

LAB CHRONICLE

OrderID:	Q1061	OrderDate:	1/10/2025 9:58:27 AM
Client:	Dewberry Engineers Inc.	Project:	PennDOT - Onvo Travel Plaza #50040379
Contact:	Bill Pendexter	Location:	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1061-01	MW-1	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-02	MW-2	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-03	MW-3	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-04	MW-4	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-05	MW-5	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-06	MW-6	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-07	MW-7	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-08	MW-8	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-09	MW-9	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25
Q1061-10	MW-10	Water	Metals ICP-Group1	200.7	01/09/25	01/13/25	01/20/25	01/09/25

Hit Summary Sheet SW-846

SDG No.:	Q1061	Order ID:	Q1061
Client:	Dewberry Engineers Inc.	Project ID:	PennDOT - Onvo Travel Plaza #50040379

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : MW-1								
Q1061-01	MW-1	Water	Potassium	9040		281	1000	ug/L
Q1061-01	MW-1	Water	Sodium	27900		448	1000	ug/L
Client ID : MW-2								
Q1061-02	MW-2	Water	Potassium	7220		281	1000	ug/L
Q1061-02	MW-2	Water	Sodium	29100		448	1000	ug/L
Client ID : MW-3								
Q1061-03	MW-3	Water	Potassium	21900		281	1000	ug/L
Q1061-03	MW-3	Water	Sodium	88500		448	1000	ug/L
Client ID : MW-4								
Q1061-04	MW-4	Water	Potassium	16000		281	1000	ug/L
Q1061-04	MW-4	Water	Sodium	74800		448	1000	ug/L
Client ID : MW-5								
Q1061-05	MW-5	Water	Potassium	35900		281	1000	ug/L
Q1061-05	MW-5	Water	Sodium	128000		448	1000	ug/L
Client ID : MW-6								
Q1061-06	MW-6	Water	Potassium	26100		281	1000	ug/L
Q1061-06	MW-6	Water	Sodium	79300		448	1000	ug/L
Client ID : MW-7								
Q1061-07	MW-7	Water	Potassium	12000		281	1000	ug/L
Q1061-07	MW-7	Water	Sodium	64700		448	1000	ug/L
Client ID : MW-8								
Q1061-08	MW-8	Water	Potassium	14300		281	1000	ug/L
Q1061-08	MW-8	Water	Sodium	58100		448	1000	ug/L
Client ID : MW-9								
Q1061-09	MW-9	Water	Potassium	28500		281	1000	ug/L
Q1061-09	MW-9	Water	Sodium	96100		448	1000	ug/L
Client ID : MW-10								
Q1061-10	MW-10	Water	Potassium	28100		281	1000	ug/L
Q1061-10	MW-10	Water	Sodium	103000		448	1000	ug/L



SAMPLE DATA

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-1	SDG No.:	Q1061
Lab Sample ID:	Q1061-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	9040	1	281		1000	ug/L	01/13/25 10:30	01/20/25 15:50	EPA 200.7	
7440-23-5	Sodium	27900	1	448		1000	ug/L	01/13/25 10:30	01/20/25 15:50	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-2	SDG No.:	Q1061
Lab Sample ID:	Q1061-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	7220	1	281		1000	ug/L	01/13/25 10:30	01/20/25 15:54	EPA 200.7	
7440-23-5	Sodium	29100	1	448		1000	ug/L	01/13/25 10:30	01/20/25 15:54	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-3	SDG No.:	Q1061
Lab Sample ID:	Q1061-03	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	21900	1	281		1000	ug/L	01/13/25 10:30	01/20/25 15:58	EPA 200.7	
7440-23-5	Sodium	88500	1	448		1000	ug/L	01/13/25 10:30	01/20/25 15:58	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-4	SDG No.:	Q1061
Lab Sample ID:	Q1061-04	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	16000	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:03	EPA 200.7	
7440-23-5	Sodium	74800	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:03	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5	SDG No.:	Q1061
Lab Sample ID:	Q1061-05	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	35900	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:07	EPA 200.7	
7440-23-5	Sodium	128000	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:07	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-6	SDG No.:	Q1061
Lab Sample ID:	Q1061-06	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	26100	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:12	EPA 200.7	
7440-23-5	Sodium	79300	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:12	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7	SDG No.:	Q1061
Lab Sample ID:	Q1061-07	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	12000	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:16	EPA 200.7	
7440-23-5	Sodium	64700	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:16	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8	SDG No.:	Q1061
Lab Sample ID:	Q1061-08	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	14300	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:21	EPA 200.7	
7440-23-5	Sodium	58100	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:21	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9	SDG No.:	Q1061
Lab Sample ID:	Q1061-09	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	28500	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:25	EPA 200.7	
7440-23-5	Sodium	96100	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:25	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10	SDG No.:	Q1061
Lab Sample ID:	Q1061-10	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-09-7	Potassium	28100	1	281		1000	ug/L	01/13/25 10:30	01/20/25 16:55	EPA 200.7	
7440-23-5	Sodium	103000	1	448		1000	ug/L	01/13/25 10:30	01/20/25 16:55	EPA 200.7	

