IRON ORE

SALIENT DATA OF ORE DRESSING INVESTIGATIONS CARRIED OUT DURING 2001-2012 BY ORE DRESSING DIVISION, INDIAN BUREAU OF MINES

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE			PROCESS ADOPTED
						WT%	ASSAY%	%REC	
1.	1490 NGP	Specific surface area determination by Blaine apparatus on three **Iron ore** samples from Bellary dist., Karnataka for M/s Jindal Vijayanagar Steel Ltd.			The specific surface area of three iron ore samples is as follows **Sr. No.** / **Jindal No.** / **S cm2 /gm** 1. A 1341.48 2. B 1278.4799 3. C 1526.71				Specific surface area determination by Blaine apparatus.
2.	1492 NGP	Specific surface area determination by Blaine apparatus on eight **Iron ore** fines, two **Bentonite** & two **Coal** dust fines samples for M/s Jindal Vijayanagar Steel Ltd., dist. Bellary, Karnataka.			**IBM No.** / **Jindal No.** / **S(CM2/GM)** 1(A) BM 1 Ground sample 1757.00 2(B) BM 1 Ground sample 1788.00 3. BM 1 cyclone sample 2015.20 4(A) BM 2 cyclone sample 1927.60 5(B) BM 2Ground sample 1890.30 6. BM 2 cyclone sample 1988.60 7(A) Dryer-1 cyclone 2195.30 8(B) Dryer-2 cyclone 2446.00 9(A) Bentonite Ground sample 3016.00 10 B Bentonite Ground sample 1887.80 11 CDP (Coal/Dust fines) 5933.80 12 CDP (Coal/Dust fines) 5522.00				Specific surface area determination by Blaine apparatus.
3.	1499 NGP	Determination of specific surface area of **Iron ore** sample (-1mm) by Blaine apparatus and BET method for MSPL, Hospet, Karnataka.				Specific surface area determined by Blaine apparatus was found to be 227.196 cm^2/gm, while by BET method it was 1.4937 m^2 /gm.			Specific surface area determined by Blaine apparatus & BET method.

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4.	1520 NGP	Jigging test on **Iron ore** sample from Ferro-Met Concentrates a division of Sociedade de Fomento Industrial Pvt. Ltd., Margao, Goa.	Fe 60.30 SiO_2 4.80 Al_2O_3 1.86 Mn 0.65 LOI 5.90	**Val. Mineral** **Gangue**	Composite Hutch Conc.				Jigging.
					67.90	Fe SiO_2 Al_2O_3 LOI	62.55 3.62 1.47 4.19	70.70	
5.	1521 NGP	Jigging test on –10mm +2 mm SBS-1 **Iron ore** sample from Sociedade de Fomento Industrial Pvt. Ltd., Margao, Goa .	Fe 58.92 SiO_2 4.32 Al_2O_3 3.16 LOI 7.85	**Val. Mineral** **Gangue**	Composite Conc. (Jig Hutch + Jig Bed+Jig Middlings)				Jigging
					70.40	Fe SiO_2 Al_2O_3 LOI	60.24 3.78 2.75 6.92	72.20	
6.	1539 NGP	Wet High Intensity Magnetic Separation tests on two screen fractions of **Iron ore** from RODL, IBM, Bangalore.	Sample I Fe 60.80 SiO_2 2.72 Al_2O_3 5.55 LOI 5.64 Sample II Fe 61.05 SiO_2 2.67 Al_2O_3 5.18 LOI 5.46	**Val. Mineral** Iron ore **Gangue**	66.40 Sample I 74.20 Sample II		Sample I	Sample II	WHIMS
						Fe SiO_2 Al_2O_3 LOI	62.35 2.01 4.32 4.59	62.72 2.09 3.66 4.56	
7.	1542 NGP	Cyclosizing test on **Iron ore** tailing sample from Karnataka for M/s Jindal Vijayanagar Steel Ltd., Vijayanagar Bellary district, Bellary, Karnataka	Fe(T) 58.25 Al_2O_3 6.10 SiO_2 6.18 CaO 0.16 MgO 0.11 TiO_2 0.11 P_2O_5 0.08 LOI 3.10	**Val. Mineral** Hematite, Goethite, Limonite **Gangue** Clay, Quartz	29.30	+15 microns			Cyclosizing
					17.30	- 15 +7 microns			
					53.40	- 7 microns			

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8.	1546 NGP	Sub-sieve size analysis (By Anderson pipette method) of **Iron ore** sample from Tailings of iron ore beneficiation plant, Costi Mines, Sanguem Taluka, South Goa (Departmental work).	Not determined	**Val. Mineral** Not determined **Gangue** Not determined	Size of particles in microns			Sub-sieve size analysis by Anderson pipette method .
					96.68 88.35 75.45 66.96	33.00 23.00 15.00 11.00		
9.	1551 NGP	Recovery of Iron values from **Iron ore** tailings of beneficiation plant at Costi Iron ore Mines, South Goa of M/s Chowgule & Co. Ltd. (Departmental).	Fe 47.09 SiO_2 11.77 Al_2O_3 10.30 Mn 0.84 P_2O_5 0.15 LOI 7.88	**Val. Mineral** Limonite, Goethite, Magnetite, Maghemite, Hematite **Gangue** Quartz, Mica, Amphibole.	17.50 (Over-all) 26.00	Composite of Mag. I+II Fe 62.80 SiO_2 3.16 Al_2O_3 2.62 LOI 2.49 Conc. yielded by MGS test Fe 62.20 SiO_2 4.67 LOI 2.86		Classification in a Floatex density separator followed by low & high intensity Mag. separation. MGS Test
10.	1561 NGP	Bench scale beneficiation studies on a siliceous **Iron ore** (ROM) from M/s Ferro-Met Concentrate, Goa for M/s Sociedade -de- Fomento Pvt. Ltd., Goa.	Fe 44.44 Al_2O_3 2.94 SiO_2 29.13 LOI 4.15	**Val. Mineral** Goethite, Limonite, Hematite, Magnetite/ Martitised Magnetite **Gangue** Quartz, Feldspar, Clay, Mica	43.80	Composite of Mag. Fraction & Table conc. Fe 62.04 Al_2O_3 1.92 SiO_2 7.07	60.80 overall	Dry Magnetic Separation on +30mesh & Tabling on -30mesh.

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						WT%	ASSAY%		%REC	
11.	1562 NGP	Bench scale beneficiation studies on a low grade **iron ore** fines sample (-10 mm) from iron ore beneficiation plant at Codli Mines of M/s Sesa Goa for RCOM, IBM, Goa.	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 Mn P LOI	51.60 9.60 5.65 0.20 0.04 0.37 0.38 0.10 9.45	**Val. Mineral** Goethite, Limonite, Hematite, Martitised Magnetite **Gangue** Quartz, Clay, Mica, Gibbsite, Feldspar	27.50 41.60 	-50 mesh Fe Al_2O_3 SiO_2 LOi -150 mesh Fe Al_2O_3 SiO_2 LOI	 62.79 2.03 2.76 4.15 63.36 2.51 2.37 4.45	33.50 51.00 	Tabling Gravity separation (Duplex concentration)
12.	1563 NGP	Bench scale beneficiation studies on cleaner tails **Iron ore** sample from Codli Mines of M/s Sesa Goa for RCOM, IBM, Goa.	Fe Al_2O_3 SiO_2 Mn TiO_2 CaO Na_2O K_2O LOI	56.05 3.58 9.19 0.44 0.12 0.20 0.16 0.13 5.99	**Val. Mineral** Goethite, Limonite, Hematite, Magnetite **Gangue** Quartz, Clay, Gibbsite, Amphibole	48.60	Fe(T) Al_2O_3 SiO_2 LOI	64.61 1.12 3.46 2.90	56.01	Duplex concentration.
13.	1564 NGP	Bench scale beneficiation studies on a classifier over flow sample from **Iron ore** washing plant , Margao, Goa for M/s Sociedade De Fomento Industrial Ltd., Margao, Goa.	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	48.60 4.13 17.42 0.36 0.14 0.081 0.043 0.54 6.86	**Val. Mineral** Goethite, Limonite, Magnetite/ Martitised Magnetite **Gangue** Quartz, Feldspar, Clay, Gibbsite	30.60	Fe Al_2O_3 SiO_2 LOI	67.33 1.35 2.53 1.78	42.10	Duplex concentration.

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						WT%	ASSAY%		%REC	
14.	1583 NGP	Bench scale beneficiation studies on a ROM **Iron ore** sample from Redi mines of Ispat Industries Ltd., Raigad district, Maharashtra (Departmental investigation.).	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 LOI	56.00 2.25 9.35 0.14 0.04 0.15 7.27	**Val. Mineral** Hematite, Goethite **Gangue** Felspar, Mica, Clay	60.40	Fe Al_2O_3 SiO_2 LOI	60.19 1.79 4.74 6.90	64.70	Magnetic separation & Gravity separation.
15.	1584 NGP	Bench scale beneficiation studies on a plant tailing (thickener under flow) sample from **Iron ore** washing plant, Margao, Goa (Departmental).	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 LOI	49.48 7.12 11.07 0.27 0.30 0.40 9.18	**Val. Mineral** Goethite, Limonite, Hematite, Magnetite/ Martitised Magnetite **Gangue** Quartz, Clay(Kaolinite) Mica, Pyroxene	Composite of Duplex conc. I & II & Table conc. 26.38	Fe Al_2O_3 SiO_2	64.02 1.16 3.56	34.13 (overall)	Hydro-classification by Floatex density separator followed by Duplex concentration & Tabling.
16.	1585 NGP	Bench scale beneficiation studies on a composite sample (classifier overflow & cyclone over flow) from **Iron ore** washing plant of M/s Sociedade De Fomento Industrial Ltd., Margao, Goa (Departmental).	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	46.66 8.88 14.68 0.36 0.04 0.16 0.06 0.60 9.02	**Val. Mineral** Limonite, Hematite, Martitised Magnetite, Goethite, **Gangue** Quartz, Clay, Feldspar,Mica, Amphibole, Gibbsite	22.40 16.10	Mag. Fraction (Conc.) Fe Al_2O_3 SiO_2 LOI Duplex conc. (Composite) Fe Al_2O_3 SiO_2 LOI	61.06 4.01 4.19 4.02 66.56 0.89 2.22 1.97	29.30 23.00	WHIMS Duplex concentration

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						WT%	ASSAY%		%REC	
17.	1586 NGP	Bench scale beneficiation studies on **Iron ore** cyclone overflow sample from iron ore beneficiation plant of M/s Sesa Goa (Departmental studies).	Fe(T) Al_2O_3 SiO_2 CaO MgO TiO_2 Mn P LOI	49.71 7.52 10.00 0.22 0.03 0.11 0.117 0.10 9.31	**Val. Mineral** Limonite, Goethite, Hematite **Gangue** Clay, Quartz, Feldspar	40.90	Fe Al_2O_3 SiO_2 LOI	58.37 3.67 5.57 6.42	48.00	Magnetic separation.
18.	1588 NGP	Additional beneficiation studies on silicious **Iron ore** (ROM) sample from M/s Ferro-Met Concentrate, Goa of Sociedade de Fomento Industrial Pvt. Ltd., Goa (Departmental).	Fe SiO_2 Al_2O_3 LOI	44.44 29.13 2.94 4.15	**Val. Mineral** Limonite, Goethite, Hematite **Gangue** Quartz, Feldspar, Mica	13.80 overall	Fe SiO_2 Al_2O_3	68.55 1.17 0.45	21.20 overall	Spiralling & Cationic flotation.
19.	1590 NGP	Bench scale beneficiation studies on a ROM **Iron ore** samples from Sawantwadi, Sindhudurg dist., Maharashtra for M/s Ispat Industries Ltd.	Fe Al_2O_3 SiO_2 CaO Na_2O LOI	59.83 2.42 4.34 0.06 0.30 7.38	**Val. Mineral** Goethite, Hematite **Gangue** Quartz, Mica, Zircon	73.40	Fe Al_2O_3 SiO_2 LOI	63.20 1.15 2.57 6.00	77.20	Wet scrubbing, Screening, Jigging, Tabling.
20.	1595 NGP	Characterization & Bench Scale beneficiation studies on **Classifier Overflow** sample from Codli Iron Ore beneficiation plant of M/s Sesa Goa Ltd. under S & T Project, (Departmental)	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 LOI	53.65 7.87 6.25 0.35 0.09 0.36 8.31	**Val. Mineral** Goethite, Limonite, Hematite, Magnetite **Gangue** Clay (Kaolinite), Quartz, Gibbsite, Mica, Carbonate, Amphibole	40.00 (16% wt. of ROM)	Fe(T) SiO_2 Al_2O_3 LOI	65.19 2.87 1.32 4.13		LIMS (Wet), WHIMS of cyclone underflow

SR.	R.I.	TITLE OF THE INVESTIGATION	ORIGINAL	MINERALOGY	CONCENTRATE	PROCESS

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NO.	NO.		ANALYSIS %			WT%	ASSAY%		%REC	ADOPTED
21.	1596 NGP	Recovery of Iron values from **secondary hydro-cyclone overflow** sample from Iron Ore Beneficiation plant of M/s Sociedade-de-Fomento Industries Ltd., Goa (Departmental).	Fe SiO_2 Al_2O_3 Mn P LOI	47.30 13.52 7.65 0.67 0.05 9.10	**Val. Mineral** Limonite, Goethite, Hematite, Magnetite **Gangue** Quartz, Mica, Amphibole, Gibbsite	18.20 20.00	Fe SiO_2 LOI Fe SiO_2 LOI	65.50 4.05 3.26 65.11 4.18 3.14	24.00 27.60	Tabling Duplex concentration
22.	1597 NGP	Bench Scale Beneficiation studies on **Iron Ore Slime** sample from tailing pond of Dalli- Mechanised Mines iron ore beneficiation plants of M/s Steel Authority of India Ltd., Bhilai Steel Plant (Departmental Studies) .	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	52.46 3.57 16.52 0.05 0.19 0.17 0.01 0.06 4.22	**Val. Mineral** Hematite, Goethite, Magnetite **Gangue** Quartz, Clay, Gibbsite, Mica, Amphibole, Pyroxene, Felspar	50.50	Fe Al_2O_3 SiO_2	64.00 1.43 6.23	61.70	Tabling
23.	1603 NGP	Bench Scale beneficiation studies on **Iron Ore** sample (feed to scrubber) from Dalli wet processing plant of Bhilai Steel Plant of M/s Steel Authority of India Ltd., (Departmental Studies) .	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	62.70 1.56 6.30 0.26 0.19 0.04 0.06 0.02 2.50	**Val. Mineral** Hematite, Goethite, Limonite **Gangue** Clay, Mica, Magnetite, Quartz, Feldspar, Amphibole, Chlorite, Carbonate	86.20	Overall composite conc. Fe Al_2O_3 SiO_2 LOI	 65.51 1.16 3.48 2.16	89.70 (Overall)	Wet scrubbing, Screening, Tabling.

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					WT%	ASSAY%	%REC	

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24.	1607 NGP	Bench scale beneficiation studies on a low grade **Iron ore fines (sinter fines)** from Dry Crushing and Screening plant at Dalli-Rajhara region of Durg district, Chhattisgarh of Bhilai Steel plant of M/s SAIL (Departmental studies).	Fe Al_2O_3 SiO_2 CaO MgO Na_2O K_2O P Mn TiO_2 LOI	62.00 2.30 5.60 0.02 0.01 0.40 0.73 0.10 0.06 0.11 2.92	**Val. Mineral** Hematite, Limonite, Goethite Martitised Magnetite **Gangue** Clay, Quartz, Feldspar, Mica, , Chlorite, Amphibole, Tourmaline, Carbonates, Gibbsite	80.70 (Over-all)	Comp. Conc. (Mag.+ Table conc.) -30 mesh Fe Al_2O_3 SiO_2 LOI	 64.62 1.22 3.74 2.33	84.00	Dry screening, Dry magnetic separation & Tabling
25.	1626 NGP	Characterisation & Bench scale beneficiation studies on **classifier overflow** sample from Dalli **iron ore** washing plant at Dalli (Chattisgarh) of M/s Steel Authority of India Ltd. (Departmental) (Under S&T project).	Fe(T) SiO_2 Al_2O_3 CaO TiO_2 P Mn LOI	51.00 16.55 5.05 0.10 0.19 0.065 0.07 4.40	**Val. Mineral** Hematite, Limonite, Goethite, Martitised Magnetite **Gangue** Quartz, Clay, Muscovite, Feldspar.	57.50	Comp. Mag. Conc. Fe(T) SiO_2 Al_2O_3 LOI D_{80} I stage D_{80} II stage	 64.65 3.96 1.05 2.03 30.1 microns 33.0 microns	72.20	Hydrocycloning followed by WHIMS.

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					WT%	ASSAY%	%REC	

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						WT%	ASSAY%	%REC	
26.	1634 NGP	Bench scale beneficiation studies on **Iron ore** dump sample (generated fines) from Mahamaya mines of Bhilai Steel Plant, Durg dist., Chattisgarh for M/s Steel Authority of India Ltd. (Departmental Studies).	Fe Al_2O_3 SiO_2 CaO MgO Na_2O K_2O P Mn TiO_2 LOI	61.24 2.10 6.20 0.06 0.01 0.20 0.30 0.10 0.06 0.12 3.56	**Val. Mineral** Hematite, Goethite, Limonite, Martitised Magnetite. **Gangue** Quartz, Feldspar, Amphibole, Gibbsite, Clay.	72.10	Fe Al_2O_3 SiO_2 LOI	65.69 0.88 2.87 2.39	77.10	Jigging, Hydrocycloning Spiralling.
						79.60	Fe Al_2O_3 SiO_2 LOI	63.94 1.24 3.63 3.14	83.20	Dry screening, High Intensity Magnetic Separation, Tabling.
27.	1635 NGP	Bench scale beneficiation studies on **sinter grade Iron Ore fines** from wet processing plant at Dalli mechanized mine, Durg dist., Chattisgarh of Bhilai Steel Plant for M/s SAIL. (Departmental Studies).	Fe Al_2O_3 SiO_2 Na_2O K_2O P Mn TiO_2 LOI	63.86 1.25 5.45 0.10 0.20 0.056 0.045 0.063 2.09	**Val. Mineral** Hematite, Goethite, Limonite, Martitised Magnetite. **Gangue** Quartz, Feldspar, Mica,Clay.	93.40	Composite conc. Fe Al_2O_3 SiO_2 LOI	 65.30 1.05 4.05 1.71	95.50	Screening, Cycloning, Spiralling.
28.	1636 NGP	Bench scale beneficiation studies on **Iron ore dump** sample (generated fines) from Dalli Manual Mine of Bhilai Steel Plant, Durg dist., Chattisgarh for SAIL (Departmental Studies).	Fe Al_2O_3 SiO_2 CaO MgO Na_2O K_2O P Mn TiO_2 LOI	60.09 2.35 8.37 0.06 0.05 0.20 0.30 0.06 0.05 0.10 3.01	**Val. Mineral** Hematite, Goethite, Limonite, Martitised Magnetite. **Gangue** Quartz, Feldspar, Muscovite, Biotite, Amphibole, Clay.	60.70	Fe Al_2O_3 SiO_2 LOI	65.54 1.08 3.51 1.95	66.00	Wet screening, Jigging, Tabling.
						75.40	Composite conc. Fe Al_2O_3 SiO_2 LOI	 65.15 0.99 4.06 1.86	81.70	Wet screening, Jigging, Spiralling.

