



वेस्टर्न कोलफील्ड्स लिमिटेड

Western Coalfields Limited

(A Mini Ratna Company) (A Subsidiary of Coal India Ltd)

Regd Office : Coal Estate, Civil Lines, Nagpur - 440 001 (MS)

Office of Chief Vigilance Officer

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Website : www.westerncoal.gov.in

CIN - U10100MH1975GOI018626



प. क्र : वेकोलि/सतर्कता/२०२२/ss-nsr/

दि : 06.09.2022

REPORT OF STUDY ON INTER-WAGON VARIABILITY OF COAL QUALITY IN 30 WAGONS AT GHUGUS RAILWAY SIDING, WANI AREA AND UMRER SIDING, UMRER AREA, WESTERN COAL FIELDS LIMITED.

CVO CIL (Vide letter No.CIL/VIG/Coal Quality/2022/133 dated 20.06.2022) desired for conducting inter-wagon quality- variability study for one or two rakes in WCL. (Annexure A).

Accordingly, a committee was constituted after competent approval vide no. WCL/VIG/GM(V)/2022/910 dt.25.06.2022 for collection of coal samples from random wagons in a rake (atleast 30) and prepare 30 different laboratory samples with each laboratory sample representing the average GCV of a single wagon (Annexure B). The samples were to be collected from siding with maximum dispatches in Western Coal Fields Limited and submitting results of such samples viz., GCV, moisture and ash, to understand the inter-wagon variability existing in a rake.

For the purpose two teams consisting of officers from Vigilance and Quality Control department (HQ) was formed. The details of the team constituted is as below:

Team A	Team B
1. Shri Sarikonda Trinadh, Sr. Mgr.(M)/QC	1. Shri Jai Karan Ashia, General Manager (QC)
2. Shri Shashendra Singh Chief Mgr.(M)/Vigilance	2. Shri Naidu Srinivasa Rao, Chief.Mgr(M)/Vigilance

Date and Place of Inspection by the teams:

Team A – Ghugus Siding, Wani Area- on 29.06.2022.

Team B- Umrer Siding, Umrer Area on 29.06.2022 & 30.06.2022.

Brief Description of the Sidings:

S. No	Particulars	Ghugus Siding, Wani Area	Umrer Siding, Umrer Area
1	Dispatches from siding(2021-22)	11452608.9 Te	8402641.03 Te
2	Declared grade of siding-as per Annual Grade Declaration (2022-23)	Ghugus New Siding - G10	Umrer Old Siding-G9, G11
		Ghugus Old Siding(A)-G13	New Umrer Siding-G9, G11
		Ghugus Old Siding(B)-G10	
3	No. of Samples(Rail mode 21-22)	3091	3594
4	Ungraded Samples in (2021-22)	NIL	One (14 th Jul 2021)
5	No. of Ramps	Three	Two
6	Ramp from where samples were collected	Ghugus New siding	Umrer Old Siding
Details of Sampled Rake:			
1	Weight of Coal Dispatched (TN)	3995.20	3734.40
2	Destination of sampled rake	Wanakbori, Gujrat	USD, Ukai Songarh Gujrat
3	Declared Grade of the Rake	G10	G11

Sample Collection Procedure: A meeting with GM(QC) was held on 27.06.2022 and the modalities of collection and arrangements were discussed, accordingly-

- It was decided to randomly select the boxes/wagons from the placed rake. Since 30 samples were to be taken almost every alternative wagon was considered with some samples taken in continuity to accommodate 30 samples.
- As the samples were 30 in number, it was decided to make/ensure arrangement of adequate supervision by providing Technical Inspectors/officers on the sampling personnel/teams who were to be provided by the Area for actual sample collection and also for preparation of the samples (final lot of 2 Kgs) in the lab.
- It was to be ensured that the sampling procedures as laid down in FSA was to be followed.
- Videography of the sample collection and preparation was to be done.

Wani Area: Details of inspection attached as Annexure 1.

Umrer Area: Details of inspection attached as Annexure 2.

Analysis of Collected Samples and Results:

- All the samples collected were provided with separate codes and given for analysis at CCTRL Sampling Lab at Indora, Nagpur.
- As the facility at the Indora Lab had only one Desicator (for analysis of Equilibrated GCV), the likely delay in analysis of the results was taken up by QC department, WCL.
- As decided by QC and arranged by Vigilance about 27 samples of Umrer Area were shifted to Majri area Lab for analysis.
- The results of the samples on Air dried basis and Equilibrated basis are attached as Annexure-3 and Annexure 4.

Observations:

Variation in Grades: Wani Area

Declared Grade	Grades	No. of Samples	% of Total samples taken	Weight of Coal (TN) in sampled boxes
G10	G8	Nil	-	
	G9	01	3.33	90.1
	G10	11	36.67	981.1
	G11	12	40.00	1079.5
	G12	03	10.00	266.40
	G13	01	3.33	89.40
	G14	01	3.33	92.50
	G15	Nil	-	-
	G16	01	3.33	90
	G17	Nil	-	-
	Total Samples	30	100	2689

Total coal dispatched in the rake = 3995.20 TN

Variation in Grade: Umrer Area

Declared Grade	Grades	No. of Samples	% of Total samples taken	Weight of Coal (TN) in sampled boxes
G11	G8	05	16.66	336.40
	G9	21	70.00	1438.00
	G10	03	10.00	198.40
	G11	01	3.33	69.20
	G12	-	-	-
	G13	-	-	-
	G14	-	-	-
	G15	-	-	-
	G16	-	-	-
	G17	-	-	-
	Total Samples	30		2042.00

Total coal dispatched in the rake = 3734.40 TN

Jai Karan Ashia
06/09/2022

Jai Karan Ashia, GM(QC)

Sarikonda Trinath
06/09/22

Sarikonda Trinath, Sr. Mgr.(M)/QC

Shashendra Singh

Shashendra Singh, Ch. Mgr.(M)/Vigilance

Naidu Srinivasa Rao
06/09/2022

Naidu Srinivasa Rao, Ch. Mgr.(M)/Vig

सरोज कुमार साइंगी, आई.आर.एस.एस.

