

Data Usability Summary Report



June 23, 2016

Mr. Richard Maxwell
Senior Geologist
Roux Associates, Inc.
209 Shafter Street
Islandia, New York 11749-5074

Re: Data Usability Summary Report for Former Paragon Paint, 4540 Vernon Blvd., Long Island City, NY
Alpha Analytical Lab Numbers L1524605, L1524771, L1524881, L1525300, L1526871, L1531118, L1528020, L1531866, L1531868, L1531870, L1532182, L1533059, L1533777, L1600573, L1600810, L1600998, L1601142, L1601199, L1601467, L1601840, and L1602275, and
York Analytical Laboratories Project (SDG) Nos. 15L0131, 15L0158, 15L0437, 15L0642, 15L0706, 15L0844, 15L0849, 15L0898, 15L0961, 15L1039, 16A0544, 16A0626, and 16A0789

Dear Mr. Maxwell:

Data review was performed for the data packages generated by Alpha Analytical and York Analytical Laboratories for the Former Paragon Paint site. Analytical data for soil samples and associated field blanks and trip blanks collected by Roux Associates between 9/30/2015 and 1/27/2016 are discussed in this DUSR. USEPA SW846 methods were used for the sample analyses. The data validation was performed in accordance with the guidelines presented in the following USEPA documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, OSWER 9240.1-48, USEPA-540-R-08-01, June 2008.*
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, OSWER 9240.1-51, USEPA-540-R-10-011, January 2010.*

The data packages provided by the lab contained full deliverables for validation. This DUSR is generated from review of the summary form information, with review of raw data for samples, and limited review of associated raw data for QC samples.

The data review included the following items:

- Data deliverable completeness,
- Laboratory case narratives,
- Chain of custody documentation,
- Holding times,
- Blank results,
- Surrogate recoveries,
- Internal standard results,
- Laboratory control samples (LCS),
- Matrix spike/matrix spike duplicate samples (MS/MSD),
- Laboratory duplicate samples,
- Field duplicate samples,
- Instrument tunes,
- Initial calibration, initial calibration verification, and continuing calibration results,
- Method compliance, and
- Sample result verification.

Qualifiers applied to the data during the data validation process include “UJ” (estimated quantitation limit) and “J” (estimated value). Copies of the validated results (result tables annotated to reflect the data qualifiers recommended based on the data validation) and documentation supporting the qualification of the data are presented in **Appendix A**. Copies of the chain-of-custodies (COCs) and lab case narratives are presented in **Appendix B**. Only problems potentially affecting data usability are discussed in this report.

Data Deliverable Completeness

Full deliverable data packages (i.e., NYSDEC Category B or equivalent) were provided by the laboratory, which included reporting forms and raw data necessary to validate the reported analytical results.

Sample Receipt/Holding Times

All samples were received by the laboratory intact and under proper COCs. All samples were prepared and analyzed within the required holding times.

Data Generated by Alpha Analytical

VOC Analyses by USEPA Method 8260C

Alpha Analytical Lab Number L1524605:

Acetone was detected in the trip blank TB093015 for this sample batch above the method detection limits (MDL) but below the reporting limits (RL) at 3.4 µg/l. Positive results of acetone below 2x the RLs in associated samples are edited to non-detect (“U”) at the corresponding detection limits. No qualifiers are applied to acetone results that were non-detect or greater than 2x the RLs in the other associated samples.

Alpha Analytical Lab Number L1524771 (for sample PD-02/10-12 only):

Acetone was detected in the field blank FB100115 for this sample batch above the MDL but below the RL at 1.7 µg/l. Positive results of acetone above the MDL but below the RL in the associated samples PD-02/10-12 is edited to non-detect (“U”) at the corresponding detection limit.

Alpha Analytical Lab Number L1528020:

Toluene was detected in the method blank for batch WG837614-3 above the MDL but below the RL at 0.35 µg/kg. No qualifiers are applied to non-detect results of toluene in the associated samples.

