		7 Days	

Paragon Analytics

a Division of DataChem Laboratories, Inc.

Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
Nitroguanidine	Soil	24 Hrs	PAI SOP	2 g	4 oz.	Glass	Cold		14 Days	
Nitrocellulose	Water	48 Hrs	PAI SOP	350 ml	1 Liter	Amber Glass	Cold		7 Days	
Nitrocellulose	Soil	48 Hrs	PAI SOP	2 g	4 oz.	Glass	Cold		14 Days	
RCRA CHARACTERIZATION										
Ignitability	Liquid	24 Hrs	1010	100 ml	500 mL	Amber Glass	Cold		28 Days	
Ignitability	Solid	24 Hrs	1010	100 g	4 oz.	Glass	Cold		28 Days	
Corrosivity/pH	Liquid	24 Hrs	150.1 / 9040	20 ml	250 mL	Plastic/Glass	Cold		ASAP	4 days after receipt
Corrosivity/pH	Solid	24 Hrs	9045	20 g	4 oz.	Plastic/Glass	Cold		ASAP	4 days after receipt
Reactivity-Cyanide & Sulfide	Liquid	24 Hrs	SW 846 7.3.3.2	10 g	250 mL	Amber Glass	Cold		ASAP	4 days after receipt. Must be headspace free. Preservation with NaOH to pH $\geq$ 12 not recomm
Reactivity-Cyanide & Sulfide	Solid	24 Hrs	SW 846 7.3.3.2	10 g	4 oz.	Amber Glass	Cold		ASAP	4 days after receipt. Must be headspace free.
Paint Filter Liquids	Misc.	24 Hrs	9095		4 oz.	Glass	Cold		14 Days	
TCLP										
Percent Solids Determination	Liquid	24 Hrs	1311	Variable	1Liter	Amber Glass	N/A		7 Days	Consult with PM for volume requirement
Extraction - Volatiles, ZHE	Solid	24 Hrs	1311	5 g	VOC	Glass	Cold		14 Days	Must be headspace free
Extraction - SVOCs & Metals	Solid	24 Hrs	1311	100 g	SV/Metal	Glass	Cold		14 Days	If metals only, 28 Days - Hg / 180 Days
SPLP	Solid	24 Hrs	1312	100 g	SV/Metal	Glass	Cold		14 Days	
VOCs	Leachate	48 Hrs	8260B		100 mL	Glass	Cold		7 Days	
SVOCs	Leachate	4 Days	8270C		100 mL	Glass	Cold		7 Days	
Organochlorine Pesticides	Leachate	72 Hrs	8081A		100 mL	Glass	Cold		7 Days	
Chlorinated Herbicides	Leachate	4 Days	8151A		100 mL	Glass	Cold		7 Days	
8 RCRA Metals	Leachate	48 Hrs	6010B & 7470A		100 mL	Glass	Cold		28-Hg / 180 Days	
METALS										
23 TAL Metals wo/CN (ICP/CVAA)	Water	24 Hrs	CLP SOW	50 ml	1 L	Plastic	HNO_3 / Cold	</= 2	180 Days	
23 TAL Metals wo/CN (ICP/CVAA)	Soil	24 Hrs	CLP SOW	50 ml	1 L	Plastic	Cold		180 Days	
ICP	Water	24 Hrs	6010	50 ml	500 ml	Plastic	HNO_3 / Cold	</= 2	180 Days	
ICP	Soil	24 Hrs	6010	1 g	4 oz.	Plastic	Cold		180 Days	
Mercury	Water	24 Hrs	7470	20 ml	1 L	Plastic	HNO_3 / Cold	</= 2	28 Days	RCRA and TAL metals include ICP and Hg
Mercury	Soil	24 Hrs	7471	0.6 g	4 oz.	Plastic	Cold		28 Days	RCRA and TAL metals include ICP and Hg
Chromium VI	Water	24 Hrs	7196	20 ml	500 ml	Plastic/Glass	Cold		24 Hrs	
Chromium VI	Soil	24 Hrs	7196	4 g	4 oz.	Plastic/Glass	Cold		28 Days	Clients sometimes specify shorter holding time
Chromium VI	Soil	24 Hrs	3060/7196	2.5 g	4 oz.	Plastic/Glass	Cold		30 Days	3060 = Alkaline Digestion. Clients sometimes specify shorter holding time
California Title 22 Metals		24 Hrs	Title 22	N/A	N/A	N/A	N/A			
Citric Acid or DI Water Extraction		24 Hrs	CAL-WET	N/A	N/A	N/A	N/A			
ICP-MS	Either		6020							
METALS DIGESTIONS										
Acid Digestion for total Dissolved or Recoverable Metals by ICP	Aqueous	24 Hrs	3005A / 200.2	N/A	N/A	N/A	HNO_3 / Cold	</= 2	180 Days	
Acid Digest. for Total Metals (ICP)	Aqueous	24 Hrs	3010A	N/A	N/A	N/A	HNO_3 / Cold	</= 2	180 Days	
Acid Digest. For Soils, Sludges, & Sed.	Solids	24 Hrs	3050B	N/A	N/A	N/A	N/A		180 Days	
Acid Digest. For Total Dissolution	Solids	24 Hrs	3050M	N/A	N/A	N/A	N/A		180 Days	
Digest Oil, Grease, or Waxes	Organics	24 Hrs	3050M	N/A	N/A	N/A	N/A		180 Days	
MISCELLANEOUS PARAMETERS/COMPOUNDS										
Alkalinity - Carbonate/Bicarb./Hydroxide	Water	24 Hrs	310.1M	100 ml	500 mL	Plastic/Glass	Cold		14 Days	
Acidity	Water	24 Hrs	305.10	100 ml	500 mL	Plastic/Glass	Cold		14 Days	
Ammonia	Water	24 Hrs	350.1	5 ml	125 mL	Plastic/Glass	H_2SO_4 / Cold	</= 2	28 Days	

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Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
Cyanide, Total	Water	24 Hrs	9014 or 335.2	50 ml	500 mL	Plastic/Glass	NaOH / Cold	>/=12	14 Days	
Cyanide, Total	Soil	24 Hrs	9010	1 g	4 oz.	Plastic/Glass	Cold		14 Days	
Cyanide (amenable)	Water	24 Hrs	9010	50 ml	500 mL	Plastic/Glass	NaOH / Cold	>/=12	14 Days	
Cyanide (amenable)	Soil	24 Hrs	9013.00	1 g	4 oz.	Plastic/Glass	Cold		14 Days	
Chloride	Water	24 Hrs	325.3	50 ml	250 mL	Plastic/Glass	Cold		28 Days	
Chloride	Soil	24 Hrs	325.3M	4 g	8 oz.	Plastic/Glass	Cold		28 Days	
Fluoride	Water	24 Hrs	340.2	10 ml	125 mL	Plastic/Glass	Cold		28 Days	
Fluoride	Soil	24 Hrs	340.2M	4 g	4 oz.	Plastic/Glass	Cold		28 Days	
Hardness by Calculation	Water	24 Hrs	6010 / 200.7	50 ml	125 mL	Plastic	Cold		180 Days	
Hydrogen Ion (pH)	Water	24 Hrs	150.1 / 9040	20 ml	125 mL	Plastic/Glass	Cold		ASAP	within 4 days after receipt
Hydrogen Ion (pH)	Soil	24 Hrs	9045	20 g	4 oz.	Plastic/Glass	Cold		ASAP	within 4 days after receipt
IC Anions: Br, Cl, F, SO_4	Water	24 Hrs	300.0/9056	5 ml	500 mL	Plastic/Glass	Cold		28 Days	
IC Anions: NO_2, NO_3, PO_4	Water	24 Hrs	300.0/9056	5 ml	500 mL	Plastic/Glass	Cold		48 Hrs	
Nitrate/Nitrite as N	Water	24 Hrs	353.2	5 ml	125 mL	Plastic/Glass	H_2SO_4 / Cold	</= 2	28 Days	
Nitrate as N	Water	24 Hrs	353.2	5 ml	125 mL	Plastic/Glass	Cold		48 Hrs	A sample must come preserved with H_2SO_4 for NO_2/NO_3
Nitrite as N	Water	24 Hrs	354.1	20 ml	250 mL	Plastic/Glass	Cold		48 Hrs	
Organic Carbon Total - (TOC)	Water	24 Hrs	415.1	1 ml	2 x 125	Amber Glass	H_2SO_4 / Cold	</= 2	28 Days	
Organic Carbon Total - (TOC)	Water	24 Hrs	9060	1 ml	2 x 125	Amber Glass	H_2SO_4 / Cold	</= 2	28 Days	
Organic Carbon Total - (TOC)	Soil	24 Hrs	Walkley-Black	10 g	4 oz.	Amber Glass	Cold		28 Days	
Percent Moisture	Soil	24 Hrs	PAI SOP	10g	4 oz.	Amber Glass	Cold		14 Days	
Phosphate - Ortho as P	Water	24 Hrs	365.2	25 ml	125 mL	Plastic	Cold		48 Hrs	
Phosphate - Ortho as P	Soil	24 Hrs	365.2M	4 g	4 oz.	Glass	Cold		28 Days	
Phosphorus - Total as P	Water	24 Hrs	365.2	50 ml	250 mL	Plastic	H_2SO_4 / Cold	</= 2	28 Days	
Phosphorus - Total as P	Soil	24 Hrs	365.2M	4 g	4 oz.	Glass	Cold		28 Days	
Sulfide	Water	24 Hrs	376.1	200 ml	500mL	Plastic/Glass	NaOH and ZnOAc / Cold	>/=9	7 Days	
Specific Conductance	Water	24 Hrs	120.1 or 9050	50 ml	250mL	Plastic/Glass	Cold		28 Days	
Total Dissolved Solids (TDS)	Water	24 Hrs	160.1	100 ml	500 mL	Plastic/Glass	Cold		7 Days	
Total Suspended Solids (TSS)	Water	24 Hrs	160.2	100 ml	500 mL	Plastic/Glass	Cold		7 Days	
Total Solids	Water	24 Hrs	160.3	100 ml	500 mL	Plastic/Glass	Cold		7 Days	
Total Volatile Solids	Water	24 Hrs	160.4	100 ml	500 mL	Plastic/Glass	Cold		7 Days	
Total Settleable Solids	Water	24 Hrs	160.5	100 ml	500 mL	Plastic/Glass	Cold		7 Days	
Soil Prep. - (Water Extraction)	Soil	24 Hrs	SW 846 7.3.4.1	10 g	N/A	N/A	Cold		N/A	

RADIOLOGICAL ANALYSES

Alpha Spectrometry (AS)

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time
Americium - Isotopic (241)	Water	5 Days	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Americium - Isotopic (241)	Solid	5 Days	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A
Curium - Isotopic (242, 243, 244)	Water	5 Days	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Curium - Isotopic (242, 243, 244)	Solid	5 Days	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A
Neptunium - Isotopic (237)	Water	5 Days	Alpha Isotopic	2 Liter	2 Liters	Plastic	HNO_3	</= 2	N/A
Neptunium - Isotopic (237)	Solid	5 Days	Alpha Isotopic	4 g	4 oz.	Plastic/Glass	N/A		N/A
Plutonium - Isotopic (238, 239/240)	Water	3 Days	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Plutonium - Isotopic (238, 239/240)	Solid	72 Hrs	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A
Polonium - Isotopic (210)	Water	5 Days	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Polonium - Isotopic (210)	Solid	5 Days	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A
Thorium - Isotopic (228, 230, 232)	Water	72 Hrs	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Thorium - Isotopic (228, 230, 232)	Solid	72 Hrs	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A
Thorium - Isotopic (224, 228, 230, 232)	Water	5 Days	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A
Thorium - Isotopic (224, 228, 230, 232)	Solid	5 Days	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A

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Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
Uranium - Isotopic (233/234, 235, 238)	Water	72 Hrs	Alpha Isotopic	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A	
Uranium - Isotopic (233/234, 235, 238)	Solid	72 Hrs	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A	
Uranium - Total	Water	5 Days	Alpha Isotopic	1 Liter	100 ml	Plastic	HNO_3	</= 2	N/A	
Uranium - Total	Solid	5 Days	Alpha Isotopic	2 g	4 oz.	Plastic/Glass	N/A		N/A	
Gamma Spectrometry (GS)										
Gamma Emitters- Stock Library*,**	Water	24 Hrs	901.1	1 Liter	2 Liters	Plastic	HNO_3	</= 2	N/A	
Gamma Emitters- Stock Library*,**	Solid	24 Hrs	901.1M	150 g	500 g	Glass	N/A		N/A	
Gross Gamma	Water	24 Hrs	901.1	1 Liter	2 Liters	Plastic	HNO_3	</= 2	N/A	
Gross Gamma	Solid	24 Hrs	901.1M	300 g	500 g	Glass	N/A		N/A	
Iron - (55)	Water	5 Days	RESL Fe-01M	1 Liter	2 Liters	Plastic	HNO_3	</= 2	N/A	
Iron - (55)	Solid	5 Days	RESL Fe-01M	1 g	5 g	Glass	N/A		N/A	
Nickel - (59)	Water	5 Days	RESL Ni-01M	1 Liter	2 Liters	Plastic	HNO_3	</= 2	N/A	
Nickel - (59)	Solid	5 Days	RESL Ni-01M	1 g	5 g	Glass	N/A		N/A	
Ra -226/228(Bi/Pb-214 ingrowth)	Solid	27 Days	901.1M	150 g	500 g	Glass	N/A		N/A	
Ra-226/228 - (Screening)	Solid	48 Hrs	901.1M	150 g	500 g	Glass	N/A		N/A	

*** Client specifies Gamma Library: Natural Products (NP), Activation & Fission Products (FA), Combined FANP, or other stock libraries.**
**** Gamma Spec Custom List prices depend on isotopes requested. Isotopes and DQO's will be addressed on a case by case basis.**

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
Liquid Scintillation Counting (LSC)										
Carbon - (14)	Water	5 Days	PAI SOP	50 ml	1 Liter	Amber	None		N/A	
Carbon - (14)	Solid	5 Days	PAI SOP	1 g	4 oz.	Glass	N/A		N/A	
Tritium	Water	72 Hours	906.0	30 ml	100 ml	Amber	None		N/A	
Tritium - (Water Exchangeable)	Solid	72 Hours	PAI SOP	20 g	4 oz.	Glass	N/A		N/A	
Nickel - (63)	Water	5 Days	PAI SOP	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Nickel - (63)	Solid	5 Days	PAI SOP	1 g	4 oz.	Either	N/A		N/A	
Plutonium - (241)	Water	5 Days	PAI SOP	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Plutonium - (241)	Solid	5 Days	PAI SOP	2 g	4 oz.	Either	N/A		N/A	
Radon - (222)	Water	5 Days	PAI SOP	40 ml	3 x	40 ml VOA	None		72 Hrs	Requires approval prior to receipt
Technetium - (99)	Water	72 Hrs	PAI SOP	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Technetium - (99)	Solid	72 Hrs	PAI SOP	1 g	4 oz.	Either	N/A		N/A	
Gas Flow Proportional Counting (GFP)										
Gross Alpha/Beta	Water	24 Hrs	900.0 / 9310	150 ml	1 Liter	Plastic	HNO_3	</= 2	N/A	
Gross Alpha/Beta (Leach)	Solid	24 Hrs	900.0M / 9310M	3 g	4 oz.	Either	N/A		N/A	
Radium Total Alpha Emitting Isotopes	Water	72 Hrs	903.0 / 9315	500 ml	1 Liter	Plastic	HNO_3	</= 2	N/A	Some clients will request as Ra-226
Radium Total Alpha Emitting Isotopes	Solid	5 Days	903.0M / 9315M	1 g	4 oz.	Either	N/A		N/A	Preferred method for solids is Gamma Spec
Radium - (228)	Water	5 Days	904.0 / 9320	1.5 Liter	1.5 Liter	Plastic	HNO_3	</= 2	N/A	
Radium - (228)	Solid	5 Days	904.0M / 9320M	1 g	4 oz.	Either	N/A		N/A	Preferred method for solids is Gamma Spec
Iodine - (129)	Water	10 Days	902.0M	2 Liter	1 Liter	Plastic	None		N/A	
Iodine - (129)	Solid	10 Days	902.0M	2 g	4 oz.	Either	N/A		N/A	
Lead - (210)	Water	10 Days	PAI SOP	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A	
Lead - (210)	Solid	10 Days	PAI SOP	1 g	4 oz.	Either	N/A		N/A	
Sr - (90) Total Radiostrontium	Water	72 Hrs	PAI SOP	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A	
Sr - (90) Total Radiostrontium	Solid	72 Hrs	PAI SOP	1 g	4 oz.	Either	N/A		N/A	
Sr - (89/90) (See note below)	Water	15 Days	PAI SOP	1 Liter	1 Liter	Plastic	HNO_3	</= 2	N/A	
Sr - (89/90) (See note below)	Solid	15 Days	PAI SOP	1 g	4 oz.	Either	N/A		N/A	
Technetium - (99)	Water	72 Hrs	PAI SOP	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Technetium - (99)	Solid	72 Hrs	PAI SOP	1 g	4 oz.	Either	N/A		N/A	

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Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
EPA Drinking Water Compliance Methodologies										
Gross Alpha and Beta (GFP)	Water	24 Hrs	900.0/9310	150 ml	1 Liter	Either	HNO_3	</= 2	N/A	
Gross Alpha Coprecipitation (GFP)	Water	5 Days	901.1	150 ml	1 Liter	Either	HNO_3	</= 2	N/A	
Radioiodine (GFP)	Water	5 Days	902.0	2 Liter	1 Liter	Amber	N/A		N/A	
Rn -222 by Alpha-Scintillation (Rn-Emanati	Water	5 Days	913.0	80 ml	3 x VOA	40 ml VOA	N/A		72 Hrs	Requires approval prior to receipt
Ra -226 by Alpha-Scintillation (Rn-Emanati	Water	30 Days	903.1	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Ra -228 (GFP)	Water	15 Days	904.0	1.5 Liter	1.5 Liter	Either	HNO_3	</= 2	N/A	
Tritium by LSC	Water	24 Hrs	906.0	30 ml	1 Liter	Glass	N/A		N/A	
Total Uranium by Alpha Spec.	Water	72 Hrs	STM D3972-90	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Isotopic Uranium by Alpha Spec.	Water	72 Hrs	STM D3972-90	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Isotopic Thorium by Alpha Spec.	Water	72 Hrs	STM D3972-90	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
Gamma Spectroscopy	Water	24 Hrs	901.10	1 Liter	1 Liter	Either	HNO_3	</= 2	N/A	
SW 846 Compliance Methodologies										
Gross Alpha and Beta	Water	24 Hrs	9310	1 Liter	1 Liter	Either	HNO_3	</= 2	180 Days	
Ra-226 by GFP (Total Radium Alph	Water	72 Hrs	9315	1 Liter	1 Liter	Either	HNO_3	</= 2	180 Days	
Ra-228 by GFP	Water	10 Days	9320	1 Liter	1 Liter	Either	HNO_3	</= 2	180 Days	
Ra-228 by GFP	Soil	10 Days	9320	10g	4 oz.	Either	N/A		180 Days	
ORGANICS SAMPLE CLEAN-UPS & SPECIAL PREPARATIONS										
Alumina Column Clean-up		24 Hrs	3610	N/A	N/A	N/A	N/A		N/A	
Florisil Column Clean-up		24 Hrs	3620	N/A	N/A	N/A	N/A		N/A	
Silica Gel Clean-up		24 Hrs	3630	N/A	N/A	N/A	N/A		N/A	
Gel-Permeation Clean-up		24 Hrs	3640	N/A	N/A	N/A	N/A		N/A	
Sulfur Clean-up		24 Hrs	3660	N/A	N/A	N/A	N/A		N/A	
Sulfuric Acid Clean-up		24 Hrs	3665	N/A	N/A	N/A	N/A		N/A	
Waste Dilution	Both	24 Hrs	3580	N/A	N/A	N/A	N/A		N/A	

*** Sample clean-up may be included in the full analysis cost. Inquire for specifics.**
Ex. Gel Permeation clean-ups are not universally/routinely performed for SW846 8270.

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
ORGANICS SAMPLE EXTRACTIONS										
Separatory Funnel Liquid-Liquid Ext	Water	24 Hrs	3510	N/A	N/A	N/A	N/A		N/A	
Continuous Liquid-Liquid Ext.	Water	24 Hrs	3520	N/A	N/A	N/A	N/A		N/A	
Soxhlet Extraction	Solid	24 Hrs	3540	N/A	N/A	N/A	N/A		N/A	
Sonication Extraction	Solid	24 Hrs	3550	N/A	N/A	N/A	N/A		N/A	
Purge and Trap	Both	24 Hrs	5030	N/A	N/A	N/A	N/A		N/A	
Purge and Trap	Both	24 Hrs	5035	N/A	N/A	N/A	N/A		N/A	

*** Sample extraction costs are included in the full analysis cost. Items listed here are for preparation only requests.**

ADDITIONAL SERVICES

Rush Turn-Around Times
Typical Sample Kits are included at no additional charges: Bottles, coolers, preservatives, labels, and coolant.
Electronic Data Deliverables
Analysis of Hazardous and Mixed Waste Samples
Analysis of Sediments and Tissues
Analysis of Air Filters
On-Site Laboratory Services
Subcontracting of Specialty Analyses: Dioxins, Asbestos, Microscopy, & tests not listed above
Special Methods or Detection Limits

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Note: Request 3X - 5X Minimum Quantities for Re-Runs & MS/MSD

PARAMETER	MATRIX	Min TAT	METHOD	Min. Quant.	Standard Quantity	Container Type	Preserv.	Req'd pH	Holding Time	Additional Sample Receiving Concerns
Specialty Method Development										
Sample and Waste Disposal										
Open for Saturday Sample Receipt										

GENERAL NOTES

Typical Rush Turnaround Time (TAT) Surcharges **:
2.5X for Minimum TAT.
2X for Minimum TAT + 1 Business Day
1.75X for Minimum TAT + 2-3 Business Days
1.5X for Minimum TAT + 5 Business Days
1.25X for Minimum TAT + 10 Business Days

**** TATs are based on faxed sample results-within times determined as business days from sample receipt. (Sat. Delivery = Mon Rcpt.)**
Rush TATs should be requested at least 1 week before sample delivery and need Laboratory approval before sample receipt.

Volume Discounts are available upon request. Typical Discounts are: 20% for >10 sample SDGs or more for large projects
Payments are due within 30 days of invoice receipt, with 1.5% per month charges on late balances. Prompt payment discounts are 2%10 Net 30.
Samples received with short sample hold times, (3 business days or less), will accrue a 50% rush surcharge. Short hold time tests (<3 d) are exempt.
Subcontract analysis surcharges: "Invoicing Only" for 10% surcharge; Shipping & handling to sub-lab for 20%; PAI Reports for 30%-50%.
Typical Sample Kits must be requested at least 3 bus. days before Delivery Date, or rush shipping charges will apply. Un-returned supplies are available & billable at: materials cost + shipping costs + 20% handling.
Small Batches, < 5 samples, incur the greater of a $250 minimum or 5 sample charge, due to Method QC Reqmts. (Blanks, MS/MSDs, & LCS/LCSDs).
(Small Batch surcharges may be waived for large projects.)
Special Reporting Limits are available for additional costs.
Special Requirements raised after project initiation will typically incur additional surcharges of 5% - 30%:
Ex: TICs, special Detection Limits, extra report copies, EDDs, special reporting forms, multiple re-runs for dilutions, etc.

Radioactive Samples will typically incur a 25% Health and Safety Surcharge for:
Alpha > 1 nCi/L or 0.5 nCi/g;
Beta > 2 nCi/L or 1 nCi/g;
H-3 > 100 nCi/L or 1 nCi/g;
Gamma > 2 nCi/L or 1 nCi/g;

Note: *Radioactive samples require lab approval before receipt.*
Note: *Mixed waste or hazardous samples require special disposal costs or return costs and prior lab approval.*

Appendix E

CONDITION OF SAMPLE UPON RECEIPT

(Form 201)

Paragon Analytics

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ______________________ Workorder No: ______________________

Project Manager: ______________________ Initials: ________ Date: ________

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2. Is **pre-screening** required per SOP 008?		YES	NO
3. Are custody **seals** on **shipping containers** intact?	N/A	YES	NO
4. Are custody **seals** on **sample containers** intact?	N/A	YES	NO
5. Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
6. Is the **COC** (if applicable) **complete and legible**?	N/A	YES	NO
7. Are **bottle IDs legible** and in **agreement** with **COC sample IDs**?	N/A	YES	NO
8. Is the COC in agreement with samples received? (# **of samples**, # **of containers, matrix**)	N/A	YES	NO
9. Were **airbills** present and/or removable?	N/A	YES	NO
10. Are all **aqueous samples** requiring preservation **preserved correctly**? (excluding volatile organics)	N/A	YES	NO
11. Are all aqueous **non-preserved samples** at the **correct pH**?	N/A	YES	NO
12. Is there **sufficient sample** for the requested analyses?		YES	NO
13. Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
14. Are all samples within **holding times** for the requested analyses?		YES	NO
15. Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
16. Are all samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? **Size of bubble**: ____ < green pea ____> green pea	N/A	YES	NO
17. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
18. Were the sample(s) **shipped on ice**?	N/A	YES	NO
19. Were cooler temperatures measured at 0.1-6.0°C?	N/A	YES	NO

***IR gun used** *(circle one)* : **#2** - Oakton InfraPro II, SN2922500201-0066; **#4** - Oakton InfraPro II, SN2372220101-0002

Cooler #'s ______ ______ ______ ______ ______ ______ ______ ______

Temperature (°C) ______ ______ ______ ______ ______ ______ ______ ______

No. of custody seals ______ ______ ______ ______ ______ ______ ______ ______

DOT Survey/ Acceptance Information

External µR/hr reading ______ ______ ______ ______ ______ ______ ______ ______

Background µR/hr reading ______

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE EXCEPT #1 AND #2

If applicable, was the client contacted? **YES / NO / NA** Contact Name:______________________ Date/Time:___________

Project Manager Signature/ Date: ____________________________________

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Paragon Analytics

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ______________________ Workorder No: ______________________

Project Manager: ______________________ Initials: ________ Date: ________

Additional Information:

Was the laboratory directed to proceed with the analysis of any samples yielding the presence of residual chlorine? **YES / NO / NA**

NOTE:

No pH adjustments shall be made without prior consent of Project Manager. After pH adjustments, hold metals and radchem samples ≥ 16 hrs. before analysis.

Was the pH of any sample adjusted by the laboratory? **YES** (See Table below) **/ NO**

pH Excursion:

Sample ID	Client ID	Initial pH	Final pH	Reagent Used	Volume Added (mL)	Lot No. of Reagent	Requested Analysis	Initials / Date / Time

If applicable, was the client contacted? **YES / NO / NA** Client Rep. Name:______________________ Date/Time:___________

Project Manager Signature/ Date: ______________________

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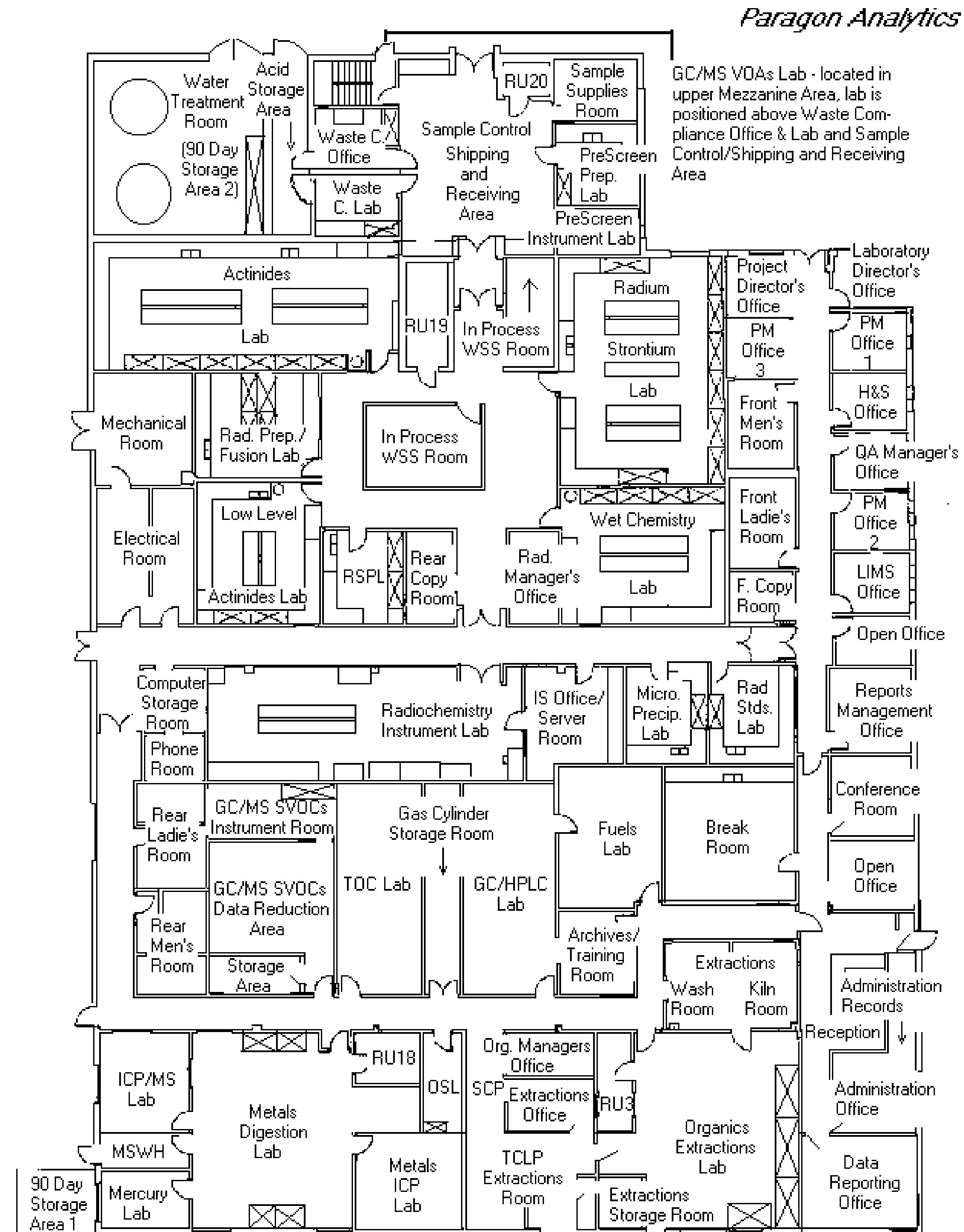
Appendix F

FACILITY DIAGRAM



SCP = Stable Chem. Printing Area
OSL = Organics Standards Laboratory
RSPL = Rad. Sample Prep. Lab
WSS = Warm Sample Storage
MSWH = Metals Satellite Waste Hall

Names_Mapr4.bmp (6/2/04)

Appendix G

NONCONFORMANCE REPORT
(Form 313)

NCR # ____________ **Paragon Analytics**

NON-CONFORMANCE REPORT

Initiated by __________ Date ___________ Method/Procedure __________________________

Reason: ___ Non-Conformance Work Orders Affected _______________________________________

___ Client Inquiry Batches Affected (optional) ___________________________________

___ Other ________________ Clients ____

SECTION I TYPE OF EVENT (circle as appropriate)

___ 1. LCS / Surrogate / IS / Tracer or Chemical Yield Criteria Not Met

___ 2. Calibration Criteria Not Met (ICAL, ICV, CCV)

___ 3. Method Requirements Not Met (HTV, MB, ____)

___ 4. Deviation from LQAP/SOP (i.e., PAR criteria not met)

___ 5. Client Criteria Not Met (MDC, DER, __________)

___ 6. Equipment Failure or Laboratory Incident / Error

___ 7. Other ___________________________________

Explanation: _________________________________

Actions to Prevent Recurrence (Retrain, etc.): ____

SECTION II NOTIFICATION

Client Contacted? (Y / N) Name:_______________________ Date:_____________ Time: _________

SECTION III CORRECTIVE ACTIONS

___ 1. Submit for Re-Prep. or Clean-up

___ 2. Re-analyze

___ 3. Resubmit Data (hc, edd, narrative)

___ 4. Document in Narrative

___ 5. Other ____________________________

Approved by: _______ DPM _______ PM

SECTION IV REQUEST FOR REWORK

Initial Batch ID: ____________________ Date: _________

Reworked Batch ID: _________________ Date: _________

Outcome: ____

Approved by: ________

Matrix Effect or Elevated / Sample Activity Suspected? (circle

SECTION V DISPOSITION **Use as is** **Repair** **Reject**

SECTION VI COMMENTS ____

SECTION VII APPROVAL SIGNATURES

Project Manager (PM) _________________________________ Date ____________

Department Manager (DPM) _____________________________ Date ____________ (Verification of Disposition)

QA Manager ____ Date ____________

SECTION VIII DISTRIBUTION ____ PM ____ Dept. Manager ____ Lab Director ____ Rpt.Group or ____ Rad

FORM 313r15.doc (7/18/04)

Appendix H

LABORATORY EQUIPMENT

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (octete)	Ortec	Ultra 600mm2	per detector	RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (tower)	Ortec	Tower		RAD - Room 151	1996	Used	Service Contract
Alpha Spectrometer (tower)	Ortec	Tower		RAD - Room 151	1996	Used	Service Contract
Analyzer & Autosampler, Total Organic Carbon (TOC)	Tekmar - Dohrmann	14 - 7045 - 000	01011007	TOC - Room 135	2002	Reconditioned	Outside Vendor
Analyzer, Inductively Coupled Plasma (ICP) - axial (trace)	Thermo Jarrell Ash	1342900	336490	Metals - Room 138	1996	Used	Service Contract
Analyzer, Inductively Coupled Plasma (ICP) - radial (convention	Thermo Jarrell Ash	13101600	61390	Metals - Room 138	2004	Reconditioned	Service Contract
Analyzer, Inductively Coupled Plasma (ICP)/MS	Micromass	Platform ICP	WA057	Metals - Room 141	2004	Reconditioned	Service Contract
Analyzer, Mercury	CETAC Technologi	M-6000A	079730AST	Metals - Room 139	2002	Reconditioned	Outside Vendor
Analyzer, QuikChem (Automated NO2/NO3, NH3)	Lachat	QuickChem 8000	A83000 - 642	Wet Chem	2000	Reconditioned	Outside Vendor
Analyzer, Total Hydrocarbon	Buck Scientific	404		Metals	1996	Used	Outside Vendor
Apparatus, Cyanide Distillation	BSL Co.		MCVA 129726	Wet Chem	1996	Used	In House
Apparatus, Cyanide Distillation	Andrew Glass Co.			Wet Chem	1996	Used	In House
Apparatus, GPC	OI Corporation	Autoprep 1000	9459SI	EXT - Room 134	2000	Reconditioned	Service Contract
Apparatus, Ignitability	Pensky - Martin	89571	n/a	EXT	1996	Used	In House
Autosampler (Gas Chromatograph)	Hewlett Packard	18596B	3021A22050	GC - Room 132	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596A	2718A04983	GC - Room 132	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596B	3213A28142	Fuels - Room 135	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596A	2718A06165	GC - Room 132	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596A	2718A08628	SVOCs - Room 144	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596B	3123A25278	GC - Room 132	1996	Used	Service Contract
Autosampler (Gas Chromatograph)	Hewlett Packard	18596B	3333A32917	GC - Room 132	1996	Used	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap	OI Corporation	MPM - 16 R - B	5017 - 9 - 027	Fuels - Room 131	1996	Reconditioned	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap	Tekmar	ALS 2016	90052027	VOAs - Room 201	1996	Used	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap	Tekmar	14 - 2963 - 000	92048014	Fuels - Room 131	1996	Used	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap	Tekmar	14 - 2962 - 000	92051006	Fuels - Room 131	1996	Used	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap (Archon)	OI Corporation	4552	13833	VOAs - Room 201	2003	Reconditioned	Service Contract
Autosampler (Gas Chromatograph), Purge and Trap (Archon)	Varian	Archon	12986	VOAs - Room 201	1999	New	Service Contract
Autosampler (IC anions analysis)	Dionex	AS40 - 1	99100054	Wet Chem	2004	Used	Outside Vendor
Autosampler (IC perchlorate analysis)	Dionex	AS40 - 1	99080031	Wet Chem	2004	Used	Outside Vendor
Autosampler (ICP axial trace)	Thermo Jarrell Ash	AS300	0780	Metals - Room 138	2004	Reconditioned	Service Contract
Autosampler (ICP radial conventional)	Thermo Jarrell Ash	AS300	C2392	Metals - Room 138	2004	Reconditioned	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594A	2835A12252	SVOCs - Room 144	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	G1512A	CN00001367	SVOCs - Room 144	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594B	3113A25745	GC - Room 132	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594B	3334A33050	GC - Room 132	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594A	2835A12486	GC - Room 132	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594A	2929A15028	GC - Room 132	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594B	3018A22087	GC - Room 132	1996	Used	Service Contract
Autosampler Controller (Gas Chromatograph)	Tekmar	LSC 2000	90080005	VOAs - Room 201	1996	New	Service Contract

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Autosampler Controller (Gas Chromatograph)	Hewlett Packard	18594B	3214A28233	Fuels - Room 135	1996	Used	Service Contract
Autosampler Gas Chromatograph (MS)	Hewlett Packard	7683	US92805616	SVOCs - Room 144	1996	Used	Service Contract
Autosampler Gas Chromatograph (MS)	Hewlett Packard	7683	US91304815	SVOCs - Room 144	1996	Used	Service Contract
Autosampler Gas Chromatograph (MS)	Hewlett Packard	18596C	3512A41637	SVOCs - Room 144	1996	Used	Service Contract
Balance, Analytical	Mettler	AE200	N42207	RAD - Room 158	1996	Used	Outside Vendor
Balance, Analytical	Sartorious	AC211S	70605621	RAD - Room 163	1996	Used	Outside Vendor
Balance, Analytical	Mettler	AB104	1117501251	RAD - Room 161	1996	Used	Outside Vendor
Balance, Analytical	Mettler	AB204	1117030900	RAD - Room 161	2004	Used	Outside Vendor
Balance, Analytical	Mettler	AE200	N23692	Room 154	1996	Used	Outside Vendor
Balance, Analytical	Mettler	AE50	N19696	Room 172	1996	Used	Outside Vendor
Balance, Analytical	Mettler	AE100	NO1256	Wet Chem	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	PT120	20420557	RAD - Room 131	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	B610	40030033	Metals	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	PT150	70204290	VOAs - Room 201	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	BA110S	20404145	Metals	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	A200S	38040253	EXT	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	B410	38060012	EXT	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	B410	10204728	EXT	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	BL310S	90502667	Metals	1996	Used	Outside Vendor
Balance, Laboratory	Sartorious	PT120	10720694	RAD - Room 161	1996	Used	Outside Vendor
Balance, Toploading	Ohaus	PS200	7122221106	Room 126	2004	New	Outside Vendor
Balance, Toploading	Sartorious	BA4100	30504754	Room 172	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BB - 3000	N43426	RAD - Room 161	1996	Used	Outside Vendor
Balance, Toploading	Mettler	B3002	1117472815	Room 154	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BB600	N50359	RAD - Room 162	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BD601	60183	RAD - Room 163	1996	Used	Outside Vendor
Balance, Toploading	Mettler	PB3002	P00572	RAD - Room 158	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BB600	N50358	RAD - Room 164	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BB300	N08587	Wet Chem	1996	Used	Outside Vendor
Balance, Toploading	Mettler	BB1200	M93676	Wet Chem	1996	Used	Outside Vendor
Centrifuge	Beckman	GS - 6	GA93A15	RAD - Room 161	1996	Used	Outside Vendor
Centrifuge	Beckman	GP		RAD - Room 161	1996	Used	Outside Vendor
Centrifuge	Beckman	GS - 6	GA92M22	RAD - Room 161	1996	Used	Outside Vendor
Centrifuge	Fisher Scientific	Z510 (D-7209)	17910073	EXT	1996	Used	Outside Vendor
Centrifuge	Beckman	GS - 6	GA93A12	RAD - Room 158	1996	Used	Outside Vendor
Centrifuge	Beckman	GS - 6		RAD - Room 158	1996	Used	Outside Vendor
Centrifuge	Beckman	GPK		RAD - Room 158	1996	Used	Outside Vendor
Centrifuge	Beckman	GP		RAD - Room 161	1996	Used	Outside Vendor
Chiller, Recirculating	Neslab Instruments,	CFT 75	293223132	EXT	1996	Used	Outside Vendor
Chiller, Recirculating	Neslab Instruments,	CFT 75	89EMI-99780-9	EXT	1996	Used	Outside Vendor
Computer	Dell	0932RV	00045-488-495-656	VOAs - Room 201			
Computer	Compaq	Deskpro	6907 CL92B141	EXT			
Computer, Data System w/instrument card	Hewlett Packard	5/200 MMX Serie	US82306675	VOAs - Room 201			
Computer, Data System w/instrument card	Compaq	Deskpro	6686HVR5S060	Fuels - Room 131			
Computer, Data System w/instrument card	Dell	Optiplex GX150		SVOCs - Room 144			
Computer, Data System w/instrument card	Compaq	DP2000 5200MM	6733BK62V012	VOAs - Room 201			

