

The Study on an Environmental Assessment and Monitoring  
of Arabian Gulf in the KSA

**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99013

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T3  
Sampled by : Khaled Al-Rasheed

Sampled : 18/10/99  
Received : 19/10/99  
Completed : 01/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	1	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	ND	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.01	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	0.1	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	2500	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

JIS: Japan Industrial Standards

MHW: Ministry of Health & Welfare

Meteorology Environmental Protection Administration  
Eastern Province  
Tel: 03-857-6260  
Fax: 03-857-6752

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Date: November 27, 1999

Report No. JMP-W99014

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T4  
Sampled by : Khaled Al-Rasheed

Sampled : 18/10/99  
Received : 19/10/99  
Completed : 01/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	9	1	
TOC	JIS K 0102 22.1	mg/L	4	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	ND	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.04	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	2100	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99015

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T6  
Sampled by : Khaled Al-Rasheed

Sampled : 17/10/99  
Received : 18/10/99  
Completed : 20/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	7	1	
TOC	JIS K 0102 22.1	mg/L	12	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	4.2	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.88	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	0.17	0.01	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	0.03	0.01	
Chromium	JIS K 0102 65.1	mg/L	ND	0.1	
Mercury	JEA 59-1	mg/L	ND	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	54	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	15000	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99016

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T7  
Sampled by : Khaled Al-Rasheed

Sampled : 17/10/99  
Received : 18/10/99  
Completed : 20/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	12	1	
TOC	JIS K 0102 22.1	mg/L	11	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	2.7	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.64	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.01	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	26	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	7000	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99017

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T110  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	3	1	
TOC	JIS K 0102 22.1	mg/L	5	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	ND	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.04	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.01	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	ND	0.01	
Chromium	JIS K 0102 65.1	mg/L	ND	0.1	
Mercury	JEA 59-1	mg/L	ND	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	ND	0.005	
Oil & Grease	JEA 64-4	mg/L	ND	0.2	
TPH	JIS K 0102 26	mg/L	0.2	0.2	
Benzene	JIS K 0125	mg/L	ND	0.01	
Toluene	JIS K 0125	mg/L	ND	0.01	
Ethylbenzene	JIS K 0125	mg/L	ND	0.01	
Xylene	JIS K 0125	mg/L	ND	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	5500	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99018

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T120  
Sampled by : Khaled Al-Rasheed

Sampled : 17/10/99  
Received : 18/10/99  
Completed : 20/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	10	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	ND	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.01	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	1.7	0.1	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	0.03	0.01	
Chromium	JIS K 0102 65.1	mg/L	ND	0.1	
Mercury	JEA 59-1	mg/L	ND	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	3.8	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99019

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K1  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 10/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	4	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	ND	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	ND	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99020

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K2  
Sampled by : Khaled Al-Rasheed

Sampled : 16/10/99  
Received : 16/10/99  
Completed : 20/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	3.5	0.5	
TSS	JEA 59-8	mg/L	3	1	
TOC	JIS K 0102 22.1	mg/L	48	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	90	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.20	0.01	
Cyanogen	JIS K 0102 38	mg/L	ND	0.01	
Magnesium	JIS K 0102 51.2	g/L	0.13	0.01	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	0.20	0.01	
Chromium	JIS K 0102 65.1	mg/L	0.20	0.1	
Mercury	JEA 59-1	mg/L	ND	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	0.6	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	34000	10	

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The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99021

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K3  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 10/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	5	1	
TOC	JIS K 0102 22.1	mg/L	3	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.01	0.01	
Cyanoger	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	0.3	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99022

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K4  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	3	1	
TOC	JIS K 0102 22.1	mg/L	2	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	ND	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.10	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	ND	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	33000	10	

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The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99023

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K5  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	16	0.5	
TSS	JEA 59-8	mg/L	8	1	
TOC	JIS K 0102 22.1	mg/L	5	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	0.4	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	1.0	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	0.02	0.01	
Chromium	JIS K 0102 65.1	mg/L	ND	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	ND	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	8000	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

JIS: Japan Industrial Standards

MHW: Ministry of Health & Welfare

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99024

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K6  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	4	1	
TOC	JIS K 0102 22.1	mg/L	2	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	0.02	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	1.8	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	11500	10	

DLR: Detection Limit for Reporting

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MHW: Ministry of Health & Welfare

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99025

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K7  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	ND	0.5	
TSS	JEA 59-8	mg/L	-	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	-	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	1.8	0.1	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	ND	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99026

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K8  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	ND	0.5	
TSS	JEA 59-8	mg/L	-	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	-	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	1.9	0.1	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	ND	0.01	
Chromium	JIS K 0102 65.1	mg/L	ND	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	ND	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99027

