

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 (August ' 2013)

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

DATE	PM 2.5	PM10	SO₂	NO_x	CO
02.8.13	19.43	48.62	8	12	118
05.8.13	20.11	50.53	10	14	125
09.8.13	24.43	52.18	9	10	115
13.8.13	24.64	50.17	12	11	123
17.8.13	18.92	43.27	8	9	102
20.8.13	26.82	55.48	13	12	127
24.8.13	22.55	53.12	7	15	135
27.8.13	19.47	46.79	9	8	119
30.8.13	21.54	47.18	11	11	108
Maximum	26.82	55.48	13.00	15.00	135.00
Minimum	18.92	43.27	7.00	8.00	102.00
Average	21.99	49.70	9.67	11.33	119.11
Standard Deviation	2.799	3.700	2.000	2.236	9.993
Coefficient of Variation	0.127	0.074	0.207	0.197	0.084

All values are in µg/m³

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

DATE	PM 2.5	PM10	SO₂	NO_x	CO
02.8.13	30.43	53.84	7	10	108
05.8.13	28.74	49.63	10	12	132
09.8.13	26.36	51.16	8	14	114
13.8.13	31.90	53.97	12	9	127
17.8.13	25.74	47.88	9	10	138
20.8.13	30.12	53.52	10	12	124
24.8.13	24.38	46.13	8	11	140

27.8.13	34.46	55.06	8	13	103
30.8.13	29.26	50.17	9	10	116
Maximum	34.46	55.06	12.00	14.00	140.00
Minimum	24.38	46.13	7.00	9.00	103.00
Average	29.04	51.26	9.00	11.22	122.44
Standard Deviation	3.174	3.065	1.500	1.641	13.059
Coefficient of Variation	0.109	0.060	0.167	0.146	0.107

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
02.8.13	24.37	53.65	8	13	104
05.8.13	26.71	54.32	10	10	116
09.8.13	29.83	57.89	11	9	128
13.8.13	22.37	49.14	11	12	135
17.8.13	20.92	46.09	9	10	111
20.8.13	21.71	50.58	12	13	105
24.8.13	26.74	54.37	9	12	124
27.8.13	29.91	55.03	10	11	132
30.8.13	23.86	46.92	8	9	110
Maximum	29.91	57.89	12.00	13.00	135.00
Minimum	20.92	46.09	8.00	9.00	104.00
Average	25.16	52.00	9.78	11.00	118.33
Standard Deviation	3.340	4.008	1.394	1.581	11.737
Coefficient of Variation	0.133	0.077	0.143	0.144	0.099

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
02.8.13	20.43	43.81	8	12	104
05.8.13	24.52	47.14	10	10	109

09.8.13	21.64	45.07	9	9	116
13.8.13	22.85	42.31	11	14	105
17.8.13	18.74	38.61	9	10	95
20.8.13	26.78	47.11	8	11	126
24.8.13	20.72	43.28	12	9	130
27.8.13	19.82	41.23	10	13	114
30.8.13	24.04	46.02	11	12	132
Maximum	26.78	47.14	12.00	14.00	132.00
Minimum	18.74	38.61	8.00	9.00	95.00
Average	22.17	43.84	9.78	11.11	114.56
Standard Deviation	2.584	2.843	1.394	1.764	12.709
Coefficient of Variation	0.117	0.065	0.143	0.159	0.111

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

Location 5 :- Malothi (Near Fabrication Yard)

DATE	PM 2.5	PM10	SO₂	NO_x	CO
02.8.13	23.45	45.16	12	12	138
05.8.13	20.93	40.29	10	10	127
09.8.13	23.46	44.02	8	13	134
13.8.13	26.01	49.16	7	14	108
17.8.13	18.53	38.42	11	15	113
20.8.13	20.92	42.37	9	12	126
24.8.13	22.45	43.28	12	10	118
27.8.13	25.61	48.19	8	11	106
30.8.13	19.34	36.04	10	9	93
Maximum	26.01	49.16	12.00	15.00	138.00
Minimum	18.53	36.04	7.00	9.00	93.00
Average	22.30	42.99	9.67	11.78	118.11
Standard Deviation	2.602	4.299	1.803	1.986	14.555

Coefficient of Variation	0.117	0.100	0.186	0.169	0.123
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All values are in $\mu\text{g}/\text{m}^3$

Location 6 :- Nerri- Jajjar (Near Township at Dhartatoh)

