



Admiralty
ENVIRONMENTAL

431 N. Franklin St., Suite 101 Juneau, AK 99801 (907) 463-4415 (480) 247-4476 (fax)

Mr. Paul Barrett
Princess Cruises
24200 Magic Mountain Parkway
Santa Clarita, CA 91355

June 25, 2009

Golden Princess Metals Investigation

Summary

Samples of water from bunker connections utilized by the Golden Princess were collected by the Environmental Officer in the ports of Juneau, Ketchikan, Victoria, and Seattle from June 1 – 7, 2009 for the analysis of dissolved copper, dissolved nickel, and dissolved zinc. A sample was also sampled from the ship evaporator units.

Samples were filtered following sampling by using a 0.45 micron filter, which removes all particulate matter. The filtrate was then preserved with nitric acid and analyzed for dissolved metals.

A synopsis of the analytical results is listed below. None of the results are above the ADEC general permit interim regulatory limits, but the Victoria and Seattle results show elevated levels of zinc. The evaporator sample also shows elevated levels of copper. A complete report of the final lab results is enclosed, and includes the analytical results, case narratives, and chains of custody.

Sampling Location – Bunkered Water	Sample Date	Dissolved Copper (µg/L)	Dissolved Nickel (µg/L)	Dissolved Zinc (µg/L)
Juneau Bunker Connection (Port 1 Franklin Dock)	06/01/09	2.2	1.3	33
Skagway Bunker Connection	06/02/09	3.2	1.5	49
Victoria Bunker Station	06/05/09	2.6	2.8	120
Seattle Bunker Station	06/06/09	2.5	<1	130
Evaporators	06/07/09	49	2.3	60

Kindest Regards,

David Wetzel
Admiralty Environmental



Revised
06/25/09

June 25, 2009

David Wetzel
Admiralty Environmental, LLC
431 N. Franklin St.
Suite 101
Juneau, AK 99801

Work Order No.: ME0906450

RE: Golden Princess - AE 2553

Dear David Wetzel:

Microbac Laboratories, Inc. received 5 samples on 6/10/2009 9:35:00 AM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Carey A. Gadzala".

Carey A. Gadzala
Project Manager

Enclosures

CC:
Jessy Kidd



Revised
06/25/09

WORK ORDER SAMPLE SUMMARY

Date: *Thursday, June 25, 2009*

CLIENT: Admiralty Environmental, LLC
Project: Golden Princess - AE 2553
Lab Order: ME0906450

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0906450-01A	Juneau Bunker Connectio	AE 2553	6/1/2009 6:15:00 PM	6/10/2009
ME0906450-02A	Skagway Bunker Connec	AE 2553	6/2/2009 5:15:00 PM	6/10/2009
ME0906450-03A	Victoria Bunker Station	AE 2553	6/5/2009 11:00:00 PM	6/10/2009
ME0906450-04A	Seattle Bunker Station	AE 2553	6/6/2009 2:00:00 PM	6/10/2009
ME0906450-05A	Evaporators	AE 2553	6/7/2009 5:00:00 PM	6/10/2009



Revised
06/25/09

ANALYTICAL RESULTS

Date: Thursday, June 25, 2009

Client: Admiralty Environmental, LLC
Client Project: Golden Princess - AE 2553
Client Sample ID: Juneau Bunker Connection Port 1 Franklin Dock **Work Order / ID:** ME0906450-01A
Sample Description: AE 2557 **Collection Date:** 06/01/09 18:15
Sample Matrix: Aqueous **Date Received:** 06/10/09 09:35

Analyses	ST	Result	MDL	RL	Qual	Units	DF	Analyzed
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DISSOLVED METALS		Method: 200.8_R5.4		Prep Date/Time: 06/10/09 14:45 Analyst: RPL				
Copper	A	2.2	0.05	1.0		µg/L	5	06/11/09 15:37
Nickel	A	1.3	0.03	1.0		µg/L	5	06/11/09 15:37
Zinc	A	33	1.4	2.5		µg/L	5	06/11/09 15:37



