WSP GROUNDWATER MONITORING REPORT

October 8, 2024

Under Agreed Order No. DE 13229, WSP is required to conduct groundwater monitoring to assess performance of the cleanup action in accordance with the Compliance Monitoring Plan approved by Ecology.

On October 8, 2024, groundwater monitoring well testing was conducted at the Washington State Penitentiary Landfill site by Sandra Treccani, Site Manager for the Department of Ecology, Dean Smith, and Kelly Fulbright, representatives for the Department of Corrections. The weather started out in the mid-fifties and reaching mid to upper seventies.

Six monitoring wells, MW-3, MW-5, MW-9, MW-11, MW-12, and MW-14 were chosen and approved by Ecology for testing. Groundwater levels were measured and noted on the attached field logs, as were the water quality parameters. Attempts were made to obtain both temperature and pH, using an OAKTON pH6+ handheld meter. The temperature probe malfunctioned on MW-9, but we were able to secure reliable temperatures on the remaining wells. Deviation from prior multiparameter sampling was approved by Sandra Treccani.

A Geotech, Geocontrol PRO submersible bladder pump with dedicated bladders and tubing, was used for groundwater purging and sampling. The pump was decontaminated between monitoring wells with Liquinox and rinsed in distilled water. A new bladder was used at each well.

Water samples were sent to Eurofins Environmental Testing for analysis of **Tetrachloroethene (PCE), Manganese, and Total Chromium. Nitrate** analysis was conducted by Walla Walla Regional Water Testing Services because of their locality and hold time issues we have had by sending samples across the state via a common carrier. All contaminates, except Nitrates were below the cleanup levels.

WSP will be making a formal request to Ecology to cease sampling for **Tetrachloroethene (PCE), Manganese, and Total Chromium**, as they have been below cleanup levels at all monitored wells for four consecutive sampling events.

Dean Smith

Environmental Specialist

Washington State Department of Corrections

(509) 386-0388

ANALYTICAL RESULTS

Site Clean Up Levels			48	2240	5	2240	10
		ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Monitoring Well ID	Sample Collection Date	Hex Chrome	Total Chrome	RJ Lee Group Maganese	PCE	Eurofins Maganese	Nitrate
MW-3	5/24/2023	<PQL	2.24	6.08	ND	ND	26
	10/3/2023	x	ND	x	x	14	x
	12/19/2023	x	x	x	ND	x	x
	4/25/2024	x	ND	x	ND	ND	12
	10/8/2024	x	ND	x	ND	13	25.7
MW-5	5/23/2023	<PQL	4.11	11.23	0.9	8.1	1.8
	10/3/2023	x	2.7	x	x	18	x
	12/19/2023	x	x	x	0.67	x	x
	4/25/2024	x	3	x	ND	17	2.3
	10/8/2024	x	0.0067	x	1.1	52	10.2
MW-9	5/24/2023	<PQL	15.24	765.2	ND	180	10
	12/19/2023	x	ND	x	ND	24	x
	4/25/2024	x	ND	x	ND	42	12
	10/8/2024	x	ND	x	ND	32	12.7
MW-11	5/23/2023	<PQL	5.67	224.3	0.71	62	24
	10/3/2023	x	ND	x	x	15	x
	12/19/2023	x	x	x	0.45	x	x
	4/25/2024	x	ND	x	0.43	7.8	16
	10/8/2024	x	ND	x	0.57	100	19.6
MW-12	5/23/2023	<PQL	1.32	2.2	ND	ND	27
	10/3/2023	x	ND	x	x	44	x
	12/19/2023	x	x	x	ND	x	x
	4/25/2024	x	ND	x	ND	12	12
	10/8/2024	x	ND	x	ND	23	30.4
MW-14	5/24/2023	<PQL	1.47	2.3	ND	5.2	24
	10/3/2023	x	ND	x	x	150	x
	12/19/2023	x	x	x	ND	x	x
	4/25/2024	x	ND	x	ND	5.8	10
	10/8/2024	x	ND	x	ND	51	26..3
MW-3 Duplicate	5/24/2023	<PQL	1.1	2.07	ND	ND	26
	10/3/2023	x	ND	x	x	22	x
	12/19/2023	x	x	x	ND	x	x
	4/25/2024	x	ND	x	ND	1.7	13
	10/8/2024	x	ND	x	ND	13	25.2

FAINAL WATER QUALITY PARAMETERS

Monitoring Well ID	Sample Collection Date	pH	Conductivity	Dissolved Oxygen	Temperature (°C)	Turbidity	ORP
MW-3	5/24/2023	6.77	857	68.4	15	2.01	164.2
	10/3/2023	6.81	0.679	5.96	15.3	43.28	152
	12/19/2023	7.47	x	x	12.8	x	x
	4/25/2024	7.1	x	x	Not working	x	x
	10/8/2024	7.19	x	x	18.6	x	x
MW-5	5/23/2023	7.4	194.5	81.3	19.4	149	179.7
	10/3/2023	7.19	0.566	7.59	18	21	145
	12/19/2023	7.61	x	x	13.9	x	x
	4/25/2024	7.59	x	x	Not working	x	x
	10/8/2024	7.54	x	x	17.2	x	x
MW-9	5/24/2023	6.92	498.6	97.9	14.9	223.6	156.6
	12/19/2023	7.36	x	x	12.3	x	x
	4/25/2024	7.23	x	x	Not working	x	x
	10/8/2024	7.3	x	x	Not working	x	x
MW-11	5/23/2023	6.89	887	82.3	18.1	94.6	188
	10/3/2023	6.95	0.853	6.79	18.6	14	153
	12/19/2023	7.26	x	x	15.6	x	x
	4/25/2024	7.22	x	x	Not working	x	x
	10/8/2024	7.32	x	x	19.9	x	x
MW-12	5/23/2023	6.97	888	86.3	17.3	1.75	178.5
	10/3/2023	7.01	0.676	8	16.7	37	147
	12/19/2023	7.34	x	x	13.9	x	x
	4/25/2024	7.2	x	x	Not working	x	x
	10/8/2024	7.4	x	x	17.4	x	x
MW-14	5/24/2023	6.74	1046	84.2	16	4.12	168
	10/3/2023	6.81	0.833	7.83	16.1	58	146.3
	12/19/2023	7.25	x	x	12.4	x	x
	4/25/2024	7.15	x	x	Not working	x	x
	10/8/2024	7.15	x	x	18.7	x	x

Hit well bottom.