S K Sadangi

मुख्य सतर्कता अधिकारी
Chief Vigilance Officer



A Maharatna Company



कोल इण्डिया लिमिटेड
Coal India Limited

(A Govt. of India Enterprise)
"COAL BHAWAN"
Premises No. 04 MAR, Plot No. AF-III
Action Area - IA, New Town, Rajarhat
Kolkata 700156 (WB)

DO No. CIL/VIG/Coal Quality/2022/133

Date: 20.06.2022

Sub: Inter-wagon variability of coal quality.

My dear Shri Srivastava,

Last week, I had an opportunity to interact with an expert on coal quality from a globally reputed coal testing agency. Upon noticing that the said global agency undertakes testing of coal for several private and public companies of India, I requested him to share their experience on the variability of coal quality in Indian coal deposits, particularly GCV, which they might have encountered during testing. His understanding on this subject and the studies they had conducted on quality variability were highly enriching and truly revealing.

Just to give one example, during the long discussion, I learnt that for many private coal purchasers, the sampling procedure adopted by this agency is to collect two gross samples from every truck of coal received coal sellers. Each gross sample is reduced to separate laboratory samples as per applicable specification and tested for the sought after properties such as GCV, Moisture and ash. The average of the two test results is taken up as the representative property (such as GCV or grade) for that truck. This would obviously mean a very large number of sampling and testing exercises for a fleet of truck per day. The expert explained that it was imperative to do so if one wants to achieve a reasonable accuracy in predicting the quality of coal contained in the truck [*In Coal India, one gross sample is collected from each 7th truck dispatched in a given day and aggregated to form a single gross sample and tested in the laboratory. The grade found from testing is presumed to be the tested grade for all trucks dispatched during that day*]. Asked so many samples, he narrated a very interesting study they had conducted to regarding variation of coal quality at different locations within a single truck i.e intra-truck variation.

For this experiment, what this agency did was to take 10 gross samples from different locations of a single truck (instead of 2 gross samples). Each gross sample was reduced to separate laboratory sample and tested in the lab. Then the average GCV of every pair of samples (number of such sample-pairs would be $^{10}C_2 = 90$) was calculated. When they plotted the GCV of all 90 pairs they noticed that the difference between the minimum and maximum within the single truck was an more than 1000 GCV. Although, expectedly, the 90 GCVs were normally distributed the co-efficient of variation (the standard deviation / Mean) was very high suggesting a much wider

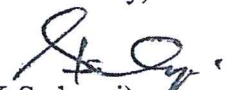
dispersion of GCV. The expert also stated that they have found such astounding difference not only within a truck but also among wagons of a rake and within a single wagon. **The expert's study seems to be in conformity with the massive spatial variability of GCV within a single seam, even over short distances, which we had observed from the field experiments conducted in several subsidiaries including WCL.**

From the above discussion it transpired in my mind that we too can easily conduct an inter-wagon quality-variability study for one or two rakes. As you know, currently the gross sample for a rake is made out of 50Kgs of coal collected from 6 random wagons and a single laboratory sample prepared out of the collected 300 Kg (50Kg x 6). What we can do is to take larger number of random wagons (*at least 30, to make it statistically significant*) and prepare 30 separate laboratory samples with each laboratory sample representing the average GCV of a single wagons. These 30 laboratory samples can then be independently tested to get a data set of 30 GCVs (also moisture and ash). This data set can then be analyzed in the laboratory to find out what kind of inter-wagon variability exists in a rake. The rake for this experiment can preferably be selected from a siding that handles a significant quantity of coal per day.

As you would appreciate such a study will enhance our knowledge on quality variation which remains a crucial aspect in our ongoing preventive initiative to improve, in every manner possible, the quality of coal dispatched to customers. May I therefore request you to conduct such a study in your subsidiary as soon as possible?

With best wishes ...

Yours sincerely,


(S K Sadangi)

To
Shri Amit Kumar Srivastava
Chief Vigilance Officer
Western Coalfields Limited
Nagpur.

<p>वेस्टर्न कोलफील्ड्स लिमिटेड (एक मिनिरल कंपनी) भारत सरकार का उपक्रम (कोल इंडिया लिमिटेड की एक सहायक कंपनी) मुख्य सतर्कता अधिकारी का कार्यालय टेली फ़ैक्स क्रमांक (0712) 2510300 ईमेल : cvo.wcl.cil@coalindia.in</p>		<p>Western Coalfields Limited (A MINI RATNA COMPANY) (A Govt. of India Undertaking) (A Subsidiary of Coal India Limited) OFFICE OF THE CHIEF VIGILANCE OFFICER Phone & FAX . : (0712) 2510300 email : cvo.wcl.cil@coalindia.in</p>
<p>Regd. Off. : Coal Estate, Civil Lines, Nagpur - 440 001. पंजीकृत कार्यालय : कोल इस्टेट, सिविल लाईंस, नागपुर - 440 001</p>		

Ref.No. WCL/ VIG/GM(V)/2022/ 910

Dated : 25-06-2022

OFFICE ORDER

To conduct a study of Inter-wagon variability of coal quality, two teams consisting of below mentioned officers from Vigilance and Quality Control Departments have been constituted :-

A. Team 'A' :

1. Shri Shashendra Singh, Chief Mgr.(M)/Vig.
2. Shri Sarikonda Trinadh, Sr. Manager (QC)

B. Team 'B' :

1. Shri Jai Karan Ashia, General Manger(QC)
2. Shri Naidu Srinivasa Rao, Chief Mgr.(M)/Vig.

Team 'A' will conduct the study at Ghugus Siding and Team 'B' at Umrer Siding on 29-06-2022.


