

REPORT ON CHEMICAL ANALYSIS OF SOIL

Customer	: ENVIRONMENTAL SOLUTIONS & CONSULTANCY		
Address	: P.O. Box 68595, 408, Sarah Shopping Mall, Rolla Bank Street, Sharjah, United Arab Emirates		
Contractor	: Not Applicable	Consultant	: Not Applicable
Project number	: Not Applicable	Client	: SEWA
Project name	: Baseline Terrestrial Environmental Survey @ Layyah Combined Cycled Thermal Power Plant	Project location	: Sharjah
Report number	: RP-247052-18	Report date	: 17/07/2018
Job order number	: JO-262-14	Date sample received	: 08/07/2018
Sample number	: SA-155846-18	Time sample received	: 17:00 Hrs
Sampling ref. #	: SC-24985-18	Sampling location	: SQ1
Sampling procedure ref.	: ASTM D75/D75 M -14	Sampled by	: Rak Lab representative
Sampling condition	: Sunny	Sample brought in by	: Rak Lab representative
Sampling date & time	: 08/07/2018 , 11:00 Hrs	Sampling method variation	: None
Sample description	: Soil	Senders ref. #	: N#252118.93 E#55223.73
Sample size	: 10 kg (Approximate)	Condition of sample	: Moist
Source of sample	: Not Given		

Test Data

Date test started	: 09/07/2018	Date test completed	: 16/07/2018
Tested by	: NH/AH/SC*		

PARAMETERS	UNITS	RESULTS
Moisture	% by weight	0.56
pH @ 25°C	-	7.54
Conductivity @ 25°C	µmhos/cm	21600
Chloride (Cl)	mg/kg	6736
Total Alkalinity	mg/kg	28
Total Nitrogen (TN)	mg/kg	55
Phosphate (PO ₄)	mg/kg	0.5
*Total Petroleum Hydrocarbons		<0.01
Potassium (K)	mg/kg	156.5
Nickel (Ni)	mg/kg	<0.01
Arsenic (As)	mg/kg	<0.01
Copper (Cu)	mg/kg	<0.01
Iron (Fe)	mg/kg	<0.01
Zinc (Zn)	mg/kg	0.04
Manganese (Mn)	mg/kg	<0.01
*Mercury (Hg)	mg/kg	<0.001
Lead (Pb)	mg/kg	<0.01
Cadmium (Cd)	mg/kg	<0.01
Chromium (Cr)	mg/kg	<0.01
Selenium (Se)	mg/kg	<0.01
Barium (Ba)	mg/kg	0.09

Test methods : 1. BS 1377 - 3: 1990
2. APHA 22nd: 2012
3. EPA 8015 , 3350C

Test method variation : None

Remarks : None



Joseph Rego, Laboratory Manager
For RAK lab L.L.C., Ras Al Khaimah

Baseline Environmental Survey Reports – Marine Environment



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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08032	REPORT#	CR54926S1	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
Water sample . Seq. # SW1
Description: Sea Water
N 25°21'47.2"
E 55°22' 1.5"
Location: SW1 - Harbour
Project Name: SEWA (P695)
Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:45 Hrs.
Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.02
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	6.0
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	38.3
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	27296
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.95
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.04
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3435
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	9400
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	44300
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method

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LB-019 TEST

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	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description	Water sample . Seq. # SW1 Description: Sea Water N 25°21'47.2" E 55°22' 1.5" Location: SW1 - Harbour Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:45 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.
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TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	628
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	554
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14510
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1902
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08032	REPORT#	CR5492851	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW1
 Description: Sea Water
 N 25°21'47.2"
 E 65°22' 1.5"
 Location: SW1 - Harbour
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:45 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

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Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08033	REPORT#	CR54926S2	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW2
 Description: Sea Water
 N 25°22'08.9"
 E 55°12' 19.8"
 Location: SW2 - Arabian Gulf
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:37 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.03
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	6.0
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	33.8
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25186
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.59
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.08
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3124
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	8350
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	43400
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

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CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW2 Description: Sea Water N 25°22'08.9" E 55°12' 19.8" Location: SW2 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:37 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	546
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	517
Sodium, mg/L	US EPA SW 846/6010 B	1.4	13940
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1701
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

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CLIENT	Environmental Solutions And Consultancy			ATTENTION	Ms. Azra				
	PO BOX 68595			TEST METHOD	As Below				
	SHARJAH			ANALYSIS DATE	23-JUL-2018				
	UNITED ARAB EMIRATES			ANALYST	BCS/BCV/BCT/BDH				