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H1  
Sampled by : Khaled Busbait

Sampled : 06/11/99  
Received : 06/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	1	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	ND	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	0.1	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99028

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H2  
Sampled by : Khaled Busbait

Sampled : 06/11/99  
Received : 06/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	-	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	-	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	0.3	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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MHW: Ministry of Health & Welfare

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99029

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H40  
Sampled by : Khaled Busbait

Sampled : 25/10/99  
Received : 25/10/99  
Completed : 26/10/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	ND	1	
TOC	JIS K 0102 22.1	mg/L	-	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	-	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	-	0.01	
Cobalt	JIS K 0102 60.2	mg/L	-	0.05	
Copper	JIS K 0102 52.2	mg/L	-	0.05	
Lead	JIS K 0102 54.2	mg/L	-	0.1	
Nickel	JIS K 0102 59.2	mg/L	-	0.05	
Zinc	JIS K 0102 53.2	mg/L	-	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-W99030

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H50  
Sampled by : Khaled Busbait

Sampled : 25/10/99  
Received : 25/10/99  
Completed : 20/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Residual Chlorine	JIS K 0102 33.3	mg/L	-	0.5	
TSS	JEA 59-8	mg/L	ND	1	
TOC	JIS K 0102 22.1	mg/L	2	1	
NH <sub>3</sub>	JIS K 0102 42	mg/L	-	0.2	
Total Phosphorus	JIS K 0102 46	mg/L	-	0.01	
Cyanogen	JIS K 0102 38	mg/L	-	0.01	
Magnesium	JIS K 0102 51.2	g/L	-	0.1	
Cadmium	JIS K 0102 55.2	mg/L	ND	0.01	
Cobalt	JIS K 0102 60.2	mg/L	ND	0.05	
Copper	JIS K 0102 52.2	mg/L	ND	0.05	
Lead	JIS K 0102 54.2	mg/L	ND	0.1	
Nickel	JIS K 0102 59.2	mg/L	ND	0.05	
Zinc	JIS K 0102 53.2	mg/L	ND	0.01	
Chromium	JIS K 0102 65.1	mg/L	-	0.1	
Mercury	JEA 59-1	mg/L	-	0.005	
Arsenic	JIS K 0102 61.2	mg/L	-	0.01	
Phenols	JIS K 0102 28	mg/L	-	0.005	
Oil & Grease	JEA 64-4	mg/L	-	0.2	
TPH	JIS K 0102 26	mg/L	-	0.2	
Benzene	JIS K 0125	mg/L	-	0.01	
Toluene	JIS K 0125	mg/L	-	0.01	
Ethylbenzene	JIS K 0125	mg/L	-	0.01	
Xylene	JIS K 0125	mg/L	-	0.01	
Chlorophyll a	MHW VI-20.2	ug/L	-	0.1	
Total Coliform	MNW VIII-5.4	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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MHW: Ministry of Health & Welfare

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99001

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : DD2O  
Sampled by : Khaled Busbait

Sampled : 30/10/99  
Received : 01/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	13.4	0.1	
TOC	MOOPAM IV.4	%	3.2	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	19	5	
Copper	JEA II 6	mg/kg	12	5	
Lead	JEA II 7	mg/kg	35	20	
Nickel	JEA II 6	mg/kg	31	10	
Zinc	JEA II 9	mg/kg	16	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	19	5	
Benzene	JIS K 0125	mg/kg	ND	2	
Toluene	JIS K 0125	mg/kg	ND	2	
Ethylbenzene	JIS K 0125	mg/kg	ND	2	
Xylene	JIS K 0125	mg/kg	ND	2	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

JIS: Japan Industrial Standards

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99002

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J1  
Sampled by : Khaled Busbait

Sampled : 30/10/99  
Received : 01/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	18.9	0.1	
TOC	MOOPAM IV.4	%	2.1	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	24	5	
Copper	JEA II 6	mg/kg	21	5	
Lead	JEA II 7	mg/kg	40	20	
Nickel	JEA II 6	mg/kg	71	10	
Zinc	JEA II 9	mg/kg	22	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	ND	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	15	5	
Benzene	JIS K 0125	mg/kg	ND	2	
Toluene	JIS K 0125	mg/kg	ND	2	
Ethylbenzene	JIS K 0125	mg/kg	ND	2	
Xylene	JIS K 0125	mg/kg	ND	2	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

JIS: Japan Industrial Standards

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99003

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J2  
Sampled by : Khaled Busbait

