

## Cover Page

**Order ID :** Q3399

**Project ID :** NWIRP Northrup Grumman Site – Bethpage, NY

**Client :** ICE Service Group, Inc.

**Lab Sample Number**

Q3399-01  
Q3399-02  
Q3399-03  
Q3399-04

**Client Sample Number**

COMP-ROLLOFF  
COMP-ROLLOFF  
COMP-ROLLOFF  
COMP-ROLLOFF

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : \_\_\_\_\_

Date: 11/4/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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## **CASE NARRATIVE**

**ICE Service Group, Inc.**

**Project Name: NWIRP Northrup Grumman Site – Bethpage, NY**

**Project # N/A**

**Order ID # Q3399**

**Test Name: TCLP VOA,VOC-TCLVOA-10,SVOC-TCL BNA -20,TCLP BNA,Diesel Range Organics,Gasoline Range Organics,Herbicide,PCB,Pesticide-TCL,TCLP Herbicide,TCLP Pesticide,Mercury,Metals ICP-TAL,TCLP ICP Metals,TCLP Mercury,Corrosivity,Hexavalent Chromium,Ignitability,Paint Filter,pH,Reactive Cyanide,Reactive Sulfide,Trivalent Chromium**

### **A. Number of Samples and Date of Receipt:**

4 Solid samples were received on 10/20/2025.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: TCLP VOA,VOC-TCLVOA-10,SVOC-TCL BNA -20,TCLP BNA,Diesel Range Organics,Gasoline Range Organics,Herbicide,PCB,Pesticide-TCL,TCLP Herbicide,TCLP Pesticide,Mercury,Metals ICP-TAL,TCLP ICP Metals,TCLP Mercury,Corrosivity,Hexavalent Chromium,Ignitability,Paint Filter,pH,Reactive Cyanide,Reactive Sulfide,Trivalent Chromium. This data package contains results for TCLP VOA(8260D),VOC-TCLVOA-10(8260D),SVOC-TCL BNA -20(8270E),TCLP BNA(8270E),Diesel Range Organics(8015D),Gasoline Range Organics(8015D),Herbicide(8151A),PCB(8082A),Pesticide-TCL(8081B),TCLP Herbicide(8151A),TCLP Pesticide(8081B),Mercury(7471B),Metals ICP-TAL(6010D),TCLP ICP Metals(6010D),TCLP Mercury(7470A),Corrosivity(9045D),Hexavalent Chromium(7196A),Ignitability(1030),Paint Filter(9095B),pH(9045D),Reactive Cyanide(9012B),Reactive Sulfide(9034),Trivalent Chromium(6010D).

### **C. Analytical Techniques:**

VOC-TCLVOA-10 : The analysis performed on instrument MSVOA\_X were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The analysis performed on instrument MSVOA\_Y were done using GC column Rxi-624SIL MS 30m, 0.25mm, 1.4 um, Cat. #13868.The analysis of VOC-TCLVOA-10 was based on method 8260D.

TCLP VOA : The analysis performed on instrument MSVOA\_X were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The analysis of TCLP VOA was based on method 8260D and TCLP extraction method was 1311.

SVOC-TCL BNA -20 : The samples were analyzed on instrument BNA\_G using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog



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# 7HG-G027-17-GGA. The samples were analyzed on instrument BNA\_P using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA. The analysis of SVOC-TCL BNA -20 was based on method 8270E and extraction was done based on method 3541.

TCLP BNA : The samples were analyzed on instrument BNA\_G using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA. The analysis of TCLP BNA was based on method 8270E and extraction was done based on method 3510 and TCLP extraction method was 1311.

Pesticide-TCL : The analysis was performed on instrument ECD\_D. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,; Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11.The analysis of Pesticide-TCLs was based on method 8081B and extraction was done based on method 3541.

TCLP Pesticide : The analysis was performed on instrument ECD\_D. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,; Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11.The analysis of TCLP Pesticides was based on method 8081B and extraction was done based on method 3510 and TCLP extraction method was 1311.