Sample Description
 Water sample . Seq. # SW2
 Description: Sea Water
 N 25°22'08.9"
 E 55°12' 19.8"
 Location: SW2 - Arabian Gulf
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:37 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected (i.e., below PQL)
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Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08034	REPORT#	CR54926S3	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW3 Description: Sea Water N 25°22'52.3" E 55°22' 52.6" Location: SW3 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:30 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.08
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.7
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25243
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	1.1
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.03
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3144
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	8300
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	43200
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

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CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW3 Description: Sea Water N 25°22'52.3" E 55°22' 52.6" Location: SW3 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:30 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	507
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	536
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14310
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1717
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

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	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW3
 Description: Sea Water
 N 25°22'52.3"
 E 55°22' 52.6"
 Location: SW3 - Arabian Gulf
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:30 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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 Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08035	REPORT#	CR54926S4	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:68595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW4
 Description: Sea Water
 N 25°22'48.2"
 E 55°23' 30.6"
 Location: SW4 - Sharjah Creek Entry.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:15 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.07
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.5
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.7
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25201
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	1.0
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.05
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3177
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7750
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42800
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

QC SEAL MANDATORY

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Analytical Chemistry Section Water Analysis Report

DATE: 02-AUG-2018	SAMPLE#: 300 - 18-08035	REPORT#: CR54926S4	REVISION#: 0	JOB#: 82935
CLIENT	Environmental Solutions And Consultancy	ATTENTION	Ms. Azra	
	PO BOX:88895	TEST METHOD	As Below	
	SHARJAH	ANALYSIS DATE	23-JUL-2018	
	UNITED ARAB EMIRATES	ANALYST	BCS/BCV/BCT/BDH	

Sample Description
 Water sample . Seq. # SW4
 Description: Sea Water
 N 25°22'48.2"
 E 55°23' 30.6"
 Location: SW4 - Sharjah Creek Entry.
 Project Name: SEWA (P895)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:15 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	75	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.07	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	457
Chromium, mg/L	US EPA SW 846/6010 B	0.068	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.07	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.8	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	527
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14240
Zinc, mg/L	US EPA SW 846/6010 B	0.15	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1613
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected (i.e., below PQL)
 PQL = Practical Quantitation Limit of the test method

QC SEAL MANDATORY

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ATL 02422

Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08035	REPORT#	CR54926S4	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX-68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW4
 Description: Sea Water
 N 25°22'48.2"
 E 55°23' 30.8"
 Location: SW4 - Sharjah Creek Entry.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:15 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08036	REPORT#	CR54926S5	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW5
 Description: Sea Water
 N 25°23'53.2"
 E 55°42' 27.0"
 Location: SW5 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:34 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	7.98
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.8
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.2
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	25186
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.80
Nitrogen (Ammonia), mg/L	APHA 4500 NH3 F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO2 ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO3 ⁻ B	0.01	0.03
Sulfates, mg/L	APHA 4500 SO4 ²⁻ E	1.0	3118
Total Hardness as CaCO3, mg/L	APHA 2340 C (Hardness EDTA)	1.0	7950
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	41800
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08036	REPORT#	CR54926S5	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description	Water sample . Seq. # SW5 Description: Sea Water N 25°23'53.2" E 55°42' 27.0" Location: SW5 - Arabian Gulf. Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:34 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.
---------------------------	--

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	467
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	542
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14200
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1645
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08036	REPORT#	CR5492685	REVISIONS	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68935			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW5
 Description: Sea Water
 N 25°23'53.2"
 E 55°42' 27.0"
 Location: SW5 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 11:34 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08037	REPORT#	CR54926S6	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW6
 Description: Sea Water
 N 25°23'08.0"
 E 55°21' 48.0"
 Location: SW6 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:04 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.10
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	33.7
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	25170
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.62
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.04
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3105
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7600
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42100
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e. below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08037	REPORT#	CR54926S6	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW6
 Description: Sea Water
 N 25°23'08.0"
 E 55°21' 48.0"
 Location: SW6 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:04 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	443
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	521
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14010
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1574
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

QC SEAL MANDATORY

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 Email: Testing@Lonestar-Lab.com
 Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-06037	REPORT#	CR5492686	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION	Ms. Azra				
	PO BOX:68585			TEST METHOD	As Below				
	SHARJAH			ANALYSIS DATE	23-JUL-2018				
	UNITED ARAB EMIRATES			ANALYST	BCS/BCV/BCT/BDH				