Well / Water / Pump Depth

Monitoring Well ID	Sample Collection Date	Well	Water	Pump
MW-3	5/24/2023	80'	72.73'	76'
	10/3/2023	78.7	74.94	77.5
	12/19/2023	78.7	73.66	76
	4/25/2024	80	73.41	75
	10/8/2024	80	73.84	76
MW-5	5/23/2023	102'	81.63'	93'
	10/3/2023	99.9	85.11	97.5
	12/19/2023	99.9	82.69	97
	4/25/2024	102	83.77	99
	10/8/2024	102	83.03	97
MW-9	5/24/2023	90'	83.18'	87'
	12/19/2023	90	84.38	85
	4/25/2024	88.75	84.15	86
	10/8/2024	90	84.41	87
MW-11	5/23/2023	76'	71.3'	74'
	10/3/2023	75.45	73.52	74
	12/19/2023	76	71	74
	4/25/2024	76	71.96	73
	10/8/2024	76	71.36	73
MW-12	5/23/2023	76'	70.8'	74'
	10/3/2023	75.45	73.55	74
	12/19/2023	76	71.78	74.5
	4/25/2024	76	71.96	73
	10/8/2024	76	71.99	73
MW-14	5/24/2023	74.6'	68.43'	71'
	10/3/2023	72.9	70.3	72
	12/19/2023	73	69.35	72
	4/25/2024		69.2	71
	10/8/2024	70	69.59	70

Well Number	MW-3 LANDFILL	Date	10-08-2024
Project Name	WSP GW Monitoring	Time On/Off Location	1345
Depth to Water	73-84	Sampled By	D Smith/S Treccani
Depth of Well	80'	Sampling Time	1427
Pump Depth	76	Sample ID	
Purge Time		Est Purge Volume	
Purge Flow Rate		Actual Purge Volume	

1351 pump
1353 H2O

Time	pH	Cond	DO	Temp	Turb	ORP
1358	7.23			26.0		
1406	7.10			19.5		
1411	7.13			18.6		
1416	7.15			18.8		
1421	7.17			18.9		
1426	7.19			18.6		

Notes

Well Number	MW-5 GUSILE	Date	10-08-2024
Project Name	WSP GW Monitoring	Time On/Off Location	1117 pump on 1133 H2O
Depth to Water	~~83.03~~ 83.03	Sampled By	D Smith/S Treccani
Depth of Well	102'	Sampling Time	1225
Pump Depth	97	Sample ID	
Purge Time		Est Purge Volume	
Purge Flow Rate		Actual Purge Volume	

Time	pH	Cond	DO	Temp	Turb	ORP
1154	7.47			22.1		
1159	7.70			17.5		
1207	7.59			15.8		
1214	7.55			17.6		
1224	7.54			17.2		

Notes BLADDER SLID OFF @ 12 DUE - RE-DO !!
1153 - H2O 2nd TIME

Well Number	MW-9 DAILY	Date	10-08-2024
Project Name		Time On/Off Location	1500 1504 pump 1506 H2O
Depth to Water	84.41	Sampled By	D Smith/S Treccani
Depth of Well	90'	Sampling Time	1537
Pump Depth	87	Sample ID	
Purge Time		Est Purge Volume	
Purge Flow Rate		Actual Purge Volume	

Time	pH	Cond	DO	Temp	Turb	ORP
1510	7.34			25		
1516	7.25			/		
1525	7.26			/		
1530	7.28					
1535	7.30					

Notes TEMP PROBE FAILED

Well Number	MW-11 HSB	Date	10-08-2024
Project Name		Time On/Off Location	1018 pump START 1024 H2O
Depth to Water	71.36	Sampled By	D Smith/S Treccani
Depth of Well	76'	Sampling Time	1052
Pump Depth	73	Sample ID	
Purge Time		Est Purge Volume	
Purge Flow Rate		Actual Purge Volume	

Time	pH	Cond	DO	Temp	Turb	ORP
1030	7.97			22.2		
1035	7.39			20.8		
1040	7.35			20.2		
1045	7.32			19.9		
1050	7.32			19.9		

Notes

Well Number MW-12 DELTA
Project Name
Date 10-08-2024
Time On/Off Location 0915

Depth to Water 71.99
Depth of Well 76'
Pump Depth 73
Sampled By D Smith/S Treccani
Sampling Time 0924 STARTED PUMP
Sample ID

H^2O 0928

Purge Time
Purge Flow Rate
Est Purge Volume
Actual Purge Volume

Time	pH	Cond	DO	Temp	Turb	ORP
0931	8.06			19.6		
0936	7.59			18.2		
0941	7.46			17.6		
0946	7.42			17.4		
0950	7.40			17.4		
0951	SAMPLES COLLECTED					

Notes

Well Number MW-14 17 TWR
Project Name
Date 10-08-2024
Time On/Off Location 1306 pump on 1310 H^2O

Depth to Water 69.59
Depth of Well 70'
Pump Depth 70
Sampled By D Smith/S Treccani
Sampling Time 1331
Sample ID

Purge Time
Purge Flow Rate
Est Purge Volume
Actual Purge Volume

Time	pH	Cond	DO	Temp	Turb	ORP
1311	8.15			26.9		
1315	7.24			20.9		
1320	7.19			19.4		
1325	7.16			18.9		
1330	7.15			18.7		

Notes HIT BOTTOM OF WELL

FULCRUM
environmental consulting



Fulcrum Environmental Consulting, Inc.
406 North Second Street, Yakima, Washington 98901
p: 509.574.0839 f: 509.575.8453 efulcrum.net
Sampling Analysis Plan. 161801. LMW.091616

1313 North 13th Avenue
Walla Walla, Washington

Site Map

FIGURE
2

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Dean Smith
Washington State Dept of Corrections
1313 N 13th Ave - MS#37
Walla Walla, Washington 99362

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JOB DESCRIPTION

Bi-Annual Monitoring

JOB NUMBER

580-144779-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

my EOL

Job Notes

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Job ID: 580-144779-1

Eurofins Seattle

Job Narrative
580-144779-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/11/2024 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C.

GC/MS VOA
Method 8260D: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): MW3 10824 PCE (580-144779-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW1A 10824 MC
Date Collected: 10/08/24 14:27
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-1
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:29	1
Manganese	**13**	**J**	20	1.7	ug/L		10/24/24 12:43	10/27/24 03:29	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW1A 10824 PCE
Date Collected: 10/08/24 14:27
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/14/24 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/14/24 18:43*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/14/24 18:43*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*10/14/24 18:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*10/14/24 18:43*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW3 10824 MC
Date Collected: 10/08/24 14:27
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-3
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 04:02	1
Manganese	**13**	**J**	20	1.7	ug/L		10/24/24 12:43	10/27/24 04:02	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW3 10824 PCE
Date Collected: 10/08/24 14:27
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/16/24 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/16/24 20:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*10/16/24 20:06*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*10/16/24 20:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*10/16/24 20:06*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW5 10824 MC
Date Collected: 10/08/24 12:25
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-5
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0067	J	0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:33	1
Manganese	52		20	1.7	ug/L		10/24/24 12:43	10/27/24 03:33	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW5 10824 PCE
Date Collected: 10/08/24 12:55
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	1.1		1.0	0.41	ug/L			10/14/24 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/14/24 19:07*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/14/24 19:07*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*10/14/24 19:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*10/14/24 19:07*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW9 10824 MC
Date Collected: 10/08/24 15:37
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-7
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:37	1
Manganese	**3.2**	**J**	20	1.7	ug/L		10/24/24 12:43	10/27/24 03:37	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW9 10824 PCE
Date Collected: 10/08/24 15:37
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/14/24 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/14/24 19:30*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/14/24 19:30*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*10/14/24 19:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*10/14/24 19:30*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW11 10824 MC
Date Collected: 10/08/24 10:52
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-9
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:10	1
Manganese	**100**		20	1.7	ug/L		10/24/24 12:43	10/27/24 03:10	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW11 10824 PCE
Date Collected: 10/08/24 10:52
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	0.57	J	1.0	0.41	ug/L			10/14/24 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/14/24 19:53*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/14/24 19:53*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*10/14/24 19:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*10/14/24 19:53*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW12 10824 MC
Date Collected: 10/08/24 09:51
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-11
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:41	1
Manganese	**23**		20	1.7	ug/L		10/24/24 12:43	10/27/24 03:41	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW12 10824 PCE
Date Collected: 10/08/24 09:51
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-12
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/14/24 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/14/24 20:16*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/14/24 20:16*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*10/14/24 20:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*80 - 120*		*10/14/24 20:16*	*1*