Alpha Analytical Lab Number L1531118:

Compounds 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected in the trip blank TB112415 for this sample batch above the MDLs but below the RLs at 0.96 µg/l and 0.75 µg/l, respectively. No qualifiers are applied because 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were non-detect in all the associated samples.

Recoveries of chloromethane and bromomethane in the MS and MSD (spiked on background sample MW-38) were below the lab control limits. Non-detect results of the two compounds in the background sample MW-38 are qualified with a “UJ”, indicating that the corresponding detection limits of the compounds are estimated. In addition, n-propylbenzene in the MS (spiked on the same background sample MW-38) exceeded the lab control limits. Positive result of n-propylbenzene in the background sample is qualified estimated (“J”).

Alpha Analytical Lab Number L1600573:

Chloromethane and acetone were detected in the method blank for batch WG857710-3 above the MDLs but below the RLs at 0.47 µg/kg and 1.4 µg/kg, respectively. No qualifiers are applied to non-detect results of chloromethane in the associated samples. Positive results of acetone below 2x the RLs in associated samples D-4 EAST/6-7 FT and D-5 EAST/6-7 FT are edited to non-detect (“U”) at the corresponding detection limits. No qualifier is applied to acetone result greater than 2x the RL in the other associated sample D-5 SOUTH/6-7 FT.

Recoveries of trichlorofluoromethane and toluene in the LCS and LCSD for batches WG857710-1 and WG857710-2 were below the lab control limits. Non-detect results of trichlorofluoromethane and toluene in the associated samples D-4 EAST/6-7 FT, D-5 EAST/6-7 FT, and D-5 SOUTH/6-7 FT are qualified with a “UJ”, indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1600810:

Acetone was detected in the trip blank TB011116 for this sample batch above the MDL but below the RL at 2.2 µg/l. No qualifiers are applied because acetone were both non-detect in the two associated samples.

Alpha Analytical Lab Number L1600998:

Carbon disulfide was detected in the field blank FB011216 for this sample batch above the MDL but below the RL at 1.2 µg/l. No qualifier is applied because carbon disulfide was non-detect in the associated sample GT-4A-E-B/16-17.

Alpha Analytical Lab Number L1601142:

Compound p/m-xylene was detected in the method blank for batch WG859097-3 above the MDL but below the RL. Positive results of p/m-xylene above the MDLs but below RLs in all three associated samples are edited to non-detect (“U”) at the corresponding detection limits.

Alpha Analytical Lab Number L1601199:

Compound p/m-xylene and total xylene were detected in the method blank for batch WG859185-3 above the MDLs but below the RLs. Positive results of p/m-xylene and total xylene above the MDLs but below RLs in the associated samples are edited to non-detect (“U”) at the corresponding detection limits. No qualifiers are applied to non-detect results of p/m-xylene and total xylene in the other associated samples.

Alpha Analytical Lab Number L1601467:

Acetone was detected in the method blank for batch WG859839-3 above the MDL but below the RL at 1.0 µg/kg. No qualifier is applied because acetone was non-detect in the associated sample PD-09/4-6.

Alpha Analytical Lab Number L1601840:

Trichloroethene was detected in the field blank FB012116 and trip blank TB012116 for this sample batch above the MDLs but below the RLs. No qualifiers are applied because trichloroethane was non-detect in all the associated samples.

Bromomethane was detected in the method blank for batch WG860322-3 above the MDL but below the RL. No qualifiers are applied because bromomethane was non-detect in all the associated samples.

Alpha Analytical Lab Numbers L1524881, L1525300, L1526871, L1531866, L1531868, L1531870, L1532182, L1533059, L1533777, and L1602275:

No analytical or quality control issues affecting the usability of the data were noted.

