Audit Report of the
Comptroller and Auditor General of India

Performance Audit of Systems and Controls in Assessment and Collection of Revenue from Major Minerals for the year ended March 2022

SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थ सत्यनिष्ठा
Dedicated to Truth in Public Interest

Government of Odisha

Report No.6 of the year 2024

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PREFACE

This Report of the Comptroller and Auditor General of India for the year ended 31 March 2022 has been prepared for submission to the Governor of the State of Odisha under Article 151 of the Constitution of India and under CAG's DPC Act 1971.

This Report contains results of a Performance Audit of Systems and Controls in Assessment and Collection of Revenue from Major Minerals which was conducted with the objectives to assess whether grant and extension of mining leases for extraction of minerals, were in accordance with applicable laws, rules and policies; reporting of mineral despatch and sales by lease holders, was checked for correctness, by authorities concerned; mining activities were being regulated in compliance with statutory and other applicable provisions; assessment and collection of mining revenues was being done in accordance with applicable laws and rules; and internal controls and monitoring mechanisms were functioning effectively, to prevent illegal mining and leakage of mining revenues.

The Performance Audit covered five selected Mining Circles of Steel and Mines Department and Directorate of Mines.

Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

Description of Technical Terms

A number of technical terms have been used in this Audit Report. Description of those technical terms have been compiled relating to major minerals and specified minor minerals.

Technical terms relating to Major and Specified Minor Minerals

(A) ***Additional amount*** is the amount payable (product of *bid percentage* quoted during auction and the value of mineral despatched) by a successful bidder becoming the lease holder after grant of lease.

Authorized Officer is the Director of Mines or Director of Geology or any officer of the Directorate of Mines or Directorate of Geology duly authorized by the Government in writing for the purpose.

Average Sale Price is compiled and published monthly (State-wise and mineral wise) by the Indian Bureau of Mines (IBM) on the basis of *ex-mines* price reported by the lessees.

(B) ***Beneficiation*** is processing of minerals or ores for the purpose of regulating the size of a desired produce, removing unwanted constituents and improving quality, purity or assay grade of desired product.

Bid Percentage **-** During auction of mineral blocks the qualified bidders submit their final price offer which shall be a *percentage* of value of mineral despatched and greater than the floor price.

(C) ***Calibrated Lump Ores*** are sized ores**,** produced after processing (crushing and screening) of run of mines (ROM) ores with different sizes like 5-18 mm, 10-30 mm *etc*.

Captive use is the usage of entire quantity of minerals extracted from the mining lease in a mineral processing unit or mineral beneficiation unit owned by the lessee excluding the mineral of substandard quality or mineral rejects.

Competent Authority is the concerned Department of Government mentioned in columns (3) and (4) of Schedule IV of OMMC (Amendment) Rules, 2017, for the purpose and jurisdiction specified against each of them in Columns (2) and (1) respectively thereof.

Consent to Establish/ Consent to Operate is the consent required from State Pollution Control Board under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 to establish any industry, operation or process.

Controlling Authority are the officers mentioned in the column (2) of Schedule III of the OMMC (Amendment) Rules 2017 for the purpose and jurisdiction specified against each of them in column (1) thereof. (The Controlling Authority is the Collector of the District as mentioned under Schedule III).

Crushed Fines are finely crushed or powdered mineral of Iron ore fragments.

(D) ***Dead Rent*** is a rent that the holder of a mining lease shall pay every year, at such rate specified in the Third Schedule of MMDR Act 1957 for all the areas included in the instrument of lease.

Decorative stones include all types of granites and any other rock suitable for decorative or export purpose including dimension stone.

DGPS Survey is based on Differential Global Positioning System (DGPS), an enhancement to the Global Positioning System (GPS), which provides improved location accuracy.

Despatch is the removal of minerals or mineral products from the leased area. It also includes the consumption of minerals and mineral products within such leased area.

District Mineral Foundation Trust is a Trust notified by the State Government under Section 9B of MMDR Amendment Act, 2015 with the objective to work for the interest and benefit of persons, and areas affected by mining related operations in such manner as may be prescribed by the State Government.

(E) ***Ex-mines Price*** is the sale price of the mineral at mine head reported by the lessee to IBM and State Government.

(F) ***Floor Price*** is the highest initial price offer amongst the technically qualified bidders in the first round of auction for the second round of online electronic auction of mineral blocks.

(G) ***G4 (Reconnaissance)*** includes Remote sensing, airborne geophysical survey, mapping, grab/chip sampling of rocks, ground geophysical survey, trenching/pitting/drilling, determination of principal rock types, mineral assemblage, identification of minerals of interest and synthesis of all available data/concepts.

Gochar Land is the land reserved for grazing of cattle.

GPS Survey is a quick and accurate way of mapping and modelling the physical world, from mountainous landscapes to city skylines.

(H) ***High Level Committee*** was constituted by notification of 22 June 2015 under the chairmanship of Development Commissioner cum Addl. Chief Secretary with representatives from Steel & Mines Department, Industry Department, ORSAC & OMC to streamline the auction of major mineral concessions in Odisha.

(I) ***i3MS*** is a computerised system called Integrated Mines and Mineral Management System (i3MS) adopted by the Steel and Mines Department with the objective of capturing all transactions and regulating activities of mining lessees and licensees.

The Indian Bureau of Mines (IBM) established under Ministry of Mines, is engaged in promotion of conservation, scientific development of mineral resources and protection of environment in mines other than coal, petroleum & natural gas, atomic minerals and

minor minerals. The functions of IBM include promoting conservation of mineral resources by way of inspection of mines, geological studies, scrutiny and approval of mining plans and mining schemes, conducting environmental studies and environment related activities, evolving technologies for upgradation of low grade ores and identifying avenues for their utilisation, preparation of feasibility reports for mining and beneficiation projects, preparation of minerals maps and National Mineral Inventory of minerals resources; providing technical consultancy services to mineral industry and functioning as a data bank for mines and minerals, and preparing of technical and statistical publications.

Immovable Property, as per Section 2(6) of Registration Act, 1908, include land, buildings, hereditary allowances, rights to ways, lights, ferries, fisheries or any other benefit to arise out of land, and things attached to the earth, or permanently fastened to anything which is attached to the earth, but not standing timber, growing crops nor grass. List of immovable properties is issued by the Sub-Collector (Revenue Authority).

Initial Price Offer is an offer which shall be a *percentage* of value of mineral despatched quoted by the bidders during first round of auction of mineral blocks.

Inter Departmental Committee was constituted by notification of 19 March 2015 under the chairmanship of the Development Commissioner cum Addl. Chief Secretary and representatives from Steel & Mines Department, Forest & Environment Department, Revenue & Disaster Management Department, Law Department to scrutinize the proposals for extension of mining leases and to streamline the process of such extension.

(K) ***Kissam*** means variety or classification of land like *Gochar* (grazing land), *Jalasya* (water body) etc.

(L) ***Lease area*** is the area specified in the mining lease within which mining operations can be undertaken, includes the non-mineralised area required and approved for the activities falling under the definition of mine.

Letter of intent is a letter issued by the State Government to the applicant who had applied for grant of a mining lease. It specifies the willingness of State Government to grant the lease subject to fulfilment of certain terms and conditions by the applicant.

Lumps are the part of the ROM ore produced from mine with size exceeding 40mm.

(M) ***MMDR Act*** is an Act [Mines and Minerals (Development and Regulation) Act, 1957 as amended] of Government of India to provide for the development and regulation of mines and minerals under the control of the Union.

Major Minerals are the minerals like Bauxite, Chromite, Coal, Iron, Manganese *etc*., as specified in Second Schedule appended with the MMDR Act.

Mine closure involves the steps taken for reclamation, rehabilitation measures taken in respect of a mine or part thereof commencing from cessation of mining or processing operations in a mine or part thereof.

Mine Development and Production Agreement is an agreement signed by the successful bidder with the State Government upon obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of mining operations.

Mineral includes all major minerals and such of the minor minerals as may be specified by the Government.

Mineral concession is a reconnaissance permit, prospecting licence, mining lease, composite licence.

Mineral reserve is the economically mineable part of a measured and indicated mineral resource.

Mining lease (Major Minerals) is the lease granted for the purpose of undertaking mining operations, and includes a sub-lease granted for such purpose as defined under MMDR Act, 1957.

Mining operation is the operation undertaken for the purpose of mining any mineral.

Mining Plan (Major Minerals) is a document prepared under Section 5 of the MMDR Act and Rules made thereunder. It is to be submitted by the lessee prior to grant of lease after obtaining approval from the Indian Bureau of Mines (IBM).

Mining Plan (Specified Minor Minerals) is a mining plan prepared under the Granite Conservation and Development Rules, 1999 and in relation to all other minor minerals means a mining plan prepared under these rules (OMMC Rules).

Minor minerals are the building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.

(N) ***National Mineral Exploration Trust*** is a trust established by the Central Government, with the objective of using the funds for the purposes of regional and detailed exploration, as a non-profit body, wherein the holder of a mining lease or a prospecting licence-cum-mining lease shall pay to the Trust a sum equivalent to two *per cent* of the royalty paid.

Notified Minerals are specified in fourth Schedule of MMDR Act (as amended in 2015) *viz*., Bauxite, Iron ore, Limestone and Manganese ore.

(O) ***OMMC Rules*** are the rules (Odisha Minor Mineral Concession Rules 2016) made by the Odisha Government in exercise of the powers

conferred by sub-section (1) of Section 15 of the MMDR Act, 1957 for regulating the grant of mineral concessions in respect of minor minerals.

(P) ***Production*** is the winning or raising of minerals within the leased area for the purpose of processing or despatch.

Prospecting licence-cum-mining lease is a two-stage concession granted for the purpose of undertaking prospecting operations followed by mining operations.

(Q) ***Quarry lease*** is a lease granted on tenure basis for extraction, collection and/or removal of minor minerals other than specified minor minerals over a compact area.

(R) ***Revisionary Authority*** is the authority of Central Government which is empowered to revise any order of the State Government, in respect of major minerals. The revisionary powers of the Central Government are delegated to Joint Secretary/Director/Deputy Secretary of the Ministry of Mines and the designated officers act as the Revisionary Authority to dispose off the revision applications under Rule 54 of MCR 1960.

Royalty is the amount that the holder of a mining lease shall pay in respect of any mineral removed or consumed by him at the rates as specified in the second schedule of the MMDR Act.

Run of Mines is the unprocessed mined material which consists of the soil, overburden and impurities.

(S) ***Screening Committee*** was constituted by notification of 06 May 2016 and re-constituted on 01 August 2016 under the chairmanship of the Director of Mines with members from Regional Controller of Mines, IBM, Deputy Director General, GSI to scrutinize the mining lease application received for grant of mine lease under Section 10A(2)(b) and 10A(2)(c) of the MMDR Act.

Specified minor minerals are the minerals including decorative stones other than the minor minerals, as notified by the Government of India and administered by the Steel & Mines Department.

Surface Rent is the rent to be paid by lessee at the prescribed rate for the surface area used by him for the purposes of mining operations.

(T) ***Tahasildar*** is the officer so appointed by the Government for local administration in a tahasil and includes the Additional Tahasildar.

Trading license is a license of any category, issued by the Competent Authority to any person, who wishes to possess, sell, trade in, transport, store or otherwise deal with any mineral.

Transit Pass is a printed and machine numbered form in the Government Press and supplied by the competent authority on payment of the cost thereof as fixed by the Director of Mines with the approval of the State Government (Rule 58(2) of OMMC Rules, 2016) to be issued by the competent authority permitting the despatch of minerals.

(U) ***Umpire Sample*** is a part of the sample drawn by the mining authority in presence of lessee prior to issue of permission for despatch of

mineral from mine. It is kept with the Mining Officer or Deputy Director of Mines, as the case may be, under joint seal and signature of mine owner. In case of dispute over the result of chemical analysis report of the 1st part of the sample, it is analysed in Government Laboratory in presence of mine owner for confirmation of the grade of the mineral.

EXECUTIVE SUMMARY

Receipts from mining of major and minor minerals form a major source of non-tax revenue of the State. The Steel & Mines Department (for major minerals and specified minor minerals), and the Revenue & Disaster Management Department (for minor minerals) are responsible for regulation of the mining sector in the State. The regulation of mines, and assessment and collection of mining revenues, is governed primarily by the Mines and Minerals (Development and Regulation) Act, 1957 and Odisha Minor Mineral Concession Rules, 2016.

The MMDR Amendment Act, 2015, which came into force on 12 January 2015, has replaced the erstwhile first-come-first-served/ application mechanism, for grant of mineral resources, with a competitive auction process. The e-auction process for grant of mineral blocks has been laid down in the Mineral (Auction) Rules, 2015. The auction regime allows States to obtain an enhanced share of the value of mineral resources in the form of additional amount (or premium), charges towards District Mineral Foundation (DMF) at the rate of 10 *per cent* of royalty and National Mineral Exploration Trust (NMET) at the rate of two *per cent* of royalty, in addition to the royalty receivable. Provisions were also included for extension of existing mining concessions upto March 2030 for captive mines and upto March 2020 for other than captive mines.

The Performance Audit of "Systems and Controls in Assessment and Collection of Revenue from Major Minerals" was conducted between August 2021 and September 2022. The audit covered the period 2015-22, with a focus on examining issues relating to: grant and extension of mining leases/ permits/ licences for extraction of minerals; reporting of mineral despatch and sales by leaseholders; regulation of mining activities in compliance with statutory and other provisions; assessment and collection of mining revenues; and effectiveness of internal controls and monitoring mechanisms.

Major issues noticed during the course of this audit due to implementation of the policy and monitoring mechanism by the State Government are summarised below. Money value involved in the audit observations is approximately ₹ 22,392.51 crore.

1. Grant/Extension of Mining Leases

There were a number of cases of irregular grant of leases and extensions of tenures of existing leases, in contravention of statutory provisions and rules. This also resulted in non-settlement of these mines through auction and deprived the State Government of the additional revenue in the form of premium/ additional amount during this period.

2. Reporting of Mineral Despatch and Sales

The royalty and the premium payable by the leaseholder, on the various grades of iron-ore lumps and fines despatched from the lease area, is worked out as a fixed percentage of the notified average sale prices for the respective grades, sizes and category. Thus, it is crucial for the State Government to monitor the ex-mine prices, grades, and classifications of iron-ores as lumps and fines, reported by leaseholders, in order to safeguard the mining revenues of the Government.

2.1 Decline of Reported Grade of Iron-Ore

It was observed after auction that in case of selected mines, there was an abrupt and abnormal decline in the grade of iron-ore and its classification reported by the new lessees. Though more than 83 *per cent* production was reported in the grade of 62-65% Fe in the pre-auction period, the same came down to approximately 16 *per cent* in the two years after auction (2020-2022). Similarly, share of grades 60% Fe and below went up from approximately 11 *per cent* of total production to more than 60 *per cent* of total production in the two years after auction (2020-2022). A similar trend was also noticed in the case of production of fines. To elaborate, in case of one iron-ore mine under the Joda Circle, the average production of lumps of grades above 60% Fe was about 77 *per cent* before auction, which drastically reduced to a mere 9.88 *per cent* within one year, in FY 2020-21 and further reduced to zero *per cent* during FY 2021-22 after new lessee started operating the mine.

It is highly improbable that the grades of mineral reserves, produced from the auctioned mines, would witness an abrupt decline within a short period of one or two years. Such a significant and sharp decline in the grade of iron-ore indicated a significant risk that the new lessees were misreporting the grade of iron-ore produced, in order to avoid higher royalty and premium payable on higher grades.

For the six test-checked mines, changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have consequently resulted in a revenue implication of approximately ₹4,162.77 crore for the years 2020-21 and 2021-22 in the form of lesser royalty and premium (post auction).

2.2 Reporting of Iron-Ore Fines as Screened Fines

As per a State Government order issued in 2010, crushed fines are also to be charged at the rates applicable to lumps. After this notification, the mining circles had charged higher royalty for "crushed fines" equivalent to lumps, but charged lower royalty for "screened fines" equivalent to fines. In this context, Audit noticed abnormal increase in the reported production of screened fines (having lower royalty) and declining trend in reported production of crushed fines from the year 2010-2011, which indicated a significant risk of misreporting of the "crushed fines", produced from processing of ROM ores/ lumps in crusher machines, leading to avoidance in payment of higher royalty and premium.

Out of the 14 mines for which production data for the period prior to 2010 was available, seven mines had not reported any production of screened fines,

whereas three mines had reported the same as being less than seven *per cent*, one mine as 12 *per cent*, and only three mines as between 23-42 *per cent*. However, the proportion of screened fines, produced from the same mines as reported by the lessees, increased from FY 2010-11 onwards, which is the year when the order of the State Government was issued. By FY 2021-22, out of the 12 active mines, the reported proportion of screened fines ranged from 60 *per cent* to as high as 82 *per cent* in the case of 10 mines, 44 *per cent*, for one mine; and 27 *per cent*, for another mine. For instance, in one mine under Joda Circle, the percentage of production of screened fines increased from 7 *per cent* during 2007-10 to upto 86 *per cent* during 2010-21.

Thus post the State Government order of 2010, there was a significant decrease in reporting of crushed fines from the production pattern of crushed and screened fines as prevalent before the order, leading to revenue implication of ₹ 10,294.24 crore for the 20 test checked mines consisting of royalty of approximately ₹ 5,841.80 crores and premium of approximately ₹ 4,452.44 crores (for four auctioned mines).

2.3 Decline in Reported Proportion of Lumps vis-a-vis Fines

ASP and consequently the royalty and premium payable on lumps is much higher than that on fines. Scrutiny of data of eight auctioned mines showed that, in case of five of these mines, there was a sharp decline in the proportion of lumps and increase in the proportion of fines, as reported by the new lessees, in comparison to the old lessees. During the period 2014-20, the proportion of lumps produced in different mines, was reported by the old lessees, to be in the range of 23 *per cent* to 50 *per cent*. It declined abruptly in FY 2020-21, to between 10 *per cent* and 29 *per cent*, while the proportion of fines showed a concomitant increase.

2.4 Reporting of Ex-Mine Prices

Wide variations in the Ex-Mines Prices (EMPs) were reported by the same lessees, as well as different lessees, for the same grade of iron-ore lumps and fines. As the EMPs reported by lessees were the determinant for calculation of the Average Sale Price (ASP) by IBM, the reporting of low EMPs, by the lessees, had the effect of lowering the ASP of iron-ore, as published by IBM, and, consequently, the amount of royalty and premium payable by the lessees along with charges towards DMF and NMET.

These abnormal variations in ex-mine prices, across different grades, should have been a sufficient red flag. However, these variations were not analysed or taken up for examination/ investigation, and no action was initiated, at the level of the DDMs, Directorate or Government.

3. Assessment and Collection of Mineral Receipts

The royalty payable by mining lease holders is to be assessed on a quarterly basis, by the DDMs/ MOs of the concerned mining circles. Upon receipt of the monthly returns, along with particulars of the royalty paid by leaseholders, the DDMs/ MOs are required to undertake quarterly verification of the said returns and also inspect the accounts, as well as other relevant documents maintained by the leaseholders, in respect of the minerals consumed/ removed from the mining lease areas.

3.1 Non-verification of sales turnover

There was a difference in the total sales turnover, reported by seven lessees, to the Commercial Tax (CT) department, as against the sales reported to the mining circles. This indicated a significant rise of lessees underreporting their sales turnover, in order to reduce their liability towards payment of royalty. The short-assessment of royalty, for these seven lessees, worked out approximately to ₹905.66 crore; with District Mineral Fund (DMF) of approximately ₹271.70 crore (30 *per cent*) and National Mineral Exploration Trust (NMET) of approximately ₹18.11 crore (2 *per cent*) also being leviable. Due to the extent of variation between the reported sales turnover between GST returns and annual returns in i3MS, Audit could not draw an assurance that the annual returns in i3MS contained declaration of correct and complete sales turnover by the lessees.

4. Regulation of mining activities

Regulation of mining activities, relating to major minerals and specified, minor minerals in accordance with the provisions of laws, rules, notifications, and in terms of the conditions prescribed in the approved mining plans and statutory clearances, is the responsibility of the Steel & Mines department.

4.1 Violation of provisions of environment protection

Mining activities beyond limits of environmental clearances can have very severe and far-reaching adverse impacts on the environment. Production of minerals, in excess of the limits stipulated in the Environment Clearance (EC) was noticed in cases of two iron-ore mines and one coal mine. Deviation from the production limits prescribed in EC constituted unlawful mining and hence is liable to attract levy and realization of price of the mineral so produced, amounting to ₹ 1,699.05 crore.

There had also been unauthorized extraction of mineral from forest land, without due approval from the Ministry of Environment, Forest and Climate Change (MoEFCC), in the case of one chromite mine, which is liable for levy and realization of price of the minerals so raised, amounting to ₹150.10 crore.

In addition, these cases are also liable for penal action under concerned provisions of the Environment Protection Act and the Forest Conservation Act respectively.

4.2 Production in excess of the approved Mining Plan

In regard to regulation of mining activities, it was observed that there had been production of minerals in excess of the limits stipulated in the approved mining plans, in case of eight iron ore mines, attracting levy and realization of price of the minerals so raised, amounting to ₹3,618.50 crore.

Carrying out mining activities in violation of relevant environment protection provisions and also crossing the limits of mining plan also bound to have adverse effects on the environment of the impacted areas.

5. Monitoring and internal controls

A robust system of internal controls is vital for monitoring the mining activities of leaseholders and safeguarding the interest of the Government.

5.1 Functioning of Government Laboratories

There were significant issues relating to the functioning of government laboratories for chemical testing to ascertain the grades of mineral ores. Out of a total of 31,677 samples, for which chemical analysis of chromite had been carried out during the years 2015-22, 31,340 samples had been analysed without sufficient stock of essential chemicals. Similarly, the stocks of chemicals, required for analysis of iron-ore samples, had been exhausted on 10 occasions and there had been gaps of 9 to 82 days in receiving new stocks, during which these samples were shown as analysed. Analysis of samples, without the required chemicals being in stock, posed serious questions over the validity of the analysis reports and there was a risk that the analysis reports had been issued without the actual testing of samples.

Further, the results of samples were different for the same samples analysed in different Government Laboratories/ same Laboratories, at different periods of time. This indicated lack of robustness in the system of testing and analysis of samples and raised serious questions in regard to the accuracy and reliability of the analysis reports issued by the Government laboratories.

5.2 Functioning of check gates

Major issues were observed in regard to issuance of transit passes and their checking at check gates/ weighbridges. Out of a total of 1,18,44,864 e-passes, generated for Mineral Carrying Vehicles (MCVs), routed through the 10 sample check gates during 2017-22, it was found that there were no records in i3ms with regard to the 16,79,220 e-passes. Non-checking of the 16,79,220 e-passes generated for MCVs resulted in absence of end-to-end tracking of transportation of a minimum of 1.48 crore MT of iron ore valuing atleast ₹ 1473.26 crore. In the absence of end-to-end tracking of these e passes, the risk of excess extraction and transportation of minerals in violation of existing regulatory framework could not be completely ruled out.

Moreover, there was shortage of manpower, lack of internet connectivity and essential items like bar code scanners at check gates. Weigh bridges were also found to be non-functional. In such a scenario, practice of transportation of excess minerals in these areas could not be ruled out.

5.3 Issuance of e-Passes to non - mineral carrying vehicles

Audit noticed that 3,697 vehicles for which e-Passes were generated were registered as motorcycles, cars, three wheelers *etc*. and have been shown to have transported 67,271.82 MT of minerals during the audit period. These vehicles were also not registered on i3MS. This clearly indicates lack of monitoring of unregistered vehicles for carrying minerals and therefore the possibility of illegal transportation of unaccounted minerals cannot be ruled out.

5.4 Inspections and raids

Only 265 inspections/ raids had been conducted by State Level Enforcement Squad (SLES), during 2015-22, against the target of 2,520 to 2,940

inspections / raids. Thus, the achievement was only 9.01 to 10.52 *per cent* of the prescribed target. Audit also found shortfalls in the inspection of working and non-working mines by Deputy Directors of Mines (DDMs), in five test-checked mining circles, during the period 2015-22, ranging from 73.96 to 100 *per cent*. Thus, the department was not exercising adequate monitoring, to protect mineral resources from unauthorised activities.

Recommendations:

Government should:

1. **fix responsibility on the concerned officers who recommended extension of the lease period despite objections were raised by multiple departments on irregularities committed by the lessee.**
2. **carry out a complete and timely investigation across all auctioned mines into the sudden reporting of lower grades of iron-ore as found in test check by Audit, to ascertain willful or deliberate misreporting in order to avoid payment of higher royalty and premium.**
3. **put in place a policy/ mechanism for preventing leakage of revenue due to the significant risk of misreporting of category and sizes of iron-ore when reported as fines and the rapid increase of screened fines on which the royalty and premium are lower.**
4. **re-verify the grade-wise mineral production of all the mines, in coordination with IBM, to ascertain the actual grades and sizes of iron ore and mix of lumps, crushed fines and screen fines in order to arrive at the range for each mine and also to realise appropriate royalty and premium. This range should be integrated in i3ms to ensure system-based control over reporting of grade, size and mix of minerals by the respective lessee.**
5. **investigate the reporting of low ex-mines prices by lessees, to ascertain whether this was being done deliberately in order to reduce the average sale price and, consequently, the royalty and premium payable.**
6. **fix responsibility on the concerned officers for lack of adequate monitoring and inspection regarding exercising quality checks (grade, category and size) in production of minerals**.
7. **investigate the under reporting of sales turnover by lessees on i3MS.**
8. **ensure robust integration of i3MS with GSTN in order to facilitate cross-validation of information, and accuracy in assessment of the royalty receivable. Further, the Government may also explore the possibility of integrating turnover reported in GST returns in the assessment system of royalty, in coordination with Ministry of Mines.**
9. **take up the matter of reviewing the existing grading classification for chromite with IBM, to devise more appropriate grading brackets for publication of average sale prices of ores having different Cr_2O_3 content, so that the royalty leviable is reflective of the actual market prices.**
10. **take timely action under Section 21(5) of MMDR Act against the violators of Environment Clearance granted for mining and consider taking penal action under relevant provisions of the Environment Protection Act, 1986 and the Forest (Conservation) Act, 1980.**

11. **develop a robust mechanism to ensure regular checks on quantity extracted by the lease holders *vis-à-vis* the quantity authorised under various statutory clearances.**
12. **fix responsibility for not taking action against lessees for violations of conditions stipulated in various regulations.**
13. **investigate the cases of unchecked e-passes generated for the MCVs and revamp the existing mechanism to ensure control over unchecked passes for end to end monitoring of movement of mineral resources.**
14. **ensure deployment of adequate personnel at the check-gates, weighbridges and laboratories, as also availability of the required equipment for smooth functioning of the check gates/ weighbridges and Government laboratories.**
15. **ensure carrying out required quantum of inspections/ raids by the SLES, as well as inspection of mines by the DDsM, for adequate monitoring of mining activities and for protecting its mineral resources from unauthorised activities.**

CHAPTER I
Introduction

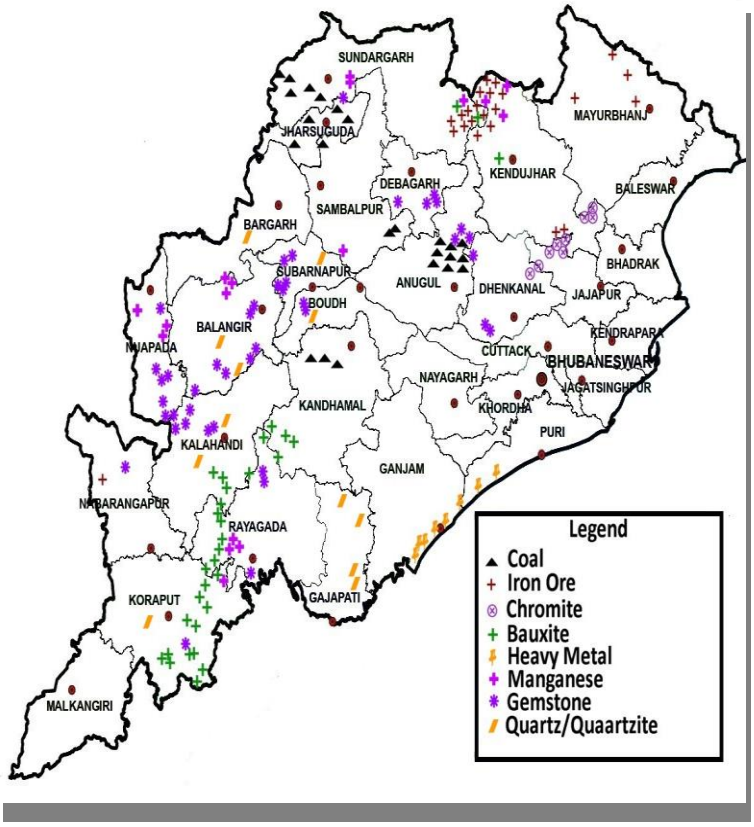
1 Introduction

This chapter provides an introduction to the mineral resources of Odisha, the organisation structure for regulation of mineral resources and the trend of mining revenues. The Chapter also covers the objectives of this performance audit, audit criteria, scope of the audit and the methodology adopted.

1.1 Mineral Resources of Odisha

Odisha is a mineral rich state occupying a prominent place in the mineral map of the country. The State is endowed with vast reserves of major minerals like iron ore, chromite, manganese, coal, bauxite, dolomite, limestone, graphite, nickel *etc*.; and minor minerals like decorative stone quartz, fireclay, ordinary clay, silt, *rehmatti*, ordinary sand, brick-earth, ordinary earth, moorum, laterite slabs, ordinary boulders *etc*.

MINERAL MAP OF ODISHA



Receipts from mining of major and minor minerals form a major source[1] of the non-tax revenue of the State. The mineral receipts mainly consist of Royalty, Dead Rent and Surface Rent. The regulation of mines, and assessment and collection of mining revenues is governed by the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) and amendments thereto, as promulgated by the Government of India (GoI). Under the Act, the power of formulation of Rules, in regard to major minerals, is vested with the

[1] Mining revenue was 31.78 *per cent* of the revenue receipts of the State for the year 2021-22

Union Government, and, in respect of minor minerals, with the State Governments.

The Steel & Mines (S&M) Department, Government of Odisha (GoO) is responsible for discovery, extraction and administration of the mineral resources of the State. The department administers central legislations {*viz*, MMDR Act, 1957, Mineral Concession Rules (MCR), 1960, the Mineral (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016} for major minerals as well as implements the Odisha Minor Mineral Concession (OMMC) Rules, 2004 and 2016, for minor minerals and specified minor minerals[2]. The majority of activities in the mining sector, (*viz.* grant and extension of lease, collection of royalty, ensuring lawful mining, *etc*.) are controlled by the Directorate of Mines under the S & M department, GoO. Grants of lease and extension *etc.* of the Hydro Carbons/ Energy Minerals (Minerals like Coal and Lignite specified under Part A of the First Schedule of MMDR Act) Atomic Minerals (Minerals like rare earth containing Uranium, Thorium, Titanium *etc.* specified under Part B of the Schedule *supra*) are governed under the Coal Blocks Allocation Rules, 2017 and The Atomic Minerals Concession Rules, 2016, respectively, by the State Government with prior approval of Central Government.

1.2 Organisation Structure

The regulation of major minerals in the State is under the control of the S & M Department of the GoO. The functions of the S & M Department include systematic survey and assessment of mineral deposits (major minerals and specified minor minerals); exploitation and administration of mines and mining leases; prevention of illegal mining and transport of minerals; assessment and collection of mining revenues; study of impact of mining operations on environment *etc*. The State is divided into 14 mining circles, headed by the Deputy Director of Mines or Mining Officers. The mining circles are under the administrative control of the Director of Mines & Geology, who reports to the Principal Secretary (Steel & Mines Department). The organisational setup for administration of major minerals and specified minor minerals is as follows:

1.3 Trend of Mining Revenues

The year-wise receipts, on account of major and minor minerals, during 2015-23, is shown in **Table 1.1**:

[2] All minor minerals including decorative stones like Granite *etc*. other than the minor minerals listed at serial No. 1(ii) of Schedule-III OMMC Rules, 2016 and is administered by the Steel & Mines Department

Table 1.1: Trend of mining receipts

(₹ in crore)

Financial Year	Mineral receipts		Total Mineral Receipts	Total Revenue Receipts of the State	*Percentage* of total Mineral Receipts to total Revenue Receipts of the State
	Major Minerals	Minor Minerals			
2015-16	5,337.32	461.64	5,798.96	68,941	8.41
2016-17	4,599.74	326.05	4,925.79	74,299	6.63
2017-18	5,760.71	370.28	6,130.99	85,204	7.20
2018-19	10,103.39	376.22	10,479.61	99,546	10.53
2019-20	10,664.78	355.24	11,020.02	1,01,568	10.85
2020-21	13,308.39	482.93	13,791.32	1,04,387	13.21
2021-22	48,045.36	596.39	48,641.75	1,53,059	31.78
2022-23	37,568.55	506.49	38,075.04	1,50,462	25.31

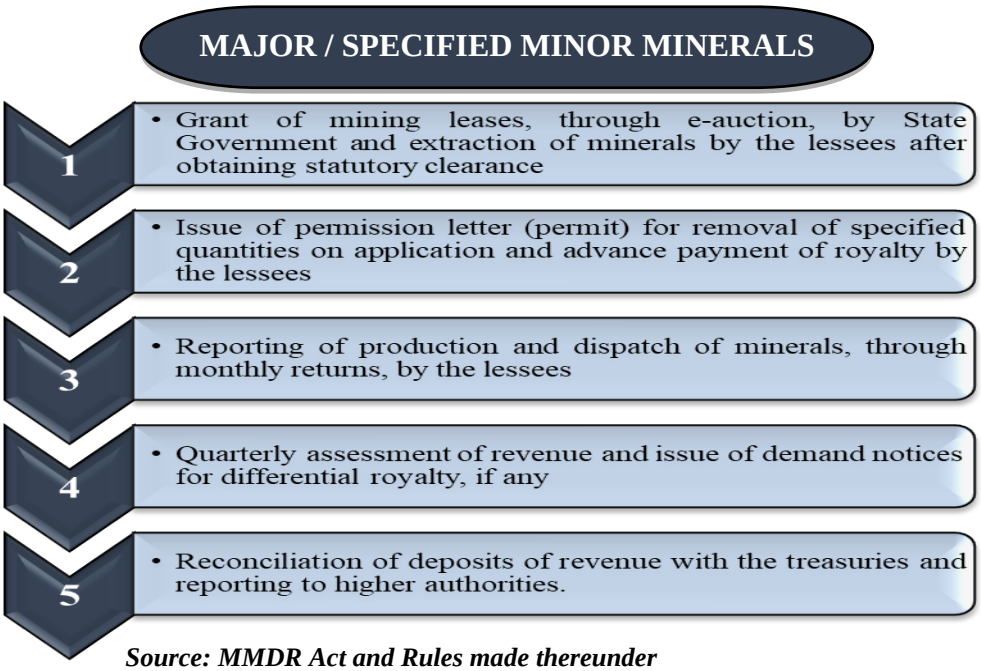
Source: Information furnished by the Department and State Finance Report

The steep increase in mining revenues during 2021-22 in respect of major minerals can be attributed to: (i) increase *(12.01 per cent)* in the despatch quantity from 32.04 crore MT in FY 2020-21 to 35.89 crore MT in FY 2021-22, and (ii) realisation of mining revenues, in addition to royalty dues, in the form of (a) additional amount (premium) for auctioned mines during FY 2021-22, and (b) additional amount for non-auctioned mines[3], introduced with effect from 28 March 2021. However, there was steep decline in mining receipts during 2022-23.

Process for assessment and collection of mining revenues

The prescribed mechanism, for assessment and collection of mining revenues, is depicted in the following schematic Chart:

Chart 1.1: Flow chart showing mechanism of assessment and collection of mining revenue



Source: MMDR Act and Rules made thereunder

[3] The mines granted prior to amendment of MMDR Act in 2015 and continuing operations till expiry of their term as provided under MMDR amendment Act, 2015

1.4 Audit Objectives

The Performance Audit was conducted to examine whether:

i. grants and extensions of mining leases / permits / licences, for extraction of minerals, were in accordance with applicable laws, rules and policies

ii. reporting of mineral despatch and sales, by lease holders, was checked for correctness, by authorities concerned

iii. mining activities were being regulated in compliance with statutory and other applicable provisions

iv. assessment and collection of mining revenues was being done in accordance with applicable laws and rules and

v. internal controls and monitoring mechanisms were functioning effectively, to prevent illegal mining and leakage of mining revenues.

1.5 Audit Criteria

The audit observations were benchmarked against criteria derived from the following:

Acts and Rules notified by Government of India:

- Mines and Minerals (Development and Regulation) Act, 1957.
- Mineral Concession Rules, 1960.
- Mines and Minerals (Development and Regulation) Amendment Act, 2015.
- Mineral Auction Rules, 2015.
- The Minerals (Evidence of Mineral Contents) Rules, 2015.
- Minerals (Other than Atomic and Hydrocarbons Energy Minerals) Concession Rules, 2016.
- Mineral Conservation and Development Rules, 1988 and 2017.
- Forest Conservation Act, 1980.
- The Environment (Protection) Act, 1986.
- Granite Conservation and Development Rules, 1999.
- The Coal Bearing Areas (Acquisition and Development) Act, 1957.
- National Mineral Exploration Trust Rules, 2015.
- Circulars and other relevant notifications issued by Union Government.

Acts and Rules notified by Government of Odisha:

- Odisha Minerals (Prevention of Theft, Smuggling & Illegal Mining and Regulation of Possession, Storage, Trading and Transportation) Rules, 2007.
- Odisha District Mineral Foundation Rules, 2015.
- Odisha Minor Mineral Concession Rules, 2004 and 2016.
- Odisha Specified Minor Minerals Auction Rules, 2019.
- Circulars and other relevant notifications issued by State Government.

1.6 Scope and Methodology

The Performance Audit, conducted from August to December 2021 and August to September 2022, covered the period 2015-22, but also included coverage of prior / past periods, wherever relevant or necessary.

Audit test-checked records in the Steel & Mines (S&M) Department, as well as the Directorate of Mines & Geology, and also test-checked five[4] out of 14 Mining Circles in respect of major minerals. The mining circles were selected using stratified random sampling, taking into consideration the collection of revenue by the mining circles.

The methodology of audit included scrutiny of physical and computerised records made available in Department, Directorate of Mines and Geology and selected mining circles and Joint Physical Verification (JPI) of check-gates in presence of the officers of the department.

The Entry Conference was conducted (virtual mode) on 12 April 2021, with the Principal Secretaries and other officers of the S&M Department and R&DM Department, GoO, in which the audit objectives, criteria, scope and methodology, were discussed. The audit findings were discussed in the Exit Conference, held on 28 June 2023 and replies of the Government furnished in subsequent stages have been suitably incorporated in the Report.

1.7 Integrated Mines and Mineral Management System (i3MS)

The GoO has designed and developed (2010) a computerised system called the 'Integrated Mines and Mineral Management System' (i3MS), with the objective of capturing all transactions and regulating the activities of mining lessees and licensees. The software has various modules that cover various processes, such as: (i) *clearances* – codification of leases and lessees, statutory clearances and registration of transporters (ii) *production* – verification of clearances, validity and limits of clearances, monthly returns furnished by lessees / licensees, updating of daily production, calculation of royalty and demand assessment and generation of e-transit permits (iii) *Despatch* – system generated e-transit pass uniquely bar-coded with date/time stamp and auto-check of Despatches against permitted quantities (iv) *verification* – bar-code scanners at check gates, enroute verification through mobile application and vehicle tracking system (v) *receipts* – real-time reporting of production and Despatch, reports on excavation and stock and reports on royalty due and collection (vi) *integration* – validation & integration of weigh-bridges and RTO integration, for authentication of carriers.

The i3MS system was implemented with the intent to be a significant step towards greater transparency and efficiency in regulation of the mining sector. However, there remained serious deficiencies (as brought out in this report) that need to be addressed by the department, so that the large volume of information contained in the system can be used. The i3MS system, therefore, needs to be more effectively leveraged, to strengthen the monitoring mechanisms and controls within the department.

1.8 Acknowledgement

Audit acknowledges the cooperation extended by the S & M Department, Government of Odisha, in providing necessary information and records to Audit.

[4] DDM, Joda; DDM, Jajpur Road; DDM, Koira; DDM, Talcher; and MO, Berhampur

1.9 Money value involved in Audit observations of this Report

Results of audit of the systems and controls in assessment and collection of mineral receipts in respect of major and specified minor minerals have been compiled in this Report. Money value involved in audit observations is approximately **₹ 22,392.51** crore as detailed in **Table 1.2** below.

Table 1.2: Para-wise money-value of the observations included in the report

(₹ in crore)

Para No.	Appendix No.	Brief Subject	Period of coverage	Money Value
3.2.1	*VII*	Reporting of the grade of iron-ore produced (Reporting of lower grade of iron ore)	2020-22	4,162.77
3.2.2	*VIII*	Reporting of iron-ore fines as screened fines	2015-22	10,294.24
3.5.1	*X*	Non-utilisation of sub-grade iron-ore	2014-22	1,183.02
3.5.3	*XI*	Non-utilisation of beneficiable and sub-grade chromite	2015-22	51.71
4.2	*XII*	Non-levy of interest on delayed payment of royalty	2015-22	28.66
4.3	*XIII*	Short assessment of royalty, due to non-verification of sales turnover reported by lessees	2015-22	1,195.47
4.4	*XIV*	Blockage of revenue due to non-disposal of seized minerals	2015-22	6.35
5.2.1	--	Production of coal in excess of the quantity approved in Environment Clearance	2017-18	88.60
5.2.2	*XV*	Production of iron-ore exceeding the quantity approved in the Environment Clearances (i) Roida-II	2019-20	52.04
		(ii) Thakurani Block-B	2019-21	1,558.41
5.2.3	*XVI*	Production of iron-ore exceeding the quantities approved in the mining plans	2015-21	3,618.50
5.2.4	*XVII*	Production of chromite without forest clearance	2019-22	150.10
5.2.5	--	Operation of mine on unauthorized transfer of lease	2016-20	2.64
		Total		**22,392.51**

CHAPTER II

Grant/ Extension of Mining Leases

2 Grant/ Extension of Mining Leases (Major and specified Minor Minerals)

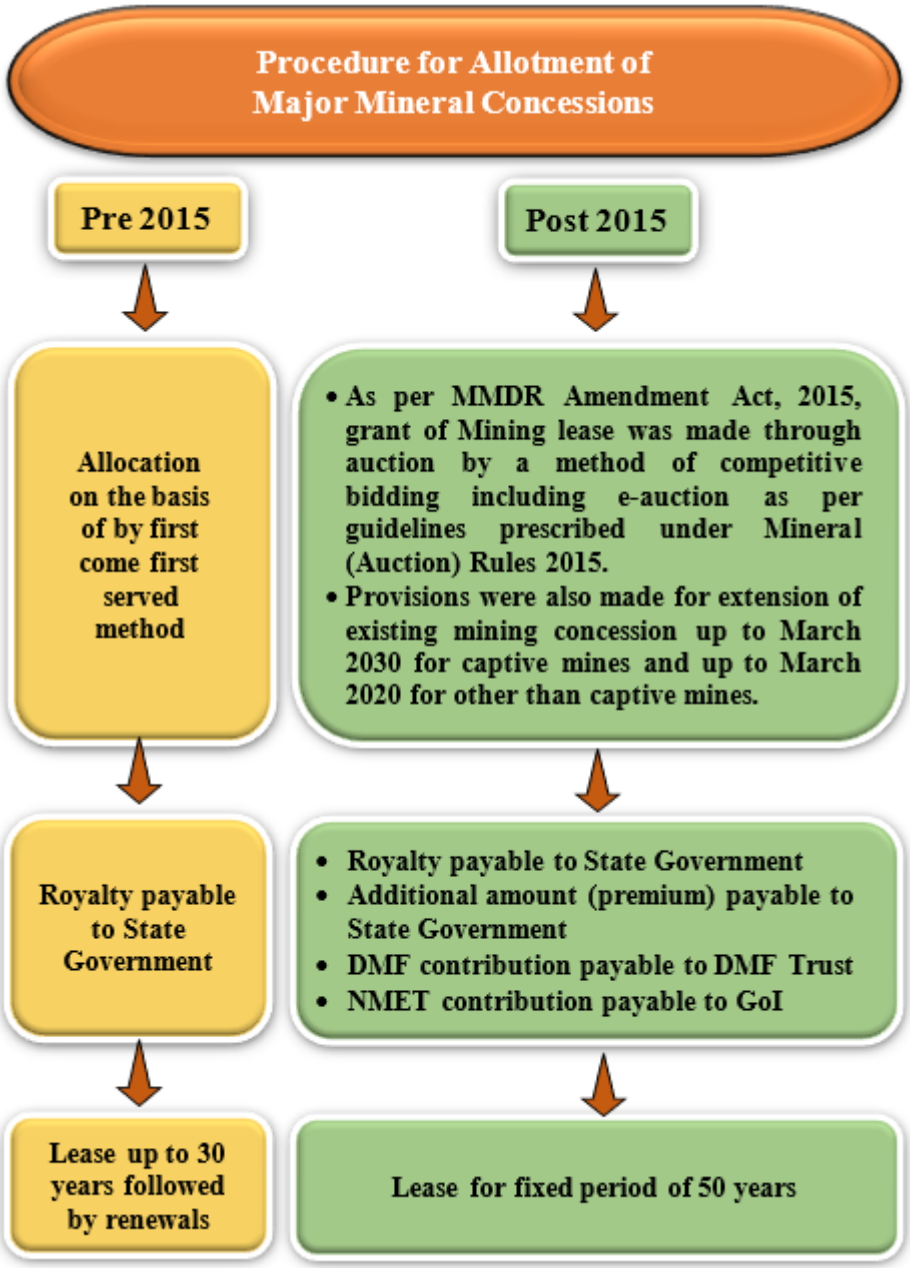
This chapter contains audit findings relating to the grant of mining leases. The audit observations include: irregular grants of leases for quartz, gemstone and / semi-precious stone mines; irregular extensions of leases for major minerals, like iron and manganese ores; irregular extensions of leases for specified minor minerals, like decorative stone; lack of due diligence in regard to e-auction of mineral blocks; non-initiation of auction process for cancelled leases; and delays in auction of specified minor mineral blocks.