TCLP Herbicide : The analysis was performed on instrument ECD\_S. The front column is RTX-CLPesticides which is 30 meters, 0.32 mm ID, 0. 5 um df,; Catalog # 11139. The rear column is RTX-CLPesticides2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 11324. The analysis of TCLP Herbicides was based on method 8151A and extraction was done based on method 3510 and TCLP extraction method was 1311.

Diesel Range Organics : The analysis were performed on instrument FID\_F. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 13302.The analysis of Diesel Range Organics was based on method 8015D and extraction was done based on method 3541.

Gasoline Range Organics : The analysis performed on instrument FID\_B were done using GC column RTX502.2 which is 60 meters, 0.53mm ID, 3.0 um df, cat#10909.The analysis of Gasoline Range Organics was based on method 8015D.

PCB : The analyses were performed on instrument GCECD\_P. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11.The analysis of PCBs was based on method 8082A and extraction was done based on method 3541.



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**Herbicide :** The analysis was performed on instrument ECD\_S. The front column is RTX-CLPesticides which is 30 meters, 0.32 mm ID, 0.5  $\mu$ m df,; Catalog # 11139. The rear column is RTX-CLPesticides2 which is 30 meters, 0.32 mm ID, 0.25  $\mu$ m df, Catalog #: 11324. The analysis of Herbicides was based on method 8151A and extraction was done based on method 3541.

**Mercury, Metals ICP-TAL :** The analysis of Metals ICP-TAL was based on method 6010D, digestion based on method 3050 (soils). The analysis and digestion of Mercury was based on method 7471B.

**TCLP ICP Metals, TCLP Mercury :** The analysis of TCLP ICP Metals was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of TCLP Mercury was based on method 7470A and TCLP extraction method was 1311.

**Wetchem :** The analysis of Corrosivity, Hexavalent Chromium, Ignitability, Paint Filter, pH, Reactive Cyanide, Reactive Sulfide, Trivalent Chromium was based on method 1030, 6010D, 7196A, 9012B, 9034, 9045D, 9095B and extraction was done based on method 8015B.

#### **D. QA/ QC Samples:**

The Holding Times were met for all analysis except following Wetchem : COMP-ROLLOFF of pH and for COMP-ROLLOFF of Corrosivity, as this sample received out of hold.

The Surrogate recoveries were met for all analysis except following  
VOC-TCLVOA-10 : VY1021SBL01 [4-Bromofluorobenzene - 73%] surrogate failed for DoD criteria, lab has done analysis by regular limits and later it was updated with DoD criteria, lab has lost time for re-analysis by the time, so lab has reported data with failing QC for the data package.

TCLP VOA : COMP-ROLLOFF [Toluene-d8 - 83%] and VX1024WBL01 [Dibromofluoromethane - 78%, Toluene-d8 - 86%] Surrogate failing for Original sample as a corrective action sample reanalyzed but in reanalysis surrogate failing for Blank therefore both run reported.

The Internal Standards Areas met the acceptable requirements.  
The Retention Times were acceptable for all samples.

The MS recoveries met the requirements for all compounds except following

SVOC-TCL BNA -20 : The MS {Q3399-01MS} with File ID: BG064683.D recoveries met the requirements for all compounds except for 1,4-Dioxane[67%] and Hexachlorocyclopentadiene[149%], due to matrix interference therefore no corrective action was taken.



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TCLP Herbicide : The MS {Q3399-02MS} with File ID: PS032145.D recoveries met the requirements for all compounds except for [2,4,5-TP(Silvex)(1)49%] due to matrix interference.

Herbicide : The MS {Q3412-01MS} with File ID: PS032155.D recoveries met the requirements for all compounds except for [2,4,5-T(1)11% - 2,4,5-T(2)14%], [2,4,5-TP(Silvex)(1)10% - 2,4,5-TP(Silvex)(2)24%], [2,4-DB(1)0% - 2,4-DB(2)0%], [DICAMBA(1)15% - DICAMBA(2)18%], [DICHLORPROP(1)14% - DICHLORPROP(2)10%] and [Dinoseb(1)0% - Dinoseb(2)0%] due to matrix interference.

Mercury, Metals ICP-TAL : The Matrix Spike (TP-6MS) analysis met criteria for all compounds except for Antimony, Arsenic, Beryllium, Chromium, Copper, Lead, Selenium, Silver, Sodium, Thallium and Vanadium due to unknown interference with the reaction and noticed small black particles with soil which can cause possible failure.