SVOC Analyses by USEPA Method 8270D

Alpha Analytical Lab Number L1531870:

Recoveries of 3,3-dichlorobenzidine and benzoic acid in the LCSD for batches WG847079-2 and WG847079-3 were below the lab control limits at 36% and 9%, respectively. Non-detect results of 3,3-dichlorobenzidine and benzoic acid in the associated sample GT-3A-W-SW-9 are qualified with a "UJ", indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1600573:

Recoveries of 3,3-dichlorobenzidine in the LCS and LCSD for batches WG856800-2 and WG856800-3 were below the lab control limits at 35% and 37%, respectively. Non-detect results of 3,3-dichlorobenzidine in the associated samples D-4 EAST/6-7 FT, D-5 EAST/6-7 FT, and D-5 SOUTH/6-7 FT are qualified with a "UJ", indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1600810:

Recoveries of 3,3-dichlorobenzidine in the LCS and LCSD for batches WG857845-2 and WG857845-3 were below the lab control limits at 31% and 28%, respectively. Non-detect results of 3,3-dichlorobenzidine in the associated samples GT-5C-W-B/9-11 and GT-5C-W-B/15-17 are qualified with a "UJ", indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1600998:

Bis(2-ethylhexyl)phthalate was detected in the field blank FB011216 for this sample batch above the MDL but below the RL at 1.4 µg/l. No qualifier is applied because bis(2-ethylhexyl)phthalate was non-detect in the associated sample GT-4A-E-B/16-17.

Alpha Analytical Lab Number L1601142:

Bis(2-ethylhexyl)phthalate was detected in the method blank for batch WG858520-1 above the MDL but below the RL at 62 µg/kg. No qualifiers are applied because bis(2-ethylhexyl)phthalate was non-detect in all three associated samples.

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Recoveries of 3,3-dichlorobenzidine and benzoic acid in the LCS and/or LCSD for batches WG858520-2 and WG858520-3 were below the lab control limits. Non-detect results of 3,3-dichlorobenzidine and benzoic acid in the three associated samples are qualified with a "UJ", indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1601199:

Bis(2-ethylhexyl)phthalate was detected in the method blank for batch WG858520-1 above the MDL but below the RL at 62 µg/kg. No qualifiers are applied because bis(2-ethylhexyl)phthalate was non-detect in all three associated samples D-1B/11-13FT, D-2B/10-12FT, and D-3B/10-12FT.

Recoveries of 3,3-dichlorobenzidine and benzoic acid in the LCS and/or LCSD for batches WG858520-2 and WG858520-3 were below the lab control limits. Non-detect results of 3,3-dichlorobenzidine and benzoic acid in the three associated samples D-1B/11-13FT, D-2B/10-12FT, and D-3B/10-12FT are qualified with a "UJ", indicating that the corresponding detection limits are estimated.

Alpha Analytical Lab Number L1601840:

Bis(2-ethylhexyl)phthalate was detected in the field blank FB012116 for this sample batch above the MDL but below the RL. No qualifier is applied because bis(2-ethylhexyl)phthalate was non-detect in the associated sample GT-6-W-SW-9.

Alpha Analytical Lab Numbers L1524605, L1526871, L1528020, and L1533059:

No analytical or quality control issues affecting the usability of the data were noted.

PCB Analyses by USEPA Method 8082A:

Alpha Analytical Lab Numbers L1524605, L1526871, L1528020, L1600573, and L1601199:

No analytical or quality control issues affecting the usability of the data were noted.

Pesticide Analyses by USEPA Method 8081B:

Alpha Analytical Lab Number L1524605:

For lindane in sample SC-02/2-5 and endrin and endosulfan II in sample SC-03/2-5, relative percent differences (RPDs) between the positively-detected results from two GC columns exceeded the laboratory control limits of < 40%. The results of these pesticide compounds in the two samples are qualified estimated ("J").

Alpha Analytical Lab Number L1526871:

Trans-chlordane was detected in the method blank for batch WG833796-1 above the MDL but below the RL at 0.609 µg/kg. Positive result of trans-chlordane above the MDL but below the RL in associated sample SP-GARAGE (0-100) is edited to non-detect ("U") at the corresponding detection limit.

