

## Quality of Water of Polluted River stretches in Punjab for the month of October, 2019

### Satluj : Roop Nagar to Harike Bridge : Priority I

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	pH	DO mg/l	BOD mg/l	Cond $\mu$ s/Cm	T.Coli MPN/ 100ml	F. Coli MPN/ 100ml	Free Amm. mg/l	SAR	B mg/l	Quality of water as per DBU	Water Quality Index
1	Ropar Head-Works	1019	11.10.19	SW 941	ZO Lab Ldh	7.94	9.1	<1	221	1100	330	BDL	0.18	0.14	C	S
2	River Satluj D/S of Rishab- Paper Mills	1293	11.10.19	SW 940	ZO Lab Ldh	8.29	8.5	<1	232	1700	490	BDL	0.14	0.17	C	S
3	River Satluj U/S Buddha Nallah	1690	14.10.19	SW 952	ZO Lab Ldh	8.08	8.6	<1	242	3300	1700	BDL	0.29	0.19	C	S
4	River Satluj at 100 mts D/s after Budha Nallah confluence, Ludhiana	1020	14.10.19	SW 954	ZO Lab Ldh	7.57	4.2	9.2	320	79,000	27,000	BDL	0.61	0.23	D	U
5	River Satluj at Boat Bridge, Dharamkot Nakodar Road	1021	16.10.19	SW 956	ZO Lab Ldh	7.52	5.0	3.6	308	21,000	11,000	BDL	0.39	0.28	D	U
6	River Satluj at D/s East Bein	1381	16.10.19	SW 957	ZO Lab Jal.	7.37	5.2	3.8	292	13,000	7900	BDL	0.43	0.33	D	U
7	River Satluj at Harike	1022	16.10.19	SW 958	ZO Lab Ldh	7.28	5.6	2.4	332	7000	3300	BDL	0.58	0.25	D	U

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	COD mg/l	Turb NTU	TSS mg/l	TDS mg/l	FDS mg/l	Cl mg/l	SO <sub>4</sub> mg/l	TH mg/l	Ca mg/l	Mg mg/l	T.Alkn mg/l	P.Alkn mg/l	AmnN mg/l	NO <sub>3</sub> -N mg/l	TKN mg/l	PO <sub>4</sub> as P mg/l	F mg/l	Na mg/l	K mg/l
1	Ropar Head-Works	1019	11.10.19	SW 941	ZO Lab Ldh	<5	10	16	126	116	14	5	114	28.8	10.2	76	BDL	BDL	0.98	BDL	BDL	0.24	4.5	2.1
2	River Satluj D/S of Rishab- Paper Mills	1293	11.10.19	SW 940	ZO Lab Ldh	<5	48	44	135	120	10	9	118	28	11.7	80	BDL	BDL	1.6	BDL	BDL	0.44	3.4	2.3
3	River Satluj U/S Buddha Nallah	1690	14.10.19	SW 952	ZO Lab Ldh	<5	54	68	138	120	12	6	112	30.4	8.7	82	BDL	BDL	1.0	BDL	BDL	0.29	7.0	2.9
4	River Satluj at 100 mts D/s after Budha Nallah confluence, Ludhiana	1020	14.10.19	SW 954	ZO Lab Ldh	28	80	109	191	167	26	6	122	32	10.2	98	BDL	BDL	2.12	BDL	0.17	0.68	15.6	3.7
5	River Satluj at Boat Bridge, Dharamkot Nakodar Road	1021	16.10.19	SW 956	ZO Lab Ldh	18	62	58	183	167	20	8	146	35.2	14.1	94	BDL	BDL	1.2	BDL	0.11	0.31	10.7	3.2
6	River Satluj at D/s East Bein	1381	16.10.19	SW 957	ZO Lab Jal.	22	58	64	175	153	17	6	134	34.4	11.7	96	BDL	BDL	1.0	BDL	0.09	0.22	11.5	3.4
7	River Satluj at Harike	1022	16.10.19	SW 958	ZO Lab Ldh	16	35	39	209	182	23	7	142	36	12.6	94	BDL	BDL	0.90	BDL	0.18	0.21	15.9	4.5