2.1 Introduction

The Mines and Minerals (Development & Regulation) Act, (MMDR) 1957, is the principal legislation that governs the minerals and mining sector in India. Judicial pronouncements for allocation of natural resources and recommendations of high-level committees led to a paradigm shift in the allocation of mineral blocks through an auction system. The MMDR Amendment Act, 2015, which came into force on 12 January 2015, has replaced the erstwhile first-come-first-served/ application mechanism, for grant of mineral resources, with a competitive auction process. The e-auction process for grant of mineral blocks has been laid down in the Mineral (Auction) Rules, 2015. The auction regime allows States to obtain an enhanced share of the value of mineral resources in the form of additional amount (or premium), charges towards District Mineral Foundation (DMF) at the rate of 10 *per cent* of royalty and National Mineral Exploration Trust (NMET) at the rate of two *per cent* of royalty, in addition to the royalty receivable.

A schematic diagram showing the pre and post 2015 regime for allotment / extension of mining leases is shown in **Chart 2.1**:

Chart 2.1: Flow chart showing allotment procedure of major mineral concessions



Source: MMDR Act, 1957 and MMDR Amendment Act, 2015

As per the provisions of the MMDR Amendment Act, 2015, a mining lease can be granted only through the mechanism of auction. The lessee is required to pay additional amount (premium) equal to the product of *percentage* quoted during auction and the value of the mineral despatched, as well as contributions towards the District Mineral Fund (DMF) and National Mineral Exploration Trust (NMET), in addition to Royalty or Dead Rent and Surface Rent, at the prescribed rates. However, in cases where leases were already granted prior to the 2015 amendment, the lessees are to pay Royalty or Dead Rent, Surface Rent and contribution towards DMF and NMET. There was no provision for payment of any additional amount till March 2021; however, thereafter, vide amendment to MMDR Act in 2021, an additional amount is

also payable at a prescribed percentage of the royalty. A comparison of mining revenue realisable in respect of prior and post 2015 are shown in the **Table 2.1.**

Table 2.1: Comparison of levies on the mining activities prior and post 2015

Nature of levies	Prior to Amendment of MMDR Act in 2015	Subsequent to Amendment of MMDR Act in 2015
Royalty	15 *per cent* of the ASP	15 *per cent* of ASP
Premium/Additional Amount	--	Bid *percentage* of ASP*
DMFT contribution	--	10 *per cent* of Royalty
NMET contribution	--	2 *per cent* of Royalty

*****In the auctions for lease of mines during 2015 to 2022 the *percentage* of the ASP settled as payable additional amount for the eight test checked iron ore mines ranged between 90 to 150 *per cent*.

From the above table, it can be seen that prior to implementation of MMDR (Amendment) Act, 2015, the lessees were liable to pay royalty only, which explains the vast variations in realisable revenue between pre and post auction period.

Audit observations, relating to grant of mining leases, are discussed in the following paragraphs.

2.2 Irregular grant of leases

As per Section 10A (1) of the MMDR Amendment Act, 2015 (Act), all applications for grant of prospecting licence and mining lease, received prior to the date of commencement of the Act, shall become ineligible with some exceptions. Section 8A (2) provides that on and from the date of the commencement of the Act, all mining leases shall be granted for the period of fifty years.

Under Section 10A(2)(c) of the Act, in cases where, before the commencement of the Act;

(i) the Central Government had communicated approvals for grant of a mining lease for Hydrocarbons/ Energy Minerals and Atomic minerals; or

(ii) if a letter of intent (LoI)[5] had been issued by the State Government to grant a mining lease,

the mining lease is to be granted, subject to fulfilment of the conditions stipulated in the previous approval / LoI, within a period of two years from the date of commencement of this Act (12 January 2015). In case of failure on the part of the applicant to comply with the terms and conditions stipulated, the Approval/LoI can be cancelled.

[5] LoI is a letter issued by the State Government to the applicant who had applied for grant of a mining lease. It specifies the willingness of State Government to grant the lease subject to fulfilment of certain terms and conditions by the applicant

Further, under Rule 31(1) of the Mineral Concession Rules (MCR), 2016, every lease deed is to be executed within six months from the date of grant of the lease, or within such period as the State Government may allow in this regard, and if no such lease deed is executed within the said period due to any default on the part of the applicant, the State Government may revoke the order granting the lease.

Scrutiny of records revealed that, out of the 16 test checked cases of grant of mining leases, during 2015-22, there were three specified minor minerals mining leases which had been granted in contravention of the above provisions of the law and rules, as mentioned in the succeeding paragraphs. This also resulted in non-settlement of these mines through auction and deprived the State Government of the additional revenue in the form of premium/additional amount during this period.

2.2.1 Mining lease for Quartz and Gemstone mine under the Balangir mining circle

Sub-section 10 of Section 11 of MMDR Act, 1957 provides that the holder of a prospecting licence, who completes the prospecting operation as laid down in sub-section (*9*) and establishes the existence of mineral contents in the area, shall be required to apply for a mining lease for such area and shall have the right to get the mining lease and thereafter undertake mining operations in accordance with the provisions of this Act.

LoI for the quartz and gemstone[6] mine over 21.092 ha, in village Bankia was issued by the State Government, in September 2003. Subsequently, the State Government cancelled (December 2006) the LoI, due to non-submission of documents like Geological Prospecting Report (GPR), by the applicant[7]. The applicant filed (February 2007) a revision application[8] against the cancellation order, with the Revisional Authority[9] (RA) (Joint Secretary, Ministry of Mines, GoI), who set aside (January 2011) the cancellation order and directed the State Government to decide the matter afresh, within six months. The State Government examined the matter afresh and informed (July 2011) the applicant about the objections, like non-submission of authenticated GPR, inclusion of impermissible lands of *gochar*[10] and *jalasaya*[11] *kissam* within the lease area, *etc*. The applicant submitted (July 2011) a compliance letter, with an undertaking for exchange of *gochar* land, but did not submit the required GPR. No decision was taken by the State Government on this compliance letter. Subsequently, after four years, the mining lease was granted (January 2017) for a period of 50 years, on the basis of LoI issued in 2003 and cancelled in 2006. The lease deed was executed in January 2017 (the last month of the stipulated period of two years for grant of lease). However, the

6 Major minerals
7 M/s Manikeswari Minerals
8 Any person aggrieved by any order made by the State Government or other authority may, within three months of the date of communication of the order to him, apply to the Central Government, for revision of the order
9 Authority of the Central Government authorised to pass orders against any order made by the State Government on submission of revision application by any aggrieved party (lessee/licensee) under Rule 54 of the MCR, 1960.
10 Grazing land
11 Water body

deficiency of documents, due to which the LoI had been cancelled, remained unresolved.

Grant of mining lease, against LoI cancelled earlier due to non-fulfilment of the conditions stipulated therein was against the provisions of the law and rules.

In reply, the State Government stated (September 2023) that the applicant had produced deficient documents to DoM, but in compliance to the order dated 12 January 2011 of the RA, the matter was placed before the screening committee constituted by the Government on 28 November 2016 to examine the case wherein it was opined by the members that there is no necessity for insisting on the authenticated Geological Prospecting Report (GPR) at this stage when the mining plan has been approved by the IBM which reflects geological information therein, Committee recommended Government for issue of grant order. Accordingly, the lease had been granted to the lessee.

The Government reply admits that the documents, which included the GPR, submitted by the applicant were deficient. Government reply that GPR was not required as the mining plan was approved, is not correct, as Rule 22 (4) of MCR 1960, mining plan is prepared after grant of the lease and as per Section 11(10) of MMDR Act, 1957, completion of prospecting operations was a pre-condition for grant of mining lease, results of which are contained in the GPR. Hence, the grant of lease was not against the applicable provisions.

2.2.2 Mining lease for semi-precious stone (Cat's eye) mine under Koraput mining circle

The terms and conditions for grant of lease for semi-precious stone (Cat's eye) mine, over 41.485 ha in villages Paikadakulguda and Kandhadakulguda were issued to the applicant[12] alongwith the LoI, in 2001. After receipt of the approved mining plan, the lease was granted (November 2007), with the stipulation that the applicant should furnish a surveyed map and description of land, to the Collector, Rayagada, within three months from the date of the order. The lease execution order[13], however, could not be issued, due to litigation in High Court of Odisha involving the lessee, with a third party. Although the court case was disposed of in favour of the lessee in 2011, neither the lease execution order was issued nor was the lease executed. The lease order was not cancelled even after a lapse of eight years from date of its issue, upto introduction of MMDR Amendment Act, in violation of the provisions of Rule 31 of MCR, 1960. After notification of the MMDR Amendment Act, 2015, the applicant requested (July 2015 and September 2016) for execution of lease and the lease was re-granted for a period of 50 years and executed in January 2017, over an area of 41.485 ha.

However, in view of the provisions of MCR, 1960, the grant order should have been revoked on account of non-execution of the lease deed, within the stipulated period of six months.

In reply, the Government stated (September 2023) that the execution of the

[12] M/s Bajrang Lal Gupta

[13] The lease execution order is issued by the Collector of the District for registration of the lease deed after grant of lease by Government

lease deed could not be taken up after 2011 as the Collector, Rayagada had not submitted the survey and demarcation status of the mining lease area. So, there was no fault on the part of the grantee and accordingly, after examining the genuineness of the matter, the Government allowed further period for execution of mining lease as per Rule 31 of MC Rules, 1960.

The reply is not acceptable as it is not only failure of Collector, Rayagada in timely submission of survey and demarcation status of the mining lease area, but also the department's monitoring failure to ensure timely submission of the above report. Whether the lessee had deposited the amount for survey and demarcation and had submitted a surveyed map and description within three months from the date of issue of grant of lease as per terms and the conditions issued in 2001 and grant order issued in 2007 was not on record and also not furnished to Audit. In this scenario, Audit could not draw an assurance that the delay was not due to the default on the part of the lessee. Any Government order, allowing further period beyond six months for grant of lease, was also not on record. Hence, the grant order was liable for revocation under Rule 31 of MCR, 1960.

2.2.3 Mining lease for Gem Stone (Cat's eye) mine under Kalahandi mining circle

The terms and conditions for grant of lease for gem stone (cat's eye) mine, over 17.122 ha in villages Pipalpadar and Sirjapali were issued in July 2005 and the lease was granted by the State Government, in November 2007, for a period of 20 years. The Mining Officer, Kalahandi, asked (April 2008) the applicant to submit the lease deed, with stamp duty worth ₹14,40,952, for execution of the mining lease by the Collector, Kalahandi. The lessee, however, did not submit the lease deed document within the prescribed period of six months. The department did not revoke the grant order under provisions of MCR, 1960. After lapse of eight years, the applicant submitted a representation (September 2016) (after amendment of the MMDR Act in 2015) that the lease deed could not be executed due to non-finalisation of royalty, based on which the stamp duty was to be calculated. In January 2017, the State Government granted the mining lease to the applicant for 50 years, by irregular implementation of the provisions of the MMDR Amendment Act 2015, following which the lease deed was executed.

Audit observed that the grant of lease was not in consonance with the rules, as the lease deed had not been executed by the lessee, even within 10 years, against the stipulated period of six months.

In reply, the Government stated (September 2023) that the delay in execution of the lease deed is attributable to the inability of the authority to arrive at the proper and accurate rate of mineral. Repeated correspondence among various Government offices failed to resolve the issue. So here the lessee is not at fault and hence the grant order was not revoked.

The reply is not acceptable as it was silent on the issue of grant of lease in contravention to the rules and the department has not furnished the compliance regarding when the rate of the mineral was finalised by the proper authority. Also, the Government order allowing further period beyond six months for

grant of lease was not on record. Hence, the grant order was liable for revocation under Rule 31 of MCR, 1960.

2.3 Irregular extension of leases for major minerals

As per Section 8A (3) of the MMDR Amendment Act, 2015, all mining leases, granted before the commencement of the MMDR Amendment Act, 2015, shall be deemed to have been granted for a period of fifty years. As per Rules 28 and 28(A) of MCR, 1960, where mining operations are not commenced within a period of two years from the date of execution of the lease, or discontinued for a continuous period of two years after commencement of such operations, the State Government shall, by an order, declare the mining lease as lapsed and communicate the declaration to the lessee. In such cases, the lessee may submit an application to the State Government, explaining the reasons beyond his control, at least three months before the expiry of such period or within six months from the date of its lapse.

Scrutiny of records of the DoM revealed that, out of 38 test-checked cases of extension of mining leases, there were three mining leases which had been extended in contravention of the above provisions of the law and rules, as mentioned in the succeeding paragraphs.

2.3.1 Mining lease for Manganese ore mine under Korput mining circle

The mining lease for manganese ore mine over 501.67 ha in village Nishikhal was granted for 20 years, from 28 June 1964, and the first Renewal of Mining Lease (RML) was granted for another 20 years, from 28 June 1984 to 27 June 2004. The second RML application, submitted on 26 June 2003, remained pending up to January 2013 with DDM, Koraput. While forwarding (January 2013) the RML application to DoM, the Collector, Rayagada, stated that the mine had been suspended, due to want of statutory clearances, such as approved mining plan, Environment Clearance (EC) and Consent to Operate (CTO). DoM forwarded (June 2013) the same to the State Government, with the remarks that the mine had been non-working since January 1997, and the lessee had not submitted any application justifying the reasons for the delay in commencement of mining operations to save the lease from lapsing; and, thus, the mining lease was liable for being declared as having 'lapsed' under Rule 28 of MCR, 1960. However, the Government did not take any action on the matter, and, instead of declaring the lease as lapsed, extended (September 2018) the validity of the lease period for another 50 years, from June 1984 (*i.e.* up to 27 June 2034) on the basis of Rule 3 of Mineral (Mining by Government Company) Rules, 2015. No reasons/ justification for ignoring the recommendation of the DoM Odisha was found on record.

In reply, the Government stated (September 2023) that the Manganese Mining lease over 501.67 ha in village Nishikhal under Koraput Mining Circle of OMC Ltd. is a non-working mine which finds place in list of 102 non-working mining leases submitted before Hon'ble Supreme Court by the Central Empowered Committee (CEC). The Hon'ble Supreme Court vide order dated 16.05.2014 in W.P(C) No. 114/2014 have directed that mining operations in these 102 mining leases listed in Annexure - R-2 of the report of the CEC shall remain suspended, but it will be open to such lessees to move the concerned

authorities to obtain all the clearances/ approval/ consent, and they may move this Court for modification of this interim order in relation to their cases. The said lease is considered as subsisting as per order dated 04.04.2016 of Hon'ble Supreme Court passed in W.P.(C) No. 114/2014. The lessee has paid the entire compensation for unlawful production as per order dated 02 August 2017 of the Hon'ble Supreme Court. The validity of the lease has been extended following the provisions of the erstwhile Mineral (Mining by Government Company) (MMGC) Rules, 2015.

The reply of the Government is not acceptable as the mine remained non-working beyond two years from 1997 and no application justifying the reasons for not working the mines was submitted by the lessee, for which the mine should have been declared as lapsed by the State Government much earlier to the Supreme Court judgement in 2016. Accordingly, the provisions of MMGC Rules, 2015 were also not applicable as the mine was non-working for more than two years and liable to be lapsed under MC Rules, 1960. Further, the department has not furnished the compliance whether the lessee had obtained all the statutory clearances from the concerned authorities and moved the Hon'ble Supreme Court for modification of the interim order, as required vide order of Hon'ble Supreme Court dated 16 May 2014.

2.3.2 Mining lease for Iron and Manganese ore mine under Koira mining circle

The lease[14] for iron and manganese ore mine over 70.917 ha in village Sanindpur had been granted for 20 years, from 10 September 1980 to 9 September 2000, and the first RML was granted for another 20 years, up to 9 September 2020. Mining operations were stopped by the DDM, Koira from 26 August 2010, for want of EC, and the lessee could not resume mining operations. Therefore, State Government declared (June 2015) the lease as 'lapsed'. However, the lessee filed a revision application, against the State Government order before the Revisional Authority (RA), who rejected (February 2016) the revision application as being devoid of merits. The lessee filed a petition before the Hon'ble High Court of Odisha, which quashed (2017) both the orders, leaving it open to the State Government to pass necessary orders, after giving opportunity of hearing to the petitioner. The State Government, accordingly, conducted (August 2017) a personal hearing and again declared the lease to be 'lapsed', in October 2017, on the grounds that the discontinuance of mining operation beyond two years was due to lapses on part of the lessee, and ordered that possession of the lease area be taken over.

The lessee, however, submitted (November 2017) a revival application to the State Government under Rule 20 (7) of MCR, 1960 against the lapse order. Contrary to its previous decisions on the matter, the State Government approved (June 2018) the revival of lease, on the grounds that the EC had been duly applied for by the lessee in June 2007, but had been granted by MoEF in June 2013, and, therefore, the lessee had no role in the delay and was not responsible for discontinuance of mining operations. The tenure of the lease was also extended (April 2021) up to 9 September 2030.

[14] M/s National Enterprises

Scrutiny of records, however, showed that neither the revision or revival applications nor the court petition of the lessee had any mention of submission of application for EC in 2007. Further, no records supporting the government's view regarding submission of application for EC in 2007 was made available. Audit observed that the EC approval letter of 2013 of MoEF made a reference to the application of the lessee for EC submitted in 2010. Thus, after rejecting the application of the lessee on three occasions (2015, 2016 and 2017), the revival of the lease (2018) on the ground that the lessee was not liable for delay in obtaining EC was contrary to the previous viewpoint and hence appears to be an afterthought to favour the lessee, which requires investigation at appropriate levels.

Moreover, after review of the case upon the directions of the Hon'ble High Court of Odisha, the State Government order of 2017, declaring the lease as lapsed, should have been considered as the final order, and, accordingly, there was no scope for further revival in 2018.

In reply, the Government stated (September 2023) that the Iron and Manganese mining lease over 70.917 ha in village Sanindpur under Koira Mining Circle was a non-working mine which finds place in the list of 102 non-working mining leases submitted before Hon'ble Supreme Court by the CEC. The Hon'ble Supreme Court vide order dated 16.05.2014 in W.P(C) No.114/2014 have directed that mining operations in these 102 mining leases shall remain suspended, but it will be open to such lessees to move the concerned authorities to obtain all the clearances/ approval/ consent, and after that they may move this Court for modification of this interim order in relation to their cases. The said lease was considered as subsisting as per order dated 04.04.2016 of Hon'ble Supreme Court passed in W.P(C) No.114/2014. The lessee has paid the entire compensation for unlawful production as per order dated 02.08.2017 of the Hon'ble Supreme Court. The validity of the lease has been extended following the provisions of the MMDR (Amendment) Act and allowed mining operation after obtaining all clearances.

The reply is not acceptable as the lease was again declared lapsed in October 2017 i.e. after the Hon'ble Supreme Court order dated 04.04.2016, hence, the argument of the Government that the lease was considered as subsisting as per Hon'ble Supreme Court order does not stand. After rejecting the applications of the lessee on three occasions (2015, 2016 and 2017), the revival of the lease (2018) on the ground that the lessee was not liable for delay in obtaining EC was contrary to the previous viewpoint and hence appears to be an afterthought to favour the lessee.

2.3.3 Mining lease for Iron ore under Joda mining circle

The mining lease[15] for iron ore in Guali village over 365.026 ha was granted for 20 years, from 27 June 1953 to 26 June 1973, and first renewal was granted for another 20 years, up to 26 June 1993. The second renewal, applied for on 10 February 1992 and the third renewal applied for on 25 April 2012, were pending, without approval.

In the meantime, the following events occurred:

[15] In favour of M/s R.P. Sao

a. Government issued (September 2011) a show-cause notice to the lessee, for violation of Rule 37 of MCR, 1960, in which it was stated that mining activities had been undertaken by another entity and not by the lessee, without prior approval of Government.

b. Another show-cause notice was issued in November 2011, on the basis of a report furnished by the Divisional Forest Officer (DFO), Keonjhar, which stated that a sponge iron plant had been established by another entity, over 28.84 ha inside the lease area, which was partly in the forest area, and recommended cancellation of the lease.

c. The Indian Bureau of Mines (IBM), Bhubaneswar, in its letter (October 2012), stated that the lessee had been issued show-cause notice for violation of the Mineral Conservation and Development Rules (MCDR) provisions, including the erection of a plant, in the name of another entity, within the mine lease area, on mineralized ground, without having specific approval in the mining plan.

d. DDM, Joda, also highlighted (July 2013) that a sponge and power plant was in operation, by another entity, in the lease hold area.

e. DoM also pointed out (April 2015) that the user agency had allowed another entity to establish a sponge iron plant, without approval from the competent authority.

Despite multiple objections / observations as highlighted above, the State Government extended (April 2015) the lease up to March 2020, on the basis of Rule 8(A)(6) of MMDR Amendment Act, 2015, without examining the irregularities committed by the lessee. Government did not initiate any effective action against the lessee except for issuing show-cause notices, which remained unresponded and the reasons for the same were not on record. Extension of the lease, despite unauthorised activities by the lessee inside the lease area (including part of the forest area), was irregular.

In reply, the Government stated (September 2023) that the Iron mining lease over 365.026 ha in Guali of Keonjhar District of M/s. R. P Sao was a non-working mine which finds place in the list of 102 non-working mining leases submitted before Hon'ble Supreme Court by the CEC. The Hon'ble Supreme Court vide order dated 16.05.2014 in W.P(C) No.114/2014 have directed that mining operations in these 102 mining leases listed in Annexure R-2 of the report of the CEC shall remain suspended, but it will be open to such lessees to move the concerned authorities to obtain all the clearances/ approval/ consent, and after that they may move this Court for modification of this interim order in relation to their cases. The said lease is considered as subsisting as per order dated 04.04.2016 of Hon'ble Supreme Court passed in W.P(C) No.114/2014. The lessee has paid the entire compensation for unlawful production as per order dated 02.08.2017 of the Hon'ble Supreme Court. The two judges committee appointed by Hon'ble Supreme Court has opined that the lessee has not acted in violation of rule 37 of MC Rules, 1960. The validity of the lease has been extended following the provisions of the MMDR (Amendment) Act and allowed mining operation as per orders of the Hon'ble Supreme Court after obtaining all statutory clearances.

The reply of the Government is not acceptable as it is silent about the main

issue of erection of a plant, as reported by the Divisional Forest Officer, Keonjhar and IBM, Bhubaneswar, in the name of another entity, within the mine lease area, without having specific approval in the mining plan and in violation of provisions of the Mineral Conservation and Development Rules (MCDR). With regard to two judges committee as referred in the reply, no document relating to this committee including its report was made available by the Department to Audit.

2.4 Irregular extension of leases for specified minor minerals[16]

Under Rule 8 (7) of the Odisha Minor Mineral Concession (OMMC) Rules, 2004, an application for renewal of mining/quarry lease is to be made at least ninety days before the expiry of lease. Under Rule 25 (5) of the above Rules, if the lessee does not work upon the lease for a continuous period of two years, the lease is liable to be cancelled, unless prior permission has been granted for such stoppage, by the competent authority, on reasonable grounds.

Scrutiny of records of DoM revealed that 12 mining leases of specified minor minerals were extended during 2016-22. Out of these, two leases were extended in contravention of the above provisions of the law and rules, as mentioned in the succeeding paragraphs.

2.4.1 Mining lease for decorative stone under Koraput mining circle

The lease for decorative stone quarry over an area of 11.083 ha under village Tediliguda was granted for a term of 10 years, from 23 October 2002 to 22 October 2012. The application for renewal of mining lease (RML) was received on 1 August 2012. As per the report (December 2015) of DDM, Koraput, the lessee had not commenced mining operations during the tenure of the lease. DoM forwarded (April 2016) the case to the S&M Department, with the remarks that: (i) no Despatch of mineral had been made during the entire period of lease, (ii) the RML application had not been filed within the prescribed time period and (iii) no representation for condonation of delay had been submitted by the lessee.

The State Government, however, approved (April 2020) the extension of lease for 20 years, from 23 October 2012 to 22 October 2032, despite the fact that the lease had not been operationalised during the entire term, and ignored the delay in submission of the RML application by the lessee.

After this was pointed out by Audit, the State Government stated (September 2023) that: (i) the lease agreement had been registered on 1 November 2002, and accordingly, the term would be 10 years from date of registration, (ii) hence the application for renewal submitted on 1 August 2012, was in due time of three months prior to the date of expiry, and (iii) the mining operations had been stopped from 2 July 2010, for want of statutory clearances, and (iv) non-operationalisation of the lease was not attributable to the lessee, as he had taken adequate steps to obtain statutory clearances. Further, the Government stated that later, with the amendment of OMMC Rules, 2016 as OMMC

[16] All minor minerals including decorative stones other than the minor minerals listed at Serial No. 1 (ii) of Schedule-III of OMMC Rules, 2016 are administered by the Steel & Mines Department

(Amendment) Rules, 2018, provision for extension of validity of lease period was inserted. Under this clause, extension of validity of lease period can only be considered when the lessee has complied with all terms and conditions issued and has set up an industry in the State for consumption of the decorative stone extracted from the said lease hold area. In this case, the lessee has set up the Granite Cutting and Polishing Unit at Titilagarh Industrial area and commenced production from 15.10.2001. Accordingly, the mining lease period was extended up to 22.10.2032 as per the provisions stated under rule 8A of the said rules as the lessee had set up industry during the lease period and not violated any of the terms and conditions.

The reply is not acceptable, as the Government claim in the reply, that the operations of the mine stopped from 2 July 2010, was in contradiction to the report/ recommendation of the DDM, Koraput, and DoM, that the lessee had not operationalised the mine for the entire tenure of lease. Further, no records were produced to Audit, in support of the claim that the lessee had taken adequate steps to obtain statutory clearances. Moreover, there was no record of any prior permission on stoppage of the mining operations granted by the competent authority on reasonable grounds, in terms of the Rule 25(5) of OMMC Rules. Also, the term of the initial lease was from 23 October 2002 to 22 October 2012, hence, the renewal application should have been submitted 90 days prior to 22 October 2012 i.e. before 24 July 2012. The Department's claim that the term of the lease was from the date of the registration deed, is not supported by the facts available on record. Thus, the extension of lease was irregular.

2.4.2 Mining lease for decorative stone under Balangir mining circle

A quarry lease[17] for the decorative stone mine over 17.676 ha in village Kurlubhata was granted for 10 years, from 20 July 2000 to 19 July 2010. The same was declared to be a mining lease[18] in 2005 due to notification of OMMC Rules, 2004, which provided that the quarry leases already granted shall be treated as mining leases. As the RML application was filed within due date, the lessee continued mining operations under deemed extension provision under Rule 57 of OMMC Rules, 2004. In April 2012, the Mining Officer (MO) directed the lessee not to undertake mining operations until submission of statutory clearances, including Environmental Clearance from MoEF, as required under the Environment Impact Assessment (EIA) notification of 2009. The mine remained non-operational, for want of statutory clearances beyond two years, from April 2012 to May 2020. Also, no prior permission was obtained by the lessee for stoppage of mining operations due to non-submission of statutory clearance, from the competent authority (State Government), in terms of the OMMC Rules. In May 2020, the State Government extended the lease for 30 years, up to 19 July 2030, even though the mine had remained non-operational, without due permission, for a period of more than two years.

[17] The Lease granted for minor minerals is termed as Quarry Lease with tenure extending up to 10 years in pre-auction regime

[18] The Lease granted for major minerals and specified minor minerals are termed as Mining Lease with tenure extending up to 30 years during pre-auction regime

Audit noticed that the lessee was required to submit EC from 2009, however, no records showing that the lessee had applied for EC was available. It was also noticed that the lessee had appointed a consultant for obtaining EC, only in November 2015, thus confirming that discontinuance of the mining operations for over two years was due to inaction on part of the lessee in submission of EC and therefore, the lease was liable for cancellation. Thus, the extension of validity of the lease, by the State Government, was irregular.

In reply, the Government stated (September 2023) that the validity of the lease had been extended under the special provision of Rule 8A of the, OMMC (Amendment) Rules, 2018, as the lessee had set up an industry in the State, based on decorative stones.

The reply was not acceptable as it remained silent regarding non-operation of the mine for more than two years, on account of which it was liable for cancellation in April 2014 as the amended Rule 8A of May 2018 was not applicable.

2.5 Non-initiation of auction process for cancelled leases

As per the provisions of the MMDR Act, for the purpose of granting a mining lease, in respect of any notified mineral[19], in a notified area[20], the State Government is to select, through auction, by a method of competitive bidding, including e-auction, an applicant who fulfils the eligibility conditions, as specified in this Act. Further, Rule 5 of the Mineral (Auction) Rules, 2015, mandates the State Government to initiate an auction process for grant of a mining lease, with respect to an area within the State, if the mineral content in such area has been established in accordance with the provisions of the Minerals (Evidence of Mineral Contents) Rules, 2015.

Scrutiny of records and information, furnished by the DoM, revealed that 203 mining leases, of minerals like iron ore, china clay, quartzite, gem stone quartz, graphite, fireclay, manganese, pyrophyllite, soapstone, limestone and dolomite, had been cancelled (rejected/ declared lapsed by the State Government /expired without renewal or surrendered by the lessee) during the last 10 years. These cancelled leases had been previously granted on the basis of exploration/ prospecting reports and, after confirming evidence of the presence of minerals. In view of the above, for these cancelled leases, the department should have either initiated the process of auction, in terms of Mineral (Auction) Rules, 2015, or taken steps for further prospecting / exploration, to ascertain the availability of mineral content, in terms of the Minerals (Evidence of Mineral Contents) Rules, 2015. However, no steps had been taken by DoM, for auction or prospecting of these cancelled leases. Non-auction of these mines resulted in deferment/loss of revenue to the Government exchequer.

In reply, the Government stated (September 2023) that leases in question are very old leases and there is no statutory document available to access the mineral content in the leases. Existence of mineral content is a pre-requisite

[19] Minerals classified as such in Fourth Schedule of MMDR Amendment Act, 2015 (Bauxite, Iron Ore, Limestone and Manganese)

[20] As defined under Section 10(B) (4) of MMDR Amendment Act, 2015

for putting any area into auction. Steps have, therefore, been taken for allotment of these blocks to different exploring agencies in phased manner for carrying out exploration. On receipt of the outcome of prospecting operations, the decision for putting these blocks to auction can be taken. The fact, however, remained that the department had not initiated the work of prospecting/ exploration or auction, for several years after cancellation of these leases, which indicates lack of proactive planning and department also lost the opportunity to earn additional revenue from these cancelled mines.

2.6 Delay in auction of Specified Minor Mineral blocks

Rule 10, read with Rule 16 of the OMMC Rules, 2016, provides that the State Government shall grant prospecting-cum-mining lease, through auction, by a method of competitive bidding, including e-auction, to an applicant who fulfils the prescribed conditions, for an area where general exploration[21] has been carried out.

Scrutiny of records of DoM, pertaining to auction of specified minor minerals, revealed the following:

i. ***Delay in formulation of rules –*** Despite the fact that detailed procedures for auction had already been prescribed in the Mineral (Auction) Rules, 2015, the department chose to frame dedicated rules for auction of Specified Minor Minerals. These dedicated rules, *viz*. Odisha Specified Minor Minerals (Auction) Rules (OSMMAR), detailing the procedures for auction, were approved by the competent authority in June 2019, with a delay of two and half years since the notification of the OMMC Rules. This consequently delayed the auction of specified minor mineral blocks and resulted in deferment of realisation of revenue to State exchequer.

ii. ***Non-initiation of auction –*** After notification of OSMMAR, 2019, the State Government directed (August 2019) DoM to furnish the list of specified minor mineral blocks that were ready for auction, along with their geological report status. This was reiterated in the High-Level Committee (HLC) meeting, held (September 2019) to finalise the auction of 14 specified minor mineral blocks by the end of November 2019. Accordingly, DoM forwarded boundary maps of the 14 specified minor mineral blocks, to the Odisha Remote Sensing Application Centre (ORSAC), Bhubaneswar, for conducting a Differential Global Positioning System (DGPS) survey. In December 2019, DoM received the block summary reports for 12 out of 14 specified minor mineral blocks, for which DGPS survey had been completed by ORSAC. It was observed, however, that DoM submitted the details of the 12 blocks, to the State Government, only in April 2021, after a delay of 16 months. Further, even after submission of the details, the 12 blocks were yet to be notified for auction (as of September 2022).

Thus, even after three years of publication of OSMMAR, 2019, the auction process of 12 ready-to-auction specified minor mineral blocks could not be initiated, resulting in deferment of realisation of revenue to the Government exchequer.

[21] Up to G4 level, as per United Nations Framework Classification guidelines

In reply, the Government stated (September 2023) that the Department had prioritised the auction of major mineral blocks in view of their higher value. The auction rule was revisited and certain amendments were made during March 2022. After amendment of this Rule, steps were taken by the Government for auction of specified minor mineral blocks. On 22 August 2022, the State Government had published notice inviting tender (NIT) for auction of five specified minor mineral blocks. Out of which, two blocks were successfully auctioned and auction of other three blocks were annulled due to receipt of inadequate bids. Similarly, on 18 May 2023, NIT for auction of 12 Specified minor mineral blocks was published. Again, the auction of all 12 blocks was annulled due to non-participation of any bidder. However, the Government needs to put in concerted efforts for the auction of 12 specified minor mineral blocks to prevent further deferment of revenue collection and to ensure optimal utilisation of the mineral resources therein.

Recommendation:

1. **Government should fix responsibility on the concerned officers who recommended extension of the lease period despite objections were raised by multiple departments on irregularities committed by the lessee.**

CHAPTER III

Reporting of Mineral Despatch and Sale

3 Reporting of Mineral Despatch and Sale

This chapter contains audit findings on the reporting of mineral despatch and sale by leaseholders. Significant audit observations relate to the reporting of grade (per cent of iron content) and size (lumps or fines) of iron-ore produced, wide variations in the reported ex-mines prices of iron-ore, reporting of iron-ore fines as screened fines, and non-utilisation/ non-disposal of low grade iron and chromites in lease areas.

3.1 Introduction

Mineral ores occur with variations in chemical and physical form. In the case of iron-ore, the ores can be categorised, based on the *percentage* of mineral content, into different "grades"; and, on the basis of the size of the ore, into "lumps" and "fines". As per Rule 45 of MCDR, 2017, all mining lease holders are required to submit monthly returns on production, despatch and sale of minerals, from their lease areas. The returns should contain data on the *ex-mine* prices of the various grades of lumps and fines, despatched from the mines. These *ex-mine* prices, as reported by the lessees, form the basis on which the average sale prices are notified by IBM, for the various grades of iron-ore lumps and fines. The royalty payable by the leaseholder, on the various grades of iron-ore lumps and fines despatched from the lease area, is worked out as a fixed *percentage* of the notified average sale prices for the respective grades. Thus, it is crucial for the State Government to monitor the *ex-mine* prices, grades, and classifications of iron-ores as lumps and fines, reported by leaseholders, in order to safeguard the mining revenues of the Government.

Audit observations, pertaining to the above aspects of reporting, are discussed in the following paragraphs.

3.2 System of calculation of royalty and premium

Iron-ore occurs with large variations in chemical composition, most important of which is the *percentage* of iron or 'Fe' content in the ore. Based on the iron/ Fe content, iron-ore is categorized into different "grades", with iron-ore having higher Fe content being regarded as a higher grade. The following standard grading is followed, as per IBM (as of March 2022): (i) 65% Fe and above (ii) 62-65% Fe (iii) 60-62% Fe (iv) 58-60% Fe (v) 55-58% Fe and (vi) below 55% Fe. The grade of iron-ore has implications for the degree of processing (if any), required for upgrading the ore for industrial use. In general, higher grades of iron-ore require lower (or no) processing, produce higher hot metal yields[22], and require lesser quantity of coke in the blast furnace, thus reducing the costs of industrial production. For these reasons, higher grades of iron-ore fetch higher prices in the market, as compared to lower grades.

[22] It is the hot, liquid, metallic iron product obtained upon reduction of iron ore (normally in Blast Furnace or in Corex Furnace)

Iron-ore also varies in physical form, and can be classified based on its size, as "lumps" and "fines". As per IBM publications, the size of iron-ore lumps lies in the range of 10 mm and above, whereas iron-ore fines are of size less than 10 mm. Fines require sintering[23] (agglomeration into crude pellets), prior to their use in blast furnaces. Lump ore can bypass this process and be charged directly into the furnace. For this reason, lumps fetch higher price in the market, as compared to fines, for any particular grade of iron-ore.

IBM notifies an average sale price (ASP) for each grade of iron-ore lumps and fines, on a monthly and State-wise basis. In general, a higher grade of iron-ore has a higher ASP, as compared with a lower grade; and iron-ore lumps have a higher ASP, as compared with fines. The royalty on different grades of iron-ore lumps and fines is worked out as a fixed *percentage* (15 *per cent* for iron-ore) of the ASP notified by IBM, for the iron-ore lumps and fines of respective grades. Hence, the royalty payable on higher grades of iron-ore is higher than the royalty payable for lower grades. Similarly, the royalty payable on lumps would be higher than the royalty payable on fines. An example of the ASP, notified by IBM for different grades of iron-ore lumps and fines, for the month of March 2022, for Odisha, and the royalty (15 *per cent* of ASP) worked out thereon, is shown in **Table 3.1**,

Table 3.1: Average Sale Price for Lumps and Fines (March 2022), for Odisha

(in ₹ /MT)

Grade of iron ore	ASP notified by IBM		Royalty at the rate of 15 *per cent* of ASP	
	Lumps	Fines	Lumps	Fines
Below 55% Fe	3,763	1,838	564.45	275.70
55% to below 58% Fe	4,389	3,580	658.35	537
58% to below 60% Fe	5,780	3,764	867	564.60
60% to below 62% Fe	7,193	4,523	1,078.95	678.45
62% to below 65% Fe	8,341	5,215	1,251.15	782.25
65% Fe and above	8,695	5,974	1,304.25	896.10

Source: IBM publication of Average Sale Price for March 2022

As royalty is based on grade (the *percentage* of iron ore content) and size (lumps or fines) of the ore, the risk of misreporting of the grade and size of ore to avoid payment of higher royalty should be properly safeguarded against.

This risk is significantly higher in the case of fresh mining leases, granted through auctions conducted in FY 2019-20, in pursuance of the amended provisions[24] of MMDR Act, 2015, which required all expiring mining leases to be presettled through a fresh auction process. In such fresh mining lease cases, the lessees were committed, as per Rule 8(3) of the Mineral (Auction) Rules, 2015, to pay additional amount (premium), as a fixed *percentage* of the ASP as settled in auction, over and above the royalty payable. Data in regard to such auctions showed that the premia payable by the new lessees, ranged from 90.90 *per cent* to 150 *per cent* of the ASP. A sample calculation of the amount of royalty and additional amount (premium), payable per metric ton (MT), by various lessees, for March 2022, is shown in **Table 3.2**.

[23] Sintering is a process of compacting and forming a solid mass of material by pressure or heat without melting it to the point of liquefaction.

[24] Section 8A (4)(5)(6) of MMDR Amendment Act, 2015

Table 3.2: Calculation of royalty and additional amount (premium) per Metric Ton, in respect of the auctioned mines

(in ₹/ MT)

Sl. No.	Lessee	Name of mine auctioned	Circle	*Percentage* of additional amount settled after auction	IBM ASP for 62-65% Fe lumps March 2022	Royalty (at the rate of 15 per cent of ASP)	Additional amount payable (E×F)	Total amount payable
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*
1	Arcelor Mittal	Thakurani	Joda	107.55	8,341	1,251.15	8,971	10,222
2	JSW Steel	Jajang	Joda	110.00			9,175	10,426
3	JSW Steel	Nuagaon	Joda	95.20			7,941	9,192
4	Kashvi International	Jaribahal	Joda	150.00			12,512	13,763
5	Narbheram Power and Steel	Roida-II	Joda	90.90			7,582	8,833
6	Serajuddin and Co.	Balda	Joda	118.05			9,847	11,098
7	JSW Steel	Gonua	Koira	132.00			11,010	12,261
8	JSW Steel	Narayanposi	Koira	98.55			8,220	9,471

Source: IBM publication of Average Sale Price for March 2022 and bid per cent of auctioned mines

As can be seen from **Table 3.2**, for every MT of iron-ore produced and despatched, the lessees were required to pay an amount, in the form of royalty and additional amount (premium), which was much higher than the average sale price. For instance, **Table 3.2** indicates that, the ASP for March 2022, for Odisha, was ₹ 8,341 per MT, but different lessees were required to pay amounts, in the range of ₹ 8,833 to ₹ 13,763 per MT, to the State Government. Therefore, the risk of misreporting of the grades and classifications of the iron-ore produced, due to the difference in royalty and the premium amounts for each grade and classification, became significant.

In view of the above and considering the risk of misreporting of grade and size, Audit scrutinized the trend in reporting of iron-ore grades, by old (pre-auction) lessees, as well as new (post-auction) lessees, of eight iron-ore mines[25], under the two major[26] mining circles (Joda and Koira). The data, as reported by both the old and new lessees, to the State Government and IBM, for the FYs 2014-15 to 2021-22, was examined by Audit, with particular attention to the change-over of lessees due to the expiry of old leases and grant of fresh leases, following auctions in 2019-20. Findings in this regard, are detailed in the sub-paragraphs below:

3.2.1 Reporting of the grades of iron-ore produced

Scrutiny of data showed that, in the case of six out of the eight auctioned mines, there had been an abrupt and abnormal decline, in the grade of iron-ore (both lumps and fines), as reported by the new lessees, as compared with the old lessees. The methodology adopted to quantify the monetary impact on revenue and mine-wise observations are discussed in the following sub-paragraphs.

