

Initial Environmental Examination

Annex (3d)
Project Number: 48404-004
July 2020

PAK: Central Asia Regional Economic Cooperation
Corridor Development Investment Program (Tranche 2)

Shikarpur–Rajanpur Section of N55

CURRENCY EQUIVALENTS

(as of 2 June 2020)

Currency unit	–	Pakistan Rupee/s (PRe/PRs)
PRe1.00	=	\$0.0061
\$1.00	=	PRs164.25

UNIT CONVERSIONS

1 gallon	–	3.785 liter
1 gallon/day	–	0.00455 m ³ /day
1 m ³ /day	–	0.041 m ³ /hour
1 cusec	–	28.31 liters
1 kilometer	–	1,000 meters
1 foot	–	12 inches
1 acre	–	4,046.8 meter ²

ABBREVIATIONS

AAD	–	average annual daily
AADT	–	average annual daily traffic
AASHTO	–	American Association of State Highway and Transportation
AASHTO ASM	–	American Association of State Highway and Transportation Officials
ABC	–	aggregate base course
ACBC	–	asphaltic concrete base course
ACW	–	additional carriageway
ACWC	–	asphaltic concrete wearing course
ADB	–	Asian Development Bank
AKM	–	avenue kilometer
APHA	–	American Public Health Association
AP	–	affected person
ASR	–	air sensitive receiver
ASTM	–	American Society of Testing Materials
BDL	–	below detection limit
BHU	–	basic health unit
BOD	–	bio-chemical oxygen demand
BP	–	Bank Policy
°C	–	degree Centigrade/Celsius
CAREC	–	Central Asia Regional Economic Corridor
CC	–	construction contractor
CO	–	carbon monoxide
COD	–	chemical oxygen demand
CSR	–	composite schedule rates

dB (A)	–	decibel
DCR	–	district census report
DC	–	design consultant
DD	–	deputy director
DMC	–	developing member countries
DO	–	dissolved oxygen
EA	–	environmental assessment
EE	–	environmental engineer
EIA	–	environmental impact assessment
EMP	–	environmental management plan
EPA	–	Environment Protection Agency
EPD	–	Environment Protection Department
EPO	–	Environmental Protection Ordinance
ESR	–	Environmental Sensitive Receiver
FCC	–	Forest Conservation Committee
FI	–	financial intermediary
GHG	–	greenhouse gas
GOP	–	Government of Pakistan
GRC	–	grievance redress committee
GRM	–	grievance redress mechanism
HSIP	–	Highway Sector Improvement Program
IEE	–	initial environmental examination
ILO	–	International Labor Organization
km	–	kilometer
kph	–	kilometer per hour
LAC	–	land acquisition collector
LAeq	–	equivalent continuous sound level, 'A weighting' = correction by factors that weight sound to correlate with the sensitivity of the human ear to sounds at different frequencies
m	–	meter
MFF	–	multitranche financing facility
MGDs	–	Millennium Development Goals
MVE	–	motor vehicle examiner
NEQS	–	National Environmental Quality Standards
NESPAK	–	National Engineering Services Pakistan
NGO	–	nongovernment organization
NHA	–	National Highways Authority
NO	–	nitrogen oxide
NOC	–	no-objection certificate
NSL	–	natural surface level
NSR	–	noise sensitive receiver
NTC	–	National Trade Corridor
OP	–	operational policy
OSHA	–	Occupational Safety and Health Administration
PAP	–	project affected person
PEPA	–	Pakistan Environmental Protection Act
PEPC	–	Pakistan Environmental Protection Council
PM	–	particulate matter
PNCS	–	Pakistan National Conservation Strategy
POP	–	persistent organic pollutant

PPAF	–	Pakistan Poverty Alleviation Fund
PPC	–	Pakistan Penal Code
PRC	–	People’s Republic of China
RE	–	resident engineer
REA	–	rapid environmental assessment
ROW	–	right-of-way
SC	–	supervision consultant
SMART	–	self-monitoring and reporting tool
SO	–	sulfur oxide
SPS	–	Safeguard Policy Statement
SSEMP	–	site specific environmental management plan
TA	–	technical assistance
TOR	–	terms of reference
TSS	–	total suspended solids
UBC	–	Uniform Building Code
UC	–	Union Council
UNFCCC	–	United Nations Framework Convention on Climate Change
USEPA	–	United States Environmental Protection Agency
WHO	–	World Health Organization

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 of this 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.

