

METRO Environmental Laboratory

WORK GROUP REPORT (wk02)

Sep 09 2002, 11:43 am

Work Group: WG62304 (5/24/02 SWAMP Geoducks) for Department: 6 - Metals, Trace

Created: 28-MAY-02 Due: Operator:

Sample	Project Number	Project Description	Pkey C	Product	Matrix	Stat	UA	Workdate	Due date
L24060-9	423457	North Outfall Siting Study	S	AS-ICP	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	ZN-ICP	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	SE-ICP	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	CU-ICP	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
WG62304-1	SB		S	ROUTINE ICP	BLANK WTR	DONE	U	28-MAY-02	
WG62304-2	MB		S	ROUTINE ICP	BLANK WTR	DONE	U	28-MAY-02	
WG62304-3	SRM		S	ROUTINE ICP	ORGANS	DONE	U	28-MAY-02	
WG62304-4	LD		S	ROUTINE ICP	SHELLFISH	DONE	U	28-MAY-02	
WG62304-5	MS		S	ROUTINE ICP	SHELLFISH	DONE	U	28-MAY-02	
WG62304-6	SRM		S	ROUTINE ICP	FISH	DONE	U	28-MAY-02	
WG62304-7	SDIL		S	ROUTINE ICP	SHELLFISH	DONE	U	04-JUN-02	

Comments:

L24060-1 Zone 7N, sample 1, edible tissue
 L24060-10 Zone 6, sample 2, whole body
 L24060-11 Zone 6, sample 3, edible tissue
 L24060-12 Zone 6, sample 3, whole body
 L24060-13 Zone 7S, sample 1, edible tissue
 L24060-14 Zone 7S, sample 1, whole body
 L24060-15 Zone 7S, sample 2, edible tissue
 L24060-16 Zone 7S, sample 2, whole body
 L24060-17 Zone 7S, sample 3, edible tissue
 L24060-18 Zone 7S, sample 3, whole body
 L24060-2 Zone 7N, sample 1, whole body
 L24060-3 Zone 7N, sample 2, edible tissue
 L24060-4 Zone 7N, sample 2, whole body
 L24060-5 Zone 7N, sample 3, edible tissue
 L24060-6 Zone 7N, sample 3, whole body
 L24060-7 Zone 6, sample 1, edible tissue
 L24060-8 Zone 6, sample 1, whole body
 L24060-9 Zone 6, sample 2, edible tissue
 WG62304-1 WG62304-2 ICP200
 WG62304-2 MB
 WG62304-3 TORT2
 WG62304-4 L24060-14 RPD-TISS
 WG62304-5 L24060-14 ICP200
 WG62304-6 DORM2
 WG62304-7 SDIL 5X

Lab-2162

KING COUNTY METRO ENVIRONMENTAL LABORATORY
 Lab QC Report - 09/09/02 11:47
 Run ID: R81378 Workgroup: WG62304 (5/24/02 SWAMP Geoducks)

SB:WG62304-1 MB:WG62304-2 Matrix: BLANK WTR Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: PKey: STD

Parameter	Mdl	Rdl	Units	MB Value	True Value	SB Value	% Rec.	Qual	Limits	True Value	Value	% Rec.	Qual	Limits	RPD/RSD	Qual	Limits
Silver, Total, ICP	.004	.02	ng/L	<MDL	1.2	1.1	91		85-115								
Arsenic, Total, ICP	.05	.25	ng/L	<MDL	4	3.59	90		85-115								
Cadmium, Total, ICP	.003	.015	ng/L	<MDL	1.2	1.02	85		85-115								
Chromium, Total, ICP	.005	.025	ng/L	<MDL	1.2	1.11	92		85-115								
Copper, Total, ICP	.004	.02	ng/L	<MDL	1.2	1.14	95		85-115								
Selenium, Total, ICP	.05	.25	ng/L	<MDL	2	1.85	92		85-115								
Zinc, Total, ICP	.005	.025	ng/L	<MDL	2.1	1.8	86		85-115								

MB:WG62304-2 Matrix: BLANK WTR Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: PKey: STD