Sample Description
 Water sample . Seq. # SW6
 Description: Sea Water
 N 25°23'08.0"
 E 55°21' 48.0"
 Location: SW6 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 08:04 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected Lc., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

QC SEAL MANDATORY



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 Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08038	REPORT#	CR54926S7	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW7
 Description: Sea Water
 N 25°21'21.0"
 E 55°21' 48.0"
 Location: SW7 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 07:25 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.05
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	33.7
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25201
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.47
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.02
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3155
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7750
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42600
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08038	REPORT#	CR54926S7	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW7
 Description: Sea Water
 N 25°21'21.0"
 E 55°21' 48.0"
 Location: SW7 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 07:25 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	453
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	542
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14440
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1611
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method

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Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08038	REPORT#	CR54926S7	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:68595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW7 Description: Sea Water N 25°21'21.0" E 55°21' 48.0" Location: SW7 - Arabian Gulf. Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 07:25 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08039	REPORT#	CR54926S8	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW8 Description: Sea Water N 25°21'33.8" E 55°20' 52.5" Location: SW8 - Arabian Gulf. Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:10 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.11
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	6.1
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.0
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	25219
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	1.1
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.02
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3163
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7700
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42100
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08039	REPORT#	CR54926S8	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW8
 Description: Sea Water
 N 25°21'33.8"
 E 55°20' 52.5"
 Location: SW8 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:10 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	446
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	531
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14330
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1596
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-06039	REPORT#	CR54926S8	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW8
 Description: Sea Water
 N 25°21'33.8"
 E 55°20' 52.5"
 Location: SW8 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:10 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08040	REPORT#	CR54926S9	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
Water sample . Seq. # SW9
Description: Sea Water
N 25°20'34.0"
E 55°21' 18.0"
Location: SW9 - Arabian Gulf.
Project Name: SEWA (P695)
Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 06:46 Hrs.
Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.08
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	33.8
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	24638
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.56
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.13
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	2764
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	8100
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42500
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantification Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08040	REPORT#	CR54926S9	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW9
 Description: Sea Water
 N 25°20'34.0"
 E 55°21' 18.0"
 Location: SW9 - Arabian Gulf.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 06:46 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	492
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	541
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14290
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1680
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08040	REPORT#	CR54926S9	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water sample . Seq. # SW9 Description: Sea Water N 25°20'34.0" E 55°21' 18.0" Location: SW9 - Arabian Gulf. Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 06:46 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 848/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 848/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08041	REPORT#	CR54926S10	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW10
 Description: Sea Water
 N 25°19'42"
 E 55°21'49.21"
 Location: SW10 - AL Khan Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 13:02 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.02
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.8
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.7
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	25116
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.76
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.03
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3129
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7300
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	41900
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

QC SEAL MANDATORY

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08041	REPORT#	CR54926S10	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW10
 Description: Sea Water
 N 25°19'42"
 E 55°21'49.21"
 Location: SW10 - AL Khan Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 13:02 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	411
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	542
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14680
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1527
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE: 02-AUG-2018	SAMPLE#: 300 - 18-08041	REPORT#: CR54928S10	REVISION#: 0	JOB#: 82935
CLIENT	Environmental Solutions And Consultancy	ATTENTION	Ms. Azra	
	PO BOX:68595	TEST METHOD	As Below	
	SHARJAH	ANALYSIS DATE	23-JUL-2018	
	UNITED ARAB EMIRATES	ANALYST	BCS/BCV/BCT/BDH	

Sample Description
 Water sample . Seq. # SW10
 Description: Sea Water
 N 25°19'42"
 E 55°21'49.21"
 Location: SW10 - AL Khan Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 13:02 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08042	REPORT#	CR54926S11	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description	Water sample . Seq. # SW11 Description: Sea Water N 25°21'43.0" E 55°22'59.2" Location: SW11 - Sharjah Creek. Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 09:46 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.
---------------------------	--

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.09
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	34.3
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 CI G	0.005	N/D
Chlorides, mg/L	APHA 4500 CI ⁻ B	1.0	25398
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.84
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.02
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3253
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7800
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	41500
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08042	REPORT#	CR54926S11	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW11
 Description: Sea Water
 N 25°21'43.0"
 E 55°22'59.2"
 Location: SW11 - Sharjah Creek.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 09:46 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	465
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	534
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14580
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1616
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
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Analytical Chemistry Section Water Analysis Report