 महाप्रबंधक(खनन)/सतर्कता

Copy to :-

1. AGM, WCL, Wani Area / Umrer Area...with request to facilitate the above study.
2. GM(QC), WCL HQ,...with request release the executive concerned on above mentioned date.
3. Executives Concerned.

Copy for information to :

TS to D(T)/OP, WCL

GHUGUS RAILWAY SIDING WANI AREA	
Date Of Sample Collection: 29 th June 2022	Date of Sample Preparation: 29 th June 2022

Name of the Officers/Members in the Team "A".	Shri Shashendra Singh, Chief Mgr.(M)/Vigilance Shri Sarikonda Trinath, Sr. Mgr.(M)/QC
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Source of Coal: Penganga OCM	Declared Grade of Sampled Rake: G10
Declared Grade of New Siding (2022-23)	Penganga OCM: G10 , Naigaon OCM: G10

Name of the Officers who accompanied during Sampling:

Name of the officer	Designation	Mobile Number
Shri O.P. Fulare	SAM, Ghugus	9424666269
Shri S. Virmalwar	Area Sales Manager, Wani Area	7774092316
Shri Balewar	Area Nodal Officer (QC)	9826181467
Shri Thakre	Siding Incharge, Ghugus Siding	8459264070


RAKE DETAILS:

RAKE NO.: 230	WEIGHT OF COAL: 3995.20 TN
TIME OF PLACEMENT: 12:00 Hrs	TIME OF REMOVAL: 14:30 Hrs
DESTINATION: Wanakbori, Gujrat	PLACE OF LOADING: New Siding Ghugus siding, Wani Area

COLLECTION OF SAMPLES:

No of samples to be collected	30 Nos	
Every alternate Wagon	Wagon No.	COLLECTION CODE
Group I	2, 4, 6,8,10,12	GI-2, GI-4, GI-6, G-8, G-10, GI-12
Group II	14, 16, 18, 20,22,24	GII-14, GII-16, GII-18, GII-20, GII-22, GII-24
Group III	26,28,30,32,34,36	GIII-26, GIII-28, GIII-30, GIII-32, GIII-34, GIII-36
Group IV	38,40,42,44,45,46	GIV-38, GIV-40, GIV-42, GIV-44, GIV-45, GIV-46
Group V	48,50,52,54,55,58	GV-48, GV-50, GV-52, GV-54, GV-55, GV-58


06/09/22
Sarikonda Trinath, Sr. Mgr.(M)/QC


Shashendra Singh, Ch. Mgr.(M)/Vigilance

Annexure 2

UMRER OLD RAILWAY SIDING UMRER AREA	
Date Of Sample Collection: 29 th June 2022	Date of Sample Preparation: 30 th June 2022

Name of the Officers/Members in the Team "A".	Shri Jai Karan Ashia, GM(QC) Shri Naidu Srinivasa Rao, Chief Mgr.(M)/Vigilance
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Source of Coal: MKD-1 OCM	Declared Grade of Sampled Rake: G11
Declared Grade of Old Siding (2022-23): MKD-1 OCM: G11 , MKD-3 OCM: G11 , Umrer OCM- G9	

Name of the Officers who accompanied during Sampling:

Name of the officer	Designation	Mobile Number
Shri C.K.Jain	Colliery Manager, Umrer OC	8975951376
Shri Yogesh Patil	Sr. Manager (Mining)	8975951376
Shri Ajit Mishra	Manager (Mining)	8275971403

RAKE DETAILS:

RAKE NO.: 72	WEIGHT OF COAL: 3734.40 TN
TIME OF PLACEMENT: 11:25 Hrs	TIME OF REMOVAL: 14:55 Hrs
DESTINATION: USD, Ukai Songadh Gujrat	PLACE OF LOADING: Umrer Old Siding, Umrer Area

COLLECTION OF SAMPLES:

No of samples to be collected	30 Nos	
Every alternate Wagon	Wagon No.	COLLECTION CODE
Group I	2, 4, 6,8,10,12	GI-2, GI-4, GI-6, G-8, G-10, GI-12
Group II	14, 16, 18, 20,22,24	GII-14, GII-16, GII-18, GII-20, GII-22, GII-24
Group III	26,28,30,32,34,36	GIII-26, GIII-28, GIII-30, GIII-32, GIII-34, GIII-36
Group IV	38,40,42,44,45,46	GIV-38, GIV-40, GIV-42, GIV-44, GIV-45, GIV-46
Group V	48,50,52,54,55,58	GV-48, GV-50, GV-52, GV-54, GV-55, GV-58

Jai Karan Ashia
06-07-2022

Jai Karan Ashia, GM(QC)

Naidu Srinivasa Rao
06-07-2022

Naidu Srinivasa Rao, Ch. Mgr.(M)/Vig

Study of Inter Wagon Variability : Ghugus New Siding, Wani Area

ANALYSIS RESULTS OF SAMPLES (CCTRL Nagpur)