Sampled : 30/10/99  
Received : 01/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	5.1	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	20	5	
Copper	JEA II 6	mg/kg	14	5	
Lead	JEA II 7	mg/kg	43	20	
Nickel	JEA II 6	mg/kg	28	10	
Zinc	JEA II 9	mg/kg	11	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	17	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

JIS: Japan Industrial Standards

EPA: U.S. Environmental Protection Agency

The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99004

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J4  
Sampled by : Khaled Busbait

Sampled : 30/10/99  
Received : 01/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	-	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	-	1	
Cobalt	JEA II 6	mg/kg	-	5	
Copper	JEA II 6	mg/kg	-	5	
Lead	JEA II 7	mg/kg	-	20	
Nickel	JEA II 6	mg/kg	-	10	
Zinc	JEA II 9	mg/kg	-	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

JEA: Japan Environmental Agency

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

JIS: Japan Industrial Standards

EPA: U.S. Environmental Protection Agency

The Study on an Environmental Assessment and Monitoring  
of Arabian Gulf in the KSA

**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99005

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J5  
Sampled by : Khaled Busbait

Sampled : 31/10/99  
Received : 02/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.7	0.1	
TOC	MOOPAM IV.4	%	0.4	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	11	5	
Copper	JEA II 6	mg/kg	6	5	
Lead	JEA II 7	mg/kg	21	20	
Nickel	JEA II 6	mg/kg	25	10	
Zinc	JEA II 9	mg/kg	13	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	ND	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99006

Sample Site : The Gulf Coast, JICA Project

Sampled : 31/10/99

Type of Sample : Sediment

Received : 02/11/99

Sample ID# : J6

Completed : 24/11/99

Sampled by : Khaled Busbait

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	4.0	0.1	
TOC	MOOPAM IV.4	%	1.2	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	15	5	
Copper	JEA II 6	mg/kg	9	5	
Lead	JEA II 7	mg/kg	31	20	
Nickel	JEA II 6	mg/kg	20	10	
Zinc	JEA II 9	mg/kg	ND	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	ND	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	10	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99007

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J7  
Sampled by : Khaled Busbait

Sampled : 31/10/99  
Received : 02/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	3.1	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	16	5	
Copper	JEA II 6	mg/kg	ND	5	
Lead	JEA II 7	mg/kg	30	20	
Nickel	JEA II 6	mg/kg	20	10	
Zinc	JEA II 9	mg/kg	ND	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99008

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J80  
Sampled by : Khaled Busbait

Sampled : 08/11/99  
Received : 08/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	-	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	14	5	
Lead	JEA II 7	mg/kg	35	20	
Nickel	JEA II 6	mg/kg	20	10	
Zinc	JEA II 9	mg/kg	10	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	9	5	
Benzene	JIS K 0125	mg/kg	ND	2	
Toluene	JIS K 0125	mg/kg	ND	2	
Ethylbenzene	JIS K 0125	mg/kg	ND	2	
Xylene	JIS K 0125	mg/kg	ND	2	

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The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99009

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R1  
Sampled by : Khaled Al-Rasheed

Sampled : 08/11/99  
Received : 08/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	6.7	0.1	
TOC	MOOPAM IV.4	%	1.5	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	20	5	
Copper	JEA II 6	mg/kg	20	5	
Lead	JEA II 7	mg/kg	48	20	
Nickel	JEA II 6	mg/kg	35	10	
Zinc	JEA II 9	mg/kg	70	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	ND	5	
Benzene	JIS K 0125	mg/kg	ND	2	
Toluene	JIS K 0125	mg/kg	ND	2	
Ethylbenzene	JIS K 0125	mg/kg	ND	2	
Xylene	JIS K 0125	mg/kg	ND	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99010

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R2  
Sampled by : Khaled Al-Rasheed

Sampled : 20/10/99  
Received : 20/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.7	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	6	5	
Lead	JEA II 7	mg/kg	26	20	
Nickel	JEA II 6	mg/kg	21	10	
Zinc	JEA II 9	mg/kg	16	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	ND	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99011

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R40  
Sampled by : Khaled Al-Rasheed

Sampled : 08/11/99  
Received : 08/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.9	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	7	5	
Lead	JEA II 7	mg/kg	36	20	
Nickel	JEA II 6	mg/kg	21	10	
Zinc	JEA II 9	mg/kg	ND	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	ND	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	38	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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Meteorology Environmental Protection Administration  
Eastern Province  
Tel: 03-857-6260  
Fax: 03-857-6752

The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99012

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T2  
Sampled by : Khaled Al-Rasheed

