

**TECHNICAL DATA ON VARIOUS COAL DEPOSITS OF MEGHALAYA
(KHASI HILLS)**

1. LAITRYNGEW :

(i)	Location	South of Shillong at 43 Km on Shillong – Cherrapunjee road, Khasi Hills.
(ii)	Area and extent	Covers an area of 31 Sq. Kms. Seam thickness : Top - Sporadic Middle - 0.36 m Bottom - 0.90 m
(iii)	Physical properties	Both lump and soft coal
(iv)	Chemical analysis	Moisture % 1.40 Ash % 11.50 Volatile matter % 41.20 Fixed carbon % 45.90 Calorific value 6,761 K Cal/Kg
(v)	Reserve	The inferred reserve for the middle seam 429,173 tonnes and for the bottom seam 2,308,966 tonnes were calculated for an area of 2.56 Sq. Kms.
(vi)	Nature of the deposit	The top seam is sporadic in occurrence while the middle and bottom seams are bedded.
(vii)	Geology of the area	The coal occurs in the Middle Sylhet Sandstone Member of the Shella Formation
(viii)	Reported by	Geological Survey of India

2. CHERRAPUNJEE :

(i)	Location	Around Cherrapunjee, Khasi Hills
(ii)	Area and extent	Covers an area of 36 Sq. Kms. Two coal seams were encountered in the area with thickness : Upper seam - 0.30 m Lower seam - 0.45 – 2.7 m
(iii)	Physical properties	Both lump and soft coal
(iv)	Chemical analysis	Moisture % 1.4 to 2.0 Ash % 4.3 to 10.3 Volatile matter % 41.5 to 42.5 Fixed carbon % 46.8 to 51.2 Calorific value 7,233 to 7,644 K Cal/Kg
(v)	Reserve	The inferred reserve is 19.0 million tones
(vi)	Nature of the deposit	Bedded type of deposit.
(vii)	Geology of the area	Same as Laitlyngrew area
(viii)	Reported by	Geological Survey of India
(ix)	Remarks	The lower seam of coal has almost been worked out.

3. LAITDUH :

(i)	Location	West of Laitryngew
(ii)	Area and extent	Covers an area of 0.12 Sq. Kms. Only one coal seam with an average thickness of 0.92 m was encountered.
(iii)	Physical properties	Coal is generally dust, contains specks of pyrite and fossil resim.
(iv)	Chemical analysis	Moisture % 2.18 to 8.16 Ash % 4.16 to 18.53 Volatile matter % 29.13 to 54.01 Fixed carbon % 32.53 to 50.75
(v)	Reserve	The proved reserve is 0.12 million tones
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal seam occurs in the Middle Sylhet Sandstone Member of the Shella Formation
(viii)	Reported by	Directorate of Mineral Resources, Meghalaya

4. MAWBEHLARKAR :

(i)	Location	Mawbehlarkar, Khasi Hills
(ii)	Area and extent	Covers an area of 0.1 Sq. Kms having only one coal seam of average thickness of 1 metre.
(iii)	Physical properties	The coal is compact, splintery and has smoothy conchroidalf racture and pitchy luster brownish in colour and contain iron pyrite
(iv)	Chemical analysis	Moisture % 3.9 Ash % 2.9 Volatile matter % 45.1 Fixed carbon % 48.1
(v)	Reserve	The indicated reserve is 0.12 million tonnes
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	Coal occurs in the Middle Sylhet Sandstone Member of the Shella Formation
(viii)	Reported by	Directorate of Geology & Mining, Assam

5. MAWSYNRAM :

(i)	Location	Mawsynram, Khasi Hills. Occures in Rongsakham, Jathang and Mawsngi area
(ii)	Area and extent	Two coal seams occur in Rongsakham Hill with the following thickness : Upper seam - 0.5 m Lower seam - 0.6 – 1.3 m
(iii)	Physical properties	The coal is generally soft powdery but it is hard and lumpy where it attains maximum thickness
(iv)	Chemical analysis	Moisture % 6.98 Ash % 13.90 Volatile matter % 34.90 Fixed carbon % 44.22 Sulphur % 1.99 Calorific value 5,859 K Cal/Kg.