Note. 1. BDL means Below Method Detection Limit

2. DBU means Designated Best Use (Class-A,B,C,D & E)

3. Water Quality Index ( S means Satisfactory, U means Unsatisfactory)

4. U/s means Upstream , D/s means Downstream

## Quality of Water of Polluted River stretches in Punjab for the month of October, Metal 2019

### Satluj : Roop Nagar to Harike Bridge : Priority I

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	T.Cr (mg/l)	Ni (mg/l)	Fe (mg/l)	Zn (mg/l)	Cu (mg/l)	Pb (mg/l)	Cd (mg/l)
1	Ropar Head-Works	1019	11.10.19	SW 941	ZO Lab Ldh	BDL	BDL	0.08	BDL	BDL	BDL	BDL
2	River Satluj D/S of Rishab- Paper Mills	1293	11.10.19	SW 940	ZO Lab Ldh	BDL	BDL	0.33	BDL	BDL	BDL	BDL
3	River Satluj U/S Buddha Nallah	1690	14.10.19	SW 952	ZO Lab Ldh	BDL	BDL	0.67	BDL	BDL	BDL	BDL
4	River Satluj at 100 mts D/s after Budha Nallah confluence, Ludhiana	1020	14.10.19	SW 954	ZO Lab Ldh	BDL	BDL	1.76	0.10	BDL	BDL	BDL
5	River Satluj at Boat Bridge, Dharamkot Nakodar Road	1021	16.10.19	SW 956	ZO Lab Ldh	BDL	BDL	0.91	BDL	BDL	BDL	BDL
6	River Satluj at D/s East Bein	1381	16.10.19	SW 957	ZO Lab Jal.	BDL	BDL	1.42	0.07	BDL	BDL	BDL
7	River Satluj at Harike	1022	16.10.19	SW 958	ZO Lab Ldh	BDL	BDL	1.29	0.37	BDL	BDL	BDL

## Quality of Water of Polluted River stretches in Punjab for the month of October, 2019

### Ghaggar: Mubarkpur to Sardulgarh: Priority I

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	pH	DO mg/l	BOD mg/l	Cond $\mu$ s/Cm	T.Coli MPN/ 100ml	F. Coli MPN/ 100ml	Free Amm. mg/l	SAR	B mg/l	Quality of water as per DBDU	Water Quality Index
1	Ghaggar at Mubarikpur Rest House	1023	10/10/19	SW 1057	H/o Lab Patiala	7.5	5.6	6	358	17000	2000	0.20	1.03	0.84	D	U
2	Ghaggar at Bhankarpur	1295	10/10/19	SW 1058	H/o Lab Patiala	7.3	4.5	16	523	24000	3300	0.13	1.36	0.78	D	U
3	Ghaggar at Chattbir	1698	10/10/19	SW 1059	H/o Lab Patiala	7.2	4.1	22	588	28000	3800	0.9	1.61	0.80	D	U
4	Ghaggar at U/s Jharmal Nadi	1702	10/10/19	SW 1060	H/o Lab Patiala	7.3	4.2	10	445	17000	1700	0.17	1.27	0.68	D	U
5	Ghaggar at D/s Jharmal Nadi	1701	10/10/19	SW 1061	H/o Lab Patiala	7.3	3.6	17	632	21000	2100	0.12	1.36	0.92	E	U
6	Ghaggar at U/s Dhakanshu Nallah	1699	10/10/19	SW 1063	H/o Lab Patiala	7.3	4.0	6	398	13000	1500	0.7	1.63	0.89	D	U
7	Ghaggar at D/s Dhakanshu Nallah	1700	10/10/19	SW 1064	H/o Lab Patiala	7.2	2.9	14	642	24000	3400	0.9	1.74	0.95	E	U
8	Ghaggar at Rattanheri	1473	12/10/19	SW 1078	H/o Lab Patiala	7.3	3.8	13	760	28000	3100	0.16	2.13	0.51	E	U
9	Ghaggar before mixing with Sagar Para drain (U/s sagar para Drain)	4159	12/10/19	SW 1079	H/o Lab Patiala	7.2	4.1	12	751	24000	3400	0.14	2.24	0.55	D	U
10	Ghaggar after mixing with Sagar Para drain (D/s Sagar Para Drain)	4160	12/10/19	SW 1080	H/o Lab Patiala	7.2	3.4	17	823	35000	4700	0.14	2.24	0.59	E	U
11	Ghaggar at Khanauri	1024	12/10/19	SW 1083	H/o Lab Patiala	7.2	3.6	15	572	24000	2700	0.9	1.29	0.48	E	U
12	Ghaggar at Moonak	1703	12/10/19	SW 1085	H/o Lab Patiala	.3	3.4	15	635	28000	4000	0.12	1.24	0.50	E	U
13	Ghaggar at U/s Sardulgarh	1705	15/10/19	SW 1122	H/o Lab Patiala	7.7	5.7	9	382	12000	1700	0.30	1.39	0.39	D	U
14	Ghaggar at D/s Sardulgarh	1704	15/10/19	SW 1123	H/o Lab Patiala	7.8	4.9	11	498	21000	2200	0.37	1.30	0.42	D	U