DATE: 02-AUG-2018	SAMPLE#: 300 - 18-08042	REPORT#: CR54926S11	REVISION#: 0	JOB#: 82935
CLIENT	Environmental Solutions And Consultancy	ATTENTION	Ms. Azra	
	PO BOX:69595	TEST METHOD	As Below	
	SHARJAH	ANALYSIS DATE	23-JUL-2018	
	UNITED ARAB EMIRATES	ANALYST	BCS/BCV/BCT/BDH	

Sample Description
 Water sample . Seq. # SW11
 Description: Sea Water
 N 25°21'43.0"
 E 55°22'59.2"
 Location: SW11 - Sharjah Creek.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 09:46 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
° Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
° Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08043	REPORT#	CR54926S12	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW12
 Description: Sea Water
 N 25°21'43.0"
 E 55°22'59.2"
 Location: SW12 - Khalid Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 10:25 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.02
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	35.2
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25019
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.65
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.02
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3090
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7550
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42200
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08043	REPORT#	CR54926S12	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			

Sample Description
 Water sample . Seq. # SW12
 Description: Sea Water
 N 25°21'43.0"
 E 55°22'59.2"
 Location: SW12 - Khalid Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 10:25 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	449
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	527
Sodium, mg/L	US EPA SW 846/6010 B	1.4	14360
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1559
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

QC SEAL MANDATORY

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Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE: 02-AUG-2018	SAMPLE#: 300 - 18-08043	REPORT#: CR54926S12	REVISION#: 0	JOB#: 82935
CLIENT	Environmental Solutions And Consultancy	ATTENTION	Ms. Azra	
	PO BOX:68595	TEST METHOD	As Below	
	SHARJAH	ANALYSIS DATE	23-JUL-2018	
	UNITED ARAB EMIRATES	ANALYST	BCS/BCV/BCT/BDH	

Sample Description
 Water sample . Seq. # SW12
 Description: Sea Water
 N 25°21'43.0"
 E 55°22'59.2"
 Location: SW12 - Khalid Lagoon.
 Project Name: SEWA (P695)
 Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 10:25 Hrs.
 Date and time received: 23-Jul-2018 @ 15:00 Hrs.

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

QC SEAL MANDATORY

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08044	REPORT#	CR54926S13	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION	Ms. Azra				
	PO BOX:68595			TEST METHOD	As Below				
	SHARJAH			ANALYSIS DATE	23-JUL-2018				
	UNITED ARAB EMIRATES			ANALYST	BCS/BCV/BCT/BDH				
Sample Description	Water Sample Collected from Out Fall Channel #1 Location: Layyah Power Station. Seq.# 13 Project Name: SEWA (P695)								

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.04
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	40.9
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	27536
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.77
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.03
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3551
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	9000
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	44800
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantification Limit of the test method

QC SEAL MANDATORY

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LB-019 TEST

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 Website: www.Lonestar-Lab.com



Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08044	REPORT#	CR54926S13	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water Sample Collected from Out Fall Channel #1 Location: Layyah Power Station. Seq.# 13 Project Name: SEWA (P695)								

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	585
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	566
Sodium, mg/L	US EPA SW 846/6010 B	1.4	15130
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1832
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08044	REPORT#	CR54926S13	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water Sample Collected from Out Fall Channel #1 Location: LAYYAH Power Station. Seq.# 13 Project Name: SEWA (P695)								

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08045	REPORT#	CR54926S14	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water Sample Collected from Out Fad Channel #2 Location: Layyah Power Station. Seq.# 14 Project Name: SEWA (P695)								