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29.	1638 NGP	Characterisation and bench scale beneficiation studies on **Classifier overflow** sample from Cuddegal **Iron ore** beneficiation plant of M/s Sociedade De Fomento Ltd. (Under S&T Project) (Departmental).	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 P Mn LOI	54.05 7.89 6.48 0.312 0.154 0.191 0.064 0.467 8.26	**Val. Mineral** Martitised Magnetite, Hematite, Limonite, Goethite **Gangue** Clay, Mica, Quartz, Tourmaline, Gibbsite, Zircon	45.90 (16.98 % of the ROM)	Comp. Mag. Conc. Fe(T) SiO_2 Al_2O_3 LOI	 64.86 3.21 1.89 2.77		Characterisation studies, HydrocycloningWLIMS, WMIMS
30..	1649 NGP	Bench scale beneficiation studies on **Iron Ore mine reject** sample (DR-5) of Iron Ore mines of M/s NMDC, Bailadila area, Dantewada dist., Chattisgarh (Under Special Integrated Studies).	Fe_2O_3 Fe Al_2O_3 SiO_2 CaO MgO TiO_2 K_2O Na_2O P Mn LOI	70.80 49.58 7.49 12.15 0.10 0.10 0.45 0.15 0.09 0.10 0.07 8.44	**Val. Mineral** Goethite, Hematite, Magnetite, Limonite, **Gangue** Quartz, Clay, Feldspar, Amphibole.	49.60	Composite conc. Fe Al_2O_3 SiO_2 LOI	 60.49 2.96 4.81 5.29	60.10	Jigging, Spiralling.
31.	1654 NGP	Characterisation studies, Sieve & Sub-sieve analysis of six **iron ore** samples from Ferro – Met Concentrate, Margaon, Goa for M/s Sociedade de Fomento Industries (P) Ltd., Goa.	Fe (T) Al_2O_3 SiO_2 LOI	61.05 1.54 4.30 5.70	**Val. Mineral** Limonite, Hematite, Goethite, Martitised Magnetite **Gangue** Quartz, Muscovite, Clay		Fe (T) Al_2O_3 SiO_2 LOI	60.82 3.13 5.38 4.74		

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No.	NO.					Wt%	Assay%		% Rec.	Adopted
32.	1655 NGP	Bench scale beneficiation studies on **cyclone underflow** sample from **iron ore** processing plant of M/s NMDC, Bailadila area, Dantewada dist., Chattisgarh. (Under special integrated studies).	Fe Fe_2O_3 Al_2O_3 SiO_2 CaO MgO Na_2O K_2O P Mn TiO_2 LOI	62.10 88.68 3.05 3.64 0.033 0.014 0.085 0.045 0.056 0.046 0.20 4.01	**Val. Mineral** Hematite, Limonite, Goethite, Martitised Magnetite **Gangue** Quartz, Muscovite, Clay, Feldspar, Amphibole, Carbonate	85.10	Fe Fe_2O_3 Al_2O_3 SiO_2 LOI	64.54 92.16 1.96 2.51 3.07	88.40	Spiralling, Mozley Separation.
33.	1656 NGP	Bench scale beneficiation studies on **thickner underflow** sample from **iron ore** processing plant of M/s NMDC, Bailadila area, Dantewada dist., Chattisgarh. (Under special integrated studies).	Fe Fe_2O_3 Al_2O_3 SiO_2 CaO MgO P Mn TiO_2 LOI	49.01 69.99 9.55 9.65 0.003 0.13 0.078 0.08 0.60 9.38	**Val. Mineral** Limonite, Goethite, Hematite, Martitised Magnetite **Gangue** Quartz, Mica,Clay, Feldspar, Gibbsite.	50.20	Fe Fe_2O_3 Al_2O_3 SiO_2 LOI	61.52 87.85 3.14 4.29 4.35	62.60	Hydro-cycloning
34.	1657 NGP	Magnetic separation test on **iron ore** sample (Tails) from RODL, IBM, Bangalore (Departmental).	Fe	40.85	**Val. Mineral** Iron ore **Gangue** Quartz	36.50	Fe(T) SiO_2 Al_2O_3 LOI	61.58 4.94 3.77 3.46	55.60	WHIMS

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						Wt%	Assay%	% Rec.	
35.	1659 NGP	Determination of sub-sieve analysis, Blaine Index and Mineralogical studies on two ultra fine **iron ore** samples from Sesa Goa, for M/s Sesa Goa.	Sample No. 1		**Val. Mineral** Limonite, Goethite, Hematite, Martitised Magnetite **Gangue** Clay		Sample No. 1 Sub sieve analysis		Cyclosizing
			Fe(T)	55.34			35 u	18.50	
			SiO_2	8.78			26 u	20.00	
			Al_2O_3	5.40			18 u	27.20	
			LOI	5.97			12 u	22.40	
							9 u	7.80	
							9 u	4.10	
							Blain index	1837.61 $56cm^2/gm$	
							Sample No. 2 Sub sieve analysis		
			Sample No. 2				31 u	15.70	
			Fe(T)	60.05			23 u	27.90	
			SiO_2	5.83			16 u	26.00	
			Al_2O_3	2.67			11 u	20.20	
			LOI	4.21			7 u	6.70	
							7 u	3.70	
							Blain index	1677.44 02 cm^2/gm	
36.	1660 NGP	Various tests on **Iron Ore** sample from Arya Iron & Steel Co. Pvt. Ltd., Mumbai for M/s Arya Iron & Steel Co. Pvt. Ltd., Mumbai				1. Grindability test indicated that the sample falls under medium soft to medium category. 2. Bond's ball mill work index was found to be 9.62 kwh/short ton. 3. Blaine number was found to be 2032 sq.mtr.gm 4. Bulk density was found to be 2.58 tons/cu.mt.			

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
37.	1667 NGP	Bench scale beneficiation studies on minus 2mm fraction of **classifier fines** of Joda **iron ore** concentrator of M/s TISCO Ltd. for M/s Tata Iron & Steel Co.Ltd (TISCO), Dist. Keonjhar, Orissa.	Fe FeO Al_2O_3 SiO_2 CaO MgO Mn P TiO_2 LOI	65.23 0.24 2.58 1.92 0.11 0.021 0.045 0.127 0.10 3.00	**Val. Mineral** Hematite, Goethite, Limonite, **Gangue** Quartz, Feldspar, Gibbsite, Mica, Clay	65.20	Fe Al_2O_3 Extensive beneficiation studies incidated that alumina content could not be reduced to below 2% as desired by the party	66.00 2.30	66.50	Gravity, Magnetic Separation
38.	1668 NGP	Determination of tumbler index and abrasion index of **iron ore** sample from Redhill Iron & Steel Pvt. Ltd., Nagpur.				Tumbler index was found to be 85.60 & abrasion index was found to be 9.00.				Standard process
39.	1674 NGP	Bench scale beneficiation studies on **Iron ore** (ROM) from Kiriburu, Singhbhum district, Jharkhand (Departmental).	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 LOI	57.20 6.27 4.10 0.44 46.00 0.49 5.60	**Val. Mineral** Goethite, Limonite, Hematite, Magnetite **Gangue** Quartz, Feldspar, Gibbsite, Mica, Clay		Composite conc. Fe(T) SiO_2 Al_2O_3	 62.59 4.14 2.78	67.60	Wet medium intensity magnetic separation.

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			% Rec.	Process Adopted
						Wt%	Assay%			
40.	1679 NGP	Recovery of iron values from Plant rejects (slimes) from **iron ore** beneficiation plant of M/s Tata Steel Limited at Noamundi, Jharkhand (Departmental).	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	58.25 5.06 5.54 0.02 0.01 0.50 0.23 0.04 5.10	**Val. Mineral** Hematite, Goethite **Gangue** Felspar, Quartz, Gibbsite, Clay, Mica	46.40	Fe SiO2 LOI	65.86 2.19 2.55	51.80	Desliming followed by sand on water only cyclone
41.	1684 NGP	Bench scale beneficiation studies on **mine reject from iron ore mine** of M/s Tata Steel Ltd., Noamundi, Jharkhand. (Departmental).	Fe Al_2O_3 SiO_2 LOI	49.67 9.82 5.59 11.55	**Val. Mineral** Limonite, Goethite, Hematite, Magnetite **Gangue** Quartz, Mica, Feldspar, Clay, Gibbsite	28.70 0.80	-6 mm +30 mesh Fe Al_2O_3 SiO_2 LOI Fine Fe Al_2O_3 SiO_2 LOI	 63.44 2.80 1.58 5.31 62.56 4.06 2.02 4.80	36.70 1.00	Jigging Tabling
42.	1685 NGP	Bench scale beneficiation of **iron ore** sample **(Classifier overflow)** from M/s NMDC Ltd., Bailadila Iron ore project, Deposit 5, Bacheli dist., Dantewada, Chattisgarh. (Departmental).	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 FeO LOI	52.58 7.46 9.05 0.14 0.29 1.96 0.30 6.08	**Val. Mineral** Limonite, Goethite, Hematite, **Gangue** Quartz, Mica, Feldspar, Clay, Gibbsite	55.40	Fe Al_2O_3 SiO_2	63.05 3.54 3.20	66.00	Classification by hydro-cycloning followed by cycloning

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
43.	1686 NGP	Bench scale beneficiation studies on **Iron ore mine reject** sample from Kiriburu mines of M/s SAIL, Singhbhum district (West), Jharkhand state for RCOM, IBM, Kolkata.	Fe Fe_2O_3 Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	39.20 55.98 10.34 21.48 0.13 0.11 0.75 0.11 0.10 10.62	**Val. Mineral** Limonite, Goethite, Hematite, Magnetite/Mart-itised Magnetite **Gangue** Quartz, Mica, Feldspar, Clay, Amphibole	26.10	Fe Fe_2O_3 Al_2O_3 SiO_2 TiO_2 LOI	60.48 86.36 2.76 4.41 0.23 5.84	40.40	Jigging, Tabling & Hydro-cycloning
44.	1689 NGP	Bench scale beneficiation studies on **iron ore mine Reject** sample from Meghahataburu Mines of M/s SAIL, Singhbhum (West) District, Jharkhand for RCOM, IBM, Kolkata.	Fe Fe_2O_3 Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	49.60 70.83 7.42 10.85 0.02 0.14 0.34 0.04 0.04 10.10	**Val. Mineral** Limonite, Goethite, Hematite, Magnetite/Mart-itised Magnetite **Gangue** Quartz, Mica, Feldspar, Clay, Amphibole	39.50	Fe Fe_2O_3 Al_2O_3 SiO_2 TiO_2 LOI	60.57 86.50 2.05 3.06 0.28 7.14	48.30	High intensity magnetic separation, Classification, Gravity operation
45.	1690 NGP	Bench scale beneficiation studies on **ROM feed to iron ore** beneficiation plant of M/s Tata Steel Ltd. at Noamundi, Jharkhand (Departmental).	Fe SiO_2 Al_2O_3 LOI	64.22 2.21 2.51 3.28	**Val. Mineral** Limonite, Goethite, Hematite, **Gangue** Gibbsite, Clay, Mica, Quartz	55.20	Fe SiO_2 Al_2O_3 LOI	67.64 1.78 1.36 1.07	57.80	Hand sorting and Jigging

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
46.	1701 NGP	Magnetic separation test on **Magnetite** sample for M/s ENESTEE Engineering Pvt. Ltd., Nagpur.	Fe(T) SiO_2 TiO_2 Al_2O_3 CaO MgO	54.39 1.96 15.66 2.29 0.34 1.89	**Val. Mineral** Magnetite, Hematite **Gangue** Quartz	77.20	Fe(T) SiO_2 TiO_2 Al_2O_3	57.51 0.52 14.00 2.36		Low Intensity Magnetic Separation
47.	1702 NGP	Limited tabling test on **Blue Dust (Iron Ore)** sample of M/s Shri Gulab Mine and Minerals, Jabalpur, Dist. Jabalpur, M.P.	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO2 LOI	55.80 12.50 4.21 0.02 0.01 0.21 2.62	Val. Mineral Hematite **Gangue** Mica, Quartz, Felspar	58.20	Fe(T) SiO_2 Al_2O_3 LOI	64.45 5.60 2.36 1.30	66.00	Tabling
48.	1709 NGP	Additional test work on **iron ore tailing/slimes** samples from Dalli mines (M/s SAIL), Cuddigal Mines (M/s Sociedade de Fomento Ltd.) and Codli mines (M/s Sesa Goa Ltd.) using water only cyclone, floatex density separator and ferrous wheel magnetic separator **(Under S&T Project).**	Fe(T) SiO_2 Al_2O_3 LOI	53.65 7.87 6.23 8.31	**Val. Mineral** Iron ore	47.40	Fe(T) SiO_2 Al_2O_3	63.85 2.82 1.65	55.50	Water cyclone & WHIMS
						47.50	Fe(T) SiO_2 Al_2O_3	63.56 2.44 1.75	55.20	Floatex density separation & HIMS
49.	1711 NGP	Bench scale beneficiation studies on a **reject (classifier overflow)** sample from Iron ore washing plant at Kiriburu, Orissa of M/s SAIL (Departmental).	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 LOI	55.47 8.46 4.78 0.25 0.18 0.58 6.49	**Val. Mineral** Goethite/ Limonite, Magnetite, Hematite **Gangue** Quartz, Mica	38.10	Fe(T) SiO_2 Al_2O_3	61.68 3.98 2.36	42.30	Tabling

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
50.	1712 NGP	Bench scale beneficiation studies on a **reject (Classifier overflow)** sample from Iron ore washing plant at Meghataburu, Orissa of M/s SAIL (Departmental) .	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 LOI	56.41 7.10 6.49 0.27 0.19 0.60 7.24	**Val. Mineral** Goethite/ Limonite, Magnetite, Hematite **Gangue** Quartz, Mica, Clay, Feldspar.	19.90	Fe(T) SiO_2 Al_2O_3	56.78 5.67 4.16	20.10	Tabling
51.	1714 NGP	Process flowsheet development for treatment of **Iron ore fines** from Jindal Mines for M/s Arya Iron and Steel Co. Pvt. Ltd., Mumbai.	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 LOI	61.80 3.60 3.65 0.028 0.023 0.36 4.00	**Val. Mineral** Hematite, Goethite/ Limonite **Gangue** Quartz, Mica, Clay, Gibbsite.	56.50	Fe(T) SiO_2 Al_2O_3 LOI	66.00 1.85 2.03 2.31	60.40	Tabling & Jigging.
52.	1715 NGP	Beneficiation studies of **Iron ore fines** sample from Essel Mines, Orissa for M/s Arya Iron and Steel Col. Pvt. Ltd., Mumbai.	Fe(T) SiO_2 Al_2O_3 CaO MgO P Mn LOI	61.68 5.42 2.52 0.15 0.10 0.03 0.27 2.68	**Val. Mineral** Hematite, Goethite/ Limonite **Gangue** Quartz, Muscovite, Clay, Feldspar.	82.20	Fe(T) SiO_2 Al_2O_3 LOI	65.06 3.52 1.11 1.63	86.10	Tabling
53.	1718 NGP	Determination of tumbler index and abrasion index of **Iron Ore** sample from M/s S.N.Malu Steel Pvt. Ltd., Nagpur (Sponge Iron Unit)			**Val. Mineral** -- **Gangue** --	Tumbler Index -- 79.18 Abrasion Index -- 12.39				Tumbler Index, Abrasion Index

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54.	1720 NGP	Bench scale beneficiation studies on **Iron ore** sample, Jig Tails from Noamundi Iron Ore beneficiation plant of M/s Tata Steel Company, Ranchi	Fe Al_2O_3 CaO MgO TiO_2 LOI	55.05 6.57 4.06 0.01 0.59 8.92	**Val. Mineral** Goethite, Limonite **Gangue** Feldspar, Clay, Gibbsite, Amphiboles.	11.00	Fe Al_2O_3 SiO_2	65.80 2.05 1.74	13.10	Gravity Separation
55.	1721 NGP	Beneficiation studies on **Iron ore** sample of Noamundi Classifier Fines (-1.4 mm) for M/s TISCO.	Fe(T) SiO_2 Al_2O_3 CaO Mn LOI	62.13 1.97 3.74 0.26 0.045 4.27	**Val. Mineral** Hematite/ Limonite **Gangue** Quartz, Gibbsite,	72.70	Fe(T) SiO_2 Al_2O_3 LOI	65.16 1.66 2.00 2.52	76.00	Gravity Separation
56.	1725 NGP	Bench scale beneficiation studies on **iron ore** (**Blue-Dust)** sample for M/s. Shree Gulab Mines and Minerals, Distt. Jabalpur, MP.	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 P Mn LOI	55.42 11.93 4.06 0.18 0.07 0.15 0.09 0.16 2.96	**Val. Mineral** Hematite **Gangue** Quartz, Mica, Feldspar	81.10	Fe(T) SiO_2 Al_2O_3 LOI	63.30 3.59 2.65 1.76	92.80	Cycloning.
57.	1726 NGP	Magnetic separation test on **iron ore** sample (No.1) from M/s Sesa Goa Ltd., Panaji, Goa.	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO LOI	46.27 7.16 10.27 7.02 0.96 4.12 4.65	**Val. Mineral** Magnetite/ Martitised Magnetite, Hematite, Goethite, Limonite **Gangue** Chamosite, Carbonate, Quartz, Mica, Amphibole	56.50	Fe(T) FeO SiO_2 Al_2O_3 LOI	49.70 6.89 7.62 6.01 3.87	61.00	Magnetic Separation

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58.	1727 NGP	Magnetic separation test on **iron ore** sample (No.2) from M/s Sesa Goa Ltd., Panaji, Goa.	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO LOI	52.80 1.42 6.97 5.19 0.80 1.78 4.32	**Val. Mineral** Magnetite/ Martitised Magnetite, Hematite, Goethite, Limonite **Gangue** Chamosite, Carbonate, Quartz, Mica, Amphibole	62.00	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO LOI	55.73 1.19 5.36 4.60 0.71 1.39 3.39	66.10	Magnetic Separation
59.	1728 NGP	Magnetic separation test on **iron ore** sample (No.3) from M/s Sesa Goa Ltd., Panaji, Goa.	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO LOI	44.56 10.42 7.48 6.37 6.27 3.53 4.97	**Val. Mineral** Magnetite/ Martitised Magnetite, Hematite, Goethite, Limonite **Gangue** Chamosite, Carbonate,	64.50	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO LOI	49.32 11.74 6.11 5.03 2.81 4.00 4.60	71.30	Magnetic Separation
60.	1730 NGP	Bench scale beneficiation studies on a low grade **iron ore** sample for M/s Netear Mining Company, Bhopal, MP.	Fe(T) SiO_2 Al_2O_3 CaO MgO TiO_2 P Mn LOI	45.00 29.54 2.93 0.52 0.21 0.11 0.12 0.52 1.18	**Val. Mineral** Hematite **Gangue** Silicate, Quartz, Feldspar	31.00	Fe(T) SiO_2 Al_2O_3 LOI	57.05 13.92 2.12 0.77	39.20	Tabling

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61.	1731 NGP	Limited beneficiation studies on **Mixed iron ore** from Agaria, Dudigara, Pratappur, Jabalpur for M/s Anand Mining Corporation, Katni, M.P. for RCOM, IBM, Jabalpur.	Fe(T) Al_2O_3 SiO_2 CaO MgO P Mn LOI	61.46 2.51 6.92 0.020 0.010 0.034 0.085 2.23	**Val. Mineral** Hematite, Goethite, Limonite **Gangue** Quartz, Mica, Clay, Gibbsite, Amphiboles	94.30	Fe(T) Al_2O_3 SiO_2 LOI	64.09 1.87 5.17 1.17	98.00	Hydrocyclone
62.	1732 NGP	Limited beneficiation studies on **iron ore** from Sindursi, Jabalpur for M/s Jai Minerals, Bhopal, M.P. for RCOM, IBM, Jabalpur.	Fe(T) Al_2O_3 SiO_2 CaO MgO P Mn LOI	55.90 4.62 10.30 0.215 0.104 0.101 0.147 5.11	**Val. Mineral** Hematite, Goethite, Limonite Magnetite, Martitised Magnetite, **Gangue** Quartz, Mica, Clay, Gibbsite, Amphiboles	64.30	Fe(T) Al_2O_3 SiO_2 LOI	61.40 3.58 5.48 4.00	70.80	Sieving, Blending.
63.	1734 NGP	Limited gravity separation studies on four **iron ore** samples from Sesa Goa for M/s Sesa Goa Limited.	North A Fe(T) SiO_2 Al_2O_3 LOI North B Fe(T) SiO_2 Al_2O_3 LOI	 61.65 6.43 2.69 1.05 56.43 11.72 5.13 2.70	**Val. Mineral** Hematite, Goethite, Limonite Magnetite **Gangue** Quartz, Feldspar, Chlorite, Pyroxene Apatite, Amphibole	78.30 56.90	Fe(T) SiO_2 Al_2O_3 LOI Fe(T) SiO_2 Al_2O_3 LOI	66.82 1.45 1.94 0.24 67.25 1.50 2.90 0.21	85.00 68.10	Stage grinding followed by tabling. Stage grinding followed by tabling.