6. **LUMDIDOM :**

(i)	Location	Near Tyrsad, Khasi Hills
(ii)	Area and extent	Coal occurs in an area of 0.2 Sq. km in Lumdidom having one coal seam of 1 m average thickness. In the adjacent hill at Umsawmat, the coal is only 0.20 m thick and is impersistent in nature.
(iii)	Physical properties	The coal is bright, compact and shabby
(iv)	Chemical analysis	Moisture % 1.4 to 7.4 Ash % 24.5 to 62.0 Volatile matter % 30.8 to 36.0 Fixed carbon % 35.5 to 37.8 Sulphur % 2.2 to 2.6 Calorific value 5730 to 6510 K Cal/Kg
(v)	Reserve	The indicated reserve in the Lumdidom area is 0.2 million tones
(vi)	Nature of the deposit	Bedded type of deposit.
(vii)	Geology of the area	The coal occurs in the Lower Sylhet Sandstone Member of Eocene age.
(viii)	Reported by	Directorate of Mineral Resources, Meghalaya

7. **LANGRIN :**

(i)	Location	Situated in the south western part of Khasi Hills and the area is bounded by Kynshi river on east and Maheshkhola river on west. On the northern side the boundary is the Um Bytit river.
(ii)	Area and extent	Out of the seven seams present in the area, four seams were considered for reserve calculation. Thickness of these four seams are 0.60 m, 1.21 m, 0.90 m and 1.10 m respectively.
(iii)	Physical properties	The coal is bright hard and compact.
(iv)	Chemical analysis	Moisture % 1.9 to 6.9 Ash % 2.7 to 9.2 Volatile matter % 40.9 to 56.6 Fixed carbon % 34.3 to 49.2 Sulphur % 3.0 to 4.2
(v)	Reserve	The indicated reserve is 97.61 million tones considering only 4 (four) seams of coal
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	Coal occurs in the lower Sylhet Sandstone of Eocene Age
(viii)	Reported by	Geological Survey of India.

8. **EAST DARRANGGIRI :**

(i)	Location	Western part of Khasi Hills and South eastern part of Garo Hills
(ii)	Area and extent	Covers an area of 21 Sq. and is consisted of several small coal deposits. Two seams of coal were encountered of which the lower seams is 1 m thick.

(iii)	Physical properties	Lump to dusty variety of coal
(iv)	Chemical analysis	Moisture % 4.84 to 8.42 Ash % 3.79 to 8.34 Volatile matter % 3684 to 41.40 Fixed carbon % 46.10 to 5134 Sulphur % 2.21 to 3.00 Calorific value 6,111 to 6,847 K Cal/Kg
(v)	Reserve	The inferred reserve is 31.50 million tonnes
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	Coal occurs in the Sylhet Sandstone (Tura) Member of Lower to Middle Eocene age
(viii)	Reported by	Geological Survey of India

9. PYNURSLA AND LYNGKYRDEM :

(i)	Location	Around Pynursla, East Khasi Hills
(ii)	Area and extent	Covers an area of 2 Sq. Km Out of the 5 (five) seams in the Lyngkyrdem area, seam No. 2 and 4 with thickness varying from 0.4 to 0.65 and 0.45 to 0.80 m respectively are taken into consideration. There are two seams in the Thanjinath hill near Pynursla.
(iii)	Physical properties	Lump to dust variety of coal
(iv)	Chemical analysis	Moisture % 4.84 to 8.42 Ash % 3.79 to 8.34 Volatile matter % 3684 to 41.40 Fixed carbon % 46.10 to 5134 Sulphur % 2.21 to 3.00 Calorific value 6,111 to 6,847 K Cal/Kg
(v)	Reserve	The inferred reserve is 31.50 million tonnes
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	Coal occurs in the Sylhet Sandstone (Tura) Member of Lower to Middle Eocene age
(viii)	Reported by	Geological Survey of India

10. MAWLONG-SHELLA-ISHAMATI :

(i)	Location	It is located at a distance of 90 Km from Shillong along Shillong-Cherra-Salhel road.
(ii)	Area and extent	Covers an area of 8 Sq. Km having one coal seam of 0.6 to 1.20 m in thickness.
(iii)	Physical properties	The coal is generally soft, but it is hard and lumpy where it attains maximum thickness
(iv)	Chemical analysis	Moisture % 4.40 Ash % 7.94 Volatile matter % 33.92 Fixed carbon % 51.74 Sulphur % 3.46 Calorific value 9772 K Cal/Kg

(v)	Reserve	The inferred reserve of coal in the coal field is 12 million tonnes as estimated by the D.G.M. Assam, over an area of 7.68 Sq. Km taking 1.2 mt average thickness of the coal. According to G.S.I.'s assessment, the inferred reserve of coal is 9.0 million tones over an area of 7.7 Sq. Km taking the average thickness of the seams as 0.90 m.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	A coal seams occurs in the Middle Sylhet (Lakadong) Sandstone Member overlain and underlain by the other Members of the Shella formation.
(viii)	Reported by	D.G.M., Assam and Geological Survey of India

(GARO - HILLS)