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	COD mg/l	Turb NTU	TSS mg/l	TDS mg/l	FDS mg/l	Cl mg/l	SO <sub>4</sub> Mg/l	TH mg/l	Ca mg/l	Mg mg/l	T.Alkn mg/l	P.Alkn mg/l	AmnN mg/l	NO3-N mg/l	TKN mg/l	PO <sub>4</sub> s P mg/l	F mg/l	Na mg/l	K mg/l
1	Ghaggar at Mubarikpur Rest House	1023	10/10/19	SW 1057	H/o Lab Patiala	22	315	272	215	183	28	7	79	23	5	158	BDL	10.2	2.01	14.3	1.07	0.26	21	8
2	Ghaggar at Bhankarpur	1295	10/10/19	SW 1058	H/o Lab Patiala	81	320	248	314	267	37	16	148	41	11	211	BDL	13.4	0.90	18.7	4.6	0.32	38	13
3	Ghaggar at Chattbir	1698	10/10/19	SW 1059	H/o Lab Patiala	111	80	112	353	300	45	10	169	46	13	237	BDL	9.3	0.86	13.0	0.83	0.29	48	17
4	Ghaggar at U/s Jharmal Nadi	1702	10/10/19	SW 1060	H/o Lab Patiala	49	40	74	267	227	33	6	114	29	10	197	BDL	11.6	0.80	16.2	2.9	0.21	31	9
5	Ghaggar at D/s Jharmal Nadi	1701	10/10/19	SW 1061	H/o Lab Patiala	87	50	87	379	322	69	17	181	49	14	223	BDL	11.9	0.98	16.7	2.0	0.35	42	21
6	Ghaggar at U/s Dhakanshu Nallah	1699	10/10/19	SW 1063	H/o Lab Patiala	24	40	68	239	203	24	7	78	21	6	172	BDL	7.2	0.68	10.1	0.70	0.19	33	14
7	Ghaggar at D/s Dhakanshu Nallah	1700	10/10/19	SW 1064	H/o Lab Patiala	69	45	76	385	327	51	12	176	47	14	241	BDL	9.6	1.3	13.4	4.3	0.88	53	29
8	Ghaggar at Rattanheri	1473	12/10/19	SW 1078	H/o Lab Patiala	64	90	162	456	388	73	21	210	56	17	273	BDL	15.8	0.90	22.1	3.4	0.53	71	20
9	Ghaggar before mixing with Sagar Para drain (U/s sagar para Drain)	4159	12/10/19	SW 1079	H/o Lab Patiala	60	110	155	450	383	66	19	208	60	14	268	BDL	14.5	0.92	20.3	2.5	0.58	74	26
10	Ghaggar after mixing with Sagar Para drain (D/s Sagar Para Drain)	4160	12/10/19	SW 1080	H/o Lab Patiala	78	115	173	494	420	71	23	248	68	19	279	BDL	14.0	1.04	19.6	5.8	0.68	81	29
11	Ghaggar at Khanauri	1024	12/10/19	SW 1083	H/o Lab Patiala	69	55	102	343	292	46	13	166	43	14	241	BDL	9.9	0.83	13.9	3.0	0.36	38	11
12	Ghaggar at Moonak	1703	12/10/19	SW 1085	H/o Lab Patiala	77	50	98	381	324	50	15	207	53	18	247	BDL	11.6	0.94	16.2	4.4	0.40	41	22
13	Ghaggar at U/s Sardulgarh	1705	15/10/19	SW 1122	H/o Lab Patiala	44	20	38	229	195	24	7	72	22	4	178	BDL	10.1	0.40	14.1	1.4	0.17	27	8
14	Ghaggar at D/s Sardulgarh	1704	15/10/19	SW 1123	H/o Lab Patiala	53	25	53	299	254	31	10	122	29	12	229	BDL	10.7	0.67	15.0	2.9	0.28	33	14