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
64.	1739 NGP	Limited tests (Screening & Gravity separation) on **Iron ore** sample from Anand Mining Corporation, Katni, M.P.	Fe(T) Al_2O_3 SiO_2 CaO MgO P Mn LOI	61.46 2.51 6.92 0.020 0.010 0.034 0.085 2.23	**Val. Mineral** Hematite, Goethite, Limonite **Gangue** Quartz, Clay, Gibbsite, Mica, Feldspar, Amphibole	89.90	Fe(T) Al_2O_3 SiO_2 LOI	64.84 1.79 4.10 1.51	95.00	Hydro-cycloning
65.	1740 NGP	Bench scale beneficiation studies on a Hard Laminated **Iron Ore** from Taldih deposit for RMD, SAIL, Kolkata, W.B.	Fe(T) FeO Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn S LOI	60.78 0.15 4.93 1.85 0.21 0.01 0.16 0.07 0.036 0.08 5.25	**Val. Mineral** Hematite, Goethite **Gangue** Quartz, Clay, Gibbsite, Feldspar	32.10	Fe(T) Al_2O_3 SiO_2 LOI	65.31 2.12 1.11 2.66	34.30	WHIMS
						31.50	Fe(T) Al_2O_3 SiO_2 LOI	65.58 2.18 0.97 2.45	33.80	Hydrocyclone
66.	1741 NGP	Bench scale beneficiation studies on Soft Laminated **Iron Ore** sample from Taldih deposit, Orissa for M/s RMD, Steel Authority of India Ltd., Kolkata, West Bengal.	Fe(T) FeO Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn S LOI	59.22 0.30 5.98 3.06 0.02 0.01 0.22 0.08 0.05 0.08 5.18	**Val. Mineral** Hematite, Goethite, Limonite **Gangue** Quartz, Clay, Gibbsite, Feldspar	33.40	Fe(T) Al_2O_3 SiO_2 LOI	65.45 2.45 1.12 2.34	36.80	Hydrocyclone cum gravity concentration (Tabling)
						33.70	Fe(T) Al_2O_3 SiO_2 LOI	65.14 2.13 1.36 2.52	37.00	Hydrocyclone followed by WHIMS

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
67.	1742 NGP	Bench scale beneficiation studies on Laterite **Iron Ore** sample from Taldih deposit for M/s. RMD, Steel Authority of India Ltd., Kolkata, West Bengal.	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	57.72 5.82 2.70 0.101 0.010 0.354 0.088 0.040 7.93	**Val. Mineral** Hematite, Goethite, Limonite, Magnetite/ Martitised Magnetite **Gangue** Quartz, Clay, Gibbsite, Feldspar, Mica, Amphibole	33.00 31.10	Fe(T) Al_2O_3 LOI Fe(T) Al_2O_3 SiO_2 LOI	59.55 2.49 7.09 60.09 5.22 1.82 6.44		Wet screening, Jigging WHIMS
68.	1743 NGP	Bench scale beneficiation studies on a friable **iron ore** sample from Taldih deposit for M/s RMD, Steel Authority of India Ltd., Kolkata, West Bengal.	Fe(T) Al_2O_3 SiO_2 CaO MgO TiO_2 P LOI	64.43 2.88 1.78 0.02 0.10 0.15 0.057 3.82	**Val. Mineral** -- **Gangue** --	81.30	Mag I + Mag II Fe(T) Al_2O_3 SiO_2 LOI	66.12 1.90 1.47	83.70	WHIMS
69.	1744 NGP	Bench scale beneficiation studies on a blue dust Direct ore (DO) **iron ore** sample from Taldih deposit for M/s RMD, Steel Authority of India Ltd.,	Fe(T) FeO Al_2O_3 SiO_2	65.01 0.23 1.68 2.60	**Val. Mineral** Hematite, Goethite, Limonite,	19.80	Fe(T) Al_2O_3 SiO_2 LOI	64.75 1.98 1.88 4.12	4.12	Dry sieve analysis.

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		Kolkata, West Bengal.	CaO MgO TiO_2 P Mn S LOI	0.03 0.01 0.05 0.06 0.03 0.06 2.73	Magnetite/ Martitised Magnetite **Gangue** Quartz, Clay, Gibbsite, Feldspar, Mica, Amphibole	24.10	Fe(T) Al_2O_3 SiO_2 LOI	66.09 1.71 1.80 2.61	24.30	

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
70.	1745 NGP	Bench scale beneficiation studies on a composite of sub grade and tailing (1:1) **iron ore** sample from Barsua mine for M/s RMD, Steel Authority of India Ltd., Kolkata.	Fe Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn LOI	53.77 7.95 4.64 0.47 0.25 0.27 0.074 0.049 8.28	**Val. Mineral** Limonite **Gangue** Quartz, Clay, Gibbsite, Feldspar, Mica, Amphibole	16.80 12.50	Fe(T) Al_2O_3 SiO_2 LOI Fe(T) Al_2O_3 SiO_2 LOI	62.03 3.76 1.95 4.93 62.79 3.52 1.60 4.44		Wet screening, Jigging WHIMS
71.	1749 NGP	Bench scale beneficiation studies on **ROM Blue Dust reject** sample from Dubiyara mines for M/s Anand Mining Corp. Ltd, Katni, M.P.	Fe(T) FeO Al_2O_3 SiO_2 CaO MgO TiO_2 P Mn S LOI	51.65 0.55 3.57 19.46 0.07 0.07 0.19 0.04 0.10 0.26 2.43	**Val. Mineral** Hematite Gangue Quartz, **Kaolinite**	50.20	Fe(T) SiO_2 Al_2O_3 LOI	64.02 5.36 1.27 1.05	62.80	Jigging cum tabling.

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72.	1757 NGP **(PP)**	Pilot scale beneficiation studies on **Iron ore** sample from Sankalpuram Iron Ore Mine, Hospet, Karnataka, for M/s. R.B. Seth Shreeram Narsingdas.	Fe(T) SiO2 Al2O3 CaO MgO TiO2 Mn P LOI	59.20 7.50 4.50 0.242 0.149 0.296 0.067 0.023 2.15	**Val. Mineral** Hematite, Goethite Limonite **Gangue** Clay Quartz	71.10	Fe(T) SiO2 Al2O3 LOI	65.20 3.40 2.11 2.14	78.10	Scrubbing-cum-Classification
73.	1758 F/C	Jigging studies on **Iron ore** lumps from Sankalpuram Iron Ore Mines, Hospet, Karnataka for M/s. R.B. Seth Shreeram Narsingdas.	Fe(T) SiO2 Al2O3 CaO MgO TiO2	61.57 5.70 3.27 0.677 0.305 0.201	Val. Mineral Hematite Goethite, Limonite Gangue Clay, Quartz	87.50	Fe(T) SiO2 Al2O3 LOI	63.06 4.96 2.84 1.25	89.10	Hand sorting & Jigging
74.	1759 L/C	Tabling studies on **Iron ore** sample from Goa for Mr. Girish Joag, Pune, M.S.	Fe(T) SiO2 Al2O3 CaO MgO TiO2	63.25 6.80 1.87 0.072 0.035 0.054	Val. Mineral Magnetite Gangue Quartz Clay Mica Feldspar	72.60	Fe(T) SiO2 Al2O3	69.40 1.49 0.60	79.60	Tabling
75.	1762 NGP	Bench Scale Beneficiation Studies on a Composite Beneficiable **Iron Ore** Sample from Talhdih Deposit for RMD, SAIL, Kolkota	Fe(T) SiO2 Al2O3 CaO MgO TiO2 LOI	60.72 2.80 3.93 0.21 0.01 0.16 5.25	**Val. Mineral** Hematite **Gangue** Goethite, Limonite, Quartz, Gibbsite	29.40	Fe(T) SiO2 Al2O3 LOI	64.45 1.04 1.92 3.85	31.10	Desliming, Gravity concentration.

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76.	1765 NGP	Bench scale beneficiation studies on a composite direct ore (**Iron)** sample from Taldih deposit for RMD, SAIL, Kolkata,W.B.	Fe(T) FeO SiO2 Al2O3 CaO MgO TiO2 LOI	64.67 0.066 2.18 2.43 0.06 0.09 0.12 3.02	**Val. Mineral** Hematite **Gangue** Clay, Goethite, Limonite, Gibbsite, Quartz.	39.30	Fe(T) SiO2 Al2O3 LOI	64.50 2.22 2.28 2.81	39.20	Screening
77.	1770 NGP	Magnetic Separation and cyclosizing test on an **Iron ore** sample from M/s. Essar Steel Ltd., Kirandul, Chattisgarh for M/s. Essar Steel Ltd.	**Feed sample** Fe(T) 62.75 **HGMS sample** Fe(T) 55.19		**Val. Mineral** Iron ore	81.20	**Feed sample** Fe(T) 65.07 **HGMS sample** Cyclosizing test on HGMS only indicated that slimes (- 8 microns) constituted about 27.7 % weight and lot of iron is lost in slimes.		84.20	Magnetic Separation, HGMS
78.	1772 NGP **(PP)**	Pilot Plant Test on a Composite Beneficiable **Iron Ore** Sample from Taldih Deposit for RMD, Steel Authority of India Limited, Kolkata, W.B.	Fe(T) FeO CaO Al2O3 SiO2 LOI	60.93 0.07 0.038 3.95 2.64 5.40	**Val. Mineral** Hematite, **Gangue** Gibbsite, Goethite, Limonite, Clay	Pellet Fine Grade Concentrate 26.70 Sinter fine grade concentrate-Blain No. 1650 cm^2/gm.	Fe(T) Al2O3 SiO2 LOI	64.69 2.06 1.50 3.64	28.30	Spiral Classification

IRON ORE

79.	1773 NGP **(PP)**	Pilot Plant Test on a Composite **Direct Ore (Iron)** Sample from Taldih Deposit for RMD, Steel Authority of India Limited, Kolkata, W.B.	Fe(T) FeO CaO Al2O3 SiO2 TiO2 P MgO LOI	64.67 0.066 0.06 2.43 2.18 0.12 0.06 0.09 3.62	**Val. Mineral** Hematite, **Gangue** Gibbsite Clay, Quartz, Goethite, Limonite		Fe(T) Al2O3 SiO2 LOI Size analysis of ground product + 100 mesh -- 0.6 % - 325 mesh -- 59 %	64.44 2.32 2.69 2.97		Screening & Grinding
80.	1774 NGP	Magnetic and Gravity separation studies on **Iron Ore** sample No.1 from M/s Sesa Goa Ltd., Panjim, Goa.	Fe(T) CaO Al2O3 SiO2 TiO2 P MgO LOI	42.92 0.10 0.41 37.72 0.03 0.09 0.10 0.35	**Val. Mineral** Hematite, Martitised Magnetite & Magnetite. **Gangue** Quartz	49.70	Fe(T) Al2O3 SiO2 CaO MgO TiO2 LOI	66.12 0.45 5.59 0.011 6.064 0.037 1.49	76.60	Tabling

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
81.	1775 NGP	Magnetic and Gravity separation studies on **Iron Ore** sample No.2 from M/s Sesa Goa Ltd., Panjim, Goa.	Fe2O3 CaO Al2O3 SiO2 TiO2 P MgO LOI	41.32 0.04 0.42 39.22 0.04 0.08 0.02 1.39	**Val. Mineral** Hematite, Martitised Magnetite & Magnetite. **Gangue** Quartz	61.90	Fe(T) Al2O3 SiO2 CaO MgO LOI	61.39 0.70 9.21 0.01 0.041 1.44	91.50	Dry Medium Intensity Magnetic Separation on Eriez roll.

IRON ORE

82.	1776 NGP	Magnetic and Gravity separation studies on **Iron Ore** sample No.3 from M/s Sesa Goa Ltd., Panjim, Goa.	Fe(T) CaO Al2O3 SiO2 TiO2 P MgO LOI	43.51 0.07 0.91 33.48 0.10 0.098 0.01 2.67	**Val. Mineral** Hematite, Martitised Magnetite & Magnetite **Gangue** Quartz	60.60	Fe(T) Al2O3 SiO2 CaO MgO TiO2 LOI	61.18 1.00 7.94 0.057 0.106 0.098 2.94	81.90	Dry Medium Intensity Magnetic Separation on Eriez roll.
83.	1777 NGP	Magnetic and Gravity separation studies on **Iron Ore** sample No.4 from M/s Sesa Goa Ltd., Panjim, Goa.	Fe(T) Al2O3 SiO2 CaO MgO LOI	39.76 0.50 40.49 0.03 0.01 1.54	**Val. Mineral** Hematite, Martitised Magnetite & Magnetite **Gangue** Quartz	56.10	**Conc.-I** Fe(T) Al2O3 SiO2 CaO MgO LOI	63.90 0.58 6.12 0.095 0.078 1.27	91.50	Eriz Magnetic separation

84.	1779 NGP	Production of pellet fine grain iron concentrate of a composite direct ore and composite beneficiable ore **(Iron)** sample from RD deposit, Orissa for RMD, SAIL, Kolkata, West Bengal.	**Composite Direct ore** Fe(T) FeO Al2O3 SiO2	**64.67** 0.066 2.43 2.18	**Val. Mineral** Hematite **Gangue** Goethite/ Limonite Gibbsite Clay, Quartz	**Composite Direct ore — 0.2 microns** 39.70	Fe(T) Al2O3 SiO2 LOI Blain No. – 1650 cm^2/gm.	64.52 2.37 2.59 2.80	40.70	Screening & Grinding
			Composite Beneficiable ore		**Val. Mineral** Hematite	**Composite Beneficiable ore**				Screening, Jigging & Spiral

IRON ORE

			Fe(T) FeO Al2O3 SiO2	60.93 0.07 3.95 2.64	**Gangue** Goethite/ Limonite Gibbsite Clay, Quartz	26.70	Fe(T) Al2O3 SiO2 LOI	64.69 2.06 1.50 3.64	28.30	classification
						Blain No. – 1650 cm^2/gm. & Sp. Gr. 4.60				
85.	1784 NGP	Characteristion and bench scale beneficiation on **BHQ** Sample from Nandi Halli Mines, Hospet, dist. Bellary, Karnataka for M/s BMM Ispat Ltd.	Fe (T) SiO2 Al2O3 CaO MgO LOI	40.20 40.60 0.66 0.104 0.01 0.77	**Val. Mineral** Hematite, Martitised Magnetite & Goethite **Gangue** Clay, Quartz, Mica.	27.50	**Composite conc.** Fe (T) SiO2	64.59 5.76	44.70	Tabling
86.	1795 NGP	Tabling and magnetic separation tests on an **Iron ore** sample for M/s Phulchand Exports Ltd., Mumbai.	Fe2O3 Al2O3 SiO2 CaO MgO	8.05 15.31 60.32 5.29 2.69	**Val. Mineral** Iron Oxide **Gangue** Quartz	3.30	Fe2O3 Fe(T) FeO SiO2 Al2O3 LOI	70.09 49.02 14.39 9.63 5.06 0.17	28.60	Tabling & Magnetic Separation

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt%	**Assay%**	**% Rec.**	

IRON ORE

87.	1796 NGP	Wet screening test on an **Iron ore** sample of M/s Jakhodia Minerals, Raipur, Dist. Chattisgarh.	Fe(T) Al2O3 SiO2 CaO MgO LOI	36.93 12.38 25.53 0.22 0.13 6.34	**Val. Mineral** Iron Ore **Gangue** Quartz	52.20	Fe(T) Al2O3 SiO2 LOI	45.62 8.87 16.62 6.44	63.90	Wet screening
88.	1804 NGP	Bench scale beneficiation studies on a high silica **Iron Ore** sample from M/s Sesa Goa Ltd., Bheemasumundra,, Chitradurga, Karnataka.	Fe (T) SiO2 Al2O3 CaO MgO TiO2 LOI	41.55 37.14 1.33 0.09 0.01 0.02 1.05	**Val. Mineral** Hematite **Gangue** Quartz	38.30	Fe(T) SiO2 Al2O3 LOI	62.00 7.77 1.44 0.91	57.20	Jigging, WHIMS
89.	1834 NGP	Wet Screening tests on an **iron ore** sample (ROM3) from Magnum Minerals Pvt. Ltd., Goa.	Fe(T) SiO2 Al2O3 LOI	51.98 13.05 6.02 5.62	**Val. Mineral** -- **Gangue** --	30.40	Fe SiO2 Al2O3 LOI	41.01 21.18 10.25 7.09	24.00	Wet Screening
90.	1835 NGP	Wet Screening Tests on an **iron ore** samples (ROM I & II) for M/s. Magnum Minerals Pvt. Ltd., Goa.	ROM-I Fe(T) SiO2 Al2O3 LOI ROM-II Fe(T) SiO2 Al2O3 LOI	 53.56 11.55 5.60 5.36 49.79 13.40 7.82 6.27	**Val. Mineral** -- **Gangue** --	34.40 39.90	ROM-I Fe SiO2 Al2O3 LOI ROM-II Fe SiO2 Al2O3 LOI	 46.34 17.96 8.24 6.86 40.74 20.12 11.82 8.88	29.80 25.40	Wet Screening

IRON ORE

91.	1837 NGP	Magnetic Separation Studies on an **iron ore** sample from Madgaon Goa for M/s Panduronga Timblo Indjustries, Goa.	Fe(T) FeO SiO2 Al2O3 CaO MgO TiO2 P Mn LOI	36.68 0.22 2.05 39.21 0.02 0.01 0.028 0.042 1.23 3.88	**Val. Mineral** Martitized Magnetite **Gangue** Mica, Gibbsite, Pyroxene, Amphibole, Carbonate, Epidote	61.20	Fe FeO SiO2 Al2O3 LOI	51.42 0.22 19.80 2.46 4.17	86.50	Dry sieving followed by dry magnetic separation.
92.	1844 NGP	Beneficiation of a **tailing sample** from beneficiation plant Barsuan **Iron Ore Mine** of M/s SAIL RMD, Orissa for RCOM, Bhubaneshwar.	Fe SiO2 Al2O3 CaO MgO TiO2 P Mn LOI	52.58 7.65 8.09 0.071 0.005 0.397 0.07 0.036 7.67	**Val. Mineral** Goethite/ Limonite, Magnetite, Martitised Magnetide **Gangue** Gibbsite, Clay, Quartz, Mica, Feldspar	54.90	Fe	59.68	62.00	WHIMS
93.	1847 NGP	Bench Scale Beneficiation of a low grade iron ore sample from Uli-Buru **Iron Ore** Mines for RCOM, Bhubaneshwar, Orissa.	Fe(T) SiO2 Al2O3 CaO MgO TiO2 P Mn LOI	48.56 22.12 4.64 0.12 0.01 0.15 0.03 0.17 2.69	**Val. Mineral** Hematite, Goethite/ Limonite, **Gangue** Gibbsite, Clay, Quartz, Mica,	40.60	Fe(T) SiO2	55.57 14.63	73.50	Dry low intensity magnetic separation. Wet medium intensity magnetic separation
						48.60	Fe(T) SiO2	55.96 14.41	55.80	Wet high intensity magnetic separation

IRON ORE

94.	1850 NGP	Bench scale beneficiation on low grade **Magnetite** sample from Muru Mine, Palamau distt., Jharkhand for RCOM, IBM, Ranchi.	Fe (T) SiO_2 Al_2O_3 CaO MgO FeO LOI	23.31 35.36 4.34 5.30 12.24 3.78 0.41	**Val. Mineral** Magnetite/ Martitised Magnetite, Hematite, **Gangue** Amphibole, Mica, Chlorite, Quartz, Pyroxene, Epidote	21.20	Fe (T) SiO_2 FeO Al_2O_3	60.17 5.03 17.13 1.08	53.90	Magnetic Separation

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
95.	1852 NGP	Bench scale beneficiation studies on a Low Grade **Iron Ore Fines** from Barsuan Mines Orissa of M/s SAIL/RMD for RCOM, IBM, Bhubaneswar(Orissa)	Fe (T) SiO_2 Al_2O_3 CaO MgO P TiO_2 Mn LOI	50.31 6.08 11.30 0.030 0.159 0.096 0.54 0.034 9.51	**Val. Mineral** Hematite, Goethite/ Limonite **Gangue** Gibbsite, Mica, Clay, Quartz, Amphiboles	76.10	Fe (T) SiO_2 Al_2O_3 LOI	52.51 5.57 9.59 8.59	74.40	Tabling
96	1853 NGP	Bench scale beneficiation on **Iron Ore** Sample (S-2) from Badam Pahar mines, Mayurganj distt. Orissa for RCOM, IBM, Ranchi.	Fe (T) SiO_2 Al_2O_3 CaO MgO P TiO_2 Mn LOI	35.88 43.11 0.45 0.16 0.11 0.058 0.034 0.51 4.31	**Val. Mineral** Hematite, Goethite/ Limonite **Gangue** Mica, Quartz, Feldspar Pyroxene	25.90	Fe (T) SiO_2 Al_2O_3	58.52 12.24 0.58	41.80	Wet High Intensity Magnetic Separation

IRON ORE

97	1854 NGP	Bench scale beneficiation of low grade **Iron Ore** Sample from Gaurumahesani Iron Ore Mines, Mayurganj distt. Orissa for RCOM, IBM, Ranchi.	Fe SiO_2 Al_2O_3 CaO MgO P TiO_2 Mn LOI	15.75 75.65 0.32 0.039 0.01 0.064 0.01 0.05 1.08	**Val. Mineral** Hematite, Goethite/ Limonite Magnetite **Gangue** Clay, Quartz, Amphiboles Pyroxene	10.0 19.1 29.7	Mag. Conc.- I Fe 50.36 Mag. Conc.- II Fe 22.80 Composite Mag. Conc. Fe 32.64		37.9 27.6 61.5	Grinding, desliming, Tabling WHIMS
98	1857 NGP	Characterization of eleven **iron ore magnetite quartzite** (Drill core) samples from M/s Sesa Goa Ltd.			**Val. Mineral** Magnetite Hematite Goethite **Gangue** Quartz, Mica Amphibole	The sample are amenable to beneficiation very fine inclusions of silicates with iron oxides and vice-versa may cause problem to achieve fair liberation even at fine size. However, a promising grade of iron concentrate with substantial high iron recovery may be possible by beneficiation.			
99	1861 NGP	Work Index Determination on **BHQ sample** from Hiremagi-Ramthal **Iron Ore** Mines of M/s Doddanwar Brothers, Bagalkot dist., Karnataka.				The Bond"s ball mill work index was found to be 12.05 kwh / short ton.			Determination of the Bond"s ball mill work index.