11. WEST DARRANGGIRI :

(i)	Location	West Darranggiri, Garo Hills
(ii)	Area and extent	Covers an area of 47.0 Sq. Kms. Out of 3 (three) coal seams one seam of 1.6 m average thickness (main seam) is persistant throughout the whole area.
(iii)	Physical properties	The coal is bright, and devoid shale partings. It breaks into small fragments.
(iv)	Chemical analysis	Moisture % 6.98 to 12.50 Ash % 1.30 to 10.20 Volatile matter % 36.60 to 43.00 Fixed carbon % 44.90 to 47.10 Calorific value 5720 to 7,633 K Cal/Kg
(v)	Reserve	The total inferred reserve of coal in the West Daranggiri coal field as estimated by G.S.I. is 127.00 million tones over an area of 47 Sq. Km. In the main block of the coal field having 25 Sq. Km area the reserve of 60 million tonnes is estimated in to Rongkhandi block, over 0.84 Sq. Km area. Therefore, the approved reserve is 62.0 million tones over an area of 25.84 Sq. Kms. The Directorate of Geology and Mining, Assam proved an indicated reserve of 3 million tones of coal in the mining hill, whereas another 2 million tones is approved by the Directorate of Mineral Resources Meghalaya in the same area.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Sylhet Sandstone Member of Eocene Age which overlies the weathered platform of older gneissic rocks..
(viii)	Reported by	1. Inferred reserve reported by Geological Survey of India 2. Indicated and approved reserve report by Directorate of Geological and Mining, Assam and Directorate of Mineral Resources, Meghalaya respectively.

12. SIJU, GARO HILLS :

(i)	Location	Siju, Garo Hills.
(ii)	Area and extent	The coal seam is traced for about 11 Km in strike length. Along the dip direction, an average of 300 m is taken into consideration. One coal seam was located in the area with a variable thickness of 0.7 to 1.8 metres.
(iii)	Physical properties	The coal is soft and friable
(iv)	Chemical analysis	Moisture % 3.30 Ash % 4.16 Volatile matter % 38.58 Fixed carbon % 53.36 Sulphur % 1.80 Calorific value 6,916 K Cal/Kg
(v)	Reserve	The Geological Survey of India estimated an inferred reserve of 125.0 million tones in that area.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	Coal occurs in the Sylhet (Lakadong) Sandstone Member of Lower to Middle Eocene Age.
(viii)	Reported by	Geological Survey of India.

13. PENDENGRU – BALPHAKRAM :

(i)	Location	Pendengru-Balphakram, south eastern extremity of Garo Hills.
(ii)	Area and extent	Covers an area of 13 Sq. Km having 8 (eight) seams of coal ranging in thickness from 0.3 to 3.0 mts.
(iii)	Chemical analysis	Moisture % 1.60 to 11.20 Ash % 3.00 to 15.00 Volatile matter % 37.00 to 50.00 Fixed carbon % 37.40 to 48.40
(iv)	Reserve	An indicated reserve of 107 million tones was reported by Geological Survey of India
(v)	Nature of the deposit	Bedded type of deposit
(vi)	Geology of the area	Same as the Siju area
(vii)	Reported by	Geological Survey of India.

14. SELSELA BLOCK :

(i)	Location	Selsela Block, Garo Hills (A part of the Karaibari coal field)
(ii)	Area and extent	A- 15 Km long belt of coal extends from Dalangsa to Bolchugiri. At Dalangsa the thickness varies from 0.20 to 0.30 m while at Bolchugiri is ranges from 1.00 m to 1.30 m.
(iii)	Physical properties	Soft and friable coal
(iv)	Chemical analysis	Moisture % 6.1 to 15.4 Ash % 3.1 to 24.2 Volatile matter % 35.3 to 54.0 Fixed carbon % 18.9 to 39.8
(v)	Reserve	Not estimated

(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Sylhet Sandstone Middle to Lower Eocene Age.
(viii)	Reported by	Directorate of Mineral Resources, Meghalaya.

(JAINTIA HILLS)

15. BAPUNG :

(i)	Location	2.1 Kms away from Jowai along Jowai Badarpur Road, Jaintia Hills
(ii)	Area and extent	There are 3 coal seams covering an area of 46 Sq. Km. The thickness is as follows : Upper seam - 0.6 m Middle seam - 0.5 m Bottom seam - 0.3 to 1.2 m
(iii)	Physical properties	Hard, lumpy and bright in case of bottom seam. Coal of top seam is friable and soft.
(iv)	Chemical analysis	Moisture % 2.20 to 9.20 Ash % 2.60 to 7.87 Volatile matter % 38.30 to 44.30 Fixed carbon % 46.20 to 52.30 Sulphur % 3.20 to 7.10 Calorific value 7494 K Cal/Kg
(v)	Reserve	The total inferred reserve of coal as estimated by the Directorate Mineral Resource is about 7 million tones. Geological Survey of India estimated and indicated reserve of 5.7 million tones and proved 0.118 million tones from this area in 1963. Latest estimated inferred reserve of coal is 33.66 million tones as estimated by Directorate of Mineral Resources, Meghalaya in 1979.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Lower Sylhet Sandstone Member of Eocene Age.
(viii)	Reported by	1. Inferred reserve reported by Directorate of Mineral Resources, Meghalaya 2. Indicated and proved reserve by the Geological Survey of India.