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW14 10824 MC
Date Collected: 10/08/24 13:31
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-13
Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 03:45	1
Manganese	**51**		20	1.7	ug/L		10/24/24 12:43	10/27/24 03:45	1

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW14 10824 PCE
Date Collected: 10/08/24 13:31
Date Received: 10/11/24 11:20

Lab Sample ID: 580-144779-14
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/14/24 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/14/24 20:40*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*10/14/24 20:40*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*10/14/24 20:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*80 - 120*		*10/14/24 20:40*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-474623/11
Matrix: Water
Analysis Batch: 474623

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/14/24 14:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/14/24 14:04*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/14/24 14:04*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*10/14/24 14:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*10/14/24 14:04*	*1*

Lab Sample ID: LCS 580-474623/6
Matrix: Water
Analysis Batch: 474623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene (PCE)	5.00	4.53		ug/L		91	76 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*

Lab Sample ID: LCSD 580-474623/7
Matrix: Water
Analysis Batch: 474623

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tetrachloroethene (PCE)	5.00	4.81		ug/L		96	76 - 125	6	13

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*

Lab Sample ID: MB 580-474946/7
Matrix: Water
Analysis Batch: 474946

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		1.0	0.41	ug/L			10/16/24 15:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/16/24 15:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/16/24 15:36*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*10/16/24 15:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*10/16/24 15:36*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-474946/4
Matrix: Water
Analysis Batch: 474946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene (PCE)	10.0	9.78		ug/L		98	76 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 580-474946/5
Matrix: Water
Analysis Batch: 474946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tetrachloroethene (PCE)	10.0	9.90		ug/L		99	76 - 125	1	13

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 580-475809/25-A
Matrix: Water
Analysis Batch: 476073

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 475809

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0027	mg/L		10/24/24 12:43	10/27/24 02:49	1
Manganese	ND		20	1.7	ug/L		10/24/24 12:43	10/27/24 02:49	1

Lab Sample ID: LCS 580-475809/26-A
Matrix: Water
Analysis Batch: 476073

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 475809

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	1.00	0.973		mg/L		97	80 - 120
Manganese	1000	904		ug/L		90	80 - 120

Lab Sample ID: 580-144779-9 MS
Matrix: Water
Analysis Batch: 476073

Client Sample ID: MW11 10824 MC
Prep Type: Total Recoverable
Prep Batch: 475809

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	ND		1.00	1.01		mg/L		101	80 - 120
Manganese	100		1000	997		ug/L		90	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 580-144779-9 MSD
Matrix: Water
Analysis Batch: 476073

Client Sample ID: MW11 10824 MC
Prep Type: Total Recoverable
Prep Batch: 475809

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	ND		1.00	1.01		mg/L		101	80 - 120	1	20
Manganese	100		1000	989		ug/L		89	80 - 120	1	20

Client Sample ID: MW1A 10824 MC

Lab Sample ID: 580-144779-1

Date Collected: 10/08/24 14:27

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:29

Client Sample ID: MW1A 10824 PCE

Lab Sample ID: 580-144779-2

Date Collected: 10/08/24 14:27

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 18:43

Client Sample ID: MW3 10824 MC

Lab Sample ID: 580-144779-3

Date Collected: 10/08/24 14:27

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 04:02

Client Sample ID: MW3 10824 PCE

Lab Sample ID: 580-144779-4

Date Collected: 10/08/24 14:27

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474946	JBT	EET SEA	10/16/24 20:06

Client Sample ID: MW5 10824 MC

Lab Sample ID: 580-144779-5

Date Collected: 10/08/24 12:25

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:33

Client Sample ID: MW5 10824 PCE

Lab Sample ID: 580-144779-6

Date Collected: 10/08/24 12:55

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 19:07

Client Sample ID: MW9 10824 MC

Lab Sample ID: 580-144779-7
Matrix: Water
Date Collected: 10/08/24 15:37
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:37

Client Sample ID: MW9 10824 PCE

Lab Sample ID: 580-144779-8
Matrix: Water
Date Collected: 10/08/24 15:37
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 19:30

Client Sample ID: MW11 10824 MC

Lab Sample ID: 580-144779-9
Matrix: Water
Date Collected: 10/08/24 10:52
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:10

Client Sample ID: MW11 10824 PCE

Lab Sample ID: 580-144779-10
Matrix: Water
Date Collected: 10/08/24 10:52
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 19:53

Client Sample ID: MW12 10824 MC

Lab Sample ID: 580-144779-11
Matrix: Water
Date Collected: 10/08/24 09:51
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:41

Client Sample ID: MW12 10824 PCE

Lab Sample ID: 580-144779-12
Matrix: Water
Date Collected: 10/08/24 09:51
Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 20:16

Lab Chronicle

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Client Sample ID: MW14 10824 MC

Lab Sample ID: 580-144779-13

Date Collected: 10/08/24 13:31

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			475809	MGS	EET SEA	10/24/24 12:43
Total Recoverable	Analysis	6010D		1	476073	JLS	EET SEA	10/27/24 03:45

Client Sample ID: MW14 10824 PCE

Lab Sample ID: 580-144779-14

Date Collected: 10/08/24 13:31

Matrix: Water

Date Received: 10/11/24 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	474623	AA	EET SEA	10/14/24 20:40

Laboratory References:

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788-24	07-13-25

Sample Summary

Client: Washington State Dept of Corrections
Project/Site: Bi-Annual Monitoring

Job ID: 580-144779-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-144779-1	MW1A 10824 MC	Water	10/08/24 14:27	10/11/24 11:20
580-144779-2	MW1A 10824 PCE	Water	10/08/24 14:27	10/11/24 11:20
580-144779-3	MW3 10824 MC	Water	10/08/24 14:27	10/11/24 11:20
580-144779-4	MW3 10824 PCE	Water	10/08/24 14:27	10/11/24 11:20
580-144779-5	MW5 10824 MC	Water	10/08/24 12:25	10/11/24 11:20
580-144779-6	MW5 10824 PCE	Water	10/08/24 12:55	10/11/24 11:20
580-144779-7	MW9 10824 MC	Water	10/08/24 15:37	10/11/24 11:20
580-144779-8	MW9 10824 PCE	Water	10/08/24 15:37	10/11/24 11:20
580-144779-9	MW11 10824 MC	Water	10/08/24 10:52	10/11/24 11:20
580-144779-10	MW11 10824 PCE	Water	10/08/24 10:52	10/11/24 11:20
580-144779-11	MW12 10824 MC	Water	10/08/24 09:51	10/11/24 11:20
580-144779-12	MW12 10824 PCE	Water	10/08/24 09:51	10/11/24 11:20
580-144779-13	MW14 10824 MC	Water	10/08/24 13:31	10/11/24 11:20
580-144779-14	MW14 10824 PCE	Water	10/08/24 13:31	10/11/24 11:20

