

Data Validation – Ascon Water Samples
June 1, 2004

Level II data packages were received in the Geosyntec-Knoxville, TN office May 24, 2004 for data validation. The following documents were referenced with regard to performing this data validation, USEPA National Functional Guidelines for Organic and Inorganic Data Review, EPA SW846 and Standard Methods. The data review process provides information on the analytical limitations of data based on specified quality control (QC) criteria.

The data are discussed by report number and analytical test as follows:

IND0708

<u>Client ID</u>	<u>Laboratory ID</u>
MW18-GW01-04/04	IND0708-01
TB	IND0708-02

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – Sample MW-18-GW01-04/04; calcium and magnesium were “J-“ qualified as estimated with a low bias due to low recoveries in the matrix spike/matrix spike duplicate (MS/MSD). Sodium in this sample was “J+” qualified as estimated with a high bias due to recoveries outside of the acceptable criteria in the MS/MSD.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – All results are acceptable for use without qualification. Chain of Custody specified Method 6010 B for metal analysis. Laboratory should have noted this discrepancy in the narrative.

Inorganics – All results are acceptable for use without qualification.

IND0789

<u>Client ID</u>	<u>Laboratory ID</u>
MW19-GW01-04/04	IND0789-01
MW20-GW01-04/04	IND0789-02
TB	IND0789-03

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – Sample MW-20-GW01-04/04; calcium and sodium were “**J-**” qualified as estimated with a low bias due to low recoveries in the matrix spike/matrix spike duplicate (MS/MSD).

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – All results are acceptable for use without qualification. Chain of Custody specified Method 6010 B for metal analysis. Laboratory should have noted this discrepancy in the narrative.

Inorganics – The Chromium VI result for sample MW19-GW01-04/04 was “**R**” qualified as **rejected** due to very low recoveries in the MS/MSD outside of the method criteria. All results for the remaining analytical tests are acceptable for use without qualification.

IND0893

<u>Client ID</u>	<u>Laboratory ID</u>
MW4-GW01-04/04	IND0893-01
AW3-GW01-04/04	IND0893-02
DW30-GW01-04/04	IND0893-03
FB01	IND0893-04
TB	IND0893-05
MW13-GW01-04/04	IND0893-06

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – All results are acceptable for use without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results acceptable for use without qualification. AW3-GW01-04/04 was analyzed for mercury although not specified on the chain of custody (COC).

EPA 6020 Metals – All results acceptable for use without qualification.

Inorganics – The Chromium VI result for sample MW4-GW01-04/04 was “J-“ qualified as estimated with a low bias due to low recoveries in the MS/MSD outside of the method criteria. All results for the remaining analytical tests are acceptable for use without qualification.

IND1006

<u>Client ID</u>	<u>Laboratory ID</u>
AW1A-GW01-04/04	IND1006-01
MW15-GW01-04/04	IND1006-02
MW9-GW01-04/04	IND1006-03
TB	IND1006-04
EB01-GW01-04/04	IND1006-05

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All are results acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All are results acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – All results are acceptable for use without qualification.

Inorganics – The Chromium VI result for sample AW1A-GW01-04/04 was “**R**” qualified as **rejected** due to no recoveries of the spiked amount in the MS/MSD. All results for the remaining analytical tests are acceptable for use without qualification.

INC1048

<u>Client ID</u>	<u>Laboratory ID</u>
GW16-GW01-03/04	INC1048-01
GW17-GW01-03/04	INC1048-02
TB-01	INC1048-03

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – Sample GS16-GW01-03/04; calcium was “**J-**” qualified as estimated with a low bias, magnesium was “**J+**” qualified as estimated with a high bias, and sodium was “**J**” qualified as estimated due to recoveries in the MS/MSD outside of method criteria. The remaining sample results are acceptable without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – Sample GW17-GW01-03/04 was “**J**” qualified due recoveries in the MS/MSD outside of the method criteria. All other sample results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – All results are acceptable for use without qualification.

Inorganics – All results are acceptable for use without qualification.

General Comment: General Minerals, Chromium VI, and perchlorate analyses were performed on Sample GW16-GW01-03/04 although marked out on the chain of custody.

IND1110

<u>Client ID</u>	<u>Laboratory ID</u>
AW4A-GW01-04/04	IND1110-01
NMW2-GW01-04/04	IND1110-02
MW9-GW01-04/04	IND1110-03
TB06-GW01-04/04	IND1110-04

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – All results are acceptable for use without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – Sample AW4A-GW01-04/04; beryllium, selenium, and zinc were “**J**” qualified as estimated with a low bias due to low recoveries in the MS/MSD outside of the method criteria. The remaining results are acceptable for use without qualification.