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Computer, Data System w/instrument card	Compaq	Deskpro		RAD - Room 151			
Computer, Data System w/instrument card	PERiCom		027297	Metals			
Computer, Data System w/instrument card	Compaq	Deskpro	6733BK62T966	Fuels - Room 135			
Computer, Data System w/instrument card	Gateway	P5 - 120		RAD - Room 151			
Computer, Data System w/instrument card	Hewlett Packard	Vectra	US14607342	Metals			
Computer, Data System w/instrument card	Compaq	Prolinea 5100		Wet Chem			
Computer, Data System w/instrument card	Dell	Optiplex G1		Wet Chem			
Computer, Data System w/instrument card	Hewlett Packard	Vectra VI	US71264309	HPLC - Room 135			
Computer, Data System w/instrument card	Hewlett Packard	Vectra VI	US80101974	HPLC - Room 135			
Computer, Data System w/instrument card	Compaq	Prolinea 5100		GC - Room 132			
Computer, Data System w/instrument card	Hewlett Packard	Kayak XA	US94359455	SVOCs - Room 144			
Computer, Data System w/instrument card	Compaq	Deskpro		HPLC - Room 135			
Computer, Data System w/instrument card	Compaq	Deskpro		RAD - Room 151			
Computer, Data System w/instrument card	Compaq	Prolinea 5100	6608HXQ2P583	GC - Room 132			
Computer, Data System w/instrument card	Hewlett Packard	Vectra		Metals			
Computer, Data System w/instrument card	Hewlett Packard	Kayak XA	US92581734	SVOCs - Room 144			
Computer, Data System w/instrument card	Compaq	Deskpro		RAD - Room 151			
Computer, Data System w/instrument card	Dell	09D224	00019-098-720-657	VOAs - Room 201			
Concentrator (Gas Chromatograph), Purge & Trap	OI Corporation	4560	J426460287	VOAs - Room 201	1996	Used	Service Contract
Concentrator (Gas Chromatograph), Purge & Trap	Tekmar	3000	95132004	VOAs - Room 201	2003	Reconditioned	Service Contract
Concentrator (Gas Chromatograph), Purge & Trap	Tekmar	14 - 2000 - 600	91235008	Fuels - Room 131	1996	Used	Service Contract
Concentrator (Gas Chromatograph), Purge & Trap	OI Analytical	OI - 4560	J609460598	Fuels - Room 131	1999	New	Service Contract
Concentrator, RapidVap	Labconco	79100-00	246530	EXT	1996	Used	Outside Vendor
Concentrator, RapidVap	Labconco	79100-00	246646	EXT	1996	Used	Outside Vendor
Concentrator, RapidVap	Labconco	79100-00	246529	EXT	1996	Used	Outside Vendor
Dessicators	Various			Labwide	1996	Used	In-House
Detector, Gas Chromatograph (MS)	Hewlett Packard	5973	US91911895	SVOCs - Room 144	1996	Used	Service Contract
Detector, Gas Chromatograph (MS)	Hewlett Packard	5973	US93112105	SVOCs - Room 144	1996	Used	Service Contract
Detector, Gas Chromatograph (MS)	Hewlett Packard	5971A	3188A03493	VOAs - Room 201	1996	Used	Service Contract
Detector, Gas Chromatograph (MS)	Hewlett Packard	5973	US80210987	SVOCs - Room 144	1996	Used	Service Contract
Detector, Gas Chromatograph (MS)	Hewlett Packard	5973	US10451306	VOAs - Room 201	2003	Reconditioned	Service Contract
Detector, Gas Chromatograph (MS)	Hewlett Packard	5971A	2749A00096	VOAs - Room 201	1996	New	Service Contract
Evaporator, Nitrogen	Organomation	120	6031	EXT	1996	Used	Outside Vendor
Evaporator, Steam	Organomation	115	9250	EXT	1996	Used	Outside Vendor
Extractor, Zero Headspace (10)	Assoc. Design & M	3745 ZHE		EXT	1996	Used	In-House
Freezer	Frigidaire	FRU17B2JW8	WA42601180	VOAs - Room 201	2004	Used	Outside Vendor
Freezer	Frigidaire	UFD - 14 - 64	39UB7828	Fuels - Room 135	2004	Used	Outside Vendor
Freezer				Sample Control	1996	Used	Outside Vendor
Freezer				EXT - Room 134	1996	Used	Outside Vendor
Freezer	Montgomery Ward	49258		EXT - Room 134	2004	Used	Outside Vendor
Freezer	Frigidaire	FFU09K0AW2	WB22434917	VOAs - Room 201	2002	Used	Outside Vendor
Freezer	Frigidaire	FRU17B2JW9	WA43200842	VOAs - Room 201	2004	Used	Outside Vendor
Freezer	Kenmore	253.9289112	WB94413689	VOAs - Room 201	2004	Used	Outside Vendor
Gamma Spectrometer	EG&G Ortec	LS - 1116	892 - 105	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	792 - 104	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	892 - 106	RAD - Room 151	1996	Used	Service Contract

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Gamma Spectrometer	EG&G Ortec	LS - 1116	992 - 110	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	1092 - 112	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	992 - 108	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	992 - 108	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	1092 - 111	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	1092 - 113	RAD - Room 151	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	694 - 123	RAD - Room 173	1996	Used	Service Contract
Gamma Spectrometer	EG&G Ortec	LS - 1116	892 - 107	RAD - Room 151	1996	Used	Service Contract
Gas Chromatograph (Dual ECD)	Hewlett Packard	5890 Series II	2750A18841	GC - Room 132	1996	Used	Service Contract
Gas Chromatograph (Dual ECD)	Hewlett Packard	5890 Series II	3310A49739	GC - Room 132	1996	Used	Service Contract
Gas Chromatograph (Dual ECD)	Hewlett Packard	5890 Series II	3029A30072	GC - Room 132	1996	Used	Service Contract
Gas Chromatograph (Dual ECD)	Hewlett Packard	5890 Series II	3310A47805	GC - Room 132	1996	Used	Service Contract
Gas Chromatograph (Dual FPD)	Hewlett Packard	5890A	2750A19027	GC - Room 132	1996	Used	Service Contract
Gas Chromatograph (FID)	Hewlett Packard	5890A	3121A35609	Fuels - Room 135	1996	Used	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	6890	US00040094	SVOCs - Room 144	2001	New	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	5890 Series II	3019A28661	VOAs - Room 201	1996	New	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	5890 Series II	3336A51352	VOAs - Room 201	1996	Used	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	6890	US00029580	SVOCs - Room 144	1996	New	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	6890	US10226006	VOAs - Room 201	2003	Reconditioned	Service Contract
Gas Chromatograph (MS)	Hewlett Packard	6890	US00031554	SVOCs - Room 144	1996	Used	Service Contract
Gas Chromatograph (PID/FID)	Hewlett Packard	5890	2443A03716	Fuels - Room 131	1996	Reconditioned	Service Contract
Gas Chromatograph (PID/FID)	Hewlett Packard	5890	2750A18840	Fuels - Room 131	1996	Used	Service Contract
Gas Flow Proportional Counter	Tennelec	LB - 4110	43727	RAD - Room 151	1996	Reconditioned	Service Contract
Gas Flow Proportional Counter	Tennelec	LB - 5100	13923 (B)	RAD - Room 173	1998	Reconditioned	Service Contract
Gas Flow Proportional Counter	Tennelec	LB - 5100	13923 (A)	RAD - Room 173	1996	Used	Service Contract
Gas Flow Proportional Counter	Tennelec	LB - 4110	CR (13923)	RAD - Room 151	1996	Reconditioned	Service Contract
Health Physics Equipment - Electra (alpha/beta meter)	NE Technology Ltd.	123	914 - 604	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Electra (alpha/beta meter)	NE Technology Ltd.	12	134 - 1998	Room 168	1999	New	Outside Vendor
Health Physics Equipment - Electra (alpha/beta meter)	NE Technology Ltd.	12	918 - 628	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Electra (alpha/beta meter)	NE Technology Ltd.	123	919 - 634	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Electra (alpha/beta meter)	NE Technology Ltd.	12	456 - 631	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - gamma dose rate meter	Ludlum	19	89429	Sample Control	1996	Used	Outside Vendor
Health Physics Equipment - gamma dose rate meter	Ludlum	192	136517	Sample Control	2002	New	Outside Vendor
Health Physics Equipment - gamma dose rate meter	Ludlum	3	93958	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - gamma dose rate meter	Ludlum	3	96160	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Hand & Foot Monitor	Berthold	LB - 1043AS	80117	North Hall	1996	Used	Outside Vendor
Health Physics Equipment - Hand & Foot Monitor	Berthold	LB - 1043AS	111115 - 1310	South Hall	1996	Used	Outside Vendor
Health Physics Equipment - Pancake G-M (detector)	Ludlum	177	94708	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Pancake G-M (detector)	Ludlum	177	100213	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Pancake G-M (detector)	Ludlum	177	100195	Room 168	1996	Used	Outside Vendor
Health Physics Equipment - Shielded G-M (detector)	Ludlum	177	69733	Room 168	1996	Used	Outside Vendor
Heating Block	Enviro - Express	Hot Block		RAD - Room 162	1996	Used	Outside Vendor
Heating Mantles (30 total)	Glas - Col	TM106	varies	EXT	1996	Used	In House
Heating Mantles (6 total)	Electromantle	MX		RAD - Room 158	1996	Used	In House
Heating Mantles, 6 place (4 total)	Glas - Col		varies	RAD - Room 163	1996	Used	In House
Heating Mantles, 6 place (7 banks)	Glas - Col			EXT	1996	Used	In House

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
High Performance Liquid Chromatograph, Autosampler	Waters	712 Wisp	71S - 001504	HPLC - Room 135	1996	Used	Service Contract
High Performance Liquid Chromatograph, Autosampler	Hewlett Packard	Series 1050	3123A25526	HPLC - Room 135	1998	Reconditioned	Service Contract
High Performance Liquid Chromatograph, Autosampler Bracket	Hewlett Packard	29855A	3141A01648	HPLC - Room 135	1998	Reconditioned	Service Contract
High Performance Liquid Chromatograph, Controller	Waters	600E	6PLEPF380	HPLC - Room 135	1996	Used	Service Contract
High Performance Liquid Chromatograph, Fluorescence Detect	Waters	420 - C	420 - 014858	HPLC - Room 142	1996	Used	Service Contract
High Performance Liquid Chromatograph, Fluorescence Detect	Waters	M490	490 - 005479	HPLC - Room 135	1996	Used	Service Contract
High Performance Liquid Chromatograph, Fluorescence Detect	Waters	M470	470 - 002748	HPLC - Room 135	1996	Used	Service Contract
High Performance Liquid Chromatograph, Fluorescence Detect	Waters	M420 - E	420 - 014858	HPLC - Room 142	1996	Used	Service Contract
High Performance Liquid Chromatograph, Photodiode Array Det	Hewlett Packard	HP 1090	2427A00184	HPLC - Room 135	1997	Reconditioned	Service Contract
High Performance Liquid Chromatograph, Pump	Hewlett Packard	79852A	3405A02747	HPLC - Room 135	1998	Reconditioned	Service Contract
High Performance Liquid Chromatograph, Pump	Waters	Waters 600	600PF4091	HPLC - Room 135	1996	Used	Service Contract
High Performance Liquid Chromatograph, System Controller	Hewlett Packard	79856A	3114A00835	HPLC - Room 135	1998	Reconditioned	Service Contract
High Performance Liquid Chromatograph, UV Detector	Hewlett Packard		3225J00991	HPLC - Room 135	1998	Reconditioned	Service Contract
Hood, Fume	Labconco			HPLC - Room 135	2004	Used	In House
Hood, Fume	Labconco	70700	33178	SVOCs - Room 144	2004	Used	In House
Hot Plate/Stir Plate (approx 60 total)	Thermolyne			Labwide	variou	New	In House
Hot Water Bath	Precision	185		Wet Chem	1996	Used	In House
Infrared (IR) Temperature Gun	Raytek	Rayngder ST	2672490101 - 0045	RAD - Room 163	2000	New	Outside Vendor
Infrared (IR) Temperature Gun	Oakton	InfraPro	2372220101 - 0002	Sample Control	2000	New	Outside Vendor
Infrared (IR) Temperature Gun	Raytek	Rayngder ST	2992250201 - 0066	Sample Control	2004	New	Outside Vendor
Injector, (Gas Chromatograph)	Hewlett Packard	18593B	3120A26649	GC - Room 132	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593B	3120A26692	SVOCs - Room 144	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593A	2923A13890	GC - Room 132	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593B	3013A22331	GC - Room 132	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593B	3120A26648	GC - Room 132	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593A	2837A10891	GC - Room 132	1996	Used	Service Contract
Injector, (Gas Chromatograph)	Hewlett Packard	18593B	3013A22314	Fuels - Room 135	1996	Used	Service Contract
Injector, Gas Chromatograph (MS)	Hewlett Packard	7683	US92908296	SVOCs - Room 144	1996	Used	Service Contract
Injector, Gas Chromatograph (MS)	Hewlett Packard	G1513A	US00000603	SVOCs - Room 144	1996	Used	Service Contract
Injector, Gas Chromatograph (MS)	Hewlett Packard	7683	US83902505	SVOCs - Room 144	1996	Used	Service Contract
Ion Chromatograph (IC) - Anions Analysis	Dionex	DX - 120	99060762	Wet Chem	1999	Reconditioned	Service Contract
Ion Chromatograph (IC) - Perchlorate Analysis	Dionex	DX - 120	98070245	Wet Chem	2000	Reconditioned	Service Contract
Ion Gauge Controller	Hewlett Packard	59822B	4215	VOAs - Room 201	1996	New	Service Contract
Ion Gauge Controller	Hewlett Packard	01	5568	VOAs - Room 201	1996	Used	Service Contract
Ion Gauge Controller	Hewlett Packard	59864B		VOAs - Room 201	2003	Reconditioned	Service Contract
Kiln	Cress	A - 31 - 945	9008	EXT	1996	Used	Outside Vendor
Kiln	Cress	X - 31 - 910	8811	EXT	1996	Used	Outside Vendor
Leak Detector	GL Sciences Inc.	LD - 228	LD AOB 0988	HPLC - Room 135	1996	Used	Service Contract
Leak Detector	Gow Mac	21 - 250	F647002	HPLC - Room 135	1996	Used	Service Contract
Liquid Scintillation Counter	Beckman	LS 6500	7068426	RAD - Room 131	1997	Reconditioned	Service Contract
Liquid Scintillation Counter	Beckman	LS 6000TA	598860	RAD - Room 131	1996	Used	Service Contract
Liquid Scintillation Counter	Wallac	1220	2200205	RAD - Room 151	2003	Reconditioned	Service Contract
Liquid Scintillation Counter	Packard	2700TR	406415	RAD - Room 132	2004	Used	Service Contract
Lunar Lander Pressure Filter (2)	Millipore			EXT	1996	Used	In House
Meter, Conductivity	VWR Scientific	23226 - 523	A22036	Wet Chem	1997	Used	In House
Meter, pH	Corning	320	C5955	Metals	1996	Used	In House

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Meter, pH	Corning	320	C5961	Wet Chem	1996	Used	In House
Meter, pH	Accumet	550	C0000643	Wet Chem	1996	Used	In House
Mill, Ball	US Stoneware	3 - Tier	BP - 93006	RAD - Room 164	1996	Used	In House
MilliQ Water System	Millipore	ZD5211584	F1PM71326 F	Metals	1996	Used	In House
Mixer, Homogenizer	Omni International		90454	EXT	1996	Used	In House
Mixer, Vortex	American Scientific	S8223 - 1	24839	EXT	1996	Used	In House
Mixer, Vortex	Thermolyne	M37615	376940783176	Wet Chem	1996	Used	In House
Mixer, Vortex	Thermolyne	M37615		RAD - Room 158	1996	Used	In House
Mixer, Vortex	Barnstead Internatio	M37615	1254040482941	Metals	1996	Used	In House
Mixer, Vortex	Thermolyne	M37615	871010332908	RAD - Room 158	1996	Used	In House
Mixer, Vortex	Thermolyne	M37615	871010543111	RAD - Room 158	1996	Used	In House
Mixer, Vortex	Thermolyne	M37615	871960809058	RAD - Room 158	1996	Used	In House
Muffle Furnace	Thermolyne	30400		RAD - Room 162	1996	Used	Outside Vendor
Muffle Furnace	Thermolyne	30400		RAD - Room 163	1996	Used	Outside Vendor
Muffle Furnace	Thermolyne	30400		RAD - Room 162	1996	Used	Outside Vendor
Oven (Glassware)	VWR Scientific	1130 GD		Fuels - Room 131	1996	Used	Outside Vendor
Oven, Drying	VWR Scientific	1327H	1000103	RAD - Room 158	2003	New	Outside Vendor
Oven, Drying	VWR Scientific	1330 GD		RAD - Room 164	1996	Used	Outside Vendor
Oven, Drying	VWR Scientific	1370 GD		RAD - Room 164	1996	Used	Outside Vendor
Oven, Drying	VWR (Shel-Lab Ma	1305 U	1005291	EXT	1996	Used	Outside Vendor
Oven, Drying (% Moist)	VWR Scientific	1350 F	n/a	EXT	1996	Used	Outside Vendor
Oven, Drying (Glassware)	VWR Scientific	1350FM		Wet Chem	1996	Used	Outside Vendor
Oven, Drying (Glassware)	VWR Scientific	1320		VOAs - Room 201	1996	Used	Outside Vendor
Oven, Drying (Glassware)	VWR Scientific	1370GD		RAD - Room 158	1996	Used	Outside Vendor
Oven, Drying (Glassware)	VWR Scientific	1330GD		RAD - Room 163	1996	Used	Outside Vendor
Oven, Drying (TDS Analysis)	VWR Scientific	1350G		Wet Chem	1996	Used	Outside Vendor
Oven, Drying (TS & TSS analysis)	Baxter Scientific	N8620 - 5A	0292 - 0815	Wet Chem	1996	Used	Outside Vendor
Power Supply	OI Analytical	4430 REV 8	3661 - 8 - 129	Fuels - Room 131	1996	Reconditioned	Service Contract
Printer	Hewlett Packard	LaserJet 4 Plus		SVOCs - Room 144			
Printer	Hewlett Packard	Laserjet 2200D	US8RB09307	Wet Chem			
Printer	Hewlett Packard	Laserjet 4050		SVOCs - Room 144			
Printer	Hewlett Packard	Laserjet 4000		SVOCs - Room 144			
Printer	Hewlett Packard	LaserJet 2100	USGH051602	HPLC - Room 135			
Printer	Hewlett Packard	LaserJet 4 Plus		VOAs - Room 201			
Printer	Hewlett Packard	Laserjet 2200D		Metals			
Printer	Hewlett Packard	Laserjet 2100	USGH051620	Fuels - Room 135			
Printer	Hewlett Packard	LaserJet 4 Plus		RAD - Room 151			
Pump, ICP/MS	Gilson	Minipuls 3	610G1667	Metals - Room 141	2004	Reconditioned	Service Contract
Pump, Vacuum	Edwards	AVS - 28A	5520	Room 168	1996	Used	Outside Vendor
Pump, Vacuum	Edwards	AVS - 28A	5521	Room 168	1996	Used	Outside Vendor
Pump, Vacuum	Edwards	1.5	996256881	SVOCs - Room 144	1996	Used	Service Contract
Pump, Vacuum	Millipore	DOA - V152 -AA	1008	EXT	1996	Used	Outside Vendor
Pump, Vacuum	Edwards	E2M2	95 - 2003851	SVOCs - Room 144	1996	Used	Service Contract
Pump, Vacuum	Edwards	E2M2	61522	SVOCs - Room 144	1996	Used	Service Contract
Pump, Vacuum, Direct Drive	Edwards	E2M2		VOAs - Room 201	1996	Used	Service Contract
Pump, Vacuum, Direct Drive	Edwards	E2M2		VOAs - Room 201	2003	Reconditioned	Service Contract

Instrument	Manufacturer	Model	Serial Number	Location	Purcha	Condition	Servicing
Pump, Vacuum, Direct Drive	Edwards	E2M2		VOAs - Room 201	1996	Used	Service Contract
Refractometer, Differential	Waters	M410	410 - 004776	HPLC - Room 142	1996	Used	Service Contract
Refrigerator	GE	TAX4DNCAWH	LA312372	HPLC - Room 135	2004	Used	Outside Vendor
Refrigerator	GE			VOAs - Room 201	2004	New	Outside Vendor
Refrigerator	TRUE	GDM41	359861	EXT - Room 134	2004	Used	Outside Vendor
Refrigerator	GE	TAX4DNYAKH	GS 139521	Wet Chem	2004	Used	Outside Vendor
Refrigerator (walk-in)				Room	1996	Used	Outside Vendor
Refrigerator (walk-in)				EXT	1996	Used	Outside Vendor
Refrigerator (walk-in)				Sample Control	1996	Used	Outside Vendor
Refrigerator (walk-in)				Metals	1996	Used	Outside Vendor
Refrigerator/Freezer	Estate	TT18CKXWN00	EA1228020	HPLC - Room 135	2004	Used	Outside Vendor
Refrigerator/Freezer	Estate	TT18CKXWN00	EA1228011	HPLC - Room 135	2004	Used	Outside Vendor
Refrigerator/Freezer	Sanyo	SR1290W	901101794	EXT	2004	Used	Outside Vendor
Refrigerator/Freezer	Maytag	PTB1953GRW	12038349ZQ	SVOCs - Room 144	2001	New	Outside Vendor
Refrigerator/Freezer				HPLC - Room 135	1996	Used	Outside Vendor
Riffle Splitter	Gibson	SP - 3		RAD - Room 164	1996	Used	In House
Sample Heater (Gas Chromatograph), Purge & Trap	OI Corporation	MHC	D424464032	Fuels - Room 131	1996	Reconditioned	Service Contract
Sample Heater (Gas Chromatograph), Purge & Trap	Tekmar	14 - 3310 - 000	90288001	Fuels - Room 131	1996	New	Service Contract
Sample Heater (Gas Chromatograph), Purge & Trap	OI Corporation	4430 R - C	90 - 632	Fuels - Room 131	1996	Used	Service Contract
Sample Heater (Gas Chromatograph), Purge & Trap	OI Corporation	4430	3525 - 8 - 104	Fuels - Room 131	1996	Used	Service Contract
Sample Heater (Gas Chromatograph), Purge & Trap	Tekmar	14 - 3310 - 000	88180007	Fuels - Room 131	1996	Used	Service Contract
Sampler, Air Quality	GAST Mfg. Corp.	1023 - V303Q - G	0792	RAD - Room 173	1996	Used	Outside Vendor
Scaler w/ Lucas Cell Counter	Ludlum	1000	128303	RAD - Room 158	1996	Reconditioned	In House
Scaler w/ Lucas Cell Counter	Ludlum	1000	95539	RAD - Room 158	1996	Reconditioned	In House
Scaler w/ Lucas Cell Counter	Ludlum	2000	10082	RAD - Room 158	1996	Reconditioned	In House
Scaler w/ Lucas Cell Counter	Ludlum	1000	148035	RAD - Room 158	1996	Reconditioned	In House
Shaker	Red Devil Equip.	5400		RAD - Room 164	1996	Used	In House
Sonic Bath	Branson	8210R - MT	97075070	EXT	1996	Used	In House
Sonicator	Branson	450	B180341	EXT	1996	Used	In House
Sonicator	Branson	450	B100255	EXT	1996	Used	In House
Sonicator, Double	Ultrasonics	VC600-2	15282E	EXT	1996	Used	In House
Sonicator, Ultrasonic Cleaner	Branson	3210		Metals	1996	Used	In House
Steam Generator	Chromalox	CMB-9. 0A0031 -	22241-13893	EXT	1996	Used	Outside Vendor
Tumbler, Rotary (12 position)	Assoc. Design & M	3740 - 12 - BRE	1900	EXT	1996	Used	In House
Tumbler, Rotary (12 position)	Assoc. Design & M	3740 - 12 - BRE	1878	EXT	1996	Used	In House
Tumbler, Rotary (6 position)	Assoc. Design & M		1637	EXT	1996	Used	In House
Tumbler, Rotary (6 position)	Assoc. Design & M		1379	EXT	1996	Used	In House
Tumbler, Rotary (6 position)	Assoc. Design & M			EXT	1996	Used	In House
Tumbler, Rotary (6 position)	Assoc. Design & M			EXT	1996	Used	In House
UV Spectrophotometer	Sequoia - Turner	Model 340	905970923742	Wet Chem	1997	Reconditioned	Outside Vendor

Appendix I

LIST OF STANDARD OPERATING PROCEDURES

Paragon Analytics
SOP Table of Contents

001-049 SAFETY/WASTE

SOP	Scheduled Date for Review	Title	Notes	Author
001 R6	9/15/2007	Treatment of Quarantined Soils, Aqueous Extracts, and Solid Residues and Cleaning Containers Used To Store Quarantined Sample Materials	re-released w/o revision 11/11/05	DCB
002 R6	7/26/2008	Laboratory Fume Hood Velocity Monitoring	re-released w/o revision	DCB
003 R4	2/15/2007	Management of Nonradioactive Hazardous Waste	re-released without revision 7/20/05	CRO
007 R5	6/15/2007	Initial Check of Portable Health Physics Survey Instrumentation	re-released w/o revision 11/11/05 (next rev., combine with 013?)	DCB
008 R7	7/15/2007	Initial Receipt of Radioactive Samples and External Radiation Exposure Rate and Removeable Radioactive Material Contamination Survey of Incoming Radioactive Material Packages	re-released w/o revision 11/11/05	DCB
009 R6	7/15/2007	Incoming Radioactive Material Packages That Exceed Removable Radioactive Material Contamination Limits	re-released w/o revision (upon next rev., combine with 008?)	DCB
010 R3	10/15/2007	Survey of Laboratory Areas for Radioactive Contamination	re-released w/o revision 11/11/05	DCB
011 R5	11/15/2006	Purchase of Radioactive Materials	re-released without revision 3/10/05	DCB
013 R5	6/15/2007	Calibration of Portable Health Physics Survey Instrumentation	re-released w/o revision (next iteration, combine with SOP 31?)	DCB
015 R5	2/15/2007	Disposal of Radioactive Waste	re-released without revision 7/18/05	CRO
016 R5	6/15/2007	Electron Capture Detector Leak Tests	re-released w/o revision 11/11/05	DCB
017 R4	6/15/2007	Effluent Monitoring and Release	re-released w/o revision 4/1/05	CRO
023 R4	7/26/2008	Secondary Containment of Sample Containers	re-released w/o revision 4/1/05 and 7/26/06	DAS
024 R3	10/15/2006	Disposal of Short Lived Radionuclides by Decay in Storage	re-released without revision 3/10/05	DCB
026 R1	3/15/2007	Radioactive Materials Inventory Control Using LIMS		DCB
027 R0	5/15/2007	Packaging Samples for Return to Client	re-released w/o revision 4/1/05	CRO
028 R0	8/15/2006	DRAFT: Handling of Bio-Hazardous Materials	(not published; indivdual assignments not yet made)	DCB

SOP	Scheduled Date for Review	Title	Notes	Author
029 R1	10/15/2006	Calibration and Use of the Berthold LB 1043 AS Hand and Foot Monitor	replaces SOP 012, re-released without revision 6/23/05	DCB
030 R1	1/15/2007	Operation of the Rampactor Compactor	re-released w/o revision 11/11/05	CRO
031 R0	10/15/2006	Use of Hand-held Survey Equipment	(this SOP and Section 5.4 of SOP 029 replaces SOP 012; next iteration, fold-in SOP 013?)	DCB
050-099		**DATA REPORTING**		
052 R7	3/9/2008	Data Package Review Procedures for Stable Chemistry Methods		DAP
069 R7	1/15/2007	Managing and Archiving Client Workorders and Records, and Retrieving Archived Information		DAS
100-199		**ADMINISTRATION**		
103 R6	7/26/2008	Qualification and Use of Subcontract Laboratories		DAS
127 R7	8/15/2006	Procurement of Supplies and Materials and Evaluation of Purchased Items Received	Combined with SOP 128, re-released w/o revision 3/24/05	DAS
132 R5	4/15/2007	Building Security		CRO
143 R4	9/15/2007	New Employee Quality Assurance Orientation and Training		DAS
200-299		**SAMPLE CONTROL**		
201 R6	12/15/2006	Laboratory Information Management System (LIMS) Entry of Sample Receipt Information and Distribution of Work Orders	re-released without revision 7/19/05	CRO
202 R9	12/15/2006	Login and Distribution of Samples	re-released without revision 7/19/05	CRO
205 R7	11/15/2006	Preparation of Bottle Orders, Shipping Sample Kits, and Maintaining Inventory of Bottles, Preservatives, and Labels	NOTE-SOP CONTAINS OPERATOR AID (REPLACE!)	CRO
210 R5	11/15/2006	Use and Calibration Verification of Infrared Temperature Guns	re-released w/o revision 3/24/05	CRO
300-399		**GENERAL CHEMISTRY**		
300 R12	7/8/2007	Preparation, Documentation and Expiration of Standards, Reagents and Solutions		PAG
303 R9	5/15/2006	Control, Format and Review of Laboratory Logbooks		DAS
305 R9	11/15/2006	Balance Calibration, Verification, and Utilization		DAS
306 R4	7/26/2008	The Use of Significant Figures and Rules For Rounding Numbers	re-released w/o revision 7/26/06	DAS
317 R8	2/15/2008	Removing and Returning Equipment From Service		DAS
318 R6	7/8/2007	Chain-of-Custody		DAS
319 R6	4/15/2005	Generation and Monitoring of Deionized (DI) Water		DAS

SOP	Scheduled Date for Review	Title	Notes	Author
320 R7	7/26/2008	Monitoring and Recording of Oven Temperatures		DAS
321 R3	3/15/2004	Pipette Calibration		DAS
326 R7	7/26/2008	Monitoring and Recording Refrigerator and Freezer Temperatures		DAS
329 R4	5/15/2006	Method Demonstration Procedures: Method Detection Limit (MDL) Studies, Initial Precision and Recovery (IPR) Studies, Instrument Detection Limit (IDL) Studies, and Control Limits		DAS
334 R5	11/15/2006	Glassware Cleaning Procedures and Maintenance of Glassware Used in The Organics and Inorganics Departments	re-released w/o revsion 3/10/05; NOTE-SOP CONTAINS OPERATOR AID (REPLACE!)	DAS

400-499 GC/HPLC and FUELS

SOP	Scheduled Date for Review	Title	Notes	Author
402 R12	7/8/2007	Determination of Organochlorine Pesticides by Gas Chromatography - Methods SW8081A and EPA 608		PAG
404 R13	7/26/2008	Analysis of Nitroaromatics and Nitroamines (Explosives Residues) by HPLC -- Method SW8330		PAG
406 R12	9/6/2008	Total Extractable Petroleum Hydrocarbons (TEPH), Diesel Range Organics (DRO), by Gas Chromatography -- Method SW8015B and California LUFT		PAG
407 R8	8/4/2008	Organophosphorus Compounds by Gas Chromatography - Methods SW8141A and EPA 614		PAG
408 R9	9/6/2008	Analysis of Nitroglycerin and/or PETN by HPLC -- Method SW8332		PAG
409 R5	7/8/2007	Analysis of Polychlorinated Biphenyls (PCBs) by Gas Chromatography -- Methods SW8082 and EPA 608		PAG
424 R12	8/11/2008	Determination of Aromatic Volatile Organics by Gas Chromatography - Method SW8021B		PAG
425 R12	9/6/2008	Analysis of Total Volatile Petroleum Hydrocarbon (TVPH) Gasoline Range Organics (GRO) by Gas Chromatography -- Methods SW8015B and CAL-LUFT		PAG
434 R8	7/26/2008	Analysis of Chlorinated Herbicides by Gas Chromatography - Methods SW 8151A, EPA 615 and EPA 515.1		PAG
438 R9	8/4/2008	Microextraction and Analysis of EDB and DBCP in Water by Gas Chromatography - Methods EPA 504.1 and SW8011		PAG
439 R4	9/6/2008	Analysis of Nitroguanidine by HPLC -- Methods CRREL 89-35 and SW8000B		PAG
443 R3	8/11/2008	Microextraction and Analysis of Organohalide Pesticides in Water by Gas Chromatography -- Method EPA 505		PAG
444 R1	1/15/2007	Extraction and Determination of Glycols by Gas Chromatography -- Method SW8015B	reactivated and re-released w/o revision	PAG
446 R1	7/26/2008	Analysis of Crystal Violet in Water by HPLC		PAG

500-599 GCMS

SOP	Scheduled Date for Review	Title	Notes	Author
506 R14	3/12/2008	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, Capillary Column Technique - Methods SW8270D and EPA 625		PAG
511 R7	7/26/2008	Volatiles Reagent Blank Water Preparation and Volatiles Blank Analysis		DAS
512 R9	7/26/2008	Refrigerator Blanks		DAS
525 R11	3/1/2008	Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry -- Methods SW8260B and EPA 624		PAG
526 R6	3/1/2007	Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) -- Method 524.2		PAG

SOP	Scheduled Date for Review	Title	Notes	Author
528 R0	9/15/2006	DRAFT: Microextraction and Analysis by GC/MS of Hydroquinone in Water	(not released; individual assignments not yet made)	PAG

600-699 EXTRACTIONS

SOP	Scheduled Date for Review	Title	Notes	Author
603 R9	3/1/2008	Extraction of Hydrocarbons From Soil and Water Samples For Analysis by Method SW8015		PAG
604 R7	3/1/2008	Silica Gel Cleanup -- Method SW3630C		PAG
607 R8	3/1/2008	Extract Concentration Using Kuderna-Danish Apparatus		PAG
608 R11	3/9/2008	Method for Toxicity Characteristic Leaching Procedure (TCLP) Extraction of Wastes for the Analysis of Volatile Organic Compounds by Zero Headspace Extraction (ZHE) - Method SW1311		PAG
609 R11	3/9/2008	Method for Toxicity Characteristic Leaching Procedure (TCLP) of Wastes and Soils For The Analysis of Metals and Semivolatile Organics - Method SW1311		PAG
617 R12	9/6/2008	Continuous Liquid/Liquid Extraction (CLE) -- Method SW3520C		PAG
622 R6	3/1/2008	Waste Dilution Extraction -- Method SW3580A		PAG
625 R10	7/8/2007	Soxhlet Extraction -- Method SW3540C		PAG
626 R9	9/6/2008	Separatory Funnel Liquid-Liquid Extraction -- Method SW3510C		PAG
629 R9	3/1/2008	Determination of Ignitability by The Pensky-Martens Closed-Cup Tester -- Method SW1010A		PAG
634 R5	9/15/2007	Sulfur Cleanup -- Method SW3660B		PAG
637 R8	9/6/2008	Concentration and Solvent Exchange by The Nitrogen Blowdown Technique		PAG
640 R6	3/1/2008	Extraction and Gravimetric Determination of Hexane Extractable Material in Solids -- Method SW9071B		PAG
641 R8	3/1/2008	Gel Permeation Chromatography (GPC) Cleanup -- Method SW3640A		PAG
642 R7	3/1/2008	Gravimetric Determination of Percent Moisture For Solid Matrices		PAG
648 R6	3/9/2008	Florisil Cleanup -- Method SW3620B		PAG
651 R8	3/1/2008	Sulfuric Acid Cleanup -- Method SW3665A		PAG
658 R7	3/1/2008	Paint Filter Liquids Test -- Method SW9095A		PAG
663 R6	3/1/2008	Monitoring TCLP Tumbler Revolutions and Room Temperature		DAS
664 R7	7/26/2008	Extraction and Derivatization of Samples For Herbicide Analysis by Gas Chromatography -- Methods SW8151A, EPA 615 and EPA 515.1		PAG
665 R6	3/1/2008	Extraction of Explosives from Water and Soil -- Methods SW8330 and SW8332		PAG
666 R5	3/1/2008	Waste Extraction Test (Cal-WET) For The Analysis of Metals and Semivolatile Organic Compounds		PAG
668 R3	3/9/2008	Synthetic Precipitation Leaching Procedure (SPLP) For The Analysis of Metals and Semivolatile Organics -- Method SW1312		PAG
669 R3	3/9/2008	Method for Synthetic Precipitation Leaching Procedure (SPLP) Extraction of Samples For The Analysis of Volatile Organic Compounds by Zero Headspace Extraction (ZHE) -- Method SW1312		PAG
670 R11	3/1/2008	Analysis of Total Organic Carbon By Methods EPA 415.1, SW9060, and SM5310 C	(add DOC upon next revision?)	PAG
671 R5	3/1/2008	Determination of n-Hexane Extractable Material (HEM) and Silica Gel Treated Hexane Extractable Material (SGT-HEM) by Extraction and Gravimetry For Aqueous Samples -- Methods EPA 1664 and SW9070A		PAG

SOP	Scheduled Date for Review	Title	Notes	Author
672 R2	3/1/2008	Extraction and Gravimetric Determination of Lipids in Tissues		PAG
673 R1	6/15/2007	Extraction of Polychlorinated Biphenyl Wipes Using Ultrasonic Bath Agitation		PAG
700-799		**RADIOCHEMISTRY (I=instrumentation; R=routine; A=actinides)**		
700 R9	2/15/2007	Preparation of Environmental And Drinking Water Samples For Tritium Analysis -- Method EPA 906.0	re-released w/o revision 2/9/05	RLS
702 R17	12/15/2006	Preparation of Gross Alpha and Gross Beta in Environmental Matrices -- EPA Method 900.0 and SW-846 Method 9310		RLS
703 R7	8/18/2008	Sample Prescreening		RLS
704 R8	9/6/2008	Analysis of Tritium and Other Beta-Emitting Nuclides by Liquid Scintillation Counting -- Method EPA 906.0		RXG
707 R8	9/15/2006	Radiostrontium in Water, Soil, Filters, Vegetation and Hazardous Waste Samples		RXG
708 R5	7/8/2007	Determination of Minimum Detectable Concentrations for Radioanalytical Methods		RXG
709 R5	8/15/2006	Verification and Validation of Radioanalytical Software	re-released w/o revision 2/13/05	RXG
711 R6	6/15/2006	Preparation of Water and Solid Samples for the Analysis of Polonium-210 -- EML Procedure Po-01		RLS
712 R13	3/1/2008	Determination of Total Alpha-Emitting Radium Isotopes in Drinking Water -- EPA Method 903.0 and SW9315		RXG
713 R9	4/15/2008	Analysis of Gamma Emitting Radionuclides by Gamma Spectrometry -- Method EPA 901.1	(next update, SEEKER software)	RXG
714 R9	7/15/2006	Analysis of Alpha Emitting Radionuclides by Alpha Spectrometry		RXG
715 R15	7/26/2008	Review of Radioanalytical Data		RXG
720 R6	9/15/2006	Glassware Cleaning Procedures for the Radiochemistry Department	re-released w/o revision 2/13/05; NOTE-SOP CONTAINS OPERATOR AID (REPLACE!)	RLS
721 R12	8/15/2006	Soil and Water Pretreatment for Radiochemistry Analyses		RLS
724 R9	9/6/2008	Analysis of Alpha and Beta Emitting Radionuclides by Gas Flow Proportional Counter -- EPA Method 900.0		RXG
726 R4	12/15/2006	Determination of Lead -210 in Soils, Sediments, and Waters		RXG
733 R6	3/1/2008	Checking the pH of Aqueous Samples in the Radiochemistry Department		RLS
734 R11	6/15/2006	Standards and Reagent Preparation in the Radiochemistry Department		RXG
735 R1	6/15/2006	DRAFT: Total Suspended Particulates	was retired SOP 1114; activated for DRAFT use/development 12/22/03; SOP #735 had not been previously assigned	RXG
739 R8	10/15/2006	Preparation of Samples for Analysis by Gamma Spectroscopy	re-released w/o revision 1/31/05	RLS
743 R6	12/15/2006	Estimating Total Propagated Uncertainty for Radiometric Analyses	re-released w/o revision 2/13/05	RXG
746 R8	7/8/2007	Determination of Radium-228 According to EPA Method 904.0 or SW846 Method 9320, With Modifications		RXG

SOP	Scheduled Date for Review	Title	Notes	Author
748 R3	11/15/2006	Preparation of Water and Solid Samples For The Analysis of Fe-55 by Eichrom Method FEW01		RLS
751 R1	2/15/2007	Actinides -- Americium/Curium Separation -- Purification by TRU and TEVA Spec Column	re-released w/o revision 1/31/05	RLS
753 R3	7/8/2007	Determination of Radioactive Iodine in Environmental Samples -- EPA Method 902.0		RXG
754 R4	3/15/2007	Preparation of Soil Samples For Tritium Analysis by Microwave Oven		RLS
755 R8	5/15/2008	Determination of Technetium-99 in Solid and Water/Aqueous Samples		RXG
758 R2	7/26/2008	Determination of Promethium-147 in Water		RXG
760 R5	7/26/2008	Preparation of Solid Samples by Potassium Pyrosulfate Fusion		RLS
765 R4	9/6/2008	Separation and Analysis of Neptunium-237 in Environmental Matrices		RLS
766 R6	8/4/2008	Witnessing the Addition of Carriers, Tracers and Standards in Radiochemistry Samples		RLS
767 R6	12/15/2006	Sample Preparation: Filter Leaching		RLS
772 R3	10/15/2006	Preparation of Water and Soil Samples for the Analysis of Carbon-14 Using Potassium Permanganate -- EPA EERF Method C-01	re-released w/o revision 3/15/05	RLS
773 R9	10/15/2006	Total Dissolution of Solids for the Radiochemical Determination of Actinides and Other Non-Volatile Radionuclides		RLS
774 R0	2/26/2008	Nickel 59, 63 in Water and Soil Samples Using Eichrom Nickel Resin		RLS
776 R9	9/15/2006	Preparation of Water Samples for Actinides		RLS
777 R8	10/15/2006	Actinides - Thorium and Plutonium Sequential Separation by Anion Exchange		RLS
778 R10	10/15/2006	Actinides - Uranium, Plutonium, and Americium/Curium (Partial) Sequential Separation by Ion Exchange		RLS
780 R7	7/17/2008	Actinides - Americium/Curium Separation -- Purification by Methanolic Anion Exchange and TEVA Spec Column		RLS
783 R6	4/15/2008	Radium-226 in Aqueous and Soil Matrices -- Radon Emanation Technique--Method EPA 903.1		RLS
784 R0	9/15/2006	DRAFT: Radium-228 Determination for SDWA Compliance Analysis -- Method 904.0	(not published, no individual assignments made)	DCB
785 R3	8/14/2008	Total Activity in Environmental Matrices		RXG
786 R3	1/15/2005	Gross Alpha in Water by Coprecipitation Method -- SM 7110C		RLS
791 R2	11/15/2006	Preparation of Silica Gel Samples For Tritium Analysis	re-released w/o revision 11/30/04 and again 3/15/05	RLS
792 R0	10/15/2006	DRAFT: Preparation of Ra226 for Analysis by Alpha Spectrometry	(not published, no individual assignments made)	RLS
794 R0	7/6/2007	DRAFT: Counting Tritium and Other Beta Emitters on the Quantulus	(not published, no individual assignments made)	RXG
798 R4	5/15/2006	Preparation and Verification of Standards in The Actinides Laboratory		RXG
799 R3	9/6/2008	Determination of Radon-222 in Water Samples by Liquid Scintillation Counting - SM 7500-Rn B and ASTM D5072-92		RXG
800-899 METALS				
806 R12	3/12/2008	Digestion of Waters, Soils and Wastes for Metals Analysis -- Methods SW3005A, SW3010A, SW3050B, EPA 200.2 and CLP SOW ILMO3.0 and ILMO4.0		SMW