Color Before:	Brown	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group1			

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METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Dewberry Engineers Inc. **SDG No.:** Q1061

Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Potassium	9610	9900	97	95 - 105	P	01/20/2025	10:47	LB134350
	Sodium	9680	10000	97	95 - 105	P	01/20/2025	10:47	LB134350

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Dewberry Engineers Inc. **SDG No.:** Q1061

Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Potassium	1890	2000	95	80 - 120	P	01/20/2025	10:53	LB134350
	Sodium	1940	2000	97	80 - 120	P	01/20/2025	10:53	LB134350

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Dewberry Engineers Inc. SDG No.: Q1061
Contract: DEWB01 Lab Code: CHEM Case No.: Q1061 SAS No.: Q1061
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Potassium	24200	25000	97	90 - 110	P	01/20/2025	11:31	LB134350
	Sodium	24700	25000	99	90 - 110	P	01/20/2025	11:31	LB134350
CCV02	Potassium	23900	25000	96	90 - 110	P	01/20/2025	12:29	LB134350
	Sodium	24300	25000	97	90 - 110	P	01/20/2025	12:29	LB134350
CCV03	Potassium	23600	25000	94	90 - 110	P	01/20/2025	13:35	LB134350
	Sodium	23800	25000	95	90 - 110	P	01/20/2025	13:35	LB134350
CCV04	Potassium	24000	25000	96	90 - 110	P	01/20/2025	14:38	LB134350
	Sodium	23900	25000	96	90 - 110	P	01/20/2025	14:38	LB134350
CCV05	Potassium	24600	25000	98	90 - 110	P	01/20/2025	15:37	LB134350
	Sodium	24300	25000	97	90 - 110	P	01/20/2025	15:37	LB134350
CCV06	Potassium	23100	25000	92	90 - 110	P	01/20/2025	16:47	LB134350
	Sodium	22800	25000	91	90 - 110	P	01/20/2025	16:47	LB134350
CCV07	Potassium	23700	25000	95	90 - 110	P	01/20/2025	17:33	LB134350
	Sodium	23800	25000	95	90 - 110	P	01/20/2025	17:33	LB134350
CCV08	Potassium	23700	25000	95	90 - 110	P	01/20/2025	17:52	LB134350
	Sodium	23500	25000	94	90 - 110	P	01/20/2025	17:52	LB134350



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Potassium	1880	2000	94	40 - 160	P	01/20/2025	11:06	LB134350
	Sodium	1920	2000	96	40 - 160	P	01/20/2025	11:06	LB134350



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	Dewberry Engineers Inc.				SDG No.:	Q1061				
Contract:	DEWB01		Lab Code:	CHEM		Case No.:	Q1061		SAS No.:	Q1061
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number	
ICB01	Potassium	2000	+/-2000	U	2000	P	01/20/2025	11:01	LB134350	
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	11:01	LB134350	

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Potassium	2000	+/-2000	U	2000	P	01/20/2025	11:36	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	11:36	LB134350
CCB02	Potassium	2000	+/-2000	U	2000	P	01/20/2025	12:33	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	12:33	LB134350
CCB03	Potassium	2000	+/-2000	U	2000	P	01/20/2025	13:39	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	13:39	LB134350
CCB04	Potassium	2000	+/-2000	U	2000	P	01/20/2025	14:43	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	14:43	LB134350
CCB05	Potassium	2000	+/-2000	U	2000	P	01/20/2025	15:41	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	15:41	LB134350
CCB06	Potassium	2000	+/-2000	U	2000	P	01/20/2025	16:50	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	16:50	LB134350
CCB07	Potassium	2000	+/-2000	U	2000	P	01/20/2025	17:37	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	17:37	LB134350
CCB08	Potassium	2000	+/-2000	U	2000	P	01/20/2025	17:56	LB134350
	Sodium	2000	+/-2000	U	2000	P	01/20/2025	17:56	LB134350

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166036BL		WATER		Batch Number:	PB166036		Prep Date:	01/13/2025	
	Potassium	1000	<1000	U	1000	P	01/20/2025	17:25	LB134350
	Sodium	1000	<1000	U	1000	P	01/20/2025	17:25	LB134350