For several target pesticide compounds in samples SP-GARGE (0-100) and SP-SHED (0-100) of this batch, RPDs between the positively-detected results from two GC columns exceeded the laboratory control limits of < 40%. The results of these pesticide compounds in the two samples are qualified estimated (“J”).

Alpha Analytical Lab Number L1528020:

Trans-chlordane was detected in the method blank for batch WG837169-1 above the MDL but below the RL at 0.011 µg/kg. Positive result of trans-chlordane above the MDL but below the RL in associated sample FB102915 is edited to non-detect (“U”) at the corresponding detection limit.

Alpha Analytical Lab Number L1600573:

For endrin and endosulfan II in sample D-5 SOUTH/6-7 FT, RPDs between the positively-detected results from two GC columns exceeded the laboratory control limits of < 40%. The results of the two pesticide compounds in the sample are qualified estimated (“J”).

Alpha Analytical Lab Number L1601199:

Compound 4,4-DDT was detected in the method blank for batch WG857921-1 above the MDL but below the RL at 0.034 µg/kg. Positive result of 4,4-DDT above the MDL but below the RL in associated sample FB011316 is edited to non-detect (“U”) at the corresponding detection limit.

Metals Analyses by USEPA Methods 6010C and 7470A/7471B

Alpha Analytical Lab Number L1528020:

In metals analysis for soil samples, aluminum, calcium, iron and zinc were detected in method blank for batch WG836762-1 above the MDLs but below the RLs. No qualifiers are applied because the results of these metals were detected well above the RLs in all the associated samples.

Alpha Analytical Lab Number L1531870:

In metals analysis for soil samples, arsenic was detected in method blank for batch WG846953-1 above the MDL but below the RL at 0.1 mg/kg. No qualifier is applied because arsenic was detected well above the RL in the associated sample GT-3A-W-SW-9.

In metals analysis for water samples, chromium and iron were detected above the MDLs but below the RLs in method blank for batch WG847042-1 at 0.0022 mg/l and 0.029 mg/l, respectively. Iron result above the MDL but below the RL in the associated sample FB120315 is edited to non-detect (“U”) at the corresponding detection limit. No qualifier is applied to non-detect result of chromium in the associated sample FB120315.

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Alpha Analytical Lab Number L1600573:

In metals analysis for soil samples, antimony and copper were detected in method blank for batch WG856042-1 above the MDLs but below the RLs. No qualifiers are applied because antimony and copper were either detected well above the RLs or non-detect in the associated samples D-5 EAST/6-7 FT and D-5 SOUTH/6-7 FT.

In metals analysis for soil samples, arsenic and calcium were detected in method blank for batch WG856469-1 above the MDLs but below the RLs. No qualifiers are applied because arsenic and calcium were detected well above the RLs in the associated sample D-4 EAST/6-7 FT.

Recoveries of lead and vanadium in the MS (spiked on background sample D-4 EAST/6-7 FT) were below the lab control limits. Positive results of lead and vanadium in the background sample are qualified estimated (“J”).

RPDs between the results of calcium, lead, vanadium, and zinc in sample D-4 EAST/6-7 FT and its field duplicate exceeded the lab control limits. Positive results of these metals in sample D-4 EAST/6-7 FT are qualified estimated (“J”).

Alpha Analytical Lab Number L1600810:

In metals analysis for soil samples, calcium and magnesium were detected in method blank for batch WG856871-1 above the MDLs but below the RLs. No qualifiers are applied because calcium and magnesium were detected well above the RLs in the associated samples GT-5C-W-B/9-11 and GT-5C-W-B/15-17.

In metals analysis for water samples, arsenic was detected above the MDL but below the RL in method blank for batch WG856884-1. No qualifier is applied because arsenic was non-detect in the associated sample FB011116.