SOP	Scheduled Date for Review	Title	Notes	Author
807 R10	3/13/2007	Determination of Metals by Inductively Coupled Plasma Emission Spectroscopy - Method EPA 200.7 (Trace ICP)		SMW
812 R13	4/18/2008	Preparation and Determination of Mercury by Cold Vapor Atomic Absorption Spectroscopy -- Methods SW7470A, SW7471A, EPA 245.1, ILMO3.0, ILMO4.0		SMW
827 R5	4/18/2008	Determination of Elements by Inductively Coupled Plasma Mass Spectrometry -- Methods EPA 200.8 AND SW6020A		REM
834 R5	3/15/2007	Determination of Metals by Inductively Coupled Plasma Emission Spectroscopy -- Method SW6010B (Trace ICP)		SMW
900-999 QUALITY ASSURANCE				
901 R6	2/15/2007	Verifying Weights		DAS
923 R6	3/15/2007	Verification of Thermometers		DAS
926 R8	5/15/2008	Review, Revision, Distribution and Archiving of Controlled Documents		DAS
928 R7	5/15/2008	Issuing and Tracking Non-Conformance Reports; QA Corrective Action Issuance and Tracking		DAS
937 R7	5/15/2008	Internal Audits		DAS
939 R2	3/12/2008	Manual Re-Integration Policy and Procedures		PAG
1100-1199 WET CHEMISTRY				
1100 R9	4/15/2008	Determination of Total Suspended Solids (TSS or Total Non-Filterable Residue) -- Methods EPA 160.2 and SM2540D		EAL
1101 R9	4/15/2008	Total Solids, Total Dissolved Solids (TDS or Total Filterable Residue), and Total Fixed and Volatile Solids -- Methods EPA 160.3, EPA 160.1, and EPA 160.4 and Methods SM2540B, SM2540C and SM2540E		EAL
1104 R5	4/15/2008	Potentiometric Determnation of (Simple) Fluoride in Water and Soil Using an Ion Selective Electrode -- Methods EPA 340.2, SW9214 and SM4500-F~C		EAL
1106 R6	4/15/2008	Bicarbonate, Carbonate, Hydroxide, and Total Alkalinity by Titration -- Methods EPA 310.1 and SM2320B		EAL
1107 R6	7/15/2007	Chloride by Titration with Mercuric Nitrate -- Methods EPA 325.3 and SM4500-Cl- C		EAL
1110 R11	7/8/2007	Determination of Total and Amenable Cyanide (Distillation) - - Methods SW9010B, SW9013, SW9014, EPA 335.1, EPA 335.2 and CLP Inorganic SOW (ILMO4.0); Determination of Weak and Dissociable Cyanide -- Method SM4500-CN I		EAL
1112 R5	4/15/2008	Determination of Reactive Cyanide and Sulfide -- EPA Method SW-846, Chapter 7		EAL
1113 R9	4/15/2008	Determination of Inorganic Anions by Ion Chromatography -- Methods EPA 300.0 and SW9056		EAL
1117 R3	4/15/2007	Total Organic Carbon in Soil by Rapid Dicromate Oxidation -- MSA Walkley-Black Method		EAL
1119 R5	2/15/2007	Determination of Total Phosphorous and Ortho-Phosphate in Water -- Methods EPA 365.2 and SM4500-P B(5) and E		EAL
1120 R4	3/15/2007	Determination of Total Sulfides in Water -- Methods EPA 376.1 and SM4500-S2F		EAL
1121 R5	7/8/2007	Determination of Hexavalent Chromium in Solid Matrices Using Alkaline Digestion (Method SW3060A) and Analysis by Method SW7196A		EAL
1122 R5	7/8/2007	Determination of Hexavalent Chromium by Methods SW7196A and SM3500-Cr-B		EAL
1123 R3	6/15/2007	Determination of Nitrocellulose (As -N) in Waters and Soils		EAL
1125 R4	4/15/2008	Determination of Perchlorate in Water Using Ion Chromatography -- Methods EPA 314.0 and SW9058		EAL
1126 R15	9/15/2007	Determination of pH by Electrometric Meaurement -- Methods EPA 150.1, SW9040B, SW9045C and SM4500-H+ B		EAL

SOP	Scheduled Date for Review	Title	Notes	Author
1127 R6	4/15/2008	Determination of Nitrogen as Nitrate Plus Nitrite, Nitrite, and Nitrate in Environmental Water and Soil Samples Using a Colorimetric, Automated, Cadmium Reduction Procedure -- Methods EPA 353.2, SM4500-NO3-I, and Quikchem Method 10-107-04-1-C		EAL
1128 R8	8/15/2007	Determination of Specific Conductance -- EPA Methods 120.1, SW9050A, and SM2510B		EAL
1129 R5	2/15/2007	Determination of Ammonia Using An Automated Phenolate Procedure -- Methods EPA 350.1, SM4500 NH3-NH, and Quikchem Method 10-107-06-1-C		EAL
1130 R4	4/15/2008	Determination of Nitrogen, Nitrite (as NO2-N) in Water And Soil by Colorimetric Spectrophotometric Determination -- EPA Method 354.1 and SM4500-NO2 -B		EAL
1132 R2	10/15/2007	Sediment Load		EAL
1133 R2	5/15/2007	Acidity by Titration - Methods EPA 350.1 and SM2310B		EAL
1134 R1	4/15/2008	Determination of Total and Amenable Cuanide in Drinking Water Samples (Distillation) -- Methods SM4500CN C, E, G		EAL
1400-1499	**INFORMATIONS SYSTEMS MANAGEMENT**			
1400 R5	1/15/2007	Process Software Validation	re-released w/o revision 7/27/05	MSR
1401 R5	3/9/2008	Computer and LIMS Backup and Restoration Protocols		GRB
1402 R4	1/15/2007	Laboratory Information Management System (LIMS) Version Control	re-released w/o revision 7/27/05	MSR
MISC-	**ANNUAL DOCUMENTS/REFRESHERS**			
CHP R11	8/11/2007	Chemical Hygiene Plan (CHP)		DCB
ECP R5	8/14/2007	Emergency and Contingency Plan (ECP)		DCB
FORM159	1/27/2006	Annual IS and LIMS Policy Training	Year 2005 (see G45)	DAS
FORM162	1/27/2006	Annual Ethical Behavior Policy Training	Year 2005 (see G45)	DAS
FORM166	1/17/2006	Annual Waste, Abuse and Fraud Reporting Notification	Year 2005 (see G45)	DAS
LQAP R9	8/6/2006	Laboratory Quality Assurance Plan (LQAP)		DAS
RPP R4	8/12/2007	Radiation Protection Plan (RPP)	re-released w/o revision 6/20/05, and again 8/12/06	DCB
WMP R5	7/8/2007	Waste Management Plan (WMP)		CRO

Appendix J

CERTIFICATIONS AND LICENSES

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF REGULATORY SERVICES
DIVISION OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM

Ms. Debra Scheib
Paragon Analytics, Inc (PH-0232)
225 Commerce Drive
Fort Collins, CO 80524

September 1, 2004

Dear Ms. Scheib,

Enclosed are Paragon Analytics' Connecticut Certificate of Approval and Approved Analytes List. Please review the documents for any errors or omissions and contact the program office with any questions.

Sincerely yours,

Jeffrey C. Curran
Supervising Environmental Laboratory Consultant

Phone: (860) 509- 7389
Telephone Device for the Deaf: (860) 509-7191
410 Capitol Avenue - MS # 51LAB
P.O. Box 340308 Hartford, CT 06134
Affirmative Action / An Equal Opportunity Employer

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

DIVISION OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM

APPROVED ANALYTES REPORT
FOR ALL MATRICES

Paragon Analytics, Inc.

CT-APP-NUM PH-0232

LOCATION

(PH-0232)
225 Commerce Drive
Fort Collins CO 80524-

PHONE (970)-490-1511

REGISTERED OWNER/ AUTHORIZED AGENT	**Debra Scheib**
DIRECTOR	**Mr. Kenneth Campbell**
CO DIRECTOR(S)	

APPROVED BY JEFFREY C. CURRAN DATE 09/01/2004 11:45:47 AM

LABORATORY APPROVAL EXPIRATION DATE	06/30/2006
LABORATORY STATUS	**APPROVED**

ANY QUESTIONS CONCERNING THIS DOCUMENT SHOULD BE ADDRESSED TO THE ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM AT (860) 509-7389

DRINKING WATER (SDWA)

STATUS REPORTED ON 09/01/2004

SOC: REGULATED SYNTHETIC ORGANIC CHEMICAL WITH MINIMUM MDL REQUIREMENTS

ANALYTE NAME	DPH CODE
PHYSICALS	
PH	MJ130
MINERALS	
FLUORIDE	MM150
SULFATE	MM180
NUTRIENTS	
NITRATE	MP130
NITRITE	MP140
O-PHOSPHATE	MP150
METALS	
ALUMINUM	MS110
ARSENIC	MS130
BARIUM	MS140
BERYLLIUM	MS150
CADMIUM	MS170
CALCIUM	MS180
CHROMIUM	MS190
COPPER	MS210
MAGNESIUM	MS255
MANGANESE	MS260
MERCURY	MS270
MOLYBDENUM	MS280
NICKEL	MS290
SILVER	MS310
SODIUM	MS320
VANADIUM	MS370
ZINC	MS380
RESIDUE	
TOTAL DISSOLVED SOLIDS	MV130
MISCELLANEOUS	
CYANIDE (TOTAL)	ND110
THMs & VOCs	
VOLATILE ORGANICS - 524.2 (SOC)	NP106
1,2 - DIBROMO-3-CHLOROPROPANE (DBCP) (SOC)	NP120
TOTAL TRIHALOMETHANES 524.2 (SOC)	NP130
ETHYLENE DIBROMIDE (EDB) (SOC)	NP275
PESTICIDES	
LINDANE (BHC-GAMMA) (SOC)	NS110
HEPTACHLOR (SOC)	NS120
HEPTACHLOR EPOXIDE (SOC)	NS130
CHLORDANE (TECHNICAL) (SOC)	NS160
ENDRIN	NS171
METHOXYCHLOR (SOC)	NS180
ALDRIN	NS200
DIELDRIN	NS210
PCBs	
AROCLOR 1016/1242	NY110
AROCLOR 1221	NY120
AROCLOR 1232	NY130
AROCLOR 1248	NY140
AROCLOR 1254	NY150
AROCLOR 1260	NY160
HERBICIDES	
DALAPON (SOC)	PD110
DICAMBA	PD120
DINOSEB (SOC)	PD130
2,4 - D (SOC)	PD160
2,4,5 - TP (SILVEX) (SOC)	PD170
RADIOCHEMICALS	
CESIUM - 134	RD110
CESIUM - 137	RD112
GROSS ALPHA	RD120
GROSS BETA	RD130
IODINE - 131	RD140
PHOTON EMITTERS	RD150
RADIUM - 226	RD160
RADIUM - 228	RD170
STRONTIUM - 89	RD180
STRONTIUM - 90	RD190
TRITIUM	RD200
URANIUM	RD210

NON-POTABLE WATER/ WASTEWATER

STATUS REPORTED ON 09/01/2004

ANALYTE NAME	DPH CODE
PHYSICALS	
PH	MJ130
MINERALS	
CHLORIDE	MM120
FLUORIDE	MM150
HARDNESS, TOTAL	MM160
SULFATE	MM180
SULFIDE	MM190
NUTRIENTS	
AMMONIA	MP110
NITRATE	MP130
NITRITE	MP140
O-PHOSPHATE	MP150
TOTAL PHOSPHOROUS	MP170
METALS	
ALUMINUM	MS110
ANTIMONY	MS120
ARSENIC	MS130
BARIUM	MS140
BERYLLIUM	MS150
BORON	MS160
CADMIUM	MS170
CALCIUM	MS180
CHROMIUM	MS190
COBALT	MS205
COPPER	MS210
IRON	MS220
LEAD	MS230
MAGNESIUM	MS255
MANGANESE	MS260
MERCURY	MS270
MOLYBDENUM	MS280
NICKEL	MS290
POTASSIUM	MS295
SELENIUM	MS300
SILVER	MS310
SODIUM	MS320
STRONTIUM	MS330
THALLIUM	MS340
TIN	MS350
VANADIUM	MS370
ZINC	MS380
RESIDUE	
TOTAL RESIDUE (SOLIDS)	MV110
TOTAL VOLATILE RESIDUE	MV120
TOTAL DISSOLVED SOLIDS	MV130
DEMANDS	
TOTAL ORGANIC CARBON	MY140
INORGANIC DISINFECTION BY-PRODUCTS	
BROMIDE	NJ120
PCBs	
AROCLOR 1016/1242	NY110
AROCLOR 1221	NY120
AROCLOR 1232	NY130
AROCLOR 1248	NY140
AROCLOR 1254	NY150
AROCLOR 1260	NY160
HERBICIDES	
DALAPON	PD111
DICAMBA	PD120
DINOSEB	PD131
2,4-D	PD161
2,4-DB	PD164
2,4,5-T	PD165
2,4,5- TP (SILVEX)	PD171
MCPA	PD210
MCPP	PD220
WASTE WATER ORGANICS	
ACID EXTRACTABLES (PHENOLS)	PV140
BENZIDINES	PV150
PHTHALATE ESTERS	PV160
NITROSAMINES	PV170
ORGANOCHLORINE PESTICIDES	PV180
NITROAROMATIC & ISOPHORONE	PV190

POLYNUCLEAR AROMATIC HYDROCARBONS	PV200
HALOETHERS	PV210
CHLORINATED HYDROCARBONS	PV220
VOLATILE ORGANICS (ALL)	PV300

RADIOCHEMICALS

CESIUM - 134	RD110
CESIUM - 137	RD112
GROSS ALPHA	RD120
GROSS BETA	RD130
IODINE - 131	RD140
PHOTON EMITTERS	RD150
RADIUM - 226	RD160
RADIUM - 228	RD170
TRITIUM	RD200

SOLID WASTE/SOIL

STATUS REPORTED ON 09/01/2004

ANALYTE NAME	DPH CODE
PHYSICALS	
PH	MJ130
METALS	
ALUMINUM	MS110
ANTIMONY	MS120
ARSENIC	MS130
BARIUM	MS140
BERYLLIUM	MS150
BORON	MS160
CADMIUM	MS170
CALCIUM	MS180
CHROMIUM	MS190
CHROMIUM - Hexavalent	MS200
COBALT	MS205
COPPER	MS210
IRON	MS220
LEAD	MS230
MAGNESIUM	MS255
MANGANESE	MS260
MERCURY	MS270
MOLYBDENUM	MS280
NICKEL	MS290
POTASSIUM	MS295
SELENIUM	MS300
SILVER	MS310
SODIUM	MS320
STRONTIUM	MS330
THALLIUM	MS340
TIN	MS350
TITANIUM	MS360
VANADIUM	MS370
ZINC	MS380
MISCELLANEOUS	
CYANIDE (TOTAL)	ND110
IGNITABILITY	ND130
CORROSIVITY	ND160
SOLVENTS	
OIL AND GREASE	NV130
PCBs	
AROCLOR 1016/1242	NY110
AROCLOR 1221	NY120
AROCLOR 1232	NY130
AROCLOR 1248	NY140
AROCLOR 1254	NY150
AROCLOR 1260	NY160
HERBICIDES	
DALAPON	PD111
DICAMBA	PD120
DINOSEB	PD131
2,4-D	PD161
2,4-DB	PD164
2,4,5-T	PD165
2,4,5- TP (SILVEX)	PD171
MCPA	PD210
MCPP	PD220
SOLID WASTE ORGANICS	
VOLATILE ORGANICS (SW)	PY109
ACID EXTRACTABLES (PHENOLS) (SW)	PY171
PHTHALATES (SW)	PY191
NITROSOAMINES (SW)	PY201
ORGANOCHLORINE PESTICIDES (SW)	PY211
NITROAROMATICS & CYCLIC KETONES (SW)	PY221
PAH's (SW)	PY231
HALOETHERS (SW)	PY241
CHLORINATED HYDROCARBONS (SW)	PY251
RADIOCHEMICALS	
GROSS ALPHA	RD120
GROSS BETA	RD130
RADIUM - 228	RD170

END OF SECTION FOR Paragon Analytics, Inc.

REPORT PROFILE

Report Printed on: 09/01/2004 11:45:48 AM
Report Name: APPROVED TESTS_ALT_NEW
Printed by: jeff
Report published from: CERTIFICATION REPORTS screen #3

lab code = ID1242P
test code = *
matrix code = *
matrix selection = ALL OR SOME MATRICES SELECTED
certifications approved or provisional on 09/01/2004

THIS IS THE LAST PAGE OF THE REPORT

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

PARAGON ANALYTICS, INC.

LOCATED AT 225 Commerce Drive IN Fort Collins, Colorado 80524

AND REGISTERED IN THE NAME OF Debra Scheib

THIS CERTIFICATE IS ISSUED IN THE NAME OF Kenneth Campbell WHO HAS BEEN DESIGNATED BY THE REGISTERED OWNER\AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

POTABLE WATER, WASTEWATER, SOLID WASTE/SOIL

Examination For:

INORGANIC CHEMICALS

ORGANIC CHEMICALS

RADIOCHEMICALS

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES June 30, 2006 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS 1st DAY OF September 2004

QUI TRANSTULIT SUSTINET

PH - 0232

Ellen J. Blaschinski

DIRECTOR, DIVISION OF ENVIRONMENTAL HEALTH

SANDRA SHEWRY
Director

State of California—Health and Human Services Agency

Department of Health Services

ARNOLD SCHWARZENEGGER
Governor

May 25, 2005

Certificate No.: 2623

KENNETH D. CAMPBELL
PARAGON ANALYTICS, INC.
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Dear KENNETH D. CAMPBELL:

This is to advise you that the laboratory named above has been certified as an environmental testing laboratory pursuant to the provisions of the California Environmental Laboratory Improvement Act (Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq.).

The Fields of Testing for which this laboratory has been certified under this Act are indicated on the enclosed "Accredited Fields of Testing." Certification shall remain in effect until **October 31, 2006** unless revoked. This certificate is subject to an annual fee as prescribed by Section 100860(a), HSC, due on October 31, 2005.

Your application for renewal must be received 90 days before the expiration of your certificate to remain in force according to the California Code of Regulations, Title 22, Division 4, Chapter 19, Section 64801 through 64827.

Any changes in laboratory location or structural alterations, which may affect adversely the quality of analysis in the fields of testing for which the laboratory has been granted certification, require prior notification. Notification is also required for changes in ownership or laboratory director within 30 days after the change (HSC, Section 100845(b) and (d)).

Your continued cooperation is essential to maintain high quality of the data produced by environmental laboratories certified by the State of California.

If you have any questions, please contact Jane Jensen at (510) 540-2800.

Sincerely,

George C. Kulasingam

George C. Kulasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program

Enclosure

CALIFORNIA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

PARAGON ANALYTICS, INC. **Lab Phone** (970) 490-1511
FORT COLLINS COLORADO, DIV OF DATACHEM LABORATORIES, INC.
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Certificate No: **2623** **Renew Date:** **10/31/2006**

Field of Testing: 106 - Radiochemistry of Drinking Water

106.010	001	Gross Alpha	EPA 900.0
106.010	002	Gross Beta	EPA 900.0
106.030	001	Radioactive Cesium	EPA 901.1
106.030	003	Gamma Emitters	EPA 901.1
106.050	001	Total Alpha Radium	EPA 903.0
106.050	002	Radium-226	EPA 903.0
106.051	001	Radium-226	EPA 903.1
106.060	001	Radium-228	EPA 904.0
106.080	001	Tritium	EPA 906.0
106.270	001	Gross Alpha	SM7110C
106.610	001	Radon-222	SM7500-Rn

Field of Testing: 108 - Inorganic Chemistry of Wastewater

108.020	001	Conductivity	EPA 120.1
108.050	001	pH	EPA 150.1
108.060	001	Residue, Filterable	EPA 160.1
108.070	001	Residue, Non-filterable	EPA 160.2
108.080	001	Residue, Total	EPA 160.3
108.090	001	Residue, Volatile	EPA 160.4
108.112	001	Boron	EPA 200.7
108.112	002	Calcium	EPA 200.7
108.112	003	Hardness (calc.)	EPA 200.7
108.112	004	Magnesium	EPA 200.7
108.112	005	Potassium	EPA 200.7
108.112	006	Silica	EPA 200.7
108.112	007	Sodium	EPA 200.7
108.120	001	Bromide	EPA 300.0
108.120	002	Chloride	EPA 300.0
108.120	003	Fluoride	EPA 300.0
108.120	004	Nitrate	EPA 300.0
108.120	005	Nitrite	EPA 300.0
108.120	006	Nitrate-nitrite, Total	EPA 300.0
108.120	007	Phosphate, Ortho	EPA 300.0
108.120	008	Sulfate	EPA 300.0
108.140	001	Alkalinity	EPA 310.1
108.162	001	Chloride	EPA 325.3
108.181	001	Cyanide, Total	EPA 335.2
108.191	001	Fluoride	EPA 340.2
108.200	001	Ammonia	EPA 350.1
108.231	001	Nitrate calc.	EPA 353.2
108.232	001	Nitrate-nitrite, Total	EPA 353.2
108.240	001	Nitrite	EPA 354.1
108.262	001	Phosphate, Ortho	EPA 365.2
108.263	001	Phosphorus, Total	EPA 365.2
108.290	001	Sulfide	EPA 376.1

As of 08/09/2005 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

108.340	001	Total Organic Carbon	EPA 415.1
108.380	001	Oil and Grease	EPA 1664
108.420	001	Hardness (calc.)	SM2340B
108.508	001	Ammonia	SM4500-NH3 H

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.190	001	Mercury	EPA 245.1
109.811	001	Chromium (VI)	SM3500-Cr D

Field of Testing: 110 - Volatile Organic Chemistry of Wastewater

110.020	000	Aromatic Volatiles	EPA 602
110.040	040	Halogenated Hydrocarbons	EPA 624
110.040	041	Aromatic Compounds	EPA 624

Field of Testing: 111 - Semi-volatile Organic Chemistry of Wastewater

111.101	032	Polynuclear Aromatic Hydrocarbons	EPA 625
111.101	034	Phthalates	EPA 625
111.101	036	Other Extractables	EPA 625
111.170	030	Organochlorine Pesticides	EPA 608
111.170	031	PCBs	EPA 608

Field of Testing: 112 - Radiochemistry of Wastewater

112.010	001	Gross Alpha	EPA 900.0
112.010	002	Gross Beta	EPA 900.0
112.020	001	Total Alpha Radium	EPA 903.0
112.021	001	Radium-226	EPA 903.1
112.140	002	Gamma	EPA 901.1

112.160	001	Radium-228	EPA 904.0
112.180	001	Tritium	EPA 906.0
Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste			
114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B
114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020		Aluminum	EPA 6020
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.103	001	Chromium (VI)	EPA 7196A
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
114.222	001	Cyanide	EPA 9014
114.240	001	pH	EPA 9040
114.241	001	pH	EPA 9045
114.250	001	Fluoride	EPA 9056
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312
Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste			
116.010	000	EDB and DBCP	EPA 8011
116.030	001	Gasoline-range Organics	EPA 8015B
116.040	041	Methyl tert-butyl Ether (MTBE)	EPA 8021B
116.040	061	Aromatic Volatiles	EPA 8021B
116.040	062	BTEX	EPA 8021B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.110	001	Total Petroleum Hydrocarbons - Gasoline	LUFT
Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
117.016	001	Diesel-range Total Petroleum Hydrocarbons	LUFT
117.110	000	Extractable Organics	EPA 8270C
117.170	000	Nitroaromatics and Nitramines	EPA 8330

117.210	000	Organochlorine Pesticides	EPA 8081A
117.220	000	PCBs	EPA 8082
117.240	000	Organophosphorus Pesticides	EPA 8141A
117.250	000	Chlorinated Herbicides	EPA 8151A

Field of Testing: 118 - Radiochemistry of Hazardous Waste

118.000		Uranium	ASTM D3972-90
118.010	001	Gross Alpha	EPA 9310
118.010	002	Gross Beta	EPA 9310
118.020	001	Radium, Total	EPA 9315
118.030	001	Radium-228	EPA 9320

Field of Testing: 120 - Physical Properties of Hazardous Waste

120.010	001	Ignitability	EPA 1010
120.040	001	Reactive Cyanide	Section 7.3 SW-846
120.050	001	Reactive Sulfide	Section 7.3 SW-846
120.070	001	Corrosivity - pH Determination	EPA 9040B
120.080	001	Corrosivity - pH Determination	EPA 9045C

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

ENVIRONMENTAL LABORATORY CERTIFICATION

Is hereby granted to

PARAGON ANALYTICS, INC.

FORT COLLINS COLORADO, DIV OF DATACHEM LABORATORIES, INC.

225 COMMERCE DRIVE

FORT COLLINS, CO 80524

Scope of certification is limited to the
"Accredited Fields of Testing"
which accompanies this Certificate.

Continued certification status depends on successful completion of site visit, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No:	**2623**
Expiration Date:	**10/31/2006**
Effective Date:	**10/31/2004**

Berkeley, California
subject to forfeiture or revocation.

George C. Kulasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program

STATE OF COLORADO

Bill Owens, Governor
Dennis E. Ellis, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

June 12, 2006

Ms. Debra Scheib
Paragon Analytics, Inc.
a division of Data-Chem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

RE: Renewal of Chemistry Certification

Dear Ms. Scheib:

Enclosed is your Colorado Department of Public Health and Environment Safe Drinking Water (SDW) Chemistry Certificate and status report, which is effective June 12, 2006 through June 30, 2007, unless modified prior to that date, and is based on your laboratory's successful participation in Water Supply Proficiency Testing (PT) studies for your requested parameters.

This certification must be renewed by June 2007. Routine on-site audits are now performed every two years (biennial). According to our records, your most recent comprehensive Chemistry audit was June 16-17, 2005.

If you have any questions, or if there are changes that may affect your certification status, please contact me at (303) 692-3045.

Sincerely,

Ken Johnson, Certification Officer
Laboratory Services Division

Enclosure: As Stated

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STATE OF COLORADO
CHEMISTRY CERTIFICATION STATUS
SAFE DRINKING WATER ACT

Name: Paragon Analytics
A Division of Datachem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Date: June 12, 2006

STATUS	TRACE METALS	METHODS
(A)	Antimony	EPA-200.8
(A)	Arsenic	EPA-200.8
(A)	Barium	EPA-200.7
(A)	Beryllium	EPA-200.7
(A) (A)	Cadmium	EPA-200.7 / 200.8
(A)	Chromium	EPA-200.7
(A) (A)	Copper	EPA-200.7 / 200.8
(A)	Lead	EPA-200.8
(A)	Mercury	EPA-245.1
(A)	Nickel	EPA-200.7
(A)	Selenium	EPA-200.8
(A)	Thallium	EPA-200.8
(A)	Uranium	EPA-200.8

NITRATE / NITRITE / FLUORIDE

(A) (A)	Nitrate-N	EPA-300.0 / 353.2
(A) (A)	Nitrite-N	EPA-300.0 / 353.2
(A)	Fluoride	EPA-300.0

PESTICIDES (limited)

(N)	Alachlor	----------
(N)	Atrazine	----------
(A)	Chlordane	EPA-505
(A)	Endrin	EPA-505
(A)	Heptachlor	EPA-505
(A)	Heptachlor epoxide	EPA-505
(N)	Hexachlorobenzene	----------
(N)	Hexachlorocyclopentadiene	----------
(A)	Lindane (gamma-BHC)	EPA-505
(A)	Methoxychlor	EPA-505
(N)	Simazine	----------
(A)	Toxaphene	EPA-505

STATUS	CARBAMATES	METHODS
(N)	Carbofuran	----------
(N)	Oxamyl (Vydate)	----------

HERBICIDES (limited)

(A)	2,4-D	EPA-515.1
(A)	2,4,5-TP (Silvex)	EPA-515.1
(A)	Dalapon	EPA-515.1
(A)	Dinoseb	EPA-515.1
(N)	Pentachlorophenol	----------
(N)	Picloram	----------

PCBs

(N)	as, Decachlorobiphenyl	----------

PAH

(N)	Benzo(a)pyrene	----------

ADIPATES / PHTHALATES

(N)	Di (2-ethylhexyl) Adipate	----------
(N)	Bis (2-ethylhexyl) Phthalate	----------

(A) = Approved / Certified
(N) = Not Certified
(P) = Provisionally Certified
(I) = Interim

STATE OF COLORADO
CHEMISTRY CERTIFICATION STATUS
SAFE DRINKING WATER ACT

Name: **Paragon Analytics**
A Division of Datachem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Date: **June 12, 2006**

STATUS	TRIHALOMETHANES	METHODS
(A)	**Total THMs**	**EPA-524.2**
(A)	Bromodichloromethane	EPA-524.2
(A)	Bromoform	EPA-524.2
(A)	Chlorodibromomethane	EPA-524.2
(A)	Chloroform	EPA-524.2

REGULATED VOLATILE ORGANICS

STATUS	V1 - EDB/DBCP	METHODS
(A)	**1,2-Dibromochloropropane**	**EPA-504.1**
(A)	**1,2-Dibromoethane**	**EPA-504.1**
(A)	**V2 - Vinyl Chloride**	**EPA-524.2**
(A)	**V3 - Regulated VOCs**	**EPA-524.2**
(A)	Benzene	EPA-524.2
(A)	Carbon tetrachloride	EPA-524.2
(A)	1,2-Dichlorobenzene	EPA-524.2
(A)	1,2-Dichloroethane	EPA-524.2
(A)	1,1-Dichloroethylene	EPA-524.2
(A)	Trichloroethylene	EPA-524.2
(A)	Chlorobenzene	EPA-524.2
(A)	1,4-Dichlorobenzene	EPA-524.2
(A)	c-1,2-Dichloroethylene	EPA-524.2
(A)	t-1,2-Dichloroethylene	EPA-524.2
(A)	1,2-Dichloropropane	EPA-524.2
(A)	Ethylbenzene	EPA-524.2
(A)	Styrene	EPA-524.2
(A)	Tetrachloroethylene	EPA-524.2
(A)	Toluene	EPA-524.2
(A)	1,1,1-Trichloroethane	EPA-524.2
(A)	Total Xylenes	EPA-524.2
(A)	Dichloromethane	EPA-524.2
(A)	1,2,4-Trichlorobenzene	EPA-524.2
(A)	1,1,2-Trichloroethane	EPA-524.2

STATUS	MISCELLANEOUS	METHODS
(N)	Diquat	----------
(N)	Endothall	----------
(N)	Glyphosate	----------
(N)	Dioxin	----------
(A)	**TOC / DOC**	**SM-5310-C**
(N)	Asbestos	----------
(A)	**Cyanide**	**SM-4500-CN-E**
(A)	**Bromide**	**EPA-300.0**
(N)	Bromate	----------
(N)	Chlorite	----------

STATUS	HALOACETIC ACIDS	METHODS
(N)	HAA-5	----------
(N)	Chloroacetic Acid	---------
(N)	Dichloroacetic Acid	---------
(N)	Trichloroacetic Acid	---------
(N)	Bromoacetic Acid	---------
(N)	Dibromoacetic Acid	--------

(A) = Approved / Certified
(N) = Not Certified
(P) = Provisionally Certified
(I) = Interim

STATE OF COLORADO

Department of Public Health and Environment

under Primacy Agreement with the
United States Environmental Protection Agency
Pursuant to the Safe Drinking Water Regulations, 40CFR, Part 141

Certifies

PARAGON ANALYTICS

A DIVISION OF DATACHEM LABORATORIES, INC.
225 Commerce Drive
Fort Collins, CO 80524

is in compliance with the criteria and procedures of the EPA Manual for the Certification of Laboratories Analyzing Drinking Water.
The laboratory may perform **Chemical Analysis** on public drinking water for the following analyte groups:

Trace Metals, Nitrate, Nitrite, Fluoride, Bromide, Cyanide, TOC/DOC, Regulated VOCs, Total THMs, Pesticides (limited), Herbicides (limited).

Approved analytes and methods are delineated on certification list of June 12, 2006.

EFFECTIVE: June 12, 2006 through June 30, 2007.

David A. Butcher, Director
Laboratory Services Division

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
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Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department of Public Health and Environment

October 3, 2005

Ms. Debra Scheib
Paragon Analytics, Inc.
225 Commerce Drive
Fort Collins, CO 80524

RE: Renewal of Radiochemistry Certification

Dear Ms. Scheib:

Enclosed is your Colorado Department of Public Health and Environment Safe Drinking Water (SDW) Chemistry Certificate and status report, which is effective through October 31, 2006, unless modified prior to that date, and is based on your laboratory's successful participation in Water Supply Proficiency Testing (PT) studies (RAD-58 / 60 / 751QR) for your requested parameters.

Please note, as reference in the EPA Manual for the Certification of Laboratories Analyzing Drinking Water (5th Edition, 2005), Chapter VI: Critical Elements for Radiochemistry (§ 7.4.3), and as required by the Colorado Drinking Water Laboratory Certification Program, radiochemistry laboratories must successfully participate in at least two RAD PT studies every 12 months to maintain certification.

This certification must be renewed by October 2006. Routine on-site audits are now performed every two years (biennial). According to our records, your most recent Radiochemistry audit was October 26-27, 2004.

If you have any questions, or if there are changes that may affect your certification status, please contact me at (303) 692-3045.

Sincerely,

Ken Johnson, Certification Officer
Laboratory Services Division

Enclosures: As Stated

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STATE OF COLORADO
SAFE DRINKING WATER ACT
RADIOCHEMISTRY CERTIFICATION

Name: **Paragon Analytics**
Division of Data-Chem Laboratories, Inc.
225 Commerce Drive
Fort Collins, Colorado 80524

Date: **October 3, 2005**

RADIONUCLIDES

STATUS	NATURALLY OCCURRING	METHOD	DESCRIPTION
(A)	Gross Alpha	EPA-900.0	Evaporation
(A)	Gross Beta	EPA-900.0	Evaporation
(A)	Radium-226	EPA-903.0	Radiochemical
(A)	Radium-226	EPA-903.1	Radon Emanation
(A)	Radium-228	EPA-904.0	Radiochemical
(A)	Uranium	DOE-U-02	Alpha Spectrometry
	MAN-MADE		
(N)	Iodine-131		
(N)	Strontium-89 / 90		
(A)	Tritium	EPA-906.0	Liquid Scintillation
(A)	Gamma Emitters:	EPA-901.1	Gamma-Ray Spectrometry
	Barium-133		
	Cesium-134		
	Cesium-137		
	Cobalt-60		
	Zinc-65		

(A) = Approved / Certified
(N) = Not Certified
(P) = Provisionally Certified
(I) = Interim

STATE OF COLORADO

Department of Public Health and Environment

under Primacy Agreement with the
United States Environmental Protection Agency
Pursuant to the Safe Drinking Water Regulations, 40CFR, Part 141

Certifies

PARAGON ANALYTICS

Division of Data-Chem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

is in compliance with the criteria and procedures of the EPA Manual for the Certification of Laboratories Analyzing Drinking Water. The laboratory may perform Radiochemistry Analysis on public drinking water for the following analytes:

Gross α/β, Radium 226/228, Uranium, Tritium, Gamma Emitters.

Approved for the methods on attached list dated October 3, 2005.

EFFECTIVE: October 3, 2005 through October 31, 2006.

STATE · OF · COLORADO
NIL SINE NUMINE
1876

David A. Butcher, Director
Laboratory Services Division

Laboratory Services Division
Colorado Department of Public Health and Environment

LITHO. IN U.S.A.