Metals

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061
ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Potassium	-66.9			0	0	01/20/2025	11:10	LB134350
	Sodium	-12.1			0	0	01/20/2025	11:10	LB134350
ICSAB01	Potassium	-22.6			0	0	01/20/2025	11:19	LB134350
	Sodium	-18.5			0	0	01/20/2025	11:19	LB134350
ICSA	Potassium	-1700			0	0	01/20/2025	11:23	LB134350
	Sodium	-926			0	0	01/20/2025	11:23	LB134350
ICSAB	Potassium	-2090			0	0	01/20/2025	11:27	LB134350
	Sodium	-1000			0	0	01/20/2025	11:27	LB134350



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>Dewberry Engineers Inc.</u>	level: <u>low</u>	sdg no.: <u>Q1061</u>
contract: <u>DEWB01</u>	lab code: <u>CHEM</u>	case no.: <u>Q1061</u> sas no.: <u>Q1061</u>
matrix: <u>Water</u>	sample id: <u>Q1061-10</u>	client id: <u>MW-10MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q1061-10MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Potassium	ug/L	75 - 125	33500		28100		5000	109		P
Sodium	ug/L	75 - 125	104000		103000		1500	64		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Dewberry Engineers Inc.</u>	level: <u>low</u>	sdg no.: <u>Q1061</u>
contract: <u>DEWB01</u>	lab code: <u>CHEM</u>	case no.: <u>Q1061</u> sas no.: <u>Q1061</u>
matrix: <u>Water</u>	sample id: <u>Q1061-10</u>	client id: <u>MW-10MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q1061-10MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Potassium	ug/L	75 - 125	33300		28100		5000	105		P
Sodium	ug/L	75 - 125	102000		103000		1500	-40		P

Metals
- 5b -

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061
Matrix: **Level:** LOW **Client ID:**
Sample ID: **Spiked ID:**

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M
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.....

A
B
C
D
E
F
G
H

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client:	<u>Dewberry Engineers Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>Q1061</u>
Contract:	<u>DEWB01</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>Q1061</u>
Matrix:	<u>Water</u>	Sample ID:	<u>Q1061-10</u>	Client ID:	<u>MW-10DUP</u>
Percent Solids for Sample:	NA	Duplicate ID	Q1061-10DUP	Percent Solids for Spike Sample:	NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Potassium	ug/L	20	28100		27800		1		P
Sodium	ug/L	20	103000		101000		2		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Dewberry Engineers Inc. **Level:** LOW **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061
Matrix: Water **Sample ID:** Q1061-10MS **Client ID:** MW-10MSD
Percent Solids for Sample: NA **Duplicate ID** Q1061-10MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Potassium	ug/L	20	33500		33300		1		P
Sodium	ug/L	20	104000		102000		2		P

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166036BS							
Potassium	ug/L	5000	4580		92	85 - 115	P
Sodium	ug/L	1500	1420		95	85 - 115	P

Metals
-9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

MW-10L

Lab Name: Chemtech Consulting Group

Contract: DEWB01

Lab Code: CHEM Lb No.: lb134350 Lab Sample ID : Q1061-10L SDG No.: Q1061

Matrix (soil/water): Water Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Potassium	28100	27500	2		P
Sodium	103000	102000	0		P



METAL PREPARATION & INSTRUMENT DATA

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Dewberry Engineers Inc. **SDG No.:** Q1061
Contract: DEWB01 **Lab Code:** CHEM **Case No.:** Q1061 **SAS No.:** Q1061
Instrument ID: _____ **Date:** _____
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Ag
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Contract: DEWB01

Lab Code: CHEM

Case No.: Q1061

SAS No.: Q1061

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		As	Ba	Be	Cd	Co
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Contract: DEWB01

Lab Code: CHEM

Case No.: Q1061

SAS No.: Q1061

Instrument ID: _____

Date: _____

Interement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Contract: DEWB01

Lab Code: CHEM

Case No.: Q1061

SAS No.: Q1061

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Na	Ni	Pb	Sb	Se
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Contract: DEWB01

Lab Code: CHEM

Case No.: Q1061

SAS No.: Q1061

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

Metals

- 13 -

SAMPLE PREPARATION SUMMARY

Client:	<u>Dewberry Engineers Inc.</u>	SDG No.:	<u>Q1061</u>
Contract:	<u>DEWB01</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q1061</u>
		SAS No.:	<u>Q1061</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB166036							
PB166036BL	PB166036BL	MB	WATER	01/13/2025	50.0	25.0	
PB166036BS	PB166036BS	LCS	WATER	01/13/2025	50.0	25.0	
Q1061-01	MW-1	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-02	MW-2	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-03	MW-3	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-04	MW-4	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-05	MW-5	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-06	MW-6	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-07	MW-7	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-08	MW-8	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-09	MW-9	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-10	MW-10	SAM	WATER	01/13/2025	50.0	25.0	
Q1061-10DUP	MW-10DUP	DUP	WATER	01/13/2025	50.0	25.0	
Q1061-10MS	MW-10MS	MS	WATER	01/13/2025	50.0	25.0	
Q1061-10MSD	MW-10MSD	MSD	WATER	01/13/2025	50.0	25.0	