[25] (i) Jajang - Old Rungta Mines - New JSW; (ii) Roida-II - Old KN Ram – New Narbheram; (iii) Thakurani - Old Kaypee Enterprises - New Arcelor Mittal; (iv) Nuagaon - Old KJS Ahluwalia - New JSW; (v) Jaribahal - Old Patnaik Minerals - New Khashvi International;(vi) Narayanposi - Old AMTC - New JSW;(vii) Gonua - Old PK Ahluwalia - New JSW; and (viii) Balda-Old Seerajuddin - New Seerajuddin

[26] Total production of iron ore, in the State, during FY 2021-22, was 147.364 MT, out of which the production in Joda and Koira circles was 131.437 MT, which constituted 89.19 *per cent* of the total production

Methodology adopted to quantify the monetary impact on revenue due to reporting of lower grades of iron ore produced

- *Percentage* of reported quantity of different grades over the total production during six years (2014-20) reported by old lessees has been calculated.
- That *percentage* was considered for calculation on the total production during the years 2020-21 and 2021-22 by the new lessees of the same mines, to arrive at the grade-wise production.
- The royalty and premium leviable on the grade-wise production arrived at by Audit, has been calculated by using annual average of ASP published by Indian Bureau of Mines.
- The leviable royalty and premium have been compared with the actual royalty and premium (collected on the despatched quantities + to be collected on un-despatched/ closing balance of quantities, out of production of two years) on the reported grade-wise production by the new lessees during the years 2020-21 and 2021-22.

i. Jajang iron-ore mine (Joda circle)

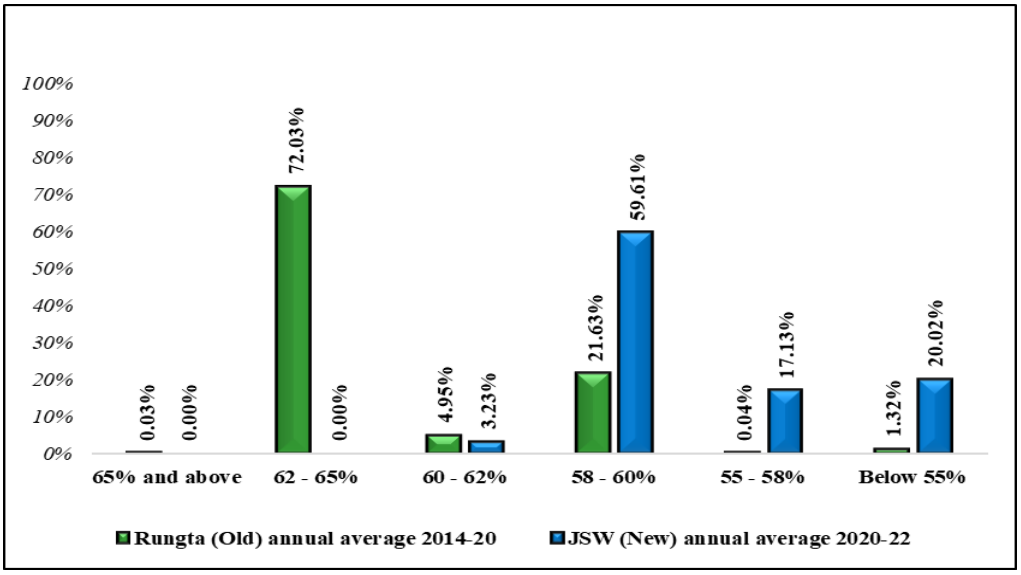
Audit analysed the grade-wise production of iron-ore lumps in Jajang iron-ore mine as reported by the old lessee (Rungta Mines) and new lessee (JSW Steel), which is shown in **Table 3.3** and **chart 3.1** below:

Table 3.3: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production					
				65% and above	62 - 65%	60 - 62%	58 - 60%	55 - 58%	Below 55%
Old	Rungta Mines	2014-20	Average production per year (in MT)	764.02	19,37,623.13	1,33,249.35	5,81,845.46	1,044.97	35,578.34
			Average *percentage* share of total production	**0.03%**	**72.03%**	**4.95%**	**21.63%**	**0.04%**	**1.32%**
			Range of year-wise *percentage* share of total production	0-0.33%	58-81%	0-16%	14-30%	0-0.14%	0-7.75%
New	JSW Steel	2020-21	Total production (in MT)	0	0	1,28,159	10,47,701	24,200	97,460
			Percentage share of total production	**0%**	**0%**	**9.88%**	**80.75%**	**1.87%**	**7.51%**
		2021-22	Total production (in MT)	0	0	0	13,14,725	6,54,679	6,96,032
			Percentage share of total production	**0%**	**0%**	**0%**	**49.32%**	**24.56%**	**26.11%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.1: Jajang: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It is evident from **Table 3.3** above that, during 2014-20, the average production of lumps of grades above 60% Fe, reported by the old lessee (Rungta) was about 77 *per cent*. However, within a year of auction, under the new lessee (JSW Steel), this drastically reduced to a mere 9.88 *per cent*, in FY 2020-21, and further to 0 *per cent* during FY 2021-22. Moreover, the old lessee (Rungta) was consistently reporting the bulk of production of iron-ore lumps in the 62-65% Fe grade; but within a year, the new lessee (JSW Steel) did not report any production in this grade. Instead, the new lessee (JSW Steel) reported the bulk of production (nearly 81 *per cent*) in FY 2020-21 in the grade of 58-60% Fe; and significant production (totalling over 50 *per cent*) in 2021-22 in the lower grades of 55-58% Fe and below 55% Fe.

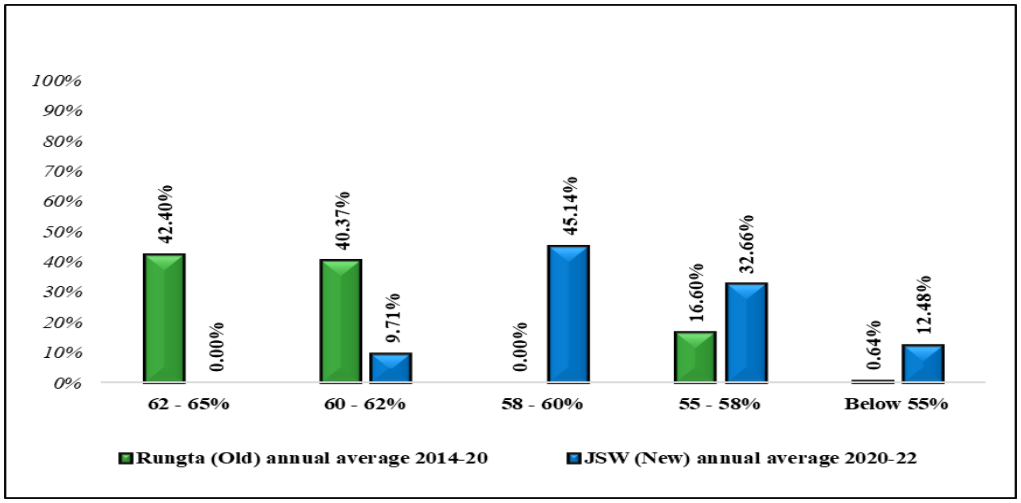
Audit also analysed the grade-wise production of iron-ore fines in Jajang iron-ore mine as reported by the old lessee (Rungta Mines) and new lessee (JSW Steel), which is shown in **Table 3.4** and **chart 3.2** below:

Table 3.4: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production				
				62 - 65%	60 -62%	58- 60%	55 - 58%	Below 55%
Old	Rungta Mines	2014-20	Average production per year (in MT)	33,60,030.35	31,98,889.53	0.00	13,15,189.05	50,798.36
			Average *percentage* share of total production	**42.40%**	**40.37%**	**0.00%**	**16.60%**	**0.64%**
			Range of year-wise *percentage* share of total production	6-64%	28-53%	0%	0-44%	0-3%
New	JSW Steel	2020-21	Total production (in MT)	0	8,68,748	34,38,592	5,45,220	6,300
			Percentage share of total production	**0%**	**17.88%**	**70.77%**	**11.22%**	**0.13%**
		2021-22	Total production (in MT)	0	5,29,338	30,58,291	41,56,173.90	17,90,094.10
			Percentage share of total production	**0%**	**5.55%**	**32.08%**	**43.59%**	**18.78%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.2: Jajang: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, till the financial year 2019-20, the average production of fines of grades above 60% Fe was reported as more than 82 *per cent* by the old lessee (Rungta). However, within a year of auction of the mines, the new lessee (JSW Steel) reported production of fines above 60% Fe as only 17.88 *per cent* in FY 2020-21 and a mere 5.55 *per cent* in FY 2021-22. The old lessee had consistently been reporting the bulk of production of iron-ore fines, in the higher grades of 60-62 % Fe and 62-65% Fe. However, the new lessee (JSW Steel) did not report any production in the 62-65% Fe grade and only limited production in 60-62% Fe grade. The new lessee (JSW Steel) reported the bulk of production (nearly 71 *per cent*) in FY 2020-21 in the grade of 58-60% Fe; and significant production (totalling over 62 *per cent*) in FY 2021-22 in the lower grades of 55-58% Fe and below 55% Fe, as shown in **Table 3.4** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹2,877.27 crore[27], as compared to the amount payable based on its reported production, as detailed in ***Appendix-I***.

ii. Roida-II iron ore mine (Joda circle)

Audit analysed the grade-wise production of iron-ore lumps in Roida-II iron-ore mine as reported by the old lessee (K N Ram & Co.) and new lessee (Narbheram Power and Steel), which is shown in **Table 3.5** and **chart 3.3**:

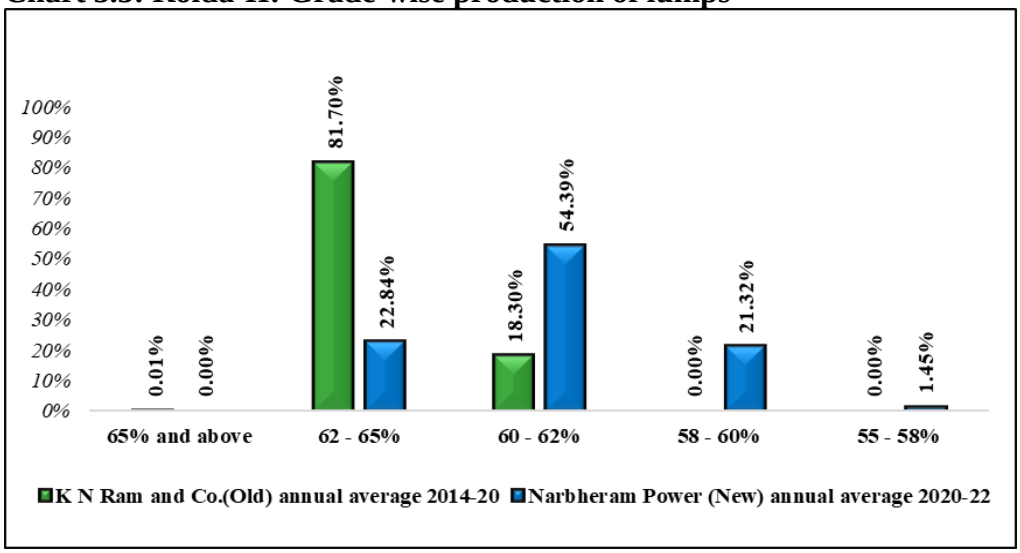
[27] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2014-20 and the royalty payable thereon, minus the royalty and premium payable by the new lessee, as per the reported production, using the average ASP for the relevant years

Table 3.5: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production				
				65% and above	62 - 65%	60 - 62%	58 - 60%	55 - 58%
Old	K N Ram & Co.	2014-20	Average production per year (in MT)	37.39	3,94,972.99	88,453.41	0	0
			Average *percentage* share of total production	**0.01%**	**81.70%**	**18.30%**	**0.00%**	**0.00%**
			Range of year-wise *percentage* share of total production	0-0.04%	71-100%	0-29%	0%	0%
New	Narbheram Power and Steel	2020-21	Total production (in MT)	0	80,487.24	55,822.91	0	0
			Percentage share of total production	**0%**	**59.05%**	**40.95%**	**0%**	**0%**
		2021-22	Total production (in MT)	0	6,384.31	1,51,107.4	81,114.39	5,515.07
			Percentage share of total production	**0%**	**2.62%**	**61.90%**	**33.23%**	**2.26%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.3: Roida-II: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that during the financial years 2014-15 to 2019-20, the average production of lumps of grades above 62% Fe as reported by the old lessee (K. N. Ram & Co.) was 81.71 *per cent.* However, within one year of auction, under the new lessee (Narbheram Power & Steel), this reduced to 59.05 *per cent* in FY 2020-21, and drastically to a mere 2.62 *per cent* in FY 2021-22. The old lessee (K. N. Ram & Co.) had consistently been reporting the bulk of production of iron-ore lumps in grades above 62% Fe. However, within two years' time, in FY 2021-22, the new lessee (Narbheram Power & Steel), reported the bulk of production (61.90 *per cent*) in the grade of 60-62% Fe and significant production (totalling over 35 *per cent*) in FY 2021-22 in the lower grades of 58-60% Fe and 55-58% Fe, as shown in **Table 3.5** above.

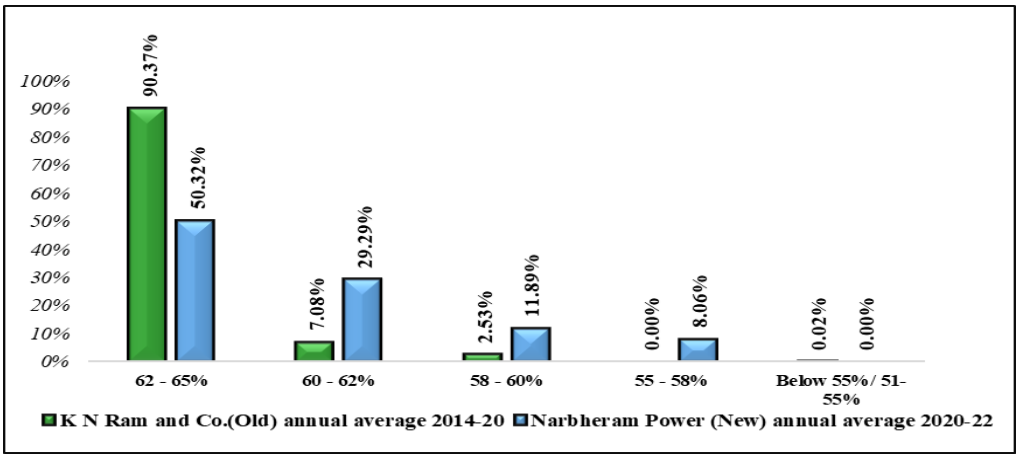
Audit also analysed the grade-wise production of ***iron-ore fines*** in ***Roida-II iron-ore mine*** as reported by the old lessee (K N Ram & Co.) and new lessee (Narbheram Power and Steel), which is shown in **Table 3.6** and **chart 3.4**:

Table 3.6: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production					
				62-65%	60-62%	58-60%	55-58%	Below 55%	51-55%
Old	KN Ram & Co.	2014-20	Average production per year (in MT)	14,62,586.37	1,14,604.38	40,923.50	0	260.17	0.00
			Average *percentage* share of total production	**90.37%**	**7.08%**	**2.53%**	**0.00%**	**0.02%**	**0.00%**
			Range of year-wise *percentage* share of total production	79-100	0-17%	0-11%	0%	0-3%	0%
New	Narbheram Power and Steel	2020-21	Total production (in MT)	12,33,323.49	40,707.17	0	0	0	0
			Percentage share of total production	**96.80%**	**3.20%**	**0%**	**0%**	**0%**	**0%**
		2021-22	Total production (in MT)	4,72,678.15	9,52,095.55	4,03,194.86	2,73,164.7	0	14,917.66
			Percentage share of total production	**22.34%**	**44.99%**	**19.05%**	**12.91%**	**0%**	**0.70%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.4: Roida-II: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that till 2020, as reported by the old lessee (K. N Ram), the average production of fines, for the 62-65% Fe grade, was more than 90 *per cent*, with very little production in the other lower grades. In FY 2021-22, however, the new lessee (Narbheram) reported only 22.34 *per cent* production in the 62-65% Fe grade, and significant production in the grade of 60-62% Fe (nearly 45 *per cent*), and the lower grades of 58-60% Fe and 55-58% Fe (both together totalling nearly 32 *per cent*), as shown in **Table 3.6** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹215.27 crore[28], as compared to the amount payable based on its reported production, as detailed in ***Appendix-II***.

[28] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2014-20 and the royalty payable thereon, minus the royalty and premium payable by the new lessee, as per the reported production, using the average ASP for the relevant years

iii. Thakurani iron-ore mine (Joda circle)

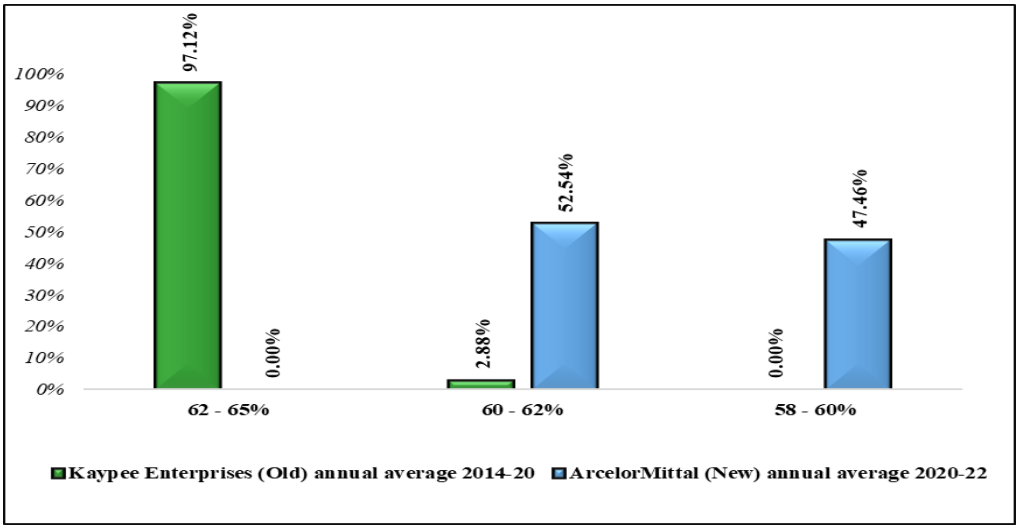
Audit analysed the grade-wise production of iron-ore lumps in Thakurani iron-ore mine as reported by the old lessee (Kaypee) and new lessee (Arcelor Mittal), which is shown in **Table 3.7** and **chart 3.5** below:

Table 3.7: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production		
				62-65%	60-62%	58-60%
Old	Kaypee	2014-20	Average production per year (in MT)	7,85,868	2,3269	0
			Average *percentage* share of total production	**97.12%**	**2.88%**	**0.00%**
			Range of year-wise *percentage* share of total production	91-100%	0-8%	0%
New	Arcelor Mittal	2020-21	Total production (in MT)	0	5,87,369.8	0
			Percentage share of total production	**0.00%**	**100%**	**0.00%**
		2021-22	Total production (in MT)	0	3,17,073	8,16,836.75
			Percentage share of total production	**0.00%**	**28%**	**72%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.5: Thakurani: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the years 2014-15 to 2019-20, the old lessee (Kaypee) was reporting almost the entire production of lumps, as being in the grade 62-65% Fe (over 97 *per cent*). However, under the new lessee (Arcelor Mittal), this drastically reduced to 0 *per cent* during next two financial years (*i.e.* 2020-21 and 2021-22). The new lessee (Arcelor Mittal) reported 100 *per cent* production in the 60-62% Fe grade during FY 2020-21, which further reduced to 27.96 *per cent* in FY 2021-22. During FY 2021-22, the bulk of production (72 *per cent*) was reported in the further lower grade of 58-60% Fe, as shown in **Table 3.7** above.

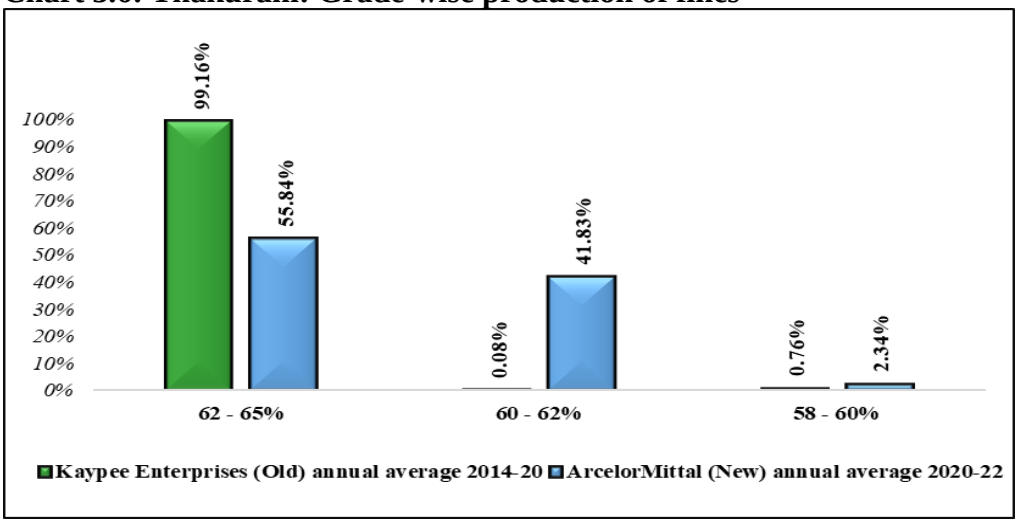
Audit also analysed the grade-wise production of iron-ore fines in Thakurani iron-ore mine as reported by the old lessee (Kaypee) and new lessee (Arcelor Mittal), which is shown in **Table 3.8** and **chart 3.6:**

Table 3.8: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production		
				62-65%	60-62%	58-60%
Old	Kaypee	2014-20	Average production per year (in MT)	33,62,850	2,724	25,933
			Average *percentage* share of total production	**99.16%**	**0.08%**	**0.76%**
			Range of year-wise *percentage* share of total production	96-100%	0-0.35%	0-3.61%
New	Arcelor Mittal	2020-21	Total production (in MT)	28,84,354.3	1,55,442	0
			Percentage share of total production	**94.89%**	**5.11%**	**0%**
		2021-22	Total production (in MT)	12,49,701	29,41,326.5	1,72,950
			Percentage share of total production	**28.64%**	**67.40%**	**3.96%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.6: Thakurani: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2014-15 to 2019-20, the old lessee (Kaypee) was reporting almost the entire production of fines in the grade 62-65% Fe (over 99 *per cent*). Under the new lessee (Arcelor Mittal), this remained at par during FY 2020-21 but drastically reduced to 28.64 *per cent* in FY 2021-22, during which significant production (over 67 *per cent*) was reported in the grade 60-62% Fe, and production of nearly 4 *per cent* in the even lower grade of 58-60% Fe, as shown in **Table 3.8** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹27.65 crore[29], for the years 2020-21 and 2021-22 in the form of lesser royalty and premium as detailed in ***Appendix-III***.

[29] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2014-20 and the royalty payable thereon, minus the royalty and premium payable by the new lessee, as per the reported production, using the average ASP for the relevant years

iv. Nuagaon iron-ore mine (Joda circle)

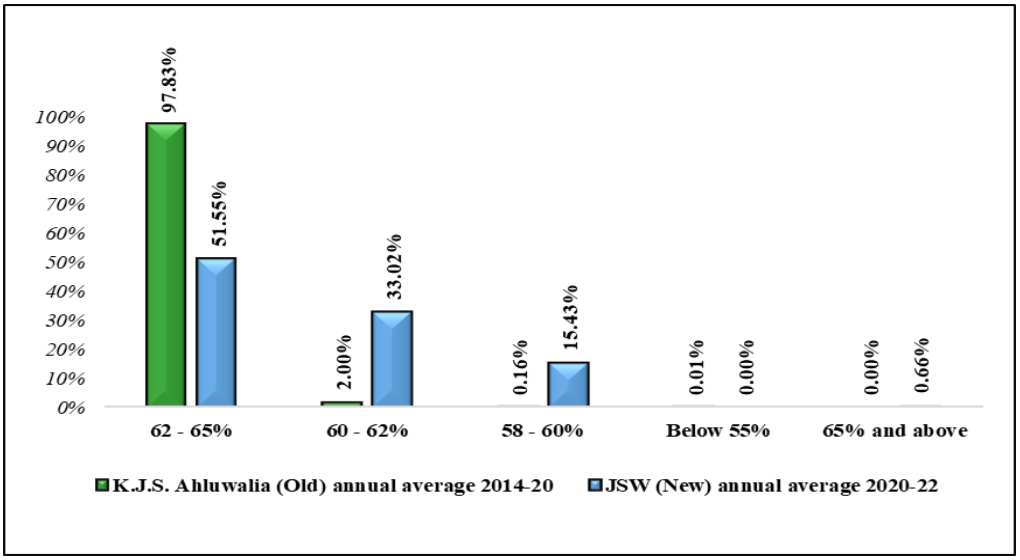
Audit analysed the grade-wise production of iron-ore lumps in Nuagaon iron-ore mine as reported by the old lessee (K.J.S. Ahluwalia) and new lessee (JSW Steel), which is shown in **Table 3.9** and **chart 3.7** below:

Table 3.9: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production			
				62-65%	60- 62%	58-60%	Below 55%
Old	K.J.S. Ahluwalia	2014-20	Average production per year (in MT)	**15,22,243.30**	**31,111.67**	**2,508.33**	**173.33**
			Average *percentage* share of total production	**97.83%**	**2.00%**	**0.16%**	**0.01%**
			Range of year-wise *percentage* share of total production	96-100%	0-4%	0-0.44%	0%
New	JSW Steel	2020-21	Total production (in MT)	7,41,181	2,22,561.85	0	0
			Percentage share of total production	**76.91%**	**23.09%**	**0%**	**0%**
		2021-22	Total production (in MT)	4,97,065	5,70,660	3,70,670	0
			Percentage share of total production	**34.56%**	**39.67%**	**25.77%**	**0%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.7: Nuagaon: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2014-15 to 2019-20, the old lessee (KJS Ahluwalia) was reporting almost the entire production (nearly 98 *per cent*) of lumps in the grade 62-65% Fe. However, under the new lessee (JSW Steel), this reduced to 76.91 *per cent* in FY 2020-21 and further down to 34.56 *per cent* in FY 2021-22. In FY 2021-22, the new lessee (JSW Steel) reported significantly high production in the grade 60-62% Fe (nearly 40 *per cent*) and the lower grade 58-60% Fe (over 25 *per cent*), as shown in **Table 3.9** above.

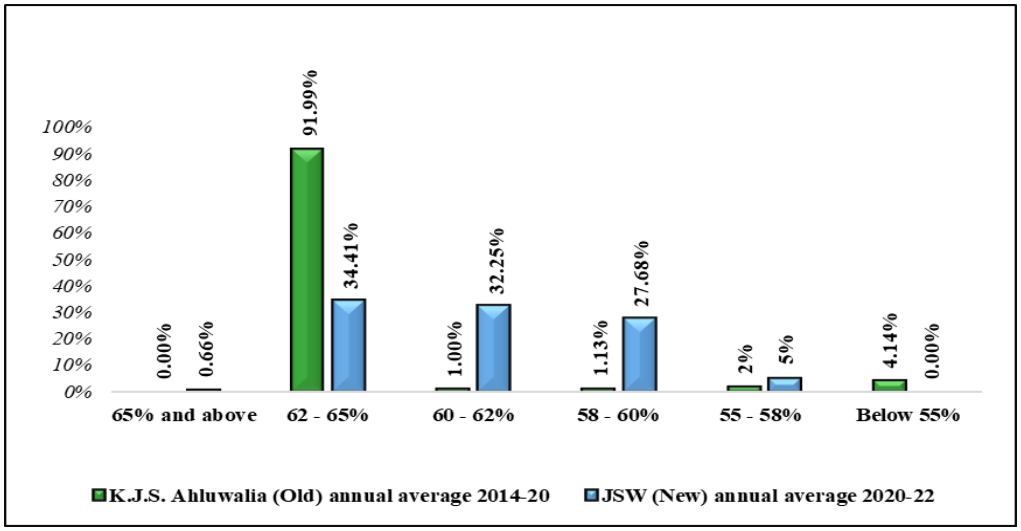
Audit also analysed the grade-wise production of iron-ore fines in Nuagaon iron-ore mine as reported by the old lessee (K.J.S. Ahluwalia) and new lessee (JSW Steel), which is shown in **Table 3.10** and **chart 3.8:**

Table 3.10: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production					
				65% and above	62-65%	60-62%	58-60%	55-58%	Below 55%
Old	KJS Ahluwalia	2014-20	Average production per year (in MT)	0	28,10,678.43	30,625.79	34,658.33	52,978.43	1,26,533.33
			Average *percentage* share of total production	**0%**	**91.99%**	**1.00%**	**1.13%**	**1.73%**	**4.14%**
			Range of year-wise *percentage* share of total production	0	90-95%	0.1-8.3%	0-8%	0.4-4%	0-9%
New	JSW Steel	2020-21	Total production (in MT)	0	17,01,925.25	14,81,433	0	0	0
			Percentage share of total production	**0%**	**53.46%**	**46.54%**	**0%**	**0%**	**0%**
		2021-22	Total production (in MT)	53,440	10,76,900	11,23,337	22,35,223	4,03,492	0
			Percentage share of total production	**1.09%**	**22.01%**	**22.96%**	**45.69%**	**8.25%**	**0%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.8: Nuagaon: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2014-15 to 2019-20, the old lessee (KJS Ahluwalia) was reporting almost the entire production (nearly 92 *per cent*) of fines in the grade 62-65% Fe. However, under the new lessee (JSW Steel), this reduced to about 53 *per cent* in FY 2020-21 and further down to 22 *per cent* in FY 2021-22. In FY 2021-22, the new lessee (JSW Steel) reported production in the grades 60-62% Fe (nearly 23 *per cent*) and 58-60% (over 45 *per cent*), as well as some production in the 55-58% Fe grade (over 8 *per cent*), as shown in **Table 3.10** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately

₹153.79 crore[30], for the years 2020-21 and 2021-22 in the form of lesser royalty and premium as detailed in ***Appendix-IV***.

v. Jaribahal iron-ore mine (Joda circle)

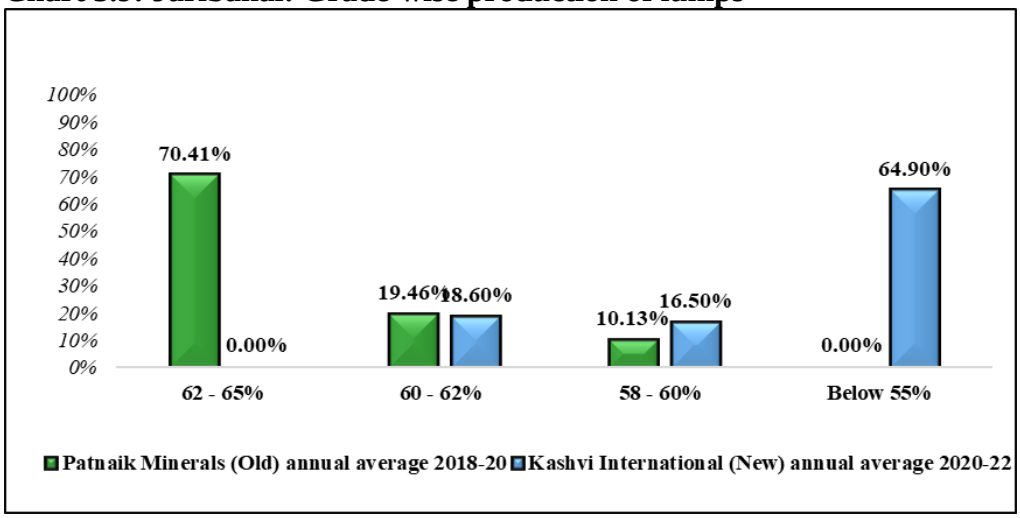
Audit analysed the grade-wise production of iron-ore lumps in Jaribahal iron-ore mine as reported by the old lessee (Patnaik Minerals) and new lessee (Kashvi International), which is shown in **Table 3.11** and **chart 3.9** below:

Table 3.11: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production			
				62- 65%	60-62%	58-60%	Below 55%
Old	Patnaik Minerals	2018-20	Average production per year (in MT)	3,80,097.24	1,05,035.61	54,706.13	0
			Average *percentage* share of total production	**70.41%**	**19.46%**	**10.13%**	**0**
			Range of year-wise *percentage* share of total production	69-73%	16-26%	15-43%	0%
New	Kashvi International	2020-21	Total production (in MT)	0	88,573.7	78,591.5	17,635
			Percentage share of total production	**0%**	**47.93%**	**42.53%**	**9.54%**
		2021-22	Total production (in MT)	0	0	0	2,91,447.5
			Percentage share of total production	**0%**	**0%**	**0%**	**100%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.9: Jaribahal: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2018-19 and 2019-20, the old lessee (Patnaik Minerals) had reported significant production (over 70 *per cent*) of lumps in the grade 62-65% Fe. However, under the new lessee (Kashvi International), this was immediately reduced to 0 *per cent* in the next two financial years. Within two years, in FY 2021-22, the new lessee reported the entire production as being in the lowest grade of below 55% Fe, without any production in any of the higher grades, as shown in **Table 3.11** above.

[30] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2014-20 and the royalty payable thereon, minus the royalty and premium payable by the new lessee, as per the reported production, using the average ASP for the relevant years

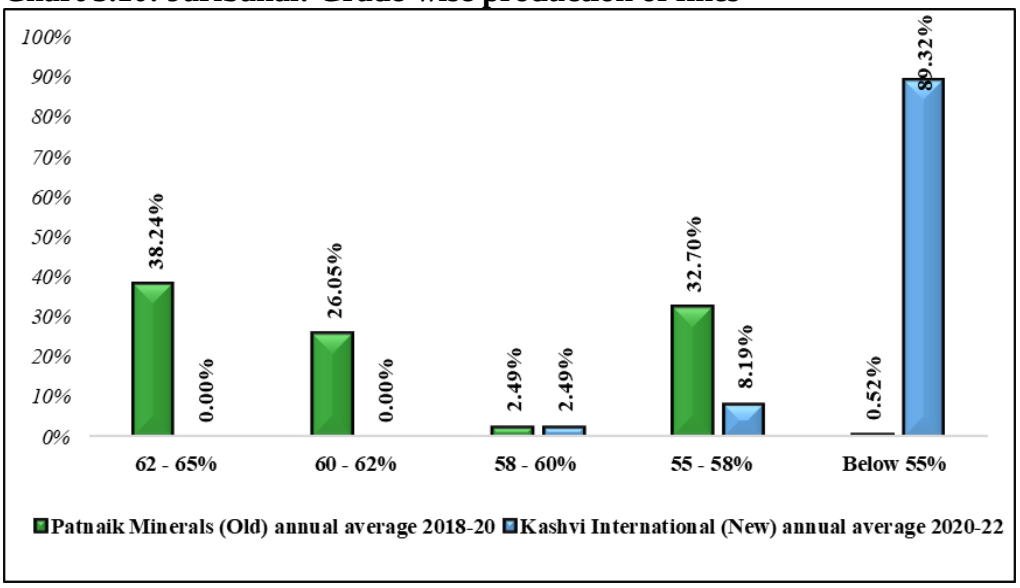
Audit also analysed the grade-wise production of iron-ore fines in Jaribahal iron-ore mine as reported by the old lessee (Patnaik Minerals) and new lessee (Kashvi International), which is shown in **Table 3.12** and **chart 3.10** below:

Table 3.12: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production				
				62-65%	60-62%	58-60%	55-58%	Below 55%
Old	Patnaik Minerals	2018-20	Average production per year (in MT)	2,13,380.9	1,45,366	13,900.68	1,82,449.3	2,904.55
			Average *percentage* share of total production	**38.24%**	**26.05%**	**2.49%**	**32.70%**	**0.52%**
			Range of year-wise *percentage* share of total production	10-68%	22-30%	0.2-5%	0-64%	0-1%
New	Kashvi International	2020-21	Total production (in MT)	0	0	26,620.2	1,07,827	4,61,784.6
			Percentage share of total production	**0%**	**0%**	**4.46%**	**18.08%**	**77.45%**
		2021-22	Total production (in MT)	0	0	6,102	0	7,13,774.5
			Percentage share of total production	**0%**	**0%**	**0.85%**	**0%**	**99.15%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.10: Jaribahal: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2018-19 and 2019-20, the old lessee (Patnaik Minerals) reported significant production (about 64 *per cent*) of fines in the higher grades of 62-65% Fe and 60-62% Fe, with negligible production of the lowest grade of below 55% Fe. However, under the new lessee (Kashvi International), the trend immediately changed within two financial years, and in FY 2021-22, almost the entire production (99 *per cent*) was reported in the lowest grade of below 55% Fe, as shown in **Table 3.12** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported

grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹703.66 crore[31], for the years 2020-21 and 2021-22 in the form of lesser royalty and premium as detailed in ***Appendix-V***.

vi. Gonua iron-ore mine (Joda circle)

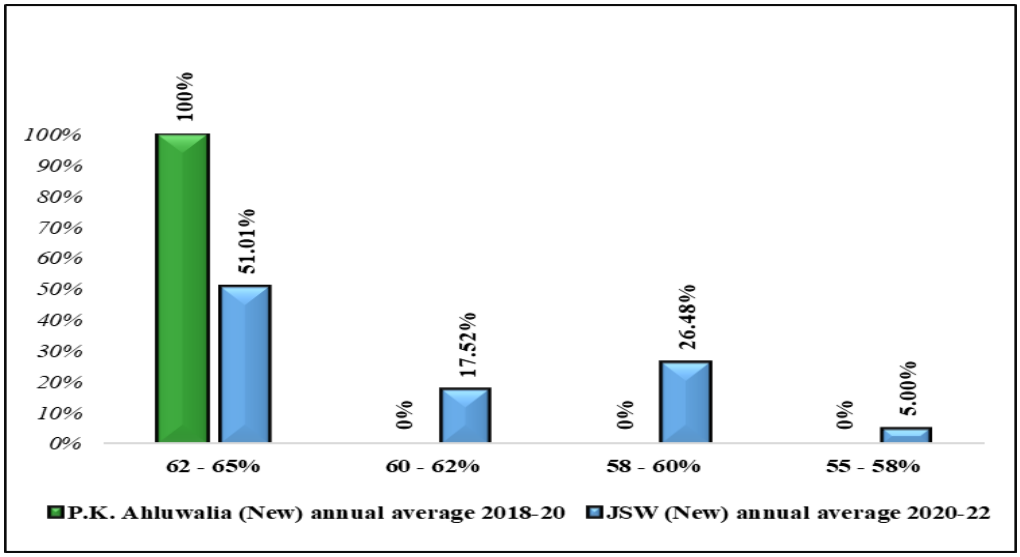
Audit analysed the grade-wise production of iron-ore lumps in Gonua iron-ore mine as reported by the old lessee (P K Ahluwalia) and new lessee (JSW Steel), which is shown in **Table 3.13** and **chart 3.11** below:

Table 3.13: Grade-wise production of lumps

Lessee		Financial Year(s)	Production	Grade-wise production			
				62-65%	60-62%	58-60%	55-58%
Old	PK Ahluwalia	2018-20	Average production per year (in MT)	2,05,690	0	0	0
			Average *percentage* share of total production	**100%**	**0%**	**0%**	**0%**
			Range of year-wise *percentage* share of total production	0-100%	0%	0%	0%
New	JSW Steel	2020-21	Total production (in MT)	78,097	34,574	0	0
			Percentage share of total production	**69.31%**	**30.69%**	**0%**	**0%**
		2021-22	Total production (in MT)	41,411	6,468	62,036	11,712
			Percentage share of total production	**34.05%**	**5.32%**	**51.01%**	**9.63%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.11: Gonua: Grade-wise production of lumps



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

[31] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2018-20 and the royalty payable thereon, minus the royalty and premium payable by the new lessee, as per the reported production, using the average ASP for the relevant years

It may be seen that, during the financial years 2018-19 to 2019-20, the old lessee (P K Ahluwalia) had reported the entire production (100 *per cent*) of lumps in the grade 62-65% Fe. However, under the new lessee (JSW Steel), this drastically reduced to 69.31 *per cent* in FY 2020-21 and 34.05 *per cent* in FY 2021-22. Further, in FY 2021-22, the new lessee reported the bulk of production (more than 51 *per cent*) in the grade of 58-60% Fe and some production (nearly 10 *per cent*) in the lowest grade of below 55% Fe, as shown in **Table 3.13** above.

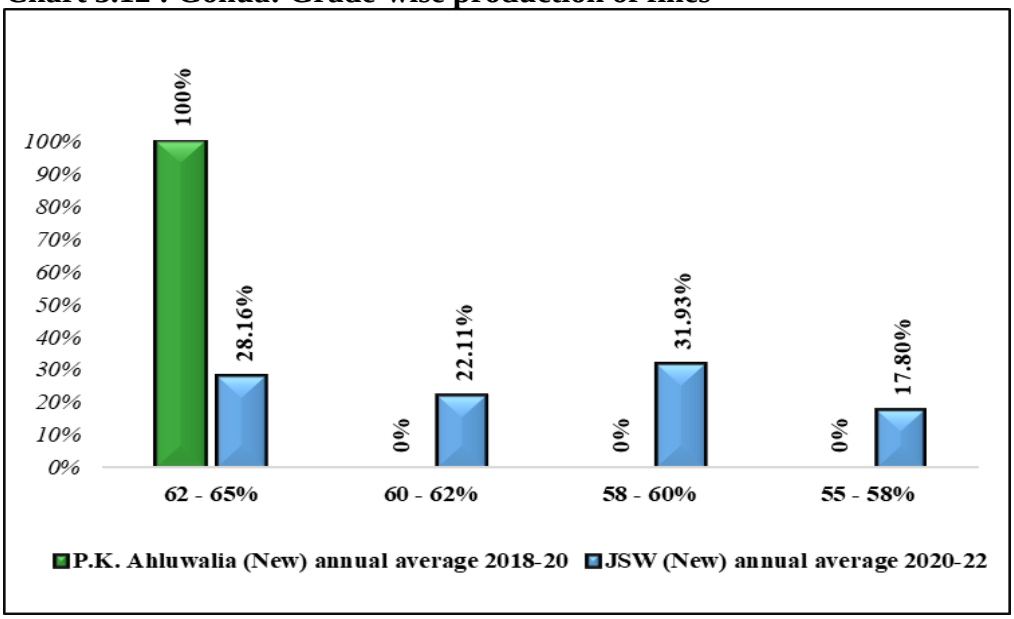
Audit also analysed the grade-wise production of iron-ore fines in Gonua iron-ore mine as reported by the old lessee (P K Ahluwalia) and new lessee (JSW Steel), which is shown in **Table 3.14** and **chart 3.12** below:

Table 3.14: Grade-wise production of fines

Lessee		Financial Year(s)	Production	Grade-wise production			
				62 - 65%	60 - 62%	58 - 60%	55 - 58%
Old	PK Ahluwalia	2018-20	Average production per year (in MT)	2,04,660	0	0	0
			Average *percentage* share of total production	**100%**	**0%**	**0%**	**0%**
			Range of year-wise *percentage* share of total production	0-100%	0%	0%	0%
New	JSW Steel	2020-21	Total production (in MT)	3,25,800	2,56,687	0	0
			Percentage share of total production	**55.93%**	**44.07%**	**0%**	**0%**
		2021-22	Total production (in MT)	83,051	64,299	4,63,590	2,58,478
			Percentage share of total production	**9.55%**	**7.40%**	**53.32%**	**29.73%**

Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.12 : Gonua: Grade-wise production of fines



Source : Calculation by Audit, based on the annual production reported in the i3MS portal

It may be seen that, during the financial years 2018-19 to 2019-20, the old lessee (P K Ahluwalia) had reported the entire production (100 *per cent*) of fines in the grade 62-65% Fe. However, under the new lessee (JSW Steel), this drastically reduced to 55.93 *per cent* in FY 2020-21 and further down to only

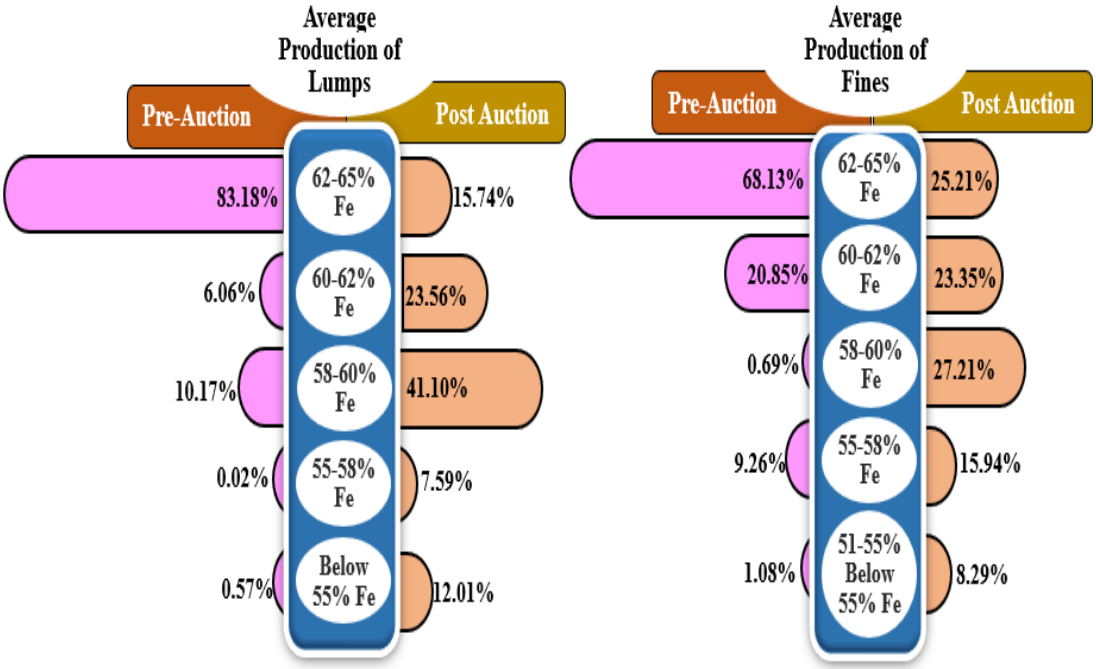
9.55 *per cent* in FY 2021-22. Further, in FY 2021-22, the new lessee reported the bulk of production (more than 53 *per cent*) in the grade 58-60% Fe and significant production (30 *per cent*) in the lowest grade of below 55% Fe, as shown in **Table 3.14** above.

