

Initial Environmental Examination

July 2017

PAK: Multitranche Financing Facility Central Asia
Regional Economic Cooperation Corridor
Development Investment Program

Appendix V to VII

This initial environmental examination is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the [“terms of use”](#) section on ADB's website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

2. Suggested Format For Environmental Performance And Environmental Effects Monitoring Reports For Pre-Construction, Construction and Operation Phases,

Monitoring Report:					
Introduction and Project Overview:					
Reporting period:					
Last report date:					
Key sub-project activities since last report:					
Report prepared by:					
Environmental Performance Monitoring:					
Summary of Compliance with EMP Requirements (Environmental Performance)					
EMMP Requirement	Compliance Attained (Yes, No, Partial)	Comment on Reasons for Non-Compliance	Issues for Further Action		
1.					
2.					
3.					
Issues for Further Action					
Issue	Cause	Required Action	Responsibility	Timing	Resolution
Old Issues from Previous Reports					
1.					
2.					
New Issues from this Report					
1.					
2.					
Environmental Effects Monitoring					
Environmental Inspection and Monitoring Results					

Monitoring Parameter	Comparison to Relevant Standard / Criteria	Comment on Incidences Expedience	Issues for Further Action		
1.					
2.					
3.					
Issues for Further Action					
Issue	Cause	Required Action	Responsibility	Timing	Resolution
Old Issues from Previous Reports					
1.					
2.					
New Issues from this Report					
1.					
2.					

Appendix-vi

Suggested Template Format for Environmental Compliance Monitoring Reports for Construction Phases

SI No	Observation/ Issues	Action Taken	Compliance: Yes/ No	Recommendation
•	Appointment of environment manager by the contractor,	The contractor yet to be appointed environment manager at the construction site.	Yes /No	Compliances/ Immediate compliance

•	Training to the construction workers	Contractor should organize training to the construction workers,	Yes /No	Compliances/ Immediate compliance
•	Sanitation system in the construction base camps	Appropriate sanitation system should be provided by the NHA Contractor In the residential, office and related buildings	Yes /No	Compliances/ Immediate compliance
•	Extraction of stone/gravel from the quarry area	Collection of permission from Pakistan Environmental Protection Agency (Pak EPA) and Ministry of Mines through NHA and maintain procedure laid down in the Pak EPA'S permission order.	Yes /No	Compliances/ Immediate compliance
•	Land Acquisition issues at the Shikarpur bypass area,	Proper compensation should be made as per Pakistan Law and Legislation,	Yes /No	Compliances/ Immediate compliance
•	Employment of Child Labor	Asian Development Bank prohibits all kinds of child labor, so no child labor be engaged in the construction works,	Yes /No	Compliances/ Immediate compliance
•	Energy Conservation and Management	Equipment energy efficiency should be ascertained prior to procurement,	Yes /No	Compliances/ Immediate compliance

•	personal protective equipment (PPE)	use of Personal Protective Equipment (PPE) e.g., ear protection gear, mask, gloves, goggles, safety shoes, helmet, etc., is compulsory,	Yes /No	Compliances/ Immediate compliance
•	HIV/AIDS like diseases in the labor camp	Woman staff or labor should not be permitted by the contractor live in the general camp,	Yes /No	Compliances/ Immediate compliance
•	Fire fighting equipments in the camp,	Fire fighting equipment's available in the camp,	Yes /No	Compliances/ Immediate compliance
•	Use of Generator for Welding	Equipment meeting the standard will only be used. Welders and helpers are to be provided with dark glasses helmets, hand gloves, professional uniform,	Yes /No	Compliances/ Immediate compliance
•	Compaction of road embankment	Proper compaction should be done mechanically to prevent erosion of embankment and should be compacted at optimum moisture content,	Yes /No	Compliances/ Immediate compliance
•	Storage of imported materials for different construction works,	Contractor will implement strict chemical and solid waste handling and storage practices to prevent	Yes /No	Compliances/ Immediate compliance