metals
- 14 -
ANALYSIS RUN LOG

Client: Dewberry Engineers Inc. **Contract:** DEWB01

Lab code: CHEM **Case no.:** Q1061 **Sas no.:** Q1061 **Sdg no.:** Q1061

Instrument id number: **Method:** **Run number:** LB134350

Start date: 01/20/2025 **End date:** 01/20/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1021	K,Na
S1	S1	1	1026	K,Na
S2	S2	1	1030	K,Na
S3	S3	1	1034	K,Na
S4	S4	1	1039	K,Na
S5	S5	1	1043	K,Na
ICV01	ICV01	1	1047	K,Na
LLICV01	LLICV01	1	1053	K,Na
ICB01	ICB01	1	1101	K,Na
CRI01	CRI01	1	1106	K,Na
ICSA01	ICSA01	1	1110	K,Na
ICSAB01	ICSAB01	1	1119	K,Na
ICSA	ICSA	20	1123	K,Na
ICSAB	ICSAB	20	1127	K,Na
CCV01	CCV01	1	1131	K,Na
CCB01	CCB01	1	1136	K,Na
CCV02	CCV02	1	1229	K,Na
CCB02	CCB02	1	1233	K,Na
CCV03	CCV03	1	1335	K,Na
CCB03	CCB03	1	1339	K,Na
CCV04	CCV04	1	1438	K,Na
CCB04	CCB04	1	1443	K,Na
CCV05	CCV05	1	1537	K,Na
CCB05	CCB05	1	1541	K,Na
Q1061-01	MW-1	1	1550	K,Na
Q1061-02	MW-2	1	1554	K,Na
Q1061-03	MW-3	1	1558	K,Na
Q1061-04	MW-4	1	1603	K,Na
Q1061-05	MW-5	1	1607	K,Na
Q1061-06	MW-6	1	1612	K,Na
Q1061-07	MW-7	1	1616	K,Na
Q1061-08	MW-8	1	1621	K,Na
Q1061-09	MW-9	1	1625	K,Na
CCV06	CCV06	1	1647	K,Na
CCB06	CCB06	1	1650	K,Na
Q1061-10	MW-10	1	1655	K,Na
Q1061-10DUP	MW-10DUP	1	1659	K,Na
Q1061-10L	MW-10L	5	1703	K,Na
Q1061-10MS	MW-10MS	1	1708	K,Na
Q1061-10MSD	MW-10MSD	1	1712	K,Na
PB166036BL	PB166036BL	1	1725	K,Na

metals
- 14 -
ANALYSIS RUN LOG

Client: Dewberry Engineers Inc.

Contract: DEWB01

Lab code: CHEM **Case no.:** Q1061 **Sas no.:** Q1061

Sdg no.: Q1061

Instrument id number: **Method:**

Run number: LB134350

Start date: 01/20/2025 **End date:** 01/20/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
PB166036BS	PB166036BS	1	1729	K,Na
CCV07	CCV07	1	1733	K,Na
CCB07	CCB07	1	1737	K,Na
CCV08	CCV08	1	1752	K,Na
CCB08	CCB08	1	1756	K,Na

LAB CHRONICLE

OrderID:	Q1061	OrderDate:	1/10/2025 9:58:27 AM
Client:	Dewberry Engineers Inc.	Project:	PennDOT - Onvo Travel Plaza #50040379
Contact:	Bill Pendexter	Location:	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1061-01	MW-1	WATER			01/09/25 11:00			01/09/25
			Anions Group7	300.0			01/10/25 10:34	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:06	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-01DL	MW-1DL	WATER			01/09/25 11:00			01/09/25
			Anions Group7	300.0			01/10/25 15:35	
Q1061-02	MW-2	WATER			01/09/25 11:20			01/09/25
			Anions Group7	300.0			01/10/25 11:38	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:08	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-02DL	MW-2DL	WATER			01/09/25 11:20			01/09/25
			Anions Group7	300.0			01/10/25 15:56	
Q1061-03	MW-3	WATER			01/09/25 11:41			01/09/25
			Anions Group7	300.0			01/10/25 12:00	