Grade of Ghugus New Siding(22-23) : Source Mine for Rake : Penganga OCM(G10),

Wagon Number	Wt.of Coal Te	Air Dried Analysis Date	Eq. Analysis Date	AD M%	Eq. M%	AD ASH %	Eq. ASH %	AD GCV	Eq. GCV	Eq. GRADE (CCTRL Nagpur)	DECLARED GRADE
SE-74020	89.6	02/07/2022	07/07/2022	6.17	5.38	33.77	34.05	4094	4128.5	G11	
SE-34918	88.1	01/07/2022	04/07/2022	6.40	6.68	32.64	32.54	4372	4358.9	G10	
WC-28393	92.1	05/07/2022	11/07/2022	6.61	6.37	34.39	34.48	4167	4177.7	G11	
SR-10275	90.6	05/07/2022	08/07/2022	8.89	6.03	30.65	31.61	4393	4530.9	G10	
SR-10428	92.5	04/07/2022	08/07/2022	8.88	5.78	44.55	46.07	3214	3323.3	G14	
SE-27661	90	01/07/2022	04/07/2022	6.75	5.51	53.93	54.65	2493	2526.2	G16	
SR-14911	89.4	01/07/2022	07/07/2022	8.74	5.73	42.09	43.48	3450	3563.8	G13	
EC-24442	87.2	01/07/2022	08/07/2022	8.49	5.93	31.58	32.46	4327	4448.0	G10	
CR-12744	86.8	04/07/2022	08/07/2022	10.13	6.28	38.32	39.96	3707	3865.8	G12	
SW-91765	86.4	02/07/2022	07/07/2022	8.30	6.62	30.78	31.34	4376	4456.2	G10	
EW-10279	88.3	05/07/2022	11/07/2022	9.57	6.28	38.37	39.77	3724	3859.5	G12	
NC-74860	90.2	05/07/2022	11/07/2022	10.47	7.54	32.50	33.56	4122	4256.9	G11	
SW-78667	89	05/07/2022	08/07/2022	10.06	6.30	36.15	37.66	3877	4039.1	G11	
SW-53695	89.9	02/07/2022	07/07/2022	10.35	6.51	32.08	33.45	4217	4397.6	G10	
SE-10121	91.5	05/07/2022	08/07/2022	9.14	6.97	34.99	35.83	3983	4078.1	G11	
EW-66159	90.8	02/07/2022	08/07/2022	10.17	6.51	32.30	33.62	4090	4256.6	G11	
SW-13675	90.2	01/07/2022	04/07/2022	9.74	6.86	32.94	33.99	4166	4298.9	G11	
SW-15787	91.2	05/07/2022	08/07/2022	10.09	6.04	31.05	32.45	4295	4488.5	G10	
EC-99558	90.3	05/07/2022	08/07/2022	11.89	6.23	32.03	34.09	4237	4509.2	G10	
EC-50161	89.1	02/07/2022	08/07/2022	6.80	6.19	33.12	33.34	4297	4325.1	G10	
NC-28560	90.1	05/07/2022	11/07/2022	7.87	8.12	30.57	30.49	4726	4713.2	G9	
ER-15699	88.3	05/07/2022	08/07/2022	7.25	5.72	34.95	35.53	4085	4152.4	G11	
EC-33519	88.8	05/07/2022	08/07/2022	8.08	5.57	35.72	36.70	4050	4160.6	G11	
SE-29992	88.9	05/07/2022	08/07/2022	8.09	5.69	35.75	36.68	3995	4099.3	G11	
EW-58024	88.6	01/07/2022	07/07/2022	6.62	6.04	31.81	32.01	4430	4457.5	G10	
CR-10327	86.6	04/07/2022	11/07/2022	8.25	7.38	31.42	31.72	4366	4407.4	G10	
NCR-78789	88.9	01/07/2022	04/07/2022	6.93	6.22	33.54	33.80	4123	4154.5	G11	
CR-66789	93.1	01/07/2022	04/07/2022	7.60	6.63	31.00	31.33	4438	4484.6	G10	
CR-38566	91.2	05/07/2022	11/07/2022	7.93	5.97	35.71	36.47	4027	4112.7	G11	
SEC-29362	91.3	01/07/2022	04/07/2022	6.68	6.26	38.59	38.76	3835	3852.3	G12	

(Signature)

Sarikonda Trinath, Sr. Mgr. (M)/QC

Shashendra Singu, Ch. Mgr. (M)/Vigilance

Study of Inter Wagon Variability : Umrer Old Siding, Umrer Area	
Grade of Umrer Old Siding(2022-23) :	
1. MKD-1 & MKD-3: G11 and 2. Umrer OCM: G10	
Source Mine for Rake : MKD-1 (G 11)	
Destination of Rake: USD, UKAI SONGADH, GUJRAT	