		accidental spillage,		
•	Accidental release of ODS and GHG from the machineries to the surrounding environment	Standard construction practices should be implemented by the contractor,	Yes /No	Compliances/ Immediate compliance
•	Tree cutting along the Alignment	Should be planted trees ten time than the cutting trees along the road alignment,	Yes /No	Compliances/ Immediate compliance
•	Wildlife Impact due to construction activities,	Culverts/Bridges should be provided by acceptable numbers along the road alignment,	Yes /No	Compliances/ Immediate compliance
•	Quarry area for stone collection	Collection of permission from Pakistan Environmental Protection Agency (Pak EPA) and Ministry of Mines through NHA and maintain procedure laid down in the Pak EPA'S permission order.	Yes /No	Compliances/ Immediate compliance
•	Waste generation from Camp	Recycle the scrap materials, and store the hazardous waste in waste disposal bins, Dispose the waste from camps at the nearest landfill	Yes /No	Compliances/ Immediate compliance

		site or garbage bins		
•	Transport Movement and accidental leakage	<p>Spray water at the construction site by water springier machine,</p> <p>Use the construction vehicles and machinery properly i.e standard of ISO 9001 certified,</p> <p>Follow the proper rehabilitation procedures to avoid any leak, and</p> <p>In case of any leakage emergency response must be taken immediately.</p>	Yes /No	Compliances/ Immediate compliance

Note:

If Yes= Compliances,

If No= Immediate compliance

- LABORATORY TEST RESULT: AIR QUALITY AND WATER QUALITY:



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Project Name: Associate Consulting Centre Pvt Ltd. (Central Asian Regional Economic Corridor)
Project Location: Dera Adem Khel-Peshawar
Monitoring Point: North Side of the project
Monitoring Time: 01:30 PM
Monitoring Date: 05-09-2016
Reporting Date: 12-09-2016
Monitoring By: SEAL
Reference No.: SEAL/CAREC /16/001 AA

Sr. No.	Parameter	Time Duration	Unit	Results	PAK-NEQS
1	PM ₁₀	1Hour	µg/m ³	98.7	150
2	CO	1 Hour	mg/m ³	2.6	10
3	NO _x as NO ₂	1Hour	µg/m ³	21.7	80
4	SO _x as SO ₂	1Hour	µg/m ³	34.6	120

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiation.

Monitoring Supervisor: Ali Ramzan

Signature: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature: [Signature]

Date: 12-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

Project Name: Associate Consulting Centre Pvt Ltd. (Central Asian Regional Economic Corridor)
Project Location: Rathodero-Shikarpur
Monitoring Point: South Side of the Project
Monitoring Time: 12:35 PM
Monitoring Date: 13-09-2016
Reporting Date: 15-09-2016
Monitoring By: SEAL
Reference No.: SEAL/ CAREC /16/002 AA

Results:-

Sr. No.	Parameter	Time Duration	Unit	Results	PAK-NEQS
1	PM ₁₀	1 Hour	µg/m ³	67.2	150
2	CO	1 Hour	mg/m ³	2.2	10
3	NO _x as NO ₂	1 Hour	µg/m ³	22.2	80
4	SO _x as SO ₂	1 Hour	µg/m ³	29.7	120

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiation.

Monitoring Supervisor: Ali Ramzan
Signature: SHABNAM SHAHZAD
Chief Chemist with Seal: Chief Chemist
Signature: [Signature]
Date: 15-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

AMBIENT AIR MONITORING REPORT

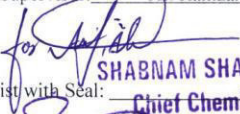
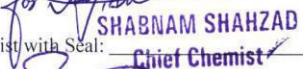

Project Name: Associate Consulting Centre Pvt Ltd. (Central Asian Regional Economic Corridor)
Project Location: Petaro-Shewan
Monitoring Point: Near Main Road
Monitoring Time: 12:50 PM
Monitoring Date: 15-09-2016
Reporting Date: 19-09-2016
Monitoring By: SEAL
Reference No.: SEAL/ CAREC /16/003 AA

Sr. No.	Parameter	Time Duration	Unit	Results	PAK-NEQS
1	PM ₁₀	1Hour	µg/m ³	66.8	150
2	CO	1 Hour	mg/m ³	1.4	10
3	NO _x as NO ₂	1Hour	µg/m ³	18.3	80
4	SO _x as SO ₂	1Hour	µg/m ³	22.9	120

NEQS: National Environmental Quality Standards

Note:

- Quality was assured through self-calibration of the instrument.
- The measurements were carried out on client request.
- The client is responsible lawful usage of reported data in future.
- The report is not valid for any negotiation.