LAB CHRONICLE

			Phosphorus-Total	365.3		01/15/25	01/15/25 14:09	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-03DL	MW-3DL	WATER			01/09/25 11:41			01/09/25
			Anions Group7	300.0			01/10/25 16:18	
Q1061-04	MW-4	WATER			01/09/25 12:02			01/09/25
			Anions Group7	300.0			01/10/25 12:21	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:09	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-04DL	MW-4DL	WATER			01/09/25 12:02			01/09/25
			Anions Group7	300.0			01/10/25 16:39	
Q1061-05	MW-5	WATER			01/09/25 12:26			01/09/25
			Anions Group7	300.0			01/10/25 12:43	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:10	
			TDS	SM2540 C			01/10/25 12:30	
Q1061-05DL	MW-5DL	WATER			01/09/25 12:26			01/09/25
			Anions Group7	300.0			01/10/25 17:01	
			Phosphorus-Total	365.3		01/15/25	01/15/25 14:14	
Q1061-05DL 2	MW-5DL2	WATER			01/09/25 12:26			01/09/25

LAB CHRONICLE

Q1061-06	MW-6	WATER	Anions Group7	300.0		01/10/25 17:22	01/09/25 12:52	01/09/25
			Anions Group7	300.0		01/10/25 13:05		
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:11		
Q1061-06DL	MW-6DL	WATER	TDS	SM2540 C		01/10/25 12:30	01/09/25 12:52	01/09/25
			Anions Group7	300.0		01/10/25 18:27		
			Anions Group7	300.0		01/10/25 14:09		
Q1061-07	MW-7	WATER	Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	01/09/25 13:42	01/09/25
			TDS	SM2540 C		01/10/25 12:30		
			Anions Group7	300.0		01/10/25 18:48		
Q1061-07DL	MW-7DL	WATER	Anions Group7	300.0		01/10/25 19:09	01/09/25 13:42	01/09/25
			Anions Group7	300.0		01/10/25 19:09		
			Anions Group7	300.0		01/10/25 19:09		
Q1061-07DL 2	MW-7DL2	WATER	Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	01/09/25 13:14	01/09/25
			Anions Group7	300.0		01/10/25 14:30		
			Anions Group7	300.0		01/10/25 14:30		
Q1061-08	MW-8	WATER	Phosphorus-Total	365.3	01/15/25	01/15/25 14:12	01/09/25 13:14	01/09/25
			Anions Group7	300.0		01/10/25 14:30		
			Anions Group7	300.0		01/10/25 14:30		

LAB CHRONICLE

TDS

SM2540 C

01/10/25
12:30

Q1061-08DL

MW-8DL

WATER

**01/09/25
13:14**

01/09/25

Anions Group7

300.0

01/10/25
19:31

**Q1061-08DL
2**

MW-8DL2

WATER

**01/09/25
13:14**

01/09/25

Anions Group7

300.0

01/10/25
19:53

Q1061-09

MW-9

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
14:52

Phosphorus-Total

365.3

01/15/25

01/15/25
14:13

TDS

SM2540 C

01/10/25
12:30

Q1061-09DL

MW-9DL

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
20:14

**Q1061-09DL
2**

MW-9DL2

WATER

**01/09/25
14:06**

01/09/25

Anions Group7

300.0

01/10/25
20:36

Q1061-10

MW-10

WATER

**01/09/25
14:20**

01/09/25

Anions Group7

300.0

01/10/25
15:13

Phosphorus-Total

365.3

01/15/25

01/15/25
14:13

TDS

SM2540 C

01/10/25
12:30

Q1061-10DL

MW-10DL

WATER

**01/09/25
14:20**

01/09/25

LAB CHRONICLE

Q1061-10DL 2	MW-10DL2	WATER	Anions Group7	300.0		01/10/25 20:57	01/09/25 14:20	01/09/25
			Phosphorus-Total	365.3	01/15/25	01/15/25 14:15		
			Anions Group7	300.0		01/10/25 22:02		



SAMPLE DATA

A

B

C

D

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:00
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-1	SDG No.:	Q1061
Lab Sample ID:	Q1061-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	32.4	OR	1	0.011	0.60	mg/L		01/10/25 10:34	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 10:34	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 10:34	300.0
Sulfate	10.1		1	0.032	3.00	mg/L		01/10/25 10:34	300.0
Phosphorus, Total	0.26		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:06	365.3
TDS	251		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:00
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-1DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	27.7	D	10	0.11	6.00	mg/L		01/10/25 15:35	300.0

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-2	SDG No.:	Q1061
Lab Sample ID:	Q1061-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	43.9	OR	1	0.011	0.60	mg/L		01/10/25 11:38	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 11:38	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 11:38	300.0
Sulfate	9.80		1	0.032	3.00	mg/L		01/10/25 11:38	300.0
Phosphorus, Total	0.28		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:08	365.3
TDS	187		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-2DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-02DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	38.2	D	10	0.11	6.00	mg/L		01/10/25 15:56	300.0

