

LAB CHRONICLE

OrderID:	Q2935	OrderDate:	8/21/2025 2:48:00 PM
Client:	Holland Manufacturing Co.	Project:	Pre Treatment Plant 2025
Contact:	Todd Holland	Location:	D31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2935-01	EFFLUENT	WATER			08/21/25 13:00			08/21/25
			Ammonia	SM4500-NH3		08/22/25	08/22/25 12:41	
			BOD5	SM5210 B			08/22/25 10:30	
			Oil and Grease	1664A			08/25/25 09:45	
			Phosphorus-Ortho	SM4500-P E			08/21/25 16:46	
			Phosphorus-Total	365.3		08/25/25	08/25/25 16:36	
			TSS	SM2540 D			08/26/25 13:00	
Q2935-01DL	EFFLUENTDL	WATER			08/21/25 13:00			08/21/25
			Ammonia	SM4500-NH3		08/22/25	08/22/25 13:32	
Q2935-04	AERATION	WATER			08/21/25 13:00			08/21/25
			TSS	SM2540 D			08/26/25 13:00	
Q2935-05	INFLUENT	WATER			08/21/25 13:00			08/21/25
			Ammonia	SM4500-NH3		08/22/25	08/22/25 12:41	
			BOD5	SM5210 B			08/22/25 10:30	

LAB CHRONICLE

Q2935-05DL

INFLUENTDL

WATER

**08/21/25
13:00**

08/21/25

Ammonia

SM4500-NH3

08/22/25

08/22/25
13:40



SAMPLE DATA

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	08/21/25 13:00
Project:	Pre Treatment Plant 2025	Date Received:	08/21/25
Client Sample ID:	EFFLUENT	SDG No.:	Q2935
Lab Sample ID:	Q2935-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	538	OR	1	1.50	5.00	mg/L	08/22/25 10:15	08/22/25 12:41	SM 4500-NH3 B plus G-21
BOD5	5570		1	0.20	2.00	mg/L		08/22/25 10:30	SM 5210 B-16
Oil and Grease	15.1		1	0.29	5.00	mg/L		08/25/25 09:45	1664A
Orthophosphate as P	0.12		1	0.0040	0.050	mg/L		08/21/25 16:46	SM 4500-P E-21
Phosphorus, Total	0.17		1	0.0050	0.050	mg/L	08/25/25 10:00	08/25/25 16:36	365.3
TSS	3100		1	1.00	4.00	mg/L		08/26/25 13:00	SM 2540 D-20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	08/21/25 13:00
Project:	Pre Treatment Plant 2025	Date Received:	08/21/25
Client Sample ID:	EFFLUENTDL	SDG No.:	Q2935
Lab Sample ID:	Q2935-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	505	D	10	15.0	50.0	mg/L	08/22/25 10:15	08/22/25 13:32	SM 4500-NH3 B plus G-21

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	08/21/25 13:00
Project:	Pre Treatment Plant 2025	Date Received:	08/21/25
Client Sample ID:	AERATION	SDG No.:	Q2935
Lab Sample ID:	Q2935-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
TSS	3860		1	1.00	4.00	mg/L		08/26/25 13:00	SM 2540 D-20

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	08/21/25 13:00
Project:	Pre Treatment Plant 2025	Date Received:	08/21/25
Client Sample ID:	INFLUENT	SDG No.:	Q2935
Lab Sample ID:	Q2935-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	365	OR	1	1.50	5.00	mg/L	08/22/25 10:15	08/22/25 12:41	SM 4500-NH3 B plus G-21
BOD5	23200		1	0.20	2.00	mg/L		08/22/25 10:30	SM 5210 B-16

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	08/21/25 13:00
Project:	Pre Treatment Plant 2025	Date Received:	08/21/25
Client Sample ID:	INFLUENTDL	SDG No.:	Q2935
Lab Sample ID:	Q2935-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	342	D	5	7.50	25.0	mg/L	08/22/25 10:15	08/22/25 13:40	SM 4500-NH3 B plus G-21

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136914

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Orthophosphate as P	mg/L	0.490	0.50	98	90-110	08/21/2025
Sample ID: CCV1 Orthophosphate as P	mg/L	0.493	0.5	99	90-110	08/21/2025
Sample ID: CCV2 Orthophosphate as P	mg/L	0.505	0.5	101	90-110	08/21/2025

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136936

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Ammonia as N	mg/L	1	1	100	90-110	08/22/2025
Sample ID: CCV1 Ammonia as N	mg/L	1	1	100	90-110	08/22/2025
Sample ID: CCV2 Ammonia as N	mg/L	1	1	100	90-110	08/22/2025
Sample ID: CCV3 Ammonia as N	mg/L	1	1	100	90-110	08/22/2025
Sample ID: CCV4 Ammonia as N	mg/L	1	1	100	90-110	08/22/2025

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136944

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Phosphorus, Total	mg/L	0.500	0.50	100	90-110	08/25/2025
Sample ID: CCV1 Phosphorus, Total	mg/L	0.495	0.50	99	90-110	08/25/2025
Sample ID: CCV2 Phosphorus, Total	mg/L	0.497	0.50	99	90-110	08/25/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136914