Sampled : 18/10/99  
Received : 19/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	3.1	0.1	
TOC	MOOPAM IV 4	%	0.4	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	6	5	
Lead	JEA II 7	mg/kg	35	20	
Nickel	JEA II 6	mg/kg	19	10	
Zinc	JEA II 9	mg/kg	ND	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99013

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T4  
Sampled by : Khaled Al-Rasheed

Sampled : 18/10/99  
Received : 19/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	11.7	0.1	
TOC	MOOPAM IV.4	%	3.4	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	22	5	
Copper	JEA II 6	mg/kg	40	5	
Lead	JEA II 7	mg/kg	57	20	
Nickel	JEA II 6	mg/kg	51	10	
Zinc	JEA II 9	mg/kg	10	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	31	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99014

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T6  
Sampled by : Khaled Al-Rasheed

Sampled : 17/10/99  
Received : 18/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.3	0.1	
TOC	MOOPAM IV.4	%	0.6	0.1	
Cadmium	JEA II 6	mg/kg	2	1	
Cobalt	JEA II 6	mg/kg	11	5	
Copper	JEA II 6	mg/kg	8	5	
Lead	JEA II 7	mg/kg	27	20	
Nickel	JEA II 6	mg/kg	19	10	
Zinc	JEA II 9	mg/kg	24	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	96	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99015

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T80  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.5	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	-	1	
Cobalt	JEA II 6	mg/kg	-	5	
Copper	JEA II 6	mg/kg	-	5	
Lead	JEA II 7	mg/kg	-	20	
Nickel	JEA II 6	mg/kg	-	10	
Zinc	JEA II 9	mg/kg	-	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99016

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T110  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.7	0.1	
TOC	MOOPAM IV.4	%	0.2	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	10	5	
Copper	JEA II 6	mg/kg	6	5	
Lead	JEA II 7	mg/kg	24	20	
Nickel	JEA II 6	mg/kg	29	10	
Zinc	JEA II 9	mg/kg	23	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	0.28	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	ND	5	
Benzene	JIS K 0125	mg/kg	ND	2	
Toluene	JIS K 0125	mg/kg	ND	2	
Ethylbenzene	JIS K 0125	mg/kg	ND	2	
Xylene	JIS K 0125	mg/kg	ND	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99017

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K1  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	26.4	0.1	
TOC	MOOPAM IV.4	%	0.6	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	19	5	
Copper	JEA II 6	mg/kg	7	5	
Lead	JEA II 7	mg/kg	39	20	
Nickel	JEA II 6	mg/kg	22	10	
Zinc	JEA II 9	mg/kg	13	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99018

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K2  
Sampled by : Khaled Al-Rasheed

Sampled : 16/10/99  
Received : 16/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	10.7	0.1	
TOC	MOOPAM IV.4	%	4.1	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	16	5	
Copper	JEA II 6	mg/kg	41	5	
Lead	JEA II 7	mg/kg	56	20	
Nickel	JEA II 6	mg/kg	48	10	
Zinc	JEA II 9	mg/kg	2100	10	
Chromium	JEA II 12.1	mg/kg	570	50	
Mercury	JEA II 5.1	mg/kg	0.16	0.05	
Vanadium	JEA II 6	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99019

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K3  
Sampled by : Khaled Al-Rasheed

Sampled : 23/10/99  
Received : 24/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	4.7	0.1	
TOC	MOOPAM IV.4	%	1.1	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	9	5	
Lead	JEA II 7	mg/kg	42	20	
Nickel	JEA II 6	mg/kg	22	10	
Zinc	JEA II 9	mg/kg	130	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99020

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K4  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	5.2	0.1	
TOC	MOOPAM IV.4	%	1.5	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	18	5	
Copper	JEA II 6	mg/kg	14	5	
Lead	JEA II 7	mg/kg	36	20	
Nickel	JEA II 6	mg/kg	28	10	
Zinc	JEA II 9	mg/kg	19	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99021

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K5  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	4.3	0.1	
TOC	MOOPAM IV.4	%	1.2	0.1	
Cadmium	JEA II 6	mg/kg	3	1	
Cobalt	JEA II 6	mg/kg	17	5	
Copper	JEA II 6	mg/kg	10	5	
Lead	JEA II 7	mg/kg	36	20	
Nickel	JEA II 6	mg/kg	25	10	
Zinc	JEA II 9	mg/kg	13	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99022

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K6  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	-	0.1	
TOC	MOOPAM IV.4	%	0.9	0.1	
Cadmium	JEA II 6	mg/kg	-	1	
Cobalt	JEA II 6	mg/kg	-	5	
Copper	JEA II 6	mg/kg	-	5	
Lead	JEA II 7	mg/kg	-	20	
Nickel	JEA II 6	mg/kg	-	10	
Zinc	JEA II 9	mg/kg	-	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99023