- Note. 1. BDL means Below Method Detection Limit**  
**2. DBU means Designated Best Use (Class-A,B,C,D & E)**  
**3. Water Quality Index ( S means Satisfactory, U means Unsatisfactory)**  
**4. U/s means Upstream , D/s means Downstream**

**Analysis results of Surface water monitoring under NWMP for the month of October, 2019****River Ghaggar (Metal)**

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	T.Cr (mg/l)	Ni (mg/l)	Fe (mg/l)	Zn (mg/l)	Cu (mg/l)	Pb (mg/l)	Cd (mg/l)
1	Ghaggar at Mubarikpur Rest House	1023	10/10/19	SW 1057	H/o Lab Patiala	BDL	BDL	2.92	0.18	BDL	BDL	BDL
2	Ghaggar at Bhankarpur	1295	10/10/19	SW 1058	H/o Lab Patiala	BDL	BDL	2.99	0.20	BDL	BDL	BDL
3	Ghaggar at Chattbir	1698	10/10/19	SW 1059	H/o Lab Patiala	BDL	BDL	3.01	0.21	BDL	BDL	BDL
4	Ghaggar at U/s Jharmal Nadi	1702	10/10/19	SW 1060	H/o Lab Patiala	BDL	BDL	3.20	0.20	BDL	BDL	BDL
5	Ghaggar at D/s Jharmal Nadi	1701	10/10/19	SW 1061	H/o Lab Patiala	BDL	BDL	3.28	0.23	BDL	BDL	BDL
6	Ghaggar at U/s Dhakanshu Nallah	1699	10/10/19	SW 1063	H/o Lab Patiala	BDL	BDL	3.59	2.27	BDL	BDL	BDL
7	Ghaggar at D/s Dhakanshu Nallah	1700	10/10/19	SW 1064	H/o Lab Patiala	BDL	BDL	3.08	0.29	BDL	BDL	BDL
8	Ghaggar at Rattanheri	1473	12/10/19	SW 1078	H/o Lab Patiala	BDL	BDL	2.02	0.23	BDL	BDL	BDL
9	Ghaggar before mixing with Sagar Para drain (U/s sagar para Drain)	4159	12/10/19	SW 1079	H/o Lab Patiala	BDL	BDL	2.07	0.24	BDL	BDL	BDL
10	Ghaggar after mixing with Sagar Para drain (D/s Sagar Para Drain)	4160	12/10/19	SW 1080	H/o Lab Patiala	BDL	BDL	2.15	0.28	BDL	BDL	BDL
11	Ghaggar at Khanauri	1024	12/10/19	SW 1083	H/o Lab Patiala	BDL	BDL	1.88	0.29	BDL	BDL	BDL
12	Ghaggar at Moonak	1703	12/10/19	SW 1085	H/o Lab Patiala	BDL	BDL	1.75	0.32	BDL	BDL	BDL
13	Ghaggar at U/s Sardulgarh	1705	15/10/19	SW 1122	H/o Lab Patiala	BDL	BDL	1.92	0.34	BDL	BDL	BDL
14	Ghaggar at D/s Sardulgarh	1704	15/10/19	SW 1123	H/o Lab Patiala	BDL	BDL	2.02	0.36	BDL	BDL	BDL