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:41
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-3	SDG No.:	Q1061
Lab Sample ID:	Q1061-03	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	159	OR	1	0.011	0.60	mg/L		01/10/25 12:00	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 12:00	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 12:00	300.0
Sulfate	16.9		1	0.032	3.00	mg/L		01/10/25 12:00	300.0
Phosphorus, Total	0.24		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:09	365.3
TDS	595		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 11:41
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-3DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-03DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	122	D	50	0.55	30.0	mg/L		01/10/25 16:18	300.0

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:02
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-4	SDG No.:	Q1061
Lab Sample ID:	Q1061-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	145	OR	1	0.011	0.60	mg/L		01/10/25 12:21	300.0
Nitrite	0.22	J	1	0.011	0.60	mg/L		01/10/25 12:21	300.0
Nitrate	0.21	J	1	0.0034	0.50	mg/L		01/10/25 12:21	300.0
Sulfate	22.3		1	0.032	3.00	mg/L		01/10/25 12:21	300.0
Phosphorus, Total	1.01		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:09	365.3
TDS	482		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:02
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-4DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-04DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	114	D	50	0.55	30.0	mg/L		01/10/25 16:39	300.0

Comments: _____

U = Not Detected

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LOD = Limit of Detection

D = Dilution

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5	SDG No.:	Q1061
Lab Sample ID:	Q1061-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	335	OR	1	0.011	0.60	mg/L		01/10/25 12:43	300.0
Nitrite	0.33	J	1	0.011	0.60	mg/L		01/10/25 12:43	300.0
Nitrate	16.9	OR	1	0.0034	0.50	mg/L		01/10/25 12:43	300.0
Sulfate	46.5	OR	1	0.032	3.00	mg/L		01/10/25 12:43	300.0
Phosphorus, Total	2.06	OR	1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:10	365.3
TDS	288		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	277	OR	5	0.055	3.00	mg/L		01/10/25 17:01	300.0
Nitrate	16.0	D	5	0.017	2.50	mg/L		01/10/25 17:01	300.0
Sulfate	48.6	D	5	0.16	15.0	mg/L		01/10/25 17:01	300.0
Phosphorus, Total	5.66	D	20	0.094	1.00	mg/L	01/15/25 11:45	01/15/25 14:14	365.3

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:26
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-5DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-05DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	234	D	100	1.10	60.0	mg/L		01/10/25 17:22	300.0

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

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OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:52
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-6	SDG No.:	Q1061
Lab Sample ID:	Q1061-06	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	146	OR	1	0.011	0.60	mg/L		01/10/25 13:05	300.0
Nitrite	0.26	J	1	0.011	0.60	mg/L		01/10/25 13:05	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 13:05	300.0
Sulfate	31.5		1	0.032	3.00	mg/L		01/10/25 13:05	300.0
Phosphorus, Total	0.20		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:11	365.3
TDS	527		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 12:52
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-6DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-06DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	112	D	50	0.55	30.0	mg/L		01/10/25 18:27	300.0

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

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OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7	SDG No.:	Q1061
Lab Sample ID:	Q1061-07	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	153	OR	1	0.011	0.60	mg/L		01/10/25 14:09	300.0
Nitrite	0.011	U	1	0.011	0.60	mg/L		01/10/25 14:09	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 14:09	300.0
Sulfate	40.0	OR	1	0.032	3.00	mg/L		01/10/25 14:09	300.0
Phosphorus, Total	0.39		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:12	365.3
TDS	742		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-07DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	140	OR	2	0.022	1.20	mg/L		01/10/25 18:48	300.0
Sulfate	39.9	D	2	0.064	6.00	mg/L		01/10/25 18:48	300.0

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:42
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-7DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-07DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	116	D	50	0.55	30.0	mg/L		01/10/25 19:09	300.0

Comments: _____

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LOD = Limit of Detection

D = Dilution

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8	SDG No.:	Q1061
Lab Sample ID:	Q1061-08	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	131	OR	1	0.011	0.60	mg/L		01/10/25 14:30	300.0
Nitrite	0.30	J	1	0.011	0.60	mg/L		01/10/25 14:30	300.0
Nitrate	2.00		1	0.0034	0.50	mg/L		01/10/25 14:30	300.0
Sulfate	48.7	OR	1	0.032	3.00	mg/L		01/10/25 14:30	300.0
Phosphorus, Total	0.20		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:12	365.3
TDS	483		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-08DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	119	OR	2	0.022	1.20	mg/L		01/10/25 19:31	300.0
Sulfate	47.9	D	2	0.064	6.00	mg/L		01/10/25 19:31	300.0

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

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 13:14
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-8DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-08DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	103	D	50	0.55	30.0	mg/L		01/10/25 19:53	300.0