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K8  
Sampled by : Khaled Al-Rasheed

Sampled : 07/11/99  
Received : 07/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	2.7	0.1	
TOC	MOOPAM IV.4	%	0.3	0.1	
Cadmium	JEA II 6	mg/kg	1	1	
Cobalt	JEA II 6	mg/kg	9	5	
Copper	JEA II 6	mg/kg	10	5	
Lead	JEA II 7	mg/kg	21	20	
Nickel	JEA II 6	mg/kg	23	10	
Zinc	JEA II 9	mg/kg	11	10	
Chromium	JEA II 12.1	mg/kg	ND	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99024

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : HI  
Sampled by : Khaled Busbait

Sampled : 06/11/99  
Received : 06/11/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%		0.1	
TOC	MOOPAM IV.4	%	0.2	0.1	
Cadmium	JEA II 6	mg/kg	-	1	
Cobalt	JEA II 6	mg/kg	-	5	
Copper	JEA II 6	mg/kg	-	5	
Lead	JEA II 7	mg/kg	-	20	
Nickel	JEA II 6	mg/kg	-	10	
Zinc	JEA II 9	mg/kg	-	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: November 27, 1999

Report No. JMP-S99025

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : H50  
Sampled by : Khaled Busbait

Sampled : 25/10/99  
Received : 25/10/99  
Completed : 24/11/99

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	JEA II 4	%	1.2	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	JEA II 6	mg/kg	ND	1	
Cobalt	JEA II 6	mg/kg	ND	5	
Copper	JEA II 6	mg/kg	ND	5	
Lead	JEA II 7	mg/kg	ND	20	
Nickel	JEA II 6	mg/kg	10	10	
Zinc	JEA II 9	mg/kg	ND	10	
Chromium	JEA II 12.1	mg/kg	-	50	
Mercury	JEA II 5.1	mg/kg	-	0.05	
Vanadium	JEA II 6	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	JIS K 0125	mg/kg	-	2	
Toluene	JIS K 0125	mg/kg	-	2	
Ethylbenzene	JIS K 0125	mg/kg	-	2	
Xylene	JIS K 0125	mg/kg	-	2	

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**The Study on an Environmental Assessment and Monitoring  
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**LABORATORY ANALYSIS REPORT**

**July, 2000**

**JICA & MEPA Study Team**

The Study on an Environmental Assessment and Monitoring  
of Arabian Gulf in the KSA

**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00001

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : DD20  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 26/06/00  
Completed : 02/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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EPA: U.S. Environmental Protection Agency

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Laboratory Director

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00002

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J1  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	2	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.1	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	ND	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	ND	0.005	
Magnesium	SM 3111 B	g/L	1.6	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	ND	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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MEPA Environmental

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Laboratory Director

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Tel: 03-857-6260  
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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00003

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J2  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 02/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	ND	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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Laboratory Director

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00004

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J4  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 05/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.2	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	0.3	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

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MEPA Environmental

Laboratory Director

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Tel: 03-857-6260  
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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00005

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J5  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	2	1	
TOC	SM 5310 B	mg/L	3	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	1.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.1	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	ND	0.005	
Magnesium	SM 3111 B	g/L	1.6	0.1	
Phenols	EPA 420.1	mg/L	ND	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00006

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J6  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	3	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.3	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	1.0	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

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Meteorology Environmental Protection Administration  
Eastern Province  
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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00007

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J7  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	2	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.2	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	ND	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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EPA: U.S. Environmental Protection Agency

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Laboratory Director

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00008

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : J80  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 27/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	4	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	ND	0.2	
TPH	EPA 418.1	mg/L	ND	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00009

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : R1  
Sampled by : Adel Kusti

Sampled : 20/06/00  
Received : 20/06/00  
Completed : 27/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	0.2	0.2	
TPH	EPA 418.1	mg/L	ND	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00010

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : R40  
Sampled by : Adel Kusti

Sampled : 20/06/00  
Received : 20/06/00  
Completed : 27/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	ND	0.2	
Benzene	Headspace-GC/FID	mg/L	ND	0.01	
Toluene	Headspace-GC/FID	mg/L	ND	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	ND	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00011

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T2  
Sampled by : Adel Kusti

Sampled : 19/06/00  
Received : 19/06/00  
Completed : 28/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.3	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	ND	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.01	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	0.6	0.1	
Total Coliform	SM 9222 B	pcs/100ml	680	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00012

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T3  
Sampled by : Adel Kusti

