



Enthalpy Analytical
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Lab Job Number : 538515
Report Level : II
Report Date : 07/28/2025

Analytical Report *prepared for:*

Bryan Pastor
County of Orange (705)
2301 N. Glassell
Public Facilities & Resources Dept.
Orange, CA 92865

Project: OCPW NUT,CL,SO4,TDS - Workorder #4300

Authorized for release by:

Quynhgiao Le, Project Manager
714-7716900
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This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, CA ELAP #1338-S1, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

Sample Summary

Bryan Pastor	Lab Job #:	538515
County of Orange (705)	Project No:	OCPW NUT,CL,SO4,TDS
2301 N. Glassell	Location:	Workorder #4300
Public Facilities & Resources	Date Received:	07/25/25
Dept.		
Orange, CA 92865		

Sample ID	Lab ID	Collected	Matrix
4300001	538515-001	07/25/25 11:11	Water
4300002	538515-002	07/25/25 11:35	Water
4300003	538515-003	07/25/25 12:12	Water

Case Narrative

County of Orange (705)
2301 N. Glassell
Public Facilities & Resources Dept.
Orange, CA 92865
Bryan Pastor

Lab Job Number: 538515
Project No: OCPW NUT,CL,SO4,TDS
Location: Workorder #4300
Date Received: 07/25/25

This data package contains sample and QC results for three water samples, requested for the above referenced project on 07/25/25. The samples were received cold and intact.

Ammonia and TKN- Semi-Automated Method (SM 4500-NH3-G):

- Low recoveries were observed for nitrogen, total kjeldahl in the MS/MSD for batch 377481; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits.
- No other analytical problems were encountered.

Nitrate and Nitrite (EPA 353.2):

- Low recovery was observed for nitrogen, nitrate/nitrite in the MSD of 4300001 (lab # 538515-001); the LCS was within limits, and the associated RPD was within limits.
- No other analytical problems were encountered.

538515

Page 1 of 1

Workorder # 4300

DATE 07/25/2025

County Seals Intact Yes No

Sample Ambient Cooled Frozen

Handling

Chain of Custody

Orange County Public Works
OC Watersheds
2245 N. Glassell St.
Orange, CA 92865
Phone (714) 955-0600
Fax (714) 955-0637

CONTRACT LAB ENTHALPY

Lab PA# MA-080-17010712

CONTACT Bryan Pastor (714) 955-0662

PNIR

SAMPLE # Date & Time # Containers Matrix Description Analyses Required Remarks Project #

4300001	07/25/2025	114 ¹¹³ 283	FW	GS	NUT		
4300002	07/25/2025	1135 42	FW	GS	NUT		
4300003	07/25/2025	122 43	FW	GS	NUT		

24-HR Rust PLEASE



Login 538515



Relinquished By	Signature	Print Name	Organization	Date	Time
Received By		Chazh Giver	OCOW	7/25/2025	1530
Relinquished By		Hemig	EA	7/25/25	1515
Received By		Hemig	EA	7/25/25	1537
Relinquished By		Adam Dinkmeyer	EA	7/25/25	1537
Received By					

12-13 2.5

Analysis Results for 538515

Bryan Pastor
County of Orange (705)
2301 N. Glassell
Public Facilities & Resources Dept.
Orange, CA 92865

Lab Job #: 538515
Project No: OCPW NUT,CL,SO4,TDS
Location: Workorder #4300
Date Received: 07/25/25