Jeb Bush
Governor

FLORIDA DEPARTMENT OF HEALTH

M. Rony François, M.D., M.S.P.H, Ph.D.
Secretary

Laboratory Scope of Accreditation

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,1,1-Trichloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,1,2,2-Tetrachloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,1,2-Trichloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,1-Dichloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,1-Dichloroethylene	EPA 624	Volatile Organics	NELAP	8/8/2005
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2,4-Trichlorobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	8/8/2005
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	8/8/2005
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/8/2005
1,2-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
1,2-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	8/8/2005
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
1,2-Dichloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,2-Dichloropropane	EPA 624	Volatile Organics	NELAP	8/8/2005
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8330	Extractable Organics	NELAP	8/8/2005
1,3-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/8/2005
1,3-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
1,3-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	8/8/2005
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005

Laboratory Scope of Accreditation

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,3-Dinitrobenzene (1,3-DNB)	EPA 8330	Extractable Organics	NELAP	8/8/2005
1,4-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/8/2005
1,4-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
1,4-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	8/8/2005
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	8/8/2005
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/8/2005
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4,5-T	EPA 615	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4,6-Trichlorophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8330	Extractable Organics	NELAP	8/8/2005
2,4-D	EPA 615	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
2,4-Dichlorophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4-Dimethylphenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4-Dinitrophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4-Dinitrotoluene (2,4-DNT)	EPA 625	Extractable Organics	NELAP	8/8/2005
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,4-Dinitrotoluene (2,4-DNT)	EPA 8330	Extractable Organics	NELAP	8/8/2005
2,6-Dinitrotoluene (2,6-DNT)	EPA 625	Extractable Organics	NELAP	8/8/2005
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	8/8/2005
2,6-Dinitrotoluene (2,6-DNT)	EPA 8330	Extractable Organics	NELAP	8/8/2005
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8330	Extractable Organics	NELAP	8/8/2005
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	8/8/2005
2-Chloroethyl vinyl ether	EPA 624	Volatile Organics	NELAP	8/8/2005
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	8/8/2005

Laboratory Scope of Accreditation

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Chloronaphthalene	EPA 625	Extractable Organics	NELAP	8/8/2005
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Chlorophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/8/2005
2-Hexanone	EPA 8260	Volatile Organics	NELAP	8/8/2005
2-Methyl-4,6-dinitrophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Methylphenol (o-Cresol)	EPA 625	Extractable Organics	NELAP	8/8/2005
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Nitrophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
2-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	8/8/2005
3,3'-Dichlorobenzidine	EPA 625	Extractable Organics	NELAP	8/8/2005
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	8/8/2005
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	8/8/2005
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/8/2005
3-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	8/8/2005
4,4'-DDD	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4,4'-DDE	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4,4'-DDT	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8330	Extractable Organics	NELAP	8/8/2005
4-Bromophenyl phenyl ether	EPA 625	Extractable Organics	NELAP	8/8/2005
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Chloro-3-methylphenol	EPA 625	Extractable Organics	NELAP	8/8/2005
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Chlorophenyl phenylether	EPA 625	Extractable Organics	NELAP	8/8/2005
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/8/2005
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	8/8/2005

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State Laboratory ID: E87914 EPA Lab Code: CO00078 (970) 490-1511

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Methylphenol (p-Cresol)	EPA 625	Extractable Organics	NELAP	8/8/2005
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Nitrophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
4-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	8/8/2005
Acenaphthene	EPA 625	Extractable Organics	NELAP	8/8/2005
Acenaphthene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Acenaphthylene	EPA 625	Extractable Organics	NELAP	8/8/2005
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Acetone	EPA 8260	Volatile Organics	NELAP	8/8/2005
Acrolein (Propenal)	EPA 624	Volatile Organics	NELAP	8/8/2005
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Acrylonitrile	EPA 624	Volatile Organics	NELAP	8/8/2005
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	8/8/2005
Aldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Alkalinity as CaCO3	EPA 310.1	General Chemistry	NELAP	8/8/2005
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aluminum	EPA 200.7	Metals	NELAP	8/8/2005
Aluminum	EPA 6010	Metals	NELAP	8/8/2005
Amenable cyanide	EPA 335.1	General Chemistry	NELAP	8/8/2005
Amenable cyanide	EPA 9010/9014	General Chemistry	NELAP	8/8/2005
Ammonia as N	EPA 350.1	General Chemistry	NELAP	8/8/2005
Aniline	EPA 625	Extractable Organics	NELAP	8/8/2005
Aniline	EPA 8270	Extractable Organics	NELAP	8/8/2005
Anthracene	EPA 625	Extractable Organics	NELAP	8/8/2005
Anthracene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Antimony	EPA 200.7	Metals	NELAP	8/8/2005
Antimony	EPA 6010	Metals	NELAP	8/8/2005
Aroclor-1016 (PCB-1016)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1221 (PCB-1221)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005

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Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1232 (PCB-1232)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1242 (PCB-1242)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1248 (PCB-1248)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1254 (PCB-1254)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1260 (PCB-1260)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Arsenic	EPA 200.7	Metals	NELAP	8/8/2005
Arsenic	EPA 6010	Metals	NELAP	8/8/2005
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Barium	EPA 200.7	Metals	NELAP	8/8/2005
Barium	EPA 6010	Metals	NELAP	8/8/2005
Benzene	EPA 624	Volatile Organics	NELAP	8/8/2005
Benzene	EPA 8021	Volatile Organics	NELAP	8/8/2005
Benzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Benzidine	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzidine	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzo(a)anthracene	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzo(a)pyrene	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzo(b)fluoranthene	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzo(g,h,i)perylene	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzo(k)fluoranthene	EPA 625	Extractable Organics	NELAP	8/8/2005
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzoic acid	EPA 8270	Extractable Organics	NELAP	8/8/2005
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	8/8/2005
Beryllium	EPA 200.7	Metals	NELAP	8/8/2005
Beryllium	EPA 6010	Metals	NELAP	8/8/2005
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005

Jeb Bush
Governor

FLORIDA DEPARTMENT OF HEALTH

M. Rony François, M.D., M.S.P.H, Ph.D.
Secretary

Laboratory Scope of Accreditation

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State Laboratory ID: E87914 | EPA Lab Code: CO00078 | (970) 490-1511

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
bis(2-Chloroethoxy)methane	EPA 625	Extractable Organics	NELAP	8/8/2005
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	8/8/2005
bis(2-Chloroethyl) ether	EPA 625	Extractable Organics	NELAP	8/8/2005
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	8/8/2005
bis(2-Chloroisopropyl) ether (2,2'-Oxybis(1-chloropropane))	EPA 625	Extractable Organics	NELAP	8/8/2005
bis(2-Chloroisopropyl) ether (2,2'-Oxybis(1-chloropropane))	EPA 8270	Extractable Organics	NELAP	8/8/2005
bis(2-Ethylhexyl) phthalate (DEHP)	EPA 625	Extractable Organics	NELAP	8/8/2005
bis(2-Ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	8/8/2005
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Boron	EPA 200.7	Metals	NELAP	8/8/2005
Boron	EPA 6010	Metals	NELAP	8/8/2005
Bromide	EPA 300.0	General Chemistry	NELAP	8/8/2005
Bromide	EPA 9056	General Chemistry	NELAP	8/8/2005
Bromobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Bromodichloromethane	EPA 624	Volatile Organics	NELAP	8/8/2005
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Bromoform	EPA 624	Volatile Organics	NELAP	8/8/2005
Bromoform	EPA 8260	Volatile Organics	NELAP	8/8/2005
Butyl benzyl phthalate	EPA 625	Extractable Organics	NELAP	8/8/2005
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	8/8/2005
Cadmium	EPA 200.7	Metals	NELAP	8/8/2005
Cadmium	EPA 6010	Metals	NELAP	8/8/2005
Calcium	EPA 200.7	Metals	NELAP	8/8/2005
Calcium	EPA 6010	Metals	NELAP	8/8/2005
Carbazole	EPA 8270	Extractable Organics	NELAP	8/8/2005
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	8/8/2005
Carbon tetrachloride	EPA 624	Volatile Organics	NELAP	8/8/2005
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	8/8/2005
Chlordane (tech.)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Chloride	EPA 300.0	General Chemistry	NELAP	8/8/2005
Chloride	EPA 325.3	General Chemistry	NELAP	8/8/2005
Chloride	EPA 9056	General Chemistry	NELAP	8/8/2005
Chlorobenzene	EPA 624	Volatile Organics	NELAP	8/8/2005
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005

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E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chloroethane	EPA 624	Volatile Organics	NELAP	8/8/2005
Chloroethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Chloroform	EPA 624	Volatile Organics	NELAP	8/8/2005
Chloroform	EPA 8260	Volatile Organics	NELAP	8/8/2005
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Chromium	EPA 200.7	Metals	NELAP	8/8/2005
Chromium	EPA 6010	Metals	NELAP	8/8/2005
Chromium VI	EPA 7196	Metals	NELAP	8/8/2005
Chrysene	EPA 625	Extractable Organics	NELAP	8/8/2005
Chrysene	EPA 8270	Extractable Organics	NELAP	8/8/2005
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
cis-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	8/8/2005
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Cobalt	EPA 200.7	Metals	NELAP	8/8/2005
Cobalt	EPA 6010	Metals	NELAP	8/8/2005
Conductivity	EPA 120.1	General Chemistry	NELAP	8/8/2005
Copper	EPA 200.7	Metals	NELAP	8/8/2005
Copper	EPA 6010	Metals	NELAP	8/8/2005
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
delta-BHC	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Dibenz(a,h) anthracene	EPA 625	Extractable Organics	NELAP	8/8/2005
Dibenz(a,h) anthracene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	8/8/2005
Dibromochloromethane	EPA 624	Volatile Organics	NELAP	8/8/2005
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Dibromomethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Dieldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	8/8/2005
Diethyl phthalate	EPA 625	Extractable Organics	NELAP	8/8/2005
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/8/2005
Dimethyl phthalate	EPA 625	Extractable Organics	NELAP	8/8/2005
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/8/2005
Di-n-butyl phthalate	EPA 625	Extractable Organics	NELAP	8/8/2005
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	8/8/2005
Di-n-octyl phthalate	EPA 625	Extractable Organics	NELAP	8/8/2005
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	8/8/2005
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan I	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan II	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan sulfate	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endrin aldehyde	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Ethylbenzene	EPA 624	Volatile Organics	NELAP	8/8/2005
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	8/8/2005
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Fluoranthene	EPA 625	Extractable Organics	NELAP	8/8/2005
Fluoranthene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Fluorene	EPA 625	Extractable Organics	NELAP	8/8/2005
Fluorene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Fluoride	EPA 300.0	General Chemistry	NELAP	8/8/2005
Fluoride	EPA 340.2	General Chemistry	NELAP	8/8/2005
Fluoride	EPA 9056	General Chemistry	NELAP	8/8/2005
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Gasoline range organics (GRO)	EPA 8015	Volatile Organics	NELAP	8/8/2005
Gross-alpha	EPA 900	Radiochemistry	NELAP	12/1/2005
Gross-alpha	EPA 9310	Radiochemistry	NELAP	12/1/2005
Gross-beta	EPA 900	Radiochemistry	NELAP	12/1/2005
Gross-beta	EPA 9310	Radiochemistry	NELAP	12/1/2005
Heptachlor	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Heptachlor epoxide	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Hexachlorobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Hexachlorobutadiene	EPA 625	Extractable Organics	NELAP	8/8/2005
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Hexachlorocyclopentadiene	EPA 625	Extractable Organics	NELAP	8/8/2005
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Hexachloroethane	EPA 625	Extractable Organics	NELAP	8/8/2005
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	8/8/2005
Ignitability	EPA 1010	General Chemistry	NELAP	8/8/2005
Indeno(1,2,3-cd)pyrene	EPA 625	Extractable Organics	NELAP	8/8/2005
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Iron	EPA 200.7	Metals	NELAP	8/8/2005
Iron	EPA 6010	Metals	NELAP	8/8/2005
Isophorone	EPA 625	Extractable Organics	NELAP	8/8/2005
Isophorone	EPA 8270	Extractable Organics	NELAP	8/8/2005
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Lead	EPA 200.7	Metals	NELAP	8/8/2005
Lead	EPA 6010	Metals	NELAP	8/8/2005
Lithium	EPA 200.7	Metals	NELAP	8/8/2005
Lithium	EPA 6010	Metals	NELAP	8/8/2005
Magnesium	EPA 200.7	Metals	NELAP	8/8/2005
Magnesium	EPA 6010	Metals	NELAP	8/8/2005
Manganese	EPA 200.7	Metals	NELAP	8/8/2005

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87914** EPA Lab Code: **CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Manganese	EPA 6010	Metals	NELAP	8/8/2005
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Mercury	EPA 245.1	Metals	NELAP	8/8/2005
Mercury	EPA 7470	Metals	NELAP	8/8/2005
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Methyl bromide (Bromomethane)	EPA 624	Volatile Organics	NELAP	8/8/2005
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Methyl chloride (Chloromethane)	EPA 624	Volatile Organics	NELAP	8/8/2005
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	8/8/2005
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Methylene chloride	EPA 624	Volatile Organics	NELAP	8/8/2005
Methylene chloride	EPA 8260	Volatile Organics	NELAP	8/8/2005
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Molybdenum	EPA 200.7	Metals	NELAP	8/8/2005
Molybdenum	EPA 6010	Metals	NELAP	8/8/2005
m-Xylene	EPA 8021	Volatile Organics	NELAP	8/8/2005
m-Xylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Naled	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Naphthalene	EPA 625	Extractable Organics	NELAP	8/8/2005
Naphthalene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Naphthalene	EPA 8270	Extractable Organics	NELAP	8/8/2005
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Nickel	EPA 200.7	Metals	NELAP	8/8/2005
Nickel	EPA 6010	Metals	NELAP	8/8/2005
Nitrate	EPA 9056	General Chemistry	NELAP	8/8/2005
Nitrate as N	EPA 300.0	General Chemistry	NELAP	8/8/2005
Nitrite	EPA 9056	General Chemistry	NELAP	8/8/2005
Nitrite as N	EPA 300.0	General Chemistry	NELAP	8/8/2005
Nitrite as N	EPA 354.1	General Chemistry	NELAP	8/8/2005
Nitrobenzene	EPA 625	Extractable Organics	NELAP	8/8/2005
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	8/8/2005
n-Nitrosodimethylamine	EPA 625	Extractable Organics	NELAP	8/8/2005

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	8/8/2005
n-Nitrosodi-n-propylamine	EPA 625	Extractable Organics	NELAP	8/8/2005
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	8/8/2005
n-Nitrosodiphenylamine	EPA 625	Extractable Organics	NELAP	8/8/2005
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	8/8/2005
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8330	Extractable Organics	NELAP	8/8/2005
Oil & Grease	EPA 1664	General Chemistry	NELAP	8/8/2005
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	8/8/2005
Orthophosphate as P	EPA 365.2	General Chemistry	NELAP	8/8/2005
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	8/8/2005
o-Xylene	EPA 8021	Volatile Organics	NELAP	8/8/2005
o-Xylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Pentachlorophenol	EPA 625	Extractable Organics	NELAP	8/8/2005
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
pH	EPA 150.1	General Chemistry	NELAP	8/8/2005
Phenanthrene	EPA 625	Extractable Organics	NELAP	8/8/2005
Phenanthrene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Phenol	EPA 625	Extractable Organics	NELAP	8/8/2005
Phenol	EPA 8270	Extractable Organics	NELAP	8/8/2005
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Phosphorus, total	EPA 365.2	General Chemistry	NELAP	8/8/2005
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Potassium	EPA 200.7	Metals	NELAP	8/8/2005
Potassium	EPA 6010	Metals	NELAP	8/8/2005
p-Xylene	EPA 8021	Volatile Organics	NELAP	8/8/2005
p-Xylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Pyrene	EPA 625	Extractable Organics	NELAP	8/8/2005
Pyrene	EPA 8270	Extractable Organics	NELAP	8/8/2005
Pyridine	EPA 8270	Extractable Organics	NELAP	8/8/2005
Radium-226	EPA 903.1	Radiochemistry	NELAP	12/1/2005
Radium-228	EPA 9320	Radiochemistry	NELAP	12/1/2005
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8330	Extractable Organics	NELAP	8/8/2005
Residue-filterable (TDS)	EPA 160.1	General Chemistry	NELAP	8/8/2005
Residue-nonfilterable (TSS)	EPA 160.2	General Chemistry	NELAP	8/8/2005
Residue-total	EPA 160.3	General Chemistry	NELAP	8/8/2005

Jeb Bush
Governor

FLORIDA DEPARTMENT OF HEALTH

M. Rony François, M.D., M.S.P.H, Ph.D.
Secretary

Laboratory Scope of Accreditation

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Selenium	EPA 200.7	Metals	NELAP	8/8/2005
Selenium	EPA 6010	Metals	NELAP	8/8/2005
Silica as SiO2	EPA 200.7	Metals	NELAP	8/8/2005
Silver	EPA 200.7	Metals	NELAP	8/8/2005
Silver	EPA 6010	Metals	NELAP	8/8/2005
Silvex (2,4,5-TP)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Sodium	EPA 200.7	Metals	NELAP	8/8/2005
Sodium	EPA 6010	Metals	NELAP	8/8/2005
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Strontium	EPA 200.7	Metals	NELAP	8/8/2005
Styrene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Sulfate	EPA 300.0	General Chemistry	NELAP	8/8/2005
Sulfide	EPA 376.1	General Chemistry	NELAP	8/8/2005
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Tetrachloroethylene (Perchloroethylene)	EPA 624	Volatile Organics	NELAP	8/8/2005
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8330	Extractable Organics	NELAP	8/8/2005
Thallium	EPA 200.7	Metals	NELAP	8/8/2005
Thallium	EPA 6010	Metals	NELAP	8/8/2005
Tin	EPA 200.7	Metals	NELAP	8/8/2005
Tin	EPA 6010	Metals	NELAP	8/8/2005
Titanium	EPA 200.7	Metals	NELAP	8/8/2005
Titanium	EPA 6010	Metals	NELAP	8/8/2005
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Toluene	EPA 624	Volatile Organics	NELAP	8/8/2005
Toluene	EPA 8021	Volatile Organics	NELAP	8/8/2005
Toluene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Total cyanide	EPA 335.2	General Chemistry	NELAP	8/8/2005
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	8/8/2005
Total organic carbon	EPA 415.1	General Chemistry	NELAP	8/8/2005
Total radium	EPA 903	Radiochemistry	NELAP	12/1/2005
Total radium	EPA 9315	Radiochemistry	NELAP	12/1/2005
Toxaphene (Chlorinated camphene)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	8/8/2005

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program. **Issue Date: 7/1/2006** **Expiration Date: 6/30/2007**

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State Laboratory ID: **E87914** EPA Lab Code: **CO00078** **(970) 490-1511**

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Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
trans-1,2-Dichloroethylene	EPA 624	Volatile Organics	NELAP	8/8/2005
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
trans-1,3-Dichloropropylene	EPA 624	Volatile Organics	NELAP	8/8/2005
trans-1,3-Dichloropropylene	EPA 8260	Volatile Organics	NELAP	8/8/2005
Trichloroethene (Trichloroethylene)	EPA 624	Volatile Organics	NELAP	8/8/2005
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Trichlorofluoromethane	EPA 624	Volatile Organics	NELAP	8/8/2005
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	8/8/2005
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	8/8/2005
Vanadium	EPA 200.7	Metals	NELAP	8/8/2005
Vanadium	EPA 6010	Metals	NELAP	8/8/2005
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	8/8/2005
Vinyl chloride	EPA 624	Volatile Organics	NELAP	8/8/2005
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	8/8/2005
Xylene (total)	EPA 624	Volatile Organics	NELAP	8/8/2005
Xylene (total)	EPA 8021	Volatile Organics	NELAP	8/8/2005
Xylene (total)	EPA 8260	Volatile Organics	NELAP	8/8/2005
Zinc	EPA 200.7	Metals	NELAP	8/8/2005
Zinc	EPA 6010	Metals	NELAP	8/8/2005

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State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

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225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	10/24/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	10/24/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8330	Extractable Organics	NELAP	10/24/2003
1,3-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,3-Dinitrobenzene (1,3-DNB)	EPA 8330	Extractable Organics	NELAP	10/24/2003
1,4-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	10/24/2003
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/24/2003
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003

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Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8330	Extractable Organics	NELAP	10/24/2003
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 8330	Extractable Organics	NELAP	10/24/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	10/24/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 8330	Extractable Organics	NELAP	10/24/2003
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8330	Extractable Organics	NELAP	10/24/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	10/24/2003
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	10/24/2003
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	10/24/2003
2-Hexanone	EPA 8260	Volatile Organics	NELAP	10/24/2003
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
2-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	10/24/2003
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	10/24/2003
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	10/24/2003
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/24/2003
3-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	10/24/2003
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8330	Extractable Organics	NELAP	10/24/2003
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	10/24/2003

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	10/24/2003
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	10/24/2003
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
4-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	10/24/2003
Acenaphthene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Acenaphthene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Acenaphthylene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Acetone	EPA 8260	Volatile Organics	NELAP	10/24/2003
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	10/24/2003
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aluminum	EPA 6010	Metals	NELAP	10/24/2003
Amenable cyanide	EPA 9014	General Chemistry	NELAP	10/24/2003
Aniline	EPA 8270	Extractable Organics	NELAP	10/24/2003
Anthracene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Anthracene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Antimony	EPA 6010	Metals	NELAP	10/24/2003
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Arsenic	EPA 6010	Metals	NELAP	10/24/2003
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Barium	EPA 6010	Metals	NELAP	10/24/2003
Benzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
Benzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Benzo(a)anthracene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	10/24/2003

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(a)pyrene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Benzo(b)fluoranthene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Benzo(g,h,i)perylene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Benzo(k)fluoranthene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Benzoic acid	EPA 8270	Extractable Organics	NELAP	10/24/2003
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	10/24/2003
Beryllium	EPA 6010	Metals	NELAP	10/24/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	10/24/2003
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	10/24/2003
bis(2-Chloroisopropyl) ether (2,2'-Oxybis(1-chloropropane))	EPA 8270	Extractable Organics	NELAP	10/24/2003
bis(2-Ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	10/24/2003
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Boron	EPA 6010	Metals	NELAP	10/24/2003
Bromide	EPA 9056	General Chemistry	NELAP	10/24/2003
Bromobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Bromoform	EPA 8260	Volatile Organics	NELAP	10/24/2003
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	10/24/2003
Cadmium	EPA 6010	Metals	NELAP	10/24/2003
Calcium	EPA 6010	Metals	NELAP	10/24/2003
Carbazole	EPA 8270	Extractable Organics	NELAP	10/24/2003
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	10/24/2003
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	10/24/2003
Chloride	EPA 9056	General Chemistry	NELAP	10/24/2003
Chlorobenzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Chloroethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Chloroform	EPA 8260	Volatile Organics	NELAP	10/24/2003
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Chromium	EPA 6010	Metals	NELAP	10/24/2003
Chromium VI	EPA 7196	General Chemistry	NELAP	10/24/2003

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State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chrysene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Chrysene	EPA 8310	Extractable Organics	NELAP	10/24/2003
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/24/2003
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Cobalt	EPA 6010	Metals	NELAP	10/24/2003
Conductivity	EPA 9050	General Chemistry	NELAP	10/24/2003
Copper	EPA 6010	Metals	NELAP	10/24/2003
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Dibenz(a,h) anthracene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Dibenz(a,h) anthracene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	10/24/2003
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	10/24/2003
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	10/24/2003
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	10/24/2003
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	10/24/2003
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	10/24/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003

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State Laboratory ID: E87914 **EPA Lab Code:** CO00078 (970) 490-1511

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	10/24/2003
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Extractable Cyanide	EPA 9010/9013	General Chemistry	NELAP	10/24/2003
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Fluoranthene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Fluoranthene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Fluorene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Fluorene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Fluoride	EPA 9056	General Chemistry	NELAP	10/24/2003
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Gasoline range organics (GRO)	EPA 8015	Extractable Organics	NELAP	10/24/2003
Gross-alpha	EPA 9310	Radiochemistry	NELAP	1/1/2004
Gross-beta	EPA 9310	Radiochemistry	NELAP	1/1/2004
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	10/24/2003
Ignitability	EPA 1010	General Chemistry	NELAP	10/24/2003
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Indeno(1,2,3-cd)pyrene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Iron	EPA 6010	Metals	NELAP	10/24/2003
Isophorone	EPA 8270	Extractable Organics	NELAP	10/24/2003
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Lead	EPA 6010	Metals	NELAP	10/24/2003
Lithium	EPA 6010	Metals	NELAP	10/24/2003
Magnesium	EPA 6010	Metals	NELAP	10/24/2003
Manganese	EPA 6010	Metals	NELAP	10/24/2003
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Mercury	EPA 7470	Metals	NELAP	10/24/2003
Mercury	EPA 7471	Metals	NELAP	10/24/2003

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87914** EPA Lab Code: **CO00078** **(970) 490-1511**

**E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524**

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	10/24/2003
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Methylene chloride	EPA 8260	Volatile Organics	NELAP	10/24/2003
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Molybdenum	EPA 6010	Metals	NELAP	10/24/2003
Naled	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Naphthalene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Naphthalene	EPA 8310	Extractable Organics	NELAP	10/24/2003
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Nickel	EPA 6010	Metals	NELAP	10/24/2003
Nitrate	EPA 9056	General Chemistry	NELAP	10/24/2003
Nitrite	EPA 9056	General Chemistry	NELAP	10/24/2003
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Nitrobenzene	EPA 8330	Extractable Organics	NELAP	10/24/2003
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	10/24/2003
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	10/24/2003
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	10/24/2003
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8330	Extractable Organics	NELAP	10/24/2003
Oil & Grease	EPA 9070	General Chemistry	NELAP	10/24/2003
Oil & Grease	EPA 9071	General Chemistry	NELAP	10/24/2003
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	10/24/2003
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	10/24/2003
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
pH	EPA 9040	General Chemistry	NELAP	10/24/2003
pH	EPA 9045	General Chemistry	NELAP	10/24/2003
Phenanthrene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Phenanthrene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Phenol	EPA 8270	Extractable Organics	NELAP	10/24/2003
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 **EPA Lab Code: CO00078** **(970) 490-1511**

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Potassium	EPA 6010	Metals	NELAP	10/24/2003
Pyrene	EPA 8270	Extractable Organics	NELAP	10/24/2003
Pyrene	EPA 8310	Extractable Organics	NELAP	10/24/2003
Pyridine	EPA 8270	Extractable Organics	NELAP	10/24/2003
Radium-228	EPA 9320	Radiochemistry	NELAP	1/1/2004
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8330	Extractable Organics	NELAP	10/24/2003
Reactive cyanide	EPA 7.3.3.2	General Chemistry	NELAP	10/24/2003
Reactive sulfide	EPA 7.3.4.2	General Chemistry	NELAP	10/24/2003
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Selenium	EPA 6010	Metals	NELAP	10/24/2003
Silica as SiO2	EPA 6010	Metals	NELAP	10/24/2003
Silver	EPA 6010	Metals	NELAP	10/24/2003
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Sodium	EPA 6010	Metals	NELAP	10/24/2003
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Strontium	EPA 6010	Metals	NELAP	10/24/2003
Styrene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Sulfate	EPA 9056	General Chemistry	NELAP	10/24/2003
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	10/24/2003
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8330	Extractable Organics	NELAP	10/24/2003
Thallium	EPA 6010	Metals	NELAP	10/24/2003
Tin	EPA 6010	Metals	NELAP	10/24/2003
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Toluene	EPA 8021	Volatile Organics	NELAP	10/24/2003
Toluene	EPA 8260	Volatile Organics	NELAP	10/24/2003
Total cyanide	EPA 9014	General Chemistry	NELAP	10/24/2003
Total organic carbon	EPA 9060	General Chemistry	NELAP	10/24/2003
Total radium	EPA 9315	Radiochemistry	NELAP	1/1/2004
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	10/24/2003
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/24/2003
trans-1,3-Dichloropropylene	EPA 8260	Volatile Organics	NELAP	10/24/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E87914-04, expiration date June 30, 2007. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87914 EPA Lab Code: CO00078 (970) 490-1511

E87914
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	10/24/2003
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	10/24/2003
Vanadium	EPA 6010	Metals	NELAP	10/24/2003
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	10/24/2003
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	10/24/2003
Xylene (total)	EPA 8021	Volatile Organics	NELAP	10/24/2003
Xylene (total)	EPA 8260	Volatile Organics	NELAP	10/24/2003
Zinc	EPA 6010	Metals	NELAP	10/24/2003

FLORIDA DEPARTMENT OF HEALTH

State of Florida
Department of Health, Bureau of Laboratories

This is to certify that

E87914
PARAGON ANALYTICS
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

has complied with Florida Administrative Code 64E-1,
for the examination of Environmental samples in the following categories

NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - RADIOCHEMISTRY, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - RADIOCHEMISTRY, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

EFFECTIVE July 01, 2006 THROUGH June 30, 2007

Dian Sharma, Ph.D.
Acting Chief, Bureau of Laboratories
Florida Department of Health
DH Form 1697, 7/04
NON-TRANSFERABLE E87914-04-7/1/2006

IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

RICHARD H. SCHULTZ - Administrator
DIVISION OF HEALTH
BUREAU OF LABORATORIES
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235

December 12, 2005

Paragon Analytics, Inc.
~~225 Commerce~~ Dr.
Fort Collins, CO 80524
EPA Lab ID: CO00078
Phone: (970) 490-1511
Attn: Deb Scheib

Re: Idaho Reciprocity

Ms. Scheib,

We have reviewed the information you submitted in support of renewing your chemistry certification for testing drinking water in the State of Idaho. The attached certificate itemizes the specific analytes and methods for which Paragon Analytics, Inc. has been approved which does not go beyond the certification from the Colorado Department of Public Health and Environment.

The updated chemistry certificate expires June 30, 2006. For continuation of future drinking water certification with the state of Idaho please request a renewal application.

If you have any questions, please feel free to contact me.

Sincerely,

Richard Hudson

Richard Hudson, PhD
Chief, Bureau of Laboratories
Drinking Water Laboratory Certification Authority

C: Jerri Henry, Drinking Water Regulatory Analyst, DEQ

IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
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RICHARD H. SCHULTZ - Administrator
DIVISION OF HEALTH
BUREAU OF LABORATORIES
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235

DRINKING WATER LABORATORY CERTIFICATION

Paragon Analytics, Inc.
225 Commerce Dr.
Fort Collins, CO 80524
EPA Lab ID: CO00078
Phone: (970) 490-1511

Issued: July 1, 2005
Expiration: June 30, 2006
(or until revised)

List of Analytes	Status [1]	Methods
Inorganic Chemicals		
Antimony	C	200.8
Arsenic	C	200.8
Barium	C	200.7
Beryllium	C	200.7
Cadmium	C	200.7, 200.8
Calcium	C	200.7
Chromium	C	200.7
Copper	C	200.7, 200.8
Lead	C	200.8
Mercury	C	245.1
Nickel	C	200.7
Selenium	C	200.8
Sodium	N	200.7
Thallium	C	200.8
Cyanide	C	4500-CN-E
Fluoride	C	300.0
Nitrate	C	300.0, 353.2
Nitrite	C	300.0, 353.2
Bromate	*	
Chlorite	*	
pH	C	150.1
Conductivity	C	2510B
Alkalinity	C	2320B
Ortho-Phosphate	C	4500-P-E
Silica	*	200.7
Turbidiity	*	180.1
Volatile Organic Chemicals		
Dibromochloropropane (DBCP)	C	504.1
Ethylene Dibromide (EDB)	C	504.1
Total Trihalomethanes (TTHM's)	C	524.2
VOC's (Except Vinyl Chloride)	C	524.2
Vinyl Chloride	C	524.2
Synthetic Organic Chemicals		
Pesticides		
Alachlor	*	
Atrazine	*	
Chlordane	C	505
Endrin	C	505
Lindane	C	505
Heptachlor	C	505
Heptachlor Epoxide	C	505
Hexachlorobenzene	*	
Hexachlorocyclopentadiene	*	
Methoxychlor	C	505
Simazine	*	
Toxaphene	C	505
Herbicides		
2,4-D	C	515.1
2,4,5-TP (Silvex)	C	515.1
Dalapon	C	515.1
Dinoseb	C	515.1
Pentachlorophenol	*	
Picloram	*	
Carbamates		
Carbofuran	*	
Oxamyl (Vydate)	*	

IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

RICHARD H. SCHULTZ - Administrator
DIVISION OF HEALTH
BUREAU OF LABORATORIES
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235

DRINKING WATER LABORATORY CERTIFICATION (CONTINUED)

Miscellaneous	
Adipates	*
Phthalates	*
Polynuclear Aromatic Hydrocarbons	*
Polychlorinated Biphenyl's (PCB's)	*
Diquat	*
Endothall	*
Glyphosate	*
Haloacetic Acids (HAA-5)	*

1) C = Certified, N = Not Certified, P = Provisionally Certified, * = Certification Not Requested

IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

RICHARD H. SCHULTZ - Administrator
DIVISION OF HEALTH
BUREAU OF LABORATORIES
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235

January 4, 2006

Paragon Analytics, Inc.
225 Commerce Dr.
Fort Collins, CO 80524
Attn: Deb Scheib

Re: Idaho Certification w/ corrected issue and expiration dates.

Ms. Scheib,

We have reviewed the information you submitted in support of renewing your radiology certification for testing drinking water in the State of Idaho. The attached certificate itemizes the specific analytes and methods for which Paragon Analytics, Inc. has been approved which does not go beyond the certification from the Colorado Department of Public Health and Environment.

The updated radiological certificate expires October 31, 2006. For continuation of future drinking water certification with the state of Idaho please request a renewal application.

If you have any questions, please feel free to contact me.

Sincerely,

Richard Hudson, PhD
Chief, Bureau of Laboratories
Drinking Water Laboratory Certification Authority

C: Jerri Henry, Drinking Water Regulatory Analyst, DEQ

IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

RICHARD H. SCHULTZ - Administrator
DIVISION OF HEALTH
BUREAU OF LABORATORIES
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235

DRINKING WATER LABORATORY CERTIFICATION

Paragon Analytics, Inc.
225 Commerce Dr.
Fort Collins, CO 80524

Issued: November 1, 2005
Expiration: October 31, 2006
(or until revised)

List of Analytes	Status [1]	Methods
Gross Alpha	C	900.0
Gross Beta	C	900.0
Radium-226	C	903.0, 903.1
Radium-228	C	904.0
Uranium	C	D-3972-90

1) C = Certified, N = Not Certified, P = Provisionally Certified, * = Certification Not Requested

FILE

Mitchell E. Daniels, Jr.
Governor

Judith A. Monroe, M.D.
State Health Commissioner

Indiana State Department of Health

An Equal Opportunity Employer

CERTIFIED MAIL NO. 7003 0500 0000 1424 4033
RETURN RECEIPT REQUESTED

July 6, 2006

Debra Scheib
Paragon Analytics
225 Commerce Drive
Ft. Collins, Colorado 80524

Dear Ms. Scheib:

The Chemistry Laboratory, ISDH Laboratories, Indiana State Department of Health, has reviewed your request to become a certified laboratory for chemical analyses of drinking water in the state of Indiana, pursuant to the requirements under the Safe Drinking Water Act (SDWA) 42 U.S.C. 300f et seq., the National Primary Drinking Water Regulations (NPDWR) 40 CFR 141 and 142, and the Indiana Primary Drinking Water Regulations (IPDWR) 327 IAC 8-2. Your submittal package contained certification information for the state of Colorado and copies of reports of the analysis of water supply (WS) performance evaluation (PE) samples from a Colorado approved proficiency testing program.

Based on Indiana's policy of approving laboratories that are certified for drinking water analyses by states whose programs are approved by USEPA, and based on the results of the WS studies provided, the ISDH issues the following determination, pursuant to IC 4-21.5-3-5:

- The laboratory is hereby granted full certification for: *antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, thallium, copper, lead, nitrate, nitrite, the regulated volatile organic compounds (VOC), vinyl chloride, trihalomethanes (THM), 2,4-D, 2,4,5-TP, chlordane, dalapon, 1,2-dibromo-3-chloropropane (DBCP), dinoseb, ethylene dibromide (EDB), endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor and toxaphene* (as indicated on the Colorado certification letter or certificate).

- The laboratory has been assigned laboratory number C-CO-01. This number is to be used on all reports used for compliance monitoring of public water supplies to the Indiana Department of Environmental Management.

The expiration of Indiana certification will be the date that the laboratory's Colorado certification expires (June 30, 2007). The status of Indiana certification will be reviewed, and if necessary, downgraded by Indiana, when: (1) an on-site evaluation by Colorado is completed and a report of unsatisfactory performance is submitted by Colorado to the Indiana certification officer, or (2) the laboratory does not successfully analyze one (1) WS PE sample annually.

In addition, the laboratory is required to provide the certification officer with the following documents, as they become available: (1) any change in certification status or expiration date of the Colorado certificate, and (2) reports of WS PE sample analysis.

If you wish to seek review or stay of the effectiveness of this determination, pursuant to IC 4-21.5-3-7, you are required to submit, in writing, a petition, on or before July 24, 2006, to:

Office of the Secretary
Indiana State Department of Health
2 North Meridian Street
Indianapolis, IN 46204

The petition for review or stay must include facts demonstrating that:

- The petitioner is a person to whom the determination is specifically directed;
- The petitioner is aggrieved or adversely affected by the agency determination; or,
- The petitioner is entitled to review under any law.

Questions concerning the certification status granted by this letter should be directed to Philip Zillinger, Chemistry Laboratory Certification Officer, 317/233-8071.

Dated at Indianapolis, Indiana, this 6th day of July, 2006.

Sincerely,

Robert Lindner

Robert Lindner, MD, PhD
Director, ISDH Laboratories
Indiana State Department of Health
Room MS2031B
635 N. Barnhill Drive
Indianapolis, IN 46202-5120
Tel: 317-233-8009
Fax: 317-233-8003
Email: RLindner@isdh.state.in.us

A copy of this letter was sent on the above date, postage prepaid first class mail, to:

Sandra DeCastro
Indiana Department of Environmental Management
Drinking Water Branch
2525 North Shadeland Avenue
Indianapolis, IN 46219

Indiana State Department of Health

SCOPE OF CERTIFICATION
PARAGON ANALYTICS
FT. COLLONS, COLORADO

ANALYTE	METHOD	ANALYTE	METHOD
METALS		PCB	
Antimony	EPA 200.8	as decachlorobiphenyl	Not certified
Arsenic	EPA 200.8		
Barium	EPA 200.7	VOC	
Beryllium	EPA 200.7	20 regulated VOC	EPA 524.2
Cadmium	EPA 200.7; EPA 200.8	Vinyl chloride	EPA 524.2
Chromium	EPA 200.7	DBCP	EPA 504.1
Copper	EPA 200.7; EPA 200.8	EDB	EPA 504.1
Lead	EPA 200.8		
Mercury	EPA 245.1	THM	
Nickel	EPA 200.7	4 THM	EPA 524.2
Selenium	EPA 200.8		
Thallium	EPA 200.8	PAH	
		Benzo(a)pyrene	Not certified
NONMETALS			
Nitrate	EPA 300.0; EPA 353.2	ADIPATE/PHTHALATE	
Nitrite	EPA 300.0; EPA 353.2	Di(2-ethylhexyl)adipate	Not certified
Fluoride	EPA 300.0	Di(2-ethylhexyl)phthalate	Not certified
Cyanide	SM 4500-CN E		
		CARBAMATES	
PESTICIDES		Carbofuran	Not certified
Alachlor	Not certified	Oxamyl	Not certified
Atrazine	Not certified		
Chlordane	EPA 505	HERBICIDES	
Endrin	EPA 505	2,4-D	EPA 515.1
Heptachlor	EPA 505	2,4,5-TP	EPA 515.1
Heptachlor epoxide	EPA 505	Dalapon	EPA 515.1
Hexachlorobenzene	Not certified	Dinoseb	EPA 515.1
Hexachlorocyclopentadiene	Not certified	Diquat	Not certified
Lindane	EPA 505	Endothall	Not certified
Methoxychlor	EPA 505	Glyphosate	Not certified
Simazine	Not certified	Pentachlorophenol	Not certified
Toxaphene	EPA 505	Picloram	Not certified

Indiana State Department of Health

SCOPE OF CERTIFICATION
PARAGON ANALYTICS
FT. COLLONS, COLORADO

ANALYTE	METHOD	ANALYTE	METHOD
DISINFECTION BYPRODUCTS		MISCELLANEOUS ANALYTES	
HAA5	Not certified	2,3,7,8-TCDD (dioxin)	Not certified
Bromate	Not certified	Asbestos	Not certified
Chlorite	Not certified		

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Division of Environmental Services
Centralized Laboratory Facility
100 Sower Blvd., Ste. 104
Frankfort, Kentucky 40601-8272

LaJuana S. Wilcher
Secretary

December 15, 2005

Certified Laboratories:

This letter supersedes any that you have previously received regarding your laboratory's certification status with the Commonwealth of Kentucky. The attached table reflects your current certification status based on your laboratory's certification from the primary accrediting authority(s). The table is sorted by Reference Method and Analyte.

Please note that your laboratory's certification status mirrors its status with your primary accrediting authority(s). You are not authorized to report any compliance monitoring data to the state of Kentucky that would not be acceptable to your primary accrediting authority(s) due to changes in certification status with them during the term of the enclosed certificate.

Any questions concerning Kentucky's regulations or the reporting of compliance monitoring data should be referred to the Drinking Water Branch at:

Department for Environmental Protection
Division of Water/Drinking Water Branch
14 Reilly Road, Frankfort Office Park
Frankfort, KY 40601
(502) 564-3410

Please continue to forward any certification documents, including certificates and analyte lists, received from your primary accrediting authority as you receive them. Also please continue to have your proficiency test (PT) provider(s) send your WS study results directly to Ms. Patricia Long. These documents should be sent to the address in the letterhead above.

If you have any further questions, please feel free to contact me at the address in the letterhead above, by telephone at 502-564-6120 (voice), 502-564-8930 (fax) or email at Gleason.Wheatley@ky.gov .
Sincerely,

Gleason L. Wheatley

Gleason Wheatley
Chemistry Certification Officer

Analyte	Contaminant Code	Method Code	Status	Method Description
Arsenic	1005	799	Certified	EPA 200.7
Barium	1010	799	Certified	EPA 200.7
Beryllium	1075	799	Certified	EPA 200.7
Cadmium	1015	799	Certified	EPA 200.7
Chromium	1020	799	Certified	EPA 200.7
Copper	1022	799	Certified	EPA 200.7
Nickel	1036	799	Certified	EPA 200.7
Antimony	1074	797	Certified	EPA 200.8
Arsenic	1005	797	Certified	EPA 200.8
Cadmium	1015	797	Certified	EPA 200.8
Copper	1022	797	Certified	EPA 200.8
Lead	1030	797	Certified	EPA 200.8
Selenium	1045	797	Certified	EPA 200.8
Thallium	1085	797	Certified	EPA 200.8
Uranium	4006	797	Certified	EPA 200.8
Mercury	1035	715	Certified	EPA 245.1
Bromide	1004	720	Certified	EPA 300.0
Fluoride	1025	720	Certified	EPA 300.0
Nitrate-N	1040	720	Certified	EPA 300.0
Nitrite-N	1041	720	Certified	EPA 300.0
Nitrate-N	1040	709	Certified	EPA 353.2
Nitrite-N	1041	709	Certified	EPA 353.2
1,2-Dibromoethane	2946	719	Certified	EPA 504.1
Chlordane	2959	706	Certified	EPA 505
Endrin	2005	706	Certified	EPA 505
Heptachlor	2065	706	Certified	EPA 505
Heptachlor epoxide	2067	706	Certified	EPA 505
Lindane (gamma-BHC)	2010	706	Certified	EPA 505
Methoxychlor	2015	706	Certified	EPA 505
Toxaphene	2020	706	Certified	EPA 505
2,4,5-TP (Silvex)	2110	703	Certified	EPA 515.1
2,4-D	2105	703	Certified	EPA 515.1
Dalapon	2031	703	Certified	EPA 515.1
Dinoseb	2041	703	Certified	EPA 515.1
1,1,1-Trichloroethane	2981	721	Certified	EPA 524.2
1,1,2-Trichloroethane	2985	721	Certified	EPA 524.2
1,1-Dichloroethylene	2977	721	Certified	EPA 524.2
1,2,4-Trichlorobenzene	2378	721	Certified	EPA 524.2
1,2-Dichlorobenzene	2968	721	Certified	EPA 524.2
1,2-Dichloroethane	2980	721	Certified	EPA 524.2
1,2-Dichloropropane	2983	721	Certified	EPA 524.2
1,4-Dichlorobenzene	2969	721	Certified	EPA 524.2
Benzene	2990	721	Certified	EPA 524.2
Bromodichloromethane	2943	721	Certified	EPA 524.2
Bromoform	2942	721	Certified	EPA 524.2
c-1,2-Dichloroethylene	2380	721	Certified	EPA 524.2
Carbon tetrachloride	2982	721	Certified	EPA 524.2
Chlorobenzene	2989	721	Certified	EPA 524.2

Analyte	Contaminant Code	Method Code	Status	Method Description
Chlorodibromomethane	2944	721	Certified	EPA 524.2
Chloroform	2941	721	Certified	EPA 524.2
Dichloromethane	2964	721	Certified	EPA 524.2
Ethylbenzene	2992	721	Certified	EPA 524.2
Styrene	2996	721	Certified	EPA 524.2
t-1,2-Dichloroethylene	2979	721	Certified	EPA 524.2
Tetrachloroethylene	2987	721	Certified	EPA 524.2
Toluene	2991	721	Certified	EPA 524.2
Total Trihalomethanes	2950	721	Certified	EPA 524.2
Total Xylenes	2955	721	Certified	EPA 524.2
Trichloroethylene	2984	721	Certified	EPA 524.2
Vinyl Chloride	2976	721	Certified	EPA 524.2
Cyanide	1024	818	Certified	SM 4500 CN E
DOC	2919	839	Certified	SM 5310 C
TOC	2920	839	Certified	SM 5310 C

Commonwealth of Kentucky
Department for Environmental Protection
Division of Environmental Services

Certificate of Laboratory Certification for the Chemical Analysis of Drinking Water

in accordance with 401 KAR Chapter 8, issued to:

Paragon Analytics
225 Commerce Drive
Fort Collins, Colorado 80524

for the analytes listed on the accompanying analyte certification table dated 12/15/2005.