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			% Rec.	Process Adopted
						Wt%	Assay%			
100.	1865 NGP	Bench Scale beneficiation studies on an **iron ore** mine sample from Jalapuri mine, village-Joda Distt. Keonjhar, Orissa for Emars Mining and construction Pvt. Ltd., Kolkata (WB).	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO P TiO_2 Mn S LOI	56.94 1.30 7.45 6.76 0.083 0.010 0.057 0.158 0.059 0.051 4.09	**Val. Mineral** Hematite, Goethite/ Limonite **Gangue** Quartz, Kaolinite Pyrophyllite Gibbsite	58.70	Fe(T) SiO_2 Al_2O_3 LOI	62.47 4.01 3.39 2.85	64.50	Tabling, Jigging, Stub cyclone
101.	1868 NGP	Bench scale beneficiation studies on a low grade **Iron Ore** sample from Kauria Mine, Palamau distt., Jharkhand for RCOM, IBM, Ranchi.	Fe(T) FeO SiO2 Al2O3 CaO MgO	25.73 8.54 24.33 11.91 7.18 3.08	**Val. Mineral** Magnetite, Hematite, Goethite **Gangue** Amphibole	24.4	Fe(T) FeO SiO2 Al2O3 CaO MgO TiO_2 Mn	67.42 27.52 2.01 2.14 0.41 0.18 0.16 0.21	64.8	WLIMS
102	1899 F/NC	Bench scale beneficiation studies on low grade **iron ore** sample OF Block-5 from Noamundi Iron Ore Mine, Jharkhand. For RCOM, IBM, Kolkata.	Fe(T) SiO2 Al2O3 CaO	37.28 26.58 11.36 0.09	**Valuables** Hematite Goethite/ Limonite **Gangue** Quartz Gibbsite/Clay Mica, Tourmanine	10.0 11.8	**-6mm + 30 mesh** Fe(T) SiO2 Al2O3 **-65 Mesh** Fe(T) SiO2 Al2O3	 59.15 7.19 4.80 60.59 5.91 5.08	15.9 19.0	Jigging Classification followed by tabling.

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
103	1900 F/NC	Beneficiation of a low grade **iron ore** sample from Thakurani Iron Ore Mines, Noamundi dist., West Singhbhum, Jharkhand for RCOM, IBM, Kolkata**.**	Fe(T) FeO SiO2 Al2O3 CaO	37.33 0.13 45.43 0.40 0.046	**Valuables** Hematite Goethite/Limonite **Gangue** Quartz Gibbsite/Clay Mica, Felspar	20.1	Fe(T) FeO SiO2 Al2O3 CaO	62.08 10.02 0.45 0.118	33.4	Grinding and Tabling.
104.	1907 L/C	Work Index determination on an **iron ore** sample from Khursipar Iron Ore Mine, Gondia for M/s. M.S.M.C. Ltd., Nagpur.	The work index of the sample was found to be -15.13 Kwh/short tonne.							Bond's method.
105.	1908 L/C	Limited test for determination of grindability characteristic of a **Lumpy titano-magnetite ore** sample from Khursipar mines, distt. Gondia, M.S. for Maharashtra State Mining Corp. Ltd., Nagpur.	The sample falls in the category of "Medium to Medium hard"							Denver method.
106.	1909 F/C	Bench Scale beneficiation studies on a **low grade iron ore** sample from Tantra-Raikela-Bandhal (TRB Mines), Tensa, Distt. Sundargarh, Orissa for M/s Jindal Steel Power Ltd.	Fe(T) FeO Al2O3 SiO2 LOI	56.18 0.93 5.91 4.93 8.07	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite/ Clay Quartz	34.6	Fe(T) Al2O3 SiO2 LOI	64.48 2.90 2.50 1.97	39.3	Jigging at -10+1mm size.

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
107.	1910 F/NC	Bench Scale beneficiation studies on a **low grade iron ore** sample from stack Noamundi Iron Ore Mines of M/s Tata Steel Ltd., Raigarh distt. Maharashtra for RCOM, IBM, Kolkata.	Fe Al2O3 SiO2 CaO MgO LOI	52.85 2.38 19.81 0.30 0.43 1.33	**Val. Minerals** Hematite Goethite Limonite Magnetite **Gangue** Quartz, Mica	74.5	Fe Al2O3 SiO2	58.07 1.94 13.45	81.9	Sizing, Jigging, Cycloning, Tabling
108.	1911 L/C	Tumbler index determination of **iron ore** sample from Mandla, M.P. for M/s A.K. Jaiswal, Mandla, M.P.	The average tumbler index by adopting standard process given in -6495 – 1984 was found to be 72.8.							
109.	1914 L/NC	Specific surface area determination by Blain Apparatus on four **iron ore** sample from RODL, IBM, Bangalore (Departmental Study).			The specific surface area (Blain No.) for four iron ore samples is as follows BPR/SSPL/BC/1 - 267.9 cm sq. per gram BPR/SSPL/BC/2 - 332.4 -do- BPR/SSPL/BC/3 - 393.3 -do- BPR/SSPL/BC/4 - 447.6 -do-					Blaine apparatus

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			Process Adopted
						Wt.%	ASSAY %	DIST.%	
110	1919 F/C	Beneficiation of low grade **iron ore** sample from Tensa, Dist. Sundergarh, Orissa for M/s Jindal Steel and Power Ltd.	Fe(T) Al2O3 SiO2 LOI	52.48 8.11 8.57 7.03	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite, Clay **Quartz, Mica**	30.4	Composite conc. Fe(T) Al2O3 SiO2 LOI	63.45 2.68 2.47 2.88	37.0	Jigging and Tabling
111	1920 F/C	Bench scale beneficiation studies on a **lateritic iron ore** sample from Chiria deposit, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India (SAIL) for M/s HATCH Associates India Pvt. Ltd., Haryana.	Fe(T) FeO Al2O3 SiO2	56.93 0.57 6.12 1.93	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite Clay, Quartz	29.9	Fe(T) Al2O3 SiO2 LOI	62.19 3.15 0.88 6.05	32.7	Crushing to -6 mm size and –0.5 mm size Jigging & tabling.
112	1921 F/C	Bench scale beneficiation studies on an **iron ore** sample (HLO) from Chiria iron mines, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India (SAIL) for M/s HATCH Associates India Pvt. Ltd., Haryana.	Fe(T) SiO2 Al2O3 CaO MgO LOI	63.87 1.01 1.87 0.22 0.01 4.89	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite, Clay, Quartz, Mica, Amphibole, Chlorite, Tourmaline	78.0	Fe(T) SiO2 Al2O3 LOI	64.16 1.05 1.64 4.67	78.2	Crushing & Screening

IRON ORE

113	1922 F/C	Bench scale beneficiation studies on a low grade **iron ore** sample (LGO) from Chiria deposit, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India (SAIL) for M/s HATCH Associates India Pvt. Ltd., Haryana.	Fe(T) SiO2 Al2O3 TiO2 LOI	53.54 3.60 7.56 0.78 10.78	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite, Clay, Quartz, Mica Pyroxene	26.6	Fe(T) SiO2 Al2O3 LOI	58.88 1.26 4.85 8.54	29.2	Crushing & Screening
Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**		**Mineralogy**	**Concentrate**				**Process Adopted**
						Wt.%	ASSAY %		DIST.%	
114	1923 F/C	Bench scale beneficiation studies on **iron ore** sample (BST-5, BIS) from Chiria iron mines, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India (SAIL) for M/s HATCH Associates India Pvt. Ltd., Haryana.	Fe SiO2 Al2O3 CaO MgO LOI	62.52 1.53 3.24 0.01 0.01 5.11	**Val. Minerals** Hematite Goethite Limonite **Gangue** Quartz, Mica Feldspar, calcite	Overall 51.5	Fe(T) SiO2 Al2O3 LOI	64.71 1.12 1.91 3.84	Overall 53.6	Jigging, Tabling
115	1924 F/C	Bench scale beneficiation studies on a **blue dust** sample (BST-5, BIS) from Chiria iron mines, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India (SAIL) for M/s HATCH Associates India Pvt. Ltd.	Fe SiO2 Al2O3 P LOI	66.0 0.73 2.08 0.054 1.71	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite, Clay Quartz, Mica Feldspar, Pyroxene	36.8	-6mm + 100 mesh Fe(T) SiO2 Al2O3 P LOI	 65.12 0.89 2.32 0.069 2.48	36.3	Dry screening

IRON ORE

116	1925 F/C	Bench scale beneficiation studies on a SAIL's Chiria **iron ore** sample (SLO) for M/s HATCH Associates India Pvt. Ltd., Haryana.	Fe SiO2 Al2O3 LOI	60.19 2.29 4.40 6.43	**Val. Minerals** Hematite Goethite Limonite Magnetite **Gangue** Gibbsite, Quartz Mica	72.8	Fe SiO2 Al2O3 LOI	62.12 2.05 3.11 5.23	75.7	Stage Grinding to -100 mesh & WHIMS
117	1926 F/C	Bench scale beneficiation studies on an **iron ore** sample from Goa iron ore mines for M/s Panduranga Timblo, Goa.	Fe(T) FeO SiO2 Al2O3 CaO MgO LOI	47.86 0.14 12.33 7.17 0.05 0.01 8.59	**Val. Minerals** Goethite Limonite Magnetite Martitized- Magnetite **Gangue** Mica, Clay Chlorite	39.5	Fe(T) SiO2 Al2O3 LOI	56.91 7.20 2.71 4.34	47.3	Tabling at – 65 mesh.

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			Process Adopted
						Wt.%	ASSAY %	DIST.%	
118	1931 F/C	Bench Scale beneficiation studies on a **mixed iron ore** sample from Chiria deposit, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India Limited (SAIL), for M/s HATCH.	Fe(T) FeO SiO2 Al2O3 TiO2 LOI	59.35 0.34 1.80 4.89 0.35 7.47	**Val. Minerals** Goethite Hematite Magnetite **Gangue** **Gibbsite** Clay Quartz, Mica	41.8	Composite Conc. -6+0.5 & 0.5mm Fe(T) 61.68 SiO2 1.05 Al2O3 3.33 LOI 6.46	33.3	Jigging cum Tabling

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt%	Assay%	% Rec.	

IRON ORE

119	1934 F/C	Bench Scale beneficiation studies on a **Composite iron ore** sample (No.7) from Chiria deposit, Dist. West Singhbhum, Jharkhand of M/s Steel Authority of India Limited (SAIL), for M/s HATCH. Associates India Pvt. Ltd., Haryana.	Fe Al2O3 SiO2 CaO MgO TiO2	59.86 4.85 1.94 0.081 0.90 0.35	**Val. Minerals** Goethite Hematite Magnetite **Gangue** Quartz Mica Tourmaline	33.5	Fe(T) Al2O3 SiO2 LOI	62.98 2.80 1.29 5.18	35.3	Screening -6mm + 100 mesh Crushing Screening Jigging Tabling
120.	1935 F/C	Bench scale beneficiation studies on a **Iron Ore Fines** sample from Noamundi Iron Ore Mines for M/s Tata Steel Ltd., Raigarh distt. M.S.	Fe Al2O3 SiO2 CaO TiO2	59.95 4.25 7.39 0.15 0.192	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite Clay, Quartz	85.2	Fe(T) Al2O3 SiO2	62.54 3.13 5.17	81.8	Sizing Jigging Cycloning Tabling
121.	1947 F/C	Bench scale beneficiation studies on a sub-grade **iron ore** sample from Kasia Iron & Dolomite Mine, Keonjhar distt., Orissa for M/s Essel Mining and Industries Ltd.	Fe (T) SiO2 Al2O3 CaO MgO LOI	51.49 11.47 7.83 0.09 0.01 6.30	**Val. Minerals** Hematite Goethite Limonite **Gangue** Gibbsite, Clay Quartz, Rutile	28.8	Jig conc.I+Jig conc. II Fe SiO2 Al2O3 LOI	 62.93 4.03 2.72 2.47	35.1	Jigging
122	1949 F/C	Bench Scale beneficiation studies on a mineral rejects/sub-grade iron ore sample from Guali Iron Ore mines, Keonjhar distt., Orissa for M/s R.P. Sao.	Fe (T) SiO2 Fe2O3 Al2O3 LOI	54.64 5.19 79.2 7.18 7.80	**Val. Minerals** Hematite Goethite Limonite Magnetite **Gangue** Gibbsite, Clay Tremolite	38.0	Fe (T) SiO2 Al2O3 LOI	60.27 2.42 4.42 5.86	40.6	Gravity separation

IRON ORE

123.	1952 L/C	Bond's Rod mill work index determination tests on **Iron Ore** sample from NMDC for M/s National Mineral Development Corporation, Hyderabad.	-	-	**Val. Minerals** - **Gangue** -	The Bond's Rod mill work index was found to be 11.65 kwh/short ton.				Standard Fred C. Bond method.
124.	1957 F/C	Beneficiation of low grade **iron ore** sample from Katni, M.P. for M/s Pacific Exparts Pvt. Ltd., Katni, M.P.	Fe SiO2 Al2O3 CaO MgO LOI	44.28 14.56 10.36 0.66 1.26 3.65	**Val. Minerals** Hematite **Gangue** Quartz, Clay Feldspar Rutile	58.4	Composite conc. Fe SiO2 Al2O3	 64.55 2.67 2.73	40.5	Screening, Jigging & Tabling.

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE			PROCESS ADOPTED
						WT%	ASSAY%	%REC	
125.	396 BNG	Beneficiation of an **Iron ore** sample from Hebbige Gudda mines, Chikkanayakanahalli taluk, Tumkur dist., Karnataka for M/s Mineral Enterprises (P) Ltd., Bangalore.	Sample No.1 (Fraction O1)		**Val. Mineral** Hematite **Gangue** Quartz, Clay, Chlorite.	Sample No.1 (Fraction O1) +10mm			Hand picking, Scrubbing cum wet sieve analysis, jigging, tabling.
			Fe(T)	61.50		79.20	Fe(T)	63.82	81.80
			FeO	0.27			FeO	0.30	
			SiO_2	1.34			SiO_2	1.28	
			Al_2O_3	4.29			Al_2O_3	2.86	
			LOI	6.17					
			Sample No.1 (Fraction O2)			Sample No.1 (Fraction O2) –10+1mm			Tabling.
			Fe(T)	62.41		41.60	Fe(T)	65.17	43.20
			FeO	0.41			SiO_2	1.55	
			SiO_2	1.84			Al_2O_3	3.12	
			Al_2O_3	3.00					
			LOI	5.71					
			Sample No.1 (Fraction O3)			Sample No.1 (Fraction O3) -1mm			
			Fe(T)	63.17		39.80	Fe(T)	67.32	42.50
			FeO	0.41			SiO_2	1.01	
			SiO_2	2.20			Al_2O_3	2.67	
			Al_2O_3	3.01					
			LOI	4.22					
			Sample No.2 (-1mm)			Sample No.2 (-1mm)			
			Fe(T)	66.41		65.90	Fe(T)	68.90	66.60
			FeO	0.54			SiO_2	0.61	
			SiO_2	1.17			Al_2O_3	1.00	
			Al_2O_3	1.49					
			LOI	2.25					

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %	MINERALOGY	CONCENTRATE			PROCESS ADOPTED
					WT%	ASSAY%	%REC	
126	403 BNG	Grindability test on a **Iron ore** sample for Mineral Sales Private Ltd.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the MEDIUM to SOFT category.			Grindability.
127	406 BNG	Grindability test on a **Iron ore** sample (Sample No. 1- M/s Fomento/IOF) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the SOFT category.			Grindability.
128	407 BNG	Grindability test on a **Iron ore** sample (Sample No. 2- M/s V.S.L./EL) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the SOFT category.			Grindability.
129.	408 BNG	Grindability test on a **Iron ore** sample (Sample No. 3- M/s VMPL/TIOM) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the SOFT category.			Grindability.
130	409 BNG	Grindability test on a **Iron ore** sample (Sample No. 4- M/s HTLOT No. 135) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the SOFT category.			Grindability.
131	410 BNG	Grindability test on a **Iron ore** sample (Sample No. 5- M/s VSL/FL) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the HARD category.			Grindability.
132	411 BNG	Grindability test on a **Iron ore** sample (Sample No. 6- M/s KMP LOT No.15) for Jindal Vijayanagar Steel Ltd, Bellary, Karnataka.	Not determined	Not determined	As per Denver Grindability curve the sample falls in the MEDIUM SOFT to SOFT category.			Grindability.

SR.	R.I.	TITLE OF THE INVESTIGATION	ORIGINAL	MINERALOGY	CONCENTRATE	PROCESS

IRON ORE

NO.	NO.		ANALYSIS %			WT%	ASSAY%		%REC	ADOPTED
133	413 BNG	Mineralogical studies, Chemical analysis & screening studies on **Iron Ore** sample (S.No.1) from Hospet, Karnataka for RCOM, Bangalore.	Fe(T) SiO_2 Mn LOI	68.15 0.80 0.035 0.47	**Val.Minerals** Hematite, Goethite. **Gangue** Quartz, Clay	No upgradation by applying screening technique.				Screening.
134	414 BNG	Mineralogical studies, Chemical analysis & screening studies on **Iron Ore** sample (S.No.2) from Hospet, Karnataka for RCOM, Bangalore.	Fe(T) SiO_2 Mn LOI	67.93 1.31 0.77 0.69	**Val.Minerals** Hematite, Goethite. **Gangue** Quartz, Clay	No upgradation by applying screening technique.				Screening.
135	415 BNG	Mineralogical studies, Chemical analysis & screening studies on **Iron Ore** sample (S.No.3) from Hospet, Karnataka for RCOM, Bangalore.	Fe(T) SiO_2 Mn LOI	68.14 1.12 0.50 0.52	**Val.Minerals** Hematite, Goethite. **Gangue** Quartz, Clay	No upgradation by applying screening technique.				Screening.
136	416 BNG	Mineralogical studies, Chemical analysis & screening studies on **Iron Ore** sample (S.No.4) from Hospet, Karnataka for RCOM, Bangalore.	Fe(T) SiO_2 Mn LOI	68.75 0.72 0.03 0.38	**Val.Minerals** Hematite, Goethite. **Gangue** Quartz, Clay	No upgradation by applying screening technique.				Screening.
137	424 BNG	Bench scale beneficiation studies on an **Iron ore** sample (bulk) from Chikkanayakanahalli Taluka, Tumkur district, Karnataka for M/s Mineral Enterprises (P) Limited, Bangalore	Fe(T) FeO Al_2O_3 SiO_2 Mn LOI	64.22 0.83 2.28 1.89 0.36 4.92	**Val. Mineral**: Hematite Goethite/ Limonite **Gangue:** Clay, Chlorite, Quartz	76.60	Fe (T) Al_2O_3 SiO_2	67.02 0.98 1.14	78.00	Sizing-cum-Dry Magnetic Separation of -1 mm fraction.