Inorganics – The Chromium VI result for sample AW4A-GW01-04/04 was “**R**” qualified as **rejected** due to recoveries in the MS/MSD outside of the method criteria. All of the remaining results are acceptable for use without qualification.

IND1206

<u>Client ID</u>	<u>Laboratory ID</u>
AW5-GW01-04/04	IND1206-01
B4A-GW01-04/04	IND1206-02
D4DA-GW01-04/04	IND1206-03
B7-GW01-04/04	IND1206-04
TB07-GW01-04/04	IND1206-05

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 200.7 Minerals – Sample AW5-GW01-04/04; calcium was “**J+**” qualified as estimated with a high bias, magnesium was “**J-**” qualified as estimated with a low bias, potassium was “**J**” qualified as estimated, and sodium was “**J+**” qualified as estimated with a high bias, all due to recoveries in the MS/MSD outside of method criteria. The remaining sample results are acceptable without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – Sample AW5-GW01-04/04; Barium was “**J+**” qualified as estimated with a high bias, beryllium was “**J-**” qualified as estimated with a low bias, molybdenum was “**J+**” qualified as estimated with a high bias, and zinc was “**J-**” qualified as estimated with a low bias, all due to MS/MSD recoveries outside of method criteria. All other results are acceptable for use without qualification.

Inorganics – Sample AW5-GW01-04/04; Chromium VI was “**R**” qualified as **rejected** due to no recoveries of the spike in the MS/MSD. All other results from the analytical tests are acceptable for use without qualification.

IND1300

<u>Client ID</u>	<u>Laboratory ID</u>
EB02-GW01-04/04	IND1300-01
FB02-GW01-04/04	IND1300-02
GP1-GW01-04/04	IND1300-03
GP24-GW01-04/04	IND1300-04
TB08-GW01-04/04	IND1300-05

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – All results are acceptable for use without qualification.

Inorganics – All results are acceptable for use without qualification.

IND1411

<u>Client ID</u>	<u>Laboratory ID</u>
GP24-GW01-04/04	IND1411-01
GP12-GW01-04/04	IND1411-02
TB09-GW01-04/04	IND1411-03

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results are acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results are acceptable for use without qualification.

EPA 7470A Mercury – All results are acceptable for use without qualification.

EPA 6020 Metals – Sample GP24-GW01-04/04; zinc was “J-“ qualified as estimated with a low bias due to recoveries in the MS/MSD outside of the method criteria. All of the remaining results are acceptable for use without qualification.

Inorganics – All results are acceptable for use without qualification.

IND1509

<u>Client ID</u>	<u>Laboratory ID</u>
AW1-GW01-04/04	IND1509-01
GP23-GW01-04/04	IND1509-02

TB10-GW01-04/04

IND1509-03

Matrix: Water

All technical holding times were met for the samples.

EPA 5030B/8260B Volatile Organic Compounds (VOC) - All results acceptable for use without qualification.

EPA 3520C/8270C Semi-volatile Organic Compounds (SVOC) – All results acceptable for use without qualification.

EPA 200.7 Minerals – All results acceptable for use without qualification.

EPA 1625C Modified n-Nitrosodimethylamine – All results are acceptable for use without qualification.

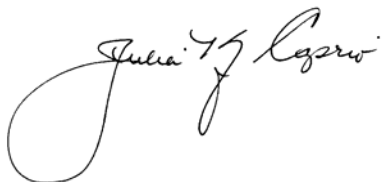
EPA 7470A Mercury – All results acceptable for use without qualification.

EPA 6020 Metals – Sample AW1-GW01-04/04; beryllium, silver, and zinc were “**J**” qualified as estimated with a low bias due to recoveries in the MS/MSD outside of the method criteria. All of the remaining results are acceptable for use without qualification.

Inorganics – Chromium VI in AW1-GW01-04/04 was “**R**” qualified as **rejected** due to non-recovery in the MS/MSD. All results acceptable for use without qualification.

Data Use and Overall Assessment

The data packages were reviewed. The data are acceptable for use as qualified with the exception of some values for Chromium VI which were qualified as “**R**” or rejected, due to poor or no recoveries of the spike in their associated MS/MSD. Overall, the analyses were generally within the requirements of the referenced methods.

A handwritten signature in black ink, reading "Julia K. Caprio". The signature is written in a cursive style with a large, looping initial "J".

Reviewer: Julia K. Caprio
Geosyntec Consultants
June 1, 2004