RPD between the results of barium in sample GT-5C-W-B/9-11 and its field duplicate exceeded the lab control limits. Positive result of barium in sample GT-5C-W-B/9-11 is qualified estimated (“J”).

Alpha Analytical Lab Number L1600998:

In metals analysis for soil samples, antimony and calcium were detected above the MDLs but below the RLs in method blank for batch WG862014-1 at 0.42 mg/kg and 2.1 mg/kg, respectively. Antimony result above the MDL but below the RL in the associated sample GT-4A-E-B/16-17 is edited to non-detect (“U”) at the corresponding detection limit. No qualifier is applied to result of calcium which was detected well above the RL in the associated sample.

Alpha Analytical Lab Number L1601142:

In metals analysis for soil samples, arsenic was detected in method blank for batch WG857778-1 above the MDL but below the RL. No qualifiers are applied because arsenic was detected well above the RLs in the three associated samples.

In metals analysis for water samples, copper was detected above the MDL but below the RL in method blank for batch WG858048-1. Copper result above the MDL but below the RL in the associated sample FB011316 is edited to non-detect (“U”) at the corresponding detection limit.

RPDs between the results of copper, lead, and nickel in sample GT-6-N-SW/6.5-8.5 and its field duplicate exceeded the lab control limits. Positive results of copper, lead, and nickel in sample GT-6-N-SW/6.5-8.5 are qualified estimated (“J”).

Alpha Analytical Lab Number L1601199:

In metals analysis for water samples, copper was detected above the MDL but below the RL in method blank for batch WG858048-1. Copper result above the MDL but below the RL in the associated sample FB011316 is edited to non-detect (“U”) at the corresponding detection limit.

Recoveries of calcium and potassium in the MS and MSD (spiked on background sample D-2B/10-12 FT) exceeded the lab control limits. Positive results of calcium and potassium in the background sample are qualified estimated (“J”).

Alpha Analytical Lab Number L1601840:

In metals analysis for soil samples, arsenic and iron were detected in the method blank for batch WG859509-1 above the MDLs but below the RLs. No qualifiers are applied because arsenic and iron were detected well above the RLs in the associated sample GT-6-W-SW-9.

Alpha Analytical Lab Numbers L1524605, L1526871, and L1533059:

No analytical or quality control issues affecting the usability of the data were noted.

Data Generated by York Analytical Laboratories

VOC Analyses by USEPA Method 8260

York Project (SDG) No. 15L0437:

Recovery of trans-1,2-dichloroethylene in LCS (BL50655-BS1) and recovery of MTBE in LCS Dup (BL50655-BSD1) were below the lab control limits. Non-detect results of trans-1,2-dichloroethylene and MTBE in the associated sample SC-05-NW-B-15 are qualified with a “UJ”, indicating that the corresponding detection limits are estimated.

Percent relative standard deviation (%RSD) of acetone in the initial calibration was outside the lab control limits of <20% at 43.26%. Positive result of acetone in the affected sample SC-05-NW-B-15 is qualified estimated (“J”). Non-detect result of

acetone in the other affected sample FB120915 is qualified with a “UJ”, indicating that the corresponding detection limit of acetone in the sample is estimated.

York Project (SDG) No. 15L0642:

%RSD of acetone in the initial calibration was outside the lab control limits of <20% at 35.03%. Positive result of acetone in the affected sample SC-05-NE-B-155 is qualified estimated (“J”).

York Project (SDG) No. 15L0706

%RSD of acetone in the initial calibration was outside the lab control limits of <20% at 36.07%. In addition, percent deviation (%Dev) of acetone in the continuing calibration was also outside the lab control limits of <20% at -44.1%. Positive results of acetone in the affected samples SC-05-NE-B15.5S and SC-05-NW-B17S are qualified estimated (“J”).