Revised
06/25/09

ANALYTICAL RESULTS

Date: Thursday, June 25, 2009

Client: Admiralty Environmental, LLC
Client Project: Golden Princess - AE 2553
Client Sample ID: Skagway Bunker Connection
Sample Description: AE 2557
Sample Matrix: Aqueous

Work Order / ID: ME0906450-02A
Collection Date: 06/02/09 17:15
Date Received: 06/10/09 09:35

Analyses	ST	Result	MDL	RL	Qual	Units	DF	Analyzed
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DISSOLVED METALS		Method: 200.8_R5.4		Prep Date/Time: 06/10/09 14:45 Analyst: RPL				
Copper	A	3.2	0.05	1.0		µg/L	5	06/11/09 15:55
Nickel	A	1.5	0.03	1.0		µg/L	5	06/11/09 15:55
Zinc	A	49	1.4	2.5		µg/L	5	06/11/09 15:55



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06/25/09

ANALYTICAL RESULTS

Date: Thursday, June 25, 2009

Client: Admiralty Environmental, LLC
Client Project: Golden Princess - AE 2553
Client Sample ID: Victoria Bunker Station
Sample Description: AE 2557
Sample Matrix: Aqueous

Work Order / ID: ME0906450-03A
Collection Date: 06/05/09 23:00
Date Received: 06/10/09 09:35

Analyses	ST	Result	MDL	RL	Qual	Units	DF	Analyzed
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DISSOLVED METALS		Method: 200.8_R5.4		Prep Date/Time: 06/10/09 14:45 Analyst: RPL				
Copper	A	2.6	0.05	1.0		µg/L	5	06/11/09 16:01
Nickel	A	2.8	0.03	1.0		µg/L	5	06/11/09 16:01
Zinc	A	120	1.4	2.5		µg/L	5	06/11/09 16:01



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ANALYTICAL RESULTS

Date: Thursday, June 25, 2009

Client: Admiralty Environmental, LLC
Client Project: Golden Princess - AE 2553
Client Sample ID: Seattle Bunker Station
Sample Description: AE 2557
Sample Matrix: Aqueous

Work Order / ID: ME0906450-04A
Collection Date: 06/06/09 14:00
Date Received: 06/10/09 09:35

Analyses	ST	Result	MDL	RL	Qual	Units	DF	Analyzed
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DISSOLVED METALS		Method: 200.8_R5.4		Prep Date/Time: 06/10/09 14:45 Analyst: RPL				
Copper	A	2.5	0.05	1.0		µg/L	5	06/11/09 16:06
Nickel	A	ND	0.03	1.0	J	µg/L	5	06/11/09 16:06
Zinc	A	130	1.4	2.5		µg/L	5	06/11/09 16:06



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ANALYTICAL RESULTS

Date: Thursday, June 25, 2009

Client:	Admiralty Environmental, LLC		
Client Project:	Golden Princess - AE 2553		
Client Sample ID:	Evaporators	Work Order / ID:	ME0906450-05A
Sample Description:	AE 2557	Collection Date:	06/07/09 17:00
Sample Matrix:	Aqueous	Date Received:	06/10/09 09:35

Analyses	ST	Result	MDL	RL	Qual	Units	DF	Analyzed
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DISSOLVED METALS		Method: 200.8_R5.4		Prep Date/Time: 06/10/09 14:45 Analyst: RPL				
Copper	A	49	0.05	1.0		µg/L	5	06/11/09 16:11
Nickel	A	2.3	0.03	1.0		µg/L	5	06/11/09 16:11
Zinc	A	60	1.4	2.5		µg/L	5	06/11/09 16:11



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FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

Table with abbreviations and definitions: NA = Not Analyzed, mg/L = Milligrams per Liter (ppm), U = Undetected, J = Analyte concentration detected between RL and MDL, etc.

SAMPLE TYPES

Table with sample types and definitions: A = Analyte, I = Internal Standard, S = Surrogate, T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

Table with QC sample identifications and definitions: MBLK = Method Blank, DUP = Method Duplicate, LCS = Laboratory Control Sample, etc.

CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted.

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #1755266)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-03)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-8)
- Kentucky DEP for the chemical analysis of drinking water (lab #90147)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #75)
- New York SDH for the chemical analysis of air and emissions (lab #11909)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Tennessee DEC for the chemical analysis of drinking water (lab #04017)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

MICROBAC LOCATIONS, SERVICE CENTERS (SC) AND SATELLITE OFFICES (Sat)

Table listing Microbac locations, service centers, and satellite offices: Baltimore Division - Baltimore, MD; Kentucky Division - Louisville, KY; Ohio Valley Division - Marietta, OH; etc.



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06/25/09

COOLER INSPECTION

Date: Thursday, June 25, 2009

Client Name **Admiralty Environmental, LLC**

Date / Time Received: **6/10/2009 9:35:00 AM**

Work Order Number **ME0906450**

Received by: KRS

Checklist completed by KRS | 6/10/2009 9:57:17 AM

Reviewed by KAZ | 6/10/2009 4:08:59 PM

Carrier name: FedEx

- After-Hour Arrival? Yes No
- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody included sufficient client identification? Yes No
- Chain of custody included sufficient sample collector information? Yes No
- Chain of custody included a sample description? Yes No
- Chain of custody agrees with sample labels? Yes No
- Chain of custody identified the appropriate matrix? Yes No
- Chain of custody included date of collection? Yes No
- Chain of custody included time of collection? Yes No
- Chain of custody identified the appropriate number of containers? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- If samples are preserved, are the preservatives identified? Yes No
- Samples properly preserved? Yes No

If No, adjusted by? _____ Date/Time _____

- Chain of custody included the requested analyses? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Samples received on ice? Yes No

Container/Temp Blank temperatures Cooler Temp
1 5 °C

VOA vials for aqueous samples have zero headspace? No VOA vials submitted Yes No

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

General Comments:

Sample ID	Client Sample ID	Comments
ME0906450-01A	Juneau Bunker Connection Port 1 Franklin Dock	
ME0906450-02A	Skagway Bunker Connection	
ME0906450-03A	Victoria Bunker Station	
ME0906450-04A	Seattle Bunker Station	
ME0906450-05A	Evaporators	

CLIENT: Admiralty Environmental, LLC
 Work Order: ME0906450
 Project: Golden Princess - AE 2553

ANALYTICAL QC SUMMARY REPORT

BatchID: 72921

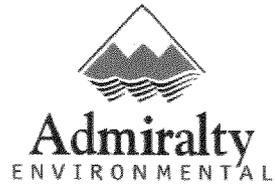
Sample ID: MB090610-7	SampType: MBLK	TestCode: 2008LLD	Units: µg/L	Prep Date: 6/10/2009 2:45:23 PM	Run ID: ICPMS-1_090611B							
Client ID: ZZZZZ	Batch ID: 72921	TestNo: 200.8_r5.4		Analysis Date: 6/11/2009 2:21:00 PM	SeqNo: 2084183							
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.050	1.0									
Nickel	0.1283	0.030	1.0									J
Zinc	ND	1.4	1.0									

Sample ID: LCS090610-7	SampType: LCS	TestCode: 2008LLD	Units: µg/L	Prep Date: 6/10/2009 2:45:23 PM	Run ID: ICPMS-1_090611B							
Client ID: ZZZZZ	Batch ID: 72921	TestNo: 200.8_r5.4		Analysis Date: 6/11/2009 2:26:00 PM	SeqNo: 2084184							
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	205	0.050	1.0	200	0	102	85	115	0	0		
Nickel	1934	0.030	1.0	2000	0.1283	96.7	85	115	0	0		
Zinc	2030	1.4	1.0	2000	0	102	85	115	0	0		