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Dean Smith	Lab PM: Schick, Laura	Carrier Tracking No(s):	COC No:
Client Contact: Dean Smith	Phone: 509-386-0388	E-Mail: Laura.Schick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: Washington State Dept of Corrections	PWSID:			Job #:
Address: 1313 N 13th Ave - MS#37	Due Date Requested:			
City: Walla Walla	TAT Requested (days):			
State, Zip: WA, 99362	Compliance Project: Δ Yes Δ No			
Phone: 509-386-0388	PO #: 310PO2429863			
Email: dean.smith@doc1.wa.gov	WO #:			
Project Name: Bi-Annual Monitoring	Project #: 58019384			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_48HR - Nitrate only	6010D - Manganese & Chromium	8260D - Tetrachloroethene (PCE) only	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	A		
MW1A 10824 MC	10/8/24	1427	G	Water				X			250 ml - Nitric Acid
MW1A 10824 PCE	10/8/24	1427	G	Water					X		Voa Vial 40 ml - HCL
MW3 10824 MC	10/8/24	1427	G	Water				X			250 ml - Nitric Acid
MW3 10824 PCE	10/8/24	1427	G	Water					X		Voa Vial 40 ml - HCL
MW5 10824 MC	10/8/24	1225	G	Water				X			250 ml - Nitric Acid
MW5 10824 PCE	10/8/24	1255	G	Water					X		Voa Vial 40 ml - HCL
MW9 10824 MC	10/8/24	1537	G	Water				X			250 ml - Nitric Acid
MW9 10824 PCE	10/8/24	1537	G	Water					X		Voa Vial 40 ml - HCL
MW11 10824 MC	10/8/24	1052	G	Water				X			250 ml - Nitric Acid
MW11 10824 PCE	10/8/24	1052	G	Water					X		Voa Vial 40 ml - HCL

580-144779 Chain of Custody

Possible Hazard Identification
x Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client x Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: Dean Smith	Date/Time: 10/08/2024 10-11-24	Company WSP	Received by:	Date/Time: 10/11/24 1120	Company ET-TN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: A3 4.1/4.0 SB/ICP/BU6/CD

Ver: 01/16/2019

10/28/2024

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310

Chain of Custody Record

eurofins | Environment Testing

10/28/2024

Client Information	Sampler: Dean Smith	Lab PM: Schick, Laura	Carrier Tracking No(s):	COC No:
Client Contact: Dean Smith	Phone: 509-386-0388	E-Mail: Laura.Schick@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: Washington State Dept of Corrections	PWSID:			Job #:
Address: 1313 N 13th Ave - MS#37	Due Date Requested:			
City: Walla Walla	TAT Requested (days):			
State, Zip: WA, 99362	Compliance Project: Δ Yes Δ No			
Phone: 509-386-0388	PO #: 310PO2429863			
Email: dean.smith@doc1.wa.gov	WO #:			
Project Name: Bi-Annual Monitoring	Project #: 58019384			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_48HR - Nitrate only	6010D - Manganese & Chromium only	8260D - Tetrachloroethene (PCE) only	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	A		
MW12 10824 MC	10/8/24	0957	G	Water				X			250 ml - Nitric Acid
MW12 10824 PCE	10/8/24	0957	G	Water					X		Voa Vial 40 ml - HCL
MW14 10824 MC	10/8/24	1334	G	Water				X			250 ml - Nitric Acid
MW14 10824 PCE	10/8/24	1331	G	Water					X		Voa Vial 40 ml - HCL

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: Dean Smith	Date/Time: 10-08-2024 10-11-24	WSP	Received by:	Date/Time: 10/11/24 1120	Company EETN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: A3-1.0 SBL

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Washington State Dept of Corrections

Job Number: 580-144779-1

Login Number: 144779
List Number: 1
Creator: Russell, Meagann

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1427	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: ____/ 209-28776	County: WALLA WALLA
Sample Location: WSP MW1A	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13th AVE WALLA WALLA WA 99362

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		25.2	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	4500-NO3-D/
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

#15161

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1427	System Group Type: *(Circle one,)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: _____/ 209-28777	County: WALLA WALLA
Sample Location: WSP MW3	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13TH AVE WALLA WALLA WA 99362

#15161

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		25.7	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	**4500-NO3-D/**
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

#15161

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1225	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: ____/ 209-28778	County: WALLA WALLA
Sample Location: WSP MW5	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☑ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13th AVE WALLA WALLA WA 99362

#1561

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		10.2	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	**4500-NO3-D/KH**
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1537	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: _____/ 209-28779	County: WALLA WALLA
Sample Location: WSP MW 9	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13TH AVE WALLA WALLA WA 99362

#15161

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		12.7	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	4500-NO3-D/ KH
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1052	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: ___/ 209-28780	County: WALLA WALLA
Sample Location WSP MM 11	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13TH AVE WALLA WALLA WA 99362

#15161

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		19.6	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	**4500-NO3-D/EW**
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 0951	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: _____/ 209-28781	County: WALLA WALLA
Sample Location: WSP MW 12	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13TH AVE WALLA WALLA WA 99362

Analytical Results

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		30.4	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	**4500-NO3-D/IC**
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

#15161

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

Walla Walla Regional Water Testing Services

Nitrate/Nitrite

Analysis Report

Date Collected: (MM/DD/YY) 10/08/24 1331	System Group Type: *(Circle one.)* A B Other:
Water System ID Number: _____	System Name: WSP
Lab Number/Sample Number: ____/ 209-28782	County: WALLA WALLA
Sample Location WSP MW 14	Source Number(s) *(List all sources if blended or composited.)*
Sample Purpose *(check appropriate box)* ☒ RC—Routine/Compliance *(Satisfies monitoring requirements.)* ☐ C—Confirmation *(Confirmation of chemical result.)** ☒ I—Investigative *(Does not satisfy monitoring requirements.)* ☐ O—Other *(Specify—does not satisfy monitoring requirements.)*	Date Received: (MM/DD/YY) 10/08/24 Date Analyzed: (MM/DD/YY) 10/09/24 Date Reported: (MM/DD/YY) 10/09/24 COMMENTS:
Sample Composition *(Check appropriate box.)* ☒ S—Single Source ☐ B—Blended *(List source numbers in "Source Numbers" field.)* ☐ C—Composite *(List source numbers in "Source Numbers" field.)* ☐ D—Distribution Sample	**Sample Type** *(Check one.)* ☒ Pre-treatment/Untreated (Raw) ☐ Post-treatment (Finished) ☐ Unknown or Other Sample Collected by: *(name)* D SMITH Phone Number: 509 386 0388
Send Report to: DEAN SMITH	Bill to: *(Client name.)* WSP 1313 N 13TH AVE WALLA WALLA WA 99362

Analytical Results

#15161

DOH #	Contaminant	Data Qualifier	Results	MRL	SDRL	Trigger	MCL	Units	Exceeds MCL? (X if Yes)	Method/ Initials
0020	**Nitrate-N**		26.3	**1.0 mg/L**	0.5	5.0	10.0	mg/L	X	4500-NO3-D/ KH
0114	Nitrite-N				0.1	0.5	1.0	mg/L		
0161	Total Nitrate + Nitrite				0.5	--	10.0	mg/L		

NOTES:

***Confirmation:** Include the original lab number, sample number, and collection date of original sample in either comment section.

--No trigger value for combined nitrate plus nitrite.

Data Qualifier: A symbol or letter to denote additional information about the result.

DOH#: Department assigned contaminant number.

Exceeds MCL (Maximum Contaminant Level): Marked if the contaminant amount exceeds the MCL under chapters 246-290 and 246-291 WAC. If you have questions about this result, please contact the department's drinking water regional office in your area.

METHOD/INITIALS: Analytical method used/Initials of the analyst that performed the analysis.

mg/L: milligrams per liter or parts per million.