Parameter	Mdl	Rdl	Units	MB Value	Qual
Silver, Total, ICP	.004	.02	ng/L	<MDL	
Arsenic, Total, ICP	.05	.25	ng/L	<MDL	
Cadmium, Total, ICP	.003	.015	ng/L	<MDL	
Chromium, Total, ICP	.005	.025	ng/L	<MDL	
Copper, Total, ICP	.004	.02	ng/L	<MDL	
Selenium, Total, ICP	.05	.25	ng/L	<MDL	
Zinc, Total, ICP	.005	.025	ng/L	<MDL	

SRM:WG62304-3 Matrix: ORGANS Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: PKey: STD

Parameter	Mdl	Rdl	Units	Samp Value	True Value	SRM Value	% Rec.	Qual	Limits
Arsenic, Total, ICP	4.8	24.1	ng/Kg	21.6	21	21	96		80-120
Cadmium, Total, ICP	.29	1.45	ng/Kg	26.7	24.5	24.5	92		80-120
Chromium, Total, ICP	.48	2.41	ng/Kg	.77	.72	.72	93		80-120
Copper, Total, ICP	.39	1.93	ng/Kg	106	102	102	96		80-120
Selenium, Total, ICP	4.8	24.1	ng/Kg	5.63	6.8	6.8	120		80-120
Zinc, Total, ICP	.48	2.41	ng/Kg	180	167	167	93		80-120

LD:WG62304-4 L24060-14 Matrix: SHELLFISH Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: 423457 PKey: STD

Parameter	Mdl	Rdl	Units	Samp Value	True Value	LD Value	% Rec.	Qual	Limits	RPD/RSD	Qual	Limits
Silver, Total, ICP	.04	.2	ng/Kg	1.19	1.12	1.12	96			6		20
Arsenic, Total, ICP	.5	2.5	ng/Kg	2	1.9	1.9	92			5		20
Cadmium, Total, ICP	.03	.15	ng/Kg	.26	.246	.246	95			12		20
Chromium, Total, ICP	.05	.25	ng/Kg	.503	.27	.27	54			1		20
Copper, Total, ICP	.04	.2	ng/Kg	5.26	5.19	5.19	98			0		20
Selenium, Total, ICP	.5	2.5	ng/Kg	1.2	1.2	1.2	100			0		20
Zinc, Total, ICP	.05	.25	ng/Kg	24.6	24.6	24.6	100			0		20

MS:WG62304-5 L24060-14 Matrix: SHELLFISH Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: 423457 PKey: STD

Parameter	Mdl	Rdl	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Limits	RPD/RSD	Qual	Limits
Silver, Total, ICP	.04	.2	ng/Kg	1.19	1.12	1.12	96			6		20
Arsenic, Total, ICP	.5	2.5	ng/Kg	2	1.9	1.9	92			5		20
Cadmium, Total, ICP	.03	.15	ng/Kg	.26	.246	.246	95			12		20
Chromium, Total, ICP	.05	.25	ng/Kg	.503	.27	.27	54			1		20
Copper, Total, ICP	.04	.2	ng/Kg	5.26	5.19	5.19	98			0		20
Selenium, Total, ICP	.5	2.5	ng/Kg	1.2	1.2	1.2	100			0		20
Zinc, Total, ICP	.05	.25	ng/Kg	24.6	24.6	24.6	100			0		20

MS:W62304-5 L24060-14 Matrix: SHELLFISH Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: 423457 PKey: STD

Parameter	Mdl	Rdl	Units	SampValue	TrueValue	MS Value	% Rec. Qual	Qual Limits	RPD/RSD Qual	Limits
Silver, Total, ICP	.04	.2	mg/Kg	1.19	1.2	12	90	80-120		
Arsenic, Total, ICP	.5	2.5	mg/Kg	2	4	42	100	80-120		
Cadmium, Total, ICP	.03	.15	mg/Kg	.26	1.2	10.8	88	80-120		
Chromium, Total, ICP	.05	.25	mg/Kg	.503	1.2	11.6	95	80-120		
Copper, Total, ICP	.04	.2	mg/Kg	5.26	1.2	17.2	100	80-120		
Selenium, Total, ICP	.5	2.5	mg/Kg	1.2	2	23.9	113	80-120		
Zinc, Total, ICP	.05	.25	mg/Kg	24.6	2.1	43.4	89	80-120		