Due to this abrupt and drastic decline in the grade (% of Fe content) of production of iron-ore lumps and fines, royalty payment was made on lower rates, for the lower grades reported by the new lessee. Changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹185.15 crore[32], for the years 2020-21 and 2021-22 in the form of lesser royalty and premium as detailed in ***Appendix-VI***.

Impact of reporting of lower grade of iron-ore

A summarised comparison of the production of iron-ore lumps and fines of different grades reported by the old and new lessees of the six iron-ore mines is shown in **Chart 3.13** below:

Chart 3.13: Flow chart showing grade-wise comparison of production of iron-ore lumps and fines



Source: Prepared by Audit, based on the annual production reported in the i3MS portal

It is evident from the above sub-paragraphs, tables and charts that, after auction of leases under MMDR (Amendment) Act, 2015, there was an inexplicable and steep decline, in the reported production of higher grade of iron-ore from the same mines, within a very short period of one-two years. It is highly improbable that the grades of mineral reserve, produced from all these

[32] Worked out by calculating the estimated production during 2020-22, based on the *percentage* of average production (grade-wise) by the old lessee during 2018-20 and the royalty payable thereon, minus the royalty payable by the new lessee, as per the reported production, using average ASP for the relevant years

auctioned mines, would naturally witness an abrupt decline, within a short period of one or two years, especially when there was a consistent pattern in grade of iron-ore production (i.e. % of 'Fe' content) in the last six years' time under the old lessees. Thus, such a significant and sharp decline, in the production of higher grade of iron-ore lumps and fines, indicated a significant risk that the new lessees were misreporting the grade of iron-ore produced, in order to avoid the higher royalty that would have been payable on higher grades. Despite such abnormal decline in the grades of iron-ore lumps and fines, indicating the risk of misreporting, the State Government had not taken any steps to investigate the grades of iron-ore production reported by the new lessees as of March 2022.

For the six test-checked mines, changes in reported grades of production of lumps and fines after auction, as compared to the consistent pattern in the grade of production, as reported by the older lessees, have inevitably resulted in a revenue implication of approximately ₹4,162.77 crore for the years 2020-21 and 2021-22 in the form of lesser royalty and premium. The detailed figures and calculations in this regard, are contained in ***Appendix-VII*****.**

In reply, the Government stated (September 2023) that a committee under the Chairmanship of Director of Mines and Geology was constituted (13 July 2021) to study the discrepancy in downgrading and misreporting of size of ore. Accordingly, the committee observed downgrading of ore in three leases and discrepancy in size of ore in six leases. On account of the violation an amount of ₹ 471.48 crore has been demanded. The lessees, against whom the demand has been made, have preferred revision of the cases before the Revision Authority. In addition, it was stated that drop of grade is noticed in present production system on the basis of sample drawn from working face of mines as per report of State Level Enforcement Squad (SLES) during their inspection of mines in Joda Circle.

It was noticed that the action as reported in the reply was taken after issue was raised in audit. Further, details of the basis of calculation of the demanded amount was not furnished to Audit. Regarding the report of SLES, it has been observed that the report points out difference of the overall average grade of the samples drawn from limited number of boreholes in the inspected mines and the average grades as mentioned in geological report, which ranged between 0% to 5.96%. However, Audit has pointed out the abrupt and abnormal decline in quantity and size of the ore production post-auction period by the new lessees vis-à-vis the average production of different grades reported themselves by the old lessees.

Therefore, the present status clearly indicates existence of system failure to timely detect the actual grades of lumps and fines produced, which adversely impacted the State Government revenue. Moreover, the Government also failed to develop an effective monitoring mechanism to ensure the actual grades of lumps and fines after auction in comparison to lumps and fines extracted by the previous lessees. Further, significant deficiencies were noticed by Audit in functioning of internal control and monitoring mechanism

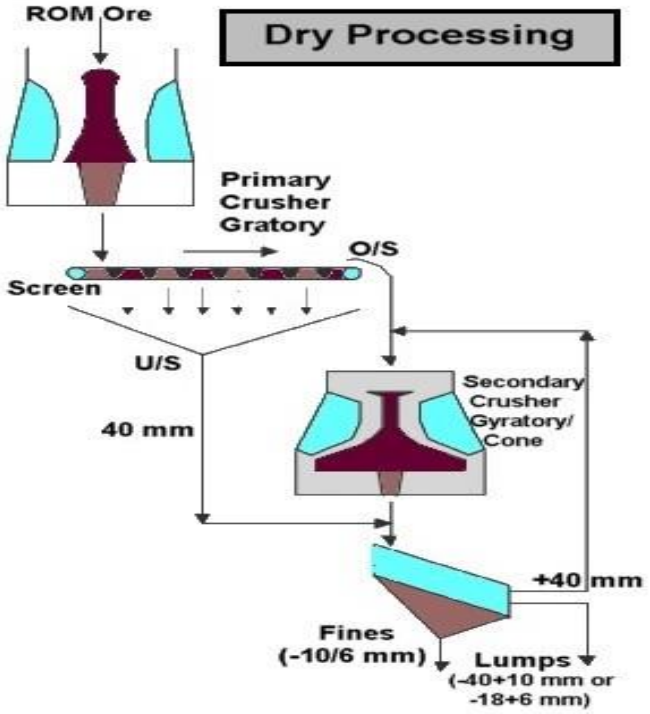
relating to inspection of mines by departmental officers (as commented in detail in Chapter VI of the report) and government may institute a 100% inspection and forensic audit of the abnormal decline that emerged in the test check conducted by Audit.

3.2.2 Reporting of iron-ore fines as screened fines

According to Section 9 of the MMDR Act, 1957, royalty is to be charged on minerals removed from or consumed within the lease area. Further, Rule 64-B of the Mineral Concession Rules, 1960, stipulates that, in cases where processing of Run-Of-Mine (ROM) ore is carried out within the leased area, royalty is chargeable on the processed mineral removed from the leased area.

Iron-ore, excavated from a mine, is termed as ROM ore and is usually found in the form of lumps. The ROM ores / lumps are processed in crushers. A typical crusher machine produces Calibrated Lump Ores (CLOs) (standard sized lumps of 5-18 mm, 10-30 mm, 10-40 mm *etc*.) and fines (0-10 mm), both of which are removed from the crusher, through separate screening systems. A schematic diagram of the process is shown below:

Chart 3.14: Flow chart showing dry processing of iron ore



Source: Indian Bureau of Mines, Vision 2020, published in the year 2011

Iron-ore CLOs, lumps and fines, are separately despatched from the lease areas and have different market prices. Typically, the market prices are the highest for CLOs, followed by lumps, and lowest for fines. As discussed previously, ASP for lumps is higher than the fines of the same grade of iron-ore and royalty is payable at a fixed *percentage* (15 *per cent*) of the ASP published by IBM. Therefore, for the same grade of iron-ore, the royalty payable on lumps is invariably higher than the royalty payable on fines.

As of March 2022, IBM had published ASP for lumps and fines, but not for CLOs. This issue was in the notice of the State Government, which had ordered (September 2010) that, "whenever Iron ore lump/ROM is subjected to

processing, iron fines are generated along with CLOs (Calibrated Lump Ores). In practice, iron ore lumps, CLOs and fines are separately despatched from the leasehold area. However, due to non-publication of rate for CLOs of iron ore by the IBM, royalty on CLOs is collected at the rate of lumps during despatch from the leasehold area. The sale prices of CLOs are always higher than the lumps. Due to non-publication of the rate of CLOs, the State Government loses huge sum of royalty. As there are separate rate of royalty for lumps and fines and the latter attracts less rate of royalty than the former, the generation of fines during processing of lumps causes loss of royalty to the Government with the CLOs being charged at the rate of lump. Thus, the lessee, if he had paid on ore without processing, could have paid a higher amount of royalty. After processing, he pays a lesser amount for fines, whereas for CLOs he pays at the same rate as lump ore. The Department has already taken up the matter with IBM to publish the sale price of CLOs with different Fe content, so that royalty on CLOs can be charged accordingly and royalty shall be assessed on iron ore lumps mined or on the processed from, *i.e.*, fines and CLOs whichever is higher".

Audit conducted scrutiny of assessment records and monthly returns for 20 iron-ore mines (under 23 lessees) under two circles[33], and analysis of production data from FY 2007-08 onwards. Observations emerging from the scrutiny and analysis, are discussed below:

i. After the State Government notification of September 2010, the DDMs of the mining circles had charged higher royalty for "crushed fines" equivalent to lumps, but charged lower royalty for "screened fines" equivalent to fines.

ii. All mining leaseholders began to report production of fines separately as "crushed fines[34]" and "screened fines[35]", starting from FY 2010-11, *i.e.* the year of issuance of the State Government notification of September 2010. During the previous period (2007-10), out of the 14 mines, for which production data was available, seven mines had not reported any production of "screened fines" – these leaseholders had reported production of only CLOs and "fines"/ "crushed fines". Further, three mines had reported negligible production of "screened fines", *viz.* less than five *per cent*; one mine had reported production of "screened fines" as 12 *per cent*; and three mines had reported production of "screened fines" as being between 25-38 *per cent*. However, after State Government notification of September 2010, the lessees of all these mines made a distinction between "screened fines" and "crushed fines" in their production reports.

iii. In the above context, Audit observed a steadily declining trend in the reported proportion of CLOs and crushed fines (on both of which, royalty was charged at the higher rate of lumps), and an increasing trend

[33] DDM, Joda and DDM, Koira

[34] ROM processed by crushing to achieve specific size of lumps (Calibrated Lump Ore), the fines produced during the crushing process are called "crushed fines".

[35] The screening process of ROM before crushing results in segregation of lumps (of various sizes) and fines, such fines are called "screened fines" or natural fines.

in the reported proportion of screened fines (on which royalty was charged at the lesser rate of fines), as detailed in **Table 3.15.**

Table 3.15: Proportion of production of CLO/Crushed fines (CF) and Screened fines (SF), by lessees

(Numbers: Percentage of total production)

Name of Mines	Name of the lessee	Proportion of	2007-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Orghat	Rungta	CLO + CF	73	100	63	74	31	47	46	31	26	29	36	31	32
		SF	27	0	37	26	69	53	55	69	74	71	64	69	68
Nuagaon	Essel	CLO + CF	100	100	89	85	*NA	55	45	45	36	33	36	39	38
		SF	0	0	11	15		45	55	55	64	67	64	61	62
TRB	JSPL	CLO + CF	96	80	69	96	57	100	65	44	67	42	38	32	32
		SF	4	20	31	4	43	0	35	56	33	58	62	68	68
Petabeda	MGM	CLO + CF	98	89	72	88	88	76	87	84	83	85	79	57	56
		SF	2	11	28	12	12	24	13	16	17	15	21	43	44
Nadidihi	BICO	CLO + CF	77	59	69	55	36	41	49	30	22	20	19	Lease expired	
		SF	23	39	31	45	64	59	51	70	78	80	81		
	ESL	CLO + CF	Operations started from February 2022 after auction											*NA	
		SF													
Thakurani	Kaypee	CLO + CF	*NA		42	45	30	46	32	24	23	17	17	Lease expired	
		SF			58	55	70	54	68	76	77	83	83		
	Arcelor Mittal	CLO + CF	Operations started from July 2020 after auction											*NA	
		SF													
Roida-II	K N Ram	CLO + CF	*NA	54	56	67	36	14	21	25	26	27	23	Lease expired	
		SF		46	44	33	64	86	79	75	74	73	77		
	Narbheram Power and Steel	CLO + CF	Operations started from October 2020 after auction											*NA	
		SF													
Balda	Serajuddin & Co.	CLO + CF	88	63	75	73	77	48	36	39	27	35	27	Lease expired	
		SF	12	37	25	27	23	52	64	61	73	65	73		
	Serajuddin & Co.	CLO + CF	Operations started from October 2020 after auction											*NA	
		SF													
Unchabali	Indrani Pattnaik	CLO + CF	93	48	*NA			47	49	45	36	30	28	14	18
		SF	7	52				53	51	55	64	70	72	86	82
Narayanaposi	AMTC	CLO + CF	58	70	53	49	42	17	39	56	44	42	49	Lease expired	
		SF	42	30	47	51	58	83	61	44	56	58	51		
	JSW	CLO + CF	Operations started from July 2020 after auction											35	30
		SF												65	70
Nuagaon	KJS Ahluwalia	CLO + CF	100	97	75	84	50	55	47	52	47	40	35	Lease expired	
		SF	0	3	25	16	50	45	53	48	53	60	65		
	JSW	CLO + CF	Operations started from July 2020 after auction											35	28
		SF												65	72
Jajang	Rungta	CLO + CF	100	100	*NA	50	43	33	38	35	31	36	30	Lease expired	
		SF	0	0		50	57	67	62	65	69	64	70		
	JSW	CLO + CF	Operations started from July 2020 after auction											27	25
		SF												73	75
Kurmitar	OMC	CLO + CF	100	100	100	100	*NA	76	66	76	76	77	76	71	32
		SF	0	0	0	0		24	34	24	24	23	24	29	68
Raikela	PTA	CLO + CF	100	90	93	97	*NA	96	97	97	95	94	87	67	73
		SF	0	10	7	3		4	3	3	5	6	13	33	27
Jaribahal	Patnaik Minerals	CLO + CF	100	69	100	Inoperative, no production						50	61	Lease expired	
		SF	0	31	0							50	39		
	Kashvi International	CLO + CF	Operations started from August 2020 after auction											*NA	
		SF													
Raikela	Geetarani	CLO + CF	100	95	89	67	Inoperative, no production						60	49	40
		SF	0	5	11	33							40	51	60
Gonua	PK Ahluwalia	CLO + CF	*NA											Lease expired	
		SF													
	JSW	CLO + CF	Operations started from July 2020 after auction											19	18
		SF												81	82

NA : Data not available

Source: Audit analysis of the monthly returns of lessees

As can be seen from **Table 3.15**, out of the 14 mines for which production data for the period prior to 2010 was available, seven mines had not reported any production of screened fines, three mines had reported the same as being less than seven *per cent*, one mine as 12 *per cent*, and only three mines as between 23-42 *per cent*. However, the proportion of screened fines, produced from the same mines, as reported by the lessees, increased from FY 2010-11 onwards. By FY 2021-22, out of the 12 active mines, the reported proportion of screened fines ranged from 60 *per cent* to as high as 82 *per cent* in the case of 10 mines, 44 *per cent,* for one mine; and 27 *per cent,* for another mine.

It was further observed that 12 lessees[36], in their monthly returns for 122 months, had shown production of CLOs, but 'nil' production of "crushed fines"; all fines produced had been reported as "screened fines". This could not be correct, as production of CLOs through crushing machines was not possible without production of "crushed fines".

The significantly higher proportion of screened fines post notification should be viewed in the context of clear lower quantification of proportion of screened fines before the notification, where it ranged from two *per cent* to forty-two *per cent* compared to zero *per cent* to eighty-six *per cent* post notification. Since higher proportion of screened fines has a significant impact on royalty payable by the lessee to the government, a sudden inexplicable increase in screened fines is a clear and red flag as it creates risk of loss of potential revenue to the state exchequer and result in undue gain to the lessee.

It is also pertinent to mention in this regard that, during the same period, *i.e.*, FYs 2015-16 to 2021-22, an iron-ore mine in the same mining area, owned by SAIL (Central PSU), *viz*. Bolani (Koira circle), consistently reported 'nil' production of "screened fines" and its entire

Methodology adopted to quantify the monetary impact on revenue due to reporting of iron-ore fines as screened fines.

- Percentage of reported proportional quantity of CLO and Crushed fines to Screened Fines produced from 2007-10 (wherever available), i.e. prior to September 2010 notification reported by the lessees, has been calculated.
- That proportion was considered for calculation on the reported total production of CLO, Crushed Fines and Screened Fines during the years 2010-22, i.e., after the notification of September 2010, to arrive at the CLO & Crushed fines to Screened Fines production.
- The royalty and premium leviable on category-wise production arrived at by Audit, has been calculated by using monthly ASP of the concerned actual grade (Fe content) published by Indian Bureau of Mines.
- The leviable royalty and premium have been compared with the actual royalty and premium levied on the reported category of production.

[36] (i) Unchabali-Indrani Patnaik (ii) Roida II-K N Ram (iii) Kurmitar-OMC (iv) Nadidih-BICO (v) Narayanposhi-AMTC (vi) Deojhar-Tarini Minerals (vii) Jaribahal- Patnaik Minerals (viii) Naibega Katupali–TP Mohanty (ix) Nuagaon-JSW (x) Jajang -JSW (xi) Gonua-JSW and (xii) Narayanposhi-JSW

production was reported as lumps and crushed fines, attracting higher royalty equivalent to lumps.

The separate reporting of "screened fines" by lessees; which attracted lesser royalty equivalent to fines, and abnormal increase in production of "screened fines" reported by the lessees, indicated that there had been the significant risk of misreporting of the "crushed fines" produced from processing of ROM ores/ lumps in crusher machines as "screened fines". It can be concluded that this was done to avoid payment of higher royalty applicable on crushed fines equivalent to lumps in terms of the State Government order of September 2010.

Thus, post the State Government order of 2010, there was a significant decrease in reporting of crushed fines from the production pattern of crushed and screened fines as prevalent before the order, leading to revenue implication of ₹ 10,294.24 crore for the 20 test checked mines including royalty of approximately ₹5,841.80 crores and premium of approximately ₹4,452.44 crores (for four auctioned mines) for which complete information were available, as detailed in ***Appendix-VIII***.

It may be highlighted that the increasing trend in reporting of "screened fines" had not been investigated by the department as of March 2022, which if conducted may lead to a substantial boost in revenue collection of the State.

In reply, the Government stated (September 2023) that iron ore produced from the quarry is generally fed to the screening/ crushing plant to separate the products into different size and the oversize products i.e. +30mm/ +40mm fed to the crusher unit to obtain the product -5mm, -10mm and 5-18mm/ 10-80mm size. Accordingly, all lessees have been instructed to maintain their Books of Account separately as screened fines as well as crushed fines.

The Government reply is not acceptable as it has not been intimated as to when the instructions for maintenance of separate books were issued and whether those were complied with by the lessees. The Government had not furnished the specific lessee-wise compliances to the audit observations and is silent on the core issue of misreporting of crushed fines as screened fines by the lessees to avoid payment of higher royalty. Further, it may also be mentioned that Audit found lapses in inspection of mines by departmental officers and specially constituted squads, shortage of testing chemicals and technical staff in mineral testing labs, inefficient functioning of check gates and monitoring of transportation of minerals, as discussed in detail in Chapter VI, on the subject of "Internal Controls and Monitoring".

3.2.3 Reporting of size of iron-ore (lumps *vs.* fines)

While the previous section discussed the risk of misreporting of fines as skewed towards screened fines, in view of the differential royalty payable on the types of fines, this section examines the trend of reporting of lumps and fines in the period subsequent to the introduction of the auction methodology for allocation of mines.

Scrutiny of data, of eight auctioned mines, showed that, in case of five out of these eight mines, there had been a sharp decline in the proportion of lumps and increase in the proportion of fines, as reported by the new lessees, in

comparison to the old lessees. The mine-wise production of lumps and fines, as reported by the old and new (auctioned) lessees, is detailed in **Table 3.16**.

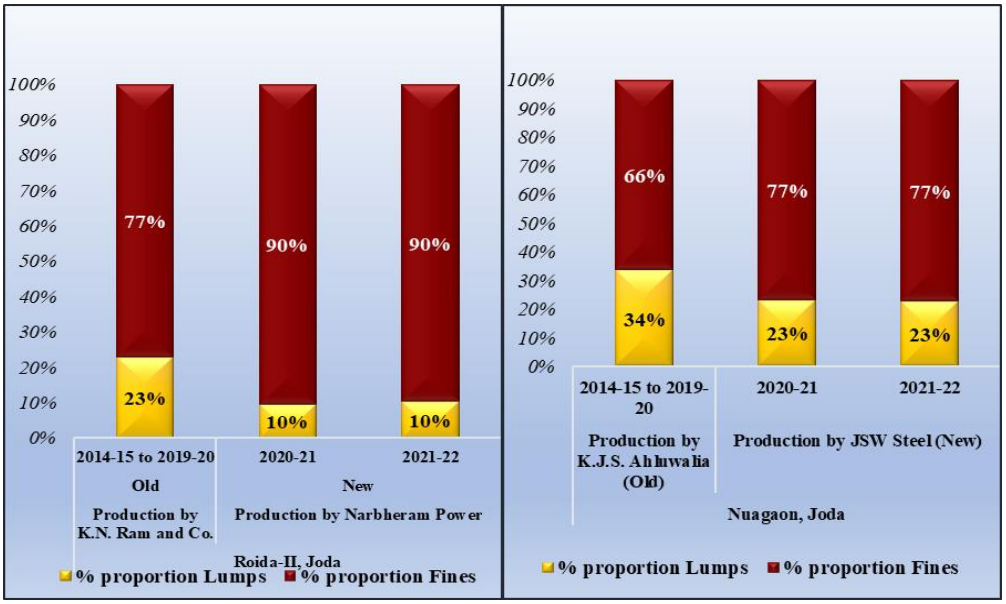
Table 3.16: Proportion of lumps and fines in regard to the old and new lessees

Sl. No.	Old/ Auctioned lessee	Lessee	Mine and Location	Financial Year	Average Production (MT)			*Percentage* of total production	
					Lumps	Fines	Total	Lumps	Fines
1	Old	K.N. Ram & Co.	Roida-II, Joda	2014-15 to 2019-20	4,83,463.789	16,18,374.41	21,01,838.2	23	77
	New	Narbheram Power & Steel		2020-21	1,36,310.15	12,74,030.66	14,10,341	10	90
				2021-22	2,44,121.12	21,16,050.88	23,60,172	10	90
2	Old	K.J.S. Ahluwalia	Nuagaon, Joda	2014-15 to 2019-20	15,56,036.63	30,55,474.32	46,11,510.95	34	66
	New	JSW Steel		2020-21	9,63,742.85	31,83,357.75	41,47,100.6	23	77
				2021-22	14,38,395	48,92,392	63,30,787	23	77
3	Old	Patnaik Minerals	Jaribahal, Joda	2018-19 to 2019-20	5,39,838.975	5,58,001.495	10,97,840.47	49	51
	New	Kashvi International		2020-21	1,84,800.2	5,96,231.8	7,81,032	24	76
				2021-22	2,91,447.5	7,19,876.5	10,11,324	29	71
4	Old	P.K. Ahluwalia	Gonua, Koira	2018-19 to 2019-20	2,05,690	2,04,660	4,10,350	50	50
	New	JSW Steel		2020-21	1,12,671	5,82,487	6,95,158	16	84
				2021-22	1,21,627	8,69,418	9,91,045	12	88
5	Old	AMTC	Narayanposi, Koira	2014-15 to 2019-20	12,86,718.68	17,04,452.66	29,91,171.34	43	57
	New	JSW Steel		2020-21	10,10,508	24,78,372	34,88,880	29	71
				2021-22	12,23,171.16	45,70,924.46	57,94,095.62	21	79

Source: Lessee-wise production data of i3MS

Chart 3.15: Proportion of Lumps and Fines in regard to the Roida-II iron ore mine

Chart 3.16: Proportion of Lumps and Fines in regard to the Nuagaon iron ore mine



Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.17: Proportion of Lumps and Fines in regard to the Jaribahal iron

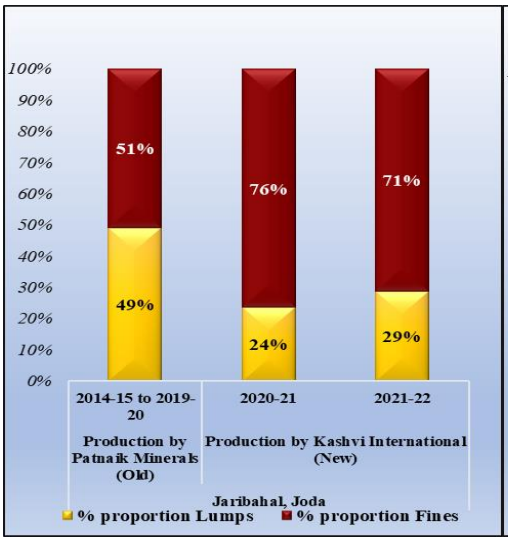
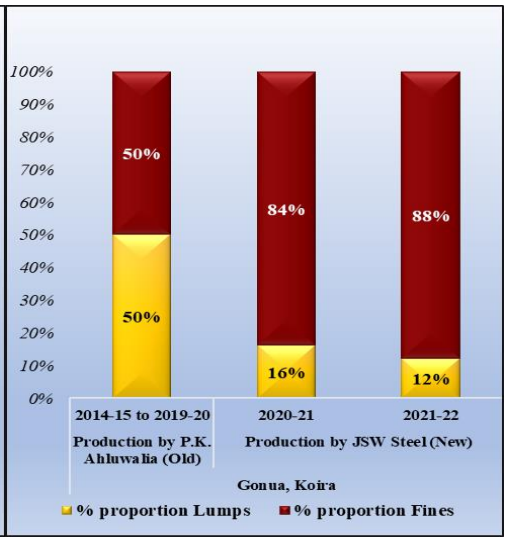
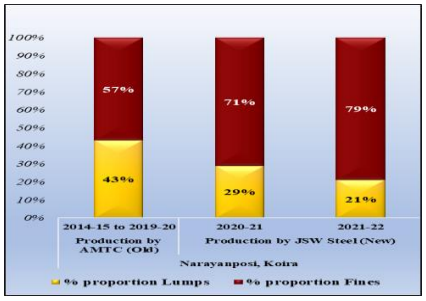


Chart 3.18: Proportion of Lumps and Fines in regard to the Gonua iron ore



Source: Calculation by Audit, based on the annual production reported in the i3MS portal

Chart 3.19: Proportion of Lumps and Fines in regard to the Narayanposi



***Source: Calculation by Audit, based on the annual production reported in the i3MS portal* ore mine**

It can be seen from the above table and charts that, during the period 2014-20, the proportion of lumps produced in different mines, was reported by the old lessees, to be in the range of 23 *per cent* to 50 *per cent.* It declined abruptly in FY 2020-21, to between 10 *per cent* and 29 *per cent*, while the proportion of fines showed a concomitant increase. It may be noted that with the introduction of the auction regime, the abrupt change in the reported proportion of lumps and fines, for all of the above mines, was at least 10 *per cent*; and the change was a steep 25 *per cent* in case of Jaribahal (Joda), and 34 *per cent* in case of Gonua (Koira).

It is implausible that the nature of mineral reserves, produced from all these auctioned mines, would naturally undergo an abrupt variation, in a short period of one-two years. Thus, such a significant and sharp change in the reported proportion of lumps (decline) and fines (increase), indicates a high probability that lessees were misreporting the production of lumps, as fines, in order to avoid the higher royalty payable on lumps.

The lessees in these five cases are required to pay premium at higher rates as settled in auction (90.90% to 150% of the price of mineral notified by IBM) over and above payment of applicable royalty. In such a scenario, the risk of misclassification of ore produced to minimize the liability towards payment of premium cannot be ruled out.

In reply, the Government stated (September 2023) that a committee under the Chairmanship of Director of Mines and Geology was constituted (13 July 2021) to study the discrepancy in downgrading and misreporting of size of ore. Accordingly, the committee observed discrepancy in size of ore in six leases.

In addition, the State Government decided (28 April 2021) for modification of stacking and sampling exercise to be carried out for removal/ transportation of minerals from the Mines sources. As per the guidelines, the terms and expression introduced are required to tender online request through i3MS application interface in form "S" and the in-person mandatory supervision of the Junior Mining Officer/ Assistant Mining Officer for the sample collection process including random generation of sampling points, the collection of the ore via trenching and sectioning techniques, the mixing, bagging of primary, secondary and umpire samples have been introduced.

However, the fact remains that, despite constitution of a committee in July 2021, reporting of size of iron ore continued to be very different, with lesser share of lumps, from the previous lessees, as can be seen in the production data compiled in Table 3.16. Moreover, the working of internal control and monitoring mechanism of the State Government was very weak, as commented in detail in Chapter VI of the report. In this scenario, Audit could not draw any assurance that there was correct reporting of the actual sizes of lumps and fines extracted in post-auction period.

3.3 Wide variations in the reported *ex-mine* prices of iron-ore

As per Rule 64D of the Mineral Concession Rules, 1960, and Rule 39 (3) of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, wherever the royalty, in respect of any mineral, is to be paid on an *ad valorem* basis, it shall be calculated at the specified *percentage* of the average sale price of such mineral grade/ concentrate, for the month of removal/ consumption, as published by IBM. Under Rule 42 of the Rules *ibid*, the *ex-mine* price (EMP) (also termed Pit Mouth Value, *i.e.* PMV), reported by the lessees in their monthly returns, shall be used to compute the average sale price of the mineral grade/ concentrate.

In the case of iron-ore, royalty is to be paid *ad valorem*. Thus, in terms of the above rules, royalty on iron-ore is worked out as a fixed *percentage* of the average sale price (ASP) notified by IBM (on a monthly basis, State-wise) for different grades (having different iron/ Fe content) and the classification (lumps or fines) of iron-ore. IBM calculates the ASP[37] based on the grade-wise lumps and fines production and sales data, as reported[38] by the lessees every month, in a prescribed format[39]. Thus, the production and sales data, reported by lessees, is the input on which the ASP is worked out, and there is a risk of underreporting of the sale price by lessees, which would lower the ASP, and, consequently, the royalty payable.

In the context of royalty being charged on *ad-valorem* basis from August 2009, the State Government had observed (February 2011) that it was important to ascertain the actual PMV of different mines, so that Government

[37] IBM calculates the ASP considering the *Ex-Mines* Price (EMP) of only non-captive sales of iron-ore using the weighted-average method

[38] Under Rule 42 of the Rules *ibid*, the *ex-mine* price, reported by lessees in their monthly returns, shall be used to compute the average sale price of the mineral grade/ concentrate

[39] All lessees are required to report the actual production and sales data, in the prescribed form F1, on a monthly basis, to IBM, with a copy to State Government.

does not stand to lose towards royalty on account of under reporting of the PMV, by lessees. The State Government stated that it had observed wide variations in prices, for identical types and grades of iron-ore, in the same region, after examining the returns submitted by some lessees for September 2010, and it had, accordingly, issued instructions to all DDMs/ MOs, to verify the actual PMV prices, at different mines, properly.

In order to examine the reporting of *ex-mine* prices by lessees, Audit scrutinised records relating to ASP, as published by IBM, and EMP/PMV in respect of iron-ore lumps and fines (grade-wise), as reported by 12 lessees, under two mining circles[40], in their F1 returns, in respect of the grade 62-65% Fe, for both lumps and fines, for the period 2015-22.

The audit observations are discussed below:

3.3.1 Wide variations in the *ex-mine* prices, reported by the same lessees, for the same grade of iron-ore, for the same months

It was observed that the same lessees had reported widely varying EMPs, for the same grades of iron-ore, as sold to different buyers, during the same months.

Some examples of the large variations in EMPs, as reported by lessees, for the iron-ore grade of 62-65% Fe Lumps, during the same months, are shown in **Table 3.17.**

Table 3.17: Lessee-wise variation in EMP, by more than 200 *per cent,* for 62-65% Fe Lumps (includes CLO[41]), during the same month (instances for the period 2015-22)

(₹ per MT)

Sl. No.	Month	Name of Lessee/Mine	Minimum EMP	Maximum EMP	Variation *percentage*	ASP of IBM
1	May-2015	Serajuddin & Co., Balda	1,600	4,400	275	3,521
2	August-2015	Serajuddin & Co., Balda	1,500	3,550	237	2,823
3	October-2015	Serajuddin & Co., Balda	1,400	3,133	224	2,434
4	February-2016	Rungta, Jajang	1,200	2,414	201	1,900
5	June-2016	Rungta, Jajang	1,000	2,504	250	1,745
6	July-2016	Rungta, Jajang	1,000	2,392	239	1,746
7	September-2016	Rungta, Jajang	1,250	2,669	214	1,744
8	October-2016	B.I.CO, Nadidihi	1,000	3,229	323	2,020
9	November-2016	Feegrade Rengalibeda Nadikasira	800	3,245	406	2,119
10	February-2017	Feegrade Rengalibeda Nadikasira	1,950	8,018	411	2,376
11	April-2017	Serajuddin & Co., Balda	1,100	3,400	309	2,759
12	May-2017	Serajuddin & Co., Balda	1,100	3,400	309	2,710
13	September-2017	B.I.CO, Nadidihi	1,000	3,850	385	2,604
14	November-2017	Feegrade Rengalibeda Nadikasira	1,000	3,800	380	2,711
15	December-2017	Feegrade Rengalibeda Nadikasira	1,000	4,984	498	2,992
16	January-2018	B.I.CO, Nadidihi	1,000	5,547	**555**	3,825
17	June-2018	Feegrade Rengalibeda Nadikasira	1,000	5,500	550	4,094
18	September-2018	Serajuddin & Co., Balda	1,350	5,500	407	4,585

[40] Joda and Koira Mining Circles

[41] Calibrated Lump Ores (CLO) which are of different sizes like 5-18mm 10-30mm, *etc.*, produced after processing (crushing and screening) of iron-ore lumps

Sl. No.	Month	Name of Lessee/Mine	Minimum EMP	Maximum EMP	Variation *percentage*	ASP of IBM
19	March-2019	K.J.S. Ahluwalia (Nuagaon)	1,855	9,148	493	3,703
20	June-2019	Feegrade Rengalibeda Nadikasira	1,700	4,800	282	3,468
21	August-2019	Feegrade Rengalibeda Nadikasira	1,600	4,300	269	3,417
22	November-2019	Feegrade Rengalibeda Nadikasira	1,700	4,350	256	3,189
23	February-2020	Feegrade Rengalibeda Nadikasira	1,700	5,045	297	3,672
24	September-2020	Rungta Sons, Oraghat	2,600	6,750	260	3,325
25	October-2020	Rungta Sons, Oraghat	2,714	6,750	249	4,285
26	May-2021	Rungta Sons, Oraghat	4,500	10,100	224	8,484
27	August-2021	Rungta Sons, Oraghat	4,720	11,700	248	10,711

Source: Calculation by Audit, based on EMP data from the F1 returns furnished by the lessees

As can be seen from **Table 3.17**, there were wide variations (ranging up to 555 *per cent*), between the minimum and maximum EMPs, reported by the same lessees, during the same months. For instance, during January 2018, the same lessee B.I. CO. (Nadidihi) (Sl.No.16), for the same grade of iron-ore (62-65% Fe Lumps), had reported minimum EMP of ₹1,000 per MT and maximum EMP of ₹5,547 per MT (variation of 555 *per cent*).

Some examples of large variations in EMPs, as reported by the lessees, for the iron-ore grade of 62-65% Fe Fines**,** during the same month, are shown in **Table 3.18**.

Table 3.18: Lessee-wise variations in EMPs, by more than 200 *per cent,* for 62 - 65% Fe Fines, during the same months (instances for the period 2015-22)

(₹ per MT)

Sl. No.	Month	Name of Lessee/Mine	Minimum EMP	Maximum EMP	Variation *percentage*	ASP of IBM
1	June-2015	K.N. Ram and Co. (Roida - II)	800	1,950	244	1,582
2	July-2015	Kaypee Enterprises (Thakurani)	1,600	4,105	257	1,598
3	March-2016	Feegrade Rengalibeda Nadikasira	836	1,865	223	1,180
4	April-2016	Feegrade Rengalibeda Nadikasira	831	1,781	214	1,132
5	September-2016	B.I.CO, Nadidihi	703	1,535	218	985
6	December-2016	Rungta Sons, Oraghat	695	1,565	225	1,113
7	January-2017	Kaypee Enterprises (Thakurani)	1,040	3,542	341	1,189
8	June-2017	Feegrade Rengalibeda Nadikasira	1,014	3,339	329	1,206
9	July-2017	Rungta Sons, Oraghat	802	1,769	221	1,161
10	December-2017	Rungta_Jajang Iron mines	1,115	2,662	239	1,435
11	January-2018	Rungta_Jajang Iron mines	1,103	2,720	247	1,875
12	April-2018	S.N. Mohanty KJST, Jaldihi	900	2,200	244	1,877
13	September-2018	Serajuddin & Co., Balda	950	2,700	284	2,344
14	November-2018	Serajuddin & Co., Balda	950	2,700	284	2,713
15	January-2019	Essel Nuagaon, Kadodih	1,658	4,915	296	1,956
16	December-2019	Rungta Sons, Oraghat	1,345	2,716	202	1,816
17	February-2020	Feegrade Rengalibeda Nadikasira	1,303	2,904	223	2,056
18	September-2020	Rungta Sons, Oraghat	1,081	3,749	**347**	2,157
19	January-2021	JSW Steel (Nuagaon)	2,157	6,431	298	4,916
20	April-2021	S.N. Mohanty KJST, Jaldihi	2,750	6,650	242	5,905

Source: Calculation by Audit based on EMP data from F1 returns furnished by the lessees

As in the cases of iron ore lumps, it can be seen from **Table 3.18** that there were wide variations (ranging up to 347 *per cent*), between the minimum and maximum EMPs, reported by the same lessees, during the same months. For

instance, during the month of September 2020, the same lessee, *i.e.* Rungta Sons (Oraghat) (Sl. No.18), for the same grade of iron-ore (62-65% Fe Fines), had reported minimum EMP of ₹ 1,081 per MT and maximum EMP of ₹ 3,749 per MT (variation of 347 *per cent*).

3.3.2 Wide variations in the *ex-mine* prices reported by different lessees, for the same grades of iron-ore, for the same months

There were also wide variations, in EMPs, amongst *different* lessees, for the same grades of iron-ore, during the same months.
Some examples of the large variation in minimum EMPs, as reported by different lessees, for the iron-ore grade of 62-65% Fe Lumps**,** during the same months are shown in **Table 3.19.**

Table 3.19: Variations in minimum EMPs, amongst different lessees, during the same months, for 62-65% Fe Lumps[42] (instances for the period 2015-22)

(₹ per MT)

Month	Name of the Lessee/ Mine	Minimum EMP reported	Name of the Lessee/Mine	Minimum EMP reported	Variation *percentage*	ASP of IBM
June-2015	Seerajuddin & Co. (Balda)	1600	Rungta Sons, Oraghat	4,100	256	3,302
July-2015	Seerajuddin & Co. (Balda)	1600	Essel Nuagaon, Kadodih	3,893	243	3,139
October-2015	Seerajuddin & Co. (Balda)	1400	K.N. Ram & Co.(Roida -II)	2,800	200	2,434
February-2016	Rungta Jajang	1200	Feegrade Rbeda Nadikasira	2,170	181	1,900
June-2016	Rungta Sons Oraghat	1000	K.N. Ram & Co. (Roida -II)	2,075	208	1,745
July-2016	B.I.CO, Nadidihi	1000	K.N. Ram & Co. (Roida -II)	2,075	208	1,746
October-2016	B.I.CO, Nadidihi	1000	Essel Nuagaon, Kadodih	2,722	272	2,020
March-2017	Serajuddin & Co. (Balda)	1100	Essel Nuagaon, Kadodih	3,246	295	2,553
April-2017	Serajuddin & Co. (Balda)	1100	Essel Nuagaon, Kadodih	3,674	334	2,759
September-2017	Feegrade Rbeda Nadikasira	1000	Essel Nuagaon, Kadodih	3,494	349	2,604
December-2017	Feegrade Rbeda Nadikasira	1000	Essel Nuagaon, Kadodih	3,686	369	2,992
February-2018	B.I.CO, Nadidihi	1000	Essel Nuagaon, Kadodih	5,076	508	3,915
June-2018	Feegrade Rbeda Nadikasira	1000	Essel Nuagaon, Kadodih	4,788	479	4,094
September-2018	Serajuddin & Co. (Balda)	1350	Essel Nuagaon, Kadodih	6,257	463	4,585
October-2018	Serajuddin & Co. (Balda)	1350	Essel Nuagaon, Kadodih	6,001	445	4,672
January-2019	Serajuddin & Co. (Balda)	1800	B.I.CO, Nadidihi	4,600	256	3,947
June-2019	Feegrade Rbeda Nadikasira	1700	Essel Nuagaon, Kadodih	4,104	241	3,468
August-2019	Feegrade Rbeda Nadikasira	1600	Essel Nuagaon, Kadodih	3,931	246	3,417
October-2019	Feegrade Rbeda Nadikasira	1700	Essel Nuagaon, Kadodih	3,708	218	3,277
February-2020	Feegrade Rbeda Nadikasira	1700	Essel Nuagaon, Kadodih	4,809	283	3,672
June-2020	B.I.CO, Nadidihi	2000	Essel Nuagaon, Kadodih	3,208	160	3,128
September-2020	K.N. Ram & Co. (Roida - II)	1500	Essel Nuagaon, Kadodih	5,153	344	3,325
October-2020	K.N. Ram & Co. (Roida - II)	800	Essel Nuagaon, Kadodih	5,909	**739**	4,285
March-2021	Serajuddin & Co. (Balda)	1250	Essel Nuagaon, Kadodih	7,422	594	6,197
April-2021	Serajuddin & Co. (Balda)	1461	Essel Nuagaon, Kadodih	10,187	697	7,903
August-2021	Rungta Sons, Oraghat	4720	Essel Nuagaon, Kadodih	12,300	261	10,711
November-2021	K.J.S. Ahluwalia (Nuagaon)	2400	Essel Nuagaon, Kadodih	9,458	394	7,900
March-2022	Essel Nuagaon, Kadodih	4900	JSW Steel (Nuagaon)	6,921	141	8,341

Source: Calculation by Audit based on EMP data from F1 returns furnished by the lessees

As can be seen from **Table 3.19**, there were wide variations (ranging up to 739 *per cent*), between the minimum EMPs reported by different lessees, during the same months. For instance, based on various sale transactions for the same grade of iron-ore (62-65% Fe Lumps), during the month of October 2020, K N

[42] Includes Calibrated Lump Ores (CLO), produced after sizing of iron-ore lumps

Ram & Co. (Roida-II) reported minimum EMP of ₹ 800 per MT, whereas Essel (Nuagaon, Kadodih) reported minimum EMP of ₹ 5,909 per MT.