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE				PROCESS ADOPTED
						WT%	ASSAY%		%REC	
138	425 BNG	Bench scale beneficiation studies on an **Iron ore** sample (Main Pit) from Chikkanayakanahalli Taluka, Tumkur district, Karnataka for M/s Mineral Enterprises (P) Ltd., Bangalore	Fe(T) FeO Al_2O_3 SiO_2 Mn LOI	65.04 0.64 2.36 1.18 0.08 3.66	**Val. Mineral:** Hematite Goethite/ Limonite **Gangue:** Clay, Chlorite, Quartz	83.80	Fe(T) Al_2O_3 SiO_2	67.30 1.01 0.93	84.60	Sizing-cum-Dry Magnetic Separation of -1 mm fraction
139	427 BNG	Limited beneficiation studies on **Iron ore** sample from Honne Bagi Mines, Chikkanayakana Halli, Tumkur dist., Karnataka for M/s TAHA Mining Company, Hiriyur.	Fe (T) SiO_2 Al_2O_3	65.71 1.17 1.69	**Val. Mineral** Hematite Goethite **Gangue** Quartz, Clay	Apparent Specific Gravity – 4.5 to 5 Unit Weight – 160-190 lbs/Cu.ft Water absorption – 1-3%. -4.7 mm +100 micron fraction Fe(T) -- 66.66 SiO_2 -- 1.12 Al_2O_3 -- 1.55				Crushing, Wet Sieving
140	436 BNG	Beneficiation studies on an **Iron ore** sample (Yerrakatta pit) from Chikkanayakanahalli Taluka, Tumkur dist., Karnataka for Mineral Enteprises (P) Ltd., Bangalore	Fe(T) SiO_2 Al_2O_3 Mn LOI	61.31 3.67 2.78 0.21 4.81	**Val. Mineral:** Goethite/ Limonite Hematite **Gangue:** Quartz, Clay	58.10	Fe(T) SiO_2 Al_2O_3	64.80 2.57 2.17	60.10	Sizing, Dry Magnetic Separation on -1 mm

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE				PROCESS ADOPTED
						WT%	ASSAY%		%REC	
141	437 BNG	Beneficiation studies on an **Iron ore** sample (Riverse pit) from Chikkanayakanahalli, Tumkur dist., Karnataka for Mineral Enteprises (P) Ltd., Bangalore.	Fe(T) SiO_2 Al_2O_3 Mn LOI	63.73 1.74 1.34 0.12 4.69	**Val. Mineral**: Goethite Hematite **Gangue:** Quartz, Clay		+10 mm fraction			
						77.50	Fe(T) SiO_2 Al_2O_3	63.57 1.79 1.31	78.80	Scrubbing
							-10+1 mm fraction			
						58.40	Fe(T) SiO_2 Al_2O_3	65.61 1.54 1.24	60.40	Dry Magnetic Separation
							-1 mm fraction			
						62.30	Fe(T) SiO_2 Al_2O_3	67.17 1.18 1.04	64.80	Sizing, Dry Magnetic Separation
142	438 BNG	Beneficiation of an **Iron ore** Slime sample from the tailing pond of Costi Group of Mines of M/s Chowgule & Co. Ltd. (under SIS project) for RCOM, IBM, Goa.	Fe(T) SiO_2 Al_2O_3 Mn LOI	52.48 8.71 7.09 0.68 7.68	**Val. Mineral:** Goethite, Magnetite, Hematite **Gangue:** Quartz, Clay		I			
						33.90	Fe(T) SiO2 Al2O3	63.80 2.89 1.54	40.00	Mozley Gravity Separation
							II			
						12.40	Fe(T) SiO_2 Al_2O_3	64.44 1.90 1.57	15.30	Magnetic Separation of +300 mesh
143	439 BNG	Limited Washability test on an **Iron ore** sample (VMPL) from Bellary Hospet, Karnataka for Jindal Vijayanagar Steel Limited, Bellary dist., Karnataka	Fe(T) SiO_2 Al_2O_3 LOI	66.16 2.04 0.18 1.23	**Val. Mineral**: Goethite, Hematite **Gangue:** Quartz	66.80	Fe(T) SiO_2 Al_2O_3	66.74 1.95 0.92	67.40	Wet sieving
						60.90	Fe(T) SiO_2 Al_2O_3	66.62 0.80 2.36	61.50	Tumbling-cum-sieving.

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE				PROCESS ADOPTED
						WT%	ASSAY%		%REC	
144	440 BNG	Limited Washability test on an **Iron ore** sample (VSL(AL)) from Bellary Hospet, Karnataka for Jindal Vijayanagar Steel Limited, Bellary dist., Karnataka	Fe(T) SiO_2 Al_2O_3 Moist LOI	65.07 1.31 2.19 0.26 2.39	**Val. Mineral**: Goethite, Hematite **Gangue**: Quartz, Gibbsite	By simple washing and scrubbing the alumina could not be reduced to 1%.				Wet sieving, desliming and Tumbling
145	441 BNG	Limited tests for characterisation studies on 6 **Iron ore** samples from M/s Jindal Vijayanagar Steel Limited, Bellary, Karnataka			**Val. Mineral**: Goethite, Hematite, Magnetite **Gangue**: Quartz, Gibbsite, Wad	Sieve analysis and High Intensity magnetic separation were carried out on 6 Iron Ore samples.				Sieving, High Intensity Magnetic Separation
146.	444 BNG	Limited test on **Iron ore** sample from Donimalai Iron ore Mine, Bellary dist., Karnataka of NMDC (Departmental work)	Fe(T) Al_2O_3 SiO_2 Mn CaO MgO LOI	59.84 4.23 6.08 0.32 0.28 0.30 2.88	**Val. Mineral:** Hematite Limonite/ Goethite **Gangue**: Clay, Quartz, Gibbsite	49.80	Fe(T) Al_2O_3 SiO_2	66.34 1.32 1.39	55.20	Gravity separation
147	445 BNG	Limited test on **Iron ore** sample from Nandihalli Mine of M/s Bharat Mines & Minerals for RCOM, IBM, Bangalore (under SIS Project)	Fe(T) Al_2O_3 SiO_2 Mn MgO S(T) P LOI	54.85 7.16 6.18 0.05 1.20 0.05 0.11 5.15	**Val. Mineral:** Hematite Limonite/ Goethite **Gangue:** Clay,Quartz, Mica, Amphibole	38.70	Fe(T) Al_2O_3 SiO_2	65.12 1.41 1.56	46.10	Gravity and Magnetic Separation

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE				PROCESS ADOPTED
						WT%	ASSAY%		%REC	
148	458 BNG	Bench scale beneficiation studies on **Iron Ore** sample from Tumkur Distt., Karnataka for M/s Mineral Enterprises Private Ltd., Bangalore.	Fe(T) FeO SiO_2 Al_2O_3 CaO MgO S(T) TiO_2 LOI	61.75 0.23 2.69 4.31 0.13 0.32 0.10 0.26 5.70	**Val. Mineral** Hematite, Goethite **Gangue** Quartz, clay, Gibbsite, tourmaline	74.00	Fe(T) SiO_2 Al_2O_3	65.36 1.44 2.78	78.40	Classification followed by magnetic separation
149	464 BNG	Limited sieving tests on an **Iron ore** sample from CN Halli, Tumkur district, Karnataka for M/s Deepa Impex (P) Ltd., Bangalore.	Fe(T) Al_2O_3 SiO_2 P	64.56 1.82 1.87 0.12	Not determined	85.60 (+100 mesh)	Fe(T) Al_2O_3 SiO_2 P	65.11 1.63 1.70 0.11	85.70	Sieve analysis
150	465 BNG	Limited tests on **Iron ore** sample from Kenchanahalli Mines, Chitradurga district, Karnataka for Mr. Allum veerabhadrappa, Mines Owner, Bellary	Fe(T) Al_2O_3 SiO_2 P Mn LOI	57.34 1.52 2.25 0.10 2.88 9.00	**Val. Mineral** Goethite **Gangue** Chlorite, Pyrolusite	-18 + 6 mm 71.10	Fe(T) Al_2O_3 SiO_2 P Mn	58.69 1.30 2.15 0.13 2.55	72.60	Crushing and Screening
151	471 BNG	Limited beneficiation studies of a **low grade B.M.Q. Iron Ore** sample from Senji, Tiruvanamalai District, Tamil Nadu for M/s Basheer Ahmed Co. Ltd., Bangalore.	Fe(T) FeO Al_2O_3 SiO_2 LOI P	33.45 8.36 0.14 54.51 0.21 0.08	**Val. Minerals:** Martitized magnetite **Gangue:** Quartz, Amphibole	19.30	Fe(T) FeO Al_2O_3 SiO_2 P	70.11 21.60 0.08 1.07 0.06	40.70	Magnetic separation

IRON ORE

SR. NO.	R.I. NO.	TITLE OF THE INVESTIGATION	ORIGINAL ANALYSIS %		MINERALOGY	CONCENTRATE				PROCESS ADOPTED
						WT%	ASSAY%		%REC	
152	473 BNG	Beneficiation studies on an **Iron ore** sample No. 2 (Crude Powder) from Bicholim iron ore mines of M/s Dempo Mining Corporation Ltd., Goa. (Departmental).	Fe(T) Al_2O_3 SiO_2 Mn LOI	51.21 6.32 2.92 3.86 10.41	**Val. Mineral** Goethite, Martitized Magnetite **Gangue** Clay, Quartz Pyrolusite, Gibbsite	49.60	Fe(T) Al_2O_3 SiO_2 Mn	56.56 2.55 2.29 4.09	54.60	Grinding, Screening, Tabling
153	479 BNG	Beneficiation of an **Iron Ore** sample from Alhole Mines, Hunagund Taluk, Bagalkot dist., Karnataka for M/s Doddanavar Brothers, Hiremagi.	Fe(T) Al_2O_3 SiO_2 P Mn LOI	60.46 3.88 6.04 0.08 0.32 3.70	**Val. Mineral** Goethite, Hematite **Gangue** Ferruginous Clay, Quartz, Apatite	87.00 (Overall)	Comp. Conc. Fe(T) Al_2O_3 SiO_2	 62.87 3.01 4.88	90.10 (Overall)	Dry screening, Jigging & Tabling
154	480 BNG	Bench scale beneficiation studies on an **Iron ore** sample from B.B. Halli mines, Chitradurga taluk, Karnataka for M/s Mineral Enterprises Limited, Bangalore.	Fe(T) Al_2O_3 SiO_2 P Mn LOI	53.34 5.10 7.33 0.06 2.32 7.29	**Val. Mineral** Goethite, Hematite **Gangue** Clay, Quartz, Gibbsite, Pyrolusite, Wad	77.10 (Overall)	Comp. Conc. Fe(T) Al_2O_3 SiO_2	 57.22 4.46 4.03	82.70 (Overall)	Dry Screening & Spiral Classification

SR.	R.I.	TITLE OF THE INVESTIGATION	ORIGINAL	MINERALOGY	CONCENTRATE	PROCESS

IRON ORE

NO.	NO.		ANALYSIS %			WT%	ASSAY%		%REC	ADOPTED
155	485 BNG	Beneficiation studies on a **low grade Iron ore** sample from Velguem Mines, North Goa for M/s D.B.Bandodkar & Sons Pvt. Ltd., Panji, Goa.	Fe(T) SiO_2 Al_2O_3 Mn CaO MgO P LOI	53.73 8.89 3.02 0.95 0.69 0.05 0.16 8.06	**Val. Mineral** Goethite, Martitized magnetite, Hematite **Gangue** Quartz, Clay, Psilomelane, Wad, Muscovite Mica	26.40 (Overall)	Fe(T) SiO_2 Al_2O_3	60.06 4.39 1.61	29.50 (Overall)	Spiral Classification & Magnetic Separation after sizing.
156.	486 BNG	Beneficiation of a **Siliceous Iron ore** sample (SL 48) from Velguem Mine, Pale, Goa for M/s D.B.Bandodkar & Sons Pvt. Ltd., Panji, Goa.	Fe(T) FeO SiO_2 Al_2O_3 Mn	48.00 2.03 27.43 0.60 0.58	**Val. Mineral** Martitized magnetite, Hematite, Goethite **Gangue** Quartz,Clay, Mica, Psilomelane	41.60	Comp. Conc. Fe(T) FeO SiO_2 Al_2O_3	59.95 6.24 12.77 0.48	51.30	Screening, Spiral Classification & Magnetic Separation
157.	487 BNG	Beneficiation of a **Siliceous Iron ore** sample (SL 44) from Velguem Mine, Pale, Goa for M/s D.B.Bandodkar & Sons Pvt. Ltd., Panji, Goa.	Fe(T) FeO SiO_2 Al_2O_3 Mn	43.89 1.01 33.88 1.05 0.81	**Val. Mineral** Martitized magnetite, Hematite, Goethite **Gangue** Quartz, Clay, Mica, Psilomelane	40.60	Comp. Conc. Fe(T) FeO SiO_2 Al_2O_3 Mn Fe(T) SiO_2	63.40 7.14 7.95 0.34 48.47 5.46 8.63	58.80	Magnetic Separation
158.	489 BNG	Beneficiation studies on an **Iron ore tailing** sample from Velguem Mines, Pale, Goa for M/s D.B.Bandodkar & Sons Pvt. Ltd., Panji, Goa.	Fe(T) SiO_2 Al_2O_3 MgO S(T) TiO_2 LOI	41.12 30.01 3.82 0.62 0.13 0.30 5.90	**Val. Mineral** Goethite, Martitized magnetite, Hematite **Gangue** Quartz, Clay, Wad, Muscovite Mica, Chlorite.	27.90	Comp. Conc. Fe(T) SiO_2 Al_2O_3	65.00 5.57 1.20	42.70	Sizing, Magnetic Separation (WHIMS)

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt%	Assay%	% Rec.	

IRON ORE

159	491 2 L/C	Limited magnetic and Gravity separation tests on an **iron ore** sample from Calicut, Kerala by Fiza Developers and inter trade Pvt. Ltd., B'lore	Fe(T) SiO_2 Al_2O_3 TiO_2	40.84 42.07 0.07 0.44	**Val. Mineral** Martitized Magnetite, Hematite **Gangue** Quartz, Amphibole	41.2	Fe(T) SiO_2 Al_2O_3	69.69 2.66 0.05	70.9	Wet magnetic separation (WLIMS)
						46.2	Fe(T) SiO_2 Al_2O	69.20 2.93 0.05	75.6	Table
160.	492 L/C	Grindability test on an **iron** ore sample I (Fe 56- 58%) by M/s Bharath Mines & Minerals, Bellary			The Grindability of the sample was determined by the Denver Grindability determination method and the sample was found to be of **"SOFT"** category.					Grindability test
161	493 L/C	Grindability test on an **iron ore** sample II (Fe >60%) by M/s Bharath Mines & Minerals, Bellary			The Grindability of the sample was determined by the Denver Grindability determination method and the sample was found to be of **"MEDIUM SOFT TO SOFT"** category.					Grindability test
162	495 F/C	Beneficiation studies on **iron ore** sample from Bellary of Shri Allum Prashant Mine Owner Bellary dist., Karnataka	Fe(T) FeO SiO_2 Al_2O_3 TiO_2	37.31 5.30 42.76 0.14 0.18	**Val. Mineral** Martitized Magnetite, Hematite **Gangue** Quartz, Amphibole	41.1	Fe(T) SiO_2 Al_2O_3	67.34 4.57 0.08	74.4	Gravity Separation
						41.2	Fe(T) SiO_2 Al_2O	67.63 4.37 0.08	75.0	Gravity & Magnetic Separation
163	496 2L/C	Limited sieve analysis tests on **iron ore** samples I & II subjected to grindability test by M/s Bharath Mines & Minerals, Bellary			Size anaysis of the grindability products upto 325 mesh.					sieve analysis tests

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
164	497 F/C	Beneficiation studies on waste dumps low grade lateritic **iron ore** sample from chitradurga mines, Karnataka by Mineral enterprises Pvt. Ltd.	Fe(T) SiO_2 Al_2O_3 TiO_2 LOI	48.81 5.82 11.26 0.64 10.97	**Val. Minerals** Goethite, Limonite, Hematite **Gangue** Clay, Quartz , Feldspar	71.0 (Over-all)	Composite conc. Fe(T) SiO_2 Al_2O_3	 52.77 3.12 8.77	76.7 (over-all)	Gravity operation
165	498 4L/C	Work Index determination on Four **iron ore** samples by Bharat Mines & Minerals, Bellary, Karnataka			Sample 2: Work Index with 16 mesh test sieve : 12 Kwh/short ton Work Index with 24 mesh test sieve : 8.86 Kwh/short ton Sample 3: Work Index with 16 mesh test sieve : 15.05 Kwh/short ton Work Index with 24 mesh test sieve : 11.72Kwh/short ton					Work Index determination
166	499 F/NC	Beneficiation studies on ROM Iron ore sample No. I from Bicholim **iron ore** mines of Dempo Mining Corporation Ltd., Goa (Departemntal)	Fe(T) SiO_2 Al_2O_3 Mn LOI	51.81 5.77 5.81 2.08 10.5	**Val. Minerals** Goethite, Martitized magnetite, Hematite **Gangue** Clay, Wad, Quartz	17.6	Fe(T) SiO_2 Al_2O_3	64.59 1.77 1.86	21.9	Tabling & Dry Magnetic separation
167	500 L/C	Limited magnetic separation tests on an **iron ore** sample (HMM2) from Karnataka for Mineral Enterprises (P) Ltd., Bangalore	Fe(T) SiO_2 Al_2O_3 Mn FeO	33.24 29.4 4.28 10.12 5.20	**Val. Minerals** Martitized magnetite, Hematite **Gangue** Garnet, Epidote, Quartz, Ilmenite	56.6	Fe(T) SiO_2 Al_2O_3	41.12 25.32 3.49	70.3	Dry magnetic separation

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
168.	501 F/C	Dry beneficiation studies on a **siliceous iron ore** sample from M.S.Mines, Chitradurga, Karnataka for M/s Mineral Enterprises (P) Ltd., Bangalore	Fe(T) Al_2O_3 SiO_2 LOI	59.60 1.09 9.00 4.29	**Val. Minerals** Hematite, Geothite **Gangue** Quartz, clay, Garnet, Amphibole	87.1	Fe(T) Al_2O_3 SiO_2 LOI	63.40 1.03 4.00 3.09	92.3	Size analysis and magnetic separation
169	502 F/C	Beneficiation studies on a **laterite iron ore** sample from Sebuku, Indonesia for Cargill India (P) Ltd., Hospet, Karnataka	Fe(T) Al_2O_3 SiO_2 LOI	56.27 5.98 3.68 8.46	**Val. Minerals** Geothite **Gangue** Chamosite, Gibbsite	55.5	Fe(T) Al_2O_3 SiO_2 LOI	60.20 3.21 1.69 6.49	58.9	Size analysis and magnetic separation
170	503 2L/C	Work Index determination and Grindability determination on a low grade **iron ore** sample from Bharath Mines and Minerals, Bellary			The work index of the sample has been determined to be 7.2 kwh/short ton. The sample belongs to 'Soft' category.					Work Index determination and Grindability determination
171	504 F/C	Beneficiation of a low grade **iron ore** sample from Sandur Taluk, Bellary district, Karnataka for Bharath Mines and Minerals	Fe(T) Al_2O_3 SiO_2 LOI	59.05 4.97 5.88 3.52	**Val. Minerals** Hematite, Goetyhite **Gangue** Clay, Quartz, Gibbsite	**Sinter grade**				Scrubbing and wet sizing
						55.0	Fe(T) Al_2O_3 SiO_2	62.98 3.35 2.95	58.0	
						Pellet grade				
						62.4	Fe(T) Al_2O_3 SiO_2 LOI	66.27 1.49 1.49 1.34	68.7	Tabling & Wet Magnetic separation

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
172	505 F/C	Additional beneficiation studies on a low grade **iron ore** sample from Sandur Taluk, Bellary, Karnataka for Bharath Mines & Minerals	Fe(T) Al_2O_3 SiO_2 LOI	59.05 4.97 5.88 3.52	**Val. Minerals** Hematite, Goethite, Magnetite **Gangue** Clay, quartz, Gibbsite	52.2	Fe(T) Al_2O_3 SiO_2 LOI	65.09 1.12 1.91 1.53	59.5	WHIMS, filtration, thickening
						2633 cm^2/gm Blaine number				
						0.0126 and 0.0563 t/m^2 / d unit thicker area with 0.045 and 0.073 kg/t flocculent Magna floc- 155 for concentrate and tails respectively. 129 and 58 kg/m^2 /hr. Larox pressure filter productivity with 6.2 and 11.8% moisture for concentrate and tails respectively.				
173	506 2L/C	Determination of Bond's work index & Denver grindability on an **iron ore** sample from Bellary district, Karnataka for Shri Allum Prashant, Mine owner, Bellary			The sample belongs to 'Medium to Medium Soft' category The work Index of the sample has been determined to be 9.1 Kwh/short ton.					Work Index & Grindability
174.	507 L/C	Limited beneficiation studies of Low grade **iron ore** sample from Kappadagudda, Gadag District, Karnataka for M/s Doddannavar Brothers., Belgaum	Fe(T) Al_2O_3 SiO_2	56.96 1.54 11.37	**Val. Minerals** Martitized Magnetite, Hematite, Hydrated iron oxide **Gangue** Quartz, Clay, Gibbsite	68.8	Fe(T) Al_2O_3 SiO_2	60.83 1.42 6.65	72.8	Sieving, Dry magnetic separation

