

JAYPEE HIMACHAL CEMENT PLANT - BAGA (ARKI) SOLAN HP
(A UNIT OF JAIPRAKASH ASSOCIATES LTD.)
AMBIENT AIR QUALITY MONITORING AT PLANT / MINE SITE & AT CORE ZONE
MONTHLY REPORT (September ' 2016)

Location 1 :- 1370 MSL (Near Main Plant Area; at Panali)

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	30.26	47.51	8.8	5.9	122.5
06.09.16	26.51	50.98	12.2	13.6	115.3
09.09.16	24.06	55.36	12.6	14.2	117.2
15.09.16	30.36	54.96	14.9	14.5	145.0
18.09.16	24.92	50.36	11.0	10.2	99.3
22.09.16	26.51	54.63	14.2	10.9	101.3
25.09.16	24.59	47.88	12.3	15.2	121.0
28.09.16	23.62	48.53	11.5	7.8	141.2
30.09.16	24.02	47.51	6.9	6.7	124.5
Maximum	30.36	55.36	14.9	15.2	145.0
Minimum	23.62	47.51	6.90	5.90	99.30
Average	26.09	50.86	11.60	11.00	120.81
Standard Deviation	2.601	3.322	2.495	3.578	15.428
Coefficient of Variation	30.26	47.51	8.8	5.9	122.5

All values are in µg/m³

Location 2 :- 1260 MSL (Near Cement Mill Area, at Baga)

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	24.20	54.51	8.9	10.5	131.5
06.09.16	32.69	48.69	12.5	20.3	135.6
09.09.16	24.52	52.58	14.2	15.6	141.5
15.09.16	30.59	54.51	12.2	14.8	88.9
18.09.16	32.69	50.36	6.6	13.3	78.5

22.09.16	35.62	54.58	8.4	14.5	90.6
25.09.16	29.51	52.41	10.2	13.6	95.5
28.09.16	28.54	48.56	11.5	14.5	142.2
30.09.16	32.36	50.33	12.3	12.6	101.2
Maximum	35.62	54.58	14.20	20.30	142.20
Minimum	24.20	48.56	6.60	10.50	78.50
Average	30.08	51.84	10.76	14.40	111.72
Standard Deviation	3.840	2.444	2.411	2.668	25.548
Coefficient of Variation	0.128	0.047	0.224	0.185	0.229

All values are in $\mu\text{g}/\text{m}^3$

Location 3 :- Challan (Near Bhalag Crusher at Mine area)

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	34.60	48.56	9.5	12.5	56.6
06.09.16	32.60	50.77	8.8	14.5	78.9
09.09.16	28.54	52.66	12.2	13.6	74.4
15.09.16	31.26	54.88	11.4	12.5	56.9
18.09.16	30.36	56.69	10.5	10.8	72.5
22.09.16	24.59	57.54	7.9	14.8	88.4
25.09.16	25.90	54.21	5.8	22.0	94.6
28.09.16	20.60	59.69	6.9	6.9	59.9
30.09.16	24.50	50.24	8.4	14.6	78.6
Maximum	34.60	59.69	12.20	22.00	94.60
Minimum	20.60	48.56	5.80	6.90	56.58
Average	28.11	53.92	9.04	13.58	73.42
Standard Deviation	4.530	3.689	2.084	4.015	13.559
Coefficient of Variation	0.161	0.068	0.230	0.296	0.185

All values are in $\mu\text{g}/\text{m}^3$

Location 4 :- Baga (Near worker Mess, Basant Kunj)

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	19.58	48.96	6.2	19.6	78.2
06.09.16	32.32	51.69	7.8	20.2	124.5
09.09.16	24.51	51.54	8.2	13.7	95.6
15.09.16	30.21	53.33	7.6	14.2	89.9
18.09.16	19.85	52.54	9.5	16.6	90.4
22.09.16	20.54	57.51	10.5	19.9	100.5
25.09.16	21.51	54.51	11.2	21.5	78.5
28.09.16	30.36	53.32	6.9	20.4	69.5
30.09.16	31.25	49.63	7.0	14.6	58.4
Maximum	32.32	57.51	11.20	21.47	124.50
Minimum	19.58	48.96	6.20	13.66	58.40
Average	25.57	52.56	8.32	17.84	87.28
Standard Deviation	5.406	2.569	1.714	3.061	19.221
Coefficient of Variation	0.211	0.049	0.206	0.172	0.220

All values are in µg/m³**Location 5 :- Nerri- Jajjar (Near Township at Dhartatoh)**

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	30.21	48.51	11.2	9.5	95.5
06.09.16	24.15	49.66	8.1	12.4	123.3
09.09.16	25.69	50.21	6.9	14.2	141.2
15.09.16	25.69	54.36	5.9	15.6	124.5
18.09.16	27.51	54.58	7.8	12.2	123.4