Some examples of the variations in the minimum EMPs, as reported by different lessees, for the iron-ore grade of 62-65% Fe Fines**,** during the same months, are shown in **Table 3.20.**

Table 3.20: Variations in minimum EMPs amongst different lessees, during the same months, for 62-65% Fe Fines (instances for the period 2015-22)

(₹ per MT)

Month	Name of the Lessee/Mine	Minimum EMP reported	Name of the Lessee/Mine	Minimum EMP reported	Variation *percentage*	ASP of IBM
June-2015	K.N. Ram & Co. (Roida-II)	800	Essel Nuagaon, Kadodih	2,096	262	1,582
September-2015	B.I.CO, Nadidihi	807	Feegrade Rbeda Nadikasira	1,962	243	1,455
December-2015	K.N. Ram & Co. (Roida-II)	1,025	K.J.S. Ahluwalia (Nuagaon)	1,700	166	1,436
January-2016	K.N. Ram & Co. (Roida-II)	1,093	K.J.S. Ahluwalia (Nuagaon)	1,630	149	1,399
June-2016	K.J.S. Ahluwalia (Nuagaon)	682	Rungta Jajang	1,357	199	1,086
September-2016	B.I.CO, Nadidihi	703	K.N. Ram & Co. (Roida – II)	1,150	164	985
December-2016	Rungta Sons, Oraghat	695	K.N. Ram & Co. (Roida – II)	1,350	194	1,113
January-2017	Rungta Sons, Oraghat	803	K.N. Ram & Co. (Roida – II)	1,350	168	1,189
April-2017	Rungta Sons, Oraghat	1,007	Indrani Patnaik, Unchabali	1,500	149	1,277
July-2017	Rungta Sons, Oraghat	802	K.N. Ram & Co. (Roida – II)	1,250	156	1,161
December-2017	S.N. Mohanty KJST, Jaldihi	900	K.N. Ram & Co. (Roida – II)	1,500	167	1,435
February-2018	S.N. Mohanty KJST, Jaldihi	900	Essel Nuagaon, Kadodih	2,198	244	2,050
April-2018	S.N. Mohanty KJST, Jaldihi	900	Essel Nuagaon, Kadodih	2,064	229	1,877
September-2018	Serajuddin & Co. (Balda)	950	Essel Nuagaon, Kadodih	3,138	330	2,344
November-2018	Serajuddin & Co. (Balda)	950	Essel Nuagaon, Kadodih	2,705	285	2,713
January-2019	Serajuddin & Co. (Balda)	950	Feegrade Rbeda Nadikasira	1,863	196	1,956
June-2019	Serajuddin & Co. (Balda)	1,600	Essel Nuagaon, Kadodih	2,283	143	1,931
September-2019	Rungta Sons., Oraghat	1,344	Essel Nuagaon, Kadodih	2,133	159	1,849
October-2019	S.N. Mohanty KJST, Jaldihi	1,200	Essel Nuagaon, Kadodih	2,138	178	1,764
February-2020	S.N. Mohanty KJST, Jaldihi	1,293	Essel Nuagaon, Kadodih	2,582	200	2,056
May-2020	Essel Nuagaon, Kadodih	1,588	KJS. Ahluwalia (Nuagaon)	2,595	163	1,696
September-2020	K.N. Ram & Co. (Roida-II)	800	Essel Nuagaon, Kadodih	3,064	383	2,157
October-2020	K.N. Ram & Co. (Roida-II)	800	Essel Nuagaon, Kadodih	3,513	439	2,562
January-2021	Serajuddin & Co. (Balda)	2,044	Essel Nuagaon, Kadodih	6,275	307	4,916
April-2021	Serajuddin & Co. (Balda)	1,166	Narbheram P&S (Roida II)	6,100	**523**	5,905
July-2021	Serajuddin & Co. (Balda)	4,000	Essel Nuagaon, Kadodih	10,115	253	8,364
November-2021	K.J.S. Ahluwalia (Nuagaon)	2,100	JSW Steel (Nuagaon)	7,116	339	5,799
March-2022	Rungta Sons, Oraghat	4,723	Essel Nuagaon, Kadodih	6,150	130	5,215

Source: Calculation by Audit based on EMP data from F1 returns furnished by the lessees

As can be seen **Table 3.20**, there were wide variations (ranging up to 523 *per cent*), between the minimum EMPs reported by different lessees, during the same months. For instance, based on various sale transactions for the same grade of iron-ore (62-65% Fe Fines), during the month of April 2021, Serajuddin & Co. (Balda) reported minimum EMP of ₹1,166 per MT, whereas Narbheram Power & Steel (Roida-II) reported minimum EMP of ₹6,100 per MT.

Details of the lessee-wise minimum and maximum EMPs, in regard to the 12 test-checked lessees and ASPs published by IBM, for the period 2015-22, are given in ***Appendix-IX***.

Impact of wide variations in ex-mine prices

These abnormal variations in ex-mine prices, across different grades, should have been a sufficient red flag, as highlighted in the State Government's

Circular of 2011. However, these variations were not analysed or taken up for examination/ investigation, and no action was initiated, at the level of the DDMs, Directorate or Government.

As the EMPs reported by the lessees were the determinant for calculation of ASPs by IBM, the reporting of low EMPs, by lessees, had the effect of lowering the ASPs of iron-ore, as published by IBM, and, consequently, the amount of royalty payable by the lessees.

In reply, the Government stated (September 2023) that the SLES team along with IBM has observed six mines who have reported lowering of Ex-Mines Price during the year 2022-23. The action as deemed proper is being taken by the IBM as per provision of MCDR, 2017. The details of the mines are (i) Badampahar Iron Ore Block of G. S. Mishra and Sons, (ii) Gorumahisani Iron Ore Block of G. S. Mishra and Sons, (iii) Patabeda Mines of MGM Minerals Ltd., (iv) Raikela & Tantra Mines of PTA Pvt. Ltd., (v) Raikela Mines of Geetarani Mohanty, and (vi) Sanindpur Mines of Rungta Sons Ltd. In consonance with audit observations, SLES team along with IBM also proved the lowering of Ex-Mines Price during the year 2022-23. However, the Government has not furnished the specific lessee-wise compliances on the Audit observations for the period 2015-22. Moreover, the fact remains that, Government failed to develop an effective monitoring mechanism to detect the wide variation in reporting and consequently lowering of Ex-Mines Price.

3.4 Non-utilisation/ non-disposal of low-grade iron-ore and chromite in lease areas

Rules 31 and 12 of the Mineral Conservation and Development Rules, 1988 and 2017, respectively, provide that mining operations should be carried out in a manner that ensures development of mineral deposits, conservation of minerals and protection of environment.

In this context, Audit examined records pertaining to lower grades of iron-ore and chromite, maintained in three mining circles (Joda and Koira for iron-ore, and Jajpur Road for chromite). The audit findings in this regard, are discussed below.

3.4.1 Non-utilisation of sub-grade iron-ore in violation of Mining plan

In the interest of systematic development of mineral deposits and conservation of minerals, IBM revised (October 2009) the threshold limit of iron-ore from 55% Fe to 45% Fe. This revision in the threshold limit implied that iron-ore of 45-55% Fe grade, earlier regarded as "mineral reject", was to be deemed as useful for mineral recovery, utilisation, and marketability, either in its original mined grade, or in a higher grade produced after beneficiation[43]. It was stated that mineral/ ore stacks above the 45% Fe limit should be properly maintained, indicating their quality and quantity, and inventories of such material should be updated monthly. In this context, DoM directed (December 2011) all DDMs / MOs to identify and submit reports, within two months, on all iron-ore resources with content of 45-55% Fe (termed "sub-grade" ores) lying

[43] Process of enrichment of mineral content, by which a higher grade of mineral can be produced from a lower grade of mineral, with volume loss

amongst the dumps of all mines. It was also directed that all lessees be instructed to maintain a separate account for the same.

Scrutiny of the monthly returns, furnished by the lessees, as well as of the approved mining plans of the 11 lessees, under two[44] circles, revealed the following –

i. Identification of sub-grade iron-ore (45-55% Fe) from the dumps, in the lease areas of the lessees, had not been carried out, either by the lessees, or by the DDMs/ MOs, as of March 2022. In the absence of such identification, the department did not have information about the quantity of such useful ores lying unused in the dumps of various mining lease areas.

ii. Study of the approved mining plans showed that these plans contained data on the existing dumps of sub-grade iron-ore, available in the mining lease areas. These stocks of sub-grade iron-ore (45-55% Fe), previously classified as mineral rejects, had accumulated in the mining lease areas, during production prior to FY 2015-16. Although these approved mining plans specified that such ore was to be despatched after processing / beneficiation or direct sale, it was observed that this sub-grade ore had not been disposed of as of March 2022, 4,29,09,486 MT of sub-grade iron ore, having average sale price of ₹7,886.78 crore, shown in the mining plans of eleven test-checked iron-ore mines[45] as having accumulated from mining prior to FY 2015-16, remained undisposed of and royalty amounting to ₹ 1,183.02 crore (as detailed in ***Appendix-X)*** remained unrealised. No action had been taken by the mining authorities against the lessees, in regard to the non-processing / beneficiation / sale of this sub-grade ore despite the stipulation made in the approved mining plans.

iii. It was further noticed that the lessees had been directly selling sub-grade ore (45-55% Fe), out of their current production from mining activity, during 2015-22, in the market, without processing/ beneficiation. However, the sub-grade ore, already stocked in the dumps, from prior periods, had not been sold, as highlighted in point (ii) above. Further, no attempt was being made by the lessees, to enrich the mineral content of this sub-grade ore, for better utilisation in industry.

The mining of larger quantities of iron-ore (especially high-grade ores), without processing/ beneficiation of low-grade or sub-grade ore already mined and kept dumped in the lease areas for several years, was against the principle of sustainable use/ conservation of minerals in violation of Mining plan.

In reply, the Government stated (September 2023) that the ore having +45 to -55% Fe is stored separately because of its non-utilisation in the Plant.

[44] DDM, Joda and DDM, Koira

[45] Jajang of M/s Rungta Mines, Unchabali of M/s Indrani Patnaik, Balda Block of M/s Seerajudin & Co., Roida- II of M/s K. N. Ram & Co., Thakurani of M/s KayPee Enterprises, Nadidih of Feegrade & Co., Narayanposhi of M/s Aryan Mining & Trading Corporation, Kurmitar of M/s OMC, Sanindpur of M/s Rungta Sons, KJST Iron ore Mines of S N Mohanty, and Orghat of M/s Rungta Sons

These quantities of sub-grade Iron ore can be utilised in near future for pellet making, beneficiation or export.

However, the fact remains that without beneficiation of sub-grade ore already mined and kept dumped in the lease areas for several years, was against the principle of sustainable use/ conservation of minerals.

3.4.2 Non-accounting of excavated sub-grade iron-ore in auctioned mines

As per instructions of the Steel & Mines Department and DoM (October 2020), a committee [consisting of representatives from the Directorate of Mines, Odisha Mining Corporation (OMC), and lessees] was formed for identifying and taking over of undisposed assets/ stock of minerals and infrastructure, relating to 28 expired mining leases, which had been auctioned and settled in favour of new lessees. The entire stock of minerals was to be taken over by OMC, on an as-is-where-is basis, after conducting joint verification of the stock.

Audit noticed that, for the 28 leases that had expired in March 2020 and had been settled in favour of new lessees after auction, OMC had taken over the undisposed stock of mineral reported through the returns of these leases. However, this did not include the dumps of sub-grade iron-ore lying in the lease areas, as these had not been reported in the returns submitted by the lessees. As a result, these dumps of sub-grade iron-ore had neither been taken over by OMC, nor accounted for in official records. Hence, there was a risk of theft or unauthorised sale/ disposal of these dumped minerals, lying in the lease areas.

In reply, the Government stated (September 2023) that as per the previous mining plan of the ex-lessee, the sub-grade ore pertaining to +45 -55% Fe grade was stored separately which are the natural rights of the auction holder as per vesting orders issued in their favour. Thus, the sub-grade ore have been accounted for in favour of present lessee.

However, the fact remains that the dumps of sub-grade iron-ore lying in the lease areas, had not been reported in the returns submitted by the new lessees for which the dumps could not be accounted in the official records.

3.4.3 Non-utilisation of beneficiable and sub-grade chromite in violation of mining plan

Indian Minerals Yearbook 2019 published by IBM stated that more than 96 *per cent* of chromite resources in India are located in Odisha, mostly in Jajpur district.

As per the approved mining plans of South Kaliapani and Sukrangi chromite mines of M/s. OMC Ltd. for the period 2015-22, the beneficiable ore (30 to 40 *per cent* Cr_2O_3[46]), in the South Kaliapani chromite mines, and the sub-grade

[46] Chemical name of Chromium Oxide

ore (10 to 30 *per cent* Cr_2O_3) of the South Kaliapani and Sukrangi chromite mines, were to be beneficiated, to obtain concentrate grade[47].

Scrutiny of records at the Jajpur Road mining circle, relating to assessment, as well as monthly returns and approved mining plans of the South Kaliapani and Sukrangi mines, revealed that:

i. In the South Kaliapani mines, the stock of chromite of low-grade, up to 40 *per cent* Cr_2O_3, increased from 9,10,083.865 MT (as of 1 April 2015) to 11,37,125.07 MT (as of 31.03.2022). During 2015-17, only 77,589.70 MT (about seven *per cent* of the closing stock) of low-grade chromite had been beneficiated and converted to marketable concentrate ore grade. However, during 2017-22, no low-grade ore was beneficiated. This indicated that a huge quantity of low-grade ore had been lying in the lease area, without beneficiation for making it marketable for sale. Non-beneficiation and non-disposal of 11.37 lakh MT of low-grade chromite resulted in non-realisation of royalty of ₹36.76 crore[48].

   In this context, it was further observed that M/s OMC Ltd. (lessee of the South Kaliapani mines) had sold 88,338.42 MT of low-grade chromite, during June to October 2020, without beneficiation and conversion to concentrate grade. Since the royalty payable on low-grade chromite (below 40% Cr_2O_3) is much lower than the royalty payable on beneficiated (concentrate) ore[49], chromite direct sale of low-grade ore, without beneficiation in violation of Mining plan, resulted in loss of royalty to the State Government, amounting to ₹2.72 crore, as detailed in ***Appendix-XI.***

ii. In case of the Sukrangi mines, no beneficiation of low-grade ore had been carried out. The closing stock of low-grade ore below 40 *per cent* Cr_2O_3 (produced during 2015-22), dumped without beneficiation, was 3,78,229.85 MT. Non-disposal of the 3.78 lakh MT of low-grade chromite resulted in non-realisation of royalty amounting to ₹12.23 crore[50] which was in violation of Mining plan.

In reply, the Government stated (September 2023) that, prior to 2015-17 and during 2015-17 the sub-grade ore produced in Kaliapani Chromite Mines was beneficiated in their beneficiation plant. Thereafter, beneficiation plant located at Kaliapani is under renovation. So, the sub-grade chromite ore could not be processed. After renovation of benefication plant the sub-grade chrome ore of both Kaliapani and Sukrangi mines shall be beneficiated for production of high-grade saleable chrome ore. However, the fact remains that, Government failed to develop an effective plan to ensure beneficiation of all low-grade ore below 40 *per cent* of Cr_2O_3 as of September 2023.

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47 Concentrate grade of chromite is obtained on beneficiation of low-grade chromite fines. Separate ASP is published by IBM for the concentrate grade

48 11,37,125.07 MT × ₹323.25 (lowest rate of royalty of chromite for March 2015) = ₹36,75,75,679

49 For instance, in the month of October 2020, royalty on low-grade chromite below 40% Cr_2O_3 was ₹340.65 per MT, whereas the royalty of beneficiated ore (concentrate) was ₹1,884.60 per MT

50 3,78,229.85 MT × ₹323.25 (lowest rate of royalty of chromite for March 2015) = ₹12,22,62,799

Recommendations:

Government should:

2. **carry out a complete and timely investigation across all auctioned mines into the sudden reporting of lower grades of iron-ore as found in test check by Audit, to ascertain willful or deliberate misreporting in order to avoid payment of higher royalty and premium.**
3. **put in place a policy/ mechanism for preventing leakage of revenue due to the significant risk of misreporting of category and sizes of iron-ore when reported as fines and the rapid increase of screened fines on which the royalty and premium are lower.**
4. **re-verify the grade-wise mineral production of all the mines, in coordination with IBM, to ascertain the actual grades and sizes of iron ore and mix of lumps, crushed fines and screen fines in order to arrive at the range for each mine and also to realise appropriate royalty and premium. This range should be integrated in i3ms to ensure system-based control over reporting of grade, size and mix of minerals by the respective lessee.**
5. **investigate the reporting of low ex-mines prices by lessees, to ascertain whether this was being done deliberately in order to reduce the average sale price and, consequently, the royalty and premium payable.**
6. **fix responsibility on the concerned officers for lack of adequate monitoring and inspection regarding exercising quality checks (grade, category and size) in production of minerals**.

CHAPTER IV

Assessment and Collection of Mineral Receipts

4 Assessment and Collection of Mineral Receipts

This chapter discusses various issues regarding the assessment and collection of mineral receipts. The audit observations include non-levy of additional amount, along with royalty, from Government Companies/ Corporations; non-levy of interest on delayed payment of royalty; short assessment of royalty, due to non-verification of the sales turnover reported by lessees; blockage of revenue, due to non-disposal of seized minerals; non-realisation of compensation for illegal extraction; and a suggestion for review of the existing grade classification of chromite.

4.1 Introduction

The royalty payable by mining lease holders is to be assessed on a quarterly basis, by the DDMs/ MOs of the concerned mining circles. As per GoO order dated 9th August 1974, upon receipt of the monthly returns, along with particulars of the royalty paid by leaseholders, the DDMs/ MOs are required to undertake quarterly verification of the said returns and also inspect the accounts, as well as other relevant documents maintained by the leaseholders, in respect of the minerals consumed/ removed from the mining lease areas.

Audit observations, relating to the assessment and collection of mineral receipts, are discussed in the following paragraphs.

4.2 Non-levy of interest on delayed payment of royalty

Under Rule 64 A of the Mineral Concession Rules, 1960, the State Government may charge simple interest, at the rate of twenty-four *per cent* per annum, on any unpaid rent, royalty or fee or other sum due to the Government, for the period from the sixtieth day of the expiry of the due date fixed by the State Government, up to the date of payment. The due date for payment of royalty was 15th of each month, against all ores/minerals removed during the previous month, as per the notification (August 1974) of GoO.

Scrutiny of assessment files, for the years 2015-22, in respect of different mines, under three mining circles[51], revealed that 15 mines did not pay the royalty and additional amount within the prescribed period, including the grace period of sixty days. The delays ranged from 04 to 133 days, for which interest amounting to ₹28.66 crore was to be realised, as detailed in ***Appendix-XII***. However, no action was taken by the DDMs, for realisation of the interest amount.

In reply, the Government stated (September 2023) that, the IBM is publishing the Average Sale Price of corresponding month after three and four months later. Thereafter, only circle offices are demanding the differential royalty for payment within specified period. In case of non-payment of differential

[51] DDM, Jajpur; DDM, Joda; and DDM, Koira

royalty within the time limit specified earlier, the interest on delayed payment is being demanded and realised. However, the fact remains that Government could not furnish the lessee-wise compliances for non-levy of interest on delayed payment of royalty.

4.3 Short-assessment of royalty, due to non-verification of sales turnover reported by lessees

As per State Government notification of August 1974, for assessment of royalty payable by mining leaseholders, the mining officers are required to scrutinise the prescribed returns submitted by the mining leaseholders to the mining circles, and verify the same with reference to relevant records.

Mining leaseholders were reporting their sales turnovers through various annual returns (H1 return / G1 return[52]) uploaded on the i3MS software of the S&M Department. According to departmental records, the i3MS software had been integrated with the Value Added Tax Information System (VATIS) of the Commercial Taxes (CT) department in order to enable validation of the sales turnover reported by leaseholders on i3MS with the corresponding sales turnover data submitted by leaseholders on VATIS to the CT Department for assessment of tax.

However, scrutiny of records of two mining circles (Joda and Koira) showed that despite integration of i3MS with VATIS, the TIN Number of the lessees (as recorded on VATIS) was not being entered on i3MS. Further, it was also observed that similar integration of i3MS with Goods and Services Tax Network (GSTN) had not been done as of March 2022. In the absence of this linkage, the sales turnover from minerals, as reported by the lessees in their annual returns on i3MS, could not be cross-validated by the mining officers with corresponding data on VATIS (as submitted by the leaseholders under Dealer Return Summary) or GSTN, at the time of assessment of royalty. The veracity of the ASP using invoice data from GSTN was not ascertained leading to risk of suppressed ASP and lower royalty.

In this regard, Audit scrutinised annual returns (H1/G1) submitted on i3MS by seven lessees of two mining circles (Joda and Koira) who were engaged solely in trading of minerals (as per their registration certificates issued by the CT department), and cross-checked the same with their annual returns submitted, as per the VAT/ GST Acts, to the CT department, for the period 2015-22. It was found that for all the seven lessees, the sales turnovers declared by them in their returns submitted to the mining circles on i3MS, were different from those reported to the CT department on VATIS / GSTN. The sales turnovers of these lessees, as per their VAT/GST returns, were higher than the sales turnovers shown in their H1/G1 annual returns, submitted to the mining circles. For instance, during FY 2019-20, for the lessee, M/s Essel Mining and Industries, the sales turnover, reported to the CT department, was ₹ 5,561.18 crore. However, the return submitted by the same lessee, to the Joda mining circle, showed the sales as only ₹2,946.75 crore, *i.e.* lesser by ₹2,614.43 crore, on which royalty of ₹392.16 crore was realisable, along with DMF and NMET charges of ₹117.65 crore and ₹7.84 crore, respectively.

[52] The annual report format prescribed by the IBM for the lessees

This was indicative of the risk that lessees were underreporting their sales turnovers, to the concerned mining circles, in order to reduce their liability towards payment of royalty. On the basis of the above scrutiny and cross-verification of the total sales turnover, the short-assessment of royalty, for the seven lessees, worked out to ₹905.66 crore. Accordingly, charges towards DMF, amounting to ₹271.70 crore (30 *per cent*) and towards NMET, amounting to ₹18.11 crore (2 *per cent*), were also leviable, as detailed in ***Appendix-XIII***. Thus, due to non-integration of VATIS/ GSTN with i3MS, the department could not verify the sales turn over declared in annual returns (H1) with the sales turn over declared in annual returns under VAT/ GST Acts in Commercial Taxes Department. Thus, an indicative amount of ₹1,195.47 crore was short assessed by the DDMs and was recoverable from the lessees concerned.

In reply, the Government stated (September 2023) that, it has been ascertained that, the sales turnover declared by the lessee in return submitted to the Mining Circle covers only for royalty portion. In case of the report/ returns submitted to Commercial Tax Department covers royalty, sales of value added products, sales of services (B2B) and other operating costs. Hence, the objection is not realisable.

The reply of the Government was not acceptable as the audit observation was on non-integration of VATIS/ GSTN with i3MS for which there was short assessment of royalty. Moreover, the Government's current reply is in non-confirmation of their previous reply during exit conference that government would ensure a mechanism to fetch/ validate sales or turnover data as reported by lessees on the i3MS system with the GSTN system. Further, it was noticed that the only business of these lessees, as reported in the VAT/ GST registration, was iron-ore and documents relating to explaining the existence of other products/ services in the reported turn over by the lessees were not provided with the reply. In this scenario and due to the extent of variation between the reported sales turnover between GST returns and annual returns in i3MS, Audit could not draw an assurance that the annual returns in i3MS contained declaration of correct and complete sales turnover by the lessees.

4.4 Blockage of revenue due to non-disposal of seized minerals

Under Section 21(4) of the MMDR Act, 1957, any mineral, raised or transported without lawful authority, is liable to be seized by an officer or authority specially empowered in this behalf. As per guidelines prescribed by GoO in November 2008, minerals, seized by mining circle offices, are to be immediately handed over to OMC, for storing, processing and sale.

Scrutiny of records of four DDMs (Joda, Koira, Talcher, Jajpur), relating to seizure cases, revealed that 955 cases of unlawfully raised/ transported minerals, registered during 2015-22, had remained undisposed (as of March 2022) without these seized minerals having been handed over to OMC (iron ore: 36,461.463 MT, manganese: 1,542.260 MT, coal: 4,655.434 MT and chromite: 465.992), with a total value of ₹7.94 crore[53]. Reasons for non-

[53] Calculated as per the lowest average sale price amongst various grades, as notified by IBM for March 2022

disposal were not found available on records. Delay in disposal of the seized minerals resulted not only in blockage of revenue of ₹6.35 crore (80 *per cent* of the value of minerals, since the remaining 20 *per cent* handling charges were to be retained by OMC), accruable to Government, but also posed the risk of theft and deterioration in the quality of minerals.

In reply, the Government stated (September 2023) that, in respect of DDM, Koira, M/s G.M. (Sales) of M/s OMC Ltd., Bhubaneswar has been requested (June 2023) and for other mining circle offices also requested M/s OMC Ltd. to take possession of seized minerals for disposal. Disposal of such seized minerals is being done by OMC Ltd. during their monthly auction sale of minerals. However, the fact remains that its only after audit observations, the Government initiated the process of dispose of all the seized ores. This indicates lack of monitoring at department level for timely disposal of seized minerals.

4.5 Non-realisation of compensation for illegal extraction

As per Section 21 (5) of the MMDR Act, 1957, if any person raises mineral from any land without lawful authority, the State Government may recover, from such person, the mineral so raised, or, where such mineral has already been disposed of, the price thereof, and may also recover, from such person, rent, royalty or tax, for the period during which the land had been occupied by such person without any lawful authority.

4.5.1 Compensation for illegal extraction of iron and manganese ores

Scrutiny of records revealed that in pursuance of Hon'ble Supreme Court order (August 2017) in context of illegal mining in Odisha, the DDMs of seven[54] mining circles had raised (September 2017) demand of ₹21,427.28 crore, against 144 Iron and Manganese mines, for unlawful mining, during the years 2000-11. Out of this, ₹16,350.90 crore was realised from 106 lessees and the balance ₹5,076.38 crore had remained unrealised, as of March 2022.

In reply, the Government stated (September 2023) that, pursuant to judgement (August 2017) of Hon'ble Supreme Court of India, the State Government raised demands under Section 21(5) of MMDR Act, 1957 for payment of compensation towards minerals produced without/ in excess of limit permissible for Iron and Manganese ore under EPA/ FCA. After scrutiny of records, 26 Iron and Manganese mining leaseholders have not yet paid the compensation demand of ₹ 2,965.29 crores out of total compensation demand of ₹3,308.35 crores. The concerned Collector & District Magistrates have instituted the Certificate Cases under OPDR Act, 1962 in respect of 26 defaulting lessees for Iron and Manganese leases which is yet to be finalised and concerned authorities are taking necessary initiation for speedy recovery of entire amount along with the applicable interest.

Although the Government has accepted the audit observation, but the balance amount yet to be realised, as reported by the Director of Mines, Bhubaneswar was ₹ 5,076.38 crore. Further, the fact remains that cases for realisation of compensation for illegal extraction of iron and manganese ores are pending for

[54] Balangir, Baripada, Jajpur Road, Joda, Keonjhar, Koira and Koraput

many years. This indicates lack of monitoring mechanism for collection of Compensation for illegal extraction of iron and manganese ores.

4.5.2 Compensation demanded for illegal extraction of chromite

Scrutiny of the records of DDM, Jajpur Road, revealed that compensation demands of ₹3,091.18 crore had been raised (April 2018) against 11 lessees, for unlawful mining, out of which ₹2,437.28 crore had been realised from six lessees. The other five lessees had not paid the demanded amount of ₹653.90 crore and had obtained (May 2018) a stay from the Revisional Authority. Although four years had elapsed, the State Government had not taken necessary action, such as issuing instructions to the concerned DDMs for ascertaining the status of the cases, for vacation of the stay, or to pursue the matter in an appropriate court of law.

In reply, the Government stated (September 2023) that, cases filed by the lessees, are pending at the level of the Revisional Authority. The Revisional Authority has passed orders not to take any coercive action against the said lessees till finalisation of the case.

The reply of the Government was not acceptable as these cases are pending from many years and the Government had not taken necessary action, for vacation of the stay, or to pursue the matter in an appropriate court of law.

Recommendations:

Government should:

7. **investigate the under reporting of sales turnover by lessees on i3MS.**
8. **ensure robust integration of i3MS with GSTN in order to facilitate cross-validation of information, and accuracy in assessment of the royalty receivable. Further, the Government may also explore the possibility of integrating turnover reported in GST returns in the assessment system of royalty, in coordination with Ministry of Mines.**
9. **take up the matter of reviewing the existing grading classification for chromite with IBM, to devise more appropriate grading brackets for publication of average sale prices of ores having different Cr_2O_3 content, so that the royalty leviable is reflective of the actual market prices.**

CHAPTER V

Regulation of Mining Activities

5 Regulation of Mining Activities

This chapter contains audit observations relating to the regulation of mining activities, including production of coal and iron-ore in excess of the quantities approved in environmental clearances; production of iron-ore in excess of the quantities approved in mining plans; production of chromite without forest clearance; and operation of mines on transfer of leases.

5.1 Introduction

Regulation of mining activities, relating to major minerals and specified, minor minerals in accordance with the provisions of laws, rules, notifications, and in terms of the conditions prescribed in the approved mining plans and statutory clearances, is the responsibility of the Steel & Mines department.

Hon'ble Supreme Court, in its judgment of August 2017, had observed that "the holder of a mining lease is required to adhere to the terms of the mining scheme, the mining plan and the mining lease, as well as the statutes such as Environment Protection Act, 1986, the Forest (Conservation) Act, 1980, the Water (Prevention and control of Pollution) Act, 1974 and the Air (Prevention and control of Pollution) Act, 1981. If any mining operation is conducted in violation of any of these requirements, then that mining operation is illegal or unlawful. Any extraction of a mineral through an illegal or unlawful mining operation would become illegally or unlawfully extracted mineral".

Audit observations, relating to the regulation of mining activities, are discussed in the following paragraphs.

5.2 Production of mineral ores in violation of statutory clearances and approved mining plans

According to the Mineral Conservation and Development Rules (MCDR), 1988 and 2017, the holder of a mining lease is required to adhere to the provisions of the Environment Protection Act, 1986. As per the Environment Impact Assessment (EIA) notification (January 1994), issued by the MoEF&CC, GoI (i) mining operations can not be commenced, unless MoEF&CC, GoI, has accorded environmental clearance (EC) and (ii) mineral, from a specified site, can be extracted only up to the quantity sanctioned in the EC, regardless of the quantum of extraction shown in the approved mining plan. Under Section 2 of the Forest (Conservation) Act, 1980, any forest land, or any portion thereof, cannot be used for any non-forest purpose, without prior approval of the Central Government. Under Rule 22A of the Mineral Concession Rules, 1960, mining operations are to be undertaken only in accordance with the duly approved mining plan.

Further, under Section 21(5) of the MMDR Act, 1957, whenever any person raises, without any lawful authority, any minerals, from any land, the State Government may recover, from such person, the minerals so raised, or, where such minerals have been disposed of, the price thereof. In addition, the State

Government may also recover, from such person, rent, royalty or tax, for the period during which the land had been occupied by such persons, without lawful authority.

The purpose of fixing the limit of production of minerals in mines is to keep a check on changes due to excessive extraction of mineral and overburden. Violation of the stipulated production limit endangers the environment and can have severe and far-reaching impacts on the environment like habitat destruction and biodiversity loss, water pollution, air pollution, soil contamination, water resource depletion, increased risk of natural disasters, climate change contribution *etc*. Hence calls for action under Environment (Protection) Act.

Section 15(1) of Environment (Protection) Act provides that whosoever fails to comply with or contravenes any of the provisions of this Act, rules made thereunder shall be punishable with imprisonment for a term which may extend to five years or with fine which may extend to one lakh rupees or with both and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues after the conviction for the first such failure or contravention.

5.2.1 Production of coal in excess of the quantity approved in Environment Clearance

Audit test-checked assessment records, production and despatch statements, monthly returns and ECs, relating to eight coal mines. It was observed, in the case of one coal mine[55], leased to Mahanadi Coalfields Ltd. (MCL), under the Talcher mining circle, that in the EC, the limit for extraction had been enhanced by MoEF&CC, GoI, from 25 million tons per annum (MTPA), to 28 MTPA, with effect from 16 February, 2018. Accordingly, the quantum of extraction, permissible for the financial year 2017-18, was 25.25 Million Ton[56] (MT) (calculated on *pro rata* basis, ignoring the revised limit for February 2018, as the approval order had been issued after 15th of the month). However, the quantity of coal, actually extracted during the financial year 2017-18, was 26.25 MT, which constituted excess production of one MT (26.25 – 25.25). As the extraction exceeded the stipulated quantity in EC, the lessee was liable to pay the price of the additional mineral extracted, which worked out to ₹88.60 crore, taking into account the price (₹886 per metric ton) of coal of same grade (G12) notified by Coal India Limited, applicable to power utilities as of March 2018.

Further, as the production of minerals in excess of the quantity approved in the Environment Clearance, was in violation of the provisions of Environment (Protection) Act, no penal action, in terms of Section 15(1) of the Act, taken against the violating lessees, was found available on records.

In reply, the Government stated (September 2023) that, the DDM, Talcher has demanded to the Project Officer, Bhubaneswari OCP of M/s MCL for payment of ₹ 88.62 crore towards unlawful production of coal exceeding the quantity approved in EC. However, the Government may take appropriate

[55] Bhubaneswar Opencast Project

[56] Revised production limit for FY 2017-18 = (25/12 x 11) + (28/12 x 1) = 25.25

action to recover the above amount from the lessee and furnish compliance to Audit.

5.2.2 Production of iron-ore exceeding the quantity approved in the Environment Clearances

Audit test-checked assessment records, production and despatch statements, monthly returns and approved ECs, in respect of iron-ore mines. It was observed that there had been production of iron-ore, in excess of the limits stipulated in the ECs, in the case of two iron-ore mines, as detailed below:

i. In case of the Roida-II iron-ore mine (Joda circle), the lessee applied for EC, to enhance its production capacity, from 2.2 MTPA, to 3.5 MTPA, which was granted (18 April 2019) by the State Environment Impact Assessment Authority (SEIAA). As the clearance had been granted after 15th of April 2019, the revised production capacity was to be applicable proportionately, from the month of May 2019, as clarified by Hon'ble Supreme Court, in its judgment of August 2017. Hence, the production limit for FY 2019-20 should have been reckoned as 3.39 MT[57]. However, the lessee had produced 3.50 MT of ore, during the same year, which constituted excess production of 0.11 MT against the limit prescribed under the EC. Accordingly, the lessee was liable to pay the price of the mineral so raised, amounting to ₹52.04 crore[58].

ii. In respect of Thakurani Block-B iron-ore mine[59], over 946.047 ha (Joda circle), it was observed that MoEF&CC, in its letter dated 15 January 2015, had conveyed grant of EC for production of four MTPA of iron-ore (lump). As per letter dated 21 December 2018, MoEF&CC clarified that as per data of the EIA report submitted by lessee, based on which the earlier EC was granted in 2004 for production of four MTPA lumps, the lump ore and ROM produced during five years period (2017-21) would be 20 MT and 30.77 MT, respectively. Accordingly, production of 4 MTPA iron-ore lump would be equivalent to extraction of 6.154 MTPA of ROM, assuming production of four MT iron ore lumps of (+)5 mm size and 2.154 MT of (-) 5 mm fines along with production of mineral rejects, sub grade ore.

    Scrutiny of records, in respect of the above mine, revealed that, during the financial years 2019-20 and 2020-21, the lessee reported through monthly returns, extraction of ROM ore and processing of the same to produce CLOs and (-) 10 mm size fines along with (-) 2 mm slime[60] of 40,202 MT. The reported production did not contain mineral rejects, sub grade ore and fines of (-) 5 mm size, as had been assumed at the time of

[57] Limit for EC = (2.2/12 x 1) + (3.5/12 x 11) = 3.391667 MTPA

[58] Taking into account the IBM price for (+) 65% Fe for March 2020 – the lessee was paying the highest royalty as prescribed under the Second Schedule of the Act and the stacking and sampling of minerals was dispensed with in favour of the lessee as per Rule 10 (7) of OMPTS Rules 2007 = 1,07,624.57 MT × ₹ 4,835 = ₹ 52,03,64,795

[59] M/s. Sarda Mines (P) Ltd.

[60] Iron ore slime is a waste material generated after beneficiation of iron ores

interpreting (2018) the production limit of the original EC of 2004 to be 6.154 MTPA ROM.

The permissible limit of production *vis-à-vis* the production reported is detailed in **Table 5.1**.

Table 5.1: Details of production limit and reported production during the financial years 2019-20 and 2020-21

Financial Year	Permissible limit as per clarification issued in 2018 (Metric Tons)			Actual production as reported by lessee (Metric Tons)			
	ROM	Lumps (+5) mm	Mineral rejects/sub grade ore and Fines (-5) mm	ROM	Lumps/CLO (5-40) mm	Fines (-10) mm	Slime (-2) mm
2019-20	61,54,000	40,00,000	21,54,000	49,61,260	4,83,036	44,78,224	0
2020-21	61,54,000	40,00,000	21,54,000	61,53,976	17,05,567	44,08,207	40,202

Source: As per the EC letter of 2018 and returns furnished by the lessee

The above table shows that, although the limit prescribed for production of ROM has been complied with, but the fines (-10 mm) have not been counted under the production limit of four MTPA (+) 5 mm lumps, whereas the MoEF&CC had clarified (December 2018) that the extracted ore of 5 mm and above will be treated as lumps. Thus, during FYs 2019-20 and 2020-21, the lessee extracted ore, exceeding the production limit stipulated under the EC, of four MTPA (+) 5 mm lumps, by 30.75 lakh MT, for which ₹1,558.41 crore, towards the price of the excess mined mineral, was required to be levied, as per details in ***Appendix - XIV*****.**

Further, as the production of minerals in excess of the quantity approved in the Environment Clearance, was in violation of the provisions of Environment (Protection) Act, no penal action, in terms of Section 15(1) of the Act, taken against the violating lessees, was found available on records.

In reply, the Government stated (September 2023) that, the Environment Clearance, approved Mining Plan and production made by the lessee are being verified. Action as per Law will be taken after completion of verification of records. However, the Government may take immediate appropriate action to recover the above amount from the lessee and furnish compliance to Audit.

5.2.3 Production of iron-ore exceeding the quantities approved in the mining plans

Under Rule 22A of the Mineral Concession Rules, mining operations are to be undertaken only in accordance with the duly approved mining plans. As stated by the Hon'ble Supreme Court, in its judgement of August 2017, in the context of illegal mining in Odisha, a mining plan is of considerable importance for a mining lease holder and is, in essence, sacrosanct. The holder of a mining lease is required to adhere to the terms of the mining scheme/ plan. The production limit capped in the mining plan/ scheme must be adhered to, by the mining lease holders. Any mineral, extraction through an illegal or unlawful mining operation, would become illegally or unlawfully extracted mineral.

Scrutiny of assessment records, production and despatch statements, monthly returns and mining plans, relating to the period 2015-22, revealed that the quantities of ores, sub-grade ores, mineral rejects and production from sub-grade dumps, were categorically stipulated in the approved mining plans, along with the capped limits of production for each category.

Audit observed that eight[61] mining leaseholders, under two circles[62], reported nil/ negligible production of sub-grade ore, mineral rejects, and from sub-grade dumps, even though such production had been stipulated in their approved mining plans. Production of sub-grade ore and mineral rejects is inevitable in the production process of high grade ore as these are by-products of the process. Further, the production of graded ores exceeded the limits stipulated in their approved mining plans, as per details shown in **Table 5.2.**

Table 5.2: Production reported by lessees, as against the quantities stipulated in the approved mining plans

Name of mine	Financial Years	Production stipulated in the mining plan (in MT)				Actual production			Excess production of ore (in MT)	Total price leviable on excess production (₹ in crore)
		Ore	Subgrade	Mineral Reject	Production from sub-grade dump	Ore	Sub-grade	Mineral Reject		
Kaypee Enterprises Thakurani Iron ore	2016-18	1,05,13,422	4,86,733	0	2,700	1,09,80,801.00	0	0	4,67,379	151.77
K N Ram Roida-II Iron ore	2015-17 & 2019-20	64,30,483	14,64,330	0	0	78,96,596.30	0	0	14,66,113.30	511.78 (-) 52.04*
Rungta Jajang Iron ore	2017-18	1,21,95,855	6,41,887	0	0	1,27,00,232.11	0	0	5,04,377.11	238.32
Indrani Patanaik Unchabali Iron ore	2015-18 & 2019-20	1,30,61,626	22,88,276	0	4,50,000	1,57,45,906.00	0	0	26,84,280	1021.89
OMC Roida C	2017-19	6,58,464	1,51,715	0	0	7,59,510.00	0	0	1,01,046	48.06
M/s. SN Mohanty KJST Iron, Bauxite and Manganese	2016-21	74,51,211	0	10,99,359	14,00,000	91,04,131.79	1,81,000	2,20,726.57	16,52,921	617.52
M/s. JN Patnaik Bhanjpali Iron ore mines	2019-20	1,75,420	0	46,924.80	37,590	2,51,100.00	0	1,200	75,680	20.33
M/s. Essel Mining Koira Iron ore mines	2016-21	2,09,00,000	0	31,00,000	2,40,00,000	2,34,97,134.00	0	2,15,482	25,97,134	1,060.88
Total										**3,618.50**

Source: Audit calculation from returns of lessees and assessment records

** The lessee, during 2019-20, had violated the production limit prescribed in EC also, as pointed out in Para 5.2.2 (i), hence the value of the minerals extracted in excess to EC limit, amounting to ₹52.04 crore has been deducted.*

The total price of the excess graded ores, produced by the above eight lessees, amounted to ₹3,618.50 crore, which was recoverable from the lessees. The year-wise details are in ***Appendix - XV***.

[61] (i) KJST Iron, Bauxite and Manganese mines of M/s S.N. Mohanty (ii) Thakurani of Kaypee Enterprise (iii) Roida-II of M/s K.N Ram & Co (iv) Jajang of M/s Rungta Mines (v) Unchabali of Smt. Indrani Patnaik (vi) Roida-C of OMC (vii) Koira Iron ore mines of Essel Mining and (viii) Bhanjapali Iron ore mines of M/s J N Patnaik

[62] DDM, Joda and DDM, Koira

In reply, the Government stated (September 2023) that, the compliances in respect of three mining leases under the DDM, Koira, after scrutiny of mining plans, the DDM has reported that there was no excess production of iron ore violating the mining plans. Further, it was stated that in respect of DDM, Joda, the Environment Clearance, approved Mining Plan and production made by the lessees are being verified. Action as per law will be taken after completion of verification of records.

The compliances by the DDMs as intimated by the Government in the reply are not tenable as the details of production quantity provided by department to Audit also depict excess production than the approved mining plan and tallied with quantities shown in **Table 5.2**. Facts contradict the contention of DDM, Koira. Further, all the figures shown in the above table are derived from the approved mining plans as well as i3MS portal. Comparison of the production limits of iron ore specified in the approved mining plan with the actual production of iron ore clearly indicates that the production was in excess of the approved quantities. Moreover, the Government failed to ensure extraction of actual quantities approved in the mining plans and take appropriate action to recover the price of the excess production of ore in respect of Joda Circle. The stated verification may be completed at the earliest and action may be taken to recover the amount.

Despite appearance of similar observation in Compliance Audit Paragraph 6.5.1 in Report of Comptroller and Auditor General of India on Revenue Sector for year ended March 2020 (Report No. 6 of 2021), Government of Odisha, no preventive action was taken by the Government and the matter persisted.

5.2.4 Production of chromite without forest clearance

Scrutiny of lease files, assessment records and monthly returns, of the Kaliapani chromite mines, over 64.463 ha, of M/s Balasore Alloys Pvt. Limited, under the Jajpur Road mining circle, revealed that the Divisional Forest Officer (DFO), Cuttack, informed (December 2014) the lessee that the entire lease area was under "forest land", as per *Hal* settlement records[63], and sought clarification on the status of land of the lease area. In April 2015, the DFO again informed the lessee that, as per MoEF&CC guidelines (March 2016), areas falling within mining leases, which had been recorded as "Forest" in government records, on or after the day the Forest Conservation Act, 1980, came into force, require approval from Central Government, to be obtained within one year from the date of issue of the guidelines. However, the lessee obtained (March 2016) *status quo* from the Hon'ble High Court of Odisha, which was gradually extended by the Hon'ble High Court up to December 2019 and the *status quo* was not extended beyond December 2019. It was, however, noticed that the lessee had continued to carry out mining operations beyond December 2019, up to March 2022 and submitted the monthly reports on production and despatch with payment of royalty thereon. On being pointed out by Audit, DDM, Jajpur Road, intimated that a show cause notice has been issued to the lessee on 12 September 2022. This is indicative of poor monitoring of activities in the leased areas.

[63] Current record of land use

In the absence of any authorization from the competent authority, the mining operations, carried out beyond December 2019, were unlawful, for which the lessee was liable to pay the price of minerals extracted during the period, amounting to ₹150.10 crore, as detailed in ***Appendix -XVI***.

In reply, the Government stated (September 2023) that, show cause notice was issued to M/s Balasore Alloys Ltd. in respect of Kaliapani Chromite Mines by DDM, Jajpur Road on 12 September 2022.

The action taken as reported by the Government in the reply is not sufficient and Government failed to take any appropriate action to recover the price of minerals extracted beyond the permissible period despite lapse of a period more than a year of SCN. Further, no penal action taken, in terms of Section 3(A) and other applicable provisions of the Forest Conservation Act, against the violating lessee was found available on records.