Gleason L. Wheatley
Certification Officer

Laboratory ID # 90137
Expires December 31, 2006

State of Louisiana

Department of Environmental Quality

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

CERTIFIED MAIL #7006 0100 0000 9118 9228
Return Receipt Requested

June 30, 2006

AI #87806 **LELAP Certificate #04018**

Mr. Ken Campbell
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

RE: Laboratory Accreditation

Dear Mr. Campbell:

In accordance with Louisiana Administrative Code, Title 33, Part I, Subpart 3, Laboratory Accreditation, the State of Louisiana formally recognizes that this laboratory has successfully completed the accreditation process and is technically competent to perform the environmental analyses listed on the scope of accreditation detailed in the attachment. Accreditation does not constitute an endorsement of the suitability of the listed methods for any specific purpose. Parameters or analytes that the laboratory has applied for accreditation not included in the scope of accreditation attachment are not accredited.

NELAP accreditation is granted **only** for those methods/analytes for which "NELAP" is indicated as the type of accreditation. "STATE" is indicated as the type of accreditation for those methods/analytes for which NELAP accreditation is not available. Accreditation is dependent on the laboratory's successful ongoing compliance with regulations as outlined in the Louisiana Administrative Code, Title 33, Part I, Subpart 3, Laboratory Accreditation.

The enclosed accreditation certificate is property of the State of Louisiana. Should a change in accreditation status occur, the Department may recall the original accreditation certificate and attachments. The recalled certificate and attachments should be returned to: Office of Environmental Assessment, Louisiana Environmental Laboratory Accreditation Program, P.O. Box 4314, Baton Rouge, LA 70821-4314, Attention: Ms. Karen S. Varnado.

LAC 33:I.5313.A requires that the laboratory report must include all relevant information. Therefore, the certificate number shall be placed in the upper right corner of all laboratory reports. If the test report includes results of any test for which the laboratory is not accredited, the unaccredited results must be clearly identified as such.

Please be advised that it is your responsibility to examine the scope of accreditation attachment for accuracy and completeness. If you find that an analyte for which you expected to be accredited is not listed, please examine your records to ensure that:

1. You have met the requirements for successful participation in proficiency test studies as outlined in LAC 33:I.4711 and in the NELAC Standard 2.7.2.

2. In the case of accreditation by recognition, the requested analyte must be listed for the requested method and matrix on both the certificate issued by the Primary AA ***and*** on the Louisiana application form.

If you have any questions, please contact the Louisiana Environmental Laboratory Accreditation Program at (225) 219-9800.

Sincerely,

Karen S. Varnado, Supervisor
Louisiana Environmental Laboratory Accreditation Program

kv:db

Enclosure

Laboratory Scope of Accreditation

Organization

04018
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

(970) 490-1511

Solid and Chemical Materials Certification

Method Code	Method Ref	Analyte	Status	Date Effective	Type	AA
404	ASTM D3972-90	Uranium	Accredited	10/31/2002	STATE	CA
655	EPA 8015 (modified)	Diesel-range total petroleum hydrocarbons	Accredited	6/1/2003	NELAP	UT
655	EPA 8015 (modified)	Gasoline range organics (GRO)	Accredited	6/1/2003	NELAP	UT
656	EPA 9013/9010	Cyanide	Accredited	6/1/2003	NELAP	UT
657	Sec. 7.3 SW-846	Reactive Cyanide	Accredited	6/1/2003	NELAP	UT
657	Sec. 7.3 SW-846	Reactive sulfide	Accredited	6/1/2003	NELAP	UT
10118806	EPA 1311	Toxicity Characteristic Leaching Procedure	Accredited	6/1/2003	NELAP	UT
10119003	EPA 1312	Synthetic Precipitation Leaching Procedure	Accredited	6/1/2003	NELAP	UT
10139603	EPA 3540	Soxhlet Extraction	Accredited	7/1/2003	NELAP	UT
10142800	EPA 3580	Waste Dilution	Accredited	7/1/2003	NELAP	UT
10145401	EPA 3620	Florisil Clean-up	Accredited	7/1/2003	NELAP	UT
10146200	EPA 3630	Silica Gel Clean-up	Accredited	7/1/2003	NELAP	UT
10147009	EPA 3640	Gel-Permeation Clean-up	Accredited	7/1/2003	NELAP	UT
10148002	EPA 3660	Sulfur Clean-up	Accredited	7/1/2003	NELAP	UT
10148604	EPA 3665	Sulfuric acid/permanganate clean-up	Accredited	7/1/2003	NELAP	UT
10154004	EPA 5035	Closed System Purge & Trap	Accredited	5/26/2005	NELAP	UT
10155201	EPA 6010	Aluminum	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Antimony	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Arsenic	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Barium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Beryllium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Cadmium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Calcium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Chromium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Cobalt	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Copper	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Iron	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Lead	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Lithium	Accredited	6/1/2003	NELAP	UT

Laboratory Scope of Accreditation

Organization

04018
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524
(970) 490-1511

Solid and Chemical Materials Certification

Method Code	Method Ref	Analyte	Status	Date Effective	Type	AA
10155201	EPA 6010	Magnesium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Manganese	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Molybdenum	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Nickel	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Potassium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Selenium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Silicon	Accredited	7/1/2006	NELAP	UT
10155201	EPA 6010	Silver	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Sodium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Strontium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Thallium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Tin	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Titanium	Accredited	7/1/2006	NELAP	UT
10155201	EPA 6010	Vanadium	Accredited	6/1/2003	NELAP	UT
10155201	EPA 6010	Zinc	Accredited	6/1/2003	NELAP	UT
10162206	EPA 7196	Chromium VI	Accredited	6/1/2003	NELAP	UT
10166004	EPA 7471	Mercury	Accredited	6/1/2003	NELAP	UT
10174400	EPA 8021	Benzene	Accredited	6/1/2003	NELAP	UT
10174400	EPA 8021	Ethylbenzene	Accredited	6/1/2003	NELAP	UT
10174400	EPA 8021	Methyl tert-butyl ether (MTBE)	Accredited	6/1/2003	NELAP	UT
10174400	EPA 8021	o-Xylene	Accredited	6/1/2003	NELAP	UT
10174400	EPA 8021	Toluene	Accredited	6/30/2002	NELAP	UT
10174400	EPA 8021	Xylene (total)	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	4 4`-DDD	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	4 4`-DDE	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	4 4`-DDT	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Aldrin	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	alpha-BHC (alpha-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	alpha-Chlordane	Accredited	6/1/2003	NELAP	UT

Louisiana Environmental Laboratory
LELAP
Accreditation Program

Laboratory Scope of Accreditation

Organization

04018
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

(970) 490-1511

Solid and Chemical Materials Certification

Method Code	Method Ref	Analyte	Status	Date Effective	Type	AA
10178402	EPA 8081	beta-BHC (beta-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Chlordane (tech.)	Accredited	7/1/2006	NELAP	UT
10178402	EPA 8081	delta-BHC	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Dieldrin	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Endosulfan I	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Endosulfan II	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Endosulfan sulfate	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Endrin	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Endrin aldehyde	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	gamma-Chlordane	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Heptachlor	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Heptachlor epoxide	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Methoxychlor	Accredited	6/1/2003	NELAP	UT
10178402	EPA 8081	Toxaphene (Chlorinated camphene)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1016 (PCB-1016)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1221 (PCB-1221)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1232 (PCB-1232)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1242 (PCB-1242)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1248 (PCB-1248)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1254 (PCB-1254)	Accredited	6/1/2003	NELAP	UT
10179007	EPA 8082	Aroclor-1260 (PCB-1260)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Azinphos-methyl (Guthion)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Bolstar (Sulprofos)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Chlorpyrifos	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Coumaphos	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Demeton-o	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Demeton-s	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Diazinon	Accredited	6/1/2003	NELAP	UT

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10181803	EPA 8141	Dichlorovos (DDVP Dichlorvos)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Disulfoton	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Ethoprop	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Fensulfothion	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Fenthion	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Malathion	Accredited	7/1/2006	NELAP	UT
10181803	EPA 8141	Merphos	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Methyl parathion (Parathion methyl)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Mevinphos	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Naled	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Phorate	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Ronnel	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Tetrachlorovinphos	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Tokuthion (Prothiophos)	Accredited	6/1/2003	NELAP	UT
10181803	EPA 8141	Trichloronate	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	2 4 5-T	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	2 4-D	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	2 4-DB	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	Dalapon	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	Dicamba	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	Dichloroprop (Dichlorprop)	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	MCPA	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	MCPP	Accredited	6/1/2003	NELAP	UT
10183003	EPA 8151	Silvex (2 4 5-TP)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 1 1 2-Tetrachloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 1 1-Trichloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 1 2 2-Tetrachloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 1 2-Trichloroethane	Accredited	6/1/2003	NELAP	UT

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10184404	EPA 8260	1 1-Dichloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 1-Dichloropropene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2 3-Trichlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2 3-Trichloropropane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2 4-Trichlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2 4-Trimethylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2-Dibromo-3-chloropropane (DBCP)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2-Dibromoethane (EDB Ethylene dibromide)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2-Dichloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 2-Dichloropropane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 3 5-Trimethylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 3-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 3-Dichloropropane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1 4-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	1-Chlorohexane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	2 2-Dichloropropane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	2-Butanone (Methyl ethyl ketone MEK)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	2-Chloroethyl vinyl ether	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	2-Chlorotoluene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	2-Hexanone	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	4-Chlorotoluene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	4-Methyl-2-pentanone (MIBK)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Acetone	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Acrolein (Propenal)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Acrylonitrile	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Benzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Bromobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Bromochloromethane	Accredited	6/1/2003	NELAP	UT

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10184404	EPA 8260	Bromodichloromethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Bromoform	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Carbon disulfide	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Carbon tetrachloride	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Chlorobenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Chloroethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Chloroform	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	cis-1 2-Dichloroethylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	cis-1 3-Dichloropropene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Dibromochloromethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Dibromofluoromethane	Accredited	6/30/2002	NELAP	UT
10184404	EPA 8260	Dibromomethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Dichlorodifluoromethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Ethylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Hexachlorobutadiene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Iodomethane (Methyl iodide)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Isopropylbenzene (cumene)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Methyl bromide (Bromomethane)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Methyl chloride (Chloromethane)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Methyl tert-butyl ether (MTBE)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Methylene chloride	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	m-Xylene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Naphthalene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	n-Butylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	n-Propylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	o-Xylene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	p-Isopropyltoluene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	p-Xylene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	sec-Butylbenzene	Accredited	6/1/2003	NELAP	UT

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10184404	EPA 8260	Styrene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	tert-Butylbenzene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Tetrachloroethylene (Perchloroethylene)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Toluene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	trans-1 2-Dichloroethylene	Accredited	6/30/2002	NELAP	UT
10184404	EPA 8260	trans-1 3-Dichloropropylene	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Trichloroethene (Trichloroethylene)	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Trichlorofluoromethane	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Vinyl acetate	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Vinyl chloride	Accredited	6/1/2003	NELAP	UT
10184404	EPA 8260	Xylene (total)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	1 2 4-Trichlorobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	1 2-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	1 3-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	1 4-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 3 4 6-Tetrachlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4 5-Trichlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4 6-Trichlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4-Dichlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4-Dimethylphenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4-Dinitrophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 4-Dinitrotoluene (2 4-DNT)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2 6-Dinitrotoluene (2 6-DNT)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Chloronaphthalene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Chlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Methyl-4 6-dinitrophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Methylnaphthalene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Methylphenol (o-Cresol)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	2-Nitroaniline	Accredited	6/1/2003	NELAP	UT

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10185203	EPA 8270	2-Nitrophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	3 3`-Dichlorobenzidine	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	3-Methylphenol (m-Cresol)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	3-Nitroaniline	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Bromophenyl phenyl ether	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Chloro-3-methylphenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Chloroaniline	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Chlorophenyl phenylether	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Methylphenol (p-Cresol)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Nitroaniline	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	4-Nitrophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Acenaphthene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Acenaphthylene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Aniline	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Anthracene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzidine	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzo(a)anthracene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzo(a)pyrene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzo(b)fluoranthene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzo(g h i)perylene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzo(k)fluoranthene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzoic acid	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Benzyl alcohol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	bis(2-Chloroethoxy)methane	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	bis(2-Chloroethyl) ether	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	bis(2-Chloroisopropyl) ether	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	bis(2-Ethylhexyl) phthalate (DEHP)	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Butyl benzyl phthalate	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Carbazole	Accredited	6/1/2003	NELAP	UT

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10185203	EPA 8270	Chrysene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Dibenz(a h) anthracene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Dibenzofuran	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Diethyl phthalate	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Dimethyl phthalate	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Di-n-butyl phthalate	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Di-n-octyl phthalate	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Fluoranthene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Fluorene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Hexachlorobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Hexachlorobutadiene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Hexachlorocyclopentadiene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Hexachloroethane	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Indeno(1,2,3-c,d)pyrene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Isophorone	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Naphthalene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Nitrobenzene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	n-Nitrosodimethylamine	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	n-Nitrosodi-n-propylamine	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	n-Nitrosodiphenylamine	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Pentachlorophenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Phenanthrene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Phenol	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Pyrene	Accredited	6/1/2003	NELAP	UT
10185203	EPA 8270	Pyridine	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	1 3 5-Trinitrobenzene (1 3 5-TNB)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	1 3-Dinitrobenzene (1 3-DNB)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	2 4 6-Trinitrotoluene (2 4 6-TNT)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	2 4-Dinitrotoluene (2 4-DNT)	Accredited	6/1/2003	NELAP	UT

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10189807	EPA 8330	2 6-Dinitrotoluene (2 6-DNT)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	2-Amino-4 6-dinitrotoluene (2-am-dnt)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	2-Nitrotoluene	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	3-Nitrotoluene	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	4-Amino-2 6-dinitrotoluene (4-am-dnt)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	4-Nitrotoluene	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	Methyl-2 4 6-trinitrophenylnitramine (tetryl)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	Nitrobenzene	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	Nitroglycerin	Accredited	7/1/2006	NELAP	UT
10189807	EPA 8330	Octahydro-1 3 5 7-tetranitro-1 3 5 7-tetrazocine (HMX)	Accredited	6/1/2003	NELAP	UT
10189807	EPA 8330	Pentaerythritoltetranitrate	Accredited	5/26/2005	NELAP	UT
10189807	EPA 8330	RDX (hexahydro-1 3 5-trinitro-1 3 5-triazine)	Accredited	6/1/2003	NELAP	UT
10192606	EPA 9010	Amenable cyanide	Accredited	6/1/2003	NELAP	UT
10192606	EPA 9010	Total cyanide	Accredited	6/1/2003	NELAP	UT
10197805	EPA 9045	pH	Accredited	6/1/2003	NELAP	UT
10199005	EPA 9056	Orthophosphate as P	Accredited	6/1/2003	NELAP	UT
10199005	EPA 9056	Sulfate	Accredited	7/1/2006	NELAP	UT
10199403	EPA 9056	Bromide	Accredited	6/1/2003	NELAP	UT
10199403	EPA 9056	Chloride	Accredited	6/1/2003	NELAP	UT
10199403	EPA 9056	Fluoride	Accredited	6/1/2003	NELAP	UT
10199403	EPA 9056	Nitrate	Accredited	6/1/2003	NELAP	UT
10199403	EPA 9056	Nitrite	Accredited	6/1/2003	NELAP	UT
10201204	EPA 9071	Oil & Grease	Accredited	6/1/2003	NELAP	UT
10204009	EPA 9095	Paint Filter Liquids Test	Accredited	6/1/2003	NELAP	UT
10208205	EPA 9310	Gross-alpha	Accredited	6/1/2003	NELAP	UT
10208205	EPA 9310	Gross-beta	Accredited	6/1/2003	NELAP	UT
10208409	EPA 9315	Total radium	Accredited	6/1/2003	NELAP	UT
10208603	EPA 9320	Radium-228	Accredited	6/1/2003	NELAP	UT

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Non-Potable Water Certification

Method Code	Method Ref	Analyte	Status	Date Effective	Type	AA
10006209	EPA 120.1	Conductivity	Accredited	6/1/2003	NELAP	UT
10008205	EPA 150.1	pH	Accredited	6/1/2003	NELAP	UT
10009208	EPA 160.1	Residue-filterable (TDS)	Accredited	6/1/2003	NELAP	UT
10009402	EPA 160.2	Residue-nonfilterable (TSS)	Accredited	6/1/2003	NELAP	UT
10009800	EPA 160.3	Residue-total	Accredited	6/1/2003	NELAP	UT
10013408	EPA 200.7	Silica	Accredited	5/25/2005	NELAP	UT
10013408	EPA 200.7	Tin	Accredited	6/1/2003	NELAP	UT
10013408	EPA 200.7	Titanium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Aluminum	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Antimony	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Arsenic	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Barium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Beryllium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Cadmium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Calcium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Chromium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Cobalt	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Copper	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Iron	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Lead	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Magnesium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Manganese	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Molybdenum	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Nickel	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Potassium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Selenium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Silver	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Sodium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Thallium	Accredited	6/1/2003	NELAP	UT

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10013602	EPA 200.7	Vanadium	Accredited	6/1/2003	NELAP	UT
10013602	EPA 200.7	Zinc	Accredited	6/1/2003	NELAP	UT
10036609	EPA 245.1	Mercury	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Bromide	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Chloride	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Fluoride	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Nitrate	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Nitrite	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Orthophosphate as P	Accredited	6/1/2003	NELAP	UT
10053006	EPA 300.0	Sulfate	Accredited	6/1/2003	NELAP	UT
10054601	EPA 310.1	Alkalinity as CaCO3	Accredited	6/1/2003	NELAP	UT
10059800	EPA 335.1	Amenable cyanide	Accredited	6/1/2003	NELAP	UT
10060205	EPA 335.2	Total cyanide	Accredited	6/1/2003	NELAP	UT
10062007	EPA 340.2	Fluoride	Accredited	6/1/2003	NELAP	UT
10063204	EPA 350.1	Ammonia as N	Accredited	6/1/2003	NELAP	UT
10067206	EPA 353.2	Total nitrate-nitrite	Accredited	6/1/2003	NELAP	UT
10068403	EPA 354.1	Nitrite as N	Accredited	6/1/2003	NELAP	UT
10070209	EPA 365.2	Orthophosphate as P	Accredited	6/1/2003	NELAP	UT
10070209	EPA 365.2	Phosphorus total	Accredited	6/1/2003	NELAP	UT
10078407	EPA 415.1	Total organic carbon	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	4 4`-DDD	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	4 4`-DDE	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	4 4`-DDT	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aldrin	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	alpha-BHC (alpha-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aroclor-1016 (PCB-1016)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aroclor-1221 (PCB-1221)	Accredited	5/25/2005	NELAP	UT
10103603	EPA 608	Aroclor-1232 (PCB-1232)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aroclor-1242 (PCB-1242)	Accredited	6/1/2003	NELAP	UT

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10103603	EPA 608	Aroclor-1248 (PCB-1248)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aroclor-1254 (PCB-1254)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Aroclor-1260 (PCB-1260)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	beta-BHC (beta-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Chlordane (tech.)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	delta-BHC	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Dieldrin	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Endosulfan I	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Endosulfan II	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Endosulfan sulfate	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Endrin	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Endrin aldehyde	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Heptachlor	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Heptachlor epoxide	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Methoxychlor	Accredited	6/1/2003	NELAP	UT
10103603	EPA 608	Toxaphene (Chlorinated camphene)	Accredited	6/1/2003	NELAP	UT
10105609	EPA 615	2 4 5-T	Accredited	6/1/2003	NELAP	UT
10105609	EPA 615	2 4-D	Accredited	6/1/2003	NELAP	UT
10105609	EPA 615	2 4-DB	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Chlorinated Herbicides in Industrial and Municipal Wastes	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Dalapon	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Dicamba	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Dichloroprop (Dichlorprop)	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	MCPA	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	MCPP	Accredited	7/1/2006	NELAP	UT
10105609	EPA 615	Silvex (2 4 5-TP)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 1 1 2-Tetrachloroethane	Accredited	6/1/2003	NELAP	UT

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10107207	EPA 624	1 1 1-Trichloroethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 1 2 2-Tetrachloroethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 1 2-Trichloroethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 1-Dichloroethane	Accredited	5/25/2005	NELAP	UT
10107207	EPA 624	1 1-Dichloroethylene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 2-Dibromo-3-chloropropane (DBCP)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 2-Dibromoethane (EDB Ethylene dibromide)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 2-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 2-Dichloroethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 2-Dichloropropane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 3-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	1 4-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	2-Chloroethyl vinyl ether	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Acrolein (Propenal)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Acrylonitrile	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Benzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Bromodichloromethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Bromoform	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Carbon tetrachloride	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Chlorobenzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Chloroethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Chloroform	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	cis-1 3-Dichloropropene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Dibromochloromethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Dibromomethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Ethylbenzene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Methyl bromide (Bromomethane)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Methyl chloride (Chloromethane)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Methylene chloride	Accredited	6/1/2003	NELAP	UT

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10107207	EPA 624	Tetrachloroethylene (Perchloroethylene)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Toluene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	trans-1 2-Dichloroethylene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	trans-1 3-Dichloropropylene	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Trichloroethene (Trichloroethylene)	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Trichlorofluoromethane	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Vinyl chloride	Accredited	6/1/2003	NELAP	UT
10107207	EPA 624	Xylene (total)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	1 2 4-Trichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	1 2-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	1 3-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	1 4-Dichlorobenzene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4 5-Trichlorophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4 6-Trichlorophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4-Dichlorophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4-Dimethylphenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4-Dinitrophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 4-Dinitrotoluene (2 4-DNT)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2 6-Dinitrotoluene (2 6-DNT)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Chloronaphthalene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Chlorophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Methyl-4 6-dinitrophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Methylnaphthalene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Methylphenol (o-Cresol)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	2-Nitroaniline	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	2-Nitrophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	3 3`-Dichlorobenzidine	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	3-Methylphenol (m-Cresol)	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	3-Nitroaniline	Accredited	5/25/2005	NELAP	UT

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10107401	EPA 625	4-Bromophenyl phenyl ether	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	4-Chloro-3-methylphenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	4-Chloroaniline	Accredited	7/1/2006	NELAP	UT
10107401	EPA 625	4-Chlorophenyl phenylether	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	4-Methylphenol (p-Cresol)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	4-Nitroaniline	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	4-Nitrophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Acenaphthene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Acenaphthylene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Aniline	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Anthracene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzidine	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzo(a)anthracene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzo(a)pyrene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzo(b)fluoranthene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzo(g h i)perylene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzo(k)fluoranthene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Benzyl alcohol	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	bis(2-Chloroethoxy)methane	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	bis(2-Chloroethyl) ether	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	bis(2-Chloroisopropyl) ether	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	bis(2-Ethylhexyl) phthalate (DEHP)	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Butyl benzyl phthalate	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Chrysene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Dibenz(a h) anthracene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Dibenzofuran	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	Diethyl phthalate	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Dimethyl phthalate	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Di-n-butyl phthalate	Accredited	6/1/2003	NELAP	UT

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10107401	EPA 625	Di-n-octyl phthalate	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Fluoranthene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Fluorene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Hexachlorobenzene	Accredited	5/25/2005	NELAP	UT
10107401	EPA 625	Hexachlorobutadiene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Hexachlorocyclopentadiene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Hexachloroethane	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Indeno(1,2,3-c,d)pyrene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Isophorone	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Naphthalene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Nitrobenzene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	n-Nitrosodimethylamine	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	n-Nitrosodi-n-propylamine	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	n-Nitrosodiphenylamine	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Pentachlorophenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Phenanthrene	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Phenol	Accredited	6/1/2003	NELAP	UT
10107401	EPA 625	Pyrene	Accredited	6/1/2003	NELAP	UT
10112400	EPA 900	Gross alpha-beta	Accredited	5/25/2005	NELAP	UT
10112400	EPA 900	Gross-alpha	Accredited	6/1/2003	NELAP	UT
10112400	EPA 900	Gross-beta	Accredited	6/1/2003	NELAP	UT
10112808	EPA 901.1	Cesium-134	Accredited	5/25/2005	NELAP	UT
10112808	EPA 901.1	Cesium-137	Accredited	5/25/2005	NELAP	UT
10112808	EPA 901.1	Gross gamma	Accredited	5/25/2005	NELAP	UT
10112808	EPA 901.1	Radioactive cesium	Accredited	5/25/2005	NELAP	UT
10112808	EPA 901.1	Radioactive iodine (iodine-131)	Accredited	5/25/2005	NELAP	UT
10113209	EPA 903	Radium-226	Accredited	6/1/2003	NELAP	UT
10113209	EPA 903	Total alpha radium	Accredited	5/25/2005	NELAP	UT
10113209	EPA 903	Total radium	Accredited	5/25/2005	NELAP	UT

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Expiration Date: June 30, 2007

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10113403	EPA 903.1	Radium-226	Accredited	6/1/2003	NELAP	UT
10113607	EPA 904	Radium-228	Accredited	6/1/2003	NELAP	UT
10116606	EPA 1010	Ignitability	Accredited	5/25/2005	NELAP	UT
10127409	EPA 1664	Oil & Grease	Accredited	5/25/2005	NELAP	UT
10137607	EPA 3510	Separatory Funnel Liquid-Liquid Extraction	Accredited	5/25/2005	NELAP	UT
10138406	EPA 3520	Continuous Liquid-Liquid Extraction	Accredited	5/25/2005	NELAP	UT
10145401	EPA 3620	Florisil Clean-up	Accredited	5/25/2005	NELAP	UT
10146200	EPA 3630	Silica Gel Clean-up	Accredited	5/25/2005	NELAP	UT
10147009	EPA 3640	Gel-Permeation Clean-up	Accredited	5/25/2005	NELAP	UT
10148002	EPA 3660	Sulfur Clean-up	Accredited	5/25/2005	NELAP	UT
10148604	EPA 3665	Sulfuric acid/permanganate clean-up	Accredited	5/25/2005	NELAP	UT
10153001	EPA 5030	Aqueous-phase Purge & Trap	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Aluminum	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Antimony	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Arsenic	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Barium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Beryllium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Cadmium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Calcium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Chromium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Cobalt	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Copper	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Iron	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Lead	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Lithium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Magnesium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Manganese	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Molybdenum	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Nickel	Accredited	5/25/2005	NELAP	UT

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10155201	EPA 6010	Potassium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Selenium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Silica	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Silver	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Sodium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Strontium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Thallium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Tin	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Titanium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Vanadium	Accredited	5/25/2005	NELAP	UT
10155201	EPA 6010	Zinc	Accredited	5/25/2005	NELAP	UT
10162206	EPA 7196	Chromium VI	Accredited	5/25/2005	NELAP	UT
10165603	EPA 7470	Mercury	Accredited	5/25/2005	NELAP	UT
10173009	EPA 8011	1 2-Dibromo-3-chloropropane (DBCP)	Accredited	5/25/2005	NELAP	UT
10173009	EPA 8011	1 2-Dibromoethane (EDB Ethylene dibromide)	Accredited	5/25/2005	NELAP	UT
10173203	EPA 8015	Diesel range organics (DRO)	Accredited	5/25/2005	NELAP	UT
10173203	EPA 8015	Gasoline range organics (GRO)	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	Benzene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	Ethylbenzene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	Methyl tert-butyl ether (MTBE)	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	m-Xylene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	o-Xylene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	p-Xylene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	Toluene	Accredited	5/25/2005	NELAP	UT
10174400	EPA 8021	Xylene (total)	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	4 4`-DDD	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	4 4`-DDE	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	4 4`-DDT	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Aldrin	Accredited	5/25/2005	NELAP	UT

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10178402	EPA 8081	alpha-BHC (alpha-Hexachlorocyclohexane)	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	alpha-Chlordane	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	beta-BHC (beta-Hexachlorocyclohexane)	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Chlordane (tech.)	Accredited	7/1/2006	NELAP	UT
10178402	EPA 8081	delta-BHC	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Dieldrin	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Endosulfan I	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Endosulfan II	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Endosulfan sulfate	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Endrin	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Endrin aldehyde	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	gamma-Chlordane	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Heptachlor	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Heptachlor epoxide	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Methoxychlor	Accredited	5/25/2005	NELAP	UT
10178402	EPA 8081	Toxaphene (Chlorinated camphene)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1016 (PCB-1016)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1221 (PCB-1221)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1232 (PCB-1232)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1242 (PCB-1242)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1248 (PCB-1248)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1254 (PCB-1254)	Accredited	5/25/2005	NELAP	UT
10179007	EPA 8082	Aroclor-1260 (PCB-1260)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Azinphos-methyl (Guthion)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Bolstar (Sulprofos)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Chlorpyrifos	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Coumaphos	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Demeton-o	Accredited	5/25/2005	NELAP	UT

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10181803	EPA 8141	Demeton-s	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Diazinon	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Dichlorovos (DDVP Dichlorvos)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Disulfoton	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Ethoprop	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Fensulfothion	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Fenthion	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Malathion	Accredited	7/1/2006	NELAP	UT
10181803	EPA 8141	Merphos	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Methyl parathion (Parathion methyl)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Mevinphos	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Naled	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Phorate	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Ronnel	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Tetrachlorovinphos	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Tokuthion (Prothiophos)	Accredited	5/25/2005	NELAP	UT
10181803	EPA 8141	Trichloronate	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	2 4 5-T	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	2 4-D	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	2 4-DB	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	Dalapon	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	Dicamba	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	Dichloroprop (Dichlorprop)	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	MCPA	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	MCPP	Accredited	5/25/2005	NELAP	UT
10183003	EPA 8151	Silvex (2 4 5-TP)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 1 1 2-Tetrachloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 1 1-Trichloroethane	Accredited	5/25/2005	NELAP	UT

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10184404	EPA 8260	1 1 2 2-Tetrachloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 1 2-Trichloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 1-Dichloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 1-Dichloroethylene	Accredited	7/1/2006	NELAP	UT
10184404	EPA 8260	1 1-Dichloropropene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2 3-Trichlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2 3-Trichloropropane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2 4-Trichlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2 4-Trimethylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2-Dibromo-3-chloropropane (DBCP)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2-Dibromoethane (EDB Ethylene dibromide)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2-Dichloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 2-Dichloropropane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 3 5-Trimethylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 3-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 3-Dichloropropane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1 4-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	1-Chlorohexane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	2 2-Dichloropropane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	2-Butanone (Methyl ethyl ketone MEK)	Accredited	7/1/2006	NELAP	UT
10184404	EPA 8260	2-Chloroethyl vinyl ether	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	2-Chlorotoluene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	2-Hexanone	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	4-Chlorotoluene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	4-Methyl-2-pentanone (MIBK)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Acetone	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Acrolein (Propenal)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Acrylonitrile	Accredited	5/25/2005	NELAP	UT

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10184404	EPA 8260	Benzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Bromobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Bromochloromethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Bromodichloromethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Bromoform	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Carbon disulfide	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Carbon tetrachloride	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Chlorobenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Chloroethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Chloroform	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	cis-1 2-Dichloroethylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	cis-1 3-Dichloropropene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Dibromochloromethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Dibromomethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Dichlorodifluoromethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Ethylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Hexachlorobutadiene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Iodomethane (Methyl iodide)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Isopropylbenzene (cumene)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Methyl bromide (Bromomethane)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Methyl chloride (Chloromethane)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Methyl tert-butyl ether (MTBE)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Methylene chloride	Accredited	7/1/2006	NELAP	UT
10184404	EPA 8260	m-Xylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Naphthalene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	n-Butylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	n-Propylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	o-Xylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	p-Isopropyltoluene	Accredited	5/25/2005	NELAP	UT

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10184404	EPA 8260	p-Xylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	sec-Butylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Styrene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	tert-Butylbenzene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Tetrachloroethylene (Perchloroethylene)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Toluene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	trans-1 2-Dichloroethylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	trans-1 3-Dichloropropylene	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Trichloroethene (Trichloroethylene)	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Trichlorofluoromethane	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Vinyl acetate	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Vinyl chloride	Accredited	5/25/2005	NELAP	UT
10184404	EPA 8260	Xylene (total)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	1 2 4-Trichlorobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	1 2-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	1 3-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	1 4-Dichlorobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 3 4 6-Tetrachlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4 5-Trichlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4 6-Trichlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4-Dichlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4-Dimethylphenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4-Dinitrophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 4-Dinitrotoluene (2 4-DNT)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2 6-Dinitrotoluene (2 6-DNT)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Chloronaphthalene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Chlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Methyl-4 6-dinitrophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Methylnaphthalene	Accredited	5/25/2005	NELAP	UT

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10185203	EPA 8270	2-Methylphenol (o-Cresol)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Nitroaniline	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	2-Nitrophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	3 3`-Dichlorobenzidine	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	3-Methylphenol (m-Cresol)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	3-Nitroaniline	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Bromophenyl phenyl ether	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Chloro-3-methylphenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Chloroaniline	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Chlorophenyl phenylether	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Methylphenol (p-Cresol)	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Nitroaniline	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	4-Nitrophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Acenaphthene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Acenaphthylene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Aniline	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Anthracene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzidine	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzo(a)anthracene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzo(a)pyrene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzo(b)fluoranthene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzo(g h i)perylene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzo(k)fluoranthene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzoic acid	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Benzyl alcohol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	bis(2-Chloroethoxy)methane	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	bis(2-Chloroethyl) ether	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	bis(2-Chloroisopropyl) ether	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	bis(2-Ethylhexyl) phthalate (DEHP)	Accredited	5/25/2005	NELAP	UT

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10185203	EPA 8270	Butyl benzyl phthalate	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Carbazole	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Chrysene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Dibenz(a h) anthracene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Dibenzofuran	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Diethyl phthalate	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Dimethyl phthalate	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Di-n-butyl phthalate	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Di-n-octyl phthalate	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Fluoranthene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Fluorene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Hexachlorobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Hexachlorobutadiene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Hexachlorocyclopentadiene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Hexachloroethane	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Indeno(1,2,3-c,d)pyrene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Isophorone	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Naphthalene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Nitrobenzene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	n-Nitrosodimethylamine	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	n-Nitrosodi-n-propylamine	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	n-Nitrosodiphenylamine	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Pentachlorophenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Phenanthrene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Phenol	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Pyrene	Accredited	5/25/2005	NELAP	UT
10185203	EPA 8270	Pyridine	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	1 3 5-Trinitrobenzene (1 3 5-TNB)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	1 3-Dinitrobenzene (1 3-DNB)	Accredited	5/25/2005	NELAP	UT

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10189807	EPA 8330	2 4 6-Trinitrotoluene (2 4 6-TNT)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	2 4-Dinitrotoluene (2 4-DNT)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	2 6-Dinitrotoluene (2 6-DNT)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	2-Amino-4 6-dinitrotoluene (2-am-dnt)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	2-Nitrotoluene	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	3-Nitrotoluene	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	4-Amino-2 6-dinitrotoluene (4-am-dnt)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	4-Nitrotoluene	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	Methyl-2 4 6-trinitrophenylnitramine (tetryl)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	Nitroglycerin	Accredited	7/1/2006	NELAP	UT
10189807	EPA 8330	Octahydro-1 3 5 7-tetranitro-1 3 5 7-tetrazocine (HMX)	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	Pentaerythritoltetranitrate	Accredited	5/25/2005	NELAP	UT
10189807	EPA 8330	RDX (hexahydro-1 3 5-trinitro-1 3 5-triazine)	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Bromide	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Chloride	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Fluoride	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Nitrate	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Nitrite	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Orthophosphate as P	Accredited	5/25/2005	NELAP	UT
10199005	EPA 9056	Sulfate	Accredited	7/1/2006	NELAP	UT
10208205	EPA 9310	Gross-alpha	Accredited	5/25/2005	NELAP	UT
10208205	EPA 9310	Gross-beta	Accredited	5/25/2005	NELAP	UT
10208409	EPA 9315	Gross-Alpha Radium	Accredited	5/25/2005	NELAP	UT
10208603	EPA 9320	Radium-228	Accredited	5/25/2005	NELAP	UT
20023409	SM 4500-NH3 H	Ammonia as N	Accredited	6/1/2003	NELAP	UT

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Is hereby granting a Louisiana Environmental Laboratory Accreditation to:

Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Agency Interest No. 87806

According to the Louisiana Administrative Code, Title 33, Part I, Subpart 3, LABORATORY ACCREDITATION, the State of Louisiana formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed in the attachment.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part I, Subpart 3 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part I. Please contact the Department of Environmental Quality, Louisiana Environmental Laboratory Accreditation Program (LELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Louisiana is not an endorsement or a guarantee of validity of the data generated by the laboratory, and does not constitute an endorsement of the suitability of the listed methods for any specific application.

To be accredited initially and maintain accreditation, the laboratory agrees to participate in two single-blind, single-concentration PT studies, where available, per year for each field of testing for which it seeks accreditation or maintains accreditation as required in LAC 33:I.4711.

Melvin C. Mitchell Sr., Accreditation Officer
Louisiana Environmental Laboratory Accreditation Program

Certificate Number: 04018
Expiration Date: June 30, 2007
Issued On: July 1, 2006

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

October 4, 2005

Ken Campbell
Paragon Analytics, a Division of DataChem Laboratories, Inc.
225 Commerce Dr.
Fort Collins, CO 80524

RE: CURRENT MARYLAND WATER QUALITY CERTIFICATE

Dear Mr. Campbell:

Enclosed please find your certificate of reciprocity for drinking water laboratory certification in the State of Maryland. The reciprocity is good for a period of three (3) years. The certificate and fees are renewable annually.

If you have any changes in methods, supervisory personnel, major equipment, ownership, location, or your home state certification status, during the year, you are required to advise this office within 30 days.

If you have any questions, please do not hesitate to call me at 410-537-3738.

Sincerely,

Mary E. T. Stancavage

Mary E. T. Stancavage
Water Quality Laboratory
Certification Officer
Water Supply Program

Issued Date: August 29, 2005
Expiration Date: September 30, 2006

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Robert L. Ehrlich, Jr.
Governor

Michael S. Steele
Lt. Governor

Kendl P. Philbrick
Secretary

Jonas A. Jacobson
Deputy Secretary

SDWA ANNUAL CERTIFIED PARAMETER LIST

Paragon Analytics, a Division of DataChem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Ken Campbell
Certificate # 285
EPA ID # CO00078

ANALYTE	METHOD	STATUS
1,1,1-Trichloroethane	EPA 524.2	Certified
1,1,2-Trichloroethane	EPA 524.2	Certified
1,1-Dichloroethylene	EPA 524.2	Certified
1,2,4-Trichlorobenzene	EPA 524.2	Certified
1,2-Dichlorobenzene	EPA 524.2	Certified
1,2-Dichloroethane	EPA 524.2	Certified
1,2-Dichloropropane	EPA 524.2	Certified
1,4-Dichlorobenzene	EPA 524.2	Certified
2,4,5-TP (Silvex)	EPA 515.1	Certified
2,4-D	EPA 515.1	Certified
Antimony	EPA 200.8	Certified
Arsenic	EPA 200.7	Certified
Arsenic	EPA 200.8	Certified
Barium	EPA 200.7	Certified
Benzene	EPA 524.2	Certified
Beryllium	EPA 200.7	Certified
Bromodichloromethane	EPA 524.2	Certified
Bromoform	EPA 524.2	Certified
Cadmium	EPA 200.7	Certified
Cadmium	EPA 200.8	Certified
Carbon Tetrachloride	EPA 524.2	Certified
Cesium 134	EPA 901.1	Certified
Cesium 137	EPA 901.1	Certified
Chlordane	EPA 505	Certified

MDE

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Paragon Analytics, a Division of DataChem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Ken Campbell
Certificate # 285
EPA ID # CO00078

ANALYTE	METHOD	STATUS
Chlorobenzene	EPA 524.2	Certified
Chlorodibromomethane	EPA 524.2	Certified
Chloroform	EPA 524.2	Certified
Chromium	EPA 200.7	Certified
cis-1,2-Dichloroethene	EPA 524.2	Certified
Cobalt 60	EPA 901.1	Certified
Copper	EPA 200.7	Certified
Copper	EPA 200.8	Certified
Cyanide	SM 4500 CN - E	Certified
Dalapon	EPA 515.1	Certified
Dibromochloropropane (DBCP)	EPA 504.1	Certified
Dichloromethane	EPA 524.2	Certified
Dinoseb	EPA 515.1	Certified
Endrin	EPA 505	Certified
Ethylbenzene	EPA 524.2	Certified
Ethylene Dibromide (EDB)	EPA 504.1	Certified
Fluoride	EPA 300.0	Certified
Gross alpha	EPA 900.0	Certified
Gross beta	EPA 900.0	Certified
Heptachlor	EPA 505	Certified
Heptachlor Epoxide	EPA 505	Certified
Lead	EPA 200.8	Certified
Lindane	EPA 505	Certified
Mercury	EPA 245.1	Certified

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Robert L. Ehrlich, Jr.
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SDWA ANNUAL CERTIFIED PARAMETER LIST

Paragon Analytics, a Division of DataChem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Ken Campbell
Certificate # 285
EPA ID # CO00078

ANALYTE	METHOD	STATUS
Methoxychlor	EPA 505	Certified
Nitrate	EPA 300.0	Certified
Nitrate	EPA 353.2	Certified
Nitrite	EPA 300.0	Certified
Nitrite	EPA 353.2	Certified
Radium226	EPA 903.0	Certified
Radium226	EPA 903.1	Certified
Radium 228	EPA 904.0	Certified
Selenium	EPA 200.8	Certified
Styrene	EPA 524.2	Certified
Tetrachloroethylene	EPA 524.2	Certified
Thallium	EPA 200.8	Certified
Toluene	EPA 524.2	Certified
Total Trihalomethanes	EPA 524.2	Certified
Toxaphene	EPA 505	Certified
trans-1,2-Dichloroethene	EPA 524.2	Certified
Trichloroethylene	EPA 524.2	Certified
Tritium	EPA 906.0	Certified
Uranium	DOE U-02	Certified
Vinyl Chloride	EPA 524.2	Certified
(total) Xylenes	EPA 524.2	Certified

MARYLAND

DEPARTMENT OF THE ENVIRONMENT
WATER SUPPLY PROGRAM

Certifies That

PARAGON ANALYTICS, A DIVISION OF DATACHEM LABORATORIES, INC.
225 Commerce Drive, Fort Collins, CO 80524

Having duly met the requirements of the
Regulations Governing Laboratory Certification
And Standards of Performance In Accordance With
The Annotated Code of Maryland,
is hereby approved as a

State Certified Water Quality Laboratory

To perform the analyses indicated on the Annual Certified Parameter List,
which must accompany this certificate.