Wagon Number	Wt. of Coal	Analysis at CCTRL lab,Nagpur										DECLARED GRADE
		AD Date	EQ Date	AD M%	EQ M%	AD ASH%	EQ ASH%	AD GCV	EQ GCV	EQ GRADE		
SE22071915120	65.40	18.07.2022	22.07.2022	15.11	11.18	23.95	25.06	4444	4649.7	G9		
NR221131910997	62.80	18.07.2022	22.07.2022	15.25	10.98	25.64	26.93	4277	4492.5	G10		
NC221130965127	67.20	18.07.2022	22.07.2022	16.18	11.07	23.87	25.3	4418	4682.1	G9		
NR22031914361	68.80	16.07.2022	19.07.2022	17.01	9.97	23.51	25.5	4393	4765.7	G9		
SEC22141149837	68.60	16.07.2022	19.07.2022	17.34	10.09	22.91	24.92	4341	4721.7	G9		
EC22101027168	71.80	18.07.2022	22.07.2022	15.73	9.26	25.87	27.86	4321	4652.8	G9		
WC22160867804	69.20	18.07.2022	22.07.2022	16.78	11.1	29.29	31.29	3950	4219.6	G11		
NC22131726062	67.20	16.07.2022	19.07.2022	16.81	11.02	24.26	25.95	4251	4546.9	G10		
ECO22121610050	69.80	16.07.2022	19.07.2022	16.89	9.87	22.84	24.77	4323	4688.1	G9		
EC22101327633	71.20	16.07.2022	19.07.2022	18.03	10.76	22.99	25.03	4373	4760.8	G9		
NC22130974068	68.40	18.07.2022	22.07.2022	16.37	10.52	26.57	28.43	4151	4441.4	G10		
EC22101433716	67.80	16.07.2022	19.07.2022	17.97	9.39	19.77	21.84	4536	5010.4	G8		
EC22101294379	64.60	19.07.2022	22.07.2022	15.62	10.78	21.43	22.66	4559	4820.5	G9		
EC22101153560	64.20	16.07.2022	19.07.2022	18.75	10.51	19.34	21.30	4497	4953.1	G8		
SE22072010800	67.80	18.07.2022	22.07.2022	17.07	9.86	22.29	24.23	4295	4668.4	G9		
SC22091621599	67.80	18.07.2022	25.07.2022	17.78	10.89	17.31	18.76	4688	5080.9	G8		
SR22061911576	69.80	16.07.2022	19.07.2022	18.65	11.35	19.22	20.94	4496	4899.5	G9		
NC22131618282	70.20	16.07.2022	19.07.2022	18.03	9.48	18.61	20.55	4597	5076.5	G8		
NC22131728431	67.60	16.07.2022	19.07.2022	17.96	11.99	18.83	20.2	4566	4898.3	G9		
SE22071918824	66.40	16.07.2022	19.07.2022	17.97	10.19	16.85	18.45	4669	5111.8	G8		
ECO22121733520	66.60	19.07.2022	25.07.2022	13.46	10.6	20.34	21.01	4553	4703.5	G9		
NR22031912138	69.60	19.07.2023	25.07.2022	15.8	10.02	22.47	24.01	4433	4737.3	G9		
WC22161238153	72.80	16.07.2022	19.07.2022	17.70	11.21	19.87	21.44	4537	4894.8	G9		
SEC22140956276	69.00	19.07.2022	25.07.2022	16.14	12.95	22.22	23.07	4466	4635.9	G9		
SEC22141235783	67.80	19.07.2023	25.07.2022	15.54	12.5	19.98	20.7	4632	4798.7	G9		
SEC22140952285	70.80	19.07.2024	25.07.2022	16.53	12.66	19.47	20.37	4599	4812.2	G9		
SEC22140937718	67.60	18.07.2022	25.07.2022	15.89	12.15	18.58	19.41	4680	4888.1	G9		
WC22160975059	65.00	18.07.2022	25.07.2022	16.40	11.99	20.99	22.1	4476	4712.1	G9		
NF22052011438	67.80	18.07.2022	25.07.2022	16.11	11.49	19.98	21.08	4502	4749.9	G9		
CR22011718484D	68.40	18.07.2022	25.07.2022	16.33	11.89	21.61	22.76	4422	4656.7	G9		

Aarav Ashwin
Jai Karan Ashia, GM(QC) 06-09-2022

Naidu Srinivasa Rao, Ch. Mgr.(M)/Vg
08-09-2022



G-10

SDS NEW SDG
 LDG. DT. 29/06/22
 UNIT PENGANGKA OCM 100
 RAKE NO. 230

RR. No. 16200213
 INV. No. 54
 RR. PRE DATE. 29/6/22
 RR. H.Q. DATE. 30/6/22
 RATE. 189.50

WESTERN COAL FIELDS LTD
 NAME OF SIDING : GHUGUS RLY SIDING NAME OF AREA : WANI AREA
 RAKENO : 7215 SIDING RAKE NO. : 230
 SOURCE : GGS QFD SDG DESTINATION : TSWS
 PLACEM. TIME : 12:00:00 COMPL. TIME : 14:50:00
 IN DATE TIME : 29/06/2022 15:43:36 OUT DATE TIME : 29/06/2022 15:48:1
 GRADE/SIZE : G10/11/12/13 PRINT DATE TIME : 29/06/2022 16:00:0