WATER ANALYSIS REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Kashmore, District Kashmore
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Sampling Date:	05-07-2020	Monitoring Method:	APHA/USEPA Standard Methods
Source:	Surface / Wastewater		
Location:	Kashmore		
GPS Coordinates:	28° 26' 46.258" N 69° 36' 26.018" E		

Sr. No.	Parameters	Analysis Method	Units	SEQS	Results
1	Temperature	--	°C	40	19
2	pH	APHA-4500H+ B	---	6-9	8
3	Total Dissolved Solids (TDS)	APHA-2540 C	mg/L	3500	2167
4	Chemical Oxygen Demand (COD)	APHA-5220-D	mg/L	150	116
5	Biological Oxygen Demand (BOD ₅) at 20 °C	APHA, 5210	mg/L	80	73
6	Phenolic Compounds as Phenols	APHA-5530 D	mg/L	0.1	0.08
7	Chloride (Cl ⁻)	APHA-4500Cl- B	mg/L	1000	152
8	Copper (Cu ⁺)	APHA-3500Cu B	mg/L	1.0	0.82
9	Total Iron (Fe ⁺)	APHA-3500-Fe-B	mg/L	8.0	0.93
10	Lead (Pb ⁺)	APHA-3500-Pb B	mg/L	0.5	N.D.
11	Manganese	APHA-3500-Mn B	mg/L	1.5	0.087
12	Sulfate (SO ₄)	APHA-4500-SO4C	mg/L	600	167
13	Zinc (Zn)	APHA-3500-Zn B	mg/L	5.0	0.7
14	Silver	APHA-3500Ag-B	mg/L	1.0	0.09
15	Boron	APHA-4500B-C	mg/L	6.0	0.05
16	Barium	APHA-3500Ba B	mg/L	1.5	0.044

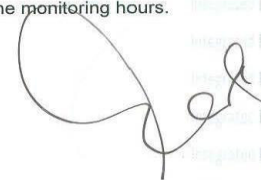
SEQS: Sindh Environmental Quality Standards for municipal Effluents N.D: Not Detected

Note:

- Selected measurement units were mg/L otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.



Signature of Analyst:



FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com

Environmental Protection Agency (EPA-KPK) Certified

WATER ANALYSIS REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Rojhan , District Rahim Yar Khan
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Sampling Date:	06-07-2020	Monitoring Method:	APHA/USEPA Standard Methods
Source:	Surface / Wastewater		
Location:	Rojhan		
GPS Coordinates:	28° 41' 35.757" N 69° 52' 8.585" E		

Sr. No.	Parameters	Analysis Method	Units	PEQS	Results
1	Temperature	--	°C	40	18
2	pH	APHA-4500H+ B	---	6-9	7.8
3	Total Dissolved Solids (TDS)	APHA-2540 C	mg/L	3500	1854
4	Chemical Oxygen Demand (COD)	APHA-5220-D	mg/L	150	127
5	Biological Oxygen Demand (BOD ₅) at 20 °C	APHA, 5210	mg/L	80	69
6	Phenolic Compounds as Phenols	APHA-5530 D	mg/L	0.1	0.06
7	Chloride (Cl ⁻)	APHA-4500Cl- B	mg/L	1000	272
8	Copper (Cu ⁺)	APHA-3500Cu B	mg/L	1.0	0.97
9	Total Iron (Fe ⁺)	APHA-3500-Fe-B	mg/L	8.0	1.03
10	Lead (Pb ⁺)	APHA-3500-Pb B	mg/L	0.5	N.D.
11	Manganese	APHA-3500-Mn B	mg/L	1.5	0.093
12	Sulfate (SO ₄)	APHA-4500-SO4C	mg/L	600	142
13	Zinc (Zn)	APHA-3500-Zn B	mg/L	5.0	0.9
14	Silver	APHA-3500Ag-B	mg/L	1.0	0.06
15	Boron	APHA-4500B-C	mg/L	6.0	0.07
16	Barium	APHA-3500Ba B	mg/L	1.5	0.62

PEQS: Punjab Environmental Quality Standards for municipal Effluents

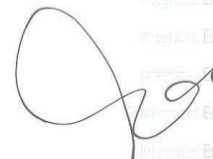
N.D: Not Detected

Note:

- Selected measurement units were mg/L otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.