Sr.	R.I.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate	Process

IRON ORE

No.	NO.					Wt%	Assay%		% Rec.	Adopted
175	508 2L/C	Limited beneficiation studies of low grade **iron ore** sample no 2 from Kappadagudda, Gadag district, Karnataka for M/s Doddannavar Brothers., Belgaum	Fe(T) Al_2O_3 SiO_2 LOI	57.57 6.46 9.59 2.23	**Val. Minerals** Martitized Magnetite, Hematite, Hydrated iron oxide **Gangue** Quartz, Clay, Gibbsite	68.4	Fe(T) Al_2O_3 SiO_2	61.23 3.34 2.16	74.8	Dry screening, Magnetic separation, Hydro-cycloning
176	509 F/NC	Bench scale beneficiation studies of an **iron ore** tailing sample from Velguem-Surla, Goa for M/s V.M. Salgaonkar & Brothers Pvt.Ltd., Goa (Departmental)	Fe(T) SiO_2 Al_2O_3 Mn LOI	48.22 11.38 7.09 1.65 9.89	**Val. Minerals** Hematite, Geothite **Gangue** Clay, Quartz, Gibbsite	20.3	Fe(T) SiO_2 Al_2O_3	63.32 3.45 2.22	26.8	Magnetic separation
177	510 F/NC	Visit to Costi **Iron Ore** Mines and Beneficiation plant and Beneficiation of cyclone overflow sample from M/s Chowgale Co. (P) Ltd., Costi, Goa (Departmental)	Fe(T) SiO_2 Al_2O_3 LOI	49.48 10.16 8.72 8.01	**Val. Minerals** Hematite, Hydrated iron oxide **Gangue** Clay, Quartz	34.8	Fe(T) SiO_2 Al_2O_3 LOI	62.36 3.38 2.31 2.72	44.1	Wet medium intensity magnetic separation
178	511 F/NC	Visit to Costi **Iron Ore** Mines and Beneficiation plant and Beneficiation of WHIMS tails sample from M/s Chowgale Co. (P) Ltd., Costi, Goa (Departmental)	Fe(T) SiO_2 Al_2O_3 LOI	47.38 10.52 8.63 8.32	**Val. Minerals** Hematite, Hydrated iron oxide **Gangue** Clay, Quartz	33.7	Fe(T) SiO_2 Al_2O_3 LOI	63.31 2.66 2.64 3.39	45.1	Wet medium intensity magnetic separation
179	512 F/C	Bench scale beneficiation studies an **iron ore** sample (sub grade) from Bellary Dist., Karnataka for M/s Bharat Mines and Minerals, Bellary	Fe(T) SiO_2 Al_2O_3 LOI	50.93 11.87 8.48 5.65	**Val. Minerals** Hematite, Hydrated iron oxide **Gangue** Clay, Quartz, Gibbsite	56.5	Fe(T) SiO_2 Al_2O_3	63.46 3.15 3.26	69.0	Screening Gravity separation

IRON ORE

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
180	513 F/C	Additional gravity concentra-tion and dewatering tests on a **low grade Iron Ore** Sample from Sandur Taluk, Bellary District, Karnataka for M/S Bharat Mines & Minerals, Bellary	Fe(T) SiO_2 Al_2O_3 LOI	59.05 5.88 4.97 3.52	**Val. Minerals** Hematite, **Gangue** Clay, Quartz	46.8	Fe(T) SiO_2 Al_2O_3 LOI	66.09 1.50 1.26 1.30	52.7	Sieveing, Tabling
181	514 L/C	Limited magnetic separation studies on an I**ron Ore** sample (KPP) from Chitradurga district, Karnataka for Mineral Enterprises Ltd.,	Fe(T) FeO SiO_2 Al_2O_3 LOI	46.01 4.70 31.23 1.86 1.32	**Val. Minerals** Hematite, Martitized magnetite, Geothite **Gangue** Clay, Quartz	24.9	Fe(T) SiO_2 Al_2O_3	66.86 7.11 0.40	35.5	Magnetic separation
182	515 L/C	Limited beneficiation studies on an **iron ore** sample 2 from Chitradurga district, Karnataka for Mineral Enterprises Ltd., Bangalore.	Fe(T) FeO SiO_2 LOI	35.91 3.56 49.35 0.87	**Val. Minerals** Hematite, Martitized magnetite **Gangue** Quartz, amphibole	30.8	Fe(T) SiO_2 Al_2O_3	68.1 5.60 0.12	57.9	Tabling
183	516 F/C	Beneficiation studies on **lateritic Iron Ore** sample from Ranjitpura mines, Sandur Taluk, Bellary Dist., Karnataka for M/s Bharat Mines & Minerals, Bellary	Fe(T) SiO_2 Al_2O_3 LOI	54.44 2.66 8.26 10.39	**Val. Minerals** Hematite, Geothite **Gangue** Gibbsite/ Cliachite, Clay, Quartz	37.8	Fe(T) SiO_2 Al_2O_3	58.61 1.42 6.07	40.8	Magnetic separation
184	518 4 L/ C	Limited tests on an **Iron Ore** Sample from Gaganapalli Mines, Cuddappah, A.P. for Indian Barytes Company Ltd, Chennai	Fe(T) FeO SiO_2 Al_2O_3 LOI	51.70 0.37 23.77 1.20 0.60	**Val. Minerals** Hematite **Gangue** Quartz, cherty quartz clay	33.5	Fe(T) SiO_2	56.91 16.31	37.4	Tabling

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
185	519 F/C	Beneficiation studies on **BHQ** sample from Vyasankere **Iron ore** Mines, Hospet, Karnataka for M/s Mineral sales (P) Ltd., Hospet	Fe(T) FeO SiO_2 Al_2O_3	37.83 1.99 45.66 0.40	**Val. Minerals** Hematite, Magnetite **Gangue** Quartz, clay	39.8	Fe(T) SiO_2	63.05 9.98	66.7	Hydro-cycloning Tabling
186	520 F/C	Beneficiation of **Iron Ore (BHQ)** sample for M/s Bharath Mines & Minerals , Bellary	Fe(T) SiO_2 Al_2O_3 LOI	41.62 38.84 0.48 0.30	**Val. Minerals** Hematite, Martitized magnetite, Goethite **Gangue** Quartz	41.5	Fe(T) SiO_2 Al_2O_3	62.45 9.58 0.19	61.8	Gravity separation & Magnetic separation
187	521 F/NC	Bench scale beneficiation studies on a **siliceous Iron Ore** sample from Velguem- Surla, Goa, for M/s V.M.Salganokar, & Brothers Pvt. Ltd., Goa.	Fe(T) FeO SiO_2 Al_2O_3	51.34 1.15 22.28 0.72	**Val. Minerals** Hematite, Martitized magnetite, Goethite **Gangue** Quartz, Psilomelane, Mica, clay	42.5	Fe(T) SiO_2 Al_2O_3	68.45 2.26 0.16	55.3	Tabling.
188	525 L/C	Limited beneficiation studies on an **iron ore** sample from K.K.Kaval mines, Hulliyar, Tumkur District, Karnataka for Milan Minerals private Limited, Bangalore	Fe(T) SiO_2 Al_2O_3	58.33 8.15 3.02	**Val. Minerals** Goethite/ Limonite, Hematite, **Gangue** Quartz, Feldspar, clay	62.5	Fe(T) SiO_2 Al_2O_3	59.74 7.02 3.32	63.6.7	Dry Magnetic separation.

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189	526 2L/C	Limited beneficitaion studies on an **iron ore** sample from Karwar Region, Goa for Canara Overseas Limited, Bangalore	Fe(T) SiO_2 Al_2O_3	35.35 18.72 15.90	**Val. Minerals** Goethite, Limonite, **Gangue** Clay, Quartz	35.0	Fe(T) SiO_2 Al_2O_3	43.45 12.68 11.65	39.5	Wet Magnetic separation.

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			Process Adopted
						Wt%	Assay%	% Rec.	
190	529 2L/C	Magnetic separation tests on an **iron ore** sample from Chitradurga, Karnataka for M/s Mineral Enterprises Ltd., Bangalore	Fe(T) SiO_2 Al_2O_3 LOI Mn	53.60 6.11 3.98 8.54 4.23	Val. Mineral Hematite, Goethite **Gangue** Quartz, Clay, pyrolusite	The magnetic separation both wet and dry separation on the sample have not produced encouraging results.			Magnetic separation
191	530 F/C	Beneficiation studies on an **iron ore** sample from Bellary for Hothur Traders, Bangalore	Fe(T) SiO_2 Al_2O_3 LOI Mn TiO_2	59.20 3.08 7.78 6.31 0.02 0.94	Val. Mineral Hematite, Goethite **Gangue** Gibbsite, Quartz, Clay	44.8	Fe(T) SiO_2 Al_2O_3	66.15 1.02 2.59	51.0	Gravity separation
192	531 F/C	Beneficiation studies (by gravity separation) on an **iron ore** sample from Bellary district, Karnataka for Shri Allum Prashant, Mine owner, Bellary, Karnataka.	Fe(T) FeO SiO_2 Al_2O_3 LOI	37.35 6.07 40.35 0.19 1.16	Val. Mineral Martitized magnetite, Hematite **Gangue** Quartz , amphibole	32.6	Fe(T) SiO_2 Al_2O_3	70.50 1.22 0.06	60.2	Gravity separation
193	534 F/C	Beneficiation studies on an **Iron ore** sample from Sandur, Karnataka for M/s Rangana Gowda, Bellary, Hospet.	Fe(T) FeO SiO_2 Al_2O_3 Mn	58.99 0.55 5.65 5.15 0.08	Val. Mineral Hematite, Martitized magnetite, Geothite **Gangue** Quartz, feldspar, clay, gibbsite	67.6	Fe(T) SiO_2 Al_2O_3	64.25 2.51 3.35	72.7	Magnetic separation and tabling

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
194	535 F/C	Beneficiation studies on an **Iron ore** sample No. A from Hamsa Mines, Hospet, Karnataka for M/s Hamsa Minerals & Exports, Bangalore.	Plus 10 mm (29.2%)		Val. Mineral Hematite, Goethite **Gangue** Clay, Gibbsite	Plus 10mm				Gravity Concentration
			Fe(T)	61.87		23.0	Fe(T)	65.42	27.0	
			Al_2O_3	4.58			Al_2O_3	2.71		
			SiO_2	4.80			SiO_2	3.05		
			Mn	0.04						
			LOI	3.04						
			Minus 10mm (70.8%)			Minus 10 mm				
			Fe(T)	53.18		39.4	Fe(T)	63.74	45.0	
			Al_2O_3	7.75			Al_2O_3	3.27		
			SiO_2	10.45			SiO_2	4.08		
			Mn	0.03						
			LOI	5.00						
195	537 F/C	Beneficiation studies of a **Blue Dust** sample from Sandur Taluk, Bellary dist., Karnataka for M/s Vishal Mineral Processor, Sandur.	Fe(T)	68.84	Val. Mineral Hematite, Magnetite **Gangue** Quartz, Clay, Gibbsite	60.0	Fe(T)	69.59	60.4	Flotation
			FeO	0.51			FeO	0.54		
			Al_2O_3	0.22			Al_2O_3	0.16		
			SiO_2	0.65			SiO_2	0.32		
			LOI	0.53			LOI	0.25		
196	538 F/C	Beneficiation studies on an **iron ore** sample from Chitradurga, Karnataka for M/s alum Prashant, Mine owner, Hospet, Bellary, Karnataka.	Fe(T)	53.84	Val. Mineral Goehite, Hematite **Gangue** Quartz/Feldspar, Gibbsite, Clay	62.7	Fe(T)	58.74	66.8	Scrubbing and Dry Magnetic separation
			Al_2O_3	1.84			Al_2O_3	0.97		
			SiO_2	6.93			SiO_2	3.08		
			LOI	10.70						
			Mn	2.20						

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
197.	540 F/C	Beneficiation studies on a low grade **BHQ iron ore** sample from Halkundi village, Bellary dist., Karnataka for M/s Bellary Mining Corporation, Bellary.	Fe(T) Al_2O_3 SiO_2	44.19 0.50 36.43	Val. Mineral Hematite, Magnetite **Gangue** Quartz, Clay	51.0	Fe(T) Al_2O_3 SiO_2	65.65 0.23 3.95	75.7	Tabling and Magnetic separation
198	541 2L/C	Tabling and Magnetic separation tests on an **iron ore** sample from M/s Hamsa Minerals & Exports, Bangalore.	Fe(T) Al_2O_3 SiO_2	57.05 1.20 15.62	Val. Mineral Hematite, Goethite **Gangue** Quartz, Clay, Feldspar	73.6 84.3	Fe(T) Al_2O_3 SiO_2 Fe(T) Al_2O_3 SiO_2	67.69 0.72 2.69 63.42 1.20 8.06	85.5 92.3	Tabling Magnetic separation
199	542 F/NC	Beneficiation of **Siliceous/magnetic iron ore, R.O.M.** sample from Tollem mines, Sanguem, Goa for M/s Timblo Pvt. Ltd., Goa (Departmental).	Fe(T) FeO Al_2O_3 SiO_2	41.16 2.85 1.33 36.29	Val. Mineral Goethite, Magnetite, Hematite **Gangue** Quartz, Clay	52.5	Fe(T) Al_2O_3 SiO_2	61.22 0.87 8.23	76.9	Wet Screening & Magnetic Separation
200	543 F/C	Beneficiation studies on a **Classifier overflow** sample from **iron ore** washing plant of M/s SAIL, Dalli-Rajhara, Chattisgarh for M/s BSBK (P) Ltd., Bhilai.	Fe(T) Al_2O_3 SiO_2	51.69 4.21 18.44	Val. Mineral Hematite **Gangue** Quartz, Clay, Ilemenite	65	Fe(T) Al_2O_3 SiO_2	63.74 1.27 4.91	79.1	Gravity & Magnetic Separation

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
201	544 F/C	Dry beneficiation of an **iron ore** sample from Hamsa Minerals & Exports, Bangalore	+10 mm fraction		Val. Mineral Hematite, Goethite **Gangue** Clay, Quartz, Feldspar	+10 mm fraction				Dry Magnetic separation
			Fe(T)	62.76		79.9	Fe(T)	66.87	84.4	
			Al_2O_3	3.25			Al_2O_3	1.89		
			SiO_2	3.65			SiO_2	2.22		
			LOI	2.94		-10 mm fraction				
			- 10 mm fraction							
						57.1	Fe(T)	62.47	64.4	Dry magnetic Separation
			Fe(T)	54.50			Al_2O_3	3.66		
			Al_2O_3	7.75			SiO_2	4.42		
			SiO_2	8.72						
			LOI	4.91						
202.	546 F/NC	Beneficiation studies on a **oxidised R.O.M. iron ore** sample A-2 from Tollem mines, Sanguem, Goa for M/s Timblo Pvt. Ltd., Goa (Departmental).	Fe(T)	59.02	Val. Mineral Goethite, Hematite, Martitised magnetite, **Gangue** Clay,Quartz, Gibbsite	62	Fe(T)	64.88	68.3	Magnetic Separation
			FeO	2.55			Al_2O_3	1.18		
			Al_2O_3	2.85			SiO_2	2.31		
			SiO_2	6.04						
			LOI	6.04						

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Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt%	Assay%		% Rec.	
203.	547 F/NC	Beneficiation studies on **Lateritic lumpy iron ore** sample A-3 from Tollem mines, Sanguem, Goa for M/s Timblo Pvt. Ltd., Goa (Departmental).	Fe(T) FeO Al_2O_3 SiO_2 LOI	51.27 0.73 8.96 8.67 8.33	Val. Mineral Goethite, Hematite, Martitised magnetite, **Gangue** Clay, Gibbsite, Quartz,	63.9	Fe(T) Al_2O_3 SiO_2	55.72 6.22 6.40	69.9	Magnetic Separtion
204.	548 F/NC	Beneficiation of an **iron ore tailing** sample A-4 from magnetic separation plant of Tollem Mines, Sanguem, Goa of M/s Timblo Pvt. Ltd., Goa for Departmental.	Fe(T) FeO Al_2O_3 SiO_2 LOI	47.99 0.29 3.03 21.88 6.01	Val. Mineral Goethite, Hematite, Martitised magnetite, **Gangue** Quartz ,Clay, Gibbsite,	20.5	Fe(T) Al_2O_3 SiO_2	64.60 1.30 4.71	27.8	Magnetic separation
205.	550 L/C	Sieve analysis on **iron ore** sample from Essar Steel Ltd., Dantewada, Chattisgarh	Fe(T) SiO_2 Al_2O_3 LOI	52.32 13.31 5.23 6.66	Val. Mineral Hematite, Goethite/Limonite **Gangue** Clay, Quartz , Gibbsite	Sieve Analysis Studies				Sieve analysis

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206.	552 F/C **(PP)**	Pilot Scale studies on an **Iron Ore** Tailing sample from Velguem Mine, Pale, Goa for M/s Shree Bhavani Minerals, Panaji, Goa.	Fe(T) SiO_2 Al_2O_3 LOI	40.99 29.03 4.74 6.44	Val. Mineral Goethite/Limonite, Hematite, Martitised Magnetite **Gangue** Quartz/ Feldspar, Clay	42.3	Fe(T) SiO_2 Al_2O_3	61.63 6.14 1.48	63.1	Wet Magnetic separation

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	
207	553 Bng	Bench Scale Beneficiation studies on a low grade **iron ore** sample (No.2) from Sankalpuram Iron Ore Mine, Sub-grade dump, Hospet Taluk, Bellary, Karnataka for R.B.S.S.N., Hospet	Fe(T) 54.29 SiO_2 10.66 Al_2O_3 6.32 LOI 2.86 Mn 0.32 P 0.03	**Val. Mineral** Hematite, Goethite **Gangue** Clay, Quartz, Feldspar	63.1	Fe(T) 65.02 SiO_2 2.85 Al_2O_3 1.93 LOI 0.95 Mn 0.18	78	Gravity followed by WHIMS
208	554 Bng	Sub sieve analysis of an **iron ore** powder sample from Sankalpuram Iron Ore Mine, Sub-grade dump, Hospet Taluk, Bellary, Karnataka for R.B.S.S.N., Hospet	100% passing 45 microns, 80% passing – 27 microns, 50% passing 20 microns and 21.8% passing 5 microns					Sub – sieve analysis
209	555 Bng	Limited gravity separation and Hydro-cycloning tests on an **iron ore** sample from hospet, Karnataka for Hamsa Minerals India Pvt. Ltd., Bangalore	Fe(T) 53.69 SiO_2 9.50 Al_2O_3 6.70 P 0.109	**Val. Mineral** Hematite, Goethite **Gangue** Ferruginous Clay, Quartz	77.3	Fe(T) 61.75 SiO_2 4.61 Al_2O_3 3.64	86.4	Screening followed by hydro-cycloning
210	556 Bng	Work Index, Grindability and beneficiation studies on an **iron ore** sample No.4 from Sankalpuram Iron Ore Mine, Hospet Taluk, Bellary,	Fe(T) 62.30 SiO_2 5.50 Al_2O_3 3.85 LOI 2.03	**Val. Mineral** Hematite **Gangue** Geothite/Wad,	91.1	Fe(T) 64.77 SiO_2 3.68 Al_2O_3 2.68 Work Index – 7.2 KWh/short ton	94.4	Screening, Jigging & WHIMS

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		Karnataka for R.B.S.S.N., Hospet	TiO_2	0.58	Gibbsite, Clay, Quartz	Grind ability – soft category	

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			Process Adopted
						Wt.%	ASSAY %	DIST.%	
211	557 Bng	Heavy liquid separation on 3 **iron ore** samples from Vesco Mines, Sandur, Karnataka for Femento (Karnataka) Mining Co. Pvt.Ltd., Sandur, Karnataka	Normal Ore				Sink Fraction		Sink – float test
			Fe(T) SiO_2 Al_2O_3 TiO_2 LOI	56.65 7.47 5.61 0.34 4.84	**Valuable Mineral** Hematite **Gangue** Gibbsite, Clay, Quartz, Limonite	91.2	Fe(T) SiO_2 Al_2O_3	58.48 6.58 5.08	95.5
			Weathered Ore						
			Fe(T) SiO_2 Al_2O_3 TiO_2 LOI	59.65 1.26 5.53 0.26 7.06	**Valuable Mineral** Hematite, Goethite **Gangue** Gibbsite, Clay, Quartz, Limonite	95.8	Fe(T) SiO_2 Al_2O_3	60.01 1.06 5.41	96.1
			Weathered siliceous Ore						