Sample ID: 4300001

Lab ID: 538515-001

Collected: 07/25/25 11:11

Matrix: Water

538515-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 120.1									
Specific Conductance	4,010		umhos/cm	1.0	1	377497	07/26/25	07/26/25	ARM
Method: EPA 160.4									
Volatile Suspended Solids	ND		mg/L	5.0	1	377461	07/25/25	07/27/25	TRR
Method: EPA 180.1									
Turbidity	3.7		NTU	0.20	1	377439	07/25/25 15:43	07/25/25 15:43	TRR
Method: EPA 350.1 Prep Method: METHOD									
Ammonia-N	0.97		mg/L	0.10	1	377485	07/26/25	07/28/25	JAK
Method: EPA 351.2 Prep Method: METHOD									
Nitrogen, Total Kjeldahl	1.4		mg/L	0.40	1	377481	07/26/25	07/28/25	JAK
Method: EPA 353.2 Prep Method: METHOD									
Nitrogen, Nitrate/Nitrite	3.1		mg/L	0.50	5	377444	07/25/25	07/25/25	DAD
Method: SM 4500-H+ B									
pH	7.90	H	SU		1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Temperature	15.90	H	deg C	1.00	1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Method: SM 4500-P-B5-E									
Total Phosphorous as PO4	0.87		mg/L	0.060	1	377442	07/25/25	07/28/25	JAK
Method: SM 4500-P-E									
Orthophosphate as P	0.16		mg/L	0.020	1	377449	07/25/25 16:27	07/25/25 17:08	JAK
Method: SM2540D Prep Method: METHOD									
Total Suspended Solids	7.4		mg/L	0.5	1	377461	07/25/25	07/27/25	TRR

Analysis Results for 538515

Sample ID: 4300002
Lab ID: 538515-002
Collected: 07/25/25 11:35
Matrix: Water

538515-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 120.1									
Specific Conductance	3,510		umhos/cm	1.0	1	377497	07/26/25	07/26/25	ARM
Method: EPA 160.4									
Volatile Suspended Solids	ND		mg/L	5.0	1	377461	07/25/25	07/27/25	TRR
Method: EPA 180.1									
Turbidity	2.4		NTU	0.20	1	377439	07/25/25 15:43	07/25/25 15:43	TRR
Method: EPA 350.1									
Prep Method: METHOD									
Ammonia-N	0.17		mg/L	0.10	1	377485	07/26/25	07/28/25	JAK
Method: EPA 351.2									
Prep Method: METHOD									
Nitrogen, Total Kjeldahl	0.86		mg/L	0.40	1	377481	07/26/25	07/28/25	JAK
Method: EPA 353.2									
Prep Method: METHOD									
Nitrogen, Nitrate/Nitrite	ND		mg/L	0.10	1	377444	07/25/25	07/25/25	DAD
Method: SM 4500-H+ B									
pH	7.68	H	SU		1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Temperature	15.10	H	deg C	1.00	1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Method: SM 4500-P-B5-E									
Total Phosphorous as PO4	0.48		mg/L	0.060	1	377442	07/25/25	07/28/25	JAK
Method: SM 4500-P-E									
Orthophosphate as P	ND		mg/L	0.020	1	377449	07/25/25 16:27	07/25/25 17:08	JAK
Method: SM2540D									
Prep Method: METHOD									
Total Suspended Solids	5.6		mg/L	0.5	1	377461	07/25/25	07/27/25	TRR

Analysis Results for 538515

Sample ID: 4300003	Lab ID: 538515-003	Collected: 07/25/25 12:12
	Matrix: Water	

538515-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 120.1									
Specific Conductance	3,490		umhos/cm	1.0	1	377497	07/26/25	07/26/25	ARM
Method: EPA 160.4									
Volatile Suspended Solids	ND		mg/L	5.0	1	377461	07/25/25	07/27/25	TRR
Method: EPA 180.1									
Turbidity	2.4		NTU	0.20	1	377439	07/25/25 15:43	07/25/25 15:43	TRR
Method: EPA 350.1									
Prep Method: METHOD									
Ammonia-N	ND		mg/L	0.10	1	377485	07/26/25	07/28/25	JAK
Method: EPA 351.2									
Prep Method: METHOD									
Nitrogen, Total Kjeldahl	0.77		mg/L	0.40	1	377481	07/26/25	07/28/25	JAK
Method: EPA 353.2									
Prep Method: METHOD									
Nitrogen, Nitrate/Nitrite	ND		mg/L	0.10	1	377444	07/25/25	07/25/25	DAD
Method: SM 4500-H+ B									
pH	8.06	H	SU		1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Temperature	16.40	H	deg C	1.00	1	377486	07/26/25 12:35	07/26/25 12:35	ARM
Method: SM 4500-P-B5-E									
Total Phosphorous as PO4	0.45		mg/L	0.060	1	377442	07/25/25	07/28/25	JAK
Method: SM 4500-P-E									
Orthophosphate as P	ND		mg/L	0.020	1	377449	07/25/25 16:27	07/25/25 17:08	JAK
Method: SM2540D									
Prep Method: METHOD									
Total Suspended Solids	9.0		mg/L	0.5	1	377461	07/25/25	07/27/25	TRR