5.2.5 Operation of mine on unauthorised transfer of lease

Under Rule 3 of the OMMC Rules, 2004, no person shall undertake any prospecting or mining or quarrying operations for specified minor minerals, in any area, except under and in accordance with the terms and conditions of a prospecting licence or a quarry/ mining lease or auction of source or a quarry permit granted under the rules. Under Rule 25(30) of the above Rules, the lessee shall not, without any previous consent of the State Government, (a) assign, sublet, mortgage, or in any other manner, transfer the mining lease, or any right title or interest therein or (b) enter into or make any agreement, contract or understanding whereby the lessee will or may be directly or indirectly financed by, any person or body of persons other than the lessee.

Under Rule 68 (4) of the above Rules, whenever any person raises, without any lawful authority, any mineral from any land, the Tahasildar/ Mining Officer/ Deputy Director/ Divisional Forest Officer, may recover, from such person, the mineral so raised, or, where such mineral has already been disposed of, the price thereof, and may also recover from such person, rent, royalty or tax, as the case may be, for the period during which the land was occupied by such person without any lawful authority.

A mining lease of decorative stone mine, in Parsurampur, over 49.922 ha, was granted in favour of M/s New Laxmi Granite, from 30 March 2005, for a period of 20 years. The lessee intimated the MO, Berhampur, on 31 May 2016, that he had already made an irrecoverable power of attorney, registered on 29 April 2016, in favour of M/s Jagannath Granites. As seen from the recitals of the document, all the related operational activities of the said mine had been entrusted to M/s Jagannath Granites (attorney), who would also receive all types of payments and operate the bank accounts. The power of attorney was irrevocable by the lessee on his own will and would remain valid till expiry of the lease term. Thus, the power of attorney document clearly constituted transfer of rights, title and interest, on the lease hold area, by the lessee, to the attorney. As the transfer of lease had been done without prior approval of the Government, operation of mines, by the new entity, was unlawful, and accordingly, the price of the mineral raised was required to be realised. The quantity of mineral, extracted from April 2016 to March 2020,

was 4,058.068 cum, for which the price worked out to ₹ 2.64 crore, which was recoverable from the lessee.[64]

In reply to the above observations, the Government stated (September 2023) that, the Power of Attorney is granted/ executed/ implemented when the principal authorizes anybody to act on his/her behalf, certain things with specified scope. Thus, empowering any authorized entity/ person with a Power of Attorney (PoA) doesn't vest any right or control on the asset/ lease, for which the PoA holder takes action on behalf of the legal right owner. Here in this case, *i.e.,* transfer of lease is effected under the orders of the Government, the authority who grants lease to the Lessee, which is a statutory procedure and is not for limited purpose. Therefore, Transfer of Mining Lease is a restrictive Legal procedure enacted under the Law, which is granted specifically under the authority of the State Government whereas, Power of Attorney is an agreement authorizing anyone for certain activities and both are not equal.

The reply of the Government is not acceptable as the lessee intimated MO, Berhampur, DoM, Odisha on 31 May 2016 about transferring the rights, after executing the Power of Attorney on 29 April 2016 as checked from the correspondence made by the lessee. This confirms that no prior approval of Government was obtained for such transfer of the lease. Also, no documentary evidence could be furnished to Audit regarding approval of the State Government for transfer of lease on the basis of power of attorney. Moreover, such type of transfer of lease is in contravention to Rule 25(30) (b) of the OMMC Rules, 2004 and therefore, the Government should take appropriate action to recover the applicable dues.

Recommendation:

Government should:

10. **take timely action under Section 21(5) of MMDR Act against the violators of Environment Clearance granted for mining and consider taking penal action under relevant provisions of the Environment Protection Act, 1986 and the Forest (Conservation) Act, 1980.**
11. **develop a robust mechanism to ensure regular checks on quantity extracted by the lease holders *vis-à-vis* the quantity authorised under various statutory clearances.**
12. **fix responsibility for not taking action against lessees for violations of conditions stipulated in various regulations.**

[64] Price recoverable = ₹2,63,77,442 (4,058.068 × ₹6,500, the PMV declared by the lessee for March 2020)

CHAPTER VI

Internal Controls and Monitoring

6 Internal Controls and Monitoring

This chapter contains audit findings relating to internal controls and monitoring: functioning of government laboratories, issuance of transit passes, functioning of check gates/ weighbridges, conduct of inspections of mines by departmental officials and raids by the State Level Enforcement Squad.

6.1 Introduction

A robust system of internal controls is vital for monitoring the mining activities of leaseholders and safeguarding the interest of the Government. In pursuance of this objective, the rules and notifications of the Government provide for verification of mineral ore grades through a system of sample collection; issuance of transit passes to authorise despatch of minerals from lease areas; checking of transit passes at check gates and weighment of the mineral despatched at weighbridges; and a system of periodic and surprise inspections by departmental officials and special squads, to exercise check over illegal mining.

By virtue of powers conferred under Section 23C of the Mines and Minerals (Development and Regulation) Act, 1957, the State Government framed Odisha Minerals (Prevention of Theft, Smuggling & Illegal Mining and Regulation of Possession, Storage, Trading and Transportation) (OMPTS) Rules, 2007, for prevention of theft, smuggling and illegal mining and to regulate the possession, storage, trading and transportation of minerals in the State of Odisha. The Rules provide for establishment of check-post(s) with or without barrier(s) and weighbridge(s) at any place within the State to check the transport and storage of minerals raised without lawful authority and to check the quality and quantity of minerals transported from lease-hold areas. It also provides for chemical analysis of the mineral analysed in a Government Laboratory/ laboratory of Public Sector Undertaking approved by the Government.

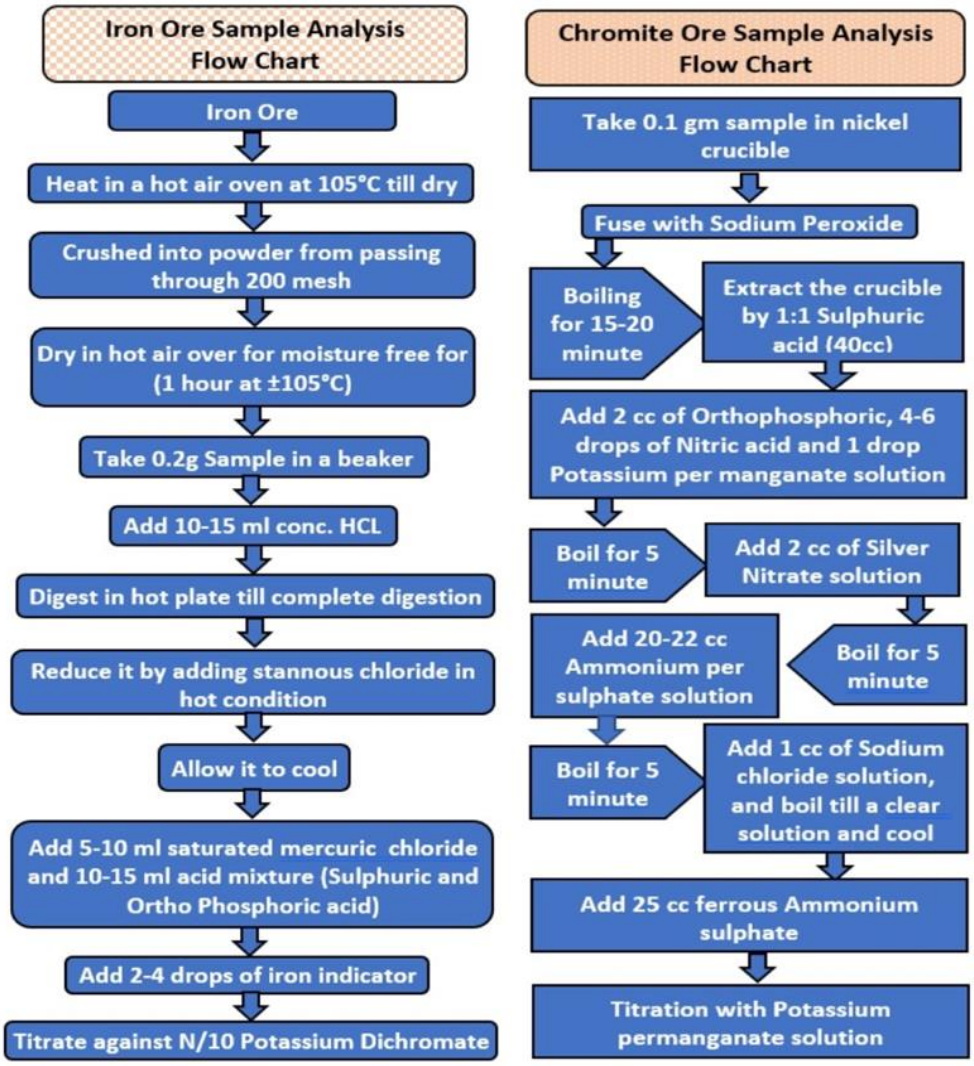
Audit observations, in this regard, are discussed in the following paragraphs.

6.2 Functioning of Government Laboratories

As per Rule 10 (5) of the OMPTS Rules, 2007, the lessee, after proper dressing, stacking, grading and analysis of the mineral, shall apply to the concerned Mining Officer or Deputy Director of Mines, as the case may be, for removal of such mineral, in proper form, along with copies of these chemical analysis report of the mineral, analysed in a Government Laboratory/ laboratory of Public Sector Undertaking approved by the Government.

Thus, before any mineral is removed from the lease area, it needs to be analysed, in an approved laboratory, to determine the grade of the mineral. This is to be done independently by the lessee, as well as by the mining officers, before the despatch of every consignment of minerals from the lease area. Analysis of minerals is to be done by collection of samples from the designated mineral stacks and testing of the same in approved government/ PSU laboratories. There are State Government chemical analysis laboratories at the circle level, in Joda and Jajpur Road, and a central laboratory at Bhubaneswar. A flow chart showing the chemical analysis procedure is depicted below:

Chart 6.1: Flow chart showing process of chemical analysis of Iron and chromite samples



Source: Records of Deputy Directors (Chemical Analysis), Jajpur Road and Joda

In this context, Audit examined the functioning of government laboratories, through scrutiny (September 2022) of records (stock registers of chemicals and registers of applications received from lessees for chemical analysis), for the

period 2015-22, in the offices of the Deputy Directors of Chemical Analysis (DDCA), Joda and Jajpur Road. Audit observations in this regard, are discussed below:

6.2.1 Analysis of ore samples without sufficient stock of essential chemicals

As per the Bureau of Indian Standards IS 12667-3 (1989), for chemical analysis of chromite samples, three chemicals, *viz*., ammonium persulphate, ferrous ammonium sulphate and orthophosphoric acid, are required. Similarly, for analysis of iron-ore samples, hydrochloric acid, mercuric chloride and orthophosphoric acid, are required.

i. In the office of DDCA, Joda, it was observed that the stock of chemicals, required for analysis of iron-ore samples, had been exhausted on 10 occasions, and there was a gap of 9 to 82 days in receiving new stock, during which the samples had been shown as having been analysed. Details in this regard are shown in the **Table 6.1.**

Table 6.1: Iron-ore samples analysed without stock of chemicals (period 2015-22)

Sl. No.	Name of Chemical	Date on which stock of chemicals was 'nil'	Date of receipt of chemicals	No. of days when there was nil stock of chemical	Total no. of samples analysed during nil stock of chemicals
1	Mercuric Chloride	06-Jun-2016	19-Aug-2016	74	1,479
2	Mercuric Chloride	26-Nov-2018	16-Jan-2019	51	1,255
3	Mercuric Chloride	25-May-2021	19-Jul-2021	55	4,762
4	Mercuric Chloride	29-Nov-2021	08-Dec-21	18	543
5	Hydrochloric Acid	26-Nov-2018	16-Jan-2019	51	1,255
6	Hydrochloric Acid	20-Dec-2019	11-Feb-2020	53	2,281
7	Hydrochloric Acid	02-Jul-2021	19-Jul-2021	17	1,665
8	Orthophosphoric Acid	26-Nov-2018	16-Jan-2019	51	1,253
9	Orthophosphoric Acid	20-Nov-2020	10-Feb-2021	82	6,795
10	Orthophosphoric Acid	11-Feb-2021	20-Feb-2021	09	718
	Total				**22,006**

Source: Compiled from DDCA Joda records

In reply, the Government stated (September 2023) that, the store may reflect that the chemical position is nil but in actual there is some chemicals must be there in the Lab, to cater the analytical process. Even in some occasions chemicals has been diverted from Research Laboratory, Bhubaneswar to cater the emergency requirement of Joda Laboratory.

The Government's reply was not tenable as the stock records reflecting the existence of nil stock of chemicals should be the only authentic source of information and no documents substantiating the reply of the Government was provided to audit. Further, no requisition sent to Research Laboratory, Bhubaneswar for transfer/ diversion of chemicals was found on record.

ii. In DDCA, Jajpur Road, it was noticed that, out of a total of 31,677 samples, for which chemical analysis of chromite had been carried out during the years 2015-22, 31,340 samples had been analysed without sufficient stock of essential chemicals, such as ammonium persulphate (1 gram per sample), ferrous ammonium sulphate (39.21 gram per sample) and orthophosphoric acid (150 ml. per sample), in their respective proportions, as against the number of samples analysed. Details in this regard are shown in **Table 6.2.**

Table 6.2: Chromite samples analysed without sufficient stock of chemicals (period 2015-22)

Financial Year	Chemical in short supply	No. of samples for which required quantity of chemical was available	No. of samples actually analysed	No. of samples analysed without the required chemicals
2015-16	Ammonium persulphate	5,000	3,997	3,895
	Ferrous Ammonium Sulphate	102		
	Orthophosphoric Acid	117		
2016-17	Ammonium persulphate	6,000	5,013	4,947
	Ferrous Ammonium Sulphate	140		
	Orthophosphoric Acid	66		
2017-18	Ammonium persulphate	3,000	5,460	5,427
	Ferrous Ammonium Sulphate	38		
	Orthophosphoric Acid	33		
2018-19	Ammonium persulphate	4,500	5,111	5,078
	Ferrous Ammonium Sulphate	64		
	Orthophosphoric Acid	33		
2019-20	Ammonium persulphate	4,000	4,588	4,524
	Ferrous Ammonium Sulphate	64		
	Orthophosphoric Acid	117		
2020-21	Ammonium persulphate	1,500	3,024	2,998
	Ferrous Ammonium Sulphate	26		
	Orthophosphoric Acid	50		
2021-22	Ammonium persulphate	1,500	4,484	4,471
	Ferrous Ammonium Sulphate	13		
	Orthophosphoric Acid	33		
		Total	**31,677**	**31,340**

Source: Compiled from the records of DDCA, Jajpur Road

Analysis of samples, without the required chemicals being in stock, posed serious questions over the validity of the analysis reports and there was a risk that the analysis reports had been issued without actual testing of samples.

In reply, the Government stated (September 2023) that, the system is that if the stock is exhausted from the store, it does not mean that particular chemical is not available in the Laboratory. So, the question of analysis of samples without chemicals does not arise but it involves a complete cyclic process.

The reply of the Government is not acceptable as when Government Laboratory's own records depict 'nil' stock, then without the required chemicals in stock, there is no possibility of analysis of ore samples. Therefore, the validity of the analysis reports cannot be assured.

6.2.2 Use of chemicals received from lessees

In DDCA, Joda, it was found that during FY 2016-17, some stock of required chemicals, *viz*. hydrochloric acid (2.5 litres), mercuric chloride (250 gram), orthophosphoric acid (10 x 5 litres), had been received from a lessee and had been used for analysis of iron ore samples of the same lessee. This was improper and constituted a conflict of interest.

Accepting the audit observation, in reply, the Government stated (September 2023) that, only one case in last five years, some chemicals which were not available at that time in the local market, has been brought from the lessee to maintain the analytical process of iron samples and this process has not been repeated again.

6.2.3 Shortage of technical staff related to analysis of samples

It was noticed that there were vacancies, extending up to 100 *per cent*, in respect of different technical posts, such as Analytical Chemist, Assistant Chemist, Junior Chemist, Lab Technician, Sampling Supervisor and Sampler, required for analysis of samples, in the Government Laboratories at Joda and Jajpur, as detailed in **Table 6.3.**

Table 6.3: Shortage of staff in Government Laboratories, during FYs 2015-16 to 2021-22

Financial Year	Post	Government Laboratory, Joda				Government Laboratory, Jajpur Road			
		Sanctioned strength	Persons in position	Shortage	Percentage of shortage	Sanctioned strength	Persons in position	Shortage	Percentage of shortage
2015-16	Analytical Chemist	1	1	0	0	1	0	1	**100**
	Asst. Chemist	3	1	2	67	7	2	5	71
	Sr. Lab Assistant	4	2	2	50	3	3	0	0
	Sampler	8	3	5	63	3	2	1	33
2016-17	Analytical Chemist	1	1	0	0	1	0	1	**100**
	Asst. Chemist	3	1	2	67	7	2	5	71
	Sr. Lab Assistant	4	2	2	50	3	2	1	33
	Sampler	8	3	5	63	3	2	1	33
2017-18	Analytical Chemist	1	1	0	0	1	0	1	**100**
	Asst. Chemist	3	1	2	67	7	2	5	71
	Sr. Lab Assistant	4	2	2	50	3	2	1	33
	Sampler	8	3	5	63	3	2	1	33
2018-19	Analytical Chemist	1	1	0	0	2	1	1	**50**
	Asst. Chemist	3	1	2	67	4	0	4	100
	Sr. Lab Assistant	4	2	2	50	2	2	0	0

Financial Year	Post	Government Laboratory, Joda				Government Laboratory, Jajpur Road			
		Sanctioned strength	Persons in position	Shortage	Percentage of shortage	Sanctioned strength	Persons in position	Shortage	Percentage of shortage
	Sampler	8	3	5	63	3	1	2	67
2019-20	Analytical Chemist	1	1	0	0	2	1	1	**50**
	Asst. Chemist	3	1	2	67	4	0	4	100
	Sr. Lab Assistant	4	2	2	50	0	0	0	0
	Sampler	8	3	5	63	2	2	0	0
2020-21	Analytical Chemist	3	0	3	**100**	2	1	1	**50**
	Asst. Chemist	6	0	6	100	4	0	4	100
	Sampler	7	2	5	71	3	1	2	67
2021-22	Analytical Chemist	3	0	3	**100**	2	0	2	**100**
	Asst. Chemist	6	1	5	83	4	1	3	75
	Sr. Lab Assistant	4	2	2	50	0	0	0	0
	Sampler	7	2	5	71	2	1	1	50
	Jr. Chemist	3	1	2	67	2	1	1	50

Source: Compiled from the records of DDCA Jajpur Road and Joda.

Analytical Chemist is required to check 10 *per cent* of the analysed samples of the Assistant Chemists and Senior Laboratory Assistants of the office. However, there was no Analytical Chemist in Joda Laboratory for two years during the years 2020-22. Similarly, in Jajpur Road laboratory, shortage of the Analytical Chemist during the years 2015-16, 2016-17, 2017-18 2019-20 and 2021-22 was 100 *per cent*.

Assistant Chemist is assigned with the duties of analysis of Ores and Minerals as per IBM guidelines. In Joda Laboratory, the analysis of minerals, was carried out for five years, during 2015-20, by one out of three sanctioned posts of Assistant Chemist and there was no Assistant Chemist in 2020-21. Similarly, in Jajpur Road Laboratory, there was shortage ranging up to 71 *per cent* during 2015-18 and functioning without any Assistant Chemist for three years *i.e.* 2018-21.

Junior Chemist is responsible for preparation of Solutions, assisting the Assistant Chemists in day to day analysis work. It was noticed that during 2021-22, the shortage of Junior Chemist in Joda and Jajpur Road laboratories was 67 and 50 *per cent* respectively.

It is evident that such large vacancies would have adversely impacted the performance and reliability of these laboratories, in the analysis of samples.

Accepting the audit observation, in reply, the Government stated (September 2023) that, the existing laboratory personnel are working overtime to clear the sampling and analysis as this is essential to collect Government revenue in time. Even in many cases the technical staff worked in the laboratory till late hours to avoid the pendency. Simultaneously, correspondence has been regularly being made with the higher authorities to resolve the situations.

6.2.4 Discrepancies between the analysis reports of Government laboratories

Rule 10 (7) of OMPTS Rules, 2007 effective prior to 16 April 2021[65], laid down that, in case the Senior Inspector of Mines (SIM) felt that the grade of stacked mineral was different from the grade mentioned in the analysis report, the SIM would draw joint samples from the said stacks, in the presence of the lessee or his authorized representative. The sample, so collected, would be prepared and divided into three parts and sealed with the joint signatures of the lessee or his authorized representative. The first part would be sent to the government laboratory for analysis, the second part would be handed over to the lessee, and the third part would be deposited with the Mining Officer/ DDM, as the umpire sample, to be used for final analysis in the government laboratory, in case the report from the first part of the sample was challenged by lessee. Further, the analysis results from the government laboratory would be considered as final.

Scrutiny of records, relating to analysis of the grade of minerals, revealed the following:–

i. In Deputy Director (Chemical Analysis) (DDCA), Jajpur Road, the results of 107 samples[66] of chromite, analysed by the DDCA, during November 2020 to September 2021, had been challenged by the lessee[67] of two mines. The umpire samples had been sent for analysis to the Joint Director (Chemical Analysis) Research Laboratory (JDCA), Bhubaneswar. Cross-checking of the umpire sample analysis reports, issued by JDCA, Bhubaneswar, with the first analysis reports issued by DDCA Jajpur Road, revealed that, in all 107 cases, there had been discrepancies (both upwards and downwards), ranging from (-) 18.74 *per cent* Cr_2O_3 to (+) 12.44 *per cent* Cr_2O_3, between the mineral content shown by the two government laboratory reports. There was not even a single case, across the 107 challanged samples, where the results of both government laboratories had matched.

ii. In DDCA, Joda, the results of 80 samples[68] of iron-ore, of two lessees[69], analysed by the DDCA, during September 2020 to March 2021, had been challenged by the lessees. The umpire samples had been analysed, by DDCA, Joda, in December 2021. Cross-checking of the umpire sample analysis reports, with the first analysis reports, revealed that, in all 80 cases, there had been discrepancies (both upwards and downwards), ranging from (-) 5.52 *per cent* Fe to (+) 06.02 *per cent* Fe between the mineral content shown by the two government laboratory reports. There was not even a single case

[65] Odisha Minerals (Prevention of Theft and Smuggling) Rules 2007 were amended w.e.f. 16 April 2021

[66] Out of 7,508 samples (1.43 *per cent*) relating to 2020-22

[67] M/s Tata Steel Mining Limited (TSML) of Sukinda and M/s Saruabil Chromite Mines

[68] Out of 4,976 samples (*0.16 per cent*) relating to 2020-21

[69] M/s Kashvi International of Jaribahal Iron ores and M/s Tarini Minerals of Deojhar Iron ore Mines

where the results of the two sets of samples, tested in the same government laboratory, had matched.

The above findings raised serious questions on the accuracy and reliability of the analysis reports being issued by the government laboratories. As the results of analysis of the initial and umpire samples were different in all cases, this indicated lack of robustness in the system of testing and analysis of samples.

Accepting the audit observation, in reply, the Government stated (September 2023) that, the accuracy and reliability of analysis report of the sample packets issued to the analyst has been properly maintained but since the homogeneity of different packets has not been maintained during the drawal process which reflects the difference in analysis reports. Recently, there has been a proposal to introduce robotic labs to minimize human interaction, thus reducing the level of erroneous analysis.

6.3 Issuance of Transit Pass (e-Pass)

As per Rule 10(A) of OMPTS (Amended) Rules, 2015, every mineral carrying vehicle (MCV) requires a transit pass, for removal of mineral from lease area. The i3MS portal generates an e-Pass for every MCV. Every e-Pass is uniquely bar-coded and contains specific details of the MCV concerned. The e-pass is to be scanned and verified at check gates, railway sidings *etc*. An e-Pass can be printed, only by the lessee/ licensee[70] who has been issued an e-permit for the total quantity of stacked mineral, proposed to be despatched from the mining lease area, which is regulated in i3MS module on the basis of individual login ID and password.

As per amended Rule 45 of the Mineral Conservation & Development Rules (MCDR), all State Governments have to register mineral carrying vehicles. The Directorate of Mines is required to facilitate online registration of truck owners and their vehicles, for electronic verification with the Transport department database, to check whether the concerned road permits, details of payment of road tax and fitness validity, are available or not.

Audit conducted scrutiny of i3MS data, for four circles[71], for the financial years 2015-22, in regard to the issuance of e-Passes. Findings are discussed below.

i. Issuance of e-Passes to mineral carrying vehicles not registered on i3MS

During 2015-22, a total of 4,78,38,521 e-passes had been generated by lessees/ licensees, under the four mining circles. It was, however, observed that 37,958 e-passes had been generated for MCVs not registered on the i3MS portal, as detailed in **Table 6.4**.

[70] Lessees: Lease holder of the mine Licensees: Licensed by DoM for trading, transporting and storing of mined minerals

[71] DDM, Joda, DDM, Koira, DDM, Jajpur Road; and DDM, Talcher

Table 6.4: E-passes generated by lessees/ licensees, for vehicles not registered on i3MS, during 2015-22

Financial Year	No. of Passes Generated by Lessee/ licensees		Total
	Registered Vehicle	Unregistered Vehicle	
2015-16	28,07,867	13,102	28,20,969
2016-17	81,30,999	4,961	81,35,960
2017-18	80,88,613	6,645	80,95,258
2018-19	77,42,523	3,362	77,45,885
2019-20	82,77,356	2,260	82,79,616
2020-21	65,83,114	1,369	65,84,483
2021-22	61,70,091	6,259	61,76,350
Total	**4,78,00,563**	**37,958**	**4,78,38,521**

Source: Information obtained from the i3MS portal

This indicated a lack of validation controls, in the i3MS software, for ensuring that e-passes were issued only for vehicles registered on i3MS.

Transportation of minerals through unregistered vehicles may facilitate the illegal transportation of unaccounted/ stolen/ unauthorisedly mined minerals, as the origin and destination of such minerals cannot be tracked through i3MS tracking module.

In reply, the Government stated (September 2023) that, the DDM, Jajpur Road has reported that he has imposed penalty amount of ₹3.40 lakh against the 27 erring licensees who have used un-registered vehicle in i3MS portal for transportation of minerals. Out of 27, 26 licensees have deposited the penalty amount of ₹3.15 lakh.

ii. Issuance of e-Passes to non - mineral carrying vehicles

Out of the 37,958 e-passes generated for the vehicles not registered on i3MS, Audit cross-checked the vehicle details in regard to 23,266 e-Passes, generated by the licensees, with the VAHAN database of the Transport department. It was noticed, in this regard, that 3,697 (16 *per cent*) e-passes were for vehicles that had been registered on the three-wheelers *etc*., which could not be mineral carrying vehicles. Details in this regard are shown in **Table 6.5.**

Table 6.5: Vehicles other than MCVs, for which e-Passes had been issued during 2015-22

Mineral	No. of e-Passes generated by licensees, for unregistered vehicles	No. of e-passes where vehicles found to be other than MCVs	Quantity of minerals shown having been transported on vehicles other than MCVs (in MT)
Coal	17,048	2,915	53,828.25
Dolomite	486	200	4,449.11
Gypsum	62	13	284.50
Limestone	935	102	1,839.48

Mineral	No. of e-Passes generated by licensees, for unregistered vehicles	No. of e-passes where vehicles found to be other than MCVs	Quantity of minerals shown having been transported on vehicles other than MCVs (in MT)
Pyroxenite	172	112	1,130.10
Quartzite	1,538	67	1,499.66
Bentonite	49	16	255.66
Chromite	224	10	228.10
Bauxite	940	11	239.08
Magnesite	397	7	137.79
Manganese	2	2	36.21
Iron Ore	1,371	242	3,343.88
Dunite	42	0	0.00
Total	**23,266**	**3,697**	**67,271.82**

Source: Information obtained from the i3MS portal and VAHAN database

As actual transportation of minerals, weighing 67,271.82 MT, using motorcycles/ cars/ three-wheelers, was not practicable, this indicated either incorrect entries or deliberate falsification of vehicle numbers, at the time of generation of e-Passes. The matter merits investigation, in order to establish the underlying causes and take remedial measures.

In reply, the Government stated (September 2023) that, the DDM, Koira has issued show cause notice to concerned licensees for engaging un-registered vehicles for transport of minerals during financial year 2015-16 to 2019-20. Further, only i3MS registered vehicles are being engaged for transportation of minerals.

However, the fact remains that there were instances of issue of e-passes to the unregistered vehicles of four circles and the compliance is furnished only on two circles. Moreover, Audit pointed out 37,958 unregistered vehicles for carrying minerals, whereas Government had taken action against 27 licences only. This clearly indicate lack of monitoring of unregistered vehicles for carrying minerals and possibility of illegal transportation of unaccounted/ stolen minerals cannot be ruled out.

6.4 Functioning of check gates/ weighbridges

Under Section 11 of the OMPTS Rules, 2007, check posts, barriers and weighbridges, are established to check transport and storage, of minerals raised with lawful authority, as also to check the quality and quantity of minerals transported from leasehold areas. All MCVs will normally pass through checkpost/(s) or checkpost-cum-weighbridge/(s) of the department, or other weighbridge/(s) installed in leasehold areas, plants or factory premises, approved by the Director of Mines. Government is to engage checking staff to supervise such weighments.

The lessees/ licensees are required to print the transit passes/ permits, generated through the i3MS software, which are, then, to be carried by all

MCVs. All MCVs are required to carry two copies of the transit passes/ permits, and stop at the check-posts/ weighbridges where the quantity and quality of the minerals is to be verified by Government checking staff. MCVs can proceed only after being cleared at the check-posts. At the check-gates/ weighbridges, the barcodes on these e-passes are to be scanned by the Government checking staff, using barcode scanners and also to be validated online, through the i3MS central server.

As per the business process of check gate automation in the solution architecture of the i3MS, each check-gate is required to have a weighbridge, computer, printer and internet connectivity (to access the i3MS central server), as well as two computer operators, for e-pass verification.

Analysis of records and data on check gates, in the i3MS portal, for 2017-22, and joint physical verification (by Audit, with officers in-charge of check gates), in respect of four check gates, under the Joda circle[72] and six check gates under the Koira circle[73], revealed the following:

i. Missing MCVs

Data from the i3MS software showed that a total of 1,18,44,864 e-passes had been generated, for MCVs routing through these 10 check gates. However, it was found that only 1,01,65,644 MCVs had actually been recorded as "checked" at these check gates. There was no record for the remaining 16,79,220 e-passes for MCVs (14 *per cent*) and there were risks that: (i) these MCVs had been routed through different routes, bypassing the check gates (ii) allowed to pass through the designated check-gates without any checking/ verification or (iii) had been physically checked but not recorded on the i3MS software, due to system issues *etc*. Details in this regard are shown in **Table 6.6**.

Table 6.6: MCVs routed through the test-checked check gates, during FY 2017-18 to 2021-22

Financial Year	DDM, Joda Circle			DDM, Koira Circle		
	No. of e-passes for Vehicles					
	Routed	Checked	Not Checked	Routed	Checked	Not Checked
2017-18	4,69,569	4,69,517	52	18,47,164	15,13,584	3,33,580
2018-19	8,79,092	8,78,408	684	16,16,529	13,92,462	2,24,067
2019-20	10,33,915	10,30,596	3,319	15,75,494	13,04,303	2,71,191
2020-21	5,72,392	5,45,922	26,470	16,37,802	11,56,013	4,81,789
2021-22	7,04,868	6,91,009	13,859	15,08,039	11,83,830	3,24,209
Total	**36,59,836**	**36,15,452**	**44,384**	**81,85,028**	**65,50,192**	**16,34,836**

Source:* *Information obtained from the i3MS portal

Non-checking of 16,79,220 e-passes generated for MCVs resulted in absence of end to end tracking of transportation of a minimum of 1.48

[72] Joda Circle – Gandarpada, Lahanda, Nayagarh and Nalda
[73] Koira Circle – Barsuan, Jamdihi, Koleiposh, Kolmong, Langaleswar and Malda

crore MT of iron ore (by taking into account 8.83 MT per MCV, the minimum quantity of minerals carried by the test checked MCVs during the audit period) valuing atleast ₹ 1,473.26 crore (calculated by taking the average ASP of five years in respect of lowest grade of iron-ore i.e. below 55% fines). In the absence of end to end tracking of these e passes, the risk of excess extraction and transportation of minerals in violation of existing regulatory framework could not be completely ruled out.

ii. Short-deployment of staff at check-gates

Joint physical inspections (JPIs) of ten check gates under the Joda and Koira circles were conducted by Audit along with officials of department during September 2022.

JPI of the check-gates revealed that adequate staff had not been deployed for checking of MCVs.

a. As per solution architecture of i3MS there is provision of posting of two computer operators at each checkgates. However, in JPI, it was observed that in each of the four checkgates of the Joda circle, only one regular check gate clerk had been posted. Moreover, other support staff were deputed by OMC, a State PSU and a lessee.

b. Out of the six check gates of the Koira circle, in two check gates (Jamdihi and Koleiposh) neither check gate clerk nor computer operator were posted. Two staff from OMC had been posted, at each check gate.

As check gates are operational for all 24 hours each day, a minimum of three persons are required to be deployed, on rotation basis (8-hour shifts), at each check gate. It is evident that 24X7 checking was not possible by staff posted at these check gates, which implied that, for some periods (particularly during the night), the check gates would have remained closed, causing MCVs to either wait for long hours until they reopened, or to pass through without checking.

In this regard, it is pertinent to mention that the shortage of manpower had been highlighted in Para No. 6.2.13.1 of the Report (No.4 of 2014) of the Comptroller and Auditor General of India, on Government of Odisha, for the year ended March 2013. However, the issue still remained unaddressed, even after nine years.

iii. Lack of internet connectivity at the check-gates

JPI of the above ten check-gates revealed that, two check gates[74] of the Joda circle and two check gates[75] of the Koira circle, had been operating without internet connectivity. Due to non-availability of internet facility in these four check gates, checking and updating of e-passes/ permits, in the i3MS software, could not be done. During 2017-22, a total of 62,14,409 e-

[74] Nalda and Nayagarh
[75] Barsuan and Jamdihi

passes for MCVs had been routed through these four check gates, for which the transit passes could only be physically checked at the check-gates, without any cross-verification/ validation on i3MS.

iv. Non-availability of barcode scanners

In six out of the ten test-checked check gates, *viz*. two check gates[76] of the Joda circle and four check gates[77] of the Koira circle, barcode scanners had not been provided. Due to non-availability of barcode scanners, 63,10,355 e-pass transit permits for MCVs could not be scanned and automatically verified on the i3MS software, and instead only physical checking of the e-pass could be done by the check-gate staff.

v. Non-installation of weighbridges

Out of the 10 cross-checked check gates, four check gates of the Koira circle (Barsuan, Jamdihi, Kolmong and Malda) had been functioning without any weighbridges. Due to non-availability of weighbridges at the check gates, the actual weights of the minerals transported, as per the transit passes, were not being cross-checked, and only the validity of the passes and vehicle numbers were being verified on i3MS, after which the MCVs were being designated as "checked". In such a scenario, transportation of excess quantities of minerals could not be ruled out.

vi. Non-working of weighbridge

In one check gate (Lahanda) of the Joda Circle, the weighbridge of the check-gate had not been in working condition from February 2020 to June 2022, due to which the actual weight of the minerals transported could not be verified. However, i3MS data showed that 3,44,589 e-passes for MCVs had been "checked" during this breakdown period. This established that the i3MS software had been designating MCVs as "checked", as soon as the barcode was scanned, without capture and cross-verification of the actual weight of minerals transported against the weights shown in the e-passes.

vii. Non-accessibility to weighbridges

The approach roads, to the weighbridges of two check gates[78] were not in a motorable condition. Due to this, MCVs were unable to access the weighbridge for weighment. The MCVs were being passed at the check gates only on the basis of verification of the validity of the passes and vehicle numbers on i3MS, without verification of the weights of the minerals recorded in the transit permits.

[76] Gandarpada and Lahanda
[77] Barsuan, Jamdihi, Kolmong and Malda
[78] Lahanda checkgate in the Joda Circle and Jamdihi checkgate in the Koira Circle

Photograph No. 1: Non availability of approach road at Lahanda Checkgate

Photograph No. 2: Non availability of approach road at Jamdihi Checkgate

Further, the MCVs had to perforce stand on the main roads / national highways, causing congestion around the check-gate area.

In reply, the Government stated (September 2023) that, during the financial year 2022-23, the Department has converted the existing weighbridges like Lahanda, Gandalpada and Nayagarh under Joda mining circle as unmanned weighbridges. The weighbridges were equipped with boom barrier, traffic lights, camera, displays, RFID readers *etc*. The weighbridge is fully automatic, and no manpower will be required. Currently the same is managed using handheld Barcode scanner. The Department is planning to mandate the FASTag in all the MCVs in the State, as they are plying on the National Highways. The Government has already decided to establish existing weighbridges and upcoming weighbridges in Koira, Jajpur and Keonjhar mining circle during the financial year 2023-24 and 2024-25. After establishment of same, the weighbridges would be independent without human interference.

The Government reply is silent about the deficiencies at check gates/ weighbridges pointed out by Audit. The Government reply is also futuristic assurance and subject to actual implementation.

6.5 Inspections

6.5.1 Inadequate number of raids by the State Level Enforcement Squad

The State Level Enforcement Squad (SLES), comprising personnel from the Police, Forest and Mining Departments, was constituted (May 2007), by the State Government, for the purpose of checking illegal mining activities. As per the instructions (April 2011) of the S&M Department, each team of SLES was required to inspect/ raid 30 to 35 lessees and licensees, per month. The squad was also required to check transportation of minerals en-route, as well as to conduct raids on free-hold areas (areas for which mining lease had not been granted) that were prone to illegal mining activities. The squad was not to be

kept idle at headquarters and the summary of the activities of SLES was to be submitted, on a monthly basis, to the S&M Department.

Scrutiny of records of raids/ inspections, conducted by the three SLES teams, for 2015-22, revealed the following –

i. Only 265 inspections/ raids had been conducted during 2015-22, by these three teams, against the target of 2,520 to 2,940 inspections/ raids. Thus, these achievement was only 9.01 to 10.52 *per cent* of the prescribed target.

ii. Monthly reports, containing summaries of the activities of the SLES, were clubbed into 52 reports and submitted with delays ranging up to 188 days after the scheduled dates. In four cases, consolidated reports for multiple months had been submitted, instead of monthly reports.

iii. Only 125 raids had been conducted on free-hold areas[79], during the period 2015-22, and no such raids had been conducted during FY 2021-22.

iv. Over the 84-month period during 2015-22, in violation of Government instructions, the SLES teams were kept idle at headquarters, without any raids having been conducted, for periods totalling 44 months[80] (52 *per cent* of the total period).

The inadequate raids/ inspections, of lessees, traders and free-hold areas prone to illegal mining *etc*., defeated the purpose of formation of the SLES and indicated that the State Government was not carrying out adequate monitoring, to protect its mineral resources from unauthorised activity.

In reply, the Government stated (September 2023) that no target is fixed by Government for SLES Team, so, SLES Team moves as and when there is some allegation/ complaint or any irregularities noticed in mining activities. There were three SLES Teams. In addition to the field visits for inspection, the SLES team members are to perform additional duties, also. Visit to a mine and verifying the field activities and books of account took longer time as the locations are far from headquarters and due to voluminous books of account and records. The number of inspections/raids might appear to be less in number, but maintaining the qualitative aspect of the raid was the main objective due to which large sum of penalty amount was collected and as a long term result of this verification this Department was able to achieve a record amount of revenue during 2021-22. For intensive SLES activities,

[79] Mineral Bearing Areas not leased out

[80] Team I - May, November and December 2016, April 2020 to May 2021, August 2021, Oct 2021 to March 2022 Team II - October, November 2017, October 2018, January and March 2020, April 2020 to May 2020, July 2020 to August 2020, Dec 2020 to Feb 2021, May 2021 to June 2021, Aug 2021 to Dec 2021, Feb 2021 to March 2021 Team III - October, November 2017, January, May, June, September 2018, December 2019, January, February and March 2020, April 2021 to July 2021, September 2021, January 2021 to Dec 2022, Feb 2022 to March 2022

steps are being taken for recruitment of more staff. Further, during Covid period, the SLES team could not move to mines area to conduct raid.

The reply is not acceptable, as the teams had been sitting idle for 44 months, *i.e.* 52 *per cent* of the total period of 84 months, at headquarters, in contravention of Government instructions. Therefore, the objective behind constitution of the SLES, to check illegal mining activities was not achieved.

6.5.2 Inadequate inspection of mines

Section 24 (1) of the MMDR Act, 1957, empowers mining authorities to conduct inspection of mines. As per the instructions of DoM (July 1987), DDMs/ MOs are required to inspect all working mines leases at least once in six months, non-working mines leases once in a year, and large mines at least once in each quarter. Inspection reports are required to be submitted to the Directorate by 15th of the month following the month of inspection.

Scrutiny of records, of inspections, in the five test-checked mining circles, revealed that there had been shortfalls in inspection of working and non-working mines, during the period 2015-22, varying from 73.96 to 100 *per cent*, as shown in **Table 6.7.**

Table 6.7: Shortfall in inspections during 2015-22

Circle	Number of			*Percentage* of shortfall	Number of			*Percentage* of shortfall
	Working Mines	Inspections			Non-working Mines	Inspections		
		Due	Carried out			Due	Carried out	
Jajpur Road	12	168	11	93.45	4	28	0	100
Talcher	12	120	0	100	9	45	0	100
Koira	31	434	53	87.78	45	315	82	73.96
Joda	27	378	0	100	40	280	0	100
Berhampur	16	160	10	93.75	22	110	7	93.63
Total	**98**	**1,260**	**74**		**120**	**778**	**89**	

Source: Information provided by the DDM offices

These shortfalls, in the inspection of mines, implied that the department was not carrying out adequate monitoring, to protect its mineral resources from unauthorised activities.

Upon the aforementioned facts being pointed out by Audit, DDM, Koira, stated (September 2022) that periodic inspection of mines was being conducted by the SLES and joint inspection with IBM officials was also being conducted. The fact remained, however, that the *percentage* of inspections, by DDMs/ MOs, in the areas under their direct jurisdictions was very low.

The issue of shortfall in inspections of mines had also been highlighted in Para No. 6.2.13.2 of the Report of the Comptroller and Auditor General of India, on the Government of Odisha, for the year ended March 2013. However, the issue still remained unaddressed, even after the passage of nine years.

Accepting the audit observation, in reply, the Government stated (September 2023) that, as per guidelines, inspection of mines (working and non-working) is being conducted. However, instruction in the audit observation will be followed and copy of inspection report will be kept in the lease files henceforth.