Monitoring Supervisor: Ali Ramzan
Signature: 
Chief Chemist with Seal: 
Signature: 
Date: 19-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)

Project Location: Petaro-Shewan Hand Pump Water in the at Rd 47km

Sampling Point: Hand Pump
Sampling Date: 15-09-2016
Sampling By: SEAL

Nature of Sample: Drinking Water
Reporting Date: 20-09-2016
Reference No.: SEAL/CAREC /16/001 GW

SR. NO.	PARAMETERS	UNITS	NEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.9	In- Compliance
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	01	
4.	Turbidity	NTU	<5	03	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	05	
6.	E-Coli	Number/100 mL	0 Number /100 mL	01	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	350	
8.	Total Hardness	mg/L	<500	128	
9.	Nitrate	mg/L	≤50	1.4	
10.	Nitrite	mg/L	≤3	0.001	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	BDL	
13.	Antimony	mg/L	<0.005	BDL	
14.	Barium	mg/L	0.7	BDL	
15.	Chloride	mg/L	250	67	
16.	Fluoride	mg/L	<1.5	1.2	
17.	Aluminum	mg/L	≤0.2	BDL	
18.	Manganese	mg/L	≤0.5	BDL	
19.	Mercury	mg/L	0.001	BDL	
20.	Iodine	mg/L	—	0.2	
21.	Zinc	mg/L	5	0.54	
22.	Boron	mg/L	0.7	BDL	
23.	Chromium	mg/L	≤0.05	BDL	
24.	Selenium	mg/L	≤0.5	BDL	

HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)

Project Location: Petaro-Shewan Hand Pump Water in the at Rd 47km

Sampling Point: Hand Pump

Nature of Sample: Drinking Water

Sampling Date: 15-09-2016

Reporting Date: 20-09-2016

Sampling By: SEAL

Reference No.: SEAL/CAREC /16/001 GW

21.	Zinc	mg/L	5	0.15
22.	Boron	mg/L	0.7	N.D.
23.	Chromium	mg/L	≤0.05	N.D.
24.	Selenium	mg/L	≤0.5	N.D.

BDL (Below Detection Limits)

PEQS = Punjab Environmental Quality Standards

BDL= Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: Shafique

Date: 20-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331. Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Petaro-Shewan Hand Pump Water in the at Rd 48km
Sampling Point: Hand Pump
Sampling Date: 15-09-2016
Sampling By: SEAL
Nature of Sample: Drinking Water
Reporting Date: 20-09-2016
Reference No.: SEAL/CAREC /16/001 GW

Results:

SR. NO.	PARAMETERS	UNITS	PEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.2	In- Compliance
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	1	
4.	Turbidity	NTU	<5	1	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	10	
6.	E-Coli	Number/100 mL	0 Number /100 mL	10	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	210	
8.	Total Hardness	mg/L	<500	45	
9.	Nitrate	mg/L	≤50	1.1	
10.	Nitrite	mg/L	≤3	0.001	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	N.D.	
13.	Antimony	mg/L	<0.005	N.D.	
14.	Barium	mg/L	0.7	N.D.	
15.	Chloride	mg/L	250	38	
16.	Fluoride	mg/L	<1.5	0.7	
17.	Aluminum	mg/L	≤0.2	N.D.	
18.	Manganese	mg/L	≤0.5	N.D.	
19.	Mercury	mg/L	0.001	N.D.	
20.	Iodine	mg/L	—	0.08	



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Petaro-Shewan Hand Pump Water in the at Rd 48km
Sampling Point: Hand Pump
Sampling Date: 15-09-2016
Sampling By: SEAL
Nature of Sample: Drinking Water
Reporting Date: 20-09-2016
Reference No.: SEAL/CAREC /16/001 GW

21.	Zinc	mg/L	5	0.15
22.	Boron	mg/L	0.7	N.D.
23.	Chromium	mg/L	≤0.05	N.D.
24.	Selenium	mg/L	≤0.5	N.D.

Page 1 of 2

BDL (Below Detection Limits)

PEQS = Punjab Environmental Quality Standards

BDL= Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: [Signature]

Date: 20-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY SURFACE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Surface Water Nullah at Rd.33km
Sampling Point: Surface Water Nullah at Rd.33km
Nature of Sample: Surface Water
Sampling Date: 15-09-2016
Reporting Date: 20-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 SW

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	PEQS
1.	pH		7.4	06 – 09
2.	Turbidity	NTU	6	–
3.	Conductivity	µS	770	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	<5.0	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	6	150
7.	Total Suspended Solids (TSS)	mg/l	20	200
8.	Chloride (Cl)	mg/l	22.3	1000
9.	Nitrates (NO ₃)	mg/l	2.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	37	–