Note. . BDL means Below Method Detection Limit

## Quality of Water of Polluted River stretches in Punjab for the month of October, 2019

### Kali Bein (Sultanpur Lodhi to Confluence to Beas) : Priority IV

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	pH	DO mg/l	BOD mg/l	Cond $\mu$ s/Cm	T.Coli MPN/100ml	F.Coli MPN/100ml	Free Amm. mg/l	SAR	B mg/l	Water quality as per DBU	Water Quality Index
1	Kali Bein into Beas	2913	17/10/2019	S 689	Z.O. Lab Jalandhar	7.8	5.2	2.2	362	4700	1500	0.017	1.04	0.85	C	S

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	COD mg/l	Turb NTU	TSS mg/l	TDS mg/l	FDS mg/l	Cl mg/l	SO <sub>4</sub> Mg/l	TH mg/l	Ca mg/l	Mg mg/l	T.Alkn mg/l	p.Alkn mg/l	Amn-N mg/l	NO <sub>3</sub> -N mg/l	TKN mg/l	PO <sub>4</sub> as P mg/l	F mg/l	Na mg/l	K mg/l
1	Kali Bein into Beas	2913	17/10/19	S 689	Z.O. Lab Jalandhar	18	40	18	228	193	30	22	127	33	11	134	BDL	1.1	0.8	1.8	0.14	0.13	27	6.3

### Analysis results of Surface water monitoring under NWMP for the month of October, 2019

#### Drains (Metal)

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	T.Cr (mg/l)	Ni (mg/l)	Fe (mg/l)	Zn (mg/l)	Cu (mg/l)	Pb (mg/l)	Cd (mg/l)	Water quality as per DBU	Water Quality Index
1	Kali Bein into Beas	2913	17/10/2019	SW 689	Z.O. Lab Jalandhar	BDL	BDL	2.87	0.46	BDL	BDL	BDL	BDL	BDL

## Quality of Water of Polluted River stretches in Punjab for the month of October, 2019

### Beas (along Mukerian) : Priority V

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	pH	DO mg/l	BOD mg/l	Cond $\mu$ s/Cm	T. Coli MPN/100ml	F. Coli MPN/100ml	Free Amm. mg/l	SAR	B mg/l	Quality of water as per DBU	Water Quality Index
1	River Beas 1 Km D/S effluent discharge point at Mukerian	1294	09/10/2019	S 662	ZO Lab Jal.	7.6	7.6	1.2	256	540	240	0.021	0.29	0.29	C	S

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	COD mg/l	Turb NTU	TSS mg/l	TDS mg/l	FDS mg/l	Cl mg/l	SO <sub>4</sub> Mg/l	TH mg/l	Ca mg/l	Mg mg/l	T.Alkn mg/l	P.Alkn mg/l	AmnN mg/l	NO <sub>3</sub> -N mg/l	TKN mg/l	PO <sub>4</sub> as P mg/l	F mg/l	Na mg/l	K mg/l
1	River Beas 1 Km D/S effluent discharge point at Mukerian	1294	09/10/2019	S 662	ZO Lab Jal.	10	24	16	170	130	16	16	107	31	7	143	BDL	0.6	0.4	1.1	0.07	0.10	6.8	4.1

Note. 1. BDL means Below Method Detection Limit

2. DBU means Designated Best Use (Class-A,B,C,D & E)

3. Water Quality Index ( S means Satisfactory, U means Unsatisfactory)

4. U/s means Upstream , D/s means Downstream

## Quality of Water of Polluted River stretches in Punjab for the month of October, 2019

### Beas (along Mukerian) : Priority V

S.N.	Point of Sample Collection	Code	Date of receipt in lab	Lab Sample No.	Sample Collected & Analyzed by	T.Cr (mg/l)	Ni (mg/l)	Fe (mg/l)	Zn (mg/l)	Cu (mg/l)	Pb (mg/l)	Cd (mg/l)
1	River Beas 1 Km D/S effluent discharge point at Mukerian	1294	09/10/2019	S 662	ZO Lab Jal.	BDL	BDL	0.24	0.12	BDL	BDL	BDL