MRL (Method Reporting Limit): The lowest quantifiable concentration of a contaminant.

SDRL (State Detection Reporting Limit): The minimum reportable detection of a contaminant as established by the department.

Trigger: The department's drinking water response level. Systems with contaminants detected at concentrations at or above this level may be required to take additional samples or monitor more frequently.

J: Estimate. Detected level is greater than **SDRL** but below Method Reporting Level (**MRL**)

ND: Non-Detect

DB#	LAB#	NAME	LOCATION	BY/DATE RC'D	BY DATE TEST	NO3 (mg/L)	NOTES	°C
6112	28776	WSP	MW 1A	CS 10/08/24	10/9/2024	25.2	15161	
6113	28777	WSP	MW 3	CS 10/08/24	10/9/2024	25.7	15161	
6114	78778	WSP	MW 5	CS 10/08/24	10/9/2024	10.2	15161	
6115	28779	WSP	MW 9	CS 10/08/24	10/9/2024	12.7	15161	
6116	28780	WSP	MW 11	CS 10/08/24	10/9/2024	19.6	15161	
6117	28781	WSP	MW 12	CS 10/08/24	10/9/2024	30.4	15161	
6118	28782	WSP	MW 14	CS 10/08/24	10/9/2024	26.3	15161	

Instruction Manual

pH 5+ pH/°C
pH 6+ pH/°C/mV
Ion 6+ pH/°C/mV/Ion



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CE ISO 9001

68X243633 Rev 1-1 3/2011

Part of Thermo Fisher Scientific

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1. INTRODUCTION

Thank you for purchasing the pH 5+, pH 6+, or Ion 6+ meter. These microprocessor-based handheld meters are economical and easy to use. It has a large custom LCD (Liquid Crystal Display) for clear and easy reading.

The pH 5+ measures pH and temperature (°C). The pH 6+ and Ion 6+ meters measure pH, mV (ORP) and temperature.

Additionally, the Ion 6+ allows direct ion concentration measurement of various Ions (mono and divalent). The mV mode is also useful for diagnosis of Ion selective electrodes (ISE).

Meters include 4 alkaline "AAA" batteries, a rubber armor / stand, instruction manual, and warranty card. Please refer to **Section 8 Replacements and Accessories** for information on additional accessories and calibration solutions.

2. GETTING STARTED

2.1 Description of Keypad Functions

The pH 5+ and pH 6+ have four keys while the Ion 6+ meter has six keys on its splash-proof keypad. The common keys are **ON/OFF**, **HOLD/ENTER**, **CAL** and **MODE**. The Ion 6+ meter adds ▲ and ▼ keys.

ON/OFF: Powers meter on and off. Meter starts up in the mode that you last switched off from.

MODE/INC: Selects measurement mode for Ion, mV, pH and Temperature. Increment button for mV calibration (pH 6+ only).

CAL: Allows calibration for Ion, pH, mV or Temperature, or to abort calibration and return to measure without confirming a value.

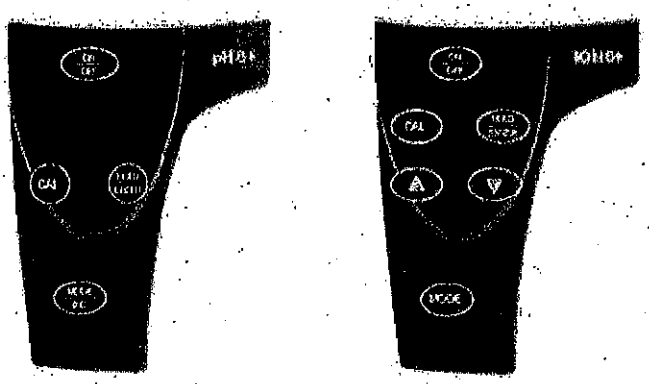
▲ (Ion 6+ only): Increment values during calibration mode.

▼ (Ion 6+ only): Decrement values during calibration mode.

HOLD: Freezes the measured reading for easy viewing.

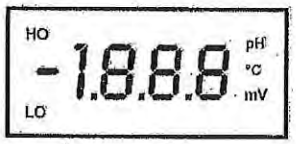
ENTER: Confirms calibration value.

pH 5+ and pH 6+ Ion 6+



2.2 Description of LCD Annunciators

The large custom LCD consists of 3½-digit segments which uses annunciators for pH, mV or °C (Temperature). No annunciator is shown in Ion mode. Other annunciators include "HO" (when HOLD function is activated) and "LO" (low battery condition).



2.3 Inserting & Removing the Rubber Armor / Stand

1. To remove meter from rubber armor, push out from the bottom edges of meter until it is completely out of boot. Ensure that cables of ISE/pH electrode or temperature probe are not connected. **Figure A.**

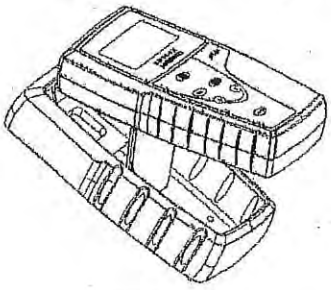


Figure A

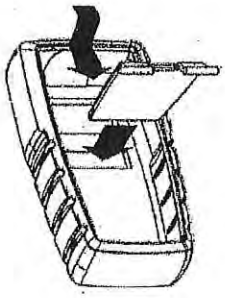
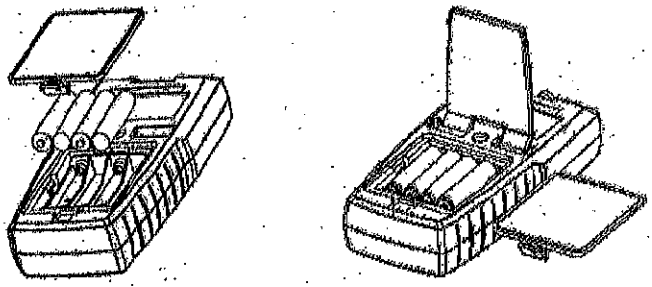


Figure B

2. To insert meter into armor, slide in from the top of meter before pushing the bottom edges of meter down to set it into position. Lift up the stand at the back of meter for bench top applications if necessary. **Figure B.**

2.4 Inserting New Batteries

The battery compartment is found at the back of instrument. To open the battery compartment, push in the direction of arrow and lift up the cover. Note the polarity of battery before inserting into position. After replacement, place cover back and press down until it locks.



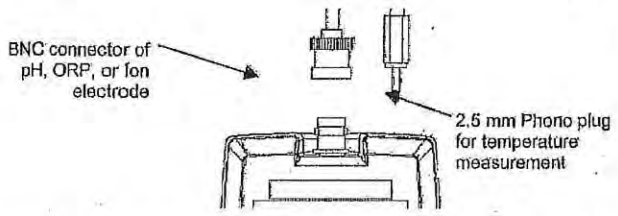
2.5 Battery Replacement

The "**LO**" annunciator of the LCD alerts you when battery power is running low. **Caution:** Power off the meter before changing battery.



2.6 Connecting the Electrode and Temperature Sensor

To connect the electrode into meter, align the BNC connector slots with the posts of meter's socket and rotate connector clockwise until it locks. Do not force when connecting. To remove, simply rotate the connector in counter-clockwise direction until it unlocks, and slide the connector off the socket.



Insert the mini phono jack of temperature sensor into the socket on the meter. Unplug the phono jack when not in use or you measure pH without any temperature compensation.