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			Fe(T) 62.08 SiO_2 7.72 Al_2O_3 0.46 TiO_2 0.12 LOI 2.86	**Valuable Mineral** Hematite, Goethite **Gangue** Clay, Quartz	95.2	Fe(T) 64.52 SiO_2 3.78 Al_2O_3 0.43	99.5	
212	561 Bng	Beneficiation studies, determination of work Index and Grindability on an **iron ore** sample No.1 from Sankalpuram Iron Ore Mine, Hospet Taluk, Bellary, Karnataka for R.B.S.S.N., Hospet	Fe(T) 47.19 Al_2O_3 8.31 SiO_2 18.41 LOI 3.41	**Val. Minerals** Hematite, limonite/geothite **Gangue** Quartz, Clay, amphiboles	68.6	Fe(T) 59.10 Al_2O_3 3.98 SiO_2 8.00	85.4	Magnetic separation

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	
213	562 Bng	Studies on **Iron ore** samples (S1&S2) for evaluating the suitability of the ore for the production of high density aggregates for M/s Iliyaash Mines & Minerals Pvt. Ltd., Bangalore	Sample – S1 Fe(T) 62.02 FeO 0.45 Al_2O_3 1.12 SiO_2 7.61 LOI 2.50 Sample – S2 Fe(T) 64.60 FeO 0.45 Al_2O_3 0.79 SiO_2 3.80 LOI 2.54	**Val. Minerals** Hematite, Geothite **Gangue** Quartz	The sanmples S1 & S2 do not conform to party's and ASTM specification of pipe line aggregates due to the presence of goethite and also alteration of hematite to geothite			High density aggregates

IRON ORE

214.	563 Bng	Beneficiation of **siliceous iron ore** sample from Goa for Shree Bhavani Minerals, Panaji, Goa	Fe(T) 42.38 FeO 0.98 SiO_2 32.26 Al_2O_3 2.61 LOI 3.55	**Val. Minerals** Martitised magnetite, Hematite, **Gangue** Goethite, Quartz, clay	52.2	Fe(T) 59.21 SiO_2 10.76 Al_2O_3 1.64	73.2	WHIMS
215	564 Bng	Beneficiation studies on a sub-grade **iron ore dump material** from C-block, S.J.Harvi Mine (ML2290) Sandur Taluk, Bellary district, Karnataka for V.S.Lad & Sons, Sandur	Fe(T) 52.65 Al_2O_3 2.57 SiO_2 19.46 LOI 2.09	**Val. Minerals** Hematite, magnetite **Gangue** Goethite, Quartz, clay	54.8	Fe(T) 66.27 Al_2O_3 0.73 SiO_2 2.51 LOI 0.95	69.3	Tabling followed by WHIMS
216	565 Bng	Tabling test on a classifier overflow sample from an **iron ore** washing plant, gadag, Karnataka for M/s Sangameshwar Trading Company, Gadag	Fe(T) 59.62 Al_2O_3 2.33 SiO_2 8.29 LOI 1.01	**Val. Minerals** Hematite, Martitised magnetite **Gangue** Quartz, Clay, goethite	61.2	Fe(T) 66.90 Al_2O_3 1.11 SiO_2 1.28 LOI 0.70	68.9	Tabling

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	
217	567 Bng	Limited tests on an **iron ore waste** dump sample fron Narayan Mines, Chitradurga, Karnataka for M/s Gem Laboratories Pvt. Ltd., Bangalore	Fe(T) 57.74 Al_2O_3 5.93 SiO_2 4.87 LOI 5.13	--	Composite +3 mm 56.9	Fe(T) 61.11 Al_2O_3 2.33 SiO_2 4.54 LOI 5.08	60.5	Size analysis
218	568 Bng	Additional beneficiation studies on a sub-grade **iron ore dump** material from C-block, S.J.Harvi Mine (ML2290) Sandur Taluk, Bellary district, Karnataka for V.S.Lad & Sons, Sandur	Fe(T) 52.65 Al_2O_3 2.57 SiO_2 19.46 LOI 2.09		Settling test – Unit thickner area Concentrate – 0.0023m^2/t/d Tails - 0.09 m^2/t/d Filtration test Concentrate – 7.5% moisture Tails - 14.5 % moisture			Settling and Filtration

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219	569 Bng	Beneficiation studies on a **IRON ORE** sample from Sagar, Shimoga, Karnataka for B.KumaraGowda, Haddinapade iron ore mines, Sandur, Karnataka	Fe(T) 33.80 FeO 17.70 Al_2O_3 0.44 SiO_2 3.85 LOI	**Val. Minerals** Magnetite, Hematite **Gangue** Siderite, quartz	37.3	Fe(T) 66.79 Al_2O_3 0.60 SiO_2 4.09	71.0	Magnetic Separation
220	571 Bng	Work index, Grindability and Beneficiation studies on a low grade **iron ore (BHQ dump** sample) from Sandur for V.S. Lad & Sons, Sandur, Bellary dist., Karnataka	Fe(T) 44.89 FeO 0.50 SiO_2 32.19 Al_2O_3 2.58	**Val. Minerals** Hematite, Geothite **Gangue** Quartz, Clay	33.8	Fe(T) 64.95 SiO_2 5.03 Al_2O_3 0.69	50.3	WHIMS
					W.I. – 7.1 Kwhr/short ton			Worek Index
					Grindability – Soft category			Denver Grindability

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	
221	572	Dewatering studies on beneficiation products of low grade **iron ore** sample (BHQ dump sample) from Sandur for V.S.lad & sons, Sandur, Bellary, Karnataka		The thickener area in case of non-magnetic product, using 0.024 kg/t of Sufloc A-4040 --was found to be 0.0479 m^2/tonne of dry solids -24 hrs. and for magnetic product, using 0.015 kg/t of Sufloc A – 6040 was found to be 0.0161 m^2/tonne of dry solids -24 hrs. The moisture content in the pressure filtration cake in case of non-magnetic product was 10.3% and productivity was 191 kg/m^2-hr. and in case of magnetic product was 4.8% with productivity of 272 kg/m2-hr. By filtration of non-magnetic product 11.86% of water could be recovered and from magnetic product 3.61% water could be recovered. Thus, by thickening and filtration of products, 97.63% of water used in the process could be recovered.				Dewatering studies

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222.	573	Jigging test on an **iron ore** fines sample from D.K.halli, Chitradurga, Karnataka for Shri Allum Prashant, Mine Owner, Bellary	Fe(T) SiO_2 Al_2O_3 Mn LOI	52.98 7.15 2.31 2.05 10.45	**Valuable Mineral** Hydrated iron oxide Hematite **Gangue** Quartz, Clay, Psilomelane, Mica	81.0	Fe(T) SiO_2 Al_2O_3 Mn LOI	55.15 5.10 1.59 2.00 10.44	84.0	Jigging
223	575	Beneficiation of a subgrade **Iron ore** sample from Donimalai Mines, Hospet, Karnataka for Nadeem Minerals, Bangalore	Fe(T) Al_2O_3 SiO_2 LOI	58.14 3.52 11.35 3.11	**Val. Minerals** Hematite, limonite/ Goethite **Gangue** Quartz, clay, Gibbsite, Biotite Mica, Garnet	51.2	Fe(T) Al_2O_3 SiO_2	64.38 2.15 3.32	56.3	WHIMS
224	578	Beneficiation studies on an **iron ore** sample from Donimalai iron ore mines, Karnataka for M/s Nadeem Minerals, Bangalorre	Fe(T) Al_2O_3 SiO_2 LOI	63.50 2.75 3.30 2.89	**Val. Minerals** Hematite, Goethite **Gangue** Quartz, Clay/Feldspar, Gibbsite, Carbonates	73.3	Fe(T) Al_2O_3 SiO_2	65.99 1.30 1.59	76	Screening & Magnetic separation

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
225	580	Beneficiation studies on an **iron ore** sample from Kakubal iron ore mines, Hospet Taluk, Bellary, Karnataka for M/s VSL Mining Company Ltd., Bellary	Fe(T) FeO Al_2O_3 SiO_{2+} Mn LOI	44.81 0.22 13.11 7.89 0.79 11.36	**Val. Minerals** Hematite, Goethite, Martitized magnetite **Gangue** Quartz, Clay, Psilomelane, Pyrolusite	26.0	Fe(T) Al_2O_3 SiO_2	58.15 4.14 3.16	33.6	Classification & Gravity concentration

IRON ORE

226	581	Beneficiation studies on an **iron ore** sample from Red Hill iron ore mines (sanple No. RM/Nagaraj pit/LIG) for Mineral Enterprises, Bangalore	Fe(T) Al_2O_3 SiO_2 LOI TiO_2	53.71 8.75 6.47 5.80 0.41	**Val. Minerals** Hematite, Goethite **Gangue** Clay, Gibbsite, Quartz/ Feldspar	59.3	Fe(T) Al_2O_3 SiO_2	62.74 4.15 2.84	69.0	WHIMS

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate			Process Adopted
						Wt.%	ASSAY %	DIST.%	
227	582	Amenability, Work Index and Grindability of five **iron ore** samples from sandur Mines, Hospet, Bellary for M/s BMM Ispat Ltd., Bellary	Fe(T) FeO SiO_2 Al_2O_3 LOI	58.84 0.09 1.07 7.07 5.81	**Val. Minerals** Hematite, Goethite **Gangue** Gibbsite, clay, Psilomelane	**Sample No.1**			Work Index
						W.I. – 11.1 Kwh/ Short ton			
						Grindability – The sample falls under medium soft to medium hardt Category			Denver Grindability
			Fe(T) FeO	60.02 0.09	**Val. Minerals** Hematite,	Sample No.2			
						W.I. – 10.22 Kwh/ Short ton			Worek Index

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			SiO_2 Al_2O_3 LOI	5.36 4.93 3.53	Goethite/wad **Gangue** Gibbsite, clay, Quartz/ Feldspar	Grindability – The sample falls under medium soft to soft Category	Denver Grindability
			Fe(T) FeO SiO_2 Al_2O_3 LOI	57.07 0.18 4.67 6.09 6.50	**Val. Minerals** Hematite, Goethite **Gangue** Gibbsite, Psilomelane, Quartz/Feldspar, Clay	Sample No.3	
						W.I. – 10.55 Kwh/ Short ton	Worek Index
						Grindability – The sample falls under medium soft to soft Category	Denver Grindability
			Fe(T) FeO SiO_2 Al_2O_3 LOI	54.31 0.18 5.52 8.20 7.15	**Val. Minerals** Hematite, Goethite **Gangue** Clay, Gibbsite, quartz/feldspar	Sample No.4	
						W.I. – 7.49 Kwh/ Short ton	Worek Index
						Grindability – The sample falls under soft Category	Denver Grindability
			Fe(T) FeO SiO_2 Al_2O_3 LOI	53.54 0.55 7.69 6.79 7.37	**Val. Minerals** Hematite, Goethite **Gangue** Gibbsite, clay, Quartz/Feldspar	Sample No.5	
						W.I. – 8.52 Kwh/ Short ton	Worek Index
						Grindability – The sample falls under soft Category	Denver Grindability

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**		**Mineralogy**	**Concentrate**			**Process Adopted**
						Wt.%	ASSAY %	DIST.%	
228	583	Size analysis and amenability studies on four **BHQ iron ore** samples (1BT, 1BB, IIBT, II BB) from Hospet, Bellary for M/s Hamsa Minerals India Pvt. Ltd., Hospet	Fe(T) SiO_2 Al_2O_3 LOI	22.88 62.93 1.89 1.11	**Val. Minerals** Hematite, Goethite **Gangue** Cherty quartz, clay	The sink and float tests (-65 mesh) yielded a sink concentrate assaying 57.68% Fe(T), 14.13% SiO_2, 2.27% Al_2O_3 with 18.8% Fe(T) distribution at weight percent yield of 7.5. The magnetic separation test (-65 mesh) yielded a magnetic – I concentrate assaying 25.80% Fe(T), 58.45% SiO_2, 1.81% Al_2O_3 with 52.4% Fe(T) distribution at weight percent yield of 46.8.			

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			Fe(T) SiO_2 Al_2O_3	29.82 54.50 1.62	**Val. Minerals** Hematite, Goethite **Gangue** Cherty quartz, clay	The sink and float tests (-65 mesh) yielded a sink concentrate assaying 58.71% Fe(T), 14.34% SiO_2, 1.54% Al_2O_3 with 40.5% Fe(T) distribution at weight percent yield of 21.1. The magnetic separation test (-65 mesh) yielded a magnetic – I concentrate assaying 44.79% Fe(T), 34.20% SiO_2, 1.24% Al_2O_3 with 31.6% Fe(T) distribution at weight percent yield of 21.7.
			Fe(T) SiO_2 Al_2O_3 LOI	30.63 55.12 0.74 1.08	**Val. Minerals** Hematite, Goethite **Gangue** Cherty quartz, clay	The sink and float tests (-65 mesh) yielded a sink concentrate assaying 61.39% Fe(T), 10.77% SiO_2, 0.74% Al_2O_3 with 31.2% Fe(T) distribution at weight percent yield of 15.5. The magnetic separation test (-65 mesh) yielded a magnetic – I concentrate assaying 33.05% Fe(T), 51.53% SiO_2, 0.68% Al_2O_3 with 32.5% Fe(T) distribution at weight percent yield of 29.7.
			Fe(T) SiO_2 Al_2O_3 LOI	29.11 56.48 1.35 Tr	**Val. Minerals** Hematite, Goethite **Gangue** Cherty quartz, clay	The sink and float tests (-65 mesh) yielded a sink concentrate assaying 55.28% Fe(T), 18.70% SiO_2, 1.11% Al_2O_3 with 59.8% Fe(T) distribution at weight percent yield of 32.6. The magnetic separation test (-65 mesh) yielded a magnetic – I concentrate assaying 41.80% Fe(T), 38.28% SiO_2, 1.08% Al_2O_3 with 25.6% Fe(T) distribution at weight percent yield of 18.4.

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
229	584	Work Index, Grindability and Beneficiation studies on an **iron ore** sample from Barbil mines, Kenojar District, Orissa for M/s Arya Steel Ltd., orissa	Fe(T) Al_2O_3 SiO_2 LOI TiO_2	56.97 4.86 7.60 4.02 0.37	**Val. Minerals** Hematite, Goethite **Gangue** Clay, quartz,	41.6	Fe(T) SiO_2 Al_2O_3	65.45 1.69 1.05	48.4	Classification, Tabling, WHIMS
						W.I. – 14.19 Kwh/st.				Worek Index

IRON ORE

			Mn	1.32	cryptomelane/ psiolomelane, pyrolusite, gibbsite, feldspar	Grindability – The sample belongs to medium to medium soft category.	Denver Grindability
					Flocculent 'Sufloc 1115' of Suyog Chemicals, Nagpur, was selected for settling the solids of ground combined concentrate and combined rejects. The thickener area of ground combined concentrate using 0.0199 kg/t of flocculant is 0.02187 m^2/tonne of dry solids -24 hrs. The thickener area of combined rejects using 0.1219 kg/t of flocculant is 0.03473 m^2/tonne of dry solids -24 hrs. The moisture content in the pressure filtration cake in the combined concentrate product was 10.0% and productivity was 506.7 kg/m^2-hr.		

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
230	588	Beneficiation studies on a iron ore sample from Gauli mines, Barbil, Kenojar district, Orissa for Triveni Earth Movers (Pvt.) Ltd., Orissa	Fe(T) Al_2O_3 SiO_2 LOI TiO_2	58.68 4.84 4.84 5.90 0.34	**Val. Minerals** Hematite, Goethite **Gangue** Clay, Cherty quartz, gibbsite	51.8	Fe(T) Al_2O_3 SiO_2	63.77 2.22 1.82	55.9	Screening, Scalping, Dry & wet Magnetic Separation

IRON ORE

231	590	Limited tests on an iron ore sample from Habbigudda mine, Chikkanayakanahalli, Karnataka.	Fe(T) FeO Al_2O_3 SiO_2 LOI TiO_2	49.70 4.43 10.28 5.34 11.59 0.49	**Val. Minerals** Hematite, Goethite **Gangue** Clay, quartz, gibbsite, Pyrolusite/ psilomelane	52.7	Fe(T) Al_2O_3 SiO_2	53.71 8.29 3.23	56.7	Scruubing, Screening, and jigging
232	591	Limited beneficiation studies on an iron ore sample from D.K.Halli mines, Hosadurga, Chitradurga Dist., Karnataka	Fe(T) FeO Al_2O_3 SiO_2 LOI Mn	51.34 0.14 1.74 6.21 10.54 3.02	**Val. Minerals** Goethite, Hematite **Gangue** Clay, quartz, Pyrolusite/ psilomelane	70.3	Fe(T) SiO_2			
233	592	Beneficiation of a low grade banded iron ore sample from Ambargatti-Tigolli, Belgaum Tq., Karnataka.	Fe(T) FeO Al_2O_3 SiO_2 LOI TiO_2	34.97 2.98 0.49 48.08 1.03 0.56	**Val. Minerals** Hematite, Goethite, **Gangue** Cherty quartz, Feldspar, Clay	34.0	Fe(T) SiO_2	65.42 4.58	63.2	Dry and wet magnetic separation
						The Denver grindability indicated that the sample belongs to medium soft to medium category. Work Index – 8.7 kwh/shortton.				