H Holding time was exceeded
ND Not Detected

Batch QC

Type: Sample Duplicate	Lab ID: QC1278190	Batch: 377497
Matrix (Source ID): Water (538515-001)	Method: EPA 120.1	

QC1278190 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Specific Conductance	4,081	4014	umhos/cm		2	20	1

Type: Sample Duplicate	Lab ID: QC1277970	Batch: 377439
Matrix (Source ID): Water (538479-001)	Method: EPA 180.1	

QC1277970 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Turbidity	4.920	4.950	NTU		1	20	1

Type: Sample Duplicate	Lab ID: QC1277971	Batch: 377439
Matrix (Source ID): Water (538479-002)	Method: EPA 180.1	

QC1277971 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Turbidity	2.360	2.400	NTU		2	20	1

Type: Matrix Spike	Lab ID: QC1278128	Batch: 377485
Matrix (Source ID): Water (538372-001)	Method: EPA 350.1	Prep Method: METHOD

QC1278128 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Ammonia-N	1.006	0.09371	1.000	mg/L	91%		90-110	1

Type: Matrix Spike Duplicate	Lab ID: QC1278129	Batch: 377485
Matrix (Source ID): Water (538372-001)	Method: EPA 350.1	Prep Method: METHOD

QC1278129 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Ammonia-N	1.038	0.09371	1.000	mg/L	94%		90-110	3	20	1

Type: Blank	Lab ID: QC1278130	Batch: 377485
Matrix: Water	Method: EPA 350.1	Prep Method: METHOD

QC1278130 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Ammonia-N	ND		mg/L	0.10	07/26/25	07/28/25

Batch QC

Type: Lab Control Sample	Lab ID: QC1278131	Batch: 377485
Matrix: Water	Method: EPA 350.1	Prep Method: METHOD

QC1278131 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Ammonia-N	1.001	1.000	mg/L	100%		90-110

Type: Blank	Lab ID: QC1278118	Batch: 377481
Matrix: Water	Method: EPA 351.2	Prep Method: METHOD

QC1278118 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Nitrogen, Total Kjeldahl	ND		mg/L	0.40	07/26/25	07/28/25

Type: Lab Control Sample	Lab ID: QC1278119	Batch: 377481
Matrix: Water	Method: EPA 351.2	Prep Method: METHOD

QC1278119 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Total Kjeldahl	2.044	2.000	mg/L	102%		90-110

Type: Matrix Spike	Lab ID: QC1278120	Batch: 377481
Matrix (Source ID): Water (537779-001)	Method: EPA 351.2	Prep Method: SM4500-Norg-B

QC1278120 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Total Kjeldahl	1.874	0.2548	2.000	mg/L	81%	*	90-110	1

Type: Matrix Spike Duplicate	Lab ID: QC1278121	Batch: 377481
Matrix (Source ID): Water (537779-001)	Method: EPA 351.2	Prep Method: SM4500-Norg-B

QC1278121 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Nitrogen, Total Kjeldahl	1.923	0.2548	2.000	mg/L	83%	*	90-110	3	20	1

Type: Blank	Lab ID: QC1277976	Batch: 377444
Matrix: Water	Method: EPA 353.2	Prep Method: METHOD

QC1277976 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Nitrogen, Nitrate/Nitrite	ND		mg/L	0.10	07/25/25	07/25/25

Type: Lab Control Sample	Lab ID: QC1277977	Batch: 377444
Matrix: Water	Method: EPA 353.2	Prep Method: METHOD

QC1277977 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate/Nitrite	1.038	1.000	mg/L	104%		90-110

Batch QC

Type: Matrix Spike	Lab ID: QC1277978	Batch: 377444
Matrix (Source ID): Water (538515-001)	Method: EPA 353.2	Prep Method: METHOD

QC1277978 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate/Nitrite	4.068	3.117	1.000	mg/L	95%		90-110	5

Type: Matrix Spike Duplicate	Lab ID: QC1277979	Batch: 377444
Matrix (Source ID): Water (538515-001)	Method: EPA 353.2	Prep Method: METHOD