Certification # 285

Date Issued August 29, 2005

Expiration Date September 30, 2006
(Not Transferable)

Administrator, Water Supply Program

This certification is subject to unannounced laboratory inspections

CONSPICUOUSLY DISPLAY IN THE LABORATORY WITH THE ANNUAL CERTIFIED PARAMETER LIST.

MDE00022

MISSISSIPPI STATE DEPARTMENT OF HEALTH

October 12, 2005

Ms Deb Scheib
Quality Assurance Manager
Paragon Analytics
225 Commerce Drive
Fort Collins, CO 80524

Dear Ms. Scheib:

This is to acknowledge receipt of the required materials relevant to the certification of your laboratory by the State of Utah. Certification by reciprocity under the Safe Drinking Water Act is being granted to Paragon Analytics, 225 Commerce Drive, Fort Collins, CO 80524 by the State of Mississippi for the certified parameters for chemical parameters as grated by the State of Utah.

Notification must be made to this office in writing within 30 days of any changes in the laboratory's Utah certification status.

Please notify the Mississippi Bureau of Public Water Supply, 601-576-7518, immediately upon the occurrence of any compliance sample.

Sincerely,

Wanda Ingersoll

Wanda Ingersoll
Chemical Certification Officer

Brian W. Amy, MD, MHA, MPH, State Health Officer

570 East Woodrow Wilson • Post Office Box 1700 • Jackson, Mississippi 39215-1700
1-800-489-7670 • Fax 601/576-7931 • www.msdh.state.ms.us

NORTH DAKOTA DEPARTMENT OF HEALTH
CHEMISTRY DIVISION
2635 East Main Avenue, P.O. Box 937
Bismarck, North Dakota 58502-0937
(701)328-6140 FAX (701)328-6145

March 2, 2006

Deb Scheib
Paragon Analytics, a division of Data Chem Laboratories, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Dear Ms.Scheib:

Because the arsenic rule lowered the maximum contaminant level (MCL) for arsenic in drinking water from 50 ug/l to 10 ug/L effective January 23, 2006, a footnote was included in the rule to note that analytical methods using the ICP-AES technology (USEPA 200.7 and Standard Method 3120 B) were only approved for use for the MCL of 50 ug/L and that starting January 23, 2006 these methods may not be used for analysis of arsenic in drinking water for compliance purposes. Therefore, your laboratory's certification for analysis of arsenic in drinking water by EPA Method 200.7 is being discontinued. This change in your laboratory's certification is reflected on the enclosed, revised list of certified parameters for your laboratory.

Call me at 701-328-6172 if you have any questions.

Sincerely,

Errol Erickson
Laboratory Certification Officer for Chemical Parameters

Certified Parameter List for
Paragon Analytics - A Division of Data Chem Laboratories, Inc.
225 Commerce Drive
Fort Collins, Colorado
Issued by:
North Dakota Department of Health
Chemistry Division
December 19, 2005 (Revised March 1, 2006)
Certification Period: January 1, 2006 through June 30, 2006
Lab Certification No.: R-057
Based on certificate ID # ATL2 from
The Utah Department of Health

Safe Drinking Water Act

Parameter	Certified Method(s)
Aluminum	EPA 200.7, EPA 200.8
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Beryllium	EPA 200.7
Cadmium	EPA 200.7, EPA 200.8
Calcium	EPA 200.7
Chromium	EPA 200.7
Copper	EPA 200.7, EPA 200.8
Iron	EPA 200.7
Lead	EPA 200.8
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Nickel	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7, EPA 200.8
Sodium	EPA 200.7
Thallium	EPA 200.8
Zinc	EPA 200.7
Alkalinity	SM 2320B
Bromide	EPA 300.0
Conductivity	SM 2510B
Cyanide	SM 4500 CN C & E
Fluoride	EPA 300.0, SM 4500 F C
Nitrate	EPA 300.0

Safe Drinking Water Act Continued

Parameter	Certified Method(s)
Nitrite	EPA 300.0, SM 4500 NO2 B
Nitrate/Nitrite	EPA 353.2
Orthophosphate	EPA 300.0, SM 4500 P E
pH	EPA 150.1
Sulfate	EPA 300.0
Total Dissolved Solids	SM 2540C
Total Organic Carbon	SM 5310C
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Chlordane	EPA 505
Endrin	EPA 505
Heptachlor	EPA 505
Heptachlor Epoxide	EPA 505
Lindane	EPA 505
Methoxychlor	EPA 505
Toxaphene	EPA 505
2,4,5-TP (Silvex)	EPA 515.1
2,4-D	EPA 515.1
Dalapon	EPA 515.1
Dinoseb	EPA 515.1
1,1,1-Trichloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
Benzene	EPA 524.2
Carbon Tetrachloride	EPA 524.2

Safe Drinking Water Act Continued

Parameter	Certified Method(s)
Chlorobenzene	EPA 524.2
cis-1,2-Dichloroethene	EPA 524.2
Ethylbenzene	EPA 524.2
Methylene Chloride	EPA 524.2
Styrene	EPA 524.2
Tetrachloroethene	EPA 524.2
Toluene	EPA 524.2
trans-1,2-Dichloroethen	EPA 524.2
Trichloroethene	EPA 524.2
Vinyl Chloride	EPA 524.2
Total Trihalomethanes	EPA 524.2
Gamma Emitting Radionuclides	EPA 901.1
Gross Alpha	EPA 900.0
Gross Beta	EPA 900.0
Radium-226	EPA 903.0, 903.1
Radium-228	EPA 904.0
Strontium 89/90	DOE SR-02
Tritium	EPA 906.0
Uranium	ASTM D-3972-90 DOE U-02

Clean Water Act

Parameter	Certified Method(s)
Gross Alpha	EPA 900.0
Gross Beta	EPA 900.0
Radium, Total	EPA 903.0
Conductivity	EPA 120.1
pH	EPA 150.1
Filterable Residue	EPA 160.1

Clean Water Act Continued

Parameter	Certified Method(s)
Non-filterable Residue	EPA 160.2
Oil and Grease	EPA 1664A
Total Residue	EPA 160.3
Aluminum	EPA 200.7, EPA 200.8
Antimony	EPA 200.7, EPA 200.8
Arsenic	EPA 200.7, EPA 200.8
Barium	EPA 200.7
Beryllium	EPA 200.7
Boron	EPA 200.7
Cadmium	EPA 200.7, EPA 200.8
Calcium	EPA 200.7
Chromium	EPA 200.7, SM 3500 CR D
Cobalt	EPA 200.7
Copper	EPA 200.7, EPA 200.8
Hardness	EPA 200.7, SM 2340B
Iron	EPA 200.7
Lead	EPA 200.7, EPA 200.8
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Molybdenum	EPA 200.7, EPA 200.8
Nickel	EPA 200.7
Potassium	EPA 200.7
Selenium	EPA 200.7, EPA 200.8
Silica	EPA 200.7
Silver	EPA 200.7, EPA 200.8
Sodium	EPA 200.7
Thallium	EPA 200.7, EPA 200.8
Tin	EPA 200.7
Titanium	EPA 200.7
Vanadium	EPA 200.7
Zinc	EPA 200.7
Bromide	EPA 300.0

Clean Water Act Continued

Parameter	Methods
Chloride	EPA 300.0, EPA 325.3
Fluoride	EPA 300.0, EPA 340.2
Nitrate	EPA 300.0
Nitrite	EPA 300.0, EPA 354.1
Nitrate + nitrite	EPA 300.0, EPA 353.2
Orthophosphate	EPA 300.0
Sulfate	EPA 300.0
Alkalinity	EPA 310.1
Cyanide	EPA 335.2
Ammonia	EPA 350.1, SM 4500 NH3 H
Phosphorus, total	EPA 365.2
Sulfide	EPA 376.1
Total Organic Carbon	EPA 415.1
Aldrin	EPA 608
alpha-BHC	EPA 608
beta-BHC	EPA 608
delta-BHC	EPA 608
gamma-BHC	EPA 608
Chlordane	EPA 608
4,4'-DDD	EPA 608
4,4'-DDE	EPA 608
4,4'-DDT	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Toxaphene	EPA 608
Aroclor 1016	EPA 608
Aroclor 1221	EPA 608
Aroclor 1232	EPA 608

Clean Water Act Continued

Parameter	Certified Method(s)
Aroclor 1242	EPA 608
Aroclor 1248	EPA 608
Aroclor 1254	EPA 608
Aroclor 1260	EPA 608
2,4,5-T	EPA 615
2,4,5-TP (Silvex)	EPA 615
2,4-D	EPA 615
2,4-DB	EPA 615
Dalapon	EPA 615
Dicamba	EPA 615
Dichlorprop	EPA 615
Dinoseb	EPA 615
MCPA	EPA 615
MCPP	EPA 615
Acrolein	EPA 624
Acrylonitrile	EPA 624
Benzene	EPA 624
Bromodichloromethane	EPA 624
Bromoform	EPA 624
Bromomethane	EPA 624
Carbon Tetrachloride	EPA 624
Chlorobenzene	EPA 624
Chloroethane	EPA 624
2-Chloroethylvinyl Ether	EPA 624
Chloroform	EPA 624
Chloromethane	EPA 624
Dibromochloromethane	EPA 624
1,2-Dichlorobenzene	EPA 624
1,3-Dichlorobenzene	EPA 624
1,4-Dichlorobenzene	EPA 624
1,1-Dichloroethane	EPA 624
1,2-Dichloroethane	EPA 624
1,1-Dichloroethene	EPA 624

Clean Water Act Continued

Parameter	Certified Method(s)
trans-1,2-Dichloroethene	EPA 624
1,2-Dichloropropane	EPA 624
cis-1,3-Dichloropropene	EPA 624
trans-1,3-Dichloropropene	EPA 624
Ethylbenzene	EPA 624
Methylene Chloride	EPA 624
1,1,2,2-Tetrachloroethane	EPA 624
Tetrachloroethylene	EPA 624
Toluene	EPA 624
1,1,1-Trichloroethane	EPA 624
1,1,2-Trichoroethane	EPA 624
Trichloroethene	EPA 624
Trichlorofluoromethane	EPA 624
Vinyl Chloride	EPA 624
Acenaphthene	EPA 625
Acenaphthylene	EPA 625
Anthracene	EPA 625
Benzidine	EPA 625
Benzo(a)anthracene	EPA 625
Benzo(b)fluoranthene	EPA 625
Benzo(k)fluoranthene	EPA 625
Benzo(g,h,i)perylene	EPA 625
Benzo(a)pyrene	EPA 625
Benzyl Butyl Phthalate	EPA 625
bis(2-Chloroethyl)ether	EPA 625
bis(2-chloroethoxy)methane	EPA 625
bis(2-ethylhexyl)phthalate	EPA 625
bis(2-choroisopropyl)ether	EPA 625
4-Bromophenyl Phenyl Ether	EPA 625
2-Chloronaphthalene	EPA 625
4-Chlorophenyl Phenyl Ether	EPA 625
Chrysene	EPA 625
Dibenz(a,h)anthracene	EPA 625
Di-n-butylphthalate	EPA 625

Clean Water Act Continued

Parameter	Certified Method(s)
1,2-Dichlorobenzene	EPA 625
1,3-Dichlorobenzene	EPA 625
1,4-Dichlorobenzene	EPA 625
3,3'-Dichlorobenzidine	EPA 625
Diethyl phthalate	EPA 625
Dimethyl phthalate	EPA 625
2,4-Dinitrotoluene	EPA 625
2,6-Dinitrotoluene	EPA 625
Di-n-octylphthalate	EPA 625
Fluoranthene	EPA 625
Fluorene	EPA 625
Hexachlorobenzene	EPA 625
Hexachlorobutadiene	EPA 625
Hexachlorocyclopentadiene	EPA 625
Hexachloroethane	EPA 625
Indeno(1,2,3-cd)pyrene	EPA 625
Isophorone	EPA 625
Naphthalene	EPA 625
Nitrobenzene	EPA 625
N-Nitrosodimethylamine	EPA 625
N-Nitrosodi-n-propylamine	EPA 625
N-Nitrosodiphenylamine	EPA 625
Phenanthrene	EPA 625
Pyrene	EPA 625
1,2,4-Trichlorobenzene	EPA 625
4-Chloro-3-methylphenol	EPA 625
2-Chlorophenol	EPA 625
2,4-Dichlorophenol	EPA 625
2,4-Dimethylphenol	EPA 625
2,4-Dinitrophenol	EPA 625
2-Methyl-4,6-dinitrophenol	EPA 625
2-Nitrophenol	EPA 625
4-Nitrophenol	EPA 625
Pentachlorophenol	EPA 625
Phenol	EPA 625

Clean Water Act Continued

Parameter	Certified Method(s)
2,4,6-Trichlorophenol	EPA 625

Resource Conservation and Recovery Act

Parameter	Certified Method(s)
Aluminum	SW846 6010B, SW846 6020
Antimony	SW846 6010B, SW846 6020
Arsenic	SW846 6010B, SW846 6020
Barium	SW846 6010B
Beryllium	SW846 6010B
Boron	SW846 6010B
Cadmium	SW846 6010B, SW846 6020
Chromium	SW846 6010B
Chromium - hexavalent	SW846 7196A
Cobalt	SW846 6010B
Copper	SW846 6010B, SW846 6020
Iron	SW846 6010B
Lead	SW846 6010B, SW846 6020
Lithium	SW846 6010B
Magnesium	SW846 6010B
Manganese	SW846 6010B
Mercury	SW846 7470A & 7471A
Molybdenum	SW846 6010B, SW846 6020
Nickel	SW846 6010B
Potassium	SW846 6010B
Selenium	SW846 6010B, SW846 6020
Silica	SW846 6010B
Silver	SW846 6010B, SW846 6020
Sodium	SW846 6010B
Strontium	SW846 6010B
Thallium	SW846 6010B, SW846 6020
Tin	SW846 6010B
Titanium	SW846 6010B

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
Vanadium	SW846 6010B
Zinc	SW846 6010B
Bromide	SW846 9056
Chloride	SW846 9056
Conductance	SW846 9050A
Cyanide	SW846 9014
Fluoride	SW846 9056, SW846 9214
Nitrate	SW846 9056
Nitrite	SW846 9056
Oil and Grease	SW846 9071B
Orthophosphate	SW846 9056
Paint Filter Liquids Test	SW846 9095A
pH	SW846 9040B & 9045C
Reactive Cyanide	SW846 Section 7.3.3
Reactive Sulfide	SW846 Section 7.3.4
Reactivity	SW846 Section 8.3
Sulfate	SW846 9056
Total Organic Carbon	SW846 9060
Ignitability	SW846 1010
SPLP	SW846 1312
TCLP	SW846 1311
Ethylene dibromide	SW846 8011
1,2-Dibromo-3-chloropropane	SW846 8011
Gasoline Range Organics	SW846 8015B
Diesel Range Organics	SW846 8015B
Benzene	SW846 8021B
Ethylbenzene	SW846 8021B
Toluene	SW846 8021B
o-Xylene	SW846 8021B
m-Xylene	SW846 8021B

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
p-Xylene	SW846 8021B
4,4'-DDD	SW846 8081A
4,4'-DDE	SW846 8081A
4,4'-DDT	SW846 8081A
Aldrin	SW846 8081A
alpha-BHC	SW846 8081A
alpha-chlordane	SW846 8081A
beta-BHC	SW846 8081A
Chlordane	SW846 8081A
delta-BHC	SW846 8081A
Dieldrin	SW846 8081A
Endosulfan I	SW846 8081A
Endosulfan II	SW846 8081A
Endosulfan Sulfate	SW846 8081A
Endrin	SW846 8081A
Endrin Aldehyde	SW846 8081A
gamma-BHC (Lindane)	SW846 8081A
gamma-chlordane	SW846 8081A
Heptachlor	SW846 8081A
Heptachlor Epoxide	SW846 8081A
Methoxychlor	SW846 8081A
Toxaphene	SW846 8081A
Aroclor 1016	SW846 8082
Aroclor 1221	SW846 8082
Aroclor 1232	SW846 8082
Aroclor 1242	SW846 8082
Aroclor 1248	SW846 8082
Aroclor 1254	SW846 8082
Aroclor 1260	SW846 8082
Azinphos methyl	SW846 8141A
Bolstar	SW846 8141A
Chlorpyrifos	SW846 8141A

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
Coumaphos	SW846 8141A
Demeton-O	SW846 8141A
Demeton-S	SW846 8141A
Diazinon	SW846 8141A
Dichlorovos	SW846 8141A
Disulfoton	SW846 8141A
Ethoprop	SW846 8141A
Fensulfothion	SW846 8141A
Fenthion	SW846 8141A
Malathion	SW846 8141A
Merphos	SW846 8141A
Mevinphos	SW846 8141A
Naled	SW846 8141A
Parathion, methyl	SW846 8141A
Phorate	SW846 8141A
Ronnel	SW846 8141A
Tetrachlorovinphos	SW846 8141A
Tokuthion	SW846 8141A
Trichloronate	SW846 8141A
2,4,5-T	SW846 8151A
2,4,5-TP	SW846 8151A
2,4-D	SW846 8151A
2,4-DB	SW846 8151A
Dalapon	SW846 8151A
Dicamba	SW846 8151A
Dichloroprop	SW846 8151A
Dinoseb	SW846 8151A
MCPA	SW846 8151A
MCPP	SW846 8151A
1,1,1,2-Tetrachloroethane	SW846 8260B
1,1,1-Trichloroethane	SW846 8260B
1,1,2,2-Tetrachloroethane	SW846 8260B
1,1,2-Trichloroethane	SW846 8260B

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
1,1-Dichloroethane	SW846 8260B
1,1-Dichloroethene	SW846 8260B
1,1-Dichloropropene	SW846 8260B
1,2,3-Trichlorobenzene	SW846 8260B
1,2,3-Trichloropropane	SW846 8260B
1,2,4-Trichlorobenzene	SW846 8260B
1,2,4-Trimethylbenzene	SW846 8260B
1,2-Dibromo-3-chloropropane	SW846 8260B
1,2-Dibromoethane	SW846 8260B
1,2-Dichlorobenzene	SW846 8260B
1,2-Dichloroethane	SW846 8260B
1,2-Dichloropropane	SW846 8260B
1,3,5-Trimethylbenzene	SW846 8260B
1,3-Dichlorobenzene	SW846 8260B
1,3-Dichloropropane	SW846 8260B
1,4-Dichlorobenzene	SW846 8260B
1-Chlorohexane	SW846 8260B
2,2-Dichloropropane	SW846 8260B
2-Chloroethyl Vinyl Ether	SW846 8260B
2-Chlorotoluene	SW846 8260B
2-Hexanone	SW846 8260B
4-Chlorotoluene	SW846 8260B
4-Methyl-2-pentanone	SW846 8260B
Acetone	SW846 8260B
Acrolein	SW846 8260B
Benzene	SW846 8260B
Bromobenzene	SW846 8260B
Bromochloromethane	SW846 8260B
Bromodichloromethane	SW846 8260B
Bromoform	SW846 8260B
Carbon Disulfide	SW846 8260B
Carbon Tetrachloride	SW846 8260B
Chlorobenzene	SW846 8260B
Chlorodibromomethane	SW846 8260B
Chloroethane	SW846 8260B

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
Chloroform	SW846 8260B
cis-1,2-Dichloroethene	SW846 8260B
cis-1,3-Dichloropropene	SW846 8260B
Dibromomethane	SW846 8260B
Dichlorodifluoromethane	SW846 8260B
Ethylbenzene	SW846 8260B
Hexachlorobutadiene	SW846 8260B
Iodomethane	SW846 8260B
Isopropylbenzene	SW846 8260B
meta-Xylene	SW846 8260B
Methyl Bromide	SW846 8260B
Methyl Chloride	SW846 8260B
Methyl Ethyl Ketone	SW846 8260B
Methylene Chloride	SW846 8260B
Methyl-t-Butyl Ether	SW846 8260B
Naphthalene	SW846 8260B
n-Butylbenzene	SW846 8260B
n-Propylbenzene	SW846 8260B
ortho-Xylene	SW846 8260B
para-Xylene	SW846 8260B
p-Isopropyltoluene	SW846 8260B
sec-Butylbenzene	SW846 8260B
Styrene	SW846 8260B
tert-Butylbenzene	SW846 8260B
Tetrachloroethylene	SW846 8260B
Toluene	SW846 8260B
trans-1,2-Dichloroethene	SW846 8260B
trans-1,3-Dichloropropene	SW846 8260B
Trichloroethene	SW846 8260B
Trichlorofluoromethane	SW846 8260B
Vinyl Acetate	SW846 8260B
Vinyl Chloride	SW846 8260B
Xylenes, Total	SW846 8260B
1,2,4-Trichlorobenzene	SW846 8270C

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
1,2-Dichlorobenzene	SW846 8270C
1,3-Dichlorobenzene	SW846 8270C
1,4-Dichlorobenzene	SW846 8270C
2,3,4,6-Tetrachlorophenol	SW846 8270C
2,4,5-Trichlorophenol	SW846 8270C
2,4,6-Trichlorophenol	SW846 8270C
2,4-Dichlorophenol	SW846 8270C
2,4-Dimethylphenol	SW846 8270C
2,4-Dinitrophenol	SW846 8270C
2,4-Dinitrotoluene	SW846 8270C
2,6-Dinitrotoluene	SW846 8270C
2-Chloronaphthalene	SW846 8270C
2-Chlorophenol	SW846 8270C
2-Methyl-4,6-dinitrophenol	SW846 8270C
2-Methylnaphthalene	SW846 8270C
2-Methylphenol	SW846 8270C
2-Nitroaniline	SW846 8270C
2-Nitrophenol	SW846 8270C
3,3'-Dichlorobenzidine	SW846 8270C
3-Methylphenol	SW846 8270C
3-Nitroaniline	SW846 8270C
4-Bromophenyl Phenyl Ether	SW846 8270C
4-Chloro-3-methylphenol	SW846 8270C
4-Chloroaniline	SW846 8270C
4-Chlorophenyl Phenyl Ether	SW846 8270C
4-Methylphenol	SW846 8270C
4-Nitroaniline	SW846 8270C
4-Nitrophenol	SW846 8270C
Acenaphthene	SW846 8270C
Acenaphthylene	SW846 8270C
Aniline	SW846 8270C
Anthracene	SW846 8270C
Benzidine	SW846 8270C
Benzo(a)anthracene	SW846 8270C
Benzo(a)pyrene	SW846 8270C

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
Benzo(b)flouranthene	SW846 8270C
Benzo(g,h,i)perylene	SW846 8270C
Benzo(k)flouranthene	SW846 8270C
Benzoic Acid	SW846 8270C
Benzyl Alcohol	SW846 8270C
bis(2-chloroethoxy)methane	SW846 8270C
bis(2-Chloroethyl)ether	SW846 8270C
bis(2-Chloroisopropyl)ether	SW846 8270C
bis(2-Ethylhexyl)phthalate	SW846 8270C
Butyl benzyl phthalate	SW846 8270C
Chrysene	SW846 8270C
Dibenzo(a,h)anthracene	SW846 8270C
Dibenzofuran	SW846 8270C
Diethyl Phthalate	SW846 8270C
Dimethyl Phthalate	SW846 8270C
Di-n-butyl phthalate	SW846 8270C
Di-n-octyl phthalate	SW846 8270C
Fluoranthene	SW846 8270C
Fluorene	SW846 8270C
Hexachlorobenzene	SW846 8270C
Hexachlorobutadiene	SW846 8270C
Hexachlorocyclopentadiene	SW846 8270C
Hexachloroethane	SW846 8270C
Indeno(1,2,3-cd)pyrene	SW846 8270C
Isophorone	SW846 8270C
n-Nitroso-di-n-Propylamine	SW846 8270C
n-Nitrosodimethylamine	SW846 8270C
n-Nitrosodiphenylamine	SW846 8270C
Naphthalene	SW846 8270C
Nitrobenzene	SW846 8270C
Pentachlorophenol	SW846 8270C
Phenanthrene	SW846 8270C
Phenol	SW846 8270C
Pyrene	SW846 8270C
Pyridine	SW846 8270C

Resource Conservation and Recovery Act Continued

Parameter	Certified Method(s)
1,3,5-Trinitrobenzene	SW846 8330
1,3-Dinitrobenzene	SW846 8330
2,4,6-Trinitrotoluene	SW846 8330
2,4-Dinitrotoluene	SW846 8330
2,6-Dinitrotoluene	SW846 8330
2-Amino-4,6-Dinitrotoluene	SW846 8330
2-Nitrotoluene	SW846 8330
3-Nitrotoluene	SW846 8330
4-Amino-2,6-Dinitrotoluene	SW846 8330
4-Nitrotoluene	SW846 8330
Hexahydro-1,3,4-trinitro-1,3,5-triazine (RDX)	SW846 8330
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	SW846 8330
Nitrobenzene	SW846 8330
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	SW846 8330
Gross Alpha and Gross Beta	SW846 9310
Alpha Emitting Radium Isotopes	SW846 9315
Radium-228	SW846 9320

Richard J. Codey
Acting Governor

State of New Jersey
Department of Environmental Protection
Office of Quality Assurance
9 Ewing Street, 2nd Floor, P.O. Box 424
Trenton, New Jersey 08625
Telephone: (609) 292-3950
Facsimile: (609) 777-1774

Bradley M. Campbell
Commissioner

AUG 11 2005

PARAGON ANALYTICS
225 COMMERCE DR,
FORT COLLINS, CO 80524
ATTN: ROBIN SMITH
LAB ID #: CO003

Note: Paragon has reduced our New Jersey certification to radiological parameters only; new certificate pending.
9/6/06 DAS

Dear Laboratory Manager:

A Certificate and an Annual Certified Parameter List (ACPL) that reflects the current status of your facility are enclosed. If there are any discrepancies, please contact your Laboratory Certification Officer to verify information and make arrangements for a new ACPL. Effective with the receipt of this letter, your facility's certification status is valid through June 30, 2006. Both the ACPL and Certificate should be conspicuously displayed at your facility in a location on the premises that is visible to the public.

As always, we are available to discuss any comments or questions. Please do not hesitate to contact your Laboratory Certification Officer or me.

Sincerely,

Joseph F. Aiello, Chief

Enclosure(s)

ANNUAL CERTIFIED PARAMETER LIST AND CURRENT STATUS

Effective as of 07/01/2005 until 06/30/2006

Laboratory Name: PARAGON ANALYTICS Laboratory Number: CO003 Activity ID: CLC050001
225 COMMERCE DR
FORT COLLINS, CO 80524

Category: SDW06 – Organic Parameters, Chromatography/MS

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	No	UT	SDW06.03220	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Isopropyltoluene (4-)
Certified	No	UT	SDW06.03230	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Propylbenzene (n-)
Certified	No	UT	SDW06.03240	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Tetrachloroethane (1,1,1,2-)
Certified	No	UT	SDW06.03250	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Trichlorobenzene (1,2,3-)
Certified	No	UT	SDW06.03260	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Trichlorofluoromethane
Certified	No	UT	SDW06.03270	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Trichloropropane (1,2,3)
Certified	No	UT	SDW06.03280	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Trimethylbenzene (1,2,4-)
Certified	No	UT	SDW06.03300	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Trimethylbenzene (1,3,5-)
Certified	Yes	UT	SDW06.03410	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Acetone
Certified	Yes	UT	SDW06.03420	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Acrylonitrile
Certified	Yes	UT	SDW06.03440	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Butanone (2-)
Certified	Yes	UT	SDW06.03450	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Carbon disulfide
Certified	Yes	UT	SDW06.03560	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Methyl iodide
Certified	Yes	UT	SDW06.03580	DW	GC/MS, P & T or Direct Injection, Capillary	[EPA 524.2]	Pentanone (4-methyl-2-)

Category: SDW07 -- Radiochem.: Radioactivity / Radionuclide

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SDW07.01000	DW	Proportional or Scintillation	[EPA 900.0]	Gross - alpha-beta
Dropped	No	UT	SDW07.02030	DW	Gamma Spectrometry	[EPA 901.1]	Radioactive iodine
Certified	Yes	UT	SDW07.03000	DW	Gamma Spectrometry	[EPA 901.1]	Cesium 134/137
Certified	Yes	UT	SDW07.03110	DW	Gamma Spectrometry	[EPA 901.1]	Barium 133
Certified	Yes	UT	SDW07.03120	DW	Gamma Spectrometry	[EPA 901.1]	Cobalt 60
Certified	Yes	UT	SDW07.03130	DW	Gamma Spectrometry	[EPA 901.1]	Zinc 65
Certified	Yes	UT	SDW07.03900	DW	Radiochemical	[EPA 903.0]	Radium - 226
Certified	Yes	UT	SDW07.04000	DW	Radon Emanation	[EPA 903.1]	Radium - 226
Certified	Yes	UT	SDW07.04100	DW	Precipitation	[EPA 904.0]	Radium - 228
Certified	Yes	UT	SDW07.05000	DW	Precipitation	[EPA 903.0]	Radium - total
Certified	Yes	UT	SDW07.07000	DW	Distillation/Liquid Scintillation	[EPA 906.0]	Tritium
Dropped	No	UT	SDW07.08100	DW	Co-Precipition	[EPA 908.0]	Uranium

KEY: AE = Air and Emissions, BT = Biological Tissues, DW = Drinking Water, NPW = Non-Potable Water, SCM = Solid and Chemical Materials

ANNUAL CERTIFIED PARAMETER LIST AND CURRENT STATUS

Effective as of 07/01/2005 until 06/30/2006

Laboratory Name: PARAGON ANALYTICS Laboratory Number: CO003 Activity ID: CLC050001
225 COMMERCE DR
FORT COLLINS, CO 80524

Category: SDW07 – Radiochem.: Radioactivity / Radionuclide

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SDW07.08300	DW	Alpha Spectrometry	[USER DEFINED ASTM D3972-90]	Uranium

Category: SHW02 -- Characteristics of Hazardous Waste

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW02.01000	NPW	Pensky Martens	[SW-846 1010, Rev. 0, 9/86]	Ignitability

Category: SHW03 -- Analyze-Immediately Parameters

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	No	UT	SHW03.01000	NPW	Aqueous, Electrometric	[SW-846 9040B, Rev. 2, 1/95]	pH

Category: SHW04 -- Inorganic Parameters

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW04.01000	NPW	Acid Digestion/Surface and Groundwater, ICP, FLAA	[SW-846 3005A, Rev. 1, 7/92]	Metals, Total Rec and Dissolved
Certified	Yes	UT	SHW04.01500	NPW	Acid Digestion/Aqueous Samples, ICP, FLAA	[SW-846 3010A, Rev. 1, 7/92]	Metals, Total
Certified	No	UT	SHW04.33000	NPW	AA, Manual Cold Vapor	[SW-846 7470A, Rev. 1, 9/94]	Mercury - liquid waste

Category: SHW05 -- Organic Parameters, Prep. / Screening

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW05.01000	NPW	Separatory Funnel Extraction	[SW-846 3510C, Rev. 3, 12/96]	Semivolatile organics
Certified	Yes	UT	SHW05.02000	NPW	Continuous Liquid-Liquid Extraction	[SW-846 3520C, Rev. 3, 12/96]	Semivolatile organics
Certified	Yes	UT	SHW05.07000	NPW	Purge & Trap Aqueous	[SW-846 5030B, Rev. 2, 12/96]	Volatile organics

KEY: AE = Air and Emissions, BT = Biological Tissues, DW = Drinking Water, NPW = Non-Potable Water, SCM = Solid and Chemical Materials

ANNUAL CERTIFIED PARAMETER LIST AND CURRENT STATUS

Effective as of 07/01/2005 until 06/30/2006

Laboratory Name: PARAGON ANALYTICS Laboratory Number: CO003 Activity ID: CLC050001
225 COMMERCE DR
FORT COLLINS, CO 80524

Category: WPP07 -- Organic Parameters, Individual Pesticide

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	No	UT	WPP07.11000	NPW	GC	[EPA 608]	Beta BHC
Certified	No	UT	WPP07.13000	NPW	GC	[EPA 608]	Delta BHC
Certified	No	UT	WPP07.15000	NPW	GC	[EPA 608]	Lindane (gamma BHC)
Certified	No	UT	WPP07.20000	NPW	GC	[EPA 608]	Chlordane
Certified	No	UT	WPP07.24000	NPW	GC	[EPA 608]	DDD (4,4'-)
Certified	No	UT	WPP07.26000	NPW	GC	[EPA 608]	DDE (4,4'-)
Certified	No	UT	WPP07.28000	NPW	GC	[EPA 608]	DDT (4,4'-)
Certified	No	UT	WPP07.37000	NPW	GC	[EPA 608]	Dieldrin
Certified	No	UT	WPP07.42000	NPW	GC	[EPA 608]	Endosulfan I
Certified	No	UT	WPP07.43000	NPW	GC	[EPA 608]	Endosulfan II
Certified	No	UT	WPP07.45000	NPW	GC	[EPA 608]	Endosulfan sulfate
Certified	No	UT	WPP07.47000	NPW	GC	[EPA 608]	Endrin
Certified	No	UT	WPP07.49000	NPW	GC	[EPA 608]	Endrin aldehyde
Certified	No	UT	WPP07.54000	NPW	GC	[EPA 608]	Heptachlor
Certified	No	UT	WPP07.56000	NPW	GC	[EPA 608]	Heptachlor epoxide
Certified	No	UT	WPP07.62000	NPW	GC	[EPA 608]	Methoxychlor
Certified	No	UT	WPP07.85000	NPW	GC	[EPA 608]	Toxaphene

Category: WPP09 -- Radiochemistry: Radioactivity and Radio

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	WPP09.01000	NPW	Proportional or Scintillation	[EPA 900]	Gross - alpha
Certified	Yes	UT	WPP09.03000	NPW	Proportional Counter	[EPA 900]	Gross - beta
Certified	Yes	UT	WPP09.03100	NPW	Gamma Spectrometry	[EPA 901.1]	Cesium 134/137
Certified	Yes	UT	WPP09.05000	NPW	Precipitation	[EPA 903.0]	Radium - total
Certified	Yes	UT	WPP09.05010	NPW	Proportional	[EPA 903.0]	Radium - 226
Certified	Yes	UT	WPP09.06000	NPW	Radiochemical	[EPA 903.1]	Radium - 226
Certified	Yes	UT	WPP09.06020	NPW	Co-Precipitation / Beta Counting	[EPA 904.0]	Radium - 228
Certified	Yes	UT	WPP09.07000	NPW	Gamma Spectrometry	[EPA 901.1]	Photon Emitters
Dropped	No	UT	WPP09.09000	NPW	Co-Precipitation / Alpha Counting	[EPA 908.0]	Uranium

KEY: AE = Air and Emissions, BT = Biological Tissues, DW = Drinking Water, NPW = Non-Potable Water, SCM = Solid and Chemical Materials

Laboratory Name: PARAGON ANALYTICS Laboratory Number: CO003 Activity ID: CLC050001
225 COMMERCE DR
FORT COLLINS, CO 80524

Category: WPP09 -- Radiochemistry: Radioactivity and Radio

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Applied	No	UT	WPP09.09010	NPW	Isotopic Analysis / Alpha Spectrometry	[ASTM D 3972-97]	Uranium
Certified	Yes	UT	WPP09.10000	NPW	Distillation/Liquid Scintillation	[EPA 906.0]	Tritium

Category: SHW04 -- Inorganic Parameters

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	No	UT	SHW04.05000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Aluminum
Certified	No	UT	SHW04.06500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Antimony
Certified	No	UT	SHW04.09000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Arsenic
Certified	No	UT	SHW04.11500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Barium
Certified	No	UT	SHW04.13500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Beryllium
Certified	No	UT	SHW04.15100	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Boron
Certified	No	UT	SHW04.15500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Cadmium
Certified	No	UT	SHW04.17500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Calcium
Certified	No	UT	SHW04.18500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Chromium
Certified	No	UT	SHW04.21000	NPW, SCM	Colorimetric	[SW-846 7196A, Rev. 1, 7/92]	Chromium (VI)
Certified	No	UT	SHW04.22500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Cobalt
Certified	No	UT	SHW04.24500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Copper
Certified	No	UT	SHW04.26000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Iron
Certified	No	UT	SHW04.27500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Lead
Certified	No	UT	SHW04.29500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Lithium
Certified	No	UT	SHW04.30500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Magnesium
Certified	No	UT	SHW04.31500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Manganese
Certified	No	UT	SHW04.34000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Molybdenum
Certified	No	UT	SHW04.35500	NPW, SCM	ICP	[SW-846 6010B, Rev. 2, 12/96]	Nickel
Dropped	No	UT	SHW04.37000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Phosphorus
Certified	No	UT	SHW04.38000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Potassium
Certified	No	UT	SHW04.39000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Selenium
Certified	No	UT	SHW04.41000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Silver
Certified	No	UT	SHW04.43000	NPW, SCM	ICP	[SW-846 6010B, Rev. 2 12/96]	Sodium

KEY: AE = Air and Emissions, BT = Biological Tissues, DW = Drinking Water, NPW = Non-Potable Water, SCM = Solid and Chemical Materials

New Jersey Department of Environmental Protection

National Environmental Laboratory Accreditation Program

ANNUAL CERTIFIED PARAMETER LIST AND CURRENT STATUS

Effective as of 07/01/2005 until 06/30/2006

Laboratory Name: PARAGON ANALYTICS Laboratory Number: CO003 Activity ID: CLC050001
225 COMMERCE DR
FORT COLLINS, CO 80524

Category: SHW09 -- Miscellaneous Parameters

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW09.60000	NPW, SCM	Proportional Counter	[SW-846 9310, Rev. 0, 9/86]	Gross - alpha-beta
Certified	Yes	UT	SHW09.60100	NPW, SCM	Precipitation	[SW-846 9315, Rev. 0, 9/86]	Alpha Emitting Radium Isotopes
Certified	Yes	UT	SHW09.60110	NPW, SCM	Precipitation	[SW-846 9320, Rev. 0, 9/86]	Radium - 228

Category: SHW02 -- Characteristics of Hazardous Waste

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW02.05000	SCM	HCN Release, Distill, Colorimetric	[SW-846 7.3.3.2, Rev. 3, 12/96]	Reactivity
Certified	Yes	UT	SHW02.06000	SCM	H2S Release, Distill, Redox	[SW-846 7.3.4.2, Rev. 3, 12/96]	Reactivity
Certified	Yes	UT	SHW02.06900	SCM	TCLP, Toxicity Procedure, ZHE	[SW-846 1311, Rev. 0, 7/92]	Volatile organics
Certified	No	UT	SHW02.07000	SCM	TCLP, Toxicity Procedure, Shaker	[SW-846 1311, Rev. 0, 7/92]	Metals - semi volatile organics
Certified	Yes	UT	SHW02.08000	SCM	Synthetic PPT Leachate Procedure	[SW-846 1312, Rev. 0, 9/94]	Metals - organics

Category: SHW04 -- Inorganic Parameters

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW04.03000	SCM	Acid Digestion, Soil Sediment & Sludge	[SW-846 3050B, Rev. 2, 12/96]	Metals
Certified	Yes	UT	SHW04.03700	SCM	Chromium VI Digestion	[SW-846 3060A, Rev. 1, 12/96]	Metals
Certified	No	UT	SHW04.33500	SCM	AA, Manual Cold Vapor	[SW-846 7471A, Rev. 1, 9/94]	Mercury - solid waste

Category: SHW05 -- Organic Parameters, Prep. / Screening

Status	Eligible to Report NJ Data	State	Code	Matrix	Technique Description	Approved Method	Parameter Description
Certified	Yes	UT	SHW05.03000	SCM	Soxhlet Extraction	[SW-846 3540C, Rev. 3, 12/96]	Semivolatile organics
Certified	Yes	UT	SHW05.06000	SCM	Waste Dilution	[SW-846 3580A, Rev. 1, 7/92]	Organics
Certified	Yes	UT	SHW05.07300	SCM	Closed System Purge & Trap	[SW-846 5035, Rev. 0, 12/96]	Volatile organics - low conc.