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9	SDG No.:	Q1061
Lab Sample ID:	Q1061-09	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	214	OR	1	0.011	0.60	mg/L		01/10/25 14:52	300.0
Nitrite	0.34	J	1	0.011	0.60	mg/L		01/10/25 14:52	300.0
Nitrate	0.0034	U	1	0.0034	0.50	mg/L		01/10/25 14:52	300.0
Sulfate	38.2	OR	1	0.032	3.00	mg/L		01/10/25 14:52	300.0
Phosphorus, Total	0.24		1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:13	365.3
TDS	577		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-09DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	198	OR	2	0.022	1.20	mg/L		01/10/25 20:14	300.0
Sulfate	38.4	D	2	0.064	6.00	mg/L		01/10/25 20:14	300.0

Comments:

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 MDL = Method Detection Limit
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 D = Dilution
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 H = Sample Analysis Out Of Hold Time

J = Estimated Value
 B = Analyte Found in Associated Method Blank
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 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:06
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-9DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-09DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	155	D	50	0.55	30.0	mg/L		01/10/25 20:36	300.0

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

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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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10	SDG No.:	Q1061
Lab Sample ID:	Q1061-10	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	232	OR	1	0.011	0.60	mg/L		01/10/25 15:13	300.0
Nitrite	0.30	J	1	0.011	0.60	mg/L		01/10/25 15:13	300.0
Nitrate	29.0	OR	1	0.0034	0.50	mg/L		01/10/25 15:13	300.0
Sulfate	49.3	OR	1	0.032	3.00	mg/L		01/10/25 15:13	300.0
Phosphorus, Total	1.31	OR	1	0.0050	0.050	mg/L	01/15/25 11:45	01/15/25 14:13	365.3
TDS	725		1	1.00	10.0	mg/L		01/10/25 12:30	SM 2540 C-15

Comments:

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 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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10DL	SDG No.:	Q1061
Lab Sample ID:	Q1061-10DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	186	OR	5	0.055	3.00	mg/L		01/10/25 20:57	300.0
Nitrate	25.5	D	5	0.017	2.50	mg/L		01/10/25 20:57	300.0
Sulfate	51.0	D	5	0.16	15.0	mg/L		01/10/25 20:57	300.0
Phosphorus, Total	2.56	D	5	0.024	0.25	mg/L	01/15/25 11:45	01/15/25 14:15	365.3

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:	Dewberry Engineers Inc.	Date Collected:	01/09/25 14:20
Project:	PennDOT - Onvo Travel Plaza #50040379	Date Received:	01/09/25
Client Sample ID:	MW-10DL2	SDG No.:	Q1061
Lab Sample ID:	Q1061-10DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	167	D	50	0.55	30.0	mg/L		01/10/25 22:02	300.0

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: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1						
Bromide	mg/L	10.5	10	105	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.9	15	106	90-110	01/10/2025
Orthophosphate as P	mg/L	5.5	5	110	90-110	01/10/2025
Sample ID: CCV2						
Bromide	mg/L	10.5	10	105	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.6	15	104	90-110	01/10/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	01/10/2025
Sample ID: CCV3						
Bromide	mg/L	10.4	10	104	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.4	15	103	90-110	01/10/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	01/10/2025
Sample ID: CCV4						
Bromide	mg/L	10.4	10	104	90-110	01/10/2025
Chloride	mg/L	3.1	3	103	90-110	01/10/2025
Fluoride	mg/L	2.1	2	105	90-110	01/10/2025
Nitrite	mg/L	3.1	3	103	90-110	01/10/2025
Nitrate	mg/L	2.6	2.5	104	90-110	01/10/2025
Sulfate	mg/L	15.5	15	103	90-110	01/10/2025
Orthophosphate as P	mg/L	5.5	5	110	90-110	01/10/2025
Sample ID: ICV1						
Bromide	mg/L	10.3	10	103	90-110	12/18/2024
Chloride	mg/L	3.1	3	103	90-110	12/18/2024
Fluoride	mg/L	2	2	100	90-110	12/18/2024
Nitrite	mg/L	3.1	3	103	90-110	12/18/2024
Nitrate	mg/L	2.6	2.5	104	90-110	12/18/2024
Sulfate	mg/L	15.3	15	102	90-110	12/18/2024

Initial and Continuing Calibration Verification

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Orthophosphate as P	mg/L	5.1	5	102	90-110	12/18/2024

Initial and Continuing Calibration Verification

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134293

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Phosphorus, Total	mg/L	0.482	0.50	96	90-110	01/15/2025
Sample ID: CCV1 Phosphorus, Total	mg/L	0.488	0.50	98	90-110	01/15/2025
Sample ID: CCV2 Phosphorus, Total	mg/L	0.482	0.50	96	90-110	01/15/2025
Sample ID: CCV3 Phosphorus, Total	mg/L	0.488	0.50	98	90-110	01/15/2025

Initial and Continuing Calibration Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134248

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB3							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: CCB4							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	12/18/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	12/18/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	12/18/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	12/18/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	12/18/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	12/18/2024