Sampled : 19/06/00  
Received : 19/06/00  
Completed : 28/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	2	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.2	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	ND	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.01	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	0.6	0.1	
Total Coliform	SM 9222 B	pcs/100ml	1,100	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00013

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T4  
Sampled by : Adel Kusti

Sampled : 19/06/00  
Received : 19/06/00  
Completed : 27/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	7	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.1	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.03	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	1,200	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00014

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water, Outfall  
Sample ID# : T6  
Sampled by : Adel Kusti

Sampled : 11/06/00  
Received : 11/06/00  
Completed : 15/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	25	1	
TOC	SM 5310 B	mg/L	19	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	12	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	9.8	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	1.5	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	0.22	0.01	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	10.0	0.1	
Total Coliform	SM 9222 B	pcs/100ml	1,100,000	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00015

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T7  
Sampled by : Adel Kusti

Sampled : 11/06/00  
Received : 11/06/00  
Completed : 15/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	13	1	
TOC	SM 5310 B	mg/L	6	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	1.5	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.1	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.12	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	12.0	0.1	
Total Coliform	SM 9222 B	pcs/100ml	1,900	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00016

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T110  
Sampled by : Adel Kusti

Sampled : 17/06/00  
Received : 17/06/00  
Completed : 21/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	8	1	
TOC	SM 5310 B	mg/L	5	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.1	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.04	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	ND	0.005	
Oil & Grease	EPA 413.2	mg/L	0.2	0.2	
TPH	EPA 418.1	mg/L	ND	0.2	
Benzene	Headspace-GC/FID	mg/L	ND	0.01	
Toluene	Headspace-GC/FID	mg/L	ND	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	ND	0.01	
Xylene	Headspace-GC/FID	mg/L	ND	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	290	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00017

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : T120  
Sampled by : Adel Kusti

Sampled : 11/06/00  
Received : 11/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	4	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.9	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.2	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.03	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	2.0	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	0.8	0.1	
Total Coliform	SM 9222 B	pcs/100ml	1,900	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00018

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K1  
Sampled by : Adel Kusti

Sampled : 14/06/00  
Received : 14/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	4	1	
TOC	SM 5310 B	mg/L	5	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.2	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.01	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	ND	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00019

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water, Outfall  
Sample ID# : K2  
Sampled by : Adel Kusti

Sampled : 17/06/00  
Received : 17/06/00  
Completed : 21/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	6	1	
TOC	SM 5310 B	mg/L	5	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	100	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	71	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.39	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	ND	0.005	
Magnesium	SM 3111 B	g/L	0.1	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	0.8	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	920,000	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00020

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K3  
Sampled by : Adel Kusti

Sampled : 14/06/00  
Received : 14/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	5	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	2.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.02	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	0.3	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00021

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K4  
Sampled by : Adel Kusti

Sampled : 12/06/00  
Received : 12/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	5	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.8	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	0.1	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.07	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	ND	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	13,000	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00022

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K5  
Sampled by : Adel Kusti

Sampled : 12/06/00  
Received : 12/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	9	1	
TOC	SM 5310 B	mg/L	6	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	3.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	2.4	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.75	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	0.2	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	900	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00023

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K6  
Sampled by : Adel Kusti

Sampled : 12/06/00  
Received : 12/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	3	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.5	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.02	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	2.2	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	0.2	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	5,200	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00024

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K7  
Sampled by : Adel Kusti

Sampled : 13/06/00  
Received : 13/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	2.5	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00025

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : K8  
Sampled by : Adel Kusti

Sampled : 13/06/00  
Received : 13/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	2.8	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00026

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H1  
Sampled by : Adel Kusti

Sampled : 11/06/00  
Received : 11/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	3	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.5	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.01	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	1.1	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00027

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H2  
Sampled by : Adel Kusti

Sampled : 18/06/00  
Received : 18/06/00  
Completed : 19/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	1.1	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00028

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H3O-surface  
Sampled by : Adel Kusti

Sampled : 18/06/00  
Received : 18/06/00  
Completed : 20/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	3	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	0.4	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.01	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00029

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H3O-bottom  
Sampled by : Adel Kusti

Sampled : 18/06/00  
Received : 18/06/00  
Completed : 20/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	-	1	
TOC	SM 5310 B	mg/L	7	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	1.1	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	0.08	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00030

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H4O  
Sampled by : Adel Kusti

Sampled : 10/06/00  
Received : 10/06/00  
Completed : 11/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	5	1	
TOC	SM 5310 B	mg/L	-	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	-	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-W00031

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sea Water  
Sample ID# : H50  
Sampled by : Adel Kusti