2.7 *Conditioning the pH Electrode*

For best results condition the pH electrode before use or if it has not been in use for a long time by soaking it into a container filled with pH 4 buffer solution for at least 1 hour and rinse before use.

2.8 *Switching the Meter On*

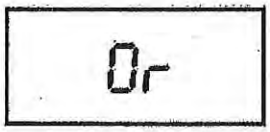
1. Press **ON/OFF** key. All LCD segments will display momentarily as the meter performs a self-diagnostic test. The Ion 6+ will display "- - -" if the meter has not been calibrated or if the meter has been reset.

2. Press **MODE** key to choose the desired measurement mode.

   If a temperature probe is not connected, either 25.0°C (factory default) or the last calibrated temperature value is displayed. If a temperature probe is connected, the current measured temperature is displayed.

3. "**Or**" (Over range) indicates the reading exceeds the maximum. "**Ur**" (Under range) indicates the reading is under minimum measurement range (see Section 7 Specifications).





3. CALIBRATION

3.1 pH Calibration

The meter is capable of calibrating up to 3 pH values using USA or NIST (nSt) pH buffer standards or 2 pH values with Low Ionic (Pb) pH buffer standard. All new calibration values will automatically override existing data.

USA group	4.01, 7.00, 10.01
NIST group	4.01, 6.86, 9.18
Pb group	4.10, 6.97

For best results perform at least a 2-point calibration at room temperature (25 °C) using standard buffers. Begin with pH 7.00 (USA group), pH 6.86 (NIST group) or pH 6.97 (Pb group).

For a 1-point calibration, calibration should be performed with a pH buffer value closest to the expected sample value being measured.

The meter has automatic buffer recognition that identifies the correct pH buffer values during calibration. The meter will accept calibration values that are within +/-1.0 pH units of the expected value, otherwise the LCD will flash "Er1" and the value will not be accepted. Press **CAL** to abort calibration and resume measurement.

Always use new pH buffer solutions for calibration. Do not reuse buffer solutions as it may be contaminated and effect the calibration and accuracy of measurements. Promptly seal containers and store solutions in a dark, dry, cool environment.

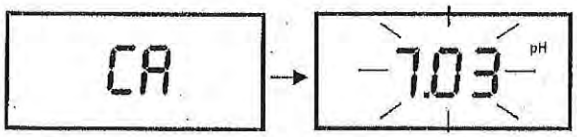
Before use, remove the plastic protective cap of pH electrode and condition the glass bulb by soaking it in tap water or pH buffer (preferably pH 4) for 1-2 hours. This hydrates the glass bulb if the electrode is too dry or has not been used recently. Always rinse the probes with clean water before and after each calibration/sample measurement to avoid cross-contamination. For details refer to section 5 on Electrode care and maintenance.

3.1.1 pH Calibration Procedure

1. Pour known pH buffer calibration standard solution into a clean, dry container, e.g. pH 7.00. Turn on meter and select pH mode by pressing **MODE** key if necessary.

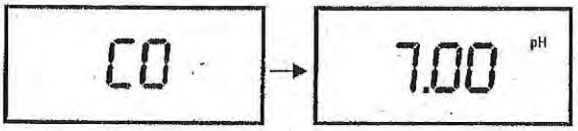
2. Dip the pH electrode and temperature probe into the solution. Swirl gently and wait for reading to stabilise (approx. 30 seconds depending on your electrode condition).

3. Press **CAL** to enter pH calibration mode. "**CA**" displays momentarily before the display flashes the current un-calibrated reading.



4. To abort or cancel calibration without accepting the new value, press **CAL** key. The meter will automatically revert to pH measurement mode.

5. Allow reading to stabilise if necessary. Press **ENTER** key to confirm calibration. "**CO**" displays momentarily before reverting to pH measurement mode.



6. For highest accuracy, perform a multiple-point calibration. Repeat step 1 with additional pH buffer calibration standard solutions.

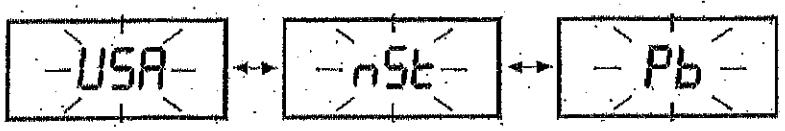
3.1.2 Changing the pH Buffer Group

You can calibrate with pH standards of either USA, NIST (nSt) or Low Ionic (Pb) pH buffer groups. The factory default is USA. To abort buffer group selection press **CAL** to revert to pH measurement mode.

1. Press and hold **MODE** while switching the meter on using the **ON/OFF** key. The display shows "**bUF**" blinking.



2. Press **ENTER** key to begin buffer group selection mode. Use the **MODE** key to toggle between USA, NIST or Pb as shown below.



Press ENTER key to confirm your selection. The meter will automatically revert to pH measurement mode. The meter will save the selected group indefinitely until changed.

3.1.3 Resetting User Calibrated Values

The calibrated pH/mV/Ion values can be reset to factory default using the procedure below. Temperature offset will not be reset using this procedure. To abort press **CAL** to revert to measurement mode.

1. Press and hold **CAL** while switching the meter on using the **ON/OFF** key. The LCD shows "**rSt**" blinking.

2. Press **ENTER** key to confirm. The meter automatically clears all stored pH/Ion calibration or mV offset values and reverts to measurement mode.

3.2 Ion Calibration (Ion 6+)

The Ion 6+ meter is capable of 2 or 3 point ion calibration with standard solutions. The Ion 6+ will display "**- - -**" if the meter has not been calibrated or if the meter has been reset.

To abort ion calibration press **CAL** to revert to measurement mode.

Ion calibration values are not stored into the meter's non-volatile memory. Ion calibration data is lost once the meter is reset and when the batteries are being removed and replaced.

Error message "**Er2**" is displayed after a single point calibration is completed. Recalibrate using minimum of 2 points.

Calibration values are successfully stored if the ISE (Ion Selective Electrode) slope is within the specified tolerance of 15-90mV/decade, otherwise an error message "**Er3**" is displayed.

If any of calibration points are not within 1 decade of each other, an error message "**Er4**" will be shown at the end of calibration process. The ion calibration options

available include 0.1, 1.0, 10.0, 100.0 ppm. Recalibrate and ensure that consecutive calibration points are 1 decade apart from each other.

Ensure that you use new or fresh standard solutions during calibration. Do not reuse ion standard solution as it may be contaminated and affect the calibration and accuracy of measurements. Store standard solutions in a dry, cool environment if possible. Check that ISE's and ion standard solutions are kept in good condition for best results.

Before use, remove any plastic protective cap of ISE (at the tip of sensor) and refer to electrode instruction manual for proper operation. Rinse probes before and after each calibration or sample measurement to avoid cross-contamination.

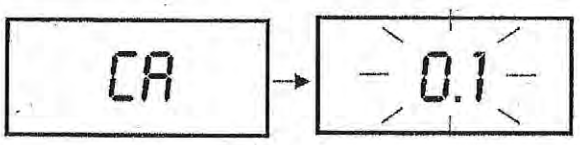
3.2.1 Ion Calibration Procedure

The Ion 6+ can measure various ions. Ion measurement requires ion selective electrodes (ISE)—(sold separately) which measure a specific ion of interest—such as ammonia or fluoride.