SRM:W62304-6 Matrix: FISH Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: 423457 PKey: STD

Parameter	Mdl	Rdl	Units	SampValue	TrueValue	SRM Value	% Rec. Qual	Qual Limits	RPD/RSD Qual	Limits
Silver, Total, ICP	.41	2.07	mg/Kg	.041	<MDL	<MDL	0	80-120		
Arsenic, Total, ICP	5.2	25.9	mg/Kg	18	18	18	97	80-120		
Cadmium, Total, ICP	.31	1.56	mg/Kg	.043	.34	.34	782	80-120		
Chromium, Total, ICP	.52	2.59	mg/Kg	34.7	19.6	19.6	57	80-120		
Copper, Total, ICP	.41	2.07	mg/Kg	2.34	2.34	2.34	100	80-120		
Selenium, Total, ICP	5.2	25.9	mg/Kg	1.4	<MDL	<MDL	0	80-120		
Zinc, Total, ICP	.52	2.59	mg/Kg	25.6	25.9	25.9	101	80-120		

SDL:W62304-7 Matrix: SHELLFISH Listtype: MTICP-TISS Method: PSEP (06-02-004-002) Project: 423457 PKey: STD

Parameter	Mdl	Rdl	Units	SampValue	TrueValue	SDIL Value	% Rec. Qual	Qual Limits	RPD/RSD Qual	Limits
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METRO Environmental Laboratory

WORK GROUP REPORT (wk02)

Sep 09 2002, 11:44 am

Work Group: WG63110 (ICPMS BLK H2O 7/9/02) for Department: 6 - Metals, Trace

Created: 08-JUL-02 Due: Operator: BDM

Sample	Project Number	Project Description	PKey C Product	Matrix	Stat	UA	Workdate	Duedate
L24060-19	423457	North Outfall Siting Study	S BE-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-19	423457	North Outfall Siting Study	S NI-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-19	423457	North Outfall Siting Study	S PB-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-19	423457	North Outfall Siting Study	S SB-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-19	423457	North Outfall Siting Study	S SN-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-19	423457	North Outfall Siting Study	S IL-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S BE-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S IL-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S SN-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S NI-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S PB-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
L24060-20	423457	North Outfall Siting Study	S SB-ICPMS	BLANK WTR	DONE	I	07-AUG-02	07-AUG-02
WG63110-1	MB		S REG ICPMS	BLANK WTR	DONE	U	09-JUL-02	
WG63110-2	LCS		S REG ICPMS	BLANK WTR	DONE	U	09-JUL-02	

Comments:

L24060-19 pre-homogenization blender blank
 L24060-20 post homogenization blender blank
 WG63110-1 DIGESTED METHOD BLANK
 WG63110-2 QCLCS

Lab-919102

KING COUNTY METRO ENVIRONMENTAL LABORATORY
 Lab QC Report - 09/09/02 11:47
 Run ID: R83232 Workgroup: W663110 (ICPMS BLK H20 7/9/02)

MB:W663110-1 Matrix: BLANK WTR Listtype: MTICPMS Method: EPA 200.8 (06-03-004&004A-001) Project: PKey: STD

Parameter	Mdl	Rdl	Units	MB Value	Qual
Antimony, Total, ICP-MS	.0005	.0025	mg/L	<MDL	
Beryllium, Total, ICP-MS	.0002	.001	mg/L	<MDL	
Lead, Total, ICP-MS	.0002	.001	mg/L	<MDL	
Nickel, Total, ICP-MS	.0003	.0015	mg/L	<MDL	
Thallium, Total, ICP-MS	.0002	.001	mg/L	<MDL	
Tin, Total, ICP-MS	.0003	.0015	mg/L	<MDL	

LCS:W663110-2 Matrix: BLANK WTR Listtype: MTICPMS Method: EPA 200.8 (06-03-004&004A-001) Project: PKey: STD