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0038	0.05	08/21/2025
Sample ID: CCB1 Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0038	0.05	08/21/2025
Sample ID: CCB2 Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0038	0.05	08/21/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136936

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	08/22/2025
Sample ID: CCB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	08/22/2025
Sample ID: CCB2 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	08/22/2025
Sample ID: CCB3 Ammonia as N	mg/L	0.03	0.0500	J	0.030	0.1	08/22/2025
Sample ID: CCB4 Ammonia as N	mg/L	0.036	0.0500	J	0.030	0.1	08/22/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

RunNo.: LB136944

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.0045	0.05	08/25/2025
Sample ID: CCB1 Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.0045	0.05	08/25/2025
Sample ID: CCB2 Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.0045	0.05	08/25/2025

Preparation Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB136914BL Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.004	0.05	08/21/2025
Sample ID: LB136925BL BOD5	mg/L	< 0.2000	0.2000	U	0.20	2.0	08/22/2025
Sample ID: LB136941BL Oil and Grease	mg/L	< 2.5000	2.5000	U	0.29	5.0	08/25/2025
Sample ID: LB136966BL TSS	mg/L	1	2.0000	J	1	4	08/26/2025
Sample ID: PB169354BL Ammonia as N	mg/L	0.032	0.0500	J	0.03	0.1	08/22/2025
Sample ID: PB169384BL Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.005	0.05	08/25/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2935-01
Client ID:	EFFLUENTMS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Orthophosphate as P	mg/L	90-110	0.61		0.12		0.5	1	98		08/21/2025
Phosphorus, Total	mg/L	90-110	0.64		0.17		0.5	1	94		08/25/2025
Ammonia as N	mg/L	75-125	593	OR	538	OR	50	1	110		08/22/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2935-01
Client ID:	EFFLUENTMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Orthophosphate as P	mg/L	90-110	0.61		0.12		0.5	1	99		08/21/2025
Phosphorus, Total	mg/L	90-110	0.64		0.17		0.5	1	94		08/25/2025
Ammonia as N	mg/L	75-125	590	OR	538	OR	50	1	104		08/22/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2935-01
Client ID:	EFFLUENTMS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	35.2		15.1		20.0	1	101		08/25/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2935-01
Client ID:	EFFLUENTMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	35.5		15.1		20.0	1	102		08/25/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2942-01
Client ID:	MH-8-22-25MS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	70.5		50.5		20.0	1	100		08/25/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2942-01
Client ID:	MH-8-22-25MSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	70.8		50.5		20.0	1	102		08/25/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2910-02
Client ID:	CompDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
BOD5	mg/L	+/-20	374		362		1	3.35		08/22/2025

Duplicate Sample Summary

Client: Holland Manufacturing Co.	SDG No.: Q2935
Project: Pre Treatment Plant 2025	Sample ID: Q2935-01
Client ID: EFFLUENTDUP	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Orthophosphate as P	mg/L	+/-20	0.12		0.12		1	0.86		08/21/2025
Ammonia as N	mg/L	+/-20	538	OR	539	OR	1	0		08/22/2025
Phosphorus, Total	mg/L	+/-20	0.17		0.17		1	1.18		08/25/2025
Ammonia as N	mg/L	+/-20	505	D	514	D	10	2		08/22/2025

Duplicate Sample Summary

Client: Holland Manufacturing Co.	SDG No.: Q2935
Project: Pre Treatment Plant 2025	Sample ID: Q2935-01
Client ID: EFFLUENTMSD	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Orthophosphate as P	mg/L	+/-20	0.61		0.61		1	0.49		08/21/2025
Ammonia as N	mg/L	+/-20	593	OR	590	OR	1	1		08/22/2025
Phosphorus, Total	mg/L	+/-20	0.64		0.64		1	0.47		08/25/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2935-01
Client ID:	EFFLUENTMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Oil and Grease	mg/L	+/-18	35.2		35.5		1	0.85		08/25/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2940-01
Client ID:	COMP(1-6)DUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TSS	mg/L	+/-5	80.3		80.4		1	0.12		08/26/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q2935
Project:	Pre Treatment Plant 2025	Sample ID:	Q2942-01
Client ID:	MH-8-22-25MSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Oil and Grease	mg/L	+/-18	70.5		70.8		1	0.42		08/25/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136914

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB136914BS							
Orthophosphate as P	mg/L	0.5	0.51		102	1	90-110	08/21/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136925

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB136925BS							
BOD5	mg/L	198	205		104	1	84.6-115.4	08/22/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136941

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB136941BS							
Oil and Grease	mg/L	20.0	16.8		84	1	78-114	08/25/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136966

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB136966BS							
TSS	mg/L	550	532		97	1	90-110	08/26/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136936

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB169354BS							
Ammonia as N	mg/L	1	1.00		100	1	90-110	08/22/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q2935

Project: Pre Treatment Plant 2025

Run No.: LB136944

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB169384BS							
Phosphorus, Total	mg/L	0.50	0.50		99	1	90-110	08/25/2025