SL NO	WAGON NO.	WAGON TYPE	STENCIL CC	RAILWAY PCC	GROSS WT.	RAILWAY DESIGNA TED TARE	NET WT.	U/L AS PER FSA	OVER LOAD
1	EC 33786	BOXNHL	70.00	70.00	87.10	20.60	66.50	03.50	00.00
2	SE 74020	BOXNHL	70.00	70.00	89.60	20.60	69.00	01.00	00.00
3	EC 33446	BOXNHL	70.00	70.00	86.50	20.60	65.90	04.10	00.00
4	SEC 34918	BOXNHL	70.00	70.00	88.10	20.60	67.50	02.50	00.00
5	SE 16783	BOXNHL	70.00	70.00	89.70	20.60	69.10	00.90	00.00
6	WC 28393	BOXNHL	70.00	70.00	92.10	20.60	71.50	00.00	00.50
7	SEC 93042	BOXNHL	70.00	70.00	89.20	20.60	68.60	01.40	00.00
8	SR 10275	BOXNHL	70.00	70.00	90.60	20.60	70.00	00.00	00.00
9	SEC 52770	BOXNHL	70.00	70.00	89.40	20.60	68.80	01.20	00.00
10	SR 10428	BOXNHL	70.00	70.00	92.50	20.60	71.90	00.00	00.90
11	SR 10596	BOXNHL	70.00	70.00	90.50	20.60	69.90	00.10	00.00
12	SE 27661	BOXNHL	70.00	70.00	90.00	20.60	69.40	00.60	00.00
13	SC 39206	BOXNHL	70.00	70.00	90.10	20.60	69.50	00.50	00.00
14	SR 14911	BOXNHL	70.00	70.00	89.40	20.60	68.80	01.20	00.00
15	CR 10375	BOXNHL	70.00	70.00	89.00	20.60	68.40	01.60	00.00
16	EC 24442	BOXNHL	70.00	70.00	87.20	20.60	66.60	03.40	00.00
17	SEC 38418	BOXNHL	70.00	70.00	86.60	20.60	66.00	04.00	00.00
18	CR 12744	BOXNHL	70.00	70.00	86.80	20.60	66.20	03.80	00.00
19	ECO 17349	BOXNHL	70.00	70.00	86.30	20.60	65.70	04.30	00.00
20	SEC 91765	BOXNHL	70.00	70.00	86.40	20.60	65.80	04.20	00.00
21	ECO 17547	BOXNHL	70.00	70.00	87.00	20.60	66.40	03.60	00.00
22	ECO 10279	BOXNHL	70.00	70.00	88.30	20.60	67.70	02.30	00.00
23	ER 32172	BOXNHL	70.00	70.00	91.40	20.60	70.80	00.00	00.00
24	NC 74860	BOXNHL	70.00	70.00	90.20	20.60	69.60	00.40	00.00
25	ECO 43764	BOXNHL	70.00	70.00	89.10	20.60	68.50	01.50	00.00
26	SW 78667	BOXNHL	70.00	70.00	89.00	20.60	68.40	01.60	00.00
27	NC 28903	BOXNHL	70.00	70.00	88.00	20.60	67.40	02.60	00.00
28	SEC 53695	BOXNHL	70.00	70.00	89.90	20.60	69.30	00.70	00.00
29	EC 19097	BOXNHL	70.00	70.00	89.20	20.60	68.60	01.40	00.00
30	SE 10121	BOXNHL	70.00	70.00	91.50	20.60	70.90	00.00	00.00
31	SC 10968	BOXNHL	70.00	70.00	90.40	20.60	69.80	00.20	00.00
32	NC 66159	BOXNHL	70.00	70.00	90.80	20.60	70.20	00.00	00.00
33	WC 59851	BOXNHL	70.00	70.00	89.90	20.60	69.30	00.70	00.00
34	SEC 13675	BOXNHL	70.00	70.00	90.20	20.60	69.60	00.40	00.00
35	WC 29055	BOXNHL	70.00	70.00	88.80	20.60	68.20	01.80	00.00
36	SEC 15787	BOXNHL	70.00	70.00	91.20	20.60	70.60	00.00	00.00
37	EC 35797	BOXNHL	70.00	70.00	90.00	20.60	69.40	00.60	00.00
38	EC 99558	BOXNHL	70.00	70.00	90.30	20.60	69.70	00.30	00.00
39	ECO 51253	BOXNHL	70.00	70.00	88.50	20.60	67.90	02.10	00.00



RAKENO : 7215

SIDING RAKE NO. : 230

40	EC 50161	BOXNHL	70.00	70.00	89.10	20.60	68.50	01.50	00.00
41	NC 81081	BOXNHL	70.00	70.00	90.70	20.60	70.10	00.00	00.00
42	WC 28560	BOXNHL	70.00	70.00	90.10	20.60	69.50	00.50	00.00
43	EC 21670	BOXNHL	70.00	70.00	90.80	20.60	70.20	00.00	00.00
44	ER 15699	BOXNHL	70.00	70.00	88.30	20.60	67.70	02.30	00.00
45	EC 33519	BOXNHL	70.00	70.00	88.80	20.60	68.20	01.80	00.00
46	SEC 29992	BOXNHL	70.00	70.00	88.90	20.60	68.30	01.70	00.00
47	EC 60498	BOXNHL	70.00	70.00	88.70	20.60	68.10	01.90	00.00
48	ECO 58024	BOXNHL	70.00	70.00	88.60	20.60	68.00	02.00	00.00
49	SEC 90928	BOXNHL	70.00	70.00	88.50	20.60	67.90	02.10	00.00
50	CR 10327	BOXNHL	70.00	70.00	86.60	20.60	66.00	04.00	00.00
51	SEC 93615	BOXNHL	70.00	70.00	87.10	20.60	66.50	03.50	00.00
52	NW 78789	BOXNHL	70.00	70.00	88.90	20.60	68.30	01.70	00.00
53	SEC 88358	BOXNHL	70.00	70.00	93.40	20.60	72.80	00.00	01.80
54	ECO 66789	BOXNHL	70.00	70.00	93.10	20.60	72.50	00.00	01.50
55	CR 11655	BOXNHL	70.00	70.00	92.80	20.60	72.20	00.00	01.20
56	WC 38566	BOXNHL	70.00	70.00	91.20	20.60	70.60	00.00	00.00
57	SC 68187	BOXNHL	70.00	70.00	92.30	20.60	71.70	00.00	00.70
58	SEC 29362	BOXNHL	70.00	70.00	91.30	20.60	70.70	00.00	00.00
59	BVAN	BOXNHL	00.00	00.00	11.30	11.30	00.00	00.00	00.00
60	BVAN2	BOXNHL	00.00	00.00	10.80	10.80	00.00	00.00	00.00