TEST	TEST METHOD	PQL	RESULT
PHYSICAL PARAMETERS			
pH Value	APHA 4500 H+	0.1	8.09
Dissolved Oxygen, mg/L	APHA 4500 O G	0.1	5.9
Turbidity, NTU	APHA 2130 B	1.0	N/D
Temperature, ° C	APHA 2550 B	0.1	41.6
CHEMICAL PARAMETERS			
Chlorine (Residual), mg/L	APHA 4500 Cl G	0.005	N/D
Chlorides, mg/L	APHA 4500 Cl ⁻ B	1.0	25036
Fluorides, mg/L	APHA 4500 F ⁻ D	0.05	0.57
Nitrogen (Ammonia), mg/L	APHA 4500 NH ₃ F	0.01	N/D
Nitrogen Nitrites, mg/L	APHA 4500 NO ₂ ⁻ B	0.05	N/D
Nitrogen Nitrates, mg/L	APHA 4500 NO ₃ ⁻ B	0.01	0.02
Sulfates, mg/L	APHA 4500 SO ₄ ²⁻ E	1.0	3095
Total Hardness as CaCO ₃ , mg/L	APHA 2340 C (Hardness EDTA)	1.0	7800
Total Dissolved Solids dried @ 180° C, mg/L	APHA 2540 C	10	42000
Total Suspended Solids dried @ 103 - 105° C, mg/L	APHA 2540 D	10	N/D
Biochemical Oxygen Demand, mg/L	APHA 5210 B	2.0	N/D
Chemical Oxygen Demand, mg/L	APHA 5220 B	1.0	N/D
Oil and Grease, mg/L	APHA 5520 B	1.3	N/D
Phenols, mg/L	APHA 5530 C&D	0.1	N/D
Surfactants, µg/L	APHA 5540 C	10	N/D
Carbonates, mg/L	APHA 2320 B	1.0	N/D
Phosphates, mg/L	APHA 4500 P E	0.03	N/D
Total Nitrogen, mg/L	APHA 4500 N C	1.0	N/D
Chlorophyll a, mg/m ³	APHA 10200 H	1	N/D

N/D = Not Detected i.e., below PQL
PQL = Practical Quantitation Limit of the test method

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08045	REPORT#	CR54926S14	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:68595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BCV/BCT/BDH			
Sample Description	Water Sample Collected from Out Fad Channel #2 Location: Layyah Power Station. Seq.# 14 Project Name: SEWA (P695)								

TEST	TEST METHOD	PQL	RESULT
BACTERIOLOGICAL PARAMETERS			
Total Coliforms, cfu/100mL	APHA 9222 B	1.0	N/D
Escherichia Coli, cfu/100mL	APHA 9221 F	1.0	N/D
METALS			
Aluminum, mg/L	US EPA SW 846/6010 B	0.2	N/D
Arsenic, µg/L	US EPA SW 846/6010 B	10	N/D
Cadmium, mg/L	US EPA SW 846/6010 B	0.003	N/D
Calcium, mg/L	US EPA SW 846/6010 B	0.02	499
Chromium, mg/L	US EPA SW 846/6010 B	0.01	N/D
Cobalt, mg/L	US EPA SW 846/6010 B	0.066	N/D
Copper, mg/L	US EPA SW 846/6010 B	0.005	N/D
Iron, mg/L	US EPA SW 846/6010 B	0.5	N/D
Lead, mg/L	US EPA SW 846/6010 B	0.08	N/D
Potassium, mg/L	US EPA SW 846/6010 B	2.2	525
Sodium, mg/L	US EPA SW 846/6010 B	1.4	13760
Zinc, mg/L	US EPA SW 846/6010 B	0.012	N/D
Nickel, mg/L	US EPA SW 846/6010 B	0.063	N/D
Magnesium, mg/L	US EPA SW 846/6010 B	0.01	1590
Mercury, mg/L	US EPA SW 846/7470 A	0.0005	N/D

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Analytical Chemistry Section Water Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08045	REPORT#	CR54928S14	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:68595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BCV/BCT/BDH			

Sample Description Water Sample Collected from Out Fad Channel #2
 Location: Layah Power Station, Seq.# 14
 Project Name: SEWA (P695)

TEST	TEST METHOD	PQL	RESULT
TOTAL PETROLEUM HYDROCARBONS			
* Gasoline Range Organics (C6 - C9), µg/L	US EPA SW 846/8015 B	119	N/D
* Diesel Range Organics (C10 - C30), µg/L	US EPA SW 846/8015 B	80	N/D
* Heavy Fractions (>C30), mg/L	US EPA 1664	1	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	