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %		Mineralogy	Concentrate				Process Adopted
						Wt.%	ASSAY %		DIST.%	
234	593 1F&2L /C	Beneficiation of a low grade bended iron ore sample from Kulavalli, Bailahoangala Taluk, Belgaum Dist., Karnataka foe M/s Shri Keshav Cements and Infra Ltd.,	Fe(T) FeO SiO_2 Al_2O_3 LOI	33.46 1.46 49.50 0.69 1.30	**Val. Mineral** Hematite, Goethite Martitised magnetite	15.0	Fe(T) SiO_2 Al_2O_3 LOI	66.09 2.73 0.40 2.34	30.8	Magnetic separation followed by flotation

IRON ORE

		Belgaum.			**Gangue** Quartz, feldspar, clay	The Denver Grindability - medium to medium hard category. The Bond's ball mill work index - 11 KWh/short ton.				
235.	594 2L/C	Dry magnetic separation test on a iron ore sample from Bidadi, Yemen for Explo technique, Bangalore	Fe(T) FeO SiO_2 TiO_2 MgO	40.21 24.05 20.96 7.56 10.52	**Valuable Mineral** Martitised magnetite **Gangue** Chloritoid, ilemenite	45.6	Fe(T) FeO SiO_2 TiO_2 MgO	49.87 28.36 8.20 18.28 3.05	63.5	Dry magnetic separation
236.	595 1F&2L /C	Beneficiation of iron ore sample (D-top scalp dump no.1) Gauli Iron ore Mine, Topadhi, Kenojar, Orissa for Triveni Earth Movers Pvt. Ltd.	Fe(T) FeO SiO_2 Al_2O_3 LOI	60.07 0.16 4.25 4.07 5.48	**Valuable Mineral** Hematite, Goethite **Gangue** Clay	Plus 3mm				Scrubbing followed by screening
						30.3	Fe(T) SiO_2 Al_2O_3	63.68 1.46 2.46	31.8	
						-3mm+0.6 mm				
						26	Fe(T) SiO_2 Al_2O_3	63.43 2.59 3.21	27.2	Tabling
						-0.6+0.053 mm				
						9.4	Fe(T) SiO_2 Al_2O_3	64.92 1.41 0.85	10.0	

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt.%	ASSAY %	DIST.%	

IRON ORE

237	596 2L/C	Characterization Studies, Determination of work Index and grindability studies of an **iron ore** sample No.6 from Sandur Mines, Hospet, Bellary Distt. Karnataka for M/s BMM Ispat Ltd., Danapura Village, Hospet Taluk, Bellary Distt., Karnataka.	Fe(T) FeO Al_2O_3 SiO_2 LOI	56.91 0.63 6.72 4.75 5.29	**Valuable Minerals** Hematite, geothite **Gangue** Quartz, clay, gibbsite	Work Index – 8.80 kWh/short ton Grindability – medium soft to soft category	Bond's Work Index and Denver Grindability
238	602 3L/C	Determination of Bond's ball mill Work Index and Grindability of feed and concentrate samples from BMM Concentrator, Danapur, Hospet, Bellary, Karnataka for BMM Ispat Ltd., Bangalore.	Fe(T) Cr_2O_3 Fe (sol) Al_2O_3 MgO SiO_2 TiO_2 LOI	9.38 3.53 5.83 4.84 19.02 37.06 0.39 11.67	—	Work Index – Feed – 8.90 kwh/ short ton Concentrate - 20.68 kwh/short ton Feed Denver Grinability – medium soft to medium	Work Index and Grindability
239	603 1L/C	Sieve and sub-sieve analysis of iron ore slime sample from Hospet, Bellary district, Karnataka for M/s CDE Ltd., Kolkata.	Fe(T) FeO Al_2O_3 SiO_2 LOI	47.01 0.05 7.99 16.72 6.49	—	The SiO_2, Al_2O_3 and LOI content increased with the fineness of the size while the Fe values decreased with the increase in fineness. The Fe values concentrated significantly in plus 25 microns fraction.	Size analysis

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	

IRON ORE

240	604 1F &4L/C	Beneficiation Studies on an **Iron Ore** sample from BBH Mines, Chitradurga, Karnataka for M/s Mineral Enterprises Ltd., Bangalore.	Fe(T) Al_2O_3 SiO_2 LOI Mn	54.42 2.65 5.42 8.35 3.73	**Valuable Minerals** Goethite, Hematite **Gangue** Clay, Pyrolusite /psilomelane, clay, quartz / feldspar	40.4	Fe(T) Al_2O_3 SiO_2 Mn	57.77 1.68 2.95 4.13	42.9	WHIMS
241	605 F/C	Grinding of Iron Ore Fines sample from Hospet, Bellary Distt., Karnataka for M/s MSPL Limited, Hospet**.**	Fe(T) Al_2O_3 SiO_2 LOI	63.80 2.28 3.98 1.42	**Valuable Minerals** Goethite, Hematite **Gangue** Clay, quartz	The sample was ground to a size of 94% minus 200 mesh, d_{80} 50 microns				Grinding
242	606 2L/C	Characterization studies and determination of grindability of an **iron ore** sample from Sankalapuram Mines, Hospet, Bellary Distt., Karnataka for M/s R.B. Seth Shreeram Narsingdas.	Fe(T) FeO Al_2O_3 SiO_2 LOI Mn	57.65 0.34 5.10 7.05 4.54 0.08	**Valuable Minerals** Goethite, Hematite **Gangue** Clay, quartz, Gibbsite, mica, amphiboles	Grindability – Medium soft to soft				Wet screening and grindability

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt.%	ASSAY %	DIST.%	

IRON ORE

243	607 F & 4L/C	Beneficiation of Iron Ore sample from Narahari Mines, Bheemsamudra, Chitradurga for M/s Mineral Enterprises Ltd., Bangalore, Karnataka.	Fe(T) Al_2O_3 SiO_2 LOI TiO_2 Mn	5502 3.38 4.02 5.83 0.10 5.37	**Valuable Minerals** Hematite, Goethite, **Gangue** Psilomelane, pyrolusite, quartz, feldspar, clay,gibbsite	33.1	Fe(T) SiO_2 Al_2O_3 Mn	61.03 2.67 2.52 4.77	36.4	Jigging and Dry magnetic separation
244	611 F/C	Beneficiation studies on an iron ore sample fromn Haraginoda Mines, Bellary, Karnataka for M/s Allum Prashanth, Mine Owner, Bangalore, Karnataka.	Fe(T) FeO SiO_2 Al_2O_3 LOI P S	58.25 6.73 6.52 0.82 2.16 0.25 0.10	**Valuable Minerals** Magnetite Hematite **Gangue** Cholrite, sericite, quartz, apatite, pyrite	52.4	Fe(T) FeO SiO_2 P S	69.34 8.60 0.95 0.046 0.008	62.0	Magnetic separation
245	613 Bng	Beneficiation of **IRON ORE** sample from Subbarayanahalli Mines, Sandur, Bellary district, Karnataka for MML	Fe(T) Al_2O_3 SiO_2 LOI	53.51 7.22 7.33 7.34	**Valuable Minerals** Hematite, Goethite, **Gangue** Gibbsite, Clay, Quartz	51.4	Fe(T) SiO_2 Al_2O_3	63.04 2.61 2.70	60.0	Gravity separation

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	

IRON ORE

246	614 (A) Bng	Determination of Bond's work Index of ROM and Combined LIMS Magnetic Concentrate and Table Concentrate (minus 28 mesh) of **IRON ORE** sample from Haraginoda Mines, Bellary, Karnataka for Shri Allum Prashant, Mine Owner, Bellary				Bond's Work Index ROM – 8.35 KwH/short Ton Concentrate – 16.98	Work Index
247	614 (B) Bng	Dewatering studies of **IRON ORE** sample from Haraginoda Mines, Bellary, Karnataka for Shri Allum Prashant, Mine Owner, Bellary				**Thickner area** Concentrate – 0.1095 m^2/ton of dry solids Rejects - 0.01186 m^2/ton of dry solids **Concentrate** Vaccum filtration – 883.55 kg/m^2-hr, moisture – 8.51 Larox pressure – 647.73 kg/m^2-hr Moisture – 6.9 Water requirement is 24 cu-m/ton of ore 96.66% water can be recovered	Dewatering studies

Sr. No.	R.I. No.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	Assay %	Dist.%	

IRON ORE

248	641 BNG	Size analysis and mineralogical studies on **IRON ORE** sample (Siliceous ROM & BMQ) from M/s V S Dempo & Co. Pvt. Ltd., Panjim, Goa.	Siliceous ROM Fe(T) 44.59 SiO_2 30.51 Al_2O_3 0.50 CaO 0.09 MgO 0.06 LOI 3.25		**Val. Mineral** Hematite, Goethite **Gangue** Quartz, Feldspar	By size analysis if was found that at 65 mesh 70% of iron ore is liberated from quartz			Size analysis
			BMQ Fe(T) 27.80 FeO 20.56 SiO_2 37.34 Al_2O_3 0.84 CaO 2.44 MgO 4.43 LOI 8.72		**Val. Mineral** Magnetite **Gangue** Chlorite, Goethite,Quartz Unidentified mineral	By size analysis if was found that at 65 mesh 10% of iron ore is liberated from quartz.			Size analysis
249	643 BNG	Limited test on an **Iron ore** sample from Barbil area, Orissa. For M/s Ingwenya Mineral Tech Private.	Fe(T) 52.64 FeO 0.25 SiO_2 17.00 Al_2O_3 1.50 LOI 4.68		**Val. Mineral** Hematite, Goethite **Gangue** Quartz/ Feldspar, Clay	35.9	Fe(T) FeO SiO_2 Al_2O_3	62.74 0.28 9.02 0.42	42.5	Wet Magnetic separation
250	644 BNG	Beneficiation studies on a low grade Iron ore sample from Aarpee iron ore mines, Hospet, Karnataka for RCOM , IBM, Bangalore.	Fe(T) 39.76 SiO_2 36.26 Al_2O_3 3.75 LOI 1.85		**Val. Mineral** Hematite **Gangue** Quartz, Chlorite	28.0	Fe(T) SiO_2 Al_2O_3	66.46 3.83 0.45	46.3	Tabling

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt.%	ASSAY %	DIST.%	

IRON ORE

251	645 BNG	Beneficiation studies and work index determination on a low grade **Iron ore** sample from Hospet, Bellary. For M/s V S Lad & Sons, Sandur	Fe(T) FeO SiO_2 Al_2O_3 LOI	56.16 0.54 9.10 4.29 5.07	**Val. Mineral** Hematite, Goethite , Martitized Magnetite **Gangue** Quartz/ Feldspar, Clay	57.3	Fe(T) LOI SiO_2 Al_2O_3	64.22 2.58 3.43 1.80	64.3	Sizing, Tabling, Wet Magnetic separation
						WI for ore 7.52 Kwh/short ton				
252	646 BNG	Dewatering and work index studies on a low grade **Iron ore** sample from hospet, Bellary. For M/s V S Lad & Sons , Sandur			WI 19.9 Kwh/short ton for concentrate. Unit Thickener area for Tails 0.44 m^2/ t/day. Unit thickener area for concentrate 0. 046 m^2/t/day. Moisture of filtered cake (larox Pressure filtration) 8.8%. Productivity 0.223t/m^2/h. Over all water requirement 0.5 m^3/ t.					Thickening & Filtration
253	647 BNG	Limited tabling tests on a low grade **Iron ore** fines sample from Barbil Region, Orissa. For M/s Jagnathpur Steel Limited, Ranchi, Jharkhand	Fe(T) FeO SiO_2 Al_2O_3 LOI	58.15 0.73 7.05 4.39 4.30	**Val. Mineral** Hematite, Goethite **Gangue** Quartz, clay, amphibole	47.6	Fe(T)	66.02	54.6	Tabling
254	649 BNG	Benficiaition studies on a low grade iron ore sample from M.M.L. Dumps, Sandur Region, Bellary District, Karnataka for M/s Swastik Steels [Hospet] Private Limited, Hospet.	Fe(T) FeO SiO_2 Al_2O_3 LOI	54.60 0.73 3.76 7.93 8.65	**Val. Mineral** Hematite, Martitized Magnetite **Gangue** Goethite, Quartz, Ferruginous Clay, Gibbsite.	54.8	Fe(T) SiO_2 Al_2O_3	62.02 1.94 4.21	62.1	Tabling, Magnetic separation.

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt.%	ASSAY %	DIST.%	

IRON ORE

255	650 BNG	Beneficiation Studies on an Iron Ore sample from SBK Mines, Bellary for M/S Swastik Steels (Hospet) Private Limited, Hospet.	Fe(T) FeO SiO_2 Al_2O_3 LOI	50.30 0.53 12.85 8.03 6.02	**Val. Mineral** Hematite, Martitized Magnetite, **Gangue** Chlorite, Quartz, Apatite, Pyrite, Goethite.	54.0	Fe(T) SiO_2 Al_2O_3	62.02 4.14 3.49	66.2	Sizing, Magnetic separation.
256	652 BNG	Beneficiation studies on **an iron ore** sample from Devagiri mines, Bellary for Swastik Steels (Hospet) private limited, Hospet.	Fe(T) FeO SiO_2 Al_2O_3 LOI	51.22 0.40 11.02 9.03 5.07	**Val. Mineral** Martitized Magnetite, Hematite, **Gangue** Chlotite,/Sericite , Quartz, Apatite, Pyrite, Goethite.	54.1	Fe(T) SiO_2 Al_2O_3	64.59 2.57 2.63	68.2	Tabling, Magnetic separation.
257	653 BNG	Order of magnitude equipment sizing for sub grade **iron ore** beneficiation project from Sandur – Hospet area, Bellary district, Karnataka for M/s V.S.Lad & Sons, Sandur.	100 tph and 150 tph plant equipment were sized for 80% availability. The 100 tph and 150 tph plants are scheduled to yield ~0.62 and 1 million ton concentrates per year respectively with $0.5m^3$/t water, ~25 Kwh/t power, 0.8kg/t steel, 0.06kg/t flocculent, $5x10^{-5}$ m^2 /t screen & filter cloth at peak operating load. The minimal area required for the plant is 15 acres. The minimum manpower required is 60. The energy cost reduces by about 2 Kwh/t if phase II concentrates I and II grinding and dewatering to pellet plant requirements is not considered. Enhancement of capacity from 100 to 150 tph could reduce energy by 4 Kwh/t only. The energy demand reduces by 2 Kwh/t as the beneficiation plant is expected to be fed by crushed fines as informed by the party. The sizing is carried out allowing flexibility in operation based on variation in granulometry, ore type [clayey hydrous iron oxides [35% max.] to siliceous [low LOI] anhydrous iron oxides [55% min.]] and keeping II phase pellet grade concentrate production in view. Detailed feasibility and design project report preparation followed by design engineering is recommended.							

Sr. No.	**R.I. NO.**	**Title of the Investigation**	**Original Analysis %**	**Mineralogy**	**Concentrate**			**Process Adopted**
					Wt.%	ASSAY %	DIST.%	

IRON ORE

258	654 BNG	Sieve and sub sieve analysis of **iron ore** samples S-1 & S-2 from Sankalapuram iron ore mine, Hospet, Bellary district, Karnataka for M/s RB. Seth Narsingadas, Hospet.	The two samples (S-1 & S-2) were subjected to sieve and sub-sieve analysis from 10 mm to 5 microns sample was relatively coarser with 80% passing size of 1500 microns and 50% passing size of -74 microns sample 2 was relatively finer with 80% passing size of 180 microns and 50% passing size of 22 microns. It was observed that removal of slimes at 53 microns (270 mesh) enhanced the Fe values significantly in both the samples.						
259	655 BNG	Beneficiation studies on an **iron ore** sample from GMIL dumps for M/s Greentex Mining Industries Ltd., Bangalore	Fe(T) SiO_2 Al_2O_3 LOI TiO_2	42.65 10.65 13.72 11.77 0.40	**Val. Mineral** Hematite, Martitized Magnetite, **Gangue** Goethite, Ferruginous clay Quartz, Pyrolusite, Pyrite.	19.7	Fe(T) SiO_2 Al_2O_3	61.80 1.74 2.68	28.7	Tabling
260	658 BNG	Dewatering and work index studies on a low grade **iron ore** sample from MML. dumps, Sandur region, Bellary district, Karnataka for m/s Swastik Steels [Hospet] private limited, Hospet.	The Bond's ball mill work index of the ore was found to be 10.2 Kwh/ short ton. The unit thickener area for ground final concentrate [pellet feed] was 0.029 m^2/t/day with 0.291 kg/t Setlyte P 150. The unit thickener area for un-ground final concentrate was 0.005 m^2/t/day with 0.201 kg/t Setlyte P 150 .The unit thickener area for final tails was 0.094 m^2/t/day with 0.869 kg/t Setlyte P 150. The Larox pressure filtration with air blow drying on thickened ground concentrate at 5 bar pressure, ~65% solids, with Tamflelt- 2215-A produced cakes with 9.7 % moisture, with 0.234 t/m^2/h productivity. The Larox pressure filtration without air blow drying on thickened final tails with Tamfelt-2215-A produced cakes with 19% moisture with 0.153 t/m^2/h productivity. Thus the overall energy requirement for feed comminution will be 9.2Kwh/t of ore. The actual water requirement calculates to be 0.2 m^3/t of feed. The overall water requirement was calculated to be 0.5 m^3/t of ore. 0.553 kg/t of Setlyte P 150 is consumed for thickening of concentrate and final tails.						

Sr.	R.I.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate	Process

IRON ORE

No.	NO.					Wt.%	ASSAY %		DIST.%	Adopted
261.	660 BNG	Beneficiation studies on an **iron ore** sample from KMC mines, Keonjhar, Orissa for M/s Thriveni earth movers private limited, Orissa.	Fe(T) SiO_2 Al_2O_3 LOI	32.31 52.16 0.33 0.27	**Val. Mineral** Hematite, Magnetite **Gangue** Goethite, Cherty quartz, Ilmenite, Pyrite.	11.8	Fe(T) SiO_2	62.36 10.02	22.4	Tabling
262	661 BNG	Sieve analysis of iron ore fines sample from iron ore washing plant, Hospet, Bellary district, Karnataka for M/s Swastik Steels [Hospet] Private Limited, Hospet.	Fe(T) SiO_2 Al_2O_3 LOI	54.40 9.53 5.88 4.77	**Val. Mineral** Hematite **Gangue** Goethite, Ferruginous clay, Quartz, Gibbsite.	54.8	Fe(T) SiO_2 Al_2O_3 LOI	60.57 4.97 3.06 3.62	60.1	Scrubbing and sizing
263	662 BNG	Order of magnitude equipment sizing for sub grade **iron ore** beneficiation project from MML dumps, Sandur, Bellary district, Karnataka for m/s Swastik Steel Hospet Private Limited, Hospet.	The process comprised of [a] Crushing of sample to minus 6mm and closed circuit grinding of crushed fines sample to minus 50 mesh (minus 0.3 mm) [b] Desliming, gravity concentration by spirals of sands followed by WHIMS of spiral tails yielding high grade[I] and sub grade [II]concentrates respectively. [c] Dewatering of composite concentrates I and II, and final tails by thickeners and filters. The process yields pellet grade concentrates [+62%Fe] at 54.8Wt% yield. The plant equipment was sized for 80% availability. The 100 tph plant is scheduled to yield ~ 0.4 million ton concentrates per year [tpy] with $0.5m^3$/t water, 27 KW.hr/t power and nearly 2 tons of ore. The 250 tph plant is scheduled to yield ~ 1 million tpy concentrates. $0.5m^3$/t water, 20 KW.hr/t power is consumed, Enhancement of capacity by 20% could reduce energy by 3 KW.hr/t only. The energy demand reduces by 2 KW.hr/t if the beneficiation plant is fed by fines as informed by the party								
264	663 BNG	Bench scale beneficiation studies on sub grade **iron ore** sample from CN Halli, Tumkur district, Karnataka for M/s Taha Mining Co. Ltd., Tumkur.	Fe(T) SiO_2 Al_2O_3 LOI	57.65 4.40 2.69 10.81	**Val. Mineral** Hematite **Gangue** Goethite, Ferruginous clay, Quartz, Gibbsite.	83	Fe(T) SiO_2 Al_2O_3 LOI	63.67 3.34 2.06 3.96	89.5	Calcination, Screening
						Workindex : The Bond's work index value of the sample was found to be 12 Kw-hr/short ton.				

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	

IRON ORE

265.	664 BNG	Limited size analysis studies on siliceous iron sample from B Block, Sandur , Bellary for M/s V.S. Lad & Sons, Bangalore.	Fe(T) SiO_2 Al_2O_3	61.04 10.81 0.79	**Valuable Mineral** Hematite **Gangue** Goethite, Ferruginous clay, Quartz,	72.0	Fe(T) SiO_2 Al_2O_3	64.23 6.52 0.65	75.6	Sizing
266	665 BNG	Magnetic separation studies on iron ore HGMS (feed) samples from beneficiation plant of BMM Ispat Ltd. for M/s BMM Ispat Ltd, Hospet, Bellary. Magnetic separation studies on iron ore HGMS (Chocked) samples from beneficiation plant BMM Ispat Ltd. for M/s BMM Ispat Ltd, Hospet, Bellary.			The main objective of the study on these two samples is how to avoid choking in HGMS. It was concluded that coarse matrix may be used in HGMS to avoid chocking/ or introduce 65 mesh screen before feed to HGMS .					
267	666 BNG	Bench scale beneficiation studies and bond's work index determination on sub-grade **iron ore fines** sample from Chitradurga, Chitradurga district, Karnataka for M/s Gem laboratories private limited, Bangalore	Fe(T) SiO_2 Al_2O_3 LOI	56.74 6.97 5.97 5.40	**Val. Mineral** Hematite, Martitised Magnetite **Gangue** Goethite, Ferruginous clay, Quartz, Gibbsite	53.4	Fe(T) SiO_2 Al_2O_3	62.53 3.02 3.59 3.92	58.0	Screening, Magnetic and gravity separation
						Workindex: : The Bond's work index value of the sample was found to be 7.5 Kw-hr/short ton.				

Sr. No.	R.I. NO.	Title of the Investigation	Original Analysis %	Mineralogy	Concentrate			Process Adopted
					Wt.%	ASSAY %	DIST.%	

IRON ORE

268.	667 BNG	Limited gravity separation studies on BMQ exploratory sample from Mincheri forest, Vuravakonda mandal, Rayadurga taluk, Ananthapur district, AP for M/s Loha Processors & Traders, Bellary.	Fe(T) FeO SiO_2 Al_2O_3 LOI	35.85 6.58 40.58 1.45 2.93	**Val. Mineral** Hematite, Martitized Magnetite **Gangue** Quartz, Feldspar, Chlorite, Carbonates	32.1	Fe(T) SiO_2 Al_2O_3	65.58 5.45 0.28	59.6	Sizing, Magnetic, Gravity separation
269.	416 AJM	Bench scale beneficiation study on a low grade **iron ore** sample from Dudwa Iron ore mines of M/s. Shakambari Maa Minerals, Khetri Tehshil, Jhun jhunu Dt., Rajasthan for RCOM, Ajmer .	Fe(T) Fe_2O_3 SiO_2 TiO_2 Al_2O_3 CaO MgO	55.30 79.08 21.55 1.02 0.83 0.59 0.22	**Val. Mineral** (Martitized-magnetite + Hematite) **Gangue** Quartz, Mica Carbonate, Amphibole	61.1	Fe(T) SiO_2	65.26 8.16	72.4	Dry Magnetic Separation on -70# (Box Mag Separator)
						73.7	Fe(T) SiO_2	65.13 6.83	86.8	Tabling on a -50#feed