York Project (SDG) No. 15L1039:

Recoveries of acetone, cyclohexane, ethyl benzene, isopropylbenzene, methylcyclohexane, methylene chloride, o-xylene, and p-&m-xylene in the MS and MSD (spiked on background sample SC-04-SW-B-13SR) were below the lab control limits. Positive results of these compounds in the background sample are qualified estimated (“J”), and non-detect results of the other compounds in the sample are qualified with a “UJ”, indicating that the corresponding detection limits are estimated.

%RSD of acetone in the initial calibration was outside the lab control limits of <20% at 30.58%. Non-detect results of acetone in the affected samples DUP-122815 and SC-04-SW-B-13SR are qualified with a “UJ”, indicating that the corresponding detection limits of acetone in the samples are estimated.

York Project (SDG) No. 16A0626:

%Devs of acetone and 2-butanone in the continuing calibrations were outside the lab control limits of <20%. In addition, %RSDs of acetone in the initial calibrations were also outside the lab control limits of <20%. Positive results of acetone and 2-butanone in the affected samples Diverway-S-SW-6-8, Diverway-E-SW-6-8, and Diverway-W-SW-6-8 are qualified estimated (“J”). Non-detect result of acetone in the other affected sample Diverway-N-SW-6-8 is qualified with a “UJ”, indicating that the corresponding detection limit of acetone in the sample is estimated.

York Project (SDG) No. 16A0789:

%Dev of acetone in the continuing calibration was outside the lab control limits of <20%. Positive result of acetone in the affected sample TB012716 is qualified estimated (“J”).

York Project (SDG) Nos. 15L0131, 15L0158, 15L0844, 15L0849, 15L0898, 15L0961, and 16A0544:

No analytical or quality control issues affecting the usability of the data were noted.

Field Duplicate Evaluation:

The data packages include 3 soil field duplicate samples. The field duplicate samples, their corresponding parent samples, and associated data packages are listed in the table below. The soil samples were analyzed for VOCs, SVOCs, and/or metals. Results for most of the analytes were either non-detect or detected above the MDLs but below the RLs; an evaluation is not required for these results. RPDs are calculated for analytes detected above the RLs in parent and/or field duplicate samples, and the RPD values are compared with a QC criterion of $\leq 50\%$ for soil samples. For analytes with RPDs within the QC criterion, no qualifiers are applied. For analytes with RPDs exceeding the QC criterion, a “J” qualifier (estimated result) is applied to the positively detected results, and a “UJ” qualifier (estimated detection limit) is applied to non-detect results. Results of the parent/field duplicate sample comparison and qualifiers applied are summarized in the table below.

Data Package	Parent Sample	Duplicate Sample	Summary of Qualifiers Applied to Both Parent and Duplicate Samples
Alpha L1601142	GT-6-E-SW/7-9	DUP011316	<ul style="list-style-type: none">• “J” or “UJ” qualifiers to 10 metals;• No qualifiers to VOCs or SVOCs.
York 15L1039	SC-04-SW-B-13SR	DUP-122815	<ul style="list-style-type: none">• “J” qualifiers to 1 VOC;• Parent and duplicate samples were only analyzed for VOCs.
York 16A0789	PD-06B/9-11	DUP012716	<ul style="list-style-type: none">• No qualifiers to VOCs;• Parent and duplicate samples were only analyzed for VOCs.

Summary

Sample analyses were found generally compliant with the method requirements. Sample data are usable, with qualification of some sample results/detection limits as quantitatively estimated (“J” or “UJ” qualifier), or with edit of some positive results to non-detect (“U”) at the corresponding detection limits.

Please do not hesitate to contact me if you have any comments or questions regarding this report.

Sincerely

ROUX ASSOCIATES, INC.



Yixian Zhang, PhD
Senior Scientist

Enclosure: Definitions of Validation Data Qualifiers

Definitions of Validation Data Qualifiers

Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is an estimate and may be inaccurate or imprecise.
R	The sample results are rejected and unusable. The analyte may or may not be present.