Signature of Analyst:



FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com

Environmental Protection Agency (EPA-KPK) Certified

WATER ANALYSIS REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Rajanpur , District Rahim Yar Khan
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Sampling Date:	08-07-2020	Monitoring Method:	APHA/USEPA Standard Methods
Source:	Surface / Wastewater		
Location:	Kot Mithan		
GPS Coordinates:	28° 57' 20.958" N 70° 18' 47.190" E		

Sr. No.	Parameters	Analysis Method	Units	PEQS	Results
1	Temperature	--	°C	40	16
2	pH	APHA-4500H+ B	---	6-9	7.9
3	Total Dissolved Solids (TDS)	APHA-2540 C	mg/L	3500	1963
4	Chemical Oxygen Demand (COD)	APHA-5220-D	mg/L	150	135
5	Biological Oxygen Demand (BOD ₅) at 20 °C	APHA, 5210	mg/L	80	71
6	Phenolic Compounds as Phenols	APHA-5530 D	mg/L	0.1	0.08
7	Chloride (Cl ⁻)	APHA-4500Cl- B	mg/L	1000	261
8	Copper (Cu ⁺)	APHA-3500Cu B	mg/L	1.0	0.86
9	Total Iron (Fe ⁺)	APHA-3500-Fe-B	mg/L	8.0	0.96
10	Lead (Pb ⁺)	APHA-3500-Pb B	mg/L	0.5	N.D.
11	Manganese	APHA-3500-Mn B	mg/L	1.5	0.14
12	Sulfate (SO ₄)	APHA-4500-SO4C	mg/L	600	168
13	Zinc (Zn)	APHA-3500-Zn B	mg/L	5.0	0.81
14	Silver	APHA-3500Ag-B	mg/L	1.0	0.54
15	Boron	APHA-4500B-C	mg/L	6.0	0.19
16	Barium	APHA-3500Ba B	mg/L	1.5	0.13

PEQS: Punjab Environmental Quality Standards for municipal Effluents
Note:

N.D: Not Detected

- Selected measurement units were mg/L otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.

Signature of Analyst:

FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com

Environmental Protection Agency (EPA-KPK) Certified

AMBIENT PARTICULATE MATTERS MONITORING REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Khanpur, District Shikarpur
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Monitoring Date:	03-07-2020	Monitoring Instrument:	AQM65, Serial # 1310
Source:	Ambient Air		
Location:	Khanpur, District Shikarpur		
GPS Coordinates:	28° 0' 5.916" N 68° 43' 27.962" E		

Sr. No.	Time Hours	Parameters PM ₁₀ (µg/m ³)	Results (Average 24 Hrs)
			PM ₁₀ (µg/m ³)
1.	10:00 A.M	87.6	102.802
2.	11:00 A.M	89.3	
3.	12:00 P.M	102.5	
4.	01:00 P.M	119.3	
5.	02:00 P.M	122.6	
6.	03:00 P.M	141.9	
7.	04:00 PM	119.8	
8.	05:00 PM	121.7	
9.	06:00 PM	128.5	
10.	07:00 PM	98.29	
11.	08:00 PM	106.71	
12.	09:00 PM	103.62	
13.	10:00 PM	102.57	
14.	11:00 PM	95.16	
15.	12:00 AM	97.18	
16.	01:00 AM	96.91	
17.	02:00 AM	94.45	
18.	03:00 AM	85.97	
19.	04:00 AM	85.11	
20.	05:00 AM	86.81	
21.	06:00 A.M	85.87	
22.	07:00 A.M	86.21	
23.	08:00 A.M	104.41	
24.	09:00 A.M	104.78	
SEQSAA			150 (µg/m³)

SEQSAA: Sindh Environmental Quality Standards for Ambient Air

Note:

- Selected measurement units were µg/m³ otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.




FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com

Environmental Protection Agency (EPA-KPK) Certified

AMBIENT PARTICULATE MATTERS MONITORING REPORT

Reference Number:	KS-P/ENV/01-787-2020	Site Address:	Shikarpur
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Monitoring Date:	02-07-2020
Monitoring Date:	02-07-2020	Reporting Date:	13-07-2020
Source:	Ambient Air	Monitoring Instrument:	AQM65, Serial # 1310
Location:	Shikarpur		
GPS Coordinates:	27° 58' 3.920" N 68° 38' 19.672" E		

Sr. No.	Time Hours	Parameters PM ₁₀ (µg/m ³)	Results (Average 24 Hrs)
			PM ₁₀ (µg/m ³)
1.	09:00 A.M	102.21	100.729
2.	10:00 A.M	110.08	
3.	11:00 A.M	102.53	
4.	12:00 P.M	112.82	
5.	01:00 P.M	110.27	
6.	02:00 P.M	109.56	
7.	03:00 P.M	107.03	
8.	04:00 P.M	105.81	
9.	05:00 P.M	102.59	
10.	06:00 P.M	101.07	
11.	07:00 P.M	99.34	
12.	08:00 P.M	100.82	
13.	09:00 P.M	98.1	
14.	10:00 P.M	97.37	
15.	11:00 P.M	96.85	
16.	12:00 A.M	94.12	
17.	01:00 A.M	93.59	
18.	02:00 A.M	94.88	
19.	03:00 A.M	95.31	
20.	04:00 A.M	93.62	
21.	05:00 A.M	94.47	
22.	06:00 A.M	96.75	
23.	07:00 A.M	97.66	
24.	08:00 A.M	100.65	
SEQSAA			150 (µg/m³)

SEQSAA: Sindh Environmental Quality Standards for Ambient Air

Note:

- Selected measurement units were µg/m³ otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.


Signature of Analyst:



FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com
Environmental Protection Agency (EPA-KPK) Certified

AMBIENT PARTICULATE MATTERS MONITORING REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Rajanpur, District Rajanpur
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Monitoring Date:	08-07-2020	Monitoring Instrument:	AQM65, Serial # 1310
Source:	Ambient Air		
Location:	Rajanpur, District Rajanpur		
GPS Coordinates:	29° 2' 25.884" N 70° 19' 57.962" E		

Sr. No.	Time	Parameters	Results (Average 24 Hrs)
	Hours	PM ₁₀ (µg/m ³)	PM ₁₀ (µg/m ³)
1.	09:00 A.M	105.21	100.915
2.	10:00 A.M	111.08	
3.	11:00 A.M	109.53	
4.	12:00 P.M	110.82	
5.	01:00 P.M	110.27	
6.	02:00 P.M	109.56	
7.	03:00 P.M	107.03	
8.	04:00 P.M	102.81	
9.	05:00 P.M	101.59	
10.	06:00 P.M	101.07	
11.	07:00 P.M	99.34	
12.	08:00 P.M	100.02	
13.	09:00 P.M	98.1	
14.	10:00 P.M	97.37	
15.	11:00 P.M	96.85	
16.	12:00 A.M	94.12	
17.	01:00 A.M	93.59	
18.	02:00 A.M	94.88	
19.	03:00 A.M	95.31	
20.	04:00 A.M	93.62	
21.	05:00 A.M	95.41	
22.	06:00 A.M	96.71	
23.	07:00 A.M	97.62	
24.	08:00 A.M	100.05	
PEQSAA			150 (µg/m³)

PEQSAA: Punjab Environmental Quality Standards for Ambient Air

Note:

- Selected measurement units were µg/m³ otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.