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: 
SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: 

Date: 20-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

WASTE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Surface Water Nullah at Rd.33km
Sampling Point: Surface Water Nullah at Rd.33km
Nature of Sample: Waste Water
Sampling Date: 15-09-2016
Reporting Date: 20-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 WW

Results:

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	PEQS
1.	pH		7.4	06 – 09
2.	Turbidity	NTU	6	–
3.	Conductivity	µS	770	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	135.0	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	266	150
7.	Total Suspended Solids (TSS)	mg/l	22	200
8.	Chloride (Cl)	mg/l	22.3	1000
9.	Nitrates (NO ₃)	mg/l	2.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	37	–

PEQS = Punjab Environmental Quality Standards

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: [Signature]

Date: 20-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Rathodero-Shikarpur
Sampling Point: Hand Pump
Nature of Sample: Drinking Water
Sampling Date: 06-09-2016
Reporting Date: 12-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 GW

Results:

SR. NO.	PARAMETER S	UNITS	NEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.3	In-Compliance
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	01	
4.	Turbidity	NTU	<5	03	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	01	
6.	E-Coli	Number /100 mL	0 Number /100 mL	0	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	620	
8.	Total Hardness	mg/L	<500	122	
9.	Nitrate	mg/L	≤50	1.1	
10.	Nitrite	mg/L	≤3	0.001	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	BDL	
13.	Antimony	mg/L	<0.005	BDL	
14.	Barium	mg/L	0.7	BDL	
15.	Chloride	mg/L	250	49	
16.	Fluoride	mg/L	<1.5	1.9	
17.	Aluminum	mg/L	≤0.2	BDL	
18.	Manganese	mg/L	≤0.5	BDL	
19.	Mercury	mg/L	0.001	BDL	
20.	Iodine	mg/L	—	0.05	

Page 1 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)

Project Location: Rathodero-Shikarpur RD 348 km

Sampling Point: Hand Pump

Nature of Sample: Drinking Water

Sampling Date: 06-09-2016

Reporting Date: 12-09-2016

Sampling By: SEAL

Reference No.: SEAL/CAREC /16/001 GW

21.	Zinc	mg/L	5	0.15
22.	Boron	mg/L	0.7	N.D.
23.	Chromium	mg/L	≤0.05	N.D.
24.	Selenium	mg/L	≤0.5	N.D.

BDL (Below Detection Limits)

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst:

SHABNAM SHAHZAD

Chief Chemist with Seal:

Chief Chemist

Signature of Chief Chemist:

Date: 12-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Rathodero-Shikarpur RD 371 km
Sampling Point: Hand Pump
Sampling Date: 06-09-2016
Sampling By: SEAL
Nature of Sample: Drinking Water
Reporting Date: 12-09-2016
Reference No.: SEAL/CAREC /16/001 GW

SR. NO.	PARAMETERS	UNITS	PEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.9	In- Compliance
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	01	
4.	Turbidity	NTU	<5	01	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	04	
6.	E-Coli	Number /100 mL	0 Number /100 mL	02	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	750	
8.	Total Hardness	mg/L	<500	160	
9.	Nitrate	mg/L	≤50	1.5	
10.	Nitrite	mg/L	≤3	0.001	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	BDL	
13.	Antimony	mg/L	<0.005	BDL	
14.	Barium	mg/L	0.7	BDL	
15.	Chloride	mg/L	250	67	
16.	Fluoride	mg/L	<1.5	1.2	
17.	Aluminum	mg/L	≤0.2	BDL	
18.	Manganese	mg/L	≤0.5	BDL	
19.	Mercury	mg/L	0.001	BDL	

Page 1 of 2

HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Rathodero-Shikarpur RD 371 km
Sampling Point: Hand Pump
Nature of Sample: Drinking Water
Sampling Date: 06-09-2016
Reporting Date: 12-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 GW

20.	Iodine	mg/L	—	0.08
21.	Zinc	mg/L	5	0.15
22.	Boron	mg/L	0.7	BDL
23.	Chromium	mg/L	≤0.05	BDL
24.	Selenium	mg/L	≤0.5	BDL

BDL (Below Detection Limits)

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: Shafique

Date: 12-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY SURFACE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Nullah at Rd.343 km
Sampling Point: Nullah at Rd.343 km
Nature of Sample: Surface Water
Sampling Date: 06-09-2016
Reporting Date: 12-09-2016
Reference No.: SEAL/CAREC/16/001 SW