TOTAL : 4060.00 4060.00 5212.10 1216.90 3995.20 81.50 106.60

TOTAL LOADED WAGONS / QTY : 58 / 3995.20
 TOTAL UNDERLOADED WAGONS / QTY : 43 / 0081.50
 TOTAL OVERLOADED WAGONS / QTY : 06 / 0006.60
 TOTAL SICK/REJECTED WAGONS : 00

SIG. OF W/B CLERK

SIG. OF MANAGER (MIN).GGS

SDS NEW SDG
 LDG. DT 29/06/2010
 UNIT PENGANGA OCM 100
 RAKE NO. 230

72 old
USD

WESTERN COAL FIELDS LTD
UMRER SIDING UMRER
UMRER

RR NO 162005276

Gross Rake No : G4388 - FOIS Rake ID : RDM 071121041416 Product : CROM-100MMG9G11
DateIn : 29/06/2022 TimeIn : 12:57:04
Source : UMSG Destination : TPHS
Drawn Out : 13:02:22 Direction : OUT - LINE NO. :
Printing Date : 30/06/2022 Printing Time : 12:21:04

S/no	Wagontype	Wagon No	CC	Tare	Gross	Net	Speed
1	BOXNHL	A1 SE22071915120	70.40	20.60	86.00	65.40 ✓	05.00
2	BOXNHL	SE22071917971	71.00	20.60	89.00	68.40	05.00
3	BOXNHL	B NC22131910997	70.80	20.60	83.40	62.80	05.00
4	BOXNHL	CR22011820750	70.50	20.60	90.40	69.80	05.20
5	BOXNHL	C NC22130965127	70.40	20.60	87.80	67.20	05.50
6	BOXNHL	SEC22141363424	70.40	20.60	88.40	67.80	05.80
7	BOXNHL	D NR22031914361	70.60	20.60	89.40	68.80	05.80
8	BOXNHL	EC22101545266	70.50	20.60	87.20	66.60	06.10
9	BOXNHL	SE22072111330	70.40	22.80	22.80	00.00 -ENR	06.10
10	BOXNHL	E SEC22141149837	70.80	20.60	89.20	68.60	06.50
11	BOXNHL	F EC22101027168	70.40	20.60	92.40	71.80	06.50
12	BOXNHL	ECO22121624941	70.50	20.60	86.40	65.80	06.50
13	BOXNHL	G WC22160867804	69.70	20.60	89.80	69.20	06.50
14	BOXNHL	SC22091238063	70.60	20.60	88.00	67.40	06.50
15	BOXNHL	H NC22131726062	70.60	20.60	87.80	67.20	06.90
16	BOXNHL	SEC22141245652	70.50	20.60	91.80	71.20	06.90
17	BOXNHL	I ECO22121610050	70.10	20.60	90.40	69.80	06.90
18	BOXNHL	NW22111712122	70.40	20.60	90.80	70.20	06.90
19	BOXNHL	J EC22101327633	71.00	20.60	92.40	71.80	06.90
20	BOXNHL	ECO22120951093	70.30	20.60	88.00	67.40	06.90
21	BOXNHL	K NC22130974068	70.30	20.60	89.00	68.40	06.90
22	BOXNHL	CR22011718484	71.10	20.60	86.20	65.60	06.90
23	BOXNHL	L EC22101433716	70.40	20.60	88.40	67.80	06.90
24	BOXNHL	SEC22141226569	70.40	20.60	87.00	66.40	06.90
25	BOXNHL	M EC22101294379	70.40	20.60	85.20	64.60	06.90
26	BOXNHL	WC22161127006	71.10	20.60	85.80	65.20	06.90
27	BOXNHL	Z EC22101153560	70.40	20.60	84.80	64.20	07.30
28	BOXNHL	EC22101387446	70.50	20.60	84.20	63.60	07.30
29	BOXNHL	O SE22072010800	70.60	20.60	88.40	67.80	07.30
30	BOXNHL	EC22101621250	70.60	20.60	91.00	70.40	07.30
31	BOXNHL	P SC22091621599	71.00	20.60	83.40	67.80	07.30
32	BOXNHL	ER22021911882	70.60	20.60	90.80	70.20	07.30
33	BOXNHL	Q SR22061911576	71.00	20.60	90.40	69.80	07.80
34	BOXNHL	ECO22121711955	70.40	20.60	85.20	64.60	07.80
35	BOXNHL	EC22100985216	70.20	22.80	22.80	00.00 -ENR	07.80
36	BOXNHL	R NC22131618282	71.00	20.60	90.80	70.20	07.80
37	BOXNHL	S NC22131728431	71.00	20.60	88.20	67.60	07.80
38	BOXNHL	SE22071918985	71.00	20.60	85.40	64.80	07.80
39	BOXNHL	T SE22071918824	71.00	20.60	87.00	66.40	07.80
40	BOXNHL	SE22071917988	71.00	20.60	86.80	66.20	07.80
41	BOXNHL	U ECO22121733520	70.60	20.60	87.20	66.60	07.80
42	BOXNHL	V NR22031912138	70.60	20.60	90.20	69.60	07.80
43	BOXNHL	CR22011820804	70.30	20.60	89.80	69.20	07.80
44	BOXNHL	W WC22161238153	70.50	20.60	93.40	72.80	07.30
45	BOXNHL	SEC22140952025	70.20	20.60	89.60	69.00	07.30
46	BOXNHL	X SEC22140956276	70.60	20.60	89.60	69.00	07.30
47	BOXNHL	Y SEC22141235783	70.30	20.60	88.40	67.80	06.90
48	BOXNHL	EC22101274432	70.60	20.60	93.20	72.60	06.90
49	BOXNHL	Z SEC22140952285	70.80	20.60	91.40	70.80	06.50
50	BOXNHL	AB SEC22140937718	71.00	20.60	88.20	67.60	06.50
51	BOXNHL	CR22011919652	71.00	20.60	91.40	70.80	06.50
52	BOXNHL	AC WC22160975059	70.20	20.60	85.60	65.00	06.10
53	BOXNHL	NW22111712146	70.50	20.60	85.60	65.00	06.10
54	BOXNHL	AD NF22052011438	71.00	20.60	88.40	67.80	06.10
55	BOXNHL	AE ER22011718484D	70.50	20.60	89.00	68.40	06.10
56	BOXNHL	ECO22120930296	70.40	20.60	89.40	68.80	05.80
57	BOXNHL	SE22071461801	71.20	21.80	21.80	00.00 -ENR	05.80
58	BOXNHL	SEC22141226989	69.70	20.60	85.40	64.80	05.80
59	BVZC	WR85080460227D	00.00	14.00	14.00	00.00 -BVZ	05.50