Initial and Continuing Calibration Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

RunNo.: LB134293

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB1 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB2 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025
Sample ID: CCB3 Phosphorus, Total	mg/L	0.011	0.0250	J	0.0047	0.05	01/15/2025

Preparation Blank Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	LB134233BL						
TDS	mg/L	1	5.0000	J	1.0	10	01/10/2025
Sample ID:	LB134248BLW						
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	01/10/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	01/10/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	01/10/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	01/10/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	01/10/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	01/10/2025
Sample ID:	PB166041BL						
Phosphorus, Total	mg/L	0.011	0.0250	J	0.005	0.05	01/15/2025

Matrix Spike Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1MS	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
Bromide	mg/L	80-120	10.1		0.034	U	10	1	101		01/10/2025
Phosphorus, Total	mg/L	90-110	0.73		0.26		0.5	1	94		01/15/2025
Chloride	mg/L	80-120	32.1	OR	32.4	OR	3	1	-10	*	01/10/2025
Fluoride	mg/L	80-120	2.20		0.057	U	2	1	110		01/10/2025
Nitrite	mg/L	80-120	3.00		0.011	U	3	1	100		01/10/2025
Nitrate	mg/L	80-120	2.50		0.0034	U	2.5	1	100		01/10/2025
Sulfate	mg/L	80-120	24.2		10.1		15	1	94		01/10/2025
Orthophosphate as P	mg/L	80-120	4.90		0.079	U	5	1	98		01/10/2025

Matrix Spike Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1MSD	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
Bromide	mg/L	80-120	10.0		0.034	U	10	1	100		01/10/2025
Phosphorus, Total	mg/L	90-110	0.72		0.26		0.5	1	93		01/15/2025
Chloride	mg/L	80-120	32.1	OR	32.4	OR	3	1	-10	*	01/10/2025
Fluoride	mg/L	80-120	2.20		0.057	U	2	1	110		01/10/2025
Nitrite	mg/L	80-120	3.00		0.011	U	3	1	100		01/10/2025
Nitrate	mg/L	80-120	2.50		0.0034	U	2.5	1	100		01/10/2025
Sulfate	mg/L	80-120	24.0		10.1		15	1	93		01/10/2025
Orthophosphate as P	mg/L	80-120	4.70		0.079	U	5	1	94		01/10/2025

Duplicate Sample Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1DUP	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
Phosphorus, Total	mg/L	+/-20	0.26		0.26		1	0.39		01/15/2025

Duplicate Sample Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1061-01
Client ID:	MW-1MSD	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
Fluoride	mg/L	+/-20	2.20		2.20		1	0		01/10/2025
Nitrate	mg/L	+/-20	2.50		2.50		1	0		01/10/2025
Nitrite	mg/L	+/-20	3.00		3.00		1	0		01/10/2025
Chloride	mg/L	+/-20	32.1	OR	32.1	OR	1	0		01/10/2025
Bromide	mg/L	+/-20	10.1		10.0		1	1		01/10/2025
Sulfate	mg/L	+/-20	24.2		24.0		1	1		01/10/2025
Orthophosphate as P	mg/L	+/-20	4.90		4.70		1	4		01/10/2025
Phosphorus, Total	mg/L	+/-20	0.73		0.72		1	0.41		01/15/2025

Duplicate Sample Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Sample ID:	Q1070-01
Client ID:	1 EFFLUENT COMPOSITEDUP	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
TDS	mg/L	+/-5	4120		4210		1	2.19		01/10/2025

Laboratory Control Sample Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Run No.: LB134233

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134233BS							
TDS	mg/L	100	95.0		95	1	90-110	01/10/2025

Laboratory Control Sample Summary

Client:	Dewberry Engineers Inc.	SDG No.:	Q1061
Project:	PennDOT - Onvo Travel Plaza #50040379	Run No.:	LB134248

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134248BSW							
Bromide	mg/L	10	10.2		102	1	90-110	01/10/2025
Chloride	mg/L	3	3.00		100	1	90-110	01/10/2025
Fluoride	mg/L	2	2.00		100	1	90-110	01/10/2025
Nitrite	mg/L	3	3.00		100	1	90-110	01/10/2025
Nitrate	mg/L	2.5	2.60		104	1	90-110	01/10/2025
Sulfate	mg/L	15	15.5		103	1	90-110	01/10/2025
Orthophosphate as P	mg/L	5	5.30		106	1	90-110	01/10/2025

Laboratory Control Sample Summary

Client: Dewberry Engineers Inc.

SDG No.: Q1061

Project: PennDOT - Onvo Travel Plaza #50040379

Run No.: LB134293

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB166041BS							
Phosphorus, Total	mg/L	0.50	0.48		96	1	90-110	01/15/2025