QC1277979 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Nitrogen, Nitrate/Nitrite	4.003	3.117	1.000	mg/L	89%	*	90-110	2	20	5

Type: Sample Duplicate	Lab ID: QC1278132	Batch: 377486
Matrix (Source ID): Water (538297-001)	Method: SM 4500-H+ B	

QC1278132 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
pH	7.220	7.190	SU		0	20	1
Temperature	16.90	16.90	deg C		0	20	1

Type: Blank	Lab ID: QC1277972	Batch: 377442
Matrix: Water	Method: SM 4500-P-B5-E	

QC1277972 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Total Phosphorous as PO4	ND		mg/L	0.060	07/25/25	07/28/25

Type: Lab Control Sample	Lab ID: QC1277973	Batch: 377442
Matrix: Water	Method: SM 4500-P-B5-E	

QC1277973 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Total Phosphorous as PO4	1.297	1.230	mg/L	105%		80-120

Type: Matrix Spike	Lab ID: QC1277974	Batch: 377442
Matrix (Source ID): Water (538515-003)	Method: SM 4500-P-B5-E	

QC1277974 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Total Phosphorous as PO4	1.784	0.4480	1.230	mg/L	109%		75-125	1

Batch QC

Type: Matrix Spike Duplicate	Lab ID: QC1277975	Batch: 377442
Matrix (Source ID): Water (538515-003)	Method: SM 4500-P-B5-E	

QC1277975 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Total Phosphorous as PO4	1.778	0.4480	1.230	mg/L	108%		75-125	0	20	1

Type: Blank	Lab ID: QC1277994	Batch: 377449
Matrix: Water	Method: SM 4500-P-E	

QC1277994 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Orthophosphate as P	ND		mg/L	0.020	07/25/25 16:27	07/25/25 17:08

Type: Lab Control Sample	Lab ID: QC1277995	Batch: 377449
Matrix: Water	Method: SM 4500-P-E	

QC1277995 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Orthophosphate as P	0.4010	0.4000	mg/L	100%		80-120

Type: Matrix Spike	Lab ID: QC1277996	Batch: 377449
Matrix (Source ID): Water (538515-003)	Method: SM 4500-P-E	

QC1277996 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Orthophosphate as P	0.4090	ND	0.4000	mg/L	100%		75-125	1

Type: Matrix Spike Duplicate	Lab ID: QC1277997	Batch: 377449
Matrix (Source ID): Water (538515-003)	Method: SM 4500-P-E	

QC1277997 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Orthophosphate as P	0.4120	ND	0.4000	mg/L	101%		75-125	1	20	1

Type: Blank	Lab ID: QC1278028	Batch: 377461
Matrix: Water		

QC1278028 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Method: EPA 160.4						
Volatile Suspended Solids	ND		mg/L	5.0	07/25/25	07/27/25
Method: SM2540D						
Prep Method: METHOD						
Total Suspended Solids	ND		mg/L	0.5	07/25/25	07/27/25

Batch QC

Type: Lab Control Sample	Lab ID: QC1278029	Batch: 377461
Matrix: Water	Method: SM2540D	Prep Method: METHOD

QC1278029 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Total Suspended Solids	99.80	100.0	mg/L	100%		90-110

Type: Lab Control Sample Duplicate	Lab ID: QC1278030	Batch: 377461
Matrix: Water	Method: SM2540D	Prep Method: METHOD

QC1278030 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Total Suspended Solids	100.1	100.0	mg/L	100%		90-110	0	5

Type: Sample Duplicate	Lab ID: QC1278031	Batch: 377461
Matrix (Source ID): Water (538064-002)		

QC1278031 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Method: EPA 160.4							
Volatile Suspended Solids	49.00	49.00	mg/L		0	5	1
Method: SM2540D							
Prep Method: METHOD							
Total Suspended Solids	57.00	59.50	mg/L		4	5	1

Type: Sample Duplicate	Lab ID: QC1278032	Batch: 377461
Matrix (Source ID): Water (538236-001)		

QC1278032 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Method: EPA 160.4							
Volatile Suspended Solids	54.55	55.68	mg/L		2	5	1
Method: SM2540D							
Prep Method: METHOD							
Total Suspended Solids	118.8	122.2	mg/L		3	5	1

* Value is outside QC limits

ND Not Detected