TCLP ICP Metals, TCLP Mercury : The Matrix Spike (TP-6MS) analysis met criteria for all compounds except for Barium due to Chemical Interference during digestion process.

The MSD recoveries met the requirements for all compounds except following SVOC-TCL BNA -20 : The MSD {Q3399-01MSD} with File ID: BG064684.D recoveries met the requirements for all compounds except for 1,4-Dioxane[63%], 2-Nitrophenol[126%] and Hexachlorocyclopentadiene[151%], due to matrix interference therefore no corrective action was taken.

TCLP Herbicide : The MSD {Q3399-02MSD} with File ID: PS032146.D recoveries met the requirements for all compounds except for [2,4,5-TP(Silvex)(1)48%] due to matrix interference.

The sample # COMP-ROLLOFFMS and MSD is failing for 2,4,5-TP(Silvex) and the original sample (COMP-ROLLOFF) is reported with M flag for this compound.

Herbicide : The MSD {Q3412-01MSD} with File ID: PS032156.D recoveries met the requirements for all compounds except for [2,4,5-T(1)11% - 2,4,5-T(2)14%], [2,4,5-TP(Silvex)(1)10% - 2,4,5-TP(Silvex)(2)24%], [2,4-DB(1)0% - 2,4-DB(2)0%], [DICAMBA(1)15% - DICAMBA(2)18%], [DICHLORPROP(1)15% - DICHLORPROP(2)11%] and [Dinoseb(1)0% - Dinoseb(2)0%] due to matrix interference.

Mercury, Metals ICP-TAL : The Matrix Spike Duplicate (TP-6MSD) analysis met criteria for all compounds except for Antimony, Arsenic, Beryllium, Chromium, Lead,



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Potassium, Selenium, Silver, Sodium and Vanadium due to unknown interference with the reaction and noticed small black particles with soil which can cause possible failure.

TCLP ICP Metals, TCLP Mercury : The Matrix Spike Duplicate (TP-6MSD) analysis met criteria for all compounds except for Barium due to Chemical Interference during digestion process.

The RPD recoveries met criteria.

The Blank Spike met requirements for all compounds except following

TCLP VOA : The Blank Spike for {VX1024WBS01} with File ID: VX048341.D met requirements for all compounds except for Vinyl chloride[139%]. Failing high but associated samples have no positive hit for this compound therefore no corrective action was taken.

The Blank Spike Duplicate met requirements for all compounds

The Blank Spike met requirements for all compounds except following

SVOC-TCL BNA -20 : The Blank Spike for {PB170206BS} with File ID: BG064674.D met requirements for all compounds except for 1,4-Dioxane[59%], marginally low, therefore no corrective action was taken, Hexachlorocyclopentadiene[127%] failing high but The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Blank Spike Duplicate met requirements for all compounds

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements except following

TCLP BNA : The %RSD is greater than 20% in the Method 8270-BG102421.M for 2,4-Dinitrotoluene, this Compounds is passing on Linear regression.

SVOC-TCL BNA -20 : The %RSD is greater than 20% in the Method 8270-BG102421.M for 2-Nitrophenol, 2-Nitroaniline, 2,6-Dinitrotoluene, 2,4-Dinitrophenol, 2,4-Dinitrotoluene, 4,6-Dinitro-2-methylphenol these Compounds are passing on Linear regression,

The Continuous Calibration met the requirements except following

TCLP VOA : The Continuous Calibration File ID VX048339.D met the requirements except for Vinyl Chloride. Failing high but associated samples have not positive hit for this compound therefore no corrective action was taken.



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SVOC-TCL BNA -20 : The Continuous Calibration File ID BG064672.D met the requirements except for 2,4-Dinitrophenol,2,4-Dinitrotoluene,2,6-Dinitrotoluene,2-Nitroaniline,2-Nitrophenol,3-Nitroaniline,4,6-Dinitro-2-methylphenol,Hexachlorocyclopentadiene and Nitrobenzene-d5, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Continuous Calibration File ID BG064685.D met the requirements except for 2-Nitrophenol, failing high but The associate samples have no positive hit for these compounds therefore no corrective action was taken.