22.09.16	28.52	50.32	7.6	13.6	118.5
25.09.16	23.69	51.22	7.4	14.5	74.5
28.09.16	24.58	57.51	9.5	12.8	69.6
30.09.16	19.58	56.63	8.6	14.1	98.5
Maximum	30.21	57.51	11.20	15.60	141.20
Minimum	19.58	48.51	5.90	9.50	69.63
Average	25.51	52.56	8.11	13.21	107.67
Standard Deviation	3.090	3.270	1.538	1.765	24.484
Coefficient of Variation	0.121	0.062	0.190	0.134	0.227

All values are in $\mu\text{g}/\text{m}^3$

Location 6 :- Kandhar

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	23.69	46.66	8.2	19.6	141.2
06.09.16	24.52	48.69	7.4	11.6	98.2
09.09.16	32.36	50.33	5.6	18.5	90.0
15.09.16	37.41	58.52	8.0	13.4	95.5
18.09.16	31.54	54.21	11.4	14.5	78.5
22.09.16	30.36	57.52	12.3	15.6	66.9
25.09.16	36.36	56.69	15.2	12.3	68.2
28.09.16	24.51	50.21	8.0	14.5	79.4
30.09.16	26.36	47.36	9.4	13.4	50.4
Maximum	37.41	58.52	15.20	19.60	141.20
Minimum	23.69	46.66	5.60	11.60	50.40
Average	29.68	52.24	9.50	14.82	85.36
Standard Deviation	5.193	4.560	2.953	2.699	25.853
Coefficient of Variation	0.175	0.087	0.311	0.182	0.303

All values are in $\mu\text{g}/\text{m}^3$

Location 7 :- Sehnali

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	26.63	45.89	12.30	8.40	70.23
06.09.16	25.52	50.69	11.58	6.30	69.96
09.09.16	21.25	48.96	9.60	7.40	101.32
15.09.16	23.69	51.20	8.40	8.10	95.56
18.09.16	27.52	53.32	9.20	8.80	90.22
22.09.16	25.21	49.66	10.30	6.90	89.63
25.09.16	24.51	56.65	14.50	12.58	53.36
28.09.16	23.69	54.22	12.56	15.60	70.80
30.09.16	28.51	48.88	11.36	10.23	101.20
Maximum	28.51	56.65	14.50	15.60	101.32
Minimum	21.25	45.89	8.40	6.30	53.36
Average	25.17	51.05	11.09	9.37	82.48
Standard Deviation	2.211	3.247	1.911	3.003	16.877
Coefficient of Variation	0.088	0.064	0.172	0.321	0.205

All values are in $\mu\text{g}/\text{m}^3$ **Location 8 :- WTP (Near Shalughat)**

DATE	PM 2.5	PM10	SO2	NOx	CO
02.09.16	22.36	50.22	6.9	14.20	101.2
06.09.16	23.36	53.36	8.0	13.20	124.3
09.09.16	30.21	51.44	7.0	11.50	69.7
15.09.16	33.69	52.21	6.4	10.60	70.6
18.09.16	35.51	54.58	7.3	15.99	88.9
22.09.16	31.25	50.25	8.8	14.59	115.6
25.09.16	35.20	48.66	9.0	13.66	110.4
28.09.16	34.58	48.96	10.2	10.21	101.2

30.09.16	36.63	50.26	11.2	14.58	98.6
Maximum	36.63	54.58	11.20	15.99	124.30
Minimum	22.36	48.66	6.40	10.21	69.65
Average	31.42	51.10	8.31	13.17	97.82
Standard Deviation	5.266	1.978	1.624	1.982	18.748
Coefficient of Variation	0.168	0.039	0.195	0.150	0.192

All values are in $\mu\text{g}/\text{m}^3$

Monitoring of Ambient Air Quality Parameters (As, Ni & Pb) at Plant / Mine Site & at Core Zone during September ' 2016.

Sampling Location	Date of Sampling	As (ng/m^3)	Ni (ng/m^3)	Pb ($\mu\text{g}/\text{m}^3$)
Panali (near Main Plant Area; 1370 MSL)	05/9/2016	ND	ND	ND
Challan (near Bhalag Crusher at Mine Site)	05/9/2016	ND	ND	0.02
Sehnali at the Boundary of Plant Area	05/9/2016	ND	ND	ND
1260 MSL (near Cement Mill Area at Baga)	27/9/2016	ND	ND	0.02
Near worker Mess, Basant Kunj	27/9/2016	ND	ND	ND
Neri-Jajjar (near Township at Dhar-Tatoh)	27/9/2016	ND	ND	0.04
NAAQ Limits		06	20	1.0