Recommendations:

Government should:

13. **investigate the cases of unchecked e-passes generated for the MCVs and revamp the existing mechanism to ensure control over unchecked passes for end to end monitoring of movement of mineral resources.**
14. **ensure deployment of adequate personnel at the checkgates, weighbridges and laboratories, as also availability of the required equipment for smooth functioning of the check gates/ weighbridges and Government laboratories.**
15. **ensure carrying out required quantum of inspections/ raids by the SLES, as well as inspection of mines by the DDsM, for adequate monitoring of mining activities and for protecting its mineral resources from unauthorised activities.**

Bhubaneswar
The 21 July 2024

(VISHWANATH SINGH JADON)
Accountant General (Audit-II), Odisha

Countersigned

New Delhi
The 25 July 2024

(GIRISH CHANDRA MURMU)
Comptroller and Auditor General of India

Appendices

Appendix-I

(Refer paragraph- 3.2.1(i) at page 26)

Short levy of royalty and premium due to reporting of lower grades of iron ore – Jajang iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Financial Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Financial Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Jajang	Rungta mines	2014-20	26,90,105	0.03	72.03	4.95	21.63	0.04	1.32	JSW	110%	2020-21	12,97,520	389	5,438	3,17,523	23,28,499	9,34,604	4,835	67,78,05,725	4,97,05,75,315
												110%	2021-22	26,65,436	800	9,838	11,79,955	86,53,005	19,19,914	8,612	2,48,02,64,320	18,18,86,05,010
Fines			2014-20	79,24,907	0.00	42.40	40.37	0.00	16.60	0.64		110%	2020-21	48,58,860	0	3,838	0	0	20,60,157	3,601	1,11,27,24,937	8,15,99,82,873
												110%	2021-22	95,33,897	0	6,753	0	0	40,42,372	6,389	3,87,42,09,639	28,41,08,70,687

Grade-wise estimated production based on percentage of old lessee and royalty leviable																	
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
64,227	4,187	4,03,41,129	29,58,34,949	2,80,654	3,370	14,18,56,350	1,04,02,79,900	519	3,167	2,46,572	18,08,195	17,127	2,201	56,53,424	4,14,58,446	86,62,20,723	6,35,22,85,304	7,21,85,06,027
1,31,939	7,366	14,57,79,492	1,06,90,49,606	5,76,534	6,047	52,29,37,783	3,83,48,77,074	1,066	5,279	8,44,170	61,90,582	35,184	3,522	1,85,87,578	13,63,08,904	3,16,95,93,297	23,24,36,84,180	26,41,32,77,477
19,61,522	3,195	94,00,92,006	6,89,40,08,044	0	2,871	0	0	8,06,571	2,871	34,72,95,926	2,54,68,36,794	31,097	1,393	64,98,175	4,76,53,280	2,40,66,11,044	17,64,84,80,991	20,05,50,92,035
38,48,834	5,156	2,97,69,28,937	21,83,08,12,205	0	4,306	0	0	15,82,627	3,861	91,66,37,719	6,72,20,09,938	61,017	1,964	1,79,79,404	13,18,48,965	7,78,57,55,699	57,09,55,41,795	64,88,12,97,494

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	51,29,07,176	3,76,13,19,292	0	8,695	0	0	0	8,341	0	0	0	7,193	0	0
2021-22	66,96,73,271	4,91,09,37,318	0	8,695	0	0	0	8,341	0	0	47,275	7,193	5,10,07,868	37,40,57,701
2020-21	1,89,53,22,001	13,89,90,28,004	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0
2021-22	5,50,18,04,121	40,34,65,63,553	0	5,974	0	0	0	5,215	0	0	15,813	4,523	1,07,28,364	7,86,74,668

Royalty and premium leviable against closing balance as on March 2022															Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Total royalty collectable	Total premium collectable	Royalty and premium collectable	
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0		3,763	0	0	51,29,07,176	3,76,13,19,292	4,27,42,26,468	2,94,42,79,559
12,52,115	5,780	1,08,55,83,324	7,96,09,44,372	3,25,270	4,389	21,41,41,393	1,57,03,70,212	7,93,492	3,763	44,78,86,559	3,28,45,01,436	2,46,82,92,414	18,10,08,11,039	20,56,91,03,453	5,84,41,74,024
0	3,764	0	0	0	3,580	0	0		1,838	0	0	1,89,53,22,001	13,89,90,28,004	15,79,43,50,005	4,26,07,42,030
2,16,175	3,764	12,20,52,534	89,50,51,914	3,40,383	3,580	18,27,85,403	1,34,04,26,285	2,95,867	1,838	8,15,70,623	59,81,84,568	5,89,89,41,044	43,25,89,00,988	49,15,78,42,032	15,72,34,55,462
														Total	**2877,26,51,075**

Royalty and Premium collectable against closing balance as of March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM)

Appendix-II

(Refer paragraph- 3.2.1(ii) at page 28)

Short levy of royalty and premium due to reporting of lower grades of iron ore – Roida-II iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Roida - II	K.N. Ram and Co.	2014-21	4,83,464	0.01	81.70	18.30	0.00	0.00	0	Narbheram Power and Steel	90.90%	2020-21	1,36,310	14	6,145	12,564	76,140	1,11,365	5,637	9,41,67,792	57,06,56,818
												90.90%	2021-22	2,44,121	24	9,838	36,023	2,18,300	1,99,447	8,612	25,76,58,042	1,56,14,07,734
Fines			2014-20	16,18,375	0.00	90.37	7.08	2.53	0.00	0.02		90.90%	2020-21	12,74,031	0	4,979	0	0	11,51,342	4,346	75,04,73,178	4,54,78,67,459
												90.90%	2021-22	21,16,051	0	6,753	0	0	19,12,275	6,389	1,83,27,24,533	11,10,63,10,669

	Grade-wise estimated production based on percentage of old lessee and royalty leviable																
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
24,945	4,860	1,81,83,481	11,01,91,895	0	3,759	0	0	0	3,558	0	0	0	2,531	0	0	11,23,63,837	68,09,24,853	79,32,88,690
44,674	7,366	4,93,60,485	29,91,24,538	0	6,047	0	0	0	5,279	0	0	0	3,522	0	0	30,70,54,550	1,86,07,50,573	2,16,78,05,123
90,201	3,761	5,08,91,613	30,84,03,177	32,233	3,313	1,60,18,983	9,70,75,038	0	3,313	0	0	255	1,504	57,465	3,48,239	81,74,41,240	4,95,36,93,913	5,77,11,35,153
1,49,816	5,156	11,58,77,369	70,22,16,857	53,536	4,306	3,45,76,951	20,95,36,324	0	3,861	0	0	423	1,964	1,24,704	7,55,707	1,98,33,03,557	12,01,88,19,556	14,00,21,23,113

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	11,65,00,612	70,59,93,729	0	8,695	0	0	0	8,341	0	0	0	7,193	0	0
2021-22	14,51,34,228	87,95,13,558	0	8,695	0	0	3,401	8,341	42,55,261	2,57,86,883	80,972	7,193	8,73,65,203	52,94,33,132
2020-21	14,41,342	87,34,534	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0
2021-22	1,31,84,85,055	7,99,00,21,658	0	5,974	0	0	10,60,440	5,215	82,95,29,307	5,02,69,47,602	3,56,425	4,523	24,18,16,290	1,46,54,06,715

Royalty and premium leviable against closing balance as on March 2022												Total royalty collectable	Total premium collectable	Royalty and premium collectable	Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable				
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0		3,763	0	0	11,65,00,612	70,59,93,729	82,24,94,341	-2,92,05,651
17,607	5,780	1,52,65,434	9,25,08,528	1,870	4,389	12,30,851	74,58,958	0	3,763	0	0	25,32,50,978	1,53,47,01,060	1,78,79,52,038	37,98,53,085
0	3,764	0	0	0	3,580	0	0		1,838	0	0	14,41,342	87,34,534	1,01,75,876	5,76,09,59,277
1,58,817	3,764	8,96,68,118	54,33,88,797	1,14,103	3,580	6,12,73,139	37,13,15,220	11,900	1,838	32,80,750	1,98,81,345	2,54,40,52,658	15,41,69,61,337	17,96,10,13,995	-3,95,88,90,882
														Total	**2,15,27,15,829**

Royalty and Premium collectable against closing balance as of March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM)

Appendix-III

(Refer paragraph - 3.2.1(iii) at page 31)

Short levy of royalty and premium due to reporting of lower grades of iron ore – Thakurani iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Thakurani	Keypee Entp	2014-20	8,09,137	0.00	97.12	2.88	0.00	0.00	0.00	Arcelor Mittal	107.55%	2020-21	5,87,370	0	5,438	0	0	5,70,454	4,835	41,37,11,929	2,96,63,14,534
												107.55%	2021-22	11,33,910	0	9,838	0	0	11,01,253	8,612	1,42,26,67,646	10,20,05,27,025
Fines			2014-20	33,91,507	0.00	99.16	0.08	0.76	0.00	0.00		107.55%	2020-21	30,39,796	0	3,838	0	0	30,14,262	3,601	1,62,80,53,150	11,67,31,41,085
												107.55%	2021-22	43,63,978	0	6,753	0	0	43,27,320	6,389	4,14,73,03,573	29,73,61,66,621

	Grade-wise estimated production based on percentage of old lessee and royalty leviable																	
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
16,916	4,187	1,06,25,097	7,61,81,944	0	3,370	0	0	0	3,167	0	0	0	2,201	0	0	42,43,37,026	3,04,24,96,478	3,46,68,33,504
32,657	7,366	3,60,82,278	25,87,09,935	0	6,047	0	0	0	5,279	0	0	0	3,522	0	0	1,45,87,49,925	10,45,92,36,960	11,91,79,86,885
2,432	3,195	11,65,498	83,56,624	23,102	2,871	99,47,531	7,13,23,795	0	2,871	0	0	0	1,393	0	0	1,63,91,66,179	11,75,28,21,504	13,39,19,87,683
3,491	5,156	27,00,298	1,93,61,139	33,166	4,306	2,14,20,824	15,35,87,305	0	3,861	0	0	0	1,964	0	0	4,17,14,24,695	29,90,91,15,065	34,08,05,39,760

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	0	0	0	8,695	0	0		8,341	0	0		7,193	0	0
2021-22	59,06,14,512	4,23,47,07,799	**0**	8,695	0	0	0	8,341	0	0	4,34,003	7,193	46,82,67,029	3,35,74,74,596
2020-21	1,70,61,94,135	12,23,34,15,458	0	5,974	0	0		5,215	0	0		4,523	0	0
2021-22	4,15,93,69,135	29,82,26,79,447	**0**	5,974	0	0	181	5,215	1,41,882	10,17,295	31,828	4,523	2,15,93,467	15,48,25,159

Royalty and premium leviable against closing balance as on March 2022												Total royalty collectable	Total premium collectable	Royalty and premium collectable	Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable				
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0	0	3,763	0	0	0	0	0	3,46,68,33,504
8,11,810	5,780	70,38,39,617	5,04,65,30,052	0	4,389	0	0	0	3,763	0	0	1,76,27,21,158	12,63,87,12,447	14,40,14,33,605	-2,48,34,46,720
0	3,764	0	0	0	3,580	0	0	0	1,838	0	0	1,70,61,94,135	12,23,34,15,458	13,93,96,09,593	-54,76,21,910
17,384	3,764	98,15,085	7,03,74,163	0	3,580	0	0	0	1,838	0	0	4,19,09,19,570	30,04,88,96,064	34,23,98,15,634	-15,92,75,874
														Total	**27,64,89,000**

Royalty and Premium collectable against closing balance as on March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM)

Appendix-IV

(Refer paragraph - 3.2.1(iv) at page 33)

Short levy of royalty and premium due to reporting of lower grades of iron ore – Nuagaon iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Nuagaon	KJS Ahluwalia	2014-20	15,56,037	0	97.83	2.00	0.16	0	0.01	JSW	95.20%	2020-21	9,63,743	0	5,438	0	0	9,42,830	4,835	68,37,71,475	4,33,96,69,631
												95.20%	2021-22	14,38,395	0	9,838	0	0	14,07,182	8,612	1,81,78,85,435	11,53,75,12,894
Fines			2014-20	30,55,474	0	91.99	1.00	1.13	1.73	4.14		95.20%	2020-21	31,83,358	0	3,838	0	0	29,28,371	3,601	1,58,16,61,872	10,03,82,80,682
												95.20%	2021-22	48,92,392	0	6,753	0	0	45,00,511	6,389	4,31,32,90,127	27,37,50,14,670

	Grade-wise estimated production based on percentage of old lessee and royalty leviable																	
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
19,275	4,187	1,21,06,538	7,68,36,159	1,542	3,370	7,79,398	49,46,580	0	3,167	0	0	96	2,201	31,812	2,01,897	69,66,89,223	4,42,16,54,267	5,11,83,43,490
28,768	7,366	3,17,85,653	20,17,32,943	2,301	6,047	20,87,485	1,32,48,572	0	5,279	0	0	144	3,522	75,990	4,82,286	1,85,18,34,563	11,75,29,76,694	13,60,48,11,257
31,834	3,195	1,52,56,773	9,68,29,650	35,972	2,871	1,54,88,919	9,83,03,006	55,072	2,871	2,37,13,124	15,04,99,292	1,31,791	1,393	2,75,39,928	17,47,86,745	1,66,36,60,616	10,55,86,99,374	12,22,23,59,990
48,924	5,156	3,78,40,817	24,01,63,055	55,284	4,306	3,57,05,882	22,66,13,328	84,638	3,861	4,90,21,493	31,11,23,073	2,02,545	1,964	5,96,82,425	37,87,84,454	4,49,55,40,743	28,53,16,98,581	33,02,72,39,324

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	53,49,10,285	3,39,48,97,342	0	8,695	0	0	0	8,341	0	0	0	7,193	0	0
2021-22	84,53,03,254	5,36,48,58,759	0	8,695	0	0	3,85,702	8,341	48,25,70,432	3,06,27,13,673	3,42,251	7,193	36,92,71,490	2,34,36,43,056
2020-21	1,88,07,11,982	11,93,62,50,802	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0
2021-22	3,80,97,32,995	24,17,91,09,459	10,849	5,974	97,22,183	6,17,03,456	1,36,917	5,215	10,71,03,046	67,97,47,329	78,829	4,523	5,34,81,556	33,94,29,609

Royalty and premium leviable against closing balance as on March 2022												Total royalty collectable	Total premium collectable	Royalty and premium collectable	Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable				
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0	0	3,763	0	0	53,49,10,285	3,39,48,97,342	3,92,98,07,627	1,18,85,35,863
3,70,670	5,780	32,13,70,890	2,03,96,33,915	0	4,389	0	0	0	3,763	0	0	2,01,85,16,066	12,81,08,49,403	14,82,93,65,469	-1,22,45,54,212
0	3,764	0	0	0	3,580	0	0	0	1,838	0	0	1,88,07,11,982	11,93,62,50,802	13,81,69,62,784	-1,59,46,02,794
1,34,351	3,764	7,58,54,597	48,14,23,843	15,578	3,580	83,65,150	5,30,90,817	0	1,838	0	0	4,06,42,59,527	25,79,45,04,514	29,85,87,64,041	3,16,84,75,283
														Total	**153,78,54,140**

Royalty and Premium collectable against closing balance as on March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM)

Appendix-V

(Refer paragraph - 3.2.1(v) at page 35)

Short levy of royalty and premium due to reporting of lower grades of iron ore – Jaribahal iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Jaribahal	Patnaik Minerals	2018-20	5,39,839	0	70.41	19.46	10.13	0	0	Kashvi International	150%	2020-21	1,84,800	0	5,603	0	0	1,30,118	5,058	9,87,22,830	98,72,28,304
												150%	2021-22	2,91,448	0	9,838	0	0	2,05,208	8,612	26,51,00,759	2,65,10,07,586
Fines			2018-20	5,58,001	0.00	38.24	26.05	2.49	32.70	0.52		150%	2020-21	5,96,232	0	4,136	0	0	2,27,999	3,795	12,97,88,454	1,29,78,84,537
												150%	2021-22	7,19,877	0	6,753	0	0	2,75,281	6,389	26,38,29,093	2,63,82,90,934

	Grade-wise estimated production based on percentage of old lessee and royalty leviable																
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
35,962	4,402	2,37,43,090	23,74,30,900	18,720	3,513	98,65,343	9,86,53,432	0	3,286	0	0	0	2,232	0	0	13,23,31,263	1,32,33,12,635	1,45,56,43,898
56,716	7,366	6,26,65,159	62,66,51,587	29,524	6,047	2,67,79,041	26,77,90,411	0	5,279	0	0	0	3,522	0	0	35,45,44,958	3,54,54,49,584	3,89,99,94,542
1,55,318	3,339	7,77,82,476	77,78,24,759	14,846	2,974	66,21,764	6,62,17,638	1,94,968	2,974	8,69,60,512	86,96,05,124	3,100	1,457	6,77,535	67,75,355	30,18,30,741	3,01,83,07,412	3,32,01,38,153
1,87,528	5,156	14,50,45,743	1,45,04,57,429	17,925	4,306	1,15,77,037	11,57,70,368	2,35,400	3,861	13,63,40,515	1,36,34,05,148	3,743	1,964	11,03,027	1,10,30,272	55,78,95,415	5,57,89,54,150	6,13,68,49,565

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	8,89,35,500	88,93,55,008	0	8,695	0	0	0	8,341	0	0	0	7,193	0	0
2021-22	12,79,13,312	1,27,91,33,126	0	8,695	0	0	0	8,341	0	0	14,510	7,193	1,56,55,773	15,65,57,727
2020-21	15,36,45,663	1,53,64,56,630	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0
2021-22	23,52,14,411	2,35,21,44,105	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0

Royalty and premium leviable against closing balance as on March 2022														Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Total royalty collectable	Total premium collectable	Royalty and premium collectable	
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0	0	3,763	0	0	8,89,35,500	88,93,55,008	97,82,90,508	47,73,53,390
28,811	5,780	2,49,79,449	24,97,94,491	0	4,389	0	0	50,421	3,763	2,84,59,921	28,45,99,207	19,70,08,455	1,97,00,84,551	2,16,70,93,006	1,73,29,01,536
0	3,764	0	0	0	3,580	0	0	0	1,838	0	0	15,36,45,663	1,53,64,56,630	1,69,01,02,293	1,63,00,35,860
26,685	3,764	1,50,66,120	15,06,61,195	25,147	3,580	1,35,03,763	13,50,37,634	12,844	1,838	35,41,100	3,54,10,996	26,73,25,393	2,67,32,53,930	2,94,05,79,323	3,19,62,70,242
														Total	**703,65,61,028**

Royalty and Premium collectable against closing balance as on March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM))

Appendix-VI

(Refer paragraph - 3.2.1(vi) at page 37)

Short levy of royalty and premium due to reporting of lower grades of iron ore after auction – Gonua iron ore mine

(Quantity in MT and amount in ₹)

Type of Ore	Name of the mines	Name of the old lessee	Year	Total Average production	Grade wise Production						Name of the Auctioned lessee	Premium Rate	Year	Total production	Grade-wise estimated production based on percentage of old lessee and royalty leviable							
					Above 65 (%)	62-65 (%)	60-62 (%)	58-60 (%)	55-58 (%)	Below 55 (%)					Above 65 (%)	Average ASP	Royalty leviable	Premium leviable	62-65 (%)	Average sale price	Royalty leviable	Premium leviable
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*
Lumps	Gonua	PK Ahluwalia	2018-20	2,05,690	0.00	100	0.00	0.00	0.00	0.00	JSW	132%	2020-21	1,12,671	0	5,438	0	0	1,12,671	4,835	8,17,12,765	71,90,72,331
												132%	2021-22	1,21,627	0	9,838	0	0	1,21,627	8,612	15,71,25,360	1,38,27,03,171
Fines			2018-20	2,04,660	0.00	100	0.00	0.00	0.00	0.00		132%	2020-21	5,82,487	0	3,838	0	0	5,82,487	3,601	31,46,10,937	2,76,85,76,244
												132%	2021-22	8,69,418	0	6,753	0	0	8,69,418	6,389	83,32,50,211	7,33,26,01,859

	Grade-wise estimated production based on percentage of old lessee and royalty leviable																	
60-62 (%)	Average ASP	Royalty leviable	Premium leviable	58-60 (%)	Average ASP	Royalty leviable	Premium leviable	55-58 (%)	Average ASP	Royalty leviable	Premium leviable	Below 55 (%)	Average ASP	Royalty leviable	Premium leviable	Total royalty	Total premium	Royalty and premium
(24)	*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	*(32)*	*(33)*	*(34)*	*(35)*	*(36)*	*(37)*	*(38)*	*(39)*	*(40)*	*(41)*	*(42)*
0	4,187	0	0	0	3,370	0	0	0	3,167	0	0	0	2,201	0	0	8,17,12,765	71,90,72,331	80,07,85,096
0	7,366	0	0	0	6,047	0	0	0	5,279	0	0	0	3,522	0	0	15,71,25,360	1,38,27,03,171	1,53,98,28,531
0	3,195	0	0	0	2,871	0	0	0	2,871	0	0	0	1,393	0	0	31,46,10,937	2,76,85,76,244	3,08,31,87,181
0	5,156	0	0	0	4,306	0	0	0	3,861	0	0	0	1,964	0	0	83,32,50,211	7,33,26,01,859	8,16,58,52,070

Year	Royalty levied on Despatch	Premium levied on Despatch	Royalty and premium leviable against closing balance as on March 2022											
			Above 65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	62-65 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	60-62 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable
(43)	*(44)*	*(45)*	*(46)*	*(47)*	*(48)*	*(49)*	*(50)*	*(51)*	*(52)*	*(53)*	*(54)*	*(55)*	*(56)*	*(57)*
2020-21	5,15,65,747	45,37,78,569	0	8,695	0	0	0	8,341	0	0	0	7,193	0	0
2021-22	0	0	0	8,695	0	0	65,367	8,341	8,17,84,272	71,97,01,597	37,175	7,193	4,01,09,664	35,29,65,044
2020-21	24,14,62,907	2,12,48,73,579	0	5,974	0	0	0	5,215	0	0	0	4,523	0	0
2021-22	61,78,23,259	5,43,68,44,680	0	5,974	0	0	59,421	5,215	4,64,81,777	40,90,39,636	56,922	4,523	3,86,18,806	33,98,45,489

Royalty and premium leviable against closing balance as on March 2022												Total royalty collectable	Total premium collectable	Royalty &andpremium collectable	Short levy of royalty and premium
58-60 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	55-58 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable	Below 55 (%)	ASP of Mar 2022	Royalty collectable	Premium collectable				
(58)	*(59)*	*(60)*	*(61)*	*(62)*	*(63)*	*(64)*	*(65)*	*(66)*	*(67)*	*(68)*	*(69)*	*(70)*	*(71)*	*(72)*	*(73)*
0	5,780	0	0	0	4,389	0	0	0	3,763	0	0	5,15,65,747	45,37,78,569	50,53,44,316	29,54,40,780
62,036	5,780	5,37,85,212	47,33,09,866	11,712	4,389	77,10,595	6,78,53,238	0	3,763	0	0	18,33,89,744	1,61,38,29,745	1,79,72,19,489	-25,73,90,958
0	3,764	0	0	0	3,580	0	0	0	1,838	0	0	24,14,62,907	2,12,48,73,579	2,36,63,36,486	71,68,50,695
28,819	3,764	1,62,70,998	14,31,84,787	4,024	3,580	21,60,896	1,90,15,881	0	1,838	0	0	72,13,55,735	6,34,79,30,472	7,06,92,86,207	1,09,65,65,863
														Total	**185,14,66,380**

Royalty and Premium collectible against closing balance as on March 2022 has been calculated by taking into account the ASP of different grades of iron ore of March 2022

(Source: Annual production reported in i3MS and Average of ASP published by IBM)

Appendix-VII
(Refer paragraph 3.2.1 at page 40)
Consolidated statement of short levy of royalty and premium due to reporting of lower grades of iron ore by the six lessees, post-auction

(Quantity in MT/ Amount in ₹)

Name of the Auctioned lessee	Location	Financial Year	Type of Ore	Total production	Royalty and premium leviable	Royalty and premium levied	Short levy of royalty and premium
JSW Ltd.	Jajang	2020-21	Lumps	12,97,520	7,21,85,06,027	4,27,42,26,469	2,94,42,79,558
		2021-22		26,65,436	26,41,32,77,478	20,56,91,03,454	5,84,41,74,024
		2020-21	Fines	48,58,860	20,05,50,92,035	15,79,43,50,004	4,26,07,42,031
		2021-22		95,33,897	64,88,12,97,494	49,15,78,42,031	15,72,34,55,463
					Total		**2877,26,51,076**
Narbheram Power and Steel Pvt. Ltd.	Roida-II	2020-21	Lumps	1,36,310	79,32,88,690	82,24,94,341	-2,92,05,651
		2021-22		2,44,121	2,16,78,05,123	1,78,79,52,037	37,98,53,086
		2020-21	Fines	12,74,031	5,77,11,35,152	1,01,75,876	5,76,09,59,276
		2021-22		21,16,051	14,00,21,23,114	17,96,10,13,995	-3,95,88,90,881
					Total		**215,27,15,830**
Arcelor Mittal	Thakurani	2020-21	Lumps	5,87,370	3,46,68,33,504	0	3,46,68,33,504
		2021-22		11,33,910	11,91,79,86,885	14,40,14,33,605	-2,48,34,46,720
		2020-21	Fines	30,39,796	13,39,19,87,683	13,93,96,09,593	-54,76,21,910
		2021-22		43,63,978	34,08,05,39,760	34,23,98,15,634	-15,92,75,874
					Total		**27,64,89,000**
JSW Ltd.	Nuagaon	2020-21	Lumps	9,63,743	5,11,83,43,490	3,92,98,07,627	1,18,85,35,863
		2021-22		14,38,395	13,60,48,11,257	14,82,93,65,468	-1,22,45,54,211
		2020-21	Fines	31,83,358	12,22,23,59,989	13,81,69,62,784	-1,59,46,02,795
		2021-22		48,92,392	33,02,72,39,323	29,85,87,64,040	3,16,84,75,283
					Total		**153,78,54,140**
Kashvi International	Jaribahal	2020-21	Lumps	1,84,800	1,45,56,43,898	97,82,90,509	47,73,53,389
		2021-22		2,91,448	3,89,99,94,542	2,16,70,93,006	1,73,29,01,536
		2020-21	Fines	5,96,232	3,32,01,38,154	1,69,01,02,293	1,63,00,35,861
		2021-22		7,19,877	6,13,68,49,565	2,94,05,79,323	3,19,62,70,242
					Total		**703,65,61,028**
JSW Ltd.	Gonua	2020-21	Lumps	1,12,671	80,07,85,096	50,53,44,316	29,54,40,780
		2021-22		1,21,627	1,53,98,28,531	1,79,72,19,488	-25,73,90,957
		2020-21	Fines	5,82,487	3,08,31,87,181	2,36,63,36,485	71,68,50,696
		2021-22		8,69,418	8,16,58,52,070	7,06,92,86,208	1,09,65,65,862
					Total		**185,14,66,381**
					Grand Total		**4,162,77,37,455**

(Source: Calculated by Audit on the basis of annual production reported in i3MS)

Appendix– VIII
(Refer paragraph 3.2.2 at page 41)
Reporting of iron-ore fines as screened fines

(₹ in Crore)

Name of Circle	Sl. No.	Lessee	Total despatch quantity	Quantity of screen fines despatched in MT	Quantity of Screen fines estimated to be despatched as per declared production prior to 2010 (percentage of total production)	Excess quantity of screen fines reported to be despatched	Royalty			Premium		
							Amount realised	Amount realisable	Short realised	Amount realised	Amount realisable	Short realised
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*
Joda	1	Serajuddin_Balda	5,01,23,750.71	3,13,50,885.88	60,14,854.73	2,53,36,038.15	752.51	1,536.34	783.83			
	2	Indrani Patnaik Unchabali	2,48,32,610.39	1,57,24,886.18	17,38,287.52	1,39,86,605.66	481.88	836.83	354.95			
	3	Rungta_Jajang	5,98,46,049.45	3,88,11,587.39	0	0	1,111.89	2,250.82	1,138.93			
	4	KN Ram_Roida_II	1,26,69,435.11	95,36,185.76	0	0	266.38	523.62	257.24			
	5	Keypee_Thakurani	2,57,31,522.63	2,01,22,791.68	0	0	561.16	1,152.24	591.08			
	6	KJS Ahluwalia Nuagaon	3,22,66,019.72	1,72,25,057.06	0	0	496.28	965.77	469.49			
	7	ESSEL Jilling	1,30,61,751.30	27,24,375.05	0	0	96.25	193.75	97.50			
	8	Tarini Minerals Deojhar	33,64,408.93	22,75,190.46	0	0	62.84	106.33	43.49			
	9	Patnaik Minerals Jaribahal	24,22,430.70	11,30,351.23	0	0	28.51	51.43	22.92			
	10	T P Mohanty Naibega	26,71,607.65	11,44,762.76	0	0	29.54	44.56	15.02			
Koira	11	Jindal TRB	1,73,34,168.60	96,18,326.08	6,93,366.74	89,24,959.34	281.27	453.38	172.11			
	12	OMC Kurmitar	1,94,50,023.87	64,58,406.93	0	0	335.31	589.78	254.47			
	13	AMTC Narayanposi	2,09,15,139.61	1,25,11,001.12	87,84,358.63	37,26,642.49	65.33	118.40	53.07			
	14	BICO Nadidihi	1,54,59,512.55	1,11,30,056.31	35,22,554.10	76,07,509.20	323.36	452.12	128.76			
	15	Rungta Orghat	2,59,82,893.27	1,70,52,281.33	70,15,381.18	1,00,36,900.15	533.65	866.99	333.34			
	16	PTA Raikela	65,41,604.89	9,46,291.81	0	0	23.42	33.38	9.96			
	17	MGM Petabeda	43,61,839.01	15,97,333.42	87,236.78	15,10,096.64	84.37	119.13	34.76			
	18	Geetarani Raikela	48,23,484.02	30,65,419.49	0	0	198.37	267.71	69.34			
	19	ESSEL Koira Iron Mines	2,87,33,133.66	1,43,61,213.40	0	0	472.41	844.03	371.62			
Joda	20	JSW Jajang	1,50,69,323.03	1,29,04,512.77	0	0	707.75	989.89	282.14	5,190.18	7,259.17	2,068.99
	21	JSW Nuagaon	90,02,758.87	69,11,862.79	0	0	491.64	665.44	173.80	3,120.28	4,223.35	1,103.07
Koira	22	JSW Gonua	13,60,727.63	12,63,688.97	0	0	82.10	114.25	32.15	722.51	1,005.37	282.86
	23	JSW Narayanaposi	71,58,737.23	58,41,877.89	0	0	378.13	529.96	151.83	2,484.30	3,481.82	997.52
Total			**40,31,82,932.83**	**24,37,08,345.76**	**2,78,56,039.68**	**7,11,28,751.63**	**7,864.35**	**13,706.15**	**5,841.80**	**11,517.27**	**15,969.71**	**4,452.44**

(Source: Information furnished by the DDMs)

Appendix-IX

(Refer paragraph 3.3.2 at page 51)

Ex-Mines Prices (PMV) of Lessees (FY 2015-16) worked out from the total sale values and quantities furnished to IBM, in F1 Returns

(Amount in ₹)

62% - 65%-Fines		April 2015			May 2015			June 2015			July 15			August 2015			September 2015			October 2015			November 2015			December 2015			January 2016			February 2016			March 2016		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,800	1,800		1,600	1,800		1,600	1,800		1,600	1,600		1,500	1,600		1,400	1,500		1,400	1,600		1,400	1,600		1,400	1,450		0	0		0	0		1,200	1,250	
	Kaypee, Thakurani	0	0		1,600	1,725		1,600	2,000		1,600	4,105		1,600	1,980		1,500	1,980		1,500	1,920		1,500	1,915		1,350	1,700		1,325	1,630		1,212	1,630		1,175	1,575	
	K.N. Ram, Roida-II	0	0		1,400	1,400		800	1,950		1,400	1,950		1,400	1,950		1,362	1,950		1,300	1,750		1,400	1,950		1,025	1,500		1,093	1,500		1,075	1,500		1,075	1,500	
	Indrani Patnaik, Unchabali	1,800	1,800		1,500	1,800		1,500	1,500		1,500	1,500		1,400	1,500		1,400	1,400		1,400	1,550		1,250	1,550		1,250	1,400		1,250	1,400		1,200	1,250		1,200	1,250	
	KJS Ahluwalia, Nuagaon	0	0		1,400	1,400		1,600	2,075		1,550	2,075		1,550	2,075		1,500	1,880		1,450	1,965		1,500	1,850		1,700	1,965		1,630	1,700		1,150	1,630		1,150	1,575	
	Rungta, Jajang	1,652	2,429	**1,861**	1,653	2,937	**1,785**	1,302	2,108	**1,582**	1,319	2,594	**1,598**	1,475	2,588	**1,552**	1,158	1,776	**1,455**	1,359	1,893	**1,481**	1,307	1,723	**1,476**	1,208	1,719	**1,436**	1,488	1,721	**1,399**	1,058	1,717	**1,283**	1,010	1,661	**1,180**
Koira	Essel, Nuagaon	0	0		0	0		2,096	2,116		2,079	2,138		1,484	2,075		1,327	1,892		1,520	1,941		1,678	1,680		1,677	1,704		1,339	1,706		1,176	1,554		1,179	1,566	
	BICO Ltd., Nadidihi	0	0		1,819	2,372		1,442	2,271		1,453	2,329		969	2,178		807	1,893		0	0		1,579	1,779		1,583	1,583		0	0		1,574	1,576		825	1,589	
	Feegrade, Rengalibeda	0	0		1,839	2,392		2,057	2,180		0	0		1,472	2,154		1,962	1,962		1,749	1,749		1,267	1,488		1,560	1,560		0	0		0	0		836	1,865	
	Rungta Sons, Oraghat	1,206	2,090		0	0		1,301	2,382		1,482	2,344		964	2,293		883	2,084		1,717	2,087		1,403	2,079		1,553	1,554		1,523	1,933		1,544	1,544		830	1,590	
	S.N. Mohanty, Jaldihi	1,800	1,850		1,600	18,50		1,525	1,850		1,500	1,650		1,400	1,800		1,400	1,500		1,400	1,500		1,420	1,500		1,310	1,550		1,300	1,310		1,160	1,300		1,160	1,300	

62% - 65%-Lumps		April 2015			May 2015			June 2015			July 15			August 2015			September 2015			October 2015			November 2015			December 2015			January 2016			February 2016			March 2016		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,800	4,400		1,600	4,400		1,600	4,400		1,600	3,550		1,500	3,550		1,400	3,250		1,400	3,133		1,400	2,900		1,400	2,600		1,400	2,150		1,550	2,150		1,300	2,150	
	Kaypee, Thakurani	0	0		2,700	2,700		2,700	3,800		2,700	3,700		2,700	3,400		2,300	2,950		2,375	2,980		1,850	2,980		1,700	2,250		1,500	2,300		1,500	2300		1,500	2,468	
	K.N. Ram, Roida-II	0	0		0	0		3,800	3,800		3,800	3,900		3,100	3,900		2,800	3,400		2,800	3050		2,525	3,050		2,000	2,775		2,000	2,500		1,475	2,350		2,125	2,500	
	Indrani Patnaik, Unchabali	3,700	4,400		3,150	4,400		2,950	3,650		2,900	3,300		2,500	3,300		2,450	3,000		2,350	2,700		2,000	2,400		1,800	2,150		1,850	2,100		1,900	2,150		1,900	2,000	
	KJS Ahluwalia, Nuagaon	0	0		0	0		2,350	3,500		2,350	4,100		2,350	3,700		2,350	3,600		2,200	3,200		2,000	2,900		1,850	2,875		1,800	2,450		1,700	2,450		1,700	2,618	
	Rungta, Jajang	3,600	5,353	**3,740**	3,000	5,550	**3,521**	3,100	5,150	**3,302**	2,950	4,850	**3,139**	2,150	3,450	**2,823**	1,750	3,272	**2,597**	1550	3,240	**2,434**	1,300	2,817	**2,223**	1,200	2,421	**1,907**	1,200	2,417	**1,910**	1,200	2,414	**1,900**	1,350	2,611	**2,047**
Koira	Essel, Nuagaon	4,100	4,874		4,068	4,541		3,747	4,173		3,893	3,946		3,112	3,781		2,113	3,231		2,105	3,132		2,267	2,908		1,463	2,517		1,459	2,496		1,311	2,346		1,983	2,645	
	BICO Ltd. Nadidihi	0	0		0	0		2,900	2,900		2,750	3,900		2,450	3,888		1,829	3,218		0	0		1,700	2,837		2,000	2,455		2,000	2,498		1,900	2,483		2,150	2,373	
	Feegrade, Rengalibeda	0	0		3,899	4,105		3,600	4,114		3,719	3,928		3,300	3,614		2,290	3,276		2,150	3,228		1,933	2,642		2,250	2,488		2,000	2,506		2,170	2,533		2,150	2,729	
	Rungta Sons, Oraghat	3,900	3,900		3,600	3,600		4,100	4,115		3,701	3,900		2,712	3,237		2,650	3,289		2,150	3,131		1,700	2,379		1,600	2,250		1,700	2,314		1,450	2,512		1,550	2,844	
	S.N. Mohanty, Jaldihi	2,500	2,500		2,500	2,500		2,500	2,500		2,500	2,500		2,500	2,500		2,500	2,500		2,200	2,200		0	0		0	0		0	0		0	0		1,850	1,850	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2016-17), worked out from the total sale values and quantities furnished to IBM, in F1 Returns

62% - 65%-Fines		April 2016			May 2016			June 2016			July 2016			August 2016			September 2016			October 2016			November 2016			December 2016			January 2017			February 2017			March 2017		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,200	1,300		1,100	1,250		1,100	1,200		1,100	1,200		975	1,100		975	1,150		975	1,200		975	1,200		975	1,200		975	1,350		975	1,350		975	1,350	
	Kaypee, Thakurani	1,175	1,515		1,115	1,475		1,100	1,515		1,090	1,425		980	1,360		978	1,490		796	1,490		1,040	1,640		1,040	1,640		1,040	3,542		1,100	3,542		1,100	3,542	
	K.N. Ram, Roida-II	1,153	1,875		1,153	1,400		1,150	1,400		1,150	1,400		1,150	1,400		1,150	1,350		1,200	1,250		1,200	1,350		1,350	1,550		1,350	1,450		1,350	1,500		1,350	1,500	
	Indrani Patnaik, Unchabali	1,078	1,123		947	1,076		952	1,082		918	1,061		761	1,033		1,100	1,400		1,100	1,450		1,128	1,450		1,150	1,450		1,300	1,525		1,300	1,625		1,300	1,625	
	KJS Ahluwalia, Nuagaon	1,150	1,150		1,090	1,500		682	1,300		1,050	1,325		1,050	1,325		1,050	1,410		1,050	1,510		1,150	1,560		1,175	1,560		1,175	1,650		1,260	1,650		1,260	1,775	
	Rungta, Jajang	1,004	1,652	**1,132**	1,008	1,560	**1,071**	1,357	1,468	**1,086**	953	1,559	**1,035**	958	1,466	**1,003**	910	1,464	**985**	1,102	1,623	**1,083**	1,100	1,761	**1,147**	1,005	1,591	**1,113**	1,010	1,721	**1,189**	1,009	1,714	**1,173**	1,011	1,879	**1,314**
Koira	Essel, Nuagaon	1,188	1,763		1,087	1,764		954	1,468		952	1,494		952	1,485		977	1,564		1,152	1,736		1,154	1,745		1,057	1,644		1,189	1,652		1,275	1,657		1,280	1,802	
	BICO Ltd., Nadidihi	821	1,584		827	1,300		831	1,300		833	1,467		706	1,475		703	1,535		1,130	1,529		1,101	1,552		1108	1,549		1,191	1,889		1,192	1,688		1,193	1,594	
	Feegrade, Rengalibeda	831	1,781		823	1,300		836	838		836	1,477		708	1,474		706	1,472		706	1,562		844	1,571		1,112	1,476		1,199	1,904		1,196	1,890		1,236	1,949	
	Rungta Sons, Oraghat	827	1,360		831	1,769		830	1,459		830	1,469		834	1,568		989	1,573		993	1,774		804	1,774		695	1,565		803	1,862		928	1,891		1,049	1,922	
	S.N. Mohanty, Jaldihi	1,150	1,200		1,100	1,160		875	1,150		1,000	1,145		1,000	1,000		1,000	1,100		1,050	1,100		1,000	1,100		1,050	1,100		1,000	1,186		1,000	1,225		1,025	1,250	

62% - 65%-Fines		April 2016			May 2016			June 2016			July 2016			August 2016			September 2016			October 2016			November 2016			December 2016			January 2017			February 2017			March 2017		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,300	2,150		1,300	2,150		1,200	2,150		1,100	2,150		1,100	2,000		1,100	2,000		1,100	2,157		1,100	2,500		1,100	2,500		1,100	2,700		1.,100	2,700		1,100	3,000	
	Kaypee, Thakurani	1,700	2,475		1,200	2,450		1,500	2,450		1,500	2,200		1,500	2,250		1,500	2,150		1,400	2,350		1,400	2,850		1,400	2,625		1,400	2,850		1,400	2,850		2,200	3,300	
	K.N. Ram, Roida-II	2,125	2,500		2,275	2,500		2,075	2,500		2,075	2,300		2,075	2,300		2,075	2,325		2,075	2,925		2,075	2,925		2,608	2,925		2,700	3,225		2,350	3,225		2,900	3,200	
	Indrani Patnaik, Unchabali	1,778	1,878		1,601	1,877		1,522	1,902		1,518	1,866		1,490	1,880		1,850	2,350		1,850	2,800		1,920	2,850		2,100	2,850		2,150	2,850		2,436	2,850		2,400	3,350	
	KJS Ahluwalia, Nuagaon	1,800	2,618		1,800	2,550		1,400	2,450		1,400	2,325		1,300	2,325		1,300	2,325		1,300	2,850		1,500	2,850		1,500	3,025		1,500	3,025		1,500	3,025		2,450	3,500	
	Rungta, Jajang	1,350	2,607	**1,971**	1,200	2,606	**1,866**	1,000	2,504	**1,745**	1,000	2,392	**1,746**	1,433	2,410	**1,729**	1,250	2,669	**1,744**	1,250	3,190	**2,020**	1,697	3,193	**2,119**	1,437	3,332	**2,193**	1,437	3,689	**2,343**	1,428	3,709	**2,376**	1,673	4,374	**2,553**
Koira	Essel, Nuagaon	2,147	2,619		2,054	2,471		1,947	2,397		2,047	2,397		1,927	2,286		1,955	2,562		2,722	3,060		1,880	3,144		1,679	2,913		2,301	3,348		2,942	3,329		3,246	3,800	
	BICO Ltd., Nadidihi	2,050	2,169		2,050	2,560		2,000	2,000		1,000	2,259		1,000	2,055		1,000	2,163		1,000	3,229		1,000	3,183		2,450	3,000		2,900	3,355		2,900	3,600		3,000	4,000	
	Feegrade Rengalibeda	2,150	2,450		2,000	2,576		1,900	2,591		1,900	2,250		1,440	2,250		1,872	2,608		1,950	3,255		800	3,245		2,150	3,000		1,950	3,377		1,950	8,018		3,000	4,022	
	S.N. Mohanty, Jaldihi	1,600	1,600		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Rungta Sons, Oraghat	1,550	2,450		1,450	2,350		1,000	2,350		1,400	2,250		1,250	2,250		1,400	2,514		1,250	3,000		2,150	3,227		2,150	3,000		2,465	3,356		2,600	3,600		2,650	4,011	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2017-18), worked out from the total sale values and quantities furnished to IBM, in F1 Returns

62% - 65%-Fines		April 2017			May 2017			June 2017			July 2017			August 2017			September 2017			October 2017			November 2017			December 2017			January 2018			February 2018			March 2018		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,050	1,450		994	1,450		1,050	1,250		1,050	1,250		950	1,100		950	1,300		950	1,300		950	1,300		950	1,350		0	0		1,250	1,250		1,000	2,000	
	Kaypee, Thakurani	1,225	1,865		1,305	1,950		1,150	1,750		975	1,615		975	1,575		975	1,78,5		1,100	1,785		1,150	1,785		1,175	1,814		1,200	2,610		1,600	2,610		1,600	2,675	
	K.N. Ram, Roida-II	1,450	1,650		1,446	1,650		1,280	1,650		1,250	1,675		1,200	1,525		1,200	1,600		1,400	1,600		1,400	1,600		1,500	1,800		1,725	2,350		1,800	2,400		2,175	2,475	
	Indrani Patnaik, Unchabali	1,500	1,725		1,300	1,725		1,250	1,550		1,100	1,500		1,034	1,545		1,050	1,725		1,050	1,450		1,050	1,742		1,050	1,744		1,350	2,131		1,050	2,300		1,400	2,600	
	KJS Ahluwalia, Nuagaon	1,260	3,600		1,300	1,825		1,302	3,065		1,140	1,575		1,100	1,645		1,100	1,745		1,100	1,745		1,100	2,400		1,100	2,550		1,100	2,570		1,600	2,570		1,600	2,570	
	Rungta, Jajang	1,010	1,785	**1,277**	1,010	1,746	**1,285**	998	1,651	**1,206**	1,005	1,665	**1,161**	1,007	1,771	**1,127**	992	1,880	**1,264**	994	1,772	**1,283**	1,112	1,982	1,309	1,115	2,662	**1,435**	1,103	2,720	**1,875**	1,105	2,568	**2,050**	1,606	2,681	**1988**
Koira	Essel, Nuagaon	1,431	1,800		1,273	1,794		1,170	1,640		1,094	1,494		1,094	1,635		1,389	1,795		1,288	1,792		1,284	1,878		1,085	2,277		0	0		2,198	2,219		2,062	2,608	
	BICO Ltd., Nadidihi	1,203	1,942		1,112	1,939		1,004	1,938		1,000	1,921		1,000	1,942		1,365	1,887		1,000	1,671		1,000	1,981		1,251	2,635		1,252	2,737		1,255	2,752		1,255	2,318	
	Feegrade, Rengalibeda	1,206	1,940		1,011	1,943		1,014	3,339		1,000	1,768		1,000	1,588		1,000	1,826		1,000	1,827		956	1,922		953	1,770		1,253	2,307		1,253	2,755		1,252	2,764	
	Rungta Sons, Oraghat	1,007	1,813		981	1,927		896	1,781		802	1,769		1,075	1,817		1,100	1,970		1,200	1,975		1,200	1,974		1,251	2,556		1,297	2,843		1,251	2,883		1,249	2,828	
	S.N. Mohanty, Jaldihi	1,025	1,350		1,200	1,350		1,000	1,250		1,000	1,250		900	1,225		900	1,266		900	1,375		900	1,375		900	1,575		900	2,200		900	2,200		900	2,200	