End Of Report

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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08046	REPORT#	CR55018S1	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION		Ms. Azra		
	PO BOX:68595				TEST METHOD		As Below		
	SHARJAH				ANALYSIS DATE		23-JUL-2018		
	UNITED ARAB EMIRATES				ANALYST		BCS/BDD/BDG/BCT		
Sample Description	Sediment sample . Seq. # MS 2/ SW Description: Sediment N 25°22'52.3" E 55°22' 52.6" Location: MS2 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 10:56 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								
TEST				TEST METHOD		PQL		RESULT	
CHEMICAL PARAMETERS									
Sulfates, mg/Kg				US EPA SW 846/9038		5		208	
Total Organic Carbon, wt. %				US EPA SW 846/9060		0.5		N/D	
Total Phosphates, mg/Kg				APHA 4500 P, C (Mod)		1		N/D	
Nitrates, mg/Kg				US EPA CE 81/1		1		14	
Nitrogen (Ammonia), mg/Kg				APHA 4500 NH3, E (Mod.)		5		N/D	
Total Nitrogen, mg/Kg				APHA 4500 Norg, B (Mod.)		0.5		3.2	
METALS									
Aluminum, mg/Kg				US EPA SW 846/6010 B		7.9		244	
Arsenic, mg/Kg				US EPA SW 846/6010 B		1.2		N/D	
Cadmium, mg/Kg				US EPA SW 846/6010 B		2.2		N/D	
Chromium, mg/Kg				US EPA SW 846/6010 B		0.95		1.0	
Copper, mg/Kg				US EPA SW 846/6010 B		1.4		N/D	
Iron, mg/Kg				US EPA SW 846/6010 B		0.05		616	
Lead, mg/Kg				US EPA SW 846/6010 B		1.8		N/D	
Nickel, mg/Kg				US EPA SW 846/6010 B		0.5		N/D	
Zinc, mg/Kg				US EPA SW 846/6010 B		0.23		3.0	
Mercury, mg/Kg				US EPA SW 846/7471 A		0.025		N/D	
<small>N/D = Not Detected i.e., below PQL PQL = Practical Quantitation Limit of the test method</small>									
Approved by					Checked by				
Name	M.Mubin Shaikh				Name	Arun Tom Mathew			
Designation	Chemistry Manager				Designation	Assistant Manager			
Signature					Signature				
End Of Report									