Sampled : 10/06/00  
Received : 10/06/00  
Completed : 18/06/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
TSS	SM 2540 D	mg/L	5	1	
TOC	SM 5310 B	mg/L	4	1	
TKN	SM 4500-N <sub>org</sub> B	mg/L	-	0.1	
NH <sub>3</sub>	SM 4500-NH <sub>3</sub> B, F	mg/L	-	0.1	
Total Phosphorus	SM 4500-P B, E	mg/L	-	0.01	
Cyanogen	SM 4500-CN C, E	mg/L	-	0.005	
Magnesium	SM 3111 B	g/L	-	0.1	
Phenols	EPA 420.1	mg/L	-	0.005	
Oil & Grease	EPA 413.2	mg/L	ND	0.2	
TPH	EPA 418.1	mg/L	-	0.2	
Benzene	Headspace-GC/FID	mg/L	-	0.01	
Toluene	Headspace-GC/FID	mg/L	-	0.01	
Ethylbenzene	Headspace-GC/FID	mg/L	-	0.01	
Xylene	Headspace-GC/FID	mg/L	-	0.01	
Chlorophyll a	SM 10200 H	ug/L	-	0.1	
Total Coliform	SM 9222 B	pcs/100ml	-	10	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00002

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J1  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	10.5	0.1	
TOC	MOOPAM IV.4	%	2.4	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	7	5	
Copper	EPA 3050 B	mg/kg	13	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	38	10	
Zinc	EPA 3050 B	mg/kg	17	1	
Chromium	EPA 3050 B	mg/kg	19	10	
Mercury	EPA 3050 B	mg/kg	ND	0.05	
Arsenic	EPA 7471 A	mg/kg	1.5	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	18	5	
Benzene	EPA 5021	mg/kg	ND	0.1	
Toluene	EPA 5021	mg/kg	ND	0.1	
Ethylbenzene	EPA 5021	mg/kg	ND	0.1	
Xylene	EPA 5021	mg/kg	ND	0.1	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00003

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J2  
Sampled by : Adel Kusti

Sampled : 25/06/00  
Received : 26/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	5.3	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	6	5	
Copper	EPA 3050 B	mg/kg	7	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	23	10	
Zinc	EPA 3050 B	mg/kg	12	1	
Chromium	EPA 3050 B	mg/kg	10	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	14	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

DLR: Detection Limit for Reporting

ND: Not Detected at the DLR

SM: Standard Methods for the Analysis of Water and Wastewater

MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00004

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J5  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	9.8	0.1	
TOC	MOOPAM IV.4	%	1.9	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	24	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	31	10	
Zinc	EPA 3050 B	mg/kg	39	1	
Chromium	EPA 3050 B	mg/kg	18	10	
Mercury	EPA 3050 B	mg/kg	ND	0.05	
Arsenic	EPA 7471 A	mg/kg	1.6	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	25	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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MOOPAM: Manual of Oceanographic Observations and Pollutant Analysis Methods, ROPME

EPA: U.S. Environmental Protection Agency

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00005

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J6  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	3.0	0.1	
TOC	MOOPAM IV.4	%	0.7	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	ND	1	
Chromium	EPA 3050 B	mg/kg	ND	10	
Mercury	EPA 3050 B	mg/kg	ND	0.05	
Arsenic	EPA 7471 A	mg/kg	1.3	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	12	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00006

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J7  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	3.0	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	3	1	
Chromium	EPA 3050 B	mg/kg	-	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00007

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : J8O  
Sampled by : Adel Kusti

Sampled : 24/06/00  
Received : 25/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	1.5	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	10	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	21	1	
Chromium	EPA 3050 B	mg/kg	ND	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	70	5	
Benzene	EPA 5021	mg/kg	ND	0.1	
Toluene	EPA 5021	mg/kg	ND	0.1	
Ethylbenzene	EPA 5021	mg/kg	ND	0.1	
Xylene	EPA 5021	mg/kg	ND	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00008

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R1  
Sampled by : Adel Kusti

Sampled : 20/06/00  
Received : 20/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	5.2	0.1	
TOC	MOOPAM IV.4	%	1.1	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	31	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	13	10	
Zinc	EPA 3050 B	mg/kg	73	1	
Chromium	EPA 3050 B	mg/kg	-	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	31	5	
Benzene	EPA 5021	mg/kg	ND	0.1	
Toluene	EPA 5021	mg/kg	ND	0.1	
Ethylbenzene	EPA 5021	mg/kg	ND	0.1	
Xylene	EPA 5021	mg/kg	ND	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00009

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R2  
Sampled by : Adel Kusti

Sampled : 20/06/00  
Received : 20/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	2.2	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	2	1	
Chromium	EPA 3050 B	mg/kg	ND	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	21	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00010