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	PEQS
1.	pH		7.4	06 – 09
2.	Turbidity	NTU	6	–
3.	Conductivity	µS	770	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	22.0	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	40	150
7.	Total Suspended Solids (TSS)	mg/l	22	200
8.	Chloride (Cl)	mg/l	22.3	1000
9.	Nitrates (NO ₃)	mg/l	2.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	38	–

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit


Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: 

Chief Chemist with Seal: 

Signature of Chief Chemist: 

Date: 12-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

WASTE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd. (Central Asian Regional Economic Corridor)
Project Location: Nullah at Rd.1211 km
Sampling Point: Nullah at Rd.1211 km
Nature of Sample: Waste Water
Sampling Date: 06-09-2016
Reporting Date: 12-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 WW

Results:

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	PEQS
1.	pH		7.4	06 – 09
2.	Turbidity	NTU	05	–
3.	Conductivity	µS	680	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	130.0	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	260	150
7.	Total Suspended Solids (TSS)	mg/l	25	200
8.	Chloride (Cl)	mg/l	78	1000
9.	Nitrates (NO ₃)	mg/l	2.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	67	–

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique
Signature of analyst: SHABNAM SHAHZAD
Chief Chemist with Seal: Chief Chemist
Signature of Chief Chemist: [Signature]
Date: 12-09-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Dara Adem Khel-Peshawar

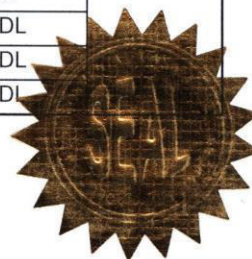
Sampling Point: Hand Pump
Sampling Date: 02-09-2016
Sampling By: SEAL
Nature of Sample: Drinking Water
Reporting Date: 05-09-2016
Reference No.: SEAL/CAREC /16/001 GW

Results:

SR. NO.	PARAMETERS	UNITS	NEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.2	
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	03	
4.	Turbidity	NTU	<5	01	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	10	
6.	E-Coli	Number/100 mL	0 Number /100 mL	10	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	325	
8.	Total Hardness	mg/L	<500	60	
9.	Nitrate	mg/L	≤50	2.1	
10.	Nitrite	mg/L	≤3	0.001	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	BDL	
13.	Antimony	mg/L	<0.005	BDL	
14.	Barium	mg/L	0.7	BDL	
15.	Chloride	mg/L	250	52	
16.	Fluoride	mg/L	<1.5	0.7	
17.	Aluminum	mg/L	≤0.2	BDL	
18.	Manganese	mg/L	≤0.5	BDL	
19.	Mercury	mg/L	0.001	BDL	

BDL (Below Detection Limits)

Page 1 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Dera Adem Khel-Peshawar
Sampling Point: Hand Pump
Nature of Sample: Drinking Water
Sampling Date: 02-09-2016
Reporting Date: 05-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 GW

20.	Iodine	mg/L	—	0.08
21.	Zinc	mg/L	5	0.15
22.	Boron	mg/L	0.7	BDL
23.	Chromium	mg/L	≤0.05	BDL
24.	Selenium	mg/L	≤0.5	BDL

NEQS = National Environmental Quality Standards

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: Shabnam Shahzad

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: [Signature]

Date: 12-11-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

GROUND WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Budh Bhair
Sampling Point: Hand Pump
Sampling Date: 02-09-2016
Sampling By: SEAL
Nature of Sample: Drinking Water
Reporting Date: 05-09-2016
Reference No.: SEAL/CAREC/16/001 GW

Results:

SR. NO.	PARAMETERS	UNITS	NEQS	RESULTS	REMARKS
1.	pH	—	6.5–8.5	7.3	
2.	Taste & Odor	—	Non Objectionable	Non Objectionable	
3.	Color	TCU	<15	02	
4.	Turbidity	NTU	<5	05	
5.	Total Coliform	Number/100 mL	0 Number/100 mL	04	
6.	E-Coli	Number/100 mL	0 Number /100 mL	02	
7.	Total Dissolved Solids (TDS)	mg/L	<1000	520	
8.	Total Hardness	mg/L	<500	160	
9.	Nitrate	mg/L	≤50	1.1	
10.	Nitrite	mg/L	≤3	BDL	
11.	Ammonia	mg/L	—	0.01	
12.	Arsenic	mg/L	<0.05	0.01	
13.	Antimony	mg/L	<0.005	BDL	
14.	Barium	mg/L	0.7	BDL	
15.	Chloride	mg/L	250	120	
16.	Fluoride	mg/L	<1.5	1.2	
17.	Aluminum	mg/L	≤0.2	BDL	
18.	Manganese	mg/L	≤0.5	BDL	
19.	Mercury	mg/L	0.001	BDL	