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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08047	REPORT#	CR55018S2	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:68595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BDD/BDG/BCT			
Sample Description	Sediment sample . Seq. # MS 3 Description: Sediment N 25°20'37.2" E 55°22' 56.40" Location: MS 3 - Khalid Lagoon Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 09:15 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
CHEMICAL PARAMETERS			
Sulfates, mg/Kg	US EPA SW 846/9038	5	604
Total Organic Carbon, wt. %	US EPA SW 846/9060	0.5	1.01
Total Phosphates, mg/Kg	APHA 4500 P, C (Mod)	1	N/D
Nitrates, mg/Kg	US EPA CE 81/1	1	23
Nitrogen (Ammonia), mg/Kg	APHA 4500 NH3, E (Mod.)	5	N/D
Total Nitrogen, mg/Kg	APHA 4500 Norg, B (Mod.)	0.5	5.3
METALS			
Aluminum, mg/Kg	US EPA SW 846/6010 B	7.9	63
Arsenic, mg/Kg	US EPA SW 846/6010 B	1.2	N/D
Cadmium, mg/Kg	US EPA SW 846/6010 B	2.2	N/D
Chromium, mg/Kg	US EPA SW 846/6010 B	0.95	N/D
Copper, mg/Kg	US EPA SW 846/6010 B	1.4	1.5
Iron, mg/Kg	US EPA SW 846/6010 B	0.05	323
Lead, mg/Kg	US EPA SW 846/6010 B	1.8	N/D
Nickel, mg/Kg	US EPA SW 846/6010 B	0.5	N/D
Zinc, mg/Kg	US EPA SW 846/6010 B	0.23	4.4
Mercury, mg/Kg	US EPA SW 846/7471 A	0.025	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantification Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08048	REPORT#	CR55018S3	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:58595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BDD/BDG/BCT			
Sample Description	Sediment sample . Seq. # MS 5/ SW 5 Description: Sediment N 25°23'53.2" E 55°42' 56.27.0" Location: MS 5 - Arabian Gulf Project Name: SEWA (P895) Sampled by: Client. Sampling date and time: 19-Jul-2018. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
CHEMICAL PARAMETERS			
Sulfates, mg/Kg	US EPA SW 846/9038	5	1798
Total Organic Carbon, wt. %	US EPA SW 846/9080	0.5	0.58
Total Phosphates, mg/Kg	APHA 4500 P, C (Mod)	1	N/D
Nitrates, mg/Kg	US EPA CE 81/1	1	40
Nitrogen (Ammonia), mg/Kg	APHA 4500 NH3, E (Mod.)	5	8.4
Total Nitrogen, mg/Kg	APHA 4500 Norg, B (Mod.)	0.5	17
METALS			
Aluminum, mg/Kg	US EPA SW 846/6010 B	7.9	1202
Arsenic, mg/Kg	US EPA SW 846/6010 B	1.2	N/D
Cadmium, mg/Kg	US EPA SW 846/6010 B	2.2	N/D
Chromium, mg/Kg	US EPA SW 846/6010 B	0.95	19
Copper, mg/Kg	US EPA SW 846/6010 B	1.4	42
Iron, mg/Kg	US EPA SW 846/6010 B	0.05	1820
Lead, mg/Kg	US EPA SW 846/6010 B	1.8	N/D
Nickel, mg/Kg	US EPA SW 846/6010 B	0.5	12
Zinc, mg/Kg	US EPA SW 846/6010 B	0.23	68
Mercury, mg/Kg	US EPA SW 846/7471 A	0.025	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08049	REPORT#	CR55018S4	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION		Ms. Azra		
	PO BOX:68595				TEST METHOD		As Below		
	SHARJAH				ANALYSIS DATE		23-JUL-2018		
	UNITED ARAB EMIRATES				ANALYST		BCS/BDD/BDG/BCT		
Sample Description	Sediment sample . Seq. # MS 8 Description: Sediment N 25°21'33.8" E 55°20' 52.5" Location: MS 8 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 12:00 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
CHEMICAL PARAMETERS			
Sulfates, mg/Kg	US EPA SW 846/9038	5	597
Total Organic Carbon, wt. %	US EPA SW 846/9060	0.5	N/D
Total Phosphates, mg/Kg	APHA 4500 P, C (Mod)	1	N/D
Nitrates, mg/Kg	US EPA CE 81/1	1	39
Nitrogen (Ammonia), mg/Kg	APHA 4500 NH3, E (Mod.)	5	N/D
Total Nitrogen, mg/Kg	APHA 4500 Norg, B (Mod.)	0.5	8.8
METALS			
Aluminum, mg/Kg	US EPA SW 846/6010 B	7.9	57
Arsenic, mg/Kg	US EPA SW 846/6010 B	1.2	N/D
Cadmium, mg/Kg	US EPA SW 846/6010 B	2.2	N/D
Chromium, mg/Kg	US EPA SW 846/6010 B	0.95	N/D
Copper, mg/Kg	US EPA SW 846/6010 B	1.4	N/D
Iron, mg/Kg	US EPA SW 846/6010 B	0.05	226
Lead, mg/Kg	US EPA SW 846/6010 B	1.8	N/D
Nickel, mg/Kg	US EPA SW 846/6010 B	0.5	N/D
Zinc, mg/Kg	US EPA SW 846/6010 B	0.23	N/D
Mercury, mg/Kg	US EPA SW 846/7471 A	0.025	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08050	REPORT#	CR55018S5	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy			ATTENTION		Ms. Azra			
	PO BOX:88595			TEST METHOD		As Below			
	SHARJAH			ANALYSIS DATE		23-JUL-2018			
	UNITED ARAB EMIRATES			ANALYST		BCS/BDD/BDG/BCT			
Sample Description	Sediment sample . Seq. # MS 9 Description: Sediment N 25°20'34" E 55°21' 18.0" Location: MS 9 - Arabian Gulf Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 06:40 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
CHEMICAL PARAMETERS			
Sulfates, mg/Kg	US EPA SW 846/9038	5	559
Total Organic Carbon, wt. %	US EPA SW 846/9060	0.5	N/D
Total Phosphates, mg/Kg	APHA 4500 P, C (Mod)	1	N/D
Nitrates, mg/Kg	US EPA CE 81/1	1	33
Nitrogen (Ammonia), mg/Kg	APHA 4500 NH3, E (Mod.)	5	9.1
Total Nitrogen, mg/Kg	APHA 4500 Norg, B (Mod.)	0.5	17
METALS			
Aluminum, mg/Kg	US EPA SW 846/6010 B	7.9	864
Arsenic, mg/Kg	US EPA SW 846/6010 B	1.2	N/D
Cadmium, mg/Kg	US EPA SW 846/6010 B	2.2	N/D
Chromium, mg/Kg	US EPA SW 846/6010 B	0.95	7.4
Copper, mg/Kg	US EPA SW 846/6010 B	1.4	2.8
Iron, mg/Kg	US EPA SW 846/6010 B	0.05	1541
Lead, mg/Kg	US EPA SW 846/6010 B	1.8	N/D
Nickel, mg/Kg	US EPA SW 846/6010 B	0.5	7.8
Zinc, mg/Kg	US EPA SW 846/6010 B	0.23	7.9
Mercury, mg/Kg	US EPA SW 846/7471 A	0.025	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

QC SEAL MANDATORY



Lonestar Technical Services (L.L.C.)