16. LAKADONG :

(i)	Location	Umlatdoh village of Lakadong area, Jaintia Hills
(ii)	Area and extent	One coal seam of 0.3 to 2.13 m in thickness with maximum of 3.50 m was encountered over an area of 3.0 Sq. Kms.
(iii)	Physical properties	The coal is hand of of lump variety having carbonaceous shale parting.
(iv)	Chemical analysis	Moisture % 0.44 to 0.86 Ash % 2.25 to 24.70 Volatile matter % 29.68 to 33.50 Fixed carbon % 44.76 to 59.86 Sulphur % 3.40 to 4.96 Calorific value 5,694 – 7,500 K Cal/Kg

(v)	Reserve	The indicated reserve as estimated by the Directorate of Geology and Mining, Assam is 1.5 million tonnes
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Middle Sylhet Sandstone Member of the Shella Formation.
(viii)	Reported by	Directorate of Geology and Mining, Assam

17. SUTNGA :

(i)	Location	Sutnga , Jaintia Hills
(ii)	Area and extent	There are two coal seams covering an area of 0.160579 Sq. Km. having thickness as follows. The top seam is 0.10 to 0.20 m and the bottom seam is 0.30 – 0.60 m in thickness. This coal field is the eastern extension of Bapung coal field.
(iii)	Physical properties	The coal is similar to that of Bapung area in physical character.
(iv)	Chemical analysis	Moisture % 1.3 to 7.0 Ash % 2.2 to 9.7 Volatile matter % 32.9 to 42.8 Fixed carbon % 49.9 to 53.2
(v)	Reserve	The inferred reserve estimated by the Directorate of Geology and Mining, Assam for the bottom seam only is 0.65 million tones.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Lower Sylhet Sandstone Member of Eocene Age.
(viii)	Reported by	Directorate of Geology and Mining, Assam

18. JARAIN :

(i)	Location	Jarain, Jaintia Hills
(ii)	Area and extent	There is only one coal seam with a variable thickness of 0.3 to 1.10 m covering an area of 2.8 Sq. Kms.
(iii)	Physical properties	Both soft and hard variety of coal
(iv)	Chemical analysis	Moisture % 1.22 to 1.60 Ash % 4.40 to 6.70 Volatile matter % 41.62 to 48.10 Fixed carbon % 45.90 to 50.46 Sulphur % 2.70 Calorific value 6,944 K Cal/Kg
(v)	Reserve	The total inferred reserve is 1.1 million tones.
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Lower Sylhet Sandstone Member of Eocene Age
(viii)	Reported by	Directorate of Geology and Mining, Assam

19. **MUSIANG LAMARE :**

(i)	Location	Musiang Lamare near Lumshnong, Jaintia Hills
(ii)	Area and extent	Covers an area of 2.31 Sq. Km with a coal seam of variable thickness from 0.15 to 0.65 m.
(iii)	Physical properties	Hard and lump coal
(iv)	Chemical analysis	Moisture % 0.6 to 3.6 Ash % 1.3 to 21.2 Volatile matter % 32.6 to 40.0 Fixed carbon % 42.1 to 60.4
(v)	Reserve	Directorate of Mineral Resources, Meghalaya estimated an inferred reserve of 1.1 million tones in the area
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Middle Sylhet Sandstone Member of Eocene Age, overlain by the Umlatdoh Limestone.
(viii)	Reported by	Directorate of Mineral Resources, Meghalaya

20. **IOKSI :**

(i)	Location	Ioksi, near Garampani, Jaintia Hills
(ii)	Area and extent	Coal occurs in an area of 3.6 Sq. Km with an average thickness of 0.80 m.
(iii)	Physical properties	The coal is hard, bright and well jointed.
(iv)	Chemical analysis	Moisture % 4.2 to 7.5 Ash % 6.0 to 18.1 Volatile matter % 33.0 to 43.4 Fixed carbon % 41.3 to 46.4
(v)	Reserve	The inferred reserve as estimated by the Directorate of Mineral Resources is 1.24 million tones
(vi)	Nature of the deposit	Bedded type of deposit
(vii)	Geology of the area	The coal occurs in the Lower Sylhet Sandstone of Eocene Age.
(viii)	Reported by	Directorate of Mineral Resources, Meghalaya.