DATE	PM 2.5	PM10	SO₂	NO_x	CO
02.8.13	23.49	45.27	10	10	108
05.8.13	26.73	47.56	8	8	125
09.8.13	27.81	52.34	9	9	118
13.8.13	20.26	43.08	11	12	102
17.8.13	22.06	46.62	12	7	136
20.8.13	19.91	37.54	9	11	129
24.8.13	25.43	51.10	7	13	114
27.8.13	23.84	44.01	12	9	121
30.8.13	25.07	52.65	10	10	109
Maximum	27.81	52.65	12.00	13.00	136.00
Minimum	19.91	37.54	7.00	7.00	102.00
Average	23.84	46.69	9.78	9.89	118.00
Standard Deviation	2.732	4.919	1.716	1.900	10.932
Coefficient of Variation	0.115	0.105	0.175	0.192	0.093

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

Location 7 :- Kandhar

DATE	PM 2.5	PM10	SO₂	NO_x	CO
02.8.13	17.78	36.52	10	12	137
05.8.13	20.36	42.86	9	10	124
09.8.13	23.92	42.37	8	14	117
13.8.13	21.66	39.63	7	10	103
17.8.13	27.08	50.04	12	11	109
20.8.13	24.35	45.92	10	9	128
24.8.13	26.54	48.88	8	12	132
27.8.13	23.32	42.13	10	8	116

30.8.13	22.71	40.27	9	13	120
Maximum	27.08	50.04	12.00	14.00	137.00
Minimum	17.78	36.52	7.00	8.00	103.00
Average	23.08	43.18	9.22	11.00	120.67
Standard Deviation	2.915	4.392	1.481	1.936	10.863
Coefficient of Variation	0.126	0.102	0.161	0.176	0.090

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

Location 8 :- Sehnali

DATE	PM 2.5	PM10	SO₂	NOx	CO
02.8.13	18.87	33.18	8	9	93
05.8.13	21.68	40.45	10	12	104
09.8.13	22.23	46.72	12	11	115
13.8.13	19.02	36.77	11	13	127
17.8.13	24.56	45.05	8	10	123
20.8.13	20.07	38.04	10	14	128
24.8.13	25.34	47.61	8	12	131
27.8.13	21.28	42.39	7	8	109
30.8.13	23.55	47.12	11	10	106
Maximum	25.34	47.61	12.00	14.00	131.00
Minimum	18.87	33.18	7.00	8.00	93.00
Average	21.84	41.93	9.44	11.00	115.11
Standard Deviation	2.318	5.155	1.740	1.936	13.014
Coefficient of Variation	0.106	0.123	0.184	0.176	0.113

Location 9 :- WTP (Near Shalughat)

DATE	PM 2.5	PM10	SO₂	NOx	CO
02.8.13	24.36	46.18	10	12	126
05.8.13	26.72	50.03	12	14	104

09.8.13	24.55	46.52	9	11	115
13.8.13	28.91	54.85	10	9	136
17.8.13	26.07	48.14	11	13	109
20.8.13	22.38	37.69	13	15	117
24.8.13	24.31	46.26	9	10	128
27.8.13	26.50	51.12	11	12	123
30.8.13	27.82	55.26	12	9	107
Maximum	28.91	55.26	13.00	15.00	136.00
Minimum	22.38	37.69	9.00	9.00	104.00
Average	25.74	48.45	10.78	11.67	118.33
Standard Deviation	2.021	5.321	1.394	2.121	10.724
Coefficient of Variation	0.079	0.110	0.129	0.182	0.091

Monitoring of Ambient Air Quality Parameters (As, Ni & Pb) at Plant / Mine Site & at Core Zone during August' 2013

Sampling Location	Date of Sampling	As (ng/m³)	Ni (ng/m³)	Pb (µg/m³)
Panali (near Main Plant Area; 1370 MSL)	3/08/2013	ND	ND	ND
Challan (near Bhalag Crusher at Mine Site)	7/08/2013	ND	ND	0.004
Sehnali at the Boundary of Plant Area	13/08/2013	ND	ND	ND
1260 MSL (near Cement Mill Area at Baga)	19/08/2013	ND	ND	0.006
Near worker Mess, Basant Kunj	24/08/2013	ND	ND	ND
Neri-Jajjar (near Township at Dhar-Tatoh)	30/08/2013	ND	ND	0.002
NAAQ Limits		06	20	1.0