KEY: AE = Air and Emissions, BT = Biological Tissues, DW = Drinking Water, NPW = Non-Potable Water, SCM = Solid and Chemical Materials

State of New Jersey
Department of Environmental Protection

Certifies That

Paragon Anclytics

***Laboratory Certification ID#*: CO003**

having duly met the requirements of the

Regulations Governing The Certification Of
Laboratories And Environmental Measurements N.J.A.C. 7:18 et. seq.

and

having been found compliant with the standards approved by the

National Environmental Laboratory Accreditation Conference

is hereby approved as a

State Certified Environmental Laboratory

to perform the analyses as indicated on the Annual Certified Parameter List
which must accompany this certificate to be valid

Expiration Date June 30, 2006

NJDEP is a NELAP Recognized Accrediting Authority

Bernie Wilk for

Joseph F. Aiello, Chief
Office of Quality Assurance

THIS CERTIFICATE IS TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY WITH THE ANNUAL CERTIFIED PARAMETER LIST IN A LOCATION ON THE PREMISES VISIBLE TO THE PUBLIC

Administrator Leo Drozdoff
(775) 687-4670

Administration
Facsimile 687-5856

Water Quality Planning
Water Pollution Control
Facsimile 687-4684

Mining Regulations & Reclamation
Facsimile 684-5259

State of Nevada
KENNY C. GUINN
Governor

ALLEN BIAGGI, *Director*

Air Pollution Control
Air Quality Planning
Facsimile 687-6396

Waste Management
Federal Facilities

Corrective Actions
Facsimile 687-8335

NDEP.nv.gov

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

901 S. Stewart Street, STE 4001
Carson City, Nevada 89701-5249

Debra Scheib
Paragon Analytics Inc. CO-78
225 Commerce Dr.
Fort Collins, CO 80524
April 19, 2006

STATE OF NEVADA
CERTIFIED PARAMETER LIST

Pursuant to regulations adopted by the State Board of Health and the Environmental Commission, the State of Nevada will accept data from this laboratory for the following contaminants. Please be advised that it is the responsibility of the laboratory to make your clientele aware of changes. In particular it is important that the clients are aware of the loss of any previously certified parameters. If the laboratory subcontracts samples to other laboratories, it is the responsibility of the laboratory to ensure that the contracting laboratory is Nevada certified for all contracted parameters. The clients must be made aware of any subcontracted work. Proficiency testing results should be submitted prior to July 31, 2006.
EXPIRATION DATE: July 31, 2006

This parameter list supercedes any previously issued parameter lists.

SDWA INORGANICS	METHODS	SDWA ORGANICS	METHODS
Aluminum	200.7	Dibromochloropropane (DBCP)	504.1
Aluminum	200.8	Ethylenedibromide (EDB)	504.1
Antimony	200.8	2,4-D	515.1
Arsenic	200.8	2,4-DB	515.1
Barium	200.7	Dalapon	515.1
Beryllium	200.7	Dicamba	515.1
Boron	200.7	Dichloroprop	515.1
Cadmium	200.7	Dinoseb	515.1
Cadmium	200.8	2,4,5-T	515.1
Chromium	200.7	2,4,5-TP (Silvex)	515.1
Copper	200.7	Regulated Volatile Organics	524.2
Copper	200.8	Vinyl Chloride	524.2
Iron	200.7	Bromodichloromethane	524.2
Lead	200.8	Bromoform	524.2
Manganese	200.7	Chlorodibromomethane	524.2
Molybdenum	200.7	Chloroform	524.2
Molybdenum	200.8	Trihalomethanes	524.2
Nickel	200.7	Unregulated Volatile Organics	524.2
Selenium	200.8	Aldrin	505
Silver	200.7	Dieldrin	505
Silver	200.8	Endrin	505
Thallium	200.8	Heptachlor	505
Vanadium	200.7	Heptachlor Epoxide	505
Zinc	200.7	gamma-BHC (Lindane)	505
Mercury	245.1	Methoxychlor	505
Calcium Hardness as CaCO3	200.7	Toxaphene	505
Calcium	200.7	Chlordane, technical	505
Magnesium	200.7	**SDWA RADIOCHEMISTRY**	**METHODS**
Perchlorate	314.1	Cobalt-60	901.1
		Zinc-65	901.1

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STATE OF NEVADA
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SDWA RADIOCHEMISTRY	METHODS	WASTEWATER INORGANICS	METHODS
Cesium-134	901.1	Ortho-phosphate as P	300.0
Cesium-137	901.1	Total Phosphorus as P	365.2
Barium-133	901.1	Cyanide	335.2
Gross Alpha	900	Grease and Oil	1664
Gross Beta	900	Aluminum	200.7
Tritium	906	Antimony	200.7
Uranium (Nat)	D-3972	Arsenic	200.7
Uranium (Nat)	200.8	Barium	200.7
Radium-226	903	Beryllium	200.7
Radium-226	903.1	Boron	200.7
Radium-228	903.1	Cadmium	200.7
Radium-228	904	Chromium	200.7
Strontium-89	D-5811-95	Cobalt	200.7
Strontium-90	D-5811-95	Copper	200.7
WASTEWATER INORGANICS	**METHODS**	Iron	200.7
Alkalinity	310.1	Lead	200.7
Chloride	300.0	Manganese	200.7
Chloride	325.3	Molybdenum	200.7
Conductivity at 25 deg	120.1	Nickel	200.7
Fluoride	300.0	Selenium	200.7
Fluoride	340.2	Silver	200.7
Potassium	200.7	Strontium	200.7
Sodium	200.7	Thallium	200.7
Sulfate	300.0	Vanadium	200.7
TDS (Total dissolved Solids) 180C	160.1	Zinc	200.7
Total Solids 105 C	160.3	Mercury	245.1
pH	150.1	Tin	200.7
TSS (Total Suspended Solids)	160.2	Titanium	200.7
Calcium	200.7	Hexavalent Chromium	3500CrD
Magnesium	200.7	Sulfide	376.1
Total Hardness	200.7	**WASTEWATER VOLATILES**	**METHODS**
Total Hardness	2340B	Benzene	624
TOC	415.1	Bromodichloromethane	624
Ammonia	350.1	Bromoform	624
Ammonia	4500NH3H	Bromomethane	624
Nitrate as N	300.0	Carbon tetrachloride	624
Nitrite	300.0	Chlorobenzene	624
Nitrite	354.1	Chlorodibromomethane	624
Nitrate + Nitrite as N	353.2	Chloroethane	624
Ortho-phosphate as P	365.2	2-Chloroethylvinylether	624

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WASTEWATER VOLATILES	**METHODS**	**WASTEWATER VOLATILES**	**METHODS**
Chloroform	624	cis-1,2-Dichloroethylene	624
Chloromethane	624	trans-1,2-Dichloroethylene	624
1,2-Dichlorobenzene	624	1,2-Dichloropropane	624
1,3-Dichlorobenzene	624	cis-1,3-Dichloropropylene	624
1,4-Dichlorobenzene	624	trans-1,3-Dichloropropylene	624
Dichlorodifluoromethane	624	Ethylbenzene	624
1,1-Dichloroethane	624	Methylene chloride	624
1,2-Dichloroethane	624	Tetrachloroethylene	624
WASTEWATER VOLATILES	**METHODS**	Toluene	624
trans-1,2-Dichloroethylene	624	1,1,1-Trichloroethane	624
1,2-Dichloropropane	624	1,1,2-Trichloroethane	624
trans-1,3-Dichloropropylene	624	Trichloroethylene	624
Ethylbenzene	624	Trichlorofluoromethane	624
Methylene chloride	624	Vinyl chloride	624
Tetrachloroethylene	624	Xylenes, total	624
Toluene	624	**WASTEWATER HERBICIDES**	**METHODS**
1,1,1-Trichloroethane	624	2,4-D	615
1,1,2-Trichloroethane	624	2,4,5-T	615
Trichloroethylene	624	2,4,5-TP (Silvex)	615
Trichlorofluoromethane	624	Dicamba	615
Vinyl chloride	624	PCB's in water	608
Xylenes, total	624	PCB's IN OIL	608
1,1-Dichloroethylene	624	**WASTEWATER PESTICIDES**	**METHODS**
cis-1,2-Dichloroethylene	624	Aldrin	608
Carbon tetrachloride	624	alpha-BHC	608
Chlorobenzene	624	beta-BHC	608
Chlorodibromomethane	624	delta-BHC	608
Chloroethane	624	gamma-BHC (Lindane)	608
2-Chloroethylvinylether	624	alpha-Chlordane	608
Chloroform	624	gamma-Chlordane	608
Chloromethane	624	4,4'-DDD	608
1,2-Dichlorobenzene	624	4,4'-DDE	608
1,3-Dichlorobenzene	624	4,4'-DDT	608
1,4-Dichlorobenzene	624	Dieldrin	608
Dichlorodifluoromethane	624	Endrin	608
1,1-Dichloroethane	624	Endrin aldehyde	608
1,2-Dichloroethane	624	Endosulfan I	608
1,1-Dichloroethylene	624	Endosulfan II	608

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WASTEWATER PESTICIDES	**METHODS**	**RCRA WATER**	**METHODS**
Endosulfan sulfate	608	Atrazine	8081A
Heptachlor	608	Butachlor	8081A
Heptachlor Epoxide	608	Diazinon	8081A
Chlordane, technical	608	Dieldrin	8081A
Toxaphene	608	Endrin	8081A
Semi-volatile Organic Compounds	625	Endrin aldehyde	8081A
WW RADIOCHEMISTRY	**METHODS**	Endosulfan I	8081A
Cobalt-60	901.1	Endosulfan II	8081A
Zinc-65	901.1	Endosulfan sulfate	8081A
Cesium-134	901.1	Heptachlor	8081A
Cesium-137	901.1	Heptachlor Epoxide	8081A
Barium-133	901.1	Hexachlorobenzene	8081A
Gross Alpha	900	Hexachlorocyclopentadiene	8081A
Gross Beta	900	Methoxychlor	8081A
Tritium	906	Metolachlor	8081A
Uranium (Nat)	D-3972	Metribuzin	8081A
Uranium (Nat)	200.8	Molinate (Ordram)	8081A
Radium-226	903.1	Prometon	8081A
Radium-226	903	Propachlor	8081A
Radium-228	903.1	Simazine	8081A
Radium-228	904	Thiobencarb	8081A
Strontium-89	D-5811-95	Trifluralin	8081A
Strontium-90	D-5811-95	Toxaphene	8081A
RCRA WATER	**METHODS**	Chlordane, technical	8081A
Radium 226	9315	PCBS	8082
Radium 228	9320	2,4-D	8151A
Gross Alpha & Beta	9310	Dicamba	8151A
Cyanide	9014	Silvex	8151A
Benzene	8021B	Gasoline Range Organics (GRO)	8015B
Ethylbenzene	8021B	Diesel Range Organics (DRO)	8015B
Methyl tert-butyl ether (MTBE)	8021B	Benzene	8021B
Toluene	8021B	Ethylbenzene	8021B
Xylene, Total	8021B	Methyl tert-butyl ether (MTBE)	8021B
Aldrin	8081A	Toluene	8021B
alpha-BHC	8081A	Xylene, Total	8021B
beta-BHC	8081A	Oil & Grease	1664
delta-BHC	8081A	Volatile Organic Compounds	8260B
gamma-BHC (Lindane)	8081A	Semi Volatiles	8270C
DDD	8081A	EDB	8011
DDE	8081A	DBCP	8011
DDT	8081A		

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RCRA WATER	METHODS	RCRA SOIL METALS	METHODS
Aluminum	6010B	Aluminum	6010B
Antimony	6010B	Antimony	6010B
Arsenic	6010B	Arsenic	6010B
Barium	6010B	Barium	6010B
Beryllium	6010B	Beryllium	6010B
Boron	6010B	Boron	6010B
Cadmium	6010B	Cadmium	6010B
Cobalt	6010B	Calcium	6010B
Copper	6010B	Chromium	6010B
Lead	6010B	Cobalt	6010B
Manganese	6010B	Copper	6010B
Mercury	7470A	Iron	6010B
Molybdenum	6010B	Lead	6010B
Nickel	6010B	Magnesium	6010B
Selenium	6010B	Manganese	6010B
Silver	6010B	Molybdenum	6010B
Strontium	6010B	Nickel	6010B
Tin	6010B	Potassium	6010B
Thallium	6010B	Selenium	6010B
Titanium	6010B	Silver	6010B
Vanadium	6010B	Sodium	6010B
Zinc	6010B	Strontium	6010B
Chomium VI	7196A	Tin	6010B
Aluminum	6020	Thallium	6010B
Antimony	6020	Titanium	6010B
Arsenic	6020	Vanadium	6010B
Cadmium	6020	Zinc	6010B
Copper	6020	Chromium VI	7196A
Lead	6020	Aluminum	6020A
Molybdenum	6020	Antimony	6020A
Selenium	6020	Arsenic	6020A
Silver	6020	Cadmium	6020A
Thallium	6020	Cobalt	6020A
Chloride	9056	Lead	6020A
Sulfate	9056	Molybdenum	6020A
ortho-phosphate	9056	Selenium	6020A
Bromide	9056	Silver	6020A
Nitrite	9056	Thallium	6020A
pH	9040B	Uranium	6020A
Corrosivity	9045C	Mecury	7471A
Mercury	7470A		

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RCRA SOIL	**METHODS**	**ORGANOPHOSPHORUS SOIL**	**METHODS**
Total Cyanide	9013/9014	Ronnel	8141A
Bromide	9056	Tetrachlorvinphos(Stirophos,Gardona)	8141A
Chloride	9056	**SOIL BNAs / PAHs**	**METHODS**
Fluoride	9056	Semi Volatiles Soil	8270C
Nitrate	9056	PCBs Soil	8082
Ortho-Phosphate as P	9056	**SOIL BTEX/MTBE**	**METHODS**
Sulfate	9056	Ethylbenzene	8021B
Corrosivity	9045C	**TPH SOIL**	**METHODS**
SOIL PESTICIDES	**METHODS**	TPH	9071A
Aldrin	8081A	**NITROAROMATICS**	**METHODS**
alpha-BHC	8081A	HMX	8330
beta-BHC	8081A	RDX	8330
delta-BHC	8081A	1,3-Dinitrobenzene	8330
gamma-BHC (Lindane)	8081A	1,3,5-Trinitrobenzene	8330
a-Chlordane	8081A	Nitrobenzene	8330
g-Chlordane	8081A	Tetryl	8330
4,4'-DDD	8081A	2,4,6-Trinitrotoluene	8330
4,4'-DDE	8081A	2-Amino-4,6-dinitrotoluene	8330
4,4'-DDT	8081A	4-Amino-2,6-dinitrotoluene	8330
Endrin	8081A	2,6-Dinitrotoluene	8330
Endrin aldehyde	8081A	2,4-Dinitrotoluene	8330
Endosulfan I	8081A	2-Nitrotoluene	8330
Endosulfan II	8081A	3-Nitrotoluene	8330
Endosulfan sulfate	8081A	4-Nitrotoluene	8330
Heptachlor	8081A	**SOIL HERBICIDES**	**METHODS**
Heptachlor Epoxide	8081A	MCPP	8151A
Methoxychlor	8081A	2,4-D	8151A
Chlordane, technical	8081A	Dalapon	8151A
Toxaphene	8081A	2,4-DB	8151A
ORGANOPHOSPHORUS SOIL	**METHODS**	Dicamba	8151A
Azinphos-methyl (Guthion)	8141A	Dinoseb	8151A
Chlorfenvinphos	8141A	Silvex (2,4,5-TP)	8151A
Chlorpyrifos	8141A	2,4,5-T	8151A
Demeton-s	8141A	**VOCs SOIL**	**METHODS**
Demeton-o	8141A	Volatile Organic Compounds	8260B
Diazinon	8141A	GRO Soil (Gasoline Range Organic)	8015B
Ethoprop	8141A	DRO Soil (Diesel Range Organics)	8015B
Dichlorovos(DDVP,Dichlorovos)	8141A	1,2-Dibromo-3-chloropropane(DPCP)	8260B
Disulfoton	8141A	1,2-Dibromoethane (EDB)	8260B
Ethoprop	8141A	4-Methyl-2-pentanone (MIBK)	8260B
Fenthion	8141A	Methyl tert-butyl ether (MBTE)	8260B
Malathion	8141A	**SOIL RADIOCHEMISTRY**	**METHODS**
Naled	8141A	Radium 226	9315
Parathion, methyl	8141A	Radium 228	9320
Phorate	8141A	Gross Alpha & Beta	9310

END OF REPORT*

Please review this parameter list carefully and contact us with any omissions or corrections.
SUMMARY OF CHANGES: Added Mercury in water by 7470A, in soil 7471A effective 4/12/05.

Sara Rairick — April 19, 2006
Sara Rairick — Date
Laboratory Certification Officer
Nevada Division of Environmental Protection

Don LaFara — April 19, 2006
Donald LaFara, Program Manager — Date
Environmental Laboratory Services
Nevada Division of Environmental Protection

STEVEN A. THOMPSON
Executive Director

O K L A H O M A
DEPARTMENT OF ENVIRONMENTAL QUALITY

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY
Governor

MEMORANDUM

August 4, 2006

TO: Laboratory Directors

FROM: David Caldwell DEC
Customer Services Division
Laboratory Accreditation Unit

SUBJECT: List of General Water Quality Accredited Analytes for September 1, 2006 through August 31, 2007.

Enclosed is your laboratory's list of accredited analytes for September 1, 2006 through August 31, 2007. This analyte list officially demonstrates your laboratory's General Water Quality Accreditation status with the Oklahoma Department of Environmental Quality (DEQ).

One of the conditions of accreditation is to maintain on file your laboratory's list of accredited analytes [See OAC 252:300-7-2]. This means that at least one copy of the list should be kept available in your laboratory at all times for review upon request. In each subsequent year, participating laboratories will receive a new, updated list of accredited analytes.

If you have any questions regarding this memorandum or your list of accredited analytes, please contact Mr. David Caldwell at (405) 702-1024.

PLEASE REMEMBER TO REVIEW YOUR LIST OF ACCREDITED ANALYTES FOR ACCURACY!

OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
State Environmental Laboratory
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677
405-702-1000

Paragon Analytics, Div of Datachem
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Debra Scheib
225 Commerce Drive
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(970) 490-1511

Laboratory Accreditation Program
General Water Quality\Sludge Testing
Certified parameters from 9-1-2006 to 8-31-2007

Metals

ALUMINUM	ANTIMONY	ARSENIC
BARIUM	BERYLLIUM	BORON
CADMIUM	CALCIUM	CHROMIUM
COBALT	COPPER	IRON
LEAD	MAGNESIUM	MANGANESE
MERCURY	MOLYBDENUM	NICKEL
POTASSIUM	SELENIUM	SILICA
SILVER	SODIUM	THALLIUM
TIN	TITANIUM	VANADIUM
ZINC		

Nutrients

AMMONIA-NITROGEN	NITRATE-NITROGEN	NITRATE-NITRITE-NITROGEN
NITRITE-NITROGEN	ORTHOPHOSPHATE PHOSPHORUS	TOTAL PHOSPHORUS

Demands

TOC

Extractable Organics

2-NITROPHENOL	4-NITROPHENOL	N-NITROSODIMETHYLAMINE
N-NITROSODI-N-PROPYLAMINE	ACENAPHTHENE	ACENAPHTHYLENE
ANTHRACENE	BENZIDINE	BENZOIC ACID
BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE	BENZO(K)FLUORANTHENE	BENZYL BUTYL PHTHALATE
BIPHENYL	BIS(2-CHLOROETHOXY)METHANE	BIS(2-CHLOROETHYL)ETHER
BIS(2-ETHYLHEXYL)PHTHALATE	4-BROMOPHENYLPHENYLETHER	CARBAZOLE
4-CHLORO-3-METHYLPHENOL	2-CHLORONAPHTHALENE	2-CHLOROPHENOL

OKLAHOMA
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General Water Quality\Sludge Testing
Certified parameters from 9-1-2006 to 8-31-2007

Extractable Organics

4-CHLOROPHENYL PHENYL ETHER	CHRYSENE	DIBENZO(A,H)ANTHRACENE
DIBENZOFURAN	1,2-DICHLOROBENZENE	1,3-DICHLOROBENZENE
1,4-DICHLOROBENZENE	3,3'-DICHLOROBENZIDINE	DIETHYL PHTHALATE
2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	DIMETHYL PHTHALATE
DI-N-BUTYL PHTHALATE	DI-N-OCTYL PHTHALATE	2,4-DINITROPHENOL
2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	FLUORANTHENE
FLUORENE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE
HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	INDENO(1,2,3-CD)PYRENE
ISOPHORONE	2-METHYL-4,6-DINITROPHENOL	NAPHTHALENE
NITROBENZENE	N-NITROSODIPHENYLAMINE	PENTACHLOROPHENOL
PHENANTHRENE	PHENOL	PYRENE
1,2,4-TRICHLOROBENZENE	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL

General Chemistry I

ALKALINITY	BROMIDE	CHLORIDE
FLUORIDE	HARDNESS	HYDROGEN ION (PH)
TOTAL RESIDUE	TOTAL DISSOLVED SOLIDS	TOTAL SUSPENDED SOLIDS
VOLATILE RESIDUE	SULFATE	

General Chemistry II

HEXAVALENT-CHROMIUM	TOTAL CYANIDE	CYANIDE AMENABLE TO CHLORINATION
OIL AND GREASE	SPECIFIC CONDUCTANCE	SULFIDE

Pesticides-Herbicides-PCB's

DICHLORVOS	ETHOPROP	HEPTACHLOR
HEPTACHLOR EPOXIDE	METHOXYCHLOR	TOXAPHENE
AZINPHOS METHYL	DEMETON-O	DEMETON-S

OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY

State Environmental Laboratory
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677
405-702-1000

Paragon Analytics, Div of Datachem
ID # 9422
Debra Scheib
225 Commerce Drive
Ft. Collins, CO 85024-1416
(970) 490-1511

Laboratory Accreditation Program
General Water Quality\Sludge Testing
Certified parameters from 9-1-2006 to 8-31-2007

Pesticides-Herbicides-PCB's

DIAZINON	DISULFOTON	PARATHION METHYL
2,4-D	2,4-DB	DALAPON
DICAMBA	DICHLORPROP	DINOSEB
2,4,5-T	2,4,5-TP	MCPA
MCPP	PCB-1016	PCB-1221
ALDRIN	ALPHA-BHC	BETA-BHC
DELTA-BHC	GAMMA-BHC (LINDANE)	CHLORDANE
4,4'-DDD	4,4'-DDE	4,4'-DDT
DIBROMOCHLOROPROPANE	DIELDRIN	ENDOSULFAN I
ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN
ENDRIN ALDEHYDE	PCB-1232	PCB-1242
PCB-1248	PCB-1254	PCB-1260
ETHYLENEDIBROMIDE (EDB)	CHLORPYRIFOS	COUMAPHOS
FENSULFOTHION	FENTHION	MERPHOS
MEVINPHOS	NALED	PHORATE
RONNEL	TOKUTHION	TRICHLORONATE

Purgeable Organics

ACETONE	ACROLEIN	ACRYLONITRILE
BENZENE	BROMODICHLOROMETHANE	BROMOMETHANE
BROMOFORM	CARBON TETRACHLORIDE	CHLOROETHANE
CHLOROBENZENE	2-CHLOROETHYLVINYL ETHER	CHLOROFORM
CHLOROMETHANE	DIBROMOCHLOROMETHANE	1,2-DIBROMOETHANE (EDB)
1,2-DICHLOROBENZENE	1,3-DICHLOROBENZENE	1,4-DICHLOROBENZENE
DICHLORODIFLUOROMETHANE	1,1-DICHLOROETHANE	1,2-DICHLOROETHANE
1,1-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,2-DICHLOROPROPANE

OKLAHOMA
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Purgeable Organics

CIS-1,3-DICHLOROPROPENE	TRANS-1,3-DICHLOROPROPENE	ETHYLBENZENE
METHYLENE CHLORIDE	METHYL ETHYL KETONE	1,1,2,2-TETRACHLOROETHANE
TETRACHLOROETHENE	TOLUENE	1,1,1-TRICHLOROETHANE
1,1,2-TRICHLOROETHANE	TRICHLOROETHENE	TRICHLOROFLUOROMETHANE
VINYL CHLORIDE		

Radiological

TOTAL ALPHA	TOTAL BETA	TOTAL RADIUM
RADIUM-226		

Hazardous Waste Characterization

WASTE IGNITABILITY	WASTE CORROSIVITY	WASTE-REACTIVITY
TCLP		

...for a clean, attractive, prosperous Oklahoma

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER SUPPLY
6th Floor, L & C TOWER, 401 Church Street
Nashville, Tennessee 37243-1549

July 31, 2006

Ms. Debra Scheib
Paragon Analytics, Inc.
225 Commerce Drive
Fort Collins, CO 80524

Dear Ms. Scheib,

This is to confirm that the State of Tennessee Drinking Water Laboratory Certification Program has approved Paragon Analytics, Inc. (TN02976) for the Drinking Water Laboratory Certification in Chemistry by reciprocity with the State of Colorado under the Safe Drinking Water Act.

The certification is through June 30, 2007 unless withdrawn earlier.

Results of future evaluations made by the State of Colorado and/or USEPA such as performance evaluation reports, on-site audits, certifications, or changes in personnel, certification, etc., must be forwarded to this office. Should the State of Colorado withdraw certification of your laboratory, certification by the State of Tennessee shall likewise be revoked.

Please use the identification number TN02976 when submitting analytical data or other correspondence to this office.

If you have any question, please contact Craig LaFever at (615) 532-0181.

Sincerely,

Robert L. Foster, Jr.

Robert L. Foster, Jr.
Deputy Director
Tennessee Division of Water Supply

cc: Jeff Bagwell

Certified Parameter List - 2007

PARAGON ANALYTICS 02976 CO0007 7/31/2006

Attn: DEB SCHEIB
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Certification Expiration Date:

6/30/2007

Parameter	EPA Parameter #	Approved Method	Study Type	Date Complete	PT Provider / WS #
Disinfection By-Products					
Bromide	1004	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Bromodichloromethane	2943	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Bromoform	2942	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Chloroform	2941	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Dibromochloromethane	2944	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Total Trihalomethanes (TTHM)	2950	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 6					
Herbicides					
2,4-D	2105	EPA - 515.1	Initial	4/7/2006	RTC / WS06-1
Dalaphon	2031	EPA - 515.1	Initial	4/7/2006	RTC / WS06-1
Dinoseb	2041	EPA - 515.1	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 3					
Inorganics					
Alkalinity	1928	SM - 2320 B	Initial	4/7/2006	RTC / WS06-1
Calcium	1016	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Chloride	1017	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Conductivity	1064	SM - 2510 B	Initial	4/7/2006	RTC / WS06-1
Cyanide	1024	SM - 4500-CN-E	Initial	4/7/2006	RTC / WS06-1
Fluoride	1025	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Fluoride	1025	SM - 4500-F-C	Initial	4/7/2006	RTC / WS06-1
Iron	1028	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Nitrate	1040	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Nitrate + Nitrite	1038	EPA - 353.2	Initial	4/7/2006	RTC / WS06-1
Nitrite	1041	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Nitrite	1041	SM - 4500-NO2-B	Initial	4/7/2006	RTC / WS06-1
Ortho-phosphate	1044	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
Ortho-phosphate	1044	SM - 4500-P E	Initial	4/7/2006	RTC / WS06-1
Perchlorate	1039	EPA - 314.0	Initial	4/7/2006	RTC / WS06-1
Potassium	1042	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Sodium	1052	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Sulfate	1055	EPA - 300.0	Initial	4/7/2006	RTC / WS06-1
TDS	1930	SM - 2540 C	Initial	4/7/2006	RTC / WS06-1
Total Hardness	1916	SM - 2340 B	Initial	4/7/2006	RTC / WS06-1
Total Organic Carbon(TOC)	2920	SM - 5310 C	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 21					
Metals					
Aluminum	1002	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Aluminum	1002	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Antimony	1074	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Arsenic	1005	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Arsenic (01/23/06 - 200.7 unacceptable)	1005	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1

Parameter	EPA Parameter #	Approved Method	Study Type	Date Complete	PT Provider / WS #
Barium	1010	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Beryllium	1075	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Cadmium	1015	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Cadmium	1015	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Chromium	1020	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Copper	1022	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Copper	1022	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Lead	5000	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Magnesium	1031	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Manganese	1032	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Mercury	1035	EPA - 245.1	Initial	4/7/2006	RTC / WS06-1
Nickel	1036	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Selenium	1045	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Silver	1050	EPA - 200.7	Initial	4/7/2006	RTC / WS06-1
Thallium	1085	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
Zinc	1095	EPA - 200.8	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 21					
Organics					
1,2-dibromo-3-chloropropane(DBCP)	2931	EPA - 504.1	Initial	4/7/2006	RTC / WS06-1
EDB (Ethylene dibromide)	2946	EPA - 504.1	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 2					
Organics - Unregulated					
Dicamba	2440	EPA - 515.1	Initial	4/7/2006	RTC / WS06-1
MTBE (Methyl tert-butyl ether)	2251	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 2					
Pesticides					
Aldrin	2356	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Chlordane	2959	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Endrin	2005	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Heptachlor	2065	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Heptachlor Epoxide	2067	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Lindane	2010	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Methoxychlor	2015	EPA - 505	Initial	4/7/2006	RTC / WS06-1
Toxaphene	2020	EPA - 505	Initial	4/7/2006	RTC / WS06-1
# of Parameters: 8					
Radiological					
Cesium-134 (Radioactive)	4270	EPA - 901.0	Initial	3/24/2006	ERA / RAD-64
Cesium-137 (Radioactive)	4276	EPA - 901.1	Initial	3/24/2006	ERA / RAD-64
Cobalt-60 (Radioactive)	4142	EPA - 901.1	Initial	3/24/2006	ERA / RAD-64
Gross Alpha	4000	EPA - 900.0	Initial	3/24/2006	ERA / RAD-64
Gross Beta	4100	EPA - 900.0	Initial	3/24/2006	ERA / RAD-64
Radium-226	4020	EPA - 903.0	Initial	3/24/2006	ERA / RAD-64
Radium-226	4020	EPA - 903.1	Initial	3/24/2006	ERA / RAD-64
Radium-228	4030	EPA - 904.0	Initial	3/24/2006	ERA / RAD-64
Strontium 89 (Radioactive)	4172	DOE - Sr-02	Initial	3/24/2006	ERA / RAD-64
Strontium 89 (Radioactive)	4172	DOE - Sr-01	Initial	3/24/2006	ERA / RAD-64
Strontium 90 (Radioactive)	4174	DOE - Sr-02	Initial	3/24/2006	ERA / RAD-64
Strontium 90 (Radioactive)	4174	DOE - Sr-01	Initial	3/24/2006	ERA / RAD-64
Tritium (Radioactive)	4102	EPA - 906.0	Initial	3/24/2006	ERA / RAD-64

Parameter	EPA Parameter #	Approved Method	Study Type	Date Complete	PT Provider / WS #
Uranium (Natural)	4006	EPA - 908.0	Initial	3/24/2006	ERA / RAD-64

# of Parameters: 14

VOCs - Regulated

Parameter	EPA Parameter #	Approved Method	Study Type	Date Complete	PT Provider / WS #
1,1,1-Trichloroethane	2981	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,1,2-Trichloroethane	2985	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,1-Dichloroethylene	2977	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,2,4-Trichlorobenzene	2378	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,2-Dichlorobenzene	2968	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,2-Dichloroethane	2980	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,2-Dichloropropane	2983	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,4-Dichlorobenzene	2969	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Benzene	2990	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Carbon Tetrachloride	2982	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Chlorobenzene	2989	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
cis-1,2-Dichloroethylene	2380	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Dichloromethane (methylene chloride)	2964	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Ethylbenzene	2992	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Styrene	2996	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Tetrachloroethylene	2987	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Toluene	2991	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
trans-1,2-dichloroethylene	2979	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Trichloroethene	2984	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Vinyl Chloride	2976	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Xylenes	2955	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1

# of Parameters: 21

VOCs - Unregulated

Parameter	EPA Parameter #	Approved Method	Study Type	Date Complete	PT Provider / WS #
1,1,1,2-Tetrachloroethane	2986	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,1,2,2-Tetrachloroethane	2988	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,1-Dichloroethane	2978	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,1-Dichloropropene	2410	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,2,3-Trichloropropane	2414	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,3-Dichloropropane	2412	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
1,3-dichloropropene	2413	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
2,2-Dichloropropane	2416	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Bromobenzene	2993	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Chloroethane	2216	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Dibromomethane	2408	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Methyl bromide	2214	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
Methyl chloride	2210	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
o-Chlorotoluene	2965	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1
p-Chlorotoluene	2966	EPA - 524.2	Initial	4/7/2006	RTC / WS06-1

# of Parameters: 15

State of Tennessee

Department of Environment & Conservation

Division of Water Supply

Certifies That

Paragon Analytics, Inc.
A Division of DataChem Laboratories, Inc.

Having Met the Requirements of the Regulations for the Certification of Laboratories Analyzing Drinking Water is hereby Approved as a

State Certified Laboratory in Chemistry

To perform the Analyses as Indicated on the Certified Parameter List For the Public Water Systems of Tennessee

Laboratory ID Number 02976 Effective Through June 30, 2007

Robert L. Foster, Jr.

Robert L. Foster, Jr.
Deputy Director
Division of Water Supply

This certification is subject to performance on E.P.A. Performance Evaluation Samples, laboratory inspections

Note: Paragon has applied for State of Texas certification (stable and radiochemistry); certificate is pending.

9/6/06 DAS

State of Utah
JON HUNTSMAN Jr.
Governor
GARY HERBERT
Lieutenant Governor

Utah Department of Health
David N. Sundwall, MD
Executive Director

Epidemiology and Laboratory Services
Patrick F. Luedtke, MD, MPH.
Director of Public Health Laboratories

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

NELAP Recognized

6/29/2006

Paragon Analytics
Ken Campbell
225 Commerce Drive
Fort Collins CO 80524

ID # ATL2
Account # 3034901511

Director,

On the basis of your most recent assessment, Proficiency Testing results and continuing compliance with the ELCP requirements, the laboratory listed is certified for environmental monitoring under the Resource Conservation and Recovery Act and authorized to perform the following methods, for the analytes and matrix listed:

Characteristics

	Solid	Non-Potable Water	
1010	☐	☑	Ignitability
1311	☑	☐	Toxicity Characteristic Leaching Procedure Metals
1311	☑	☐	Toxicity Characteristic Leaching Procedure Semi-Volatiles
1311	☑	☐	Toxicity Characteristic Leaching Procedure Volatiles
1312	☑	☐	Synthetic Precipitation Leaching Procedure (TCLP Approval)
Sec 7.3.3	☑	☐	Reactive Cyanide
Sec 7.3.4	☑	☐	Reactive Sulfide
Sec 8.3	☑	☐	Reactivity

Inorganics

	Solid	Non-Potable Water	
1664 A	☐	☑	Oil & Grease
9010 B	☑	☑	Cyanide Distillation Procedure
9013	☑	☐	Cyanide Extraction Procedure for Solids and Oils
9014	☑	☑	Cyanide
9040 B	☐	☑	pH
9045 C	☑	☐	Soil and Waste pH
9050 A	☐	☑	Specific Conductance
9056	☑	☑	Bromide
9056	☑	☑	Chloride
9056	☑	☑	Fluoride
9056	☑	☑	Nitrate
9056	☑	☑	Nitrite
9056	☑	☑	Ortho Phosphate
9056	☑	☑	Sulfates
9060	☐	☑	Total Organic Carbon

The expiration for the laboratory's certification is 6/30/2007. The Utah Environmental Laboratory Certification Program (ELCP) encourages clients and data users to verify the most current certification letter for the authorized method. For further assistance please call Lorna Ward 801-584-8469.

Inorganics

	Solid	Non-Potable Water	
9071 B [199	☑	☐	Oil and Grease Extraction Method for Sludge and Sediment Samples
9095 A	☑	☐	Paint Filter Liquids Test
9214	☐	☑	Fluoride

Metal Digestion

	Solid	Non-Potable Water	
3005 A	☐	☑	Acid Digestion Total Recoverable or Dissolved Metals
3010 A	☐	☑	Acid Digestion for Total Metals
3050 B	☑	☐	Acid Digestion of Sediments, Sludges and Soils
3060 A	☑	☐	Alkaline Digestion for Hexavalent Chromium

Metals

	Solid	Non-Potable Water	
6010 B	☑	☑	Aluminum
6010 B	☑	☑	Antimony
6010 B	☑	☑	Arsenic
6010 B	☑	☑	Barium
6010 B	☑	☑	Beryllium
6010 B	☑	☑	Boron
6010 B	☑	☑	Cadmium
6010 B	☑	☑	Calcium
6010 B	☑	☑	Chromium
6010 B	☑	☑	Cobalt
6010 B	☑	☑	Copper
6010 B	☑	☑	Iron
6010 B	☑	☑	Lead
6010 B	☑	☑	Lithium
6010 B	☑	☑	Magnesium
6010 B	☑	☑	Manganese
6010 B	☑	☑	Molybdenum
6010 B	☑	☑	Nickel
6010 B	☑	☑	Potassium
6010 B	☑	☑	Selenium
6010 B	☑	☑	Silica
6010 B	☑	☑	Silver
6010 B	☑	☑	Sodium
6010 B	☑	☑	Strontium
6010 B	☑	☑	Thallium
6010 B	☑	☑	Tin
6010 B	☑	☑	Titanium
6010 B	☑	☑	Vanadium
6010 B	☑	☑	Zinc
6020 A	☑	☑	Aluminum
6020 A	☑	☑	Antimony
6020 A	☑	☑	Arsenic
6020 A	☑	☑	Cadmium
6020 A	☑	☑	Copper
6020 A	☑	☑	Lead
6020 A	☑	☑	Molybdenum

Metals

	Solid	Non-Potable Water	
6020 A	☑	☑	Selenium
6020 A	☑	☑	Silver
6020 A	☑	☑	Thallium
6020 A	☑	☑	Uranium
6020 A	☑	☑	Vanadium
7196 A	☑	☑	Chromium, Hexavalent
7470 A	☐	☑	Mercury
7471 A	☑	☐	Mercury

Organic Cleanup

	Solid	Non-Potable Water	
3620 B	☑	☑	Florisil Cleanup
3630 C	☑	☑	Silica Gel Cleanup
3640 A	☑	☑	Gel Permeation Cleanup
3660 A	☑	☑	Sulfur Cleanup

Organic Extraction

	Solid	Non-Potable Water	
3510 C	☐	☑	Separatory Funnel Liquid-Liquid Extractions
3520 C	☐	☑	Continuous Liquid-Liquid Extraction
3540 C	☑	☐	Soxhlet Extraction
3580 A	☑	☐	Waste Dilution

Organic Instrumentation

	Solid	Non-Potable Water	
8011	☐	☑	1,2-Dibromo-3-chloropropane (DBCP)
8011	☐	☑	1,2-Dibromoethane (EDB, Ethylene dibromide)
8011	☐	☑	EDB and DBCP by Microextraction and Gas Chromatography
8015 B	☑	☑	Diesel Range Organics (DROs)
8015 B	☑	☑	Gasoline Range Organics (GROs)
8015 B	☑	☑	Nonhalogenated Organics Using GC/FID
8021 B	☑	☑	1,2-Dichlorobenzene
8021 B	☑	☑	1,3-Dichlorobenzene
8021 B	☑	☑	1,4-Dichlorobenzene
8021 B	☑	☑	Aromatic and Halogenated Volatiles
8021 B	☑	☑	Benzene
8021 B	☑	☑	Chlorobenzene
8021 B	☑	☑	Ethylbenzene
8021 B	☑	☑	meta-Xylene
8021 B	☑	☑	Methyl-t-Butyl Ether (MTBE)
8021 B	☑	☑	ortho-Xylene
8021 B	☑	☑	para-Xylene
8021 B	☑	☑	Toluene
8021 B	☑	☑	Xylenes, Total
8081 A	☑	☑	4,4'-DDD
8081 A	☑	☑	4,4'-DDE
8081 A	☑	☑	4,4'-DDT
8081 A	☑	☑	Aldrin
8081 A	☑	☑	alpha-BHC(alpha-hexachlorocyclohexane)

Organic Instrumentation

	Solid	Non-Potable Water	
8081 A	☑	☑	alpha-Chlordane
8081 A	☑	☑	beta-BHC(beta-hexachlorocyclohexane)
8081 A	☑	☑	delta-BHC(delta-hexachlorocyclohexane)
8081 A	☑	☑	Dieldrin
8081 A	☑	☑	Endosulfan I
8081 A	☑	☑	Endosulfan II
8081 A	☑	☑	Endosulfan sulfate
8081 A	☑	☑	Endrin
8081 A	☑	☑	Endrin Aldehyde
8081 A	☑	☑	Endrin Ketone
8081 A	☑	☑	gamma-BHC (Lindane, gamma-hexachlorocyclohexane)
8081 A	☑	☑	gamma-Chlordane
8081 A	☑	☑	Heptachlor
8081 A	☑	☑	Heptachlor Epoxide
8081 A	☑	☑	Methoxychlor
8081 A	☑	☑	Organochlorine Pesticides
8081 A	☑	☑	Toxaphene [Chlorinated camphene]
8082	☑	☑	Aroclor-1016 [PCB-1016]
8082	☑	☑	Aroclor-1221 PCB-1221]
8082	☑	☑	Aroclor-1232 [PCB-1232]
8082	☑	☑	Aroclor-1242 [PCB-1242]
8082	☑	☑	Aroclor-1248 [PCB-1248]
8082	☑	☑	Aroclor-1254 [PCB-1254]
8082	☑	☑	Aroclor-1260 [PCB-1260]
8082	☑	☑	PCBs
8141 A	☑	☑	Azinphos methyl (Guthion)
8141 A	☑	☑	Bolstar (Sulprofos)
8141 A	☑	☑	Chlorpyrifos
8141 A	☑	☑	Coumaphos
8141 A	☑	☑	Demeton-o
8141 A	☑	☑	Demeton-s
8141 A	☑	☑	Diazinon
8141 A	☑	☑	Dichlorovos [DDVP]
8141 A	☑	☑	Disulfoton
8141 A	☑	☑	Ethoprop
8141 A	☑	☑	Fensulfothion
8141 A	☑	☑	Fenthion
8141 A	☑	☑	Malathion
8141 A	☑	☑	Mevinphos
8141 A	☑	☑	Naled
8141 A	☑	☑	Organophosphorus Compounds
8141 A	☑	☑	Parathion, methyl
8141 A	☑	☑	Phorate
8141 A	☑	☑	Ronnel
8141 A	☑	☑	Tetrachlorvinphos [Stirophos, Gardona]
8141 A	☑	☑	Tokuthion [Prothiophos]
8141 A	☑	☑	Trichloronate
8151 A	☑	☑	2,4,5-T
8151 A	☑	☑	2,4,5-TP (Silvex)
8151 A	☑	☑	2,4-D
8151 A	☑	☑	2,4-DB