TCLP BNA : The Continuous Calibration File ID BG064672.D met the requirements except for Nitrobenzene-d5 marginally high therefore no corrective action was taken.

PCB : The Continuous Calibration File ID PP075960.D met the requirements except for Aroclor-1016(Peak-02) is failing in 2nd column but passing in 1st column therefore no corrective action taken.

The Tuning criteria met requirements.

The Duplicate analysis met criteria for all compounds except following Mercury, Metals ICP-TAL : The Duplicate (PR-132-S16-015094-20251021DUP) analysis met criteria for all compounds except for Mercury due to sample matrix interference. The Duplicate (TP-6MSD) analysis met criteria for all compounds except for Calcium due to sample matrix interference.

The Serial Dilution met the acceptable requirements.

#### **E. Additional Comments:**

The soil samples results are based on a dry weight basis.

SEMI-VOA : The sample # COMP-ROLLOFFMS and COMP-ROLLOFFMSD is failing for 2-Nitrophenol, Hexachlorocyclopentadiene, 1,4-Dioxane, and the original sample (COMP-ROLLOFF) is reported with M flag for these compounds.

The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.

Mercury, Metals ICP-TAL : The Post Digest Spike (TP-6A) analysis met criteria for all compounds except for Antimony, Arsenic, Beryllium, Chromium, Copper, Lead, Potassium, Silver, Sodium and Vanadium due to unknown chemical interference of





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matrix with the addition of spike amount after digestion and before analysis; matrix has suppression effect during addition of spike.

In analytical sequence LB137630, The % recovery was outside of acceptance limit for Iron, Potassium, Sodium and Thallium of CCV11 but no any samples associated under this CCV.

In analytical sequence LB137630, The % recovery was outside of acceptance limit for Iron and Sodium of CCV12 but no any samples associated under this CCV.

In analytical sequence LB137630, The Results was outside of acceptance limit for Potassium and Sodium of CCB10 , CCB11 and CCB12 but no any samples associated under this CCBs.

Pesticide-TCL : Sample COMP-ROLLOFF was reported with J flag on form 1 for compound Dieldrin based on reporting criteria of high concentration from both column. Now for other column compound detection is below MDL therefore it is not detecting on form 10.

VOC-TCLVOA-10 : Samples for MS/MSD for VOC analysis were not provided with this set of samples. The Blank Spike Duplicate is reported with the data.

Trip Blank was not provided with this set of samples.

TCLP ICP Metals,TCLP Mercury : The Post Digest Spike (TP-6A) analysis met criteria for all compounds except for Barium due to unknown chemical interference of matrix with the addition of spike amount after digestion and before analysis; matrix has suppression effect during addition of spike.

TCLP VOA : Samples for MS/MSD for VOC analysis were not provided with this set of samples. The Blank Spike Duplicate is reported with the data.

Trip Blank was not provided with this set of samples.

#### **F. Manual Integration Comments:**

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature\_\_\_\_\_



## DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

<b>J</b>	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
<b>U</b>	Indicates the analyte was analyzed for, but not detected.
<b>ND</b>	Indicates the analyte was analyzed for, but not detected
<b>E</b>	Indicates the reported value is estimated because of the presence of interference
<b>M</b>	Indicates Duplicate injection precision not met.
<b>N</b>	Indicates the spiked sample recovery is not within control limits.
<b>S</b>	Indicates the reported value was determined by the Method of Standard Addition (MSA).
<b>*</b>	Indicates that the duplicate analysis is not within control limits.
<b>+</b>	Indicates the correlation coefficient for the MSA is less than 0.995.
<b>D</b>	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
<b>M</b>	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
<b>OR</b>	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>Q</b>	Indicates the LCS did not meet the control limits requirements
<b>H</b>	Sample Analysis Out Of Hold Time

## DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following “Results Qualifiers” are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. “10 U”. This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as “12 B”.
E	Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a “P”.
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

## APPENDIX A

### QA REVIEW GENERAL DOCUMENTATION

Project #: Q3399

Completed

For thorough review, the report must have the following:

#### GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

#### COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

#### CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

#### ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 11/04/2025