The available Ion calibration values for the Ion 6+ are 0.1, 1.0, 10.0, and 100.0 ppm. Pick any 2 or 3 consecutive values to use and prepare the corresponding Ion calibration solutions. Turn on the meter and select Ion mode by pressing MODE key if necessary. **For best results, always begin with your lowest standard value, followed by the next lowest standard.**

1. Dip the ISE into your standard solution. Add ISA if required. Swirl it gently. Press **CAL** key to begin calibration mode.

2. The display shows "**CA**" (to indicate calibration mode) momentarily followed by "**0.1**" flashing. To select the appropriate standard, use ▲ and ▼ keys.



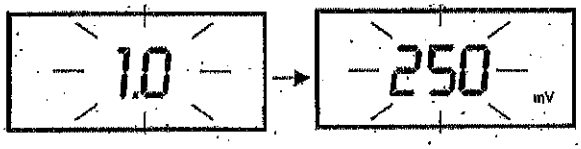
3. Press **ENTER** to confirm that the ppm value is the desired standard. The displayed value now shows the corresponding mV reading for the selected ppm value selected; Allow the reading to stabilise.



4. When the mV reading is stable, press **ENTER** to complete the 1st point calibration. The display will show the next highest calibration standard value. Rinse the electrode with clean water.

5. Dip the electrode into your next highest standard solution. Add ISA if required. Swirl it gently. Press **CAL** key to begin calibration mode.

6. Press **ENTER** to confirm that the ppm value is the desired standard. The displayed value now shows the corresponding mV reading for the selected ppm value selected. Allow the reading to stabilise.



7. When the mV reading is stable, press **ENTER** to complete the 2nd point calibration. The display will show the next highest calibration standard value. Rinse the electrode with clean water.

8. To calibrate a 3rd point, repeat steps 6 & 7. To exit from 2-point calibration, press **CAL** key.

9. The ISE slope in mV value "**PXX mV**" will momentarily display before reverting to Ion measurement mode.

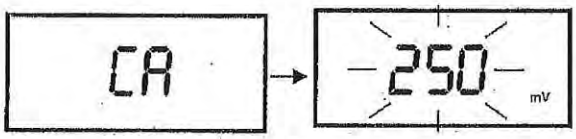


If the calibration is not successfully stored into its memory, an error message "**Er3**" will be displayed. This occurs when the slope is lower than 15mV/decade or higher than 90mV/decade.

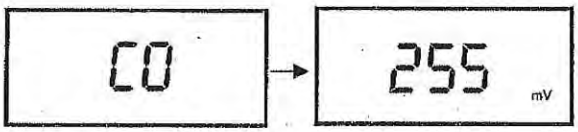
3.3 Millivolt (mV) Calibration (pH 6+ only)

mV calibration is performed for Oxidization Reduction Potential (ORP / Redox) measurements, where you can adjust its mV value as a base value for measurements. To abort press **CAL** to revert to measurement mode.

1. Press **MODE** key to enter mV mode, the LCD displays "**mV**".
2. Dip the ORP electrode into a known standard solution, (e.g. Quinhydrone 255) and swirl it until the reading stabilizes.
3. Press **CAL** key to enter mV calibration. The LCD shows "**CA**" momentarily before flashing the mV reading.



4. To proceed calibration use **INC** key to adjust the reading to your desired value. The maximum adjustment you can make is ± 50 mV. Pressing **INC** key continuously allows you to scroll to the maximum allowable value and then loops back to the minimum allowable value.
5. Press **ENTER** key to confirm calibration. The display shows "CO" momentarily and meter reverts to measurement mode showing the current set value.



3.4 Temperature Calibration

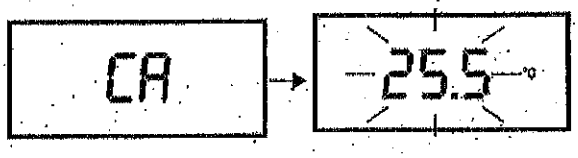
3.4.1 With Temperature Probe

The temperature probe (ECPH5TEM01P) provided with the meter is factory-calibrated. Over time, temperature calibration may drift and require calibration. If there is a need to replace with the new probe you should calibrate the temperature probe prior to pH calibration.

1. Connect your temperature probe to the meter. Press **MODE** key to enter the Temperature mode until "°C" annunciator appears in the LCD.

2. Compare the displayed value to a NIST certified thermometer or other thermometer known to be accurate. For best accuracy, place both the probe and thermometer in a constant temperature bath.

3. Press **CAL** key to enter temperature calibration mode. The LCD shows "**CA**" momentarily and displayed reading flashes.



4. Press ▲ and ▼ keys (for Ion 6+) or **INC** key (for pH 5+ / pH 6+) until the LCD display shows the desired temperature. The meter allows an adjustable maximum value of ± 5 °C from factory default.

5. To cancel or abort this operation, press **CAL** key. Note no new value will be stored into its meter's non-volatile memory. To confirm calibration, press **ENTER** key. The LCD displays "**CO**" momentarily, and the meter reverts to measurement mode.



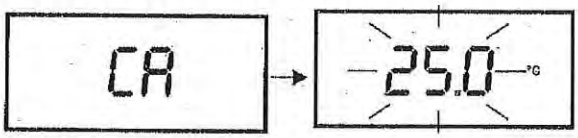
3.4.2 *Without Temperature Probe (no ATC)*

If no temperature probe is used, the meter compensates for pH response based on a temperature value manually set by you or at 25.0 °C (factory default).

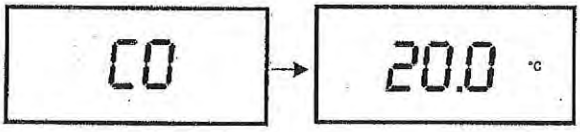
1. Press **MODE** key to enter into Temperature mode until "**°C**" shows in LCD.

2. Compare the displayed value to NIST certified thermometer or thermometer known to be accurate (dipped into a constant temperature bath).

3. Press **CAL** key to enter temperature calibration mode. The LCD shows "**CA**" momentarily and displayed reading flashes. Note that this displayed value should either be 25.0 °C or last set temperature value.



4. Press ▲ and ▼ key (for Ion 6) or **INC** key (for pH 5/6) until the displays shows the desired temperature. You can set any value from 0 to 100 °C.
5. To cancel or abort this operation, press **CAL** key. Note no new value will be stored into its meter's non-volatile memory. To confirm calibration, press **ENTER** key. The LCD displays "**CO**" momentarily, and the meter reverts to measurement mode.



4. MEASUREMENT

4.1 Taking Measurements

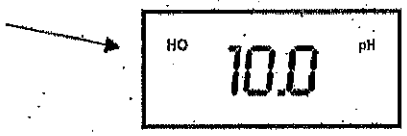
1. Before measurement, rinse pH/ORP electrode or Ion Selective Electrode and temperature probe with clean water to remove any impurities stuck onto the bodies of probes.
2. Power on the meter using **ON/OFF** key. Press **MODE** key to select your desired mode of operation (pH, mV, Ion, or Temperature).
3. Dip and stir both probes gently into an aqueous test sample, swirl gently and wait for the reading to stabilise. Note the reading. Freeze the displayed if desired—for details refer to Section 4.3.
4. Rinse probes with clean water before taking next reading or storage.

4.2 Millivolt (mV) Reference Check (Ion 6+ only)

The mV mode in Ion 6+ can be used for the diagnosis of ISE or pH electrode condition. Press **MODE** to access mV mode, the "**mV**" annunciator in LCD is displayed. The displayed value shows the absolute mV value of ISE or pH electrode being measured.