total 4093.90 1214.40 4948.80 3734.40

EIGHTED BYRR

APPROVED BY

CHECKED BY

72 old
USD

WESTERN COAL FIELDS LTD
UMRER SIDING UMRER
UMRER

Gross Rake No : G4388 - FOIS Rake ID : RDM 071121041416 LINE NO : 1
Direction : OUT Weighment On : 29/06/2022 Printing Time : 12:21:13 / 30.06.2024

Sino	Weight	Time	Speed	Axle Count	Comment
1	86.00	12:57:04	05.00	4 AXLE	X
2	89.00	12:57:11	05.00	4 AXLE	X
3	83.40	12:57:18	05.00	4 AXLE	X
4	90.40	12:57:25	05.20	4 AXLE	X
5	87.80	12:57:32	05.50	4 AXLE	X
6	88.40	12:57:38	05.80	4 AXLE	X
7	89.40	12:57:44	05.80	4 AXLE	X
8	87.20	12:57:50	06.10	4 AXLE	X
9	22.80 -EIP	12:57:56	06.10	4 AXLE	X
10	89.20	12:58:02	06.50	4 AXLE	X
11	92.40	12:58:08	06.50	4 AXLE	X
12	86.40	12:58:13	06.50	4 AXLE	X
13	89.80	12:58:19	06.50	4 AXLE	X
14	88.00	12:58:24	06.50	4 AXLE	X
15	87.80	12:58:30	06.90	4 AXLE	X
16	91.80	12:58:35	06.90	4 AXLE	X
17	90.40	12:58:41	06.90	4 AXLE	X
18	90.80	12:58:46	06.90	4 AXLE	X
19	92.40	12:58:52	06.90	4 AXLE	X
20	88.00	12:58:57	06.90	4 AXLE	X
21	89.00	12:59:02	06.90	4 AXLE	X
22	86.20	12:59:08	06.90	4 AXLE	X
23	88.40	12:59:13	06.90	4 AXLE	X
24	87.00	12:59:18	06.90	4 AXLE	X
25	85.20	12:59:23	06.90	4 AXLE	X
26	85.80	12:59:29	06.90	4 AXLE	X
27	84.80	12:59:34	07.30	4 AXLE	X
28	84.20	12:59:39	07.30	4 AXLE	X
29	88.40	12:59:44	07.30	4 AXLE	X
30	91.00	12:59:49	07.30	4 AXLE	X
31	88.40	12:59:54	07.30	4 AXLE	X
32	90.80	12:59:59	07.30	4 AXLE	X
33	90.40	13:00:03	07.80	4 AXLE	X
34	85.20	13:00:08	07.80	4 AXLE	X
35	22.80 -EIP	13:00:13	07.80	4 AXLE	X
36	90.80	13:00:18	07.80	4 AXLE	X
37	88.20	13:00:23	07.80	4 AXLE	X
38	85.40	13:00:27	07.80	4 AXLE	X
39	87.00	13:00:32	07.80	4 AXLE	X
40	86.80	13:00:37	07.80	4 AXLE	X
41	87.20	13:00:41	07.80	4 AXLE	X
42	90.20	13:00:46	07.80	4 AXLE	X
43	89.80	13:00:51	07.80	4 AXLE	X
44	93.40	13:00:56	07.30	4 AXLE	X
45	89.60	13:01:01	07.30	4 AXLE	X
46	89.60	13:01:06	07.30	4 AXLE	X
47	88.40	13:01:11	06.90	4 AXLE	X
48	93.20	13:01:17	06.90	4 AXLE	X
49	91.40	13:01:22	06.50	4 AXLE	X
50	88.20	13:01:28	06.50	4 AXLE	X
51	91.40	13:01:34	06.50	4 AXLE	X
52	85.60	13:01:40	06.10	4 AXLE	X
53	85.60	13:01:46	06.10	4 AXLE	X
54	88.40	13:01:52	06.10	4 AXLE	X
55	89.00	13:01:58	06.10	4 AXLE	X
56	89.40	13:02:04	05.80	4 AXLE	X
57	21.80 -EIP	13:02:10	05.80	4 AXLE	X
58	85.40	13:02:17	05.80	4 AXLE	X
59	14.00 -BUZ	13:02:22	05.50	2 AXLE	X

total 4948.80 Drawn Time : 13:02:22 Engine Speed:

EIGHTED BYRR APPROVED BY CHECKED BY