Page 1 of 2



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Budh Bhair
Sampling Point: Hand Pump
Nature of Sample: Drinking Water
Sampling Date: 02-09-2016
Reporting Date: 05-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 GW

20.	Iodine	mg/L	—	0.12
21.	Zinc	mg/L	5	1.4
22.	Boron	mg/L	0.7	BDL
23.	Chromium	mg/L	≤0.05	BDL
24.	Selenium	mg/L	≤0.5	BDL

BDL (Below Detection Limits)

PEQS = Punjab Environmental Quality Standards

BDL = Below Detection Limit

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: [Signature]

Date: 12-11-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

SURFACE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Nullah at Rd.1211 km
Sampling Point: Nullah at Rd.1211 km
Nature of Sample: Surface Water
Sampling Date: 02-09-2016
Reporting Date: 05-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 SW

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	NEQS
1.	pH		7.2	06 – 09
2.	Turbidity	NTU	10	–
3.	Conductivity	µS	880	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	75	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	130	150
7.	Total Suspended Solids (TSS)	mg/l	42	200
8.	Chloride (Cl)	mg/l	44.3	1000
9.	Nitrates (NO ₃)	mg/l	3.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	45	–

NEQS = National Environmental Quality Standards

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: SHABNAM SHAHZAD

Chief Chemist with Seal: Chief Chemist

Signature of Chief Chemist: [Signature]

Date: 12-11-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT



SOLUTION ENVIRONMENTAL & ANALYTICAL LABORATORY

WASTE WATER ANALYSIS REPORT

Client Name: Associate Consulting Centre Pvt Ltd.
(Central Asian Regional Economic Corridor)
Project Location: Nullah at Rd.1211 km
Sampling Point: Nullah at Rd.1211 km
Nature of Sample: Waste Water
Sampling Date: 02-09-2016
Reporting Date: 05-09-2016
Sampling By: SEAL
Reference No.: SEAL/CAREC /16/001 WW

Results:

SR. NO.	PARAMETERS	UNIT	TEST RESULTS	NEQS
1.	pH		7.4	06 – 09
2.	Turbidity	NTU	05	–
3.	Conductivity	µS	970	–
4.	Odor	–	Odorless	–
5.	Biological Oxygen Demand (BOD ₅)	mg/l	135.0	80
6.	Chemical Oxygen Demand (COD ₅)	mg/l	266	150
7.	Total Suspended Solids (TSS)	mg/l	22	200
8.	Chloride (Cl)	mg/l	22.3	1000
9.	Nitrates (NO ₃)	mg/l	2.7	–
10.	Fluoride (F)	mg/l	0.05	10
11.	Sodium (Na)	mg/l	40	–

NEQS = National Environmental Quality Standards

Note:

- BDL (Below Detection Limit)
- This report should be reproduced as a whole and not in parts.
- The responsibility of the ethical use of the results reported in this report lies with the client. Consequently, the laboratory is absolved of its responsibility for any claim that may result through the use by the client or others of the results appearing in this report.
- The left over samples (if so available) shall be retained for fifteen days after the issuance of the report unless otherwise negotiated between the client and the laboratory.

Sample Analyzed By: Awais Shafique

Signature of analyst: *Awais Shafique*

Chief Chemist with Seal: *Shahnaz Shahzad*
Chief Chemist

Signature of Chief Chemist: *Shahnaz Shahzad*

Date: 12-11-2016



HEAD OFFICE :

Plot # 12, Water Avenue, Green View Society, Off Kacha Jail Road, Kot Lakhpat,
Lahore, Pakistan. Phones : +92-42-35922295-96, Fax : +92-42-35922296
Email: info@seal.com.pk - tsons@brain.net.pk - hr@seal.com.pk

KARACHI OFFICE :

R-18 Gulshane Qadri Phase III, Near Jamia Millia
College Malir Karachi - Pakistan Phone : 92-213-2014331
Fax : 92-213-2014331 Email : karachi@seal.com.pk

THIS RECYCLED PAPER PROTECTS OUR ENVIRONMENT