Parameter	Mdl	Rdl	Units	Sample Value	True Value	LCS Value	% Rec.	Qual	Limits	RPD/RSD	Qual	Limits
Antimony, Total, ICP-MS	.0005	.0025	mg/L	0.04	0.04	.0377	94	80	120			
Beryllium, Total, ICP-MS	.0002	.001	mg/L	0.04	0.04	.0379	95	80	120			
Lead, Total, ICP-MS	.0002	.001	mg/L	0.04	0.04	.0411	103	80	120			
Nickel, Total, ICP-MS	.0003	.0015	mg/L	0.04	0.04	.0392	98	80	120			
Thallium, Total, ICP-MS	.0002	.001	mg/L	0.04	0.04	.0416	104	80	120			
Tin, Total, ICP-MS	.0003	.0015	mg/L	0.04	0.04	.0386	97	80	120			

METRO Environmental Laboratory

WORK GROUP REPORT (wk02)

Sep 09 2002, 11:44 am

Work Group: WG63109 (ICPMS TISSUE 7/8/02) for Department: 6 - Metals, Trace

Created: 08-JUL-02 Due: Operator: BDM

Sample	Project Number	Project Description	Pkey	C Product	Matrix	Stat	UA	Workdate	Due date
L24060-2	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-2	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-2	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-2	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-2	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-3	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-4	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-5	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-6	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	06-AUG-02	06-AUG-02
L24060-7	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-7	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-7	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-7	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-7	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-7	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-8	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	SB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	SN-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	TL-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	PB-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	NI-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
L24060-9	423457	North Outfall Siting Study	S	BE-ICPMS	SHELLFISH	DONE	I	07-AUG-02	07-AUG-02
WG63109-1	MB		S	REG ICPMS	BLANK WTR	DONE	U	08-JUL-02	
WG63109-2	SB		S	REG ICPMS	BLANK WTR	DONE	U	10-JUL-02	
WG63109-3	SRM		S	REG ICPMS	SHELLFISH	DONE	U	10-JUL-02	
WG63109-4	SRM		S	REG ICPMS	SHELLFISH	DONE	U	10-JUL-02	
WG63109-5	LD		S	REG ICPMS	SHELLFISH	DONE	U	10-JUL-02	
WG63109-6	MS		S	REG ICPMS	SHELLFISH	DONE	U	10-JUL-02	

Comments:

L24060-1 Zone 7N, sample 1, edible tissue
 L24060-10 Zone 6, sample 2, whole body
 L24060-11 Zone 6, sample 3, edible tissue
 L24060-12 Zone 6, sample 3, whole body
 L24060-13 Zone 7S, sample 1, edible tissue

METRO Environmental Laboratory

WORK GROUP REPORT (wk02)

Sep 09 2002, 11:44 am

Work Group: WG63109 (ICPMS TISSUE 7/8/02) for Department: 6 - Metals, Trace

Created: 08-JUL-02 Due: Operator: BDM

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L24060-14		Zone 7S, sample 1, whole body								
L24060-15		Zone 7S, sample 2, edible tissue								
L24060-16		Zone 7S, sample 2, whole body								
L24060-17		Zone 7S, sample 3, edible tissue								
L24060-18		Zone 7S, sample 3, whole body								
L24060-2		Zone 7N, sample 1, whole body								
L24060-3		Zone 7N, sample 2, edible tissue								
L24060-4		Zone 7N, sample 2, whole body								
L24060-5		Zone 7N, sample 3, edible tissue								
L24060-6		Zone 7N, sample 3, whole body								
L24060-7		Zone 6, sample 1, edible tissue								
L24060-8		Zone 6, sample 1, whole body								
L24060-9		Zone 6, sample 2, edible tissue								
WG63109-1		DIGESTED METHOD BLANK								
WG63109-2		WG63109-1 MS-100								
WG63109-3		TORT2								
WG63109-4		DORM2								
WG63109-5		L24060-14 RPD-TISS LAB DUPLICATE								
WG63109-6		L24060-14 MS-100 MATRIX SPIKE								