4.3 Holding a Reading

To freeze or hold your displayed reading momentarily, press **HOLD** key once. The LCD displays "**HO**" annunciator to indicate the HOLD function is activated.



4.4 Releasing a Held Reading

Press **HOLD** key once again to deactivate the HOLD function or to release your frozen reading. The meter reverts to current measurement mode, and the "**HO**" annunciator disappears from the LCD.

5. ELECTRODE CARE AND MAINTENANCE

For best results, keep the ISE capped dry and pH/ORP electrode bulb wet. Store the pH/ORP glass bulb with pH electrode storage solution. **NEVER** use deionised water for storage. Wash electrodes with clean water after each use.

Your ISE or pH electrode is susceptible to contamination or dirt. Clean as needed using mild detergent and warm water. Blot the probe gently with a soft tissue paper. Avoid excessive drying of the glass membrane and avoid touching it with your fingers. Recalibrate after cleaning.

6. TROUBLESHOOTING

Problem	Cause	Solution
No display	Batteries not in place.	a) Insert batteries. b) Re-insert batteries in correct polarity.
"---" on display	Ion 6+ does not have 2 point calibration	Perform 2 or 3 point Ion calibration.
"LO" displays in the LCD	Low battery	Replace batteries.
Unstable reading	a) Electrode not deep enough in sample b) Dirty electrode. c) Broken electrode	a) Place electrode deeper in sample. b) Clean electrode and recalibrate. c) Replace electrode.
"Er1" display	Buffer value out of tolerance	Use new pH buffer solution and recalibrate. Ensure correct pH buffer group was selected.
"Er2" display	Single point calibration	Perform at least 2 point calibration. (Ion 6+).
"Er3" display	ISE slope not within the specified tolerance	Check ISE is in good working condition-refer to ISE manual (Ion 6+).
"Er4" display	Any calibration points not within 1 decade	Ensure any calibration points between each other must be within 1 decade. (Ion 6+)
Not able to calibrate	a) Display freezes b) Faulty electrode c) Inaccurate buffer	a) Release reading by pressing HOLD. b) Replace electrode. c) Replace expired buffer solutions.

7. SPECIFICATIONS

Model		pH 5+	pH 6+	Ion 6+
Ion Range	0.01 to 1999 ppm			✓
Resolution	0.01 ppm for 0.01 to 0.99 ppm; 0.1 ppm for 1.0 to 199.9 ppm; 1 ppm for 200 to 1999 ppm			✓
Accuracy	+/- 1% of reading			✓
No. of Calibration Pts	2 to 3 points (minimum 2 pts)			✓
pH Range	0.00 to 14.00 pH	✓	✓	✓
Resolution	0.01 pH	✓	✓	✓
Accuracy	+/- 0.01 pH	✓	✓	✓
pH Slope Range	80 to 120%	✓	✓	✓
No. of Calibration Pts	1 to 3 points (push-button)	✓	✓	✓
Buffer Options	pH 4.01, 7.00, 10.01 (USA) pH 4.01, 6.86, 9.18 (NIST) pH 4.10, 6.87 (Pb)	✓	✓	✓
Temperature Range	0.0 to 100.0 °C	✓	✓	✓
Resolution	0.1 °C	✓	✓	✓
Accuracy	+/- 0.5 °C	✓	✓	✓
Temperature Comp.	Automatic / Manual (0 to 100 °C)	✓	✓	✓
Millivolt Range	-1000 to +1000 mV		✓	
Resolution	1 mV		✓	
Accuracy	+/- 2 mV		✓	
Millivolt Range	-500 to 500 mV			✓
Resolution	0.1 mV for -200 to 200 mV; 1 mV for 200 to 500 mV			✓
Accuracy	+/- 0.2 and 2 mV resp.			✓
Features				
Auto-Buffer Recognition	Yes			
Hold Function	"HO"			
Auto Shut Off	After 17 minutes			
Low Battery Indication	"LO"			
Display	Single Custom LCD			
Operating Temperature	0 to 50 °C			
Power Requirements	4 x "AAA" Alkaline Batteries			
Battery Life	500 hours			
Meter Dim./Weight	16.7 x 8.5 x 4.2 cm / 266 g			

8. REPLACEMENTS AND ACCESSORIES

Item Description	Part number Ordering Code	
	Eutech Instruments	Oakton Instruments
pH 5+ with ATC probe	ECPH501PLUS 01X244911	35613-50
pH 5+ with pH and ATC probes	—	35613-52
pH 5+ with pH and ATC probes and solutions in hard carrying case	ECPH502PLUSK 01X244912	—
pH 5+ with pH/ATC probe and solutions in hard carrying case	ECPH503PLUSK 01X244913	35613-54
pH 6+ with ATC probe	ECPH601PLUS 01X245025	35613-20
pH 6+ with pH and ATC probes	—	35613-22
pH 6+ with ATC probe and solutions in hard carrying case	ECPH601PLUSK 01X245028	—
pH 6+ with pH and ATC probes and solutions in hard carrying case	ECPH602PLUSK 01X245026	—
pH 6+ with pH/ATC probe and solutions in hard carrying case	ECPH603PLUSK 01X245027	35613-24
Ion 6+ with ATC probe	ECION601PLUS 01X256409	35613-80
Ion 6+ with pH and ATC probes and solutions in hard carrying case	ECION602PLUSK 01X256410	35613-82
ATC Probe, Stainless Steel, 84 x 3 mm	PH5TEM01P 01X021804	35613-05
pH electrode, plastic, gel-filled, single-junction	ECFC7252101B 01X099412	59001-65
pH electrode, plastic, gel-filled, double-junction	ECFC7252201B 01X099417	35641-51
pH electrode, glass, refillable, double-junction	ECFG7370101B 93X218819	35805-04
pH/ATC electrode, plastic, gel-filled, single-junction	ECFE7352901B 01X218964	35811-71

Item Description	Part number Ordering Code	
	Eutech Instruments	Oakton Instruments
pH/ATC electrode, plastic, gel-filled, double-junction	—	35811-72
ORP electrode, plastic, gel-filled, single-junction	ECFC7960101B 01X256612	59001-75
ORP electrode, plastic, gel-filled, double-junction	ECFC7960201B 01X256613	59001-77
pH 1.68 buffer solution, 480 mL bottle	ECBU1BT	00654-01
pH 4.01 buffer solution, 480 mL bottle (1 pint)	ECBU4BT	00654-00
pH 4.01 buffer sachets, 20 mL x 20 pcs.	ECBU4BS	35653-01
pH 6.86 buffer solution, 480 mL bottle	ECBU686BT	00654-03
pH 7.00 buffer solution, 480 mL bottle (1 pint)	ECBU7BT	00654-04
pH 7.00 buffer sachets, 20 mL x 20 pcs.	ECBU7BS	35653-02
pH 9.18 buffer solution, 480 mL bottle	ECBU918BT	00654-07
pH 10.01 buffer solution, 480 mL bottle (1 pint)	ECBU10BT	00654-08
pH 10.01 buffer sachets, 20 mL x 20 pcs.	ECBU10BS	35653-03
pH 12.45 buffer solution, 480 mL bottle	ECBU12BT	00654-12
pH 4.01, 7.00, & 10.01 buffer pack, 480 mL bottles	—	05942-10
Electrode Storage Solution	ECRE005	00653-04
Electrode Cleaning Solution	ECDPCBT	00653-06