Sample ID: ME0906449-01HMS	SampType: MS	TestCode: 2008LLD	Units: µg/L	Prep Date: 6/10/2009 2:45:23 PM	Run ID: ICPMS-1_090611B							
Client ID: ZZZZZ	Batch ID: 72921	TestNo: 200.8_r5.4		Analysis Date: 6/11/2009 3:27:00 PM	SeqNo: 2084295							
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	221.8	0.050	1.0	200	32.95	94.4	70	130	0	0		
Nickel	1808	0.030	1.0	2000	16.74	89.6	70	130	0	0		
Zinc	1963	1.4	1.0	2000	88.61	93.7	70	130	0	0		

Sample ID: ME0906449-01HMS	SampType: MSD	TestCode: 2008LLD	Units: µg/L	Prep Date: 6/10/2009 2:45:23 PM	Run ID: ICPMS-1_090611B							
Client ID: ZZZZZ	Batch ID: 72921	TestNo: 200.8_r5.4		Analysis Date: 6/11/2009 3:32:00 PM	SeqNo: 2084296							
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	229.5	0.050	1.0	200	32.95	98.3	70	130	221.8	3.41	20	
Nickel	1903	0.030	1.0	2000	16.74	94.3	70	130	1808	5.11	20	
Zinc	2025	1.4	1.0	2000	88.61	96.8	70	130	1963	3.15	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected above reporting limit in the Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits b - Analyte detected below reporting limit in the Method Blank
 H - Analyte was prepared and/or analyzed outside of the analytical method holding time



Admiralty Environmental
 431 N. Franklin, Suite 101
 Juneau, AK 99801
 (907) 463-4415 fax (480) 247-4476

CHAIN OF CUSTODY/TRANSMITTAL RECORD
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ME0906450 ADMIRALTY
 Golden Princess - AE 2557
 6/17/2009
 CAG
 David Wetzel

PROJECT NAME: Golden Princess				Bunker Water Investigation				LGN # <u>0906450</u>				
REPORT TO: Admiralty Environmental				PHONE#: (907) 463-4415				AE 2557 TF <u>Initial Temp. (°C)</u> Small Temp. Blank: _____ Large Temp. Blank: _____				
ADDRESS: 431 N. Franklin St., Suite 101 Juneau, AK 99801				SAMPLED BY: <i>Martin Delgado (EIO)</i>								
Samples taken in the presence of:				# of Bottles	Dissolved Cu, Ni, Zn							
DATE	TIME	SITE DESCRIPTION / IDENTIFIER	MATRIX									
6/1/09	18:15	Juneau Bunker Connection ^{port 1} _{Franklin Dock}	H ₂ O	1	1							
6/2/09	17:15	SKYWAY Bunker Connection ^{Dock No. 2} _{AM-1013}	H ₂ O	1	1							
6/5/09	23:00	VICTORIA Bunker Station	H ₂ O	1	1							
6/6/09	14:00	Seattle Bunker Station	H ₂ O	1	1							
6/7/09	17:00	EVALDATAS	H ₂ O	1	1							
			H ₂ O	1	1							

DATE: <u>6/8/09</u>	RELINQUISHED BY: (signature) <i>[Signature]</i>	RECEIVED BY: (signature) <i>[Signature]</i>	DATE: <u>6/8/09</u>	Section to Be Completed by Receiving Laboratory			
TIME: <u>15:45</u>	RELINQUISHED BY: (print) <u>Martin Delgado (EIO)</u>	RECEIVED BY: (print) <u>David Wetzel</u>	TIME: <u>1545</u>				
DATE: <u>6/9/09</u>	RELINQUISHED BY: (signature) <i>[Signature]</i>	RECEIVED BY: (signature) <i>[Signature]</i>	DATE: <u>6/10/09</u>				
TIME: <u>0930</u>	RELINQUISHED BY: (print) <u>David Wetzel</u>	RECEIVED BY: (print) <u>Ken Smith</u>	TIME: <u>0935</u>				
				Temp/Loc: _____	<u>5</u>	_____	_____
				Thermo ID#: _____	<u>ER</u>	_____	_____
				Condition of Custody Seals: _____	<u>OK</u>	_____	_____
				Initialed By: _____	<u>IS</u>	_____	_____
				Shipped Via: _____	_____	_____	_____

Revised 06/25/09