Organic Instrumentation

	Solid	Non-Potable Water	
8151 A	☑	☑	Chlorinated Herbicides
8151 A	☑	☑	Dalapon
8151 A	☑	☑	Dicamba
8151 A	☑	☑	Dichlorprop(Dichloroprop)
8151 A	☑	☑	Dinoseb (DNBP, 2-sec-butyl-4,6-dinitrophenol)
8151 A	☑	☑	MCPA
8151 A	☑	☑	MCPP
8260 B	☑	☑	1,1,1,2-Tetrachloroethane
8260 B	☑	☑	1,1,1-Trichloroethane
8260 B	☑	☑	1,1,2,2-Tetrachloroethane
8260 B	☑	☑	1,1,2-Trichloroethane
8260 B	☑	☑	1,1-Dichloroethane
8260 B	☑	☑	1,1-Dichloroethylene (-ethene)
8260 B	☐	☑	1,1-Dichloropropene
8260 B	☑	☑	1,2,3-Trichlorobenzene
8260 B	☑	☑	1,2,3-Trichloropropane
8260 B	☑	☑	1,2,4-Trichlorobenzene
8260 B	☑	☑	1,2,4-Trimethylbenzene
8260 B	☑	☑	1,2-Dibromo-3-chloropropane (DBCP)
8260 B	☑	☑	1,2-Dibromoethane (EDB, Ethylene dibromide)
8260 B	☑	☑	1,2-Dichlorobenzene
8260 B	☑	☑	1,2-Dichloroethane
8260 B	☑	☑	1,2-Dichloropropane
8260 B	☑	☑	1,3,5-Trimethylbenzene
8260 B	☑	☑	1,3-Dichlorobenzene
8260 B	☑	☑	1,3-Dichloropropane
8260 B	☑	☑	1,4-Dichlorobenzene
8260 B	☑	☑	1-Chlorohexane
8260 B	☑	☑	2,2-Dichloropropane
8260 B	☑	☑	2-Chloroethyl Vinyl Ether
8260 B	☑	☑	2-Chlorotoluene
8260 B	☑	☑	2-Hexanone
8260 B	☑	☑	4-Chlorotoluene
8260 B	☑	☑	4-Methyl-2-pentanone (MIBK, Isopropylacetone, Hexone)
8260 B	☑	☑	Acetone
8260 B	☑	☑	Acetonitrile
8260 B	☑	☑	Acrolein (Propenal)
8260 B	☐	☑	Acrylonitrile
8260 B	☑	☑	Benzene
8260 B	☑	☑	Bromobenzene
8260 B	☑	☑	Bromochloromethane
8260 B	☑	☑	Bromodichloromethane
8260 B	☑	☑	Bromoform
8260 B	☑	☑	Carbon Disulfide
8260 B	☑	☑	Carbon Tetrachloride
8260 B	☑	☑	Chlorobenzene
8260 B	☑	☑	Chlorodibromomethane [Dibromochloromethane]
8260 B	☑	☑	Chloroethane
8260 B	☑	☑	Chloroform
8260 B	☑	☑	cis-1,2-Dichloroethene (-ethylene)
8260 B	☑	☑	cis-1,3-dichloropropene

Organic Instrumentation

	Solid	Non-Potable Water	
8260 B	☑	☑	Dibromomethane
8260 B	☑	☑	Dichlorodifluoromethane
8260 B	☑	☑	Ethylbenzene
8260 B	☑	☑	Hexachlorobutadiene
8260 B	☑	☑	Iodomethane (Methyl iodide)
8260 B	☑	☑	Isopropylbenzene
8260 B	☑	☑	meta-Xylene
8260 B	☑	☑	Methyl bromide [Bromomethane]
8260 B	☑	☑	Methyl chloride [Chloromethane]
8260 B	☑	☑	Methyl Ethyl Ketone (MEK, 2-Butanone)
8260 B	☑	☑	Methyl Ethyl Ketone (MEK, 2-Butanone)
8260 B	☑	☑	Methylene Chloride
8260 B	☑	☑	Methyl-t-Butyl Ether (MTBE)
8260 B	☑	☑	Naphthalene
8260 B	☑	☑	n-Butylbenzene
8260 B	☑	☑	n-Propylbenzene
8260 B	☑	☑	ortho-Xylene
8260 B	☑	☑	para-Xylene
8260 B	☑	☑	p-Isopropyltoluene
8260 B	☑	☑	sec-Butylbenzene
8260 B	☑	☑	Styrene
8260 B	☑	☑	tert-Butylbenzene
8260 B	☑	☑	Tetrachloroethylene (Perchloroethylene -ethene)
8260 B	☑	☑	Toluene
8260 B	☑	☑	trans-1,2-Dichloroethylene (-ethene)
8260 B	☑	☑	trans-1,3-Dichloropropylene (-propene)
8260 B	☑	☑	Trichloroethene (Trichloroethylene)
8260 B	☑	☑	Trichlorofluoromethane
8260 B	☑	☑	Vinyl Acetate
8260 B	☑	☑	Vinyl Chloride
8260 B	☑	☑	Volatile Organic Compounds
8260 B	☑	☑	Xylene, Total
8270 C	☑	☑	1,2,4-Trichlorobenzene
8270 C	☑	☑	1,2-Dichlorobenzene
8270 C	☑	☑	1,3-Dichlorobenzene
8270 C	☑	☑	1,4-Dichlorobenzene
8270 C	☑	☑	1-Chloronaphthalene
8270 C	☑	☑	2,3,4,6-Tetrachlorophenol
8270 C	☑	☑	2,4,5-Trichlorophenol
8270 C	☑	☑	2,4,6-Trichlorophenol
8270 C	☑	☑	2,4-Dichlorophenol
8270 C	☑	☑	2,4-Dimethylphenol
8270 C	☑	☑	2,4-Dinitrophenol
8270 C	☑	☑	2,4-Dinitrotoluene (2,4-DNT)
8270 C	☑	☑	2,6-Dinitrotoluene (2,6-DNT)
8270 C	☑	☑	2-Chloronaphthalene
8270 C	☑	☑	2-Chlorophenol
8270 C	☑	☑	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
8270 C	☑	☑	2-Methylnaphthalene
8270 C	☑	☑	2-Methylphenol (o-cresol, 2-Hydroxytoluene)
8270 C	☑	☑	2-Nitroaniline

Organic Instrumentation

	Solid	Non-Potable Water	
8270 C	☑	☑	2-Nitrophenol
8270 C	☑	☑	3,3'-Dichlorobenzidine
8270 C	☑	☑	3-Methylphenol (m-cresol, 3-Hydroxytoluene)
8270 C	☑	☑	3-Nitroaniline
8270 C	☑	☑	4-Bromophenyl Phenyl Ether
8270 C	☑	☑	4-Chloro-3-methylphenol
8270 C	☑	☑	4-Chloroaniline
8270 C	☑	☑	4-Chlorophenyl Phenyl Ether
8270 C	☑	☑	4-Methylphenol (p-cresol, 4-Hydroxytoluene)
8270 C	☑	☑	4-Nitroaniline
8270 C	☑	☑	4-Nitrophenol
8270 C	☑	☑	Acenaphthene
8270 C	☑	☑	Acenaphthylene
8270 C	☑	☑	Aniline
8270 C	☑	☑	Anthracene
8270 C	☑	☑	Benzidine
8270 C	☑	☑	Benzo(a)anthracene
8270 C	☑	☑	Benzo(a)pyrene
8270 C	☑	☑	Benzo(b)fluoranthene
8270 C	☑	☑	Benzo(g,h,i)perylene
8270 C	☑	☑	Benzo(k)fluoranthene
8270 C	☑	☑	Benzoic Acid
8270 C	☑	☑	Benzyl alcohol
8270 C	☑	☑	bis(2-chloroethoxy)methane
8270 C	☑	☑	bis(2-Chloroethyl)ether
8270 C	☑	☑	bis(2-chloroisopropyl)ether
8270 C	☑	☑	bis(2-Ethylhexyl) phthalate (DEHP)
8270 C	☑	☑	Butyl Benzyl Phthalate
8270 C	☑	☑	Carbazole
8270 C	☑	☑	Chrysene
8270 C	☑	☑	Dibenzo(a,h)anthracene
8270 C	☑	☑	Dibenzofuran
8270 C	☑	☑	Diethyl Phthalate
8270 C	☑	☑	Dimethyl Phthalate
8270 C	☑	☑	Di-n-butyl phthalate
8270 C	☑	☑	Di-n-octyl Phthalate
8270 C	☑	☑	Fluoranthene
8270 C	☑	☑	Fluorene
8270 C	☑	☑	Hexachlorobenzene
8270 C	☑	☑	Hexachlorobutadiene
8270 C	☑	☑	Hexachlorocyclopentadiene
8270 C	☑	☑	Hexachloroethane
8270 C	☑	☑	Indeno(1,2,3-cd)pyrene
8270 C	☑	☑	Isophorone
8270 C	☑	☑	Naphthalene
8270 C	☑	☑	Nitrobenzene
8270 C	☑	☑	n-Nitrosodimethylamine
8270 C	☑	☑	n-Nitroso-di-n-Propylamine
8270 C	☑	☑	n-Nitrosodiphenylamine
8270 C	☑	☑	Pentachlorophenol
8270 C	☑	☑	Phenanthrene

Organic Instrumentation

	Solid	Non-Potable Water	
8270 C	☑	☑	Phenol
8270 C	☑	☑	Pyrene
8270 C	☑	☑	Pyridine
8270 C	☑	☑	Semivolatile Organic Compounds
8330	☑	☑	1,3,5-Trinitrobenzene (1,3,5-TNB)
8330	☑	☑	1,3-Dinitrobenzene (1,3-DNB)
8330	☑	☑	2,4,6-Trinitrotoluene (2,4,6-TNT)
8330	☑	☑	2,4-Dinitrotoluene (2,4-DNT)
8330	☑	☑	2,6-Dinitrotoluene (2,6-DNT)
8330	☑	☑	2-Amino-4,6-Dinitrotoluene (2-Am-DNT)
8330	☑	☑	2-Nitrotoluene (2-NT)
8330	☑	☑	3-Nitrotoluene (3-NT)
8330	☑	☑	4-Amino-2,6-Dinitrotoluene (4-Am-DNT)
8330	☑	☑	4-Nitrotoluene (4-NT)
8330	☑	☑	Hexahydro-1, 3, 5-tritro-1, 3, 5-triazine (RDX)
8330	☑	☑	Methyl-2,4,6-Trinitrophenylnitramine (TETRYL)
8330	☑	☑	Nirtoaromatics and Nitramines
8330	☑	☑	Nitrobenzene
8330	☑	☑	Nitroglycerin
8330	☑	☑	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)
8330	☑	☑	Pentaerythrite tetranitrate (PETN)

Radiochemistry

	Solid	Non-Potable Water	
9310	☑	☑	Gross Alpha and Gross Beta
9315	☑	☑	Alpha Emit Radium Isotope
9320	☑	☑	Radium 228

Volatile Organic Preparation

	Solid	Non-Potable Water	
5030 B	☐	☑	Purge-and-Trap for Aqueous Samples
5035	☑	☐	Purge-and-Trap and Extraction for Volatile Organics

The effective date of this certificate letter is: 7/1/2006.

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Respectfully,

Patrick F. Luedtke, MD, MPH.

Director of Public Health Laboratories
Deputy Director of Epidemiology and Laboratory Services

Utah Department of Health
David N. Sundwall, MD
Executive Director

Epidemiology and Laboratory Services
Patrick F. Luedtke, MD, MPH.
Director of Public Health Laboratories

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

State of Utah
JON HUNTSMAN Jr.
Governor
GARY HERBERT
Lieutenant Governor

NELAP Recognized

6/29/2006

ID # ATL2
Account # 3034901511

Paragon Analytics
Ken Campbell
225 Commerce Drive
Fort Collins CO 80524

Director,

On the basis of your most recent assessment, Proficiency Testing results and continuing compliance with the ELCP requirements, the laboratory listed is certified for environmental monitoring under the Clean Water Act and authorized to perform the following methods, for the analytes and matrix listed:

Non-Potable Water

Inorganics and Metals

120.1	Conductance (Specific Conductance, umhos at 25-C)
150.1	pH (Electometric)
160.1	Residue, Filterable (Gravimetric, Dried at 180-C)
160.2	Residue, Non-Filterable (Gravimetric, Dried at 103-105-C)
160.3	Residue, Total (Gravimetric, Dried at 103-105-C)
200.7 [1994]	Metals and Trace Elements in Water
200.7 [1994]	Aluminum
200.7 [1994]	Antimony
200.7 [1994]	Arsenic
200.7 [1994]	Barium
200.7 [1994]	Beryllium
200.7 [1994]	Boron
200.7 [1994]	Cadmium
200.7 [1994]	Calcium
200.7 [1994]	Chromium
200.7 [1994]	Cobalt
200.7 [1994]	Copper
200.7 [1994]	Iron
200.7 [1994]	Lead
200.7 [1994]	Lithium
200.7 [1994]	Magnesium
200.7 [1994]	Manganese
200.7 [1994]	Molybdenum
200.7 [1994]	Nickel
200.7 [1994]	Potassium
200.7 [1994]	Selenium
200.7 [1994]	Silica
200.7 [1994]	Silver
200.7 [1994]	Sodium
200.7 [1994]	Strontium

The expiration for the laboratory's certification is 6/30/2007. The Utah Environmental Laboratory Certification Program (ELCP) encourages clients and data users to verify the most current certification letter for the authorized method. For further assistance please call Lorna Ward 801-584-8469.

Inorganics and Metals

200.7 [1994]	Thallium
200.7 [1994]	Tin
200.7 [1994]	Titanium
200.7 [1994]	Vanadium
200.7 [1994]	Zinc
200.7 [1994]	Hardness
200.8	Antimony
200.8	Copper
200.8 [1994]	Metals And Trace Elements In Water and Wastes
200.8 [1994]	Aluminum
200.8 [1994]	Antimony
200.8 [1994]	Arsenic
200.8 [1994]	Cadmium
200.8 [1994]	Copper
200.8 [1994]	Lead
200.8 [1994]	Molybdenum
200.8 [1994]	Selenium
200.8 [1994]	Silver
200.8 [1994]	Thallium
200.8 [1994]	Uranium
200.8 [1994]	Vanadium
2340 B	Hardness (Calculation)
245.1	Mercury
300.0	Inorganic Anions In Water By Ion Chromatography
300.0	Bromide
300.0	Chloride
300.0	Fluoride
300.0	Nitrate
300.0	Nitrite
300.0	ortho-Phosphate
300.0	Sulfate
310.1	Alkalinity
325.3	Chloride
335.1	Cyanides, Amenable To Chlorination
335.2	Cyanide, Total
340.2	Fluoride
350.1	Nitrogen, Ammonia
3500 (Cr) D	Chromium (Colorimetric)
353.2	Nitrogen, Nitrate-Nitrite
354.1	Nitrogen, Nitrite
365.2	Phosphorous, All Forms
376.1	Sulfide
415	Total Organic Carbon (TOC)
415.1	Organic Carbon, Total
4500 (NH3)	Nitrogen (Ammonia)
4500 (NH3) H	Nitrogen (Ammonia) (Phenate, Automated)
4500 (P) E	Phosphorus (Ascorbic Acid)
5310	Total Organic Carbon (TOC)
5310 C	Total Organic Carbon (Persulfate-Ultraviolet Oxidation)

Organics

608	Organochlorine Pesticides and Polychlorinated Biphenyls
608	Aldrin
608	alpha-BHC
608	beta-BHC

Organics

608	delta-BHC
608	gamma-BHC (Lindane)
608	Chlordane (Technical)
608	4,4'-DDD
608	4,4'-DDE
608	4,4'-DDT
608	Dieldrin
608	Endosulfan I
608	Endosulfan II
608	Endosulfan Sulfate
608	Endrin
608	Endrin Aldehyde
608	Endrin Ketone
608	Heptachlor
608	Heptachlor Epoxide
608	Methoxychlor
608	Toxaphene
608	Aroclor 1016
608	Aroclor 1221
608	Aroclor 1232
608	Aroclor 1242
608	Aroclor 1248
608	Aroclor 1254
608	Aroclor 1260
615	Chlorinated Herbicides in Industrial and Municipal Wastewater
615	2,4-D
615	Dalapon
615	2,4-DB
615	Dicamba
615	Dichlorprop
615	Dinoseb
615	MCPA
615	MCPP
615	2,4,5-T
615	2,4,5-TP (Silvex)
624	Purgeables
624	Acrolein
624	Acrylonitrile
624	Benzene
624	Bromodichloromethane
624	Bromoform
624	Bromomethane
624	Carbon Tetrachloride
624	Chlorobenzene
624	Chloroethane
624	2-Chloroethylvinyl Ether
624	Chloroform
624	Chloromethane
624	Dibromochloromethane
624	1,2-Dibromo-3-chloropropane (DBCP)
624	1,2-Dibromoethane (EDB)
624	Dibromomethane
624	1,2-Dichlorobenzene
624	1,3-Dichlorobenzene

Organics

624	1,4-Dichlorobenzene
624	1,1-Dichloroethane
624	1,2-Dichloroethane
624	1,1-Dichloroethene
624	trans-1,2-Dichloroethene
624	1,2-Dichloropropane
624	cis-1,3-Dichloropropene
624	trans-1,3-Dichloropropene
624	Ethylbenzene
624	Methylene Chloride
624	1,1,1,2-Tetrachloroethane
624	1,1,2,2-Tetrachloroethane
624	Tetrachloroethylene
624	Toluene
624	1,1,1-Trichloroethane
624	1,1,2-Trichloroethane
624	Trichloroethene
624	Trichlorofluoromethane
624	Vinyl Chloride
624	Xylenes, total
625	Base/Neutrals and Acids
625	Acenaphthene
625	Acenaphthylene
625	Anthracene
625	Aniline
625	Benzidine
625	Benzo(a)anthracene
625	Benzo(b)fluoranthene
625	Benzo(k)fluoranthene
625	Benzo(g,h,i)perylene
625	Benzo(a)pyrene
625	Benzyl alcohol
625	Benzyl Butyl Phthalate
625	bis(2-Chloroethyl)ether
625	bis(2-Chloroethoxy)methane
625	bis(2-Ethylhexyl)phthalate
625	bis(2-Chloroisopropyl)ether
625	4-Bromophenyl Phenyl Ether
625	4-Chloroaniline
625	2-Chloronaphthalene
625	4-Chlorophenyl Phenyl Ether
625	Chrysene
625	Dibenz(a,h)anthracene
625	Dibenzofuran
625	Di-n-butylphthalate
625	1,2-Dichlorobenzene
625	1,3-Dichlorobenzene
625	1,4-Dichlorobenzene
625	3,3'-Dichlorobenzidine
625	Diethyl phthalate
625	Dimethyl phthalate
625	2,4-Dinitrotoluene
625	2,6-Dinitrotoluene
625	Di-n-octylphthalate

Organics

625	Fluoranthene
625	Fluorene
625	Hexachlorobenzene
625	Hexachlorobutadiene
625	Hexachlorocyclopentadiene
625	Hexachloroethane
625	Indeno(1,2,3-cd)pyrene
625	Isophorone
625	2-Methylnaphthalene
625	2-Methylphenol
625	3-Methylphenol
625	4-Methylphenol
625	Naphthalene
625	m-Nitroaniline
625	o-Nitroaniline
625	p-Nitroaniline
625	Nitrobenzene
625	N-Nitrosodimethylamine
625	N-Nitrosodi-n-propylamine
625	N-Nitrosodiphenylamine
625	Phenanthrene
625	Pyrene
625	1,2,4-Trichlorobenzene
625	4-Chloro-3-methylphenol
625	2-Chlorophenol
625	2,4-Dichlorophenol
625	2,4-Dimethylphenol
625	2,4-Dinitrophenol
625	2-Methyl- 4,6-dinitrophenol
625	2-Nitrophenol
625	4-Nitrophenol
625	Pentachlorophenol
625	Phenol
625	2,4,5-Trichlorophenol
625	2,4,6-Trichlorophenol

Radiological

900.0	Gross Alpha and Gross Beta Radioactivity
900.0	Gross Alpha
900.0	Gross Beta
901.1	Photon Emitters
901.1	cesium-134
901.1	cesium-137
903.0	Radium
903.0	radium-226
903.1	radium-226
904.0	radium-228
906	Tritium
Sr 02	strontium-90
U 02	uranium

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Respectfully,

Patrick F. Luedtke, MD, MPH.

Director of Public Health Laboratories
Deputy Director of Epidemiology and Laboratory Services

Utah Department of Health

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www.health.utah.gov/els/labimp/

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Director of Public Health Laboratories

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

NELAP Recognized

6/29/2006

Paragon Analytics
Ken Campbell
225 Commerce Drive
Fort Collins CO 80524

ID # ATL2
Account # 3034901511

Director,

On the basis of your most recent assessment, Proficiency Testing results and continuing compliance with the ELCP requirements, the laboratory listed is certified for environmental monitoring under the Safe Drinking Water Act and authorized to perform the following methods, for the analytes and matrix listed:

Drinking Water

Inorganics and Metals

120.1	Conductivity
150.1	pH
160.1	Residue, Filterable
200.7 [1994]	Metals and Trace Elements in Water
200.7 [1994]	Aluminum
200.7 [1994]	Antimony
200.7 [1994]	Arsenic
200.7 [1994]	Barium
200.7 [1994]	Beryllium
200.7 [1994]	Boron
200.7 [1994]	Cadmium
200.7 [1994]	Calcium
200.7 [1994]	Chromium
200.7 [1994]	Iron
200.7 [1994]	Magnesium
200.7 [1994]	Manganese
200.7 [1994]	Molybdenum
200.7 [1994]	Nickel
200.7 [1994]	Potassium
200.7 [1994]	Selenium
200.7 [1994]	Silica
200.7 [1994]	Silver
200.7 [1994]	Sodium
200.7 [1994]	Thallium
200.7 [1994]	Vanadium
200.7 [1994]	Zinc
200.8 [1994]	Metals And Trace Elements In Water and Wastes
200.8 [1994]	Aluminum
200.8 [1994]	Antimony

Inorganics and Metals

200.8 [1994]	Arsenic
200.8 [1994]	Cadmium
200.8 [1994]	Selenium
200.8 [1994]	Silver
200.8 [1994]	Thallium
200.8 [1994]	Uranium
200.8 [1994]	Vanadium
200.8 [1994]	Molybdenum
2320 B	Alkalinity - Titration Method
2340 B	Hardness by Calculation (CaCO3)
245.1	Mercury
2510 B	Conductivity by Laboratory Method
300.0	Inorganic Anions In Water
300.0	Bromide
300.0	Chloride
300.0	Fluoride
300.0	Phosphate
310.1 [1978]	Alkalinity
314.0	Perchlorate
335.1	Cyanide
335.2 [1980]	Cyanide
340.2 [1974]	Fluoride
365.2 [1971]	ortho-Phosphate as P
4500 (CN-)	Cyanide
4500 (CN-) C	Total Cyanide after Distillation
4500 (CN-) E	Cyanide by Colormetric Method
4500 (CN-) G	Cyanides Amenable to Chlorination after Distillation
4500 (F-)	Fluoride
4500 (F-) C	Fluoride by Ion-Selective Method
4500 (P) E	ortho-Phosphate as P
5310	Total Organic Carbon (TOC)
5310 C	TOC by Persulfate-Ultraviolet Oxidation Method

Nitrate

300.0	Nitrate
353.2	Nitrate/Nitrite

Nitrite

300.0	Nitrite
354.1	Nitrite
4500 (NO2-)	Nitrogen (Nitrite)
4500 (NO2-) B	Nitrite by Colorimetric Method

Organics

504.1 [1995]	EDB and DBCP in Water
504.1 [1995]	1,2-Dibromoethane (EDB, Ethylene dibromide)
504.1 [1995]	1,2-Dibromo-3-chloropropane (DBCP)
505 [1995]	Organohalide Pesticides and PCBs
505 [1995]	Aldrin
505 [1995]	Chlordane [Total]
505 [1995]	alpha-Chlorodane
505 [1995]	gamma-Chlordane
505 [1995]	Dieldrin
505 [1995]	Endrin
505 [1995]	Heptachlor
505 [1995]	Heptachlor Epoxide
505 [1995]	Lindane (gamma--Hexachlorocyclohexane, gamma-BHC)

Organics

505 [1995]	Methoxychlor
505 [1995]	Toxaphene [Chlorinated camphene]
515.1 [1989]	Chlorinated Acids In Water
515.1 [1989]	2,4-D
515.1 [1989]	Dalapon
515.1 [1989]	Dicamba
515.1 [1989]	Dinoseb [2-Sec-butyl-4,6-dinitrophenol, DNBP]
515.1 [1989]	2,4,5-TP (Silvex)
515.1 [1989]	2,4-DB
515.1 [1989]	Dichloroprop [Dichlorprop]
515.1 [1989]	2,4,5-T
524.2 [1995]	Purgeable Organic Compounds In Water
524.2 [1995]	Benzene
524.2 [1995]	Bromobenzene
524.2 [1995]	Bromochloromethane
524.2 [1995]	Bromodichloromethane [Dichlorobromomethane]
524.2 [1995]	Bromoform
524.2 [1995]	Bromomethane [Methyl bromide]
524.2 [1995]	n-Butylbenzene
524.2 [1995]	sec-Butylbenzene
524.2 [1995]	tert-Butylbenzene
524.2 [1995]	Carbon Tetrachloride
524.2 [1995]	Chlorobenzene
524.2 [1995]	Chloroethane
524.2 [1995]	Chloroform
524.2 [1995]	Chloromethane [Methyl chloride]
524.2 [1995]	2-Chlorotoluene
524.2 [1995]	4-Chlorotoluene
524.2 [1995]	Chlorodibromomethane
524.2 [1995]	Dibromomethane
524.2 [1995]	1,3-Dichlorobenzene
524.2 [1995]	1,2-Dichlorobenzene
524.2 [1995]	1,4-Dichlorobenzene
524.2 [1995]	Dichlorodifluoromethane
524.2 [1995]	1,1-Dichloroethane
524.2 [1995]	1,2-Dichloroethane
524.2 [1995]	1,1-Dichloroethene
524.2 [1995]	cis-1,2-Dichloroethene
524.2 [1995]	trans-1,2-Dichloroethene
524.2 [1995]	1,2-Dichloropropane
524.2 [1995]	1,3-Dichloropropane
524.2 [1995]	2,2-Dichloropropane
524.2 [1995]	1,1-Dichloropropene
524.2 [1995]	cis-1,3-Dichloropropene
524.2 [1995]	trans-1,3-Dichloropropene [-pylene]
524.2 [1995]	Ethylbenzene
524.2 [1995]	Hexachlorobutadiene
524.2 [1995]	Isopropylbenzene
524.2 [1995]	4-Isopropyltoluene
524.2 [1995]	Naphthalene
524.2 [1995]	Nitrobenzene
524.2 [1995]	n-Propylbenzene
524.2 [1995]	Styrene
524.2 [1995]	1,1,1,2-Tetrachloroethane

Organics

524.2 [1995]	1,1,2,2-Tetrachloroethane
524.2 [1995]	Tetrachloroethene [-ethylene, Perchloroethylene]
524.2 [1995]	Toluene
524.2 [1995]	1,2,3-Trichlorobenzene
524.2 [1995]	1,2,4-Trichlorobenzene
524.2 [1995]	1,1,1-Trichloroethane
524.2 [1995]	1,1,2-Trichloroethane
524.2 [1995]	Trichloroethene [-ethylene]
524.2 [1995]	Trichlorofluoromethane
524.2 [1995]	1,2,3-Trichloropropane
524.2 [1995]	1,2,4-Trimethylbenzene
524.2 [1995]	1,3,5-Trimethylbenzene
524.2 [1995]	Vinyl Chloride
524.2 [1995]	Total Triholamethanes
524.2 [1995]	Methyl Tert-Butyl Ether (MTBE)
524.2 [1995]	Methylene Chloride [Dichloromethane, DCM]
524.2 [1995]	meta-Xylene
524.2 [1995]	ortho-Xylene
524.2 [1995]	para-Xylene

Pb/Cu

200.7 [1994]	Copper
200.7 [1994]	Lead
200.8 [1994]	Copper
200.8 [1994]	Lead

Radionuclides

900.0	Gross Alpha & Beta Radioactivity in Drinking Water Evaporation Technique
900.0	Gross Alpha
900.0	Gross Beta
901.1	Cesium 134
901.1	Gamma Emitting Radionuclidies in Drinking Water
903.0	Alpha-Emitting Radium Isotopes in Drinking Water
903.0	Radium 226
903.0	Total Radium
903.1	Radium 226 in Drinking Water Radon Emanation Technique
904.0	Radium 228 in Drinking Water Radiochemical Technique
906.0	Tritium in Drinking Water Liquid Scintillation Technique
ASTM D5811-95	Strontium 90
D-3972-90	Uranium Alpha Spectrometry Technique
SR-01	Strontium 89/90 Radiochemical Technique
SR-02	Strontium 89/90 Radiochemical Technique
U 02	Uranium Alpha Spectrometry Technique

Sulfates

300.0	Sulfate

The effective date of this certificate letter is: 7/1/2006.

The analytes by method which a laboratory is authorized to perform at any given time will be those indicated in the most recent certificate letter. The most recent certification letter supersedes all previous certification or authorization letters. It is the certified laboratory's responsibility to review this letter for discrepancies. The certified laboratory must document any discrepancies in this letter and send notice to this bureau within 15 days of receipt. This certificate letter will be recalled in the event your laboratory's certification is revoked.

Respectfully,

Patrick F. Luedtke

Patrick F. Luedtke, MD, MPH.
Director of Public Health Laboratories
Deputy Director of Epidemiology and Laboratory Services

State of Utah
JON HUNTSMAN Jr.
Governor
GARY HERBERT
Lieutenant Governor

Utah Department of Health
David N. Sundwall, MD
Executive Director

Epidemiology and Laboratory Services
Patrick F. Luedtke, MD, MPH.
Director of Public Health Laboratories

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

NELAP Recognized

STATE OF UTAH
DEPARTMENT OF HEALTH

ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM

CERTIFICATION

is hereby granted to

Paragon Analytics

225 Commerce Drive
Fort Collins CO 80524

Scope of accreditiation is limited to the
State of Utah Accredited Fields of Accreditiation
Which accompanies this Certificate

Continued accredited status depends on successful
Ongoing particitpation in the program

EPA Number: CO00078
Expiration Date: 6/30/2007

Patrick F. Luedtke, MD, MPH.
Director of Public Health Laboratories
Deputy Director of Epidemiology and Laboratory Services

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 488 • Manchester, WA 98353-0488 • (360) 895-6144

February 6, 2006

Ms. Debra Scheib
Paragon Analytics – A Division of DataChem Labs, Inc.
225 Commerce Drive
Fort Collins, CO 80524-1416

Dear Ms. Scheib:

Thank you for sending us your application for renewal of accreditation. Enclosed are your new Certificate and Scope of Accreditation for the year beginning February 3, 2006.

We have revised your Scope of Accreditation based upon a review of your application for renewal, your Utah NELAP Scope, and your proficiency testing (PT) results for the past year. Included in the PT review were all of your ERA WP and RAD studies, all your RTC LPTP, and OS studies, and all your WIBBY HW and UST studies. Accreditation was restored to full status for EDB and DBCP by EPA Method 8011 due to improvement in PT results.

To maintain your accreditation status, you must: annually submit a renewal application and appropriate fees to the Fiscal Office; report significant equipment and personnel changes as they occur; submit any updates of the laboratory quality assurance manual; and participate in proficiency testing studies for all applicable parameters semiannually. Also, you must keep us informed of your progress in the renewal of your accreditation with Utah NELAP. Please forward all documentation of your next assessment and responses, as well as your new Certificate and Scope of Accreditation.

Thank you for participating in Ecology's Environmental Laboratory Accreditation Program. If you have any questions regarding your accreditation, you may contact Lee Fearon in our office at (360) 895-6146 or lfea461@ecy.wa.gov.

Sincerely,

Perry F. Brake, Chemist
Lab Accreditation Section Manager

PFB:LCF:lcf
Enclosures: 1. Certificate of Accreditation
2. Scope of Accreditation

Scope of Accreditation

Paragon Analytics - A Division of DataChem Labs, Inc.

Fort Collins, CO

is accredited by the State of Washington Department of Ecology to perform analyses for the parameters listed below using the analytical methods indicated. This Scope of Accreditation may apply to any of the following matrix types: non-potable water, drinking water, solid and chemical materials, and air and emissions. Accreditation for all parameters is final unless indicated otherwise in a note. Accreditation is for the latest version of a method unless otherwise specified in a note. EPA refers to the U.S. Environmental Protection Agency. SM refers to American Public Health Association's publication, Standard Methods for the Examination of Water and Wastewater, 18th, 19th or 20th Edition, unless otherwise noted. ASTM stands for the American Society for Testing and Materials. PSEP stands for Puget Sound Estuary Program. Other references are detailed in the notes section.

Matrix Type/Parameter Name	Reference	Method Number	Notes
Non-potable Water			
Alpha, Gross	EPA	900.0	1
Beta, Gross	EPA	900.0	1
Gamma Emitting Isotopes	EPA	901.1	1
Radium 226	EPA	903.0	1
Radium 226	EPA	903.1	1
Radium 228	EPA	904.0	1
Tritium	EPA	906.0	1
Solid and Chemical Materials			
Aluminum	EPA	6010	1
Antimony	EPA	6010	1
Arsenic	EPA	6010	1
Barium	EPA	6010	1
Beryllium	EPA	6010	1
Cadmium	EPA	6010	1
Calcium	EPA	6010	1
Chromium	EPA	6010	1
Cobalt	EPA	6010	1
Copper	EPA	6010	1
Iron	EPA	6010	1

Note that Washington's policy is to consider the aqueous matrix as a chemical material. Hence, this certification covers both AQ and SO matrices for RCRA. 2/10/06 DAS

Matrix Type/Parameter Name	Reference	Method Number	Notes
Lead	EPA	6010	1
Magnesium	EPA	6010	1
Manganese	EPA	6010	1
Mercury, Solid Waste	EPA	7471	1
Molybdenum	EPA	6010	1
Nickel	EPA	6010	1
Potassium	EPA	6010	1
Selenium	EPA	6010	1
Silver	EPA	6010	1
Sodium	EPA	6010	1
Strontium	EPA	6010	1
Thallium	EPA	6010	1
Vanadium	EPA	6010	1
Zinc	EPA	6010	1
BTEX	EPA	8021	1
Chlorinated Herbicides	EPA	8151	1
EDB & DBCP	EPA	8011	1
Nitroaromatics & Nitramines	EPA	8330	1
Organochlorine Pesticides	EPA	8081	1
Polychlorinated Biphenyls	EPA	8082	1
Total Pet Hydrocarbons - Diesel	EPA	8015	1
Total Pet Hydrocarbons - Gasoline	EPA	8015	1
BNA Extr (Semivolatile) Organics	EPA	8270	1, 2
Volatile Organic Compounds	EPA	8260	1
Alpha, Gross	EPA	9310	1
Beta, Gross	EPA	9310	1
Radium 228	EPA	9320	1
Radium Alpha Emiting Isotopes	EPA	9315	1

Matrix Type/Parameter Name	Reference	Method Number	Notes

Accredited Parameter Note Detail

(1) Accreditation based in part on recognition of Utah NELAP accreditation. (2) Method has been modified to use lower concentrations of surrogate compounds than specified in the method.

2/6/06

Authentication Signature

Perry Brake -- Section Manager, Washington State Department of Ecology -- Lab Accreditation Section

The State of Washington
Department of Ecology

This is to certify that

Paragon Analytics - A Division of DataChem Labs, Inc.
Fort Collins, CO

has complied with provisions set forth in Chapter 173-50 WAC and is hereby recognized by the Department of Ecology as an ACCREDITED LABORATORY for the analytical parameters listed on the accompanying Scope of Accreditation. This certificate is effective February 3, 2006, and shall expire February 2, 2007.

Witnessed under my hand on February 6, 2006.

Perry F. Brake, Chemist
Lab Accreditation Section Manager

Laboratory ID
C1280

State of Colorado
Department of Public Health and Environment

RADIOACTIVE MATERIALS LICENSE

Pursuant to the *Colorado Radiation Control Act*, Title 25, Article 11, *Colorado Revised Statutes*, and the State of Colorado *Rules and Regulations Pertaining to Radiation Control*, Part 3, and in reliance on statements and representations heretofore made by the licensee designated below; a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect of the Colorado Department of Public Health and Environment and to any conditions specified below.

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1. **Licensee: DataChem Laboratories, Inc. dba Paragon Analytics, Inc.**

2. Address: 225 Commerce Drive, Fort Collins, Colorado 80524

3. Colorado License Number 847-02, Amendment Number 11

4. Expiration date: June 30, 2007

5. Reference Number: Fee Category: 3.M

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6. Radioactive materials (element and mass no.)	7. Chemical and/or physical form	8. Maximum quantity licensee may possess at any one time
A. Hydrogen-3	A. Any	A. 1.85 GBq (50 mCi)
B. Any radioactive material with atomic numbers 3-83	B. Any	B. 370 MBq (10 mCi)
C. Any radioactive material with atomic number 84-100	C. Any	C. 370 MBq (10 mCi)
D. Source Material	D. Any	D. 37 MBq (1 mCi)
E. Any radioactive material with atomic numbers 3-98	E Sealed Sources	E. 187 MBq (5 mCi) total, no single source to exceed 1.48 MBq (40 μCi)

CONDITIONS

9. Radioactive material authorized in Items 6.A. through 6.D. to be received as environmental samples and hazardous waste samples for analysis only and reference materials used in the analytical procedure, to be processed for analysis in the laboratory and stored until transferred to an authorized recipient.

RADIOACTIVE MATERIALS LICENSE

10. Radioactive materials authorized in Item 6.E. may be received as commercially distributed radioactive standards and/or calibration sources for the calibration of analytical equipment.

11. Radioactive material may be used and stored only at 225 Commerce Drive, Fort Collins, Colorado, 80524.

12. The licensee shall comply with the provisions of the State of Colorado *Rules and Regulations Pertaining to Radiation Control*, Part 4, "Standards for Protection Against Radiation", and Part 10, "Notices, Instructions and Reports to Workers: Inspections".

13. Radioactive material shall be used by, or under the supervision of David C. Burns, Robert Jump, Steven Workman, Lance Steere, Charles Orchard, Rebecca Fowler, or Chad Wangeline.

14. The designated Radiation Safety Officer is David C. Burns.

15. Radioactive material authorized by Item 6 of this license shall be stored and used in a manner that will preclude use by unauthorized personnel.

16. Each sealed source containing radioactive material authorized in Item 6 shall be tested for leakage and/or contamination in accordance with RH 4.16 of the State of Colorado *Rules and Regulations Pertaining to Radiation Control* at intervals not to exceed six months.

17. The licensee shall not transfer possession and/or control of radioactive material or products containing radioactive material as a contaminant except:

A. by transfer of waste to an authorized recipient;

B. by transfer to a specifically licensed recipient; or,

C. as provided otherwise by specific condition of this license pursuant to the requirements of RH 3.22 of the State of Colorado *Rules and Regulations Pertaining to Radiation Control.*

18. Wipe tests for contamination must be completed weekly when radioactive materials are used.

19. The analysis of the wipes must be capable of detecting 20 disintegrations per minute (DPM) of alpha emitting radioactive material and 200 DPM of beta/gamma emitting radioactive material on the test sample.

State of Colorado
Department of Public Health and Environment

RADIOACTIVE MATERIALS LICENSE

20. If an area survey or wipe test detects the presence of radioactive materials in excess of the limits specified below, then the area and/or affected equipment shall be decontaminated until:

A. the removable contamination is not greater than: 20 DPM (alpha) per 100 cm^2 and 200 DPM (beta/gamma) per 100 cm^2.

B. the average fixed contamination is not greater than: 100 DPM (alpha) per 100 cm^2 and 1000 DPM (beta/gamma) per 100 cm^2.

C. the maximum fixed contamination is not greater than 300 DPM (alpha) per 100 cm^2 and 3000 DPM (beta/gamma) per 100 cm^2.

21. The licensee shall maintain records of surveys and wipe tests for contamination, waste disposal, and the analysis of liquid process wastes disposed of via the sewer.

22. The licensee shall maintain a financial assurance in the form of an Irrevocable Standby Letter of Credit Number NZS535426, dated January 14, 2005, in the amount of $250,000.00, issued by Wells Fargo Bank, N.A., Trade Services Division, Northern California, One Front Street 21st Floor, San Francisco, California 94111.

23. The State of Colorado *Rules and Regulations Pertaining to Radiation Control* shall govern the licensee's statements in applications or letters, unless the licensee's statements are more restrictive than the regulations. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Item 6 of this license in accordance with statements, representations, and procedures contained in:

A. the application and attachments dated May 30, 2002; and

B. the license correspondence and attachments dated May 15, 2002; September 3, 2002; December 30, 2002; February 10, 2003; January 15, 2004; February 12, 2004; July 13, 2004, August 13, 2004; November 11, 2004; March 11, 2006; and

C. correspondence transmitting the financial surety funds, deposited with the State Treasury effective September 5, 2003, in the amount of $160,000.00.

FOR THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Date: 3/21/06 By: Steve Tarlton