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : R40  
Sampled by : Adel Kusti

Sampled : 20/06/00  
Received : 20/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	3.0	0.1	
TOC	MOOPAM IV.4	%	-	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	3	1	
Chromium	EPA 3050 B	mg/kg	ND	10	
Mercury	EPA 3050 B	mg/kg	ND	0.05	
Arsenic	EPA 7471 A	mg/kg	1.0	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	32	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00011

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T2  
Sampled by : Adel Kusti

Sampled : 19/06/00  
Received : 19/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	4.1	0.1	
TOC	MOOPAM IV.4	%	1.3	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	10	1	
Chromium	EPA 3050 B	mg/kg	-	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00012

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T4  
Sampled by : Adel Kusti

Sampled : 19/06/00  
Received : 19/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	9.7	0.1	
TOC	MOOPAM IV.4	%	3.2	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	39	5	
Lead	EPA 3050 B	mg/kg	35	20	
Nickel	EPA 3050 B	mg/kg	27	10	
Zinc	EPA 3050 B	mg/kg	1,400	1	
Chromium	EPA 3050 B	mg/kg	-	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	1.8	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	178	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00013

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T6  
Sampled by : Adel Kusti

Sampled : 11/06/00  
Received : 11/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	6.1	0.1	
TOC	MOOPAM IV.4	%	1.8	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	15	5	
Lead	EPA 3050 B	mg/kg	26	20	
Nickel	EPA 3050 B	mg/kg	18	10	
Zinc	EPA 3050 B	mg/kg	68	1	
Chromium	EPA 3050 B	mg/kg	21	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	197	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00014

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : T110  
Sampled by : Adel Kusti

Sampled : 17/06/00  
Received : 17/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	3.6	0.1	
TOC	MOOPAM IV.4	%	0.9	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	9	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	13	10	
Zinc	EPA 3050 B	mg/kg	33	1	
Chromium	EPA 3050 B	mg/kg	11	10	
Mercury	EPA 3050 B	mg/kg	0.52	0.05	
Arsenic	EPA 7471 A	mg/kg	1.7	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	33	5	
Benzene	EPA 5021	mg/kg	ND	0.1	
Toluene	EPA 5021	mg/kg	ND	0.1	
Ethylbenzene	EPA 5021	mg/kg	ND	0.1	
Xylene	EPA 5021	mg/kg	ND	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00015

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K1  
Sampled by : Adel Kusti

Sampled : 14/06/00  
Received : 14/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	5.6	0.1	
TOC	MOOPAM IV.4	%	2.5	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	ND	5	
Lead	EPA 3050 B	mg/kg	ND	20	
Nickel	EPA 3050 B	mg/kg	ND	10	
Zinc	EPA 3050 B	mg/kg	20	1	
Chromium	EPA 3050 B	mg/kg	ND	10	
Mercury	EPA 3050 B	mg/kg	-	0.05	
Arsenic	EPA 7471 A	mg/kg	-	0.1	
Vanadium	EPA 3050 B	mg/kg	-	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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**LABORATORY ANALYSIS REPORT**

Date: July 18, 2000

Report No. JMP-S00016

Sample Site : The Gulf Coast, JICA Project  
Type of Sample : Sediment  
Sample ID# : K2  
Sampled by : Adel Kusti

Sampled : 17/06/00  
Received : 17/06/00  
Completed : 12/07/00  
QA/QC ID# :

**Analytical Results**

Parameter	Method	Unit	Result	DLR	Note
Loss on Ignition	SM 2540 B	%	18.2	0.1	
TOC	MOOPAM IV.4	%	10.4	0.1	
Cadmium	EPA 3050 B	mg/kg	ND	1	
Cobalt	EPA 3050 B	mg/kg	ND	5	
Copper	EPA 3050 B	mg/kg	71	5	
Lead	EPA 3050 B	mg/kg	37	20	
Nickel	EPA 3050 B	mg/kg	47	10	
Zinc	EPA 3050 B	mg/kg	44,000	1	
Chromium	EPA 3050 B	mg/kg	700	10	
Mercury	EPA 3050 B	mg/kg	0.19	0.05	
Arsenic	EPA 7471 A	mg/kg	14.2	0.1	
Vanadium	EPA 3050 B	mg/kg	ND	100	
TPH	EPA 3550 B	mg/kg	-	5	
Benzene	EPA 5021	mg/kg	-	0.1	
Toluene	EPA 5021	mg/kg	-	0.1	
Ethylbenzene	EPA 5021	mg/kg	-	0.1	
Xylene	EPA 5021	mg/kg	-	0.1	

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