(Engineering, Inspection, Testing & Lab Services)

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Analytical Chemistry Section Sediment Analysis Report

DATE	02-AUG-2018	SAMPLE#	300 - 18-08051	REPORT#	CR55018S6	REVISION#	0	JOB#	82935
CLIENT	Environmental Solutions And Consultancy				ATTENTION	Ms. Azra			
	PO BOX:68595				TEST METHOD	As Below			
	SHARJAH				ANALYSIS DATE	23-JUL-2018			
	UNITED ARAB EMIRATES				ANALYST	BCS/BDD/BDG/BCT			
Sample Description	Sediment sample . Seq. # MS 10 Description: Sediment N 25°19'40.20" E 55°21' 49.7" Location: MS 10 - AL Khan Lagoon Project Name: SEWA (P695) Sampled by: Client. Sampling date and time: 19-Jul-2018 @ 13:10 Hrs. Date and time received: 23-Jul-2018 @ 15:00 Hrs.								

TEST	TEST METHOD	PQL	RESULT
CHEMICAL PARAMETERS			
Sulfates, mg/Kg	US EPA SW 846/9038	5	730
Total Organic Carbon, wt. %	US EPA SW 846/9060	0.5	N/D
Total Phosphates, mg/Kg	APHA 4500 P, C (Mod)	1	N/D
Nitrates, mg/Kg	US EPA CE 81/1	1	41
Nitrogen (Ammonia), mg/Kg	APHA 4500 NH3, E (Mod.)	5	9.0
Total Nitrogen, mg/Kg	APHA 4500 Norg, B (Mod.)	0.5	18
METALS			
Aluminum, mg/Kg	US EPA SW 846/6010 B	7.9	852
Arsenic, mg/Kg	US EPA SW 846/6010 B	1.2	N/D
Cadmium, mg/Kg	US EPA SW 846/6010 B	2.2	N/D
Chromium, mg/Kg	US EPA SW 846/6010 B	0.95	6.1
Copper, mg/Kg	US EPA SW 846/6010 B	1.4	1.9
Iron, mg/Kg	US EPA SW 846/6010 B	0.05	1504
Lead, mg/Kg	US EPA SW 846/6010 B	1.8	N/D
Nickel, mg/Kg	US EPA SW 846/6010 B	0.5	5.1
Zinc, mg/Kg	US EPA SW 846/6010 B	0.23	4.8
Mercury, mg/Kg	US EPA SW 846/7471 A	0.025	N/D

N/D = Not Detected i.e., below PQL
 PQL = Practical Quantitation Limit of the test method



Approved by		Checked by	
Name	M.Mubin Shaikh	Name	Arun Tom Mathew
Designation	Chemistry Manager	Designation	Assistant Manager
Signature		Signature	
End Of Report			

QC SEAL MANDATORY

ANNEXURE 10 – CV's OF STUDY TEAM

Curriculum Vitae's of Study Team

ANNEXURE 11 – PUBLIC ENGAGEMENT REQUEST LETTER

PUBLIC ENGAGEMENT REQUEST LETTER

Mailing to: Sharjah Electricity and Water AuthorityAl Khan Area, Government Departments
Complex Sharjah, UAE**Attention:** Mr. Ali Abbas Yousif Sani, Project Manager

Fax: +971 065288888

Email: ali.yousif@sewa.gov.ae

Our Ref.: LAYYAH-CMEP-SEWA-L-00036**Date:** 31, Oct.2018**Pjt. Code:** ELE-LPS-18-002 Layyah CCGTReply Required: Yes No

Reply Date: 01,Nov.2018

Subject: ESIA - Engagement of Stakeholders and public**Yr. Ref.:**

Dear Sir,

The Consortium would like to seek your preliminary approval and acknowledgment to proceed on engagement of stakeholders including public through our appointed consultant ESC (Environmental Solutions Consultancy) by informing them about the impact of the project in compliance with the IFC (International financial Co-operation) guidelines and Equator principles and as a requirement.

The consortium will submit detailed plan for such engagement for your final approval at a later stage.

We will be usually remaining under your disposition.

Regards,

**Consortium Project Manager** MA RE**Copy:** - LAYYAH.CCGT**Enclosure:** - ESIA - Engagement of Stakeholders and public

The final approval will be given at a later stage
The Consortium is not allowed to interact with public without written approval from SEWA.

31-11-2018
Mr. Ali Sani
Project
Manager

Projects & Development