Signature of Analyst:

FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com
Environmental Protection Agency (EPA-KPK) Certified

AMBIENT PARTICULATE MATTERS MONITORING REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Rojhan, District Rahim Yar Khan
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Monitoring Date:	06-07-2020	Monitoring Instrument:	AQM65, Serial # 1310
Source:	Ambient Air		
Location:	Rojhan, District Rahim Yar Khan		
GPS Coordinates:	28° 42' 54.555" N 69° 54' 2.354" E		

Sr. No.	Time Hours	Parameters PM ₁₀ (µg/m ³)	Results (Average 24 Hrs)
			PM ₁₀ (µg/m ³)
25.	11:30 A.M	101.31	104.161
26.	12:30 P.M	105.52	
27.	01:30 P.M	109.31	
28.	02:30 P.M	120.61	
29.	03:30 P.M	124.93	
30.	04:30 PM	119.18	
31.	05:33 PM	120.17	
32.	06:30 PM	122.25	
33.	07:30 PM	109.12	
34.	08:30 PM	102.70	
35.	09:30 PM	101.61	
36.	10:30 PM	102.05	
37.	11:30 PM	99.14	
38.	12:30 AM	98.19	
39.	01:30 AM	97.92	
40.	02:30 AM	93.43	
41.	03:30 AM	89.99	
42.	04:30 AM	88.11	
43.	05:30 AM	87.81	
44.	06:30 A.M	85.87	
45.	07:30 A.M	89.21	
46.	08:30 A.M	108.21	
47.	09:30 A.M	110.52	
48.	10:30 A.M	112.71	
PEQSAA			150 (µg/m³)

PEQSAA: Punjab Environmental Quality Standards for Ambient Air

Note:

- Selected measurement units were µg/m³ otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.




Signature of Analyst:

FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com

Environmental Protection Agency (EPA-KPK) Certified

AMBIENT PARTICULATE MATTERS MONITORING REPORT

Reference Number	KS-P/ENV/01-787-2020	Site Address:	Kashmore, District Kashmore
Project Name:	Shikarpur-Rajanpur Road Section Project (N55)	Reporting Date:	13-07-2020
Monitoring Date:	05-07-2020	Monitoring Instrument:	AQM65, Serial # 1310
Source:	Ambient Air		
Location:	Kashmore, District Kashmore		
GPS Coordinates:	28° 26' 10.003" N 69° 34' 46.810" E		

Sr. No.	Time	Parameters	Results (Average 24 Hrs)
	Hours	PM ₁₀ (µg/m ³)	PM ₁₀ (µg/m ³)
1.	11:30 A.M	108.31	103.889
2.	12:30 P.M	105.52	
3.	01:30 P.M	109.31	
4.	02:30 P.M	120.61	
5.	03:30 P.M	124.93	
6.	04:30 P.M	119.18	
7.	05:33 P.M	120.17	
8.	06:30 P.M	122.25	
9.	07:30 P.M	109.12	
10.	08:30 P.M	102.70	
11.	09:30 P.M	101.61	
12.	10:30 P.M	100.52	
13.	11:30 P.M	98.14	
14.	12:30 A.M	97.19	
15.	01:30 A.M	96.92	
16.	02:30 A.M	93.43	
17.	03:30 A.M	89.99	
18.	04:30 A.M	88.11	
19.	05:30 A.M	86.81	
20.	06:30 A.M	84.87	
21.	07:30 A.M	85.21	
22.	08:30 A.M	109.21	
23.	09:30 A.M	109.52	
24.	10:30 A.M	109.71	
SEQSAA			150 (µg/m³)

SEQSAA: Sindh Environmental Quality Standards for Ambient Air

Note:

- Selected measurement units were µg/m³ otherwise stated.
- Quality was assured through self calibration of the instrument.
- The values were representing of monitoring conditions prevailing during the monitoring hours.
- 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 court.

Signature of Analyst:

FOR ENVIRONMENTAL MONITORING, ANALYSIS & SURVEYS

Creative House, 3rd Floor, Office # 302, Phase III Chowk, Hayatabad, Peshawar, Pakistan
Tel: 091-5852913 Cell: +92 302 8462412 Email: inenvconsultants@yahoo.com www. iec-consultants.com
Environmental Protection Agency (EPA-KPK) Certified