62% -65%-Lumps		April 2017			May 2017			June 2017			July 2017			August 2017			September 2017			October 2017			November 2017			December 2017			January 2018			February 2018			March 2018		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,100	3400		1,100	3,400		1,100	2,700		1,100	2,700		1,100	2,700		1,100	3,200		1,100	3,200		1,100	3,200		1,400	3,400		0	0		0	0		1,400	5,050	
	Kaypee, Thakurani	2,500	3,600		2,500	3,400		1,800	2,639		2,150	2,800		2,000	2,951		2,000	2,950		2,000	3,250		2,000	3,250		2,350	4,000		2,500	4,900		3,350	4,775		3,450	4,675	
	K.N. Ram, Roida-II	3,201	3,600		3,133	3,825		3,000	3,600		2,850	3,225		2,850	3,600		2,850	3,625		3,400	3,625		3,400	3,625		3,400	4,025		3,400	5,325		3,400	5,325		4,650	5,325	
	Indrani Patnaik, Unchabali	2,550	3,700		2,550	3,700		2,450	3,100		2,226	3,000		2,300	3,050		2,500	3,300		2,600	3,308		2,600	3,600		2,600	3,550		2,600	4,800		2,825	4,457		3,000	4,980	
	KJS Ahluwalia, Nuagaon	2,500	3,900	**2,759**	2,500	3,978	**2,710**	2,300	3,250	**2,451**	2,300	3,150	**2,413**	2,300	3,150	**2,348**	2,300	3,450	**2,604**	2,300	3,750	**2,628**	2,300	3,650	**2,711**	2,350	4,000	**2,992**	2,350	5,400	**3,825**	3,300	5,500	**3,915**	3,050	5,500	**3889**
	Rungta, Jajang	1,706	4,270		1,692	4,274		1,674	3,750		1,598	3,500		1,590	3,501		1,694	3,900		1,697	4,218		2,059	4,300		1,708	5,041		1,481	5,936		1,706	5,887		1,614	5,726	
Koira	Essel, Nuagaon	3,674	3,811		3,361	3,826		3,063	3,573		2,884	3,377		2,890	3,592		3,494	4,003		3,294	3,864		3,284	3,686		3,686	4,502		0	0		5,076	5,130		4,876	5,417	
	BICO Ltd., Nadidihi	3,000	4,000		2,992	3,920		3,100	3,660		1,000	3,200		1,000	2,075		1,000	3,850		1,000	3,800		1,000	3,800		1,000	4,641		1,000	5,547		1,000	5,500		1,000	5,500	
	Feegrade, Rengalibeda	3,047	4,000		3,000	3,700		2,700	3,700		2,961	3,200		1,000	3,800		1,000	3,833		1,000	3,800		1,000	3,800		1,000	4,984		1,000	5,628		1,000	5,606		1,000	5,500	
	Rungta Sons, Oraghat	2,700	4,049		2,250	4,000		2,297	3,700		2,200	3,200		2,200	3,800		2,800	3,800		2,800	3,800		2,800	3,800		2,755	5,048		2,950	5,500		3,350	5,500		4,458	5,500	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2018-19), worked out from the total sale values and quantities furnished to IBM, in F1 Returns

62% - 65%-Fines		April 2018			May 2018			June 2018			July 2018			August 2018			September 2018			October 2018			November 2018			December 2018			January 2019			February 2019			March 2019		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	950	2,000		950	2,000		950	1,850		1,700	1,900		950	2,000		950	2,700		1,900	2,700		950	2,700		1,428	2,700		950	2,700		1,600	2,000		1,600	2,200	
	Kaypee, Thakurani	1,600	2,525		1,600	2,275		1,600	2,300		1,600	2,550		1,800	2800		1,800	3,225		2,275	3,225		2,490	3,225		1,800	2,975		1,600	2,975		1,600	2,680		1,800	2,350	
	K.N. Ram, Roida-II	1,900	2,400		1,700	2,298		1,825	2,125		1,900	2125		2,125	2,292		2,250	2,699		2,125	3,200		2125	3,200		2,047	2,700		1,825	2,700		1,900	2,350		1,950	2,550	
	Indrani Patnaik, Unchabali	1,400	2,200		1,850	2,200		1,750	2,200		1,750	2,300		1869	2,500		1,900	2,800		1,950	3,050		1,950	3,050		1,800	2,830		1,800	2,529		1,800	2,220		1,800	2,200	
	KJS Ahluwalia, Nuagaon	1,875	2,475		1,815	2,220		1,257	2,290		1,900	2,500		1,940	2,690		2,225	3,015		2,575	3,335		2,500	3,335		2,000	2,910		1,800	2,185		1,800	2,335		1,850	2,635	
	Rungta, Jajang	1,404	2,541	**1,877**	1,317	2,522	**1,830**	1,169	2,689	**1,862**	1,290	2,877	**2,011**	1,746	3,162	**2,138**	1,753	3,953	**2,344**	1,807	3,447	**2,507**	1,919	3,531	**2,713**	2,026	3,570	**2,323**	1,707	3,138	**1,956**	1,701	3,152	**1,974**	1,682	3,116	**1,999**
Koira	Essel, Nuagaon	2,064	2,551		1,979	2,434		1,997	2,574		2,312	3,008		2,529	3,492		3,138	4,017		3,219	3,711		2,705	4,288		2,083	3,220		1,658	4,915		2,093	3,197		2,228	2,899	
	BICO Ltd., Nadidihi	1,713	2,778		1,530	2,786		1,252	2,873		1,547	2,638		1,502	2,677		3,045	3,537		1,920	3,549		2,108	3,785		2,103	3,517		1,856	3,105		1,803	2,554		1,804	2,402	
	Feegrade, Rengalibeda	1,256	2,083		1,254	2,035		1,639	2,471		1655	2,641		1,659	2,632		1,931	3,561		1,923	3,566		2,106	3,555		2,060	3,546		1,863	3,568		1,801	3,156		1,811	2,412	
	Rungta Sons, Oraghat	1,706	2,796		1,529	2,376		1,641	3,051		1,658	3,221		2,163	3,223		1,790	4,391		1,917	4,166		2,097	4,035		2,049	3,547		1,846	3,541		1,797	3,121		1,803	2,383	
	S.N. Mohanty, Jaldihi	900	2,200		900	1,950		900	1,825		900	2,125		900	2,231		2,125	2,800		1,825	2,800		1,875	2,693		1,996	2,900		1,700	2,200		1,700	2,159		1,807	2,267	

62% - 65%-Lumps		April 2018			May 2018			June 2018			July 2018			August 2018			September 2018			October 2018			November 2018			December 2018			January 2019			February 2019			March 2019		
Name of Lessee/ Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,400	5,050		1,350	4,500		1,350	4,400		1,350	4,600		1,350	4,600		1,350	5,500		1,350	5,500		1,350	5,500		1,800	5,400		1,800	4,600		1,800	4,100		1,800	4,100	
	Kaypee, Thakurani	3,450	4,475		2,850	4,475		2,850	4,650		2,850	4,850		2,850	5,000		3,800	5,400		3,800	5,400		3,800	5,300		3,500	5,300		2,575	4,375		3,275	4,250		3,400	4,250	
	K.N. Ram, Roida-II	4,650	5,325		4,650	4,875		4,650	4,875		4,650	5,000		4,650	5,000		4,650	5,700		4,500	6,050		4,500	5,800		3,400	5,800		3,400	5,800		3,400	4,900		3,900	4,750	
	Indrani Patnaik, Unchabali	3,300	4,600		3,300	4,800		3,300	4,800		4,000	4,900		4,120	5,000		4,170	5,800		4,500	6,000		4,170	5,072		3,800	5,700		3,550	5,500		3,200	5,500		3,200	5,650	
	KJS Ahluwalia, Nuagaon	3,050	5,400	**3,685**	3,700	5,200	**3,878**	3,000	5,200	**4,094**	3,000	5,300	**4,301**	3,000	5,300	**4,227**	3,000	5,500	**4,585**	3,000	6,075	**4,672**	3,000	5,900	**4,732**	3,050	5,500	**4,318**	2,650	5,100	**3,947**	2,100	4,500	**3,689**	1,855	9,148	**3,703**
	Rungta, Jajang	2,970	5,400		2,551	5,400		2,587	5,848		2,788	6,016		2,421	6,229		2,777	9,782		2,771	7,100		3,286	7,100		3,100	6,856		2,200	5,800		2,500	5,103		2,500	5,582	
Koira	Essel, Nuagaon	4,772	5,150		4,667	5,295		4,788	5,390		4,937	5,761		5,249	5,997		6,257	6,812		6,001	6,527		4,751	6,020		4,030	4,973		4,008	4,554		4,249	5,366		4,343	4,977	
	BICO Ltd., Nadidihi	1,000	5,400		1,000	5,300		2,100	5,500		5,770	5,800		2,100	5,800		2,100	7,000		2,200	7,000		2,800	7,000		2,800	6,099		4,600	5,133		2,550	5,400		1,900	5,400	
	Feegrade ,Rengalibeda	1,000	5,300		1,000	5,300		1,000	5,500		2,100	5,826		2,100	6,163		2,100	7,000		2,200	7,000		2,200	7,000		2,800	5,600		2,000	5,228		2,000	5,400		1,900	5,274	
	Rungta Sons, Oraghat	4,300	5,300		4,300	5,300		3,759	5,500		3,818	5,800		4,100	5,951		4,300	7,000		4,300	7,000		4,300	7,000		3,100	5,600		3,100	4,981		1,900	5,400		1,900	5,400	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2019-20), worked out from the total sale values and quantities furnished to IBM in F1, Returns

62% - 65%-Fines		April 2019			May 2019			June 2019			July 2019			August 2019			September 2019			October 2019			November 2019			December 2019			January 2020			February 2020			March 2020		
	Name of Lessee/Mine/ Circle	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1600	2200		1,600	2,001		1,600	2,000		1,600	2,000		1,600	2,000		1,600	2,000		1,600	2,000		1,600	1,800		1,600	1,900		1,600	1,900		1,650	2,300		1,650	2,300	
	Kaypee, Thakurani	1700	2350		1,700	2,250		1,800	2,325		1,800	2,465		1,800	2,465		1,500	2,375		1,500	2,175		1,500	2,150		1,543	2,275		1,800	2,500		1,800	2,650		1,800	2,575	
	K.N. Ram, Roida-II	1875	2250		1,900	2,250		1,921	2,400		1,950	2,450		1,950	2,460		1,775	2,500		1,775	2,200		1,775	2,160		1,775	2,245		1,800	2,408		1,925	2,690		1,925	2,577	
	Indrani Patnaik, Unchabali	1800	3150		1,800	3,150		1,800	3,150		1,800	3,217		1,800	3,350		1,800	3,200		1,750	2,173		1,750	2,100		1,750	2,134		1,750	2,350		1,750	3,760		1,850	3,760	
	KJS Ahluwalia, Nuagaon	1850	2560		1,800	2,325		1,850	2,460		1,850	2,500		1,800	2,500		1,725	2,375		1,717	2,375		1,700	2,125		1,700	2,459		2,100	2,535		2,100	2,515		2,100	2,595	
	Rungta, Jajang	1707	2513	**1883**	1,688	2,463	**1,874**	1,690	2,332	**1,931**	1,790	2,423	**1,961**	1,795	2,423	**1,979**	1,691	2,408	**1,849**	1,595	1,671	**1,764**	1,588	1,611	**1,730**		0	**1,816**	1,612	1,612	**1,989**	2,013	2,013	**2,056**		0	**2,111**
Koira	Essel, Nuagaon	2034	2740		1,889	2,804		2,283	2,785		2,288	2,809		2,126	2,800		2,133	2,653		2,138	2,644		2,132	2,650		2,129	2,799		2,444	3,086		2,582	3,099		2,575	3,099	
	BICO Ltd., Nadidihi	1847	2193		1,846	2,411		1,853	2,427		1,846	2,339		1,853	2,356		1,603	2,430		1,353	1,904		1,353	2,345		1,355	2,603		1,354	2,813		1,353	2,795		1,605	2,290	
	Feegrade, Rengalibeda	1855	2205		1,858	2,397		1,862	2,418		1,853	2,572		1,854	2,481		1,602	2,416		1,392	2,259		1,352	2,346		1,353	2,202		1,352	2,415		1,303	2,904		1,354	2,915	
	Rungta Sons, Oraghat	1845	2707		1,845	2,706		1,840	2,732		1,843	2,705		1,847	2,687		1,344	2,687		1,347	2,396		1,303	2,400		1,345	2,716		1,345	2,778		1,347	2,908		1,344	2,635	
	S.N. Mohanty, Jaldihi	1500	2906		1,500	2,000		1,800	2,150		1,500	2,128		1,500	2,125		1,500	2,020		1,200	1,750		1,200	1,750		1,200	1,861		1,267	2,181		1,293	2,250		1,300	2,229	

62% - 65%-Lumps		April 2019			May 2019			June 2019			July 2019			August 2019			September 2019			October 2019			November 2019			December 2019			January 2020			February 2020			March 2020		
	Name of Lessee/Mine/ Circle	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,800	4,100		1,800	4,100		1,800	4,100		1,800	4,100		1,800	4,100		1,800	4,000		1,800	4,100		1,850	3,700		1,850	4,000		1,850	4,000		1,850	4,000		1,850	5,000	
	Kaypee, Thakurani	3,100	4,200		3,100	4,000		3,300	4,150		3,300	4,000		3,000	3,800		2,800	3,800		2,800	3,600		2,800	3,400		2,934	3,550		3,000	4,200		3,000	4,200		3,000	4,131	
	K.N. Ram, Roida-II	3,300	4,400		3,800	4,750		3,100	4,700		3,100	4,300		3,000	4,350		3,000	4,100		3,000	4,000		3,000	4,250		3,600	4,650		3,600	5,450		3,900	5,300		3,900	5,350	
	Indrani Patnaik, Unchabali	3,150	5,450		3,600	5,450		3,500	5,450		3,500	5,600		3,050	5,600		2,850	3,900		2,842	3,550		2,850	3,900		2,850	4,075		2,850	4,650		3,300	4,250		3,300	4,250	
	KJS Ahluwalia, Nuagaon	2,200	4,300	**3,600**	2,200	4,450	**3,466**	2,200	4,500	**3,468**	2,124	4,500	**3,381**	2,200	4,150	**3,417**	2,200	4,150	**3,138**	1,850	4,150	**3,277**	1,850	4,150	**3,189**	1,850	4,590	**3,160**	2,270	4,800	**3,409**	2,300	4,800	**3,672**	3,000	5,000	**3,553**
	Rungta, Jajang	2,300	5,378		2,000	4,739		2,200	4,177		2,000	3,904		2,000	4,649		2,100	4,656		2,603	4,243		2,890	3,417		2,100	4,967		2,105	5,444		2,100	5,367		2,118	4,084	
Koira	Essel, Nuagaon	3,811	4,828		3,803	4,813		4,104	4,839		3,903	4,160		3,931	4,146		3,706	4,454		3,708	3,950		3,705	4,456		3,709	4,542		4,409	5,543		4,809	5,563		5,046	5,544	
	BICO Ltd., Nadidihi	1,900	4,899		2,550	4,500		2,500	4,800		2,500	4,641		2,500	2,900		2,900	4,000		2,750	2,900		2,900	4,000		3,050	3,050			0		3,050	3,050		2,175	4,350	
	Feegrade, Rengalibeda	2,000	5,200		2,000	4,515		1,700	4,800		1,673	4,481		1,600	4,300		2,000	4,500		1,700	4,350		1,700	4,350		1,800	4,350		1,800	4,350		1,700	5,045		2,300	5,045	
	Rungta Sons, Oraghat	2,500	5,200		1,850	4,583		1,850	4,800		1,850	4,649		1,850	4,340		2,000	4,461		1,900	4,350		1,900	4,350		1,900	4,350		1,900	4,400		1,900	4,350		1,900	5,098	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2020-21), worked out from the total sale value sand quantities furnished to IBM, in F1 Returns

62% - 65%-Fines		April 2020			May 2020			June 2020			July 2020			August 2020			September 2020			October 2020			November 2020			December 2020			January 2021			February 2021			March 2021		
	Name of Lessee/Mine/ Circle	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,750	1,750		1,750	1,750		1,750	1,750		1,750	1,900		1,650	1,950		1,750	1,900		1,900	1,900		0	0		0	0		2,044	2,044		2,044	2,044		1,985	2,044	
	Arcelor Mittal, Thakurani	0	0		0	0		0	0		0	0		1,441	1,441		1,536	1,536		1,573	1,573		1,878	1,904		3,012	3,209		4,913	5,271		5,074	5,490		4,861	4,904	
	K.N. Ram, Roida-II	2,540	2,540		1,600	2,540		1,600	2,150		800	2,150		800	2,150		800	2,600		800	800		0	0		0	0		0	0		0	0		0	0	
	Indrani Patnaik, Unchabali	2,650	2,650		2,100	2,300		2,075	2,075		2,075	2,350		225	2,350		2,100	2,500		2,500	2,500		0	0		0	0		5,500	6,010		5,350	6,010		5,500	5,560	
	KJS Ahluwalia, Nuagaon	2,595	2,595		2,595	2,595		1,700	2,220		1,100	3,000		1,000	2,445		1,000	2,700		1,000	3,501		0	0		0	0		0	0		0	0		0	0	
	JSW, Nuagaon	0	0	**1,995**	0	0	**1,696**	0	0	**1,707**	0	0	**2,047**	0	0	**2,130**	1,995	3,800	**2,157**	2,340	8,622	**2,562**	1,720	9,445	**3251**	4,400	6,206	**3963**	2,157	6,431	**4,916**	3,963	6,000	**5,514**	4,916	5,500	**5,867**
	Rungta, Jajang	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
Koira	Essel, Nuagaon	0	0		1,588	2,104		1,584	2,126		1,691	2,554		1,973	3,526		3,064	5,077		3,513	4,446		3,832	6,746		6,124	7,302		6,275	7,637		6,085	7,302		5,330	6,416	
	BICO Ltd., Nadidihi	0	0		1,753	1,753		1,709	2,266		1,682	2,268		1,748	1,748		1,756	1,756		1,735	1,735		0	0		0	0		0	0		0	0		0	0	
	Feegrade, Rengalibeda	0	0		1,763	1,763		1,710	2,279		1,703	1,765		1,725	1,763		0	0		1,739	1,739		0	0		0	0		0	0		0	0		0	0	
	Rungta Sons, Oraghat	2,304	2,311		2,312	2,312		1,746	2,271		1,509	2,340		1,222	2,476		1,081	3,749		1,496	4,491		1,489	4,485		1,489	6,158		4,636	70,00		4,630	6,141		5,725	7,003	
	S.N. Mohanty, Jaldihi	2,025	2,025		1,850	2,050		1,675	1,849		1,700	1,800		1,700	2,575		1,800	3,052		1,700	3,345		1,704	4,025		2,300	5,500		3,500	6,198		3,931	6,100		4,100	6,075	

62% - 65%-Lumps		April 2020			May 2020			June 2020			July 2020			August 2020			September 2020			October 2020			November 2020			December 2020			January 2021			February 2021			March 2021		
	Name of Lessee/Mine/ Circle	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	0	0		2,800	3,500		2,850	3,500		2,900	3,500		2,900	3,500		2,900	3,400		1,850	2,900		0	0		0	0		0	0		0	0		1,250	2,499	
	Arcelor Mittal, Thakurani	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	K.N. Ram, Roida-II	0	0		0	0		0	0		1,500	1,500		1,500	1,500		1,500	1,500		800	1,500		0	0		0	0		0	0		0	0		0	0	
	Indrani Patnaik, Unchabali	3,400	3,400		3,250	3,850		29,00	3,850		2,850	3,850		2,900	4,000		3,300	3,850		3,500	3,850		4,850	4,850		0	0		0	0		5,100	6,350		6,000	6,350	
	KJS Ahluwalia, Nuagaon	3,000	3,000		3,000	3,000		0	0		3,000	3,000		2,850	3,200		2,200	3,550		2,400	3,550		0	0		0	0		0	0		0	0		0	0	
	JSW, Nuagaon	0	0	**3,286**	0	0	**3,073**	0	0	**3128**	0	0	**3,049**	0	0	**3,317**	4,545	4,850	**3325**	4,641	5,310	**4,285**	2,632	6,142	**4,660**	5,500	7,700	**5,718**	3,325	3,325	**6,530**	5,500	7,600	**6,433**	5,500	7800	**6,197**
	Rungta, Jajang	3,309	3,409		3,409	3,672		2,953	3,672		3,553	3,553		3,553	3,553		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
Koira	Essel, Nuagaon	0	0		3,207	3,914		3,208	3,928		3,332	4,136		3,922	5,540		5,153	7,125		5,909	6,757		5,911	9,031		8,104	9,021		8,413	9,725		7,791	9,280		7,422	9,598	
	BICO Ltd., Nadidihi	3,050	3,050		3,050	3,050		2,000	3,450		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Feegrade, Rengalibeda	2,515	4,800		2,515	2,521		2,900	3,700		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Rungta Sons, Oraghat	3,127	4,350		3,000	5,100		2,500	4,300		2,400	3,700		2,400	3,855		2,600	6,750		2,714	6,750		2,600	5,500		3,500	7,000		4,000	7,000		4,400	8411		4,500	7,223	

(Source: Information furnished by the DDMs)

Ex-Mines Prices (PMV) of Lessees (FY 2021-22), worked out from the total sale values and quantities furnished to IBM, in F1 Returns

62% - 65%-Fines		April 2021			May 2021			June 2021			July 2021			August 2021			September 2021			October 2021			November 2021			December 2021			January 2022			February 2022			March 2022		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,166	2,558		4,000	9,500		4,000	8,000		4,000	4,000		0	0		0	0		0	0		0	0		0	0		0	0		0	0		5,200	5,200	
	Arcelor Mittal, Thakurani	4,384	4,423		4,458	4,458		4,940	4,940		5,326	5,326		8,402	8,402		0	0		0	0		0	0		4839	4,860		0	0		0	0		0	0	
	N P & S Pvt. Ltd, Roida-II	610	6,100		5,000	6,101		0	0		0	0		0	0		0	0		0	0		0	0		0	0		4,800	4,800		4,950	4,950		5,800	7,000	
	Indrani Patnaik, Unchabali	5,560	5,560		5,560	5,560		6,450	6,450		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	KJS Ahluwalia, Nuagaon	0	0	**5,905**	0	0	**7,663**	0	0	**7,284**	0	0	**8,364**	0	0	**8235**	0	0	**7,116**	0	0	**5,763**	2,100	2,100	**5,799**	2,100	4,000	**5,099**	0	0	**4,841**	0	0	**5,388**	0	0	**5,215**
	JSW, Nuagaon	5,514	5,514		5,867	5,867		5,905	5,905		7,663	7,663		7,284	7,284		8,364	8,364		8,235	8,235		7,116	7,116		0	0		0	0		0	0		4,841	6,030	
	JSW, Jajang	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
Koira	Essel, Nuagaon	5,601	8,940		7,812	1,0153		9,039	10,461		10,115	10,806		8,683	8,698		7,095	7,200		6,065	6,080		5,147	5,829		4,299	5,817		4,300	5,270		4,319	5,448		6,150	6,168	
	ESL, Nadidihi	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	ESL, Rengalibeda	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Rungta Sons, Oraghat	5,723	7,703		5,815	9,432		5,736	9,696		5,735	10,027		5,040	9,690		5,535	9,270		5,487	8,731		5,324	6,458		4,500	6,164		4,500	6,176		4,500	5,836		4,723	7,103	
	SN Mohanty, Jaldihi	2,750	6,650		4,763	9,200		6,850	9,200		6,500	8,900		7,167	8,900		6,300	7,000		3,500	5,500		4,500	5,600		4,400	5,600		4,400	4,500		0	0		5,400	5,400	

62% - 65% Lumps		April 2021			May 2021			June 2021			July 2021			August 2021			September 2021			October 2021			November 2021			December 2021			January 2022			February 2022			March 2022		
Name of Lessee/Mine/ Circle		Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM	Min	Max	IBM
		Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate			Rate		
Joda	Serajuddin, Balda	1,461	2,197		7,200	11,000		7,200	12,500		11,000	12,500		11,000	12,500		9,000	9,000		0	0		0	0		0	0		0	0		0	0		0	0	
	Arcelor Mittal, Thakurani	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	N P & S Pvt. Ltd, Roida-II	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Indrani Patnaik, Unchabali	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	KJS Ahluwalia, Nuagaon	0	0	**7903**	0	0	**8484**	0	0	**10368**	0	0	**10,901**	0	0	**10711**	0	0	**9,318**	0	0	**8,425**	2,400	2,400	**7,900**	2,400	4,000	**6,668**	0	0	**6,921**	0	0	**7,409**	0	0	**8,341**
	JSW, Nuagaon	5,549	10,263		6,197	11,200		7,903	7,903		8,484	8,484		10,368	10,368		0	0		0	0		0	0		0	0		0	0		0	0		6,921	6,921	
	JSW, Jajang	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
Koira	Essel, Nuagaon	10,187	11,853		11,315	13,347		13,298	16,089		15,288	15,305		12,300	13,463		11,575	12,300		11,522	11,522		9,458	10,173		6,501	7,579		6,506	7,621		6,790	7,942		4,900	4,900	
	ESL, Nadidihi	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	ESL, Rengalibeda	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0	
	Rungta Sons, Oraghat	4,500	7,209		4,500	10,100		7,200	9,600		7,400	12,700		4,720	11,700		4,720	9,700		4,718	9,000		6,800	11,700		6,000	11,700		5,000	8,171		5,000	7,950		6,000	10,871	
	SN Mohanty, Jaldihi	0	0		0	0		0	0		0	0		0	0		0	0		0	0		6,000	6,000		0	0		0	0		0	0		0	0	

(Source: Information furnished by the DDMs)

Appendix –X
(Refer paragraph 3.4.1 at page 53)
Accumulation of low grade iron and chromite in lease areas, violating the principle of sustainable use and conservation of minerals

Name of Circle	Sl. No.	Name of the mine	Quantity of mineral reject/ sub-grade ore stacked (In MT)	*Percentage* of Ferus content of the Stock	Period	Price of minerals published by IBM for March 2022 for fines ₹1,838 (minimum) {Col.4×₹1838} (₹ in crore)
1	*2*	*3*	*4*	*5*	*6*	*7*
Joda	1	Jajang Iron ore of M/s Rungta Mines Ltd	41,94,547	Above 45% Fe	As on 30.06.2016	770.96
			73,22,797	Above 55% Fe	As on 30.06.2016	1,345.93
	2	Unchabali Iron ore of Smt. Indrani Patnaik	10,72,616	45- 58% Fe	As on 1.04.2014	197.15
	3	Balda Block Iron mines of M/s Seerajudin & Co	81,85,536	45-55% Fe	As on 1.04.2018	1,504.50
			40,15,589	Below 55% Fe	As on 1.04.2018	738.07
	4	Roida-II Iron ore of M/s K. N. Ram & Co	4,70,100	45- 58% Fe	As on 1.04.2018	86.40
	5	Thakurani Iron mine of M/s KayPee Enterprises	7,72,500	45- 55% Fe	As on 1.04.2018	141.99
Koida	6	Nadidih Iron & Mn mines of M/s Feegrade & Co. Ltd.	8,97,810	Below 55% Fe	Prior to 2015-16	165.02
			11,87,454	Below 55% Fe	Prior to 2015-16	218.25
	7	Narayanposhi Iron & Mn mines of M/s Aryan Mining & Trading Corporation pvt. Ltd	1,990	Below 60% Fe (L)	Prior to 2015-16	0.37
			3,77,468	Below 58% Fe (F)	Prior to 2015-16	69.38
			17,44,972	Below 55% Fe	Prior to 2015-16	320.73
	8	Kurmitar Iron mines of M/s OMC Ltd	2,20,000	Below 55% Fe	Prior to 2015-16	40.44
	9	KJST Iron, Bauxite & Mn of M/s S. N. Mohanty	14,00,000	Above 45% Fe	Prior to 2015-16	257.32
	10	Sanindpur Iron & Bauxite of M/s Rungta Sons (P)Ltd	4,83,560	Above 45% Fe	Prior to 2018-19	88.88
			22,42,626	Above 45% Fe	Prior to 2018-19	412.19
			23,95,106	Above 45% Fe	Prior to 2018-19	440.22
	11	Oraghat Iron of M/s Rungta Sons (P)Ltd	47,79,056	Below 55% Fe	Prior to 2018-19	878.39
			5,47,396	Below 55% Fe	Prior to 2018-19	100.61
			5,53,700	Below 58% Fe	Prior to 2018-19	101.77
			44,663	Below 58% Fe	Prior to 2018-19	8.21
		Total	4,29,09,486			**7,886.78**
					Royalty calculated @ 15 *per cent*	**1,183.02**

(Source: Information furnished by the DDMs)

Appendix – XI
(Refer paragraph 3.4.3 at page 55)
OMC, South Kaliapani Chromite mines: Loss of royalty, due to direct sale of low grade ore

(Amount in ₹)

Month	Sale of below 40% Cr_2O_3 (in MT)	Royalty rate (per MT)	Royalty realised	Percentage of recovery*	Concentrate recoverable on beneficiation	Royalty rate (per MT)	Royalty realisable	Loss of royalty
Apr-20	0	0	0	44.09	0	0	0	0
May-20	0	0	0	44.09	0	0	0	0
Jun-20	7,830.14	352.2	27,57,775	44.09	3,452.55	1,304.55	45,04,024	17,46,249
Jul-20	23,638.15	304.95	72,08,454	44.09	10,422.78	1,342.05	1,39,87,892	67,79,438
Aug-20	8,687.74	418.05	36,31,910	44.09	3,830.69	1,335.60	51,16,270	14,84,360
Sep-20	24,911.70	600.9	1,49,69,441	44.09	10,984.33	1,884.60	2,07,01,068	57,31,627
Oct-20	23,270.69	340.65	79,27,161	44.09	10,260.75	1,884.60	1,93,37,409	1,14,10,248
Total	**88,338.42**							**2,71,51,922**

(Source: Information furnished by the DDMs)

* *Percentage* of concentrate recovered on beneficiation of below 40% cr fines, during January to March 2017, (last instance), 15,501.64 MT of concentrate was recovered from 35,156.66 MT of low grade chromite fines (44.09%)

Appendix – XII
(Refer paragraph 4.2 at page 59)
Non-levy of interest on delayed payment of royalty

(₹ in crore)

Sl. No.	Name of the Circle	Name of the lessee	Type of payment	Month/ quarter ending	Due date of payment	Payment due	Due date of payment including grace period (15 + 59 =74 days)	Amount paid	Date of arrear amount paid	Delay in days	Rate of interest 24 *per cent* per annum	Interest payable for delay payment
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
1	Joda	M/s. Sharda Mines (P) Ltd., Thakurani Block 'B'	Royalty	31-03-2020	15-04-2020	1.54	14-06-2020	1.54	10-09-2020	88	24	0.09
2	Joda	Thakurani Iron ore mines of M/s Kaypee Enterprises	Royalty	31-03-2018	15-04-2018	10.92	14-06-2018	10.92	23-07-2018	39	24	0.28
3	Joda	Balda Iron ore mines of M/s Seerajudin & Co	Royalty	31-03-2020	15-04-2020	26.56	14-06-2020	26.56	04-08-2020	51	24	0.89
4	Koira	M/s M.G. Mohanty, Petabeda, Iron and Mn Mines, Petabeda (19.425 ha)	Royalty	31-03-2019	15-04-2019	0.37	14-06-2019	0.37	31-07-2019	47	24	0.01
5	Koira	ESSEL Mining & Industries Ltd. Koira iron Mines, 90.143 ha	Royalty	30-09-2019	15-10-2019	1.67	14-12-2019	1.67	07-03-2020	84	24	0.09
6	Koira	Penguin Trading Agency, 49.372 ha	Royalty	31-03-2018	15-04-2018	1.73	14-06-2018	1.73	29-08-2018	76	24	0.09
7	Koira	Rungta Sons (P) Ltd, Oraghat iron mines, 82.961 ha	Royalty	31-03-2020	15-04-2020	14.82	14-06-2020	14.82	28-07-2020	44	24	0.43
				31-12-2018	15-01-2019	7.75	16-03-2019	7.75	07-05-2019	52	24	0.26
				30-09-2018	15-10-2018	11.27	14-12-2018	11.27	17-01-2019	34	24	0.25
				31-03-2018	15-04-2018	6.79	14-06-2018	6.79	13-07-2018	29	24	0.13
				31-12-2017	15-01-2018	2.59	16-03-2018	2.59	31-03-2018	15	24	0.03
8	Koira	Rungta Sons (P) Ltd, Sanindpur Iron and Bauxite Mines, 147.100 ha	Royalty	31-03-2020	15-04-2020	11.08	14-06-2020	11.08	29-07-2020	45	24	0.33
				31-12-2019	15-01-2020	2.59	15-03-2020	2.59	24-06-2020	101	24	0.17
				30-09-2018	15-10-2018	5.99	14-12-2018	5.99	18-01-2019	35	24	0.14
				31-03-2018	15-04-2018	12.82	14-06-2018	12.82	13-07-2018	29	24	0.24
9	Koira	M/s, Feegrade & Co, Nadidihi	Royalty	30-06-2018	15-07-2018	6.22	13-09-2018	6.22	28-09-2018	15	24	0.06
				30-09-2018	15-10-2018	6.15	14-12-2018	6.15	17-01-2019	34	24	0.14
				31-12-2018	15-01-2019	6.53	16-03-2019	6.53	17-05-2019	62	24	0.27
				31-12-2019	15-01-2020	7.04	15-03-2020	7.04	11-05-2020	57	24	0.26

Sl. No.	Name of the Circle	Name of the lessee	Type of payment	Month/ quarter ending	Due date of payment	Payment due	Due date of payment including grace period (15 + 59 =74 days)	Amount paid	Date of arrear amount paid	Delay in days	Rate of interest 24 *per cent* per annum	Interest payable for delay payment
				29-02-2020	15-03-2020	2.72	14-05-2020	2.72	28-07-2020	75	24	0.13
				31-03-2020	15-04-2020	18.15	14-06-2020	18.15	28-07-2020	44	24	0.53
10	Koira	M/s. BICo Ltd., Nadidihi	Royalty	31-12-2017	15-01-2018	2.86	16-03-2018	2.86	31-03-2018	15	24	0.03
				31-03-2018	15-04-2018	15.25	14-06-2018	15.25	13-07-2018	29	24	0.29
				30-11-2018	15-12-2018	2.04	13-02-2019	2.04	29-05-2019	105	24	0.14
				31-12-2018	15-01-2019	8.20	16-03-2019	8.20	29-05-2019	74	24	0.40
				31-12-2019	15-01-2020	10.76	15-03-2020	10.76	24-06-2020	101	24	0.71
11	Koira	M/s. BICo Ltd., Teherai	Royalty	31-10-2017	15-11-2017	3.77	14-01-2018	1.05	31-03-2018	76	24	0.05
				30-11-2017	15-12-2017		13-02-2018	1.29	31-03-2018	46	24	0.04
				31-12-2017	15-01-2018		16-03-2018	1.43	31-03-2018	15	24	0.01
				31-01-2018	15-02-2018	2.89	16-04-2018	0.45	13-07-2018	88	24	0.03
				28-02-2018	15-03-2018		14-05-2018	1.73	13-07-2018	60	24	0.07
				31-03-2018	15-04-2018		14-06-2018	0.71	13-07-2018	29	24	0.01
				30-06-2018	15-07-2018	0.72	13-09-2018	0.72	28-09-2018	15	24	0.01
				31-08-2018	15-09-2018	0.22	14-11-2018	0.18	17-01-2019	64	24	0.01
				30-09-2018	15-10-2018		14-12-2018	0.04	17-01-2019	34	24	0.00
12	Koira	M/s. OMC, Kurmitar	Royalty	31-12-2018	15-01-2019	9.78	16-03-2019	9.78	04-04-2019	19	24	0.12
				28-02-2018	15-03-2018	1.90	14-05-2018	1.90	04-07-2018	51	24	0.06
				31-03-2018	15-04-2018	14.46	14-06-2018	14.46	04-07-2018	20	24	0.19
				30-06-2018	15-07-2018	4.24	13-09-2018	4.24	30-09-2018	17	24	0.05
13	Jajpur	Daitari Iron ore Mines, OMC Ltd.	Additional Royalty	30-04-2021	15-05-2021	74.87	14-07-2021	74.87	24-11-2021	133	24	6.55
				31-05-2021	15-06-2021	74.10	14-08-2021	74.10	24-11-2021	102	24	4.97
				30-06-2021	15-07-2021	100.95	13-09-2021	100.95	25-11-2021	73	24	4.85
				31-07-2021	15-08-2021	89.49	14-10-2021	89.49	25-11-2021	42	24	2.47
				31-08-2021	15-09-2021	90.72	14-11-2021	90.72	25-11-2021	11	24	0.66
14	Jajpur	Sukrangi chromite Mines, OMC Ltd.	Additional Royalty	30-04-2021	15-05-2021	0.02	14-07-2021	0.02	18-11-2021	127	24	0.00
				31-05-2021	15-06-2021	0.88	14-08-2021	0.88	18-11-2021	96	24	0.06
				30-06-2021	15-07-2021	3.30	13-09-2021	3.30	18-11-2021	66	24	0.14
				31-07-2021	15-08-2021	4.34	14-10-2021	4.34	18-11-2021	35	24	0.10
				31-08-2021	15-09-2021	5.16	14-11-2021	5.16	18-11-2021	4	24	0.01
15	Jajpur	South Kaliapani chromite Mines,	Additional	30-04-2021	15-05-2021	0.07	14-07-2021	0.07	18-11-2021	127	24	0.01

Sl. No.	Name of the Circle	Name of the lessee	Type of payment	Month/ quarter ending	Due date of payment	Payment due	Due date of payment including grace period (15 + 59 =74 days)	Amount paid	Date of arrear amount paid	Delay in days	Rate of interest 24 *per cent* per annum	Interest payable for delay payment
		OMC Ltd.	Royalty	31-05-2021	15-06-2021	2.83	14-08-2021	2.83	18-11-2021	96	24	0.18
				30-06-2021	15-07-2021	21.34	13-09-2021	21.34	18-11-2021	66	24	0.93
				31-07-2021	15-08-2021	26.94	14-10-2021	26.94	18-11-2021	35	24	0.62
				31-08-2021	15-09-2021	26.91	14-11-2021	26.91	18-11-2021	4	24	0.07
		Total				**764.31**		**764.31**				**28.66**

(Source: Information furnished by the DDMs)

Appendix – XIII

(Refer paragraph 4.3 at page 60)

Differential royalty leviable on the differential sales turnover declared by the mines owners (Lessees), in their Annual Returns, under the VAT/ GST Acts and Mining Acts, during the period 2015-22

(₹ in crore)

Sl. No.	Name of Mines Owner (Lessee)	Name of Circle	Financial Year	Sales turnover declared in Annual Return under VAT/GST Acts	Sales turnover declared in H1/G1 Annual Return	Difference in sales turnover	Differential royalty leviable at the rate of 15 *per cent*	DMF at the rate of 30 *per cent* leviable	NMET at the rate of 2 *per cent* leviable
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1	Kaypee Enterprises	Joda	2015-16	467.09	342.70	124.39	18.66	5.60	0.37
			2016-17	766.85	757.77	9.08	1.36	0.41	0.03
			2017-18 **(VAT)**	297.88					
			2017-18 **(GST)**	1,003.99					
			2017-18 **(Total)**	1,301.87	1,067.44	234.43	35.17	10.55	0.70
			2018-19	1,863.36	1,355.29	508.07	76.21	22.86	1.52
			2019-20	1,632.52	NA	0			
			2020-21	262.13	NA	0			
			Sub-Total	**4,399.17**	**3,523.20**	**875.97**	**131.40**	**39.42**	**2.63**
2	Tarini Prasad Mohanty	Joda	2015-16	35.76	28.84	6.92	1.04	0.31	0.02
			2016-17	48.09	60.50	-12.41*			
			2017-18	58.67	61.90	-3.23*			
			2018-19	51.97	32.48	19.49	2.92	0.88	0.06
			2019-20	120.28	113.34	6.94	1.04	0.31	0.02
			2020-21	236.57	185.99	50.58	7.59	2.28	0.15
			Sub-Total	**444.59**	**360.64**	**83.95**	**12.59**	**3.78**	**0.25**
3	Essel Mining and Industries Ltd.	Joda	2015-16	280.17	NA	0			
			2016-17	633.87	NA	0			
			2017-18	584.28	26.62	557.66	83.65	25.09	1.67
			2018-19	3,933.75	2,127.75	1,806.00	270.90	81.27	5.42
			2019-20	5,561.18	2,946.75	2,614.43	392.16	117.65	7.84
			2020-21	4,660.09	NA	0			
			Sub-Total	**10,079.21**	**5,101.11**	**4,978.10**	**746.71**	**224.01**	**14.93**
			Total of Joda	**14,922.97**	**8,984.95**	**5,938.02**	**890.70**	**267.21**	**17.81**
4	Jitendra Nath Patnaik	Koira	2015-16	NA	NA	0			
			2016-17	NA	NA	0			
			2017-18	NA	NA	0			
			2018-19	16.50	16.17	0.33	0.05	0.01	0.001
			2019-20	32.12	25.70	6.42	0.96	0.29	0.02
			2020-21	77.51	NA	0			
			Sub-Total	**48.62**	**41.87**	**6.75**	**1.01**	**0.30**	**0.02**
5	Kanakdhara Mining Minerals (P) Ltd.	Koira	2015-16	0.38	NA	0			
			2016-17	0.55	NA	0			
			2017-18	0.18	NA	0			
			2018-19	12.43	1.79	10.64	1.60	0.48	0.03
			2019-20	14.79	0.59	14.20	2.13	0.64	0.04
			2020-21	17.77	0.95	16.82	2.52	0.76	0.05
			Sub-Total	**44.99**	**3.33**	**41.66**	**6.25**	**1.87**	**0.12**
6	Korp Resources (P) Ltd.	Koira	2015-16	9.67	11.44	-1.77*			
			2016-17	7.54	0	7.54			
			2017-18 **VAT**)	1.02					
			2017-18 (**GST**)	1.60					
			2017-18 (Total)	**2.62**	**2.60**	**0.02**	**0.00234**	**0.00070**	**0.00005**
			2018-19	4.34	NA	0			
			2019-20	NA	NA	0			
			2020-21	NA	NA	0			
			Sub-Total	**2.62**	**2.60**	**0.02**	**0.00234**	**0.00070**	**0.00005**
7	M G	Koira	2015-16	47.02	46.86	0.16	0.02	0.01	0.0005

Sl. No.	Name of Mines Owner (Lessee)	Name of Circle	Financial Year	Sales turnover declared in Annual Return under VAT/GST Acts	Sales turnover declared in H1/G1 Annual Return	Difference in sales turnover	Differential royalty leviable at the rate of 15 *per cent*	DMF at the rate of 30 *per cent* leviable	NMET at the rate of 2 *per cent* leviable
	Mohanty		2016-17	24.69	NA	0			
			2017-18 **VAT**)	5.20					
			2017-18 (**GST**)	56.06					
			2017-18 (**Total**)	61.26	53.99	7.27	1.09	0.33	0.02
			2018-19	72.01	62.06	9.95	1.49	0.45	0.03
			2019-20	94.92	78.38	16.54	2.48	0.74	0.05
			2020-21	127.67	110.31	17.36	2.60	0.78	0.05
			Sub-Total	**402.89**	**351.60**	**51.29**	**7.69**	**2.31**	**0.15**
			Total of Koira	**499.11**	**399.40**	**99.71**	**14.96**	**4.49**	**0.30**
			Grand Total	**15,422.08**	**9,384.35**	**6,037.73**	**905.66**	**271.70**	**18.11**

(Source: Information collected from Commercial Tax Department and i3MS)

NA – Data not available

***** ***Excess transaction over VAT/GST not considered***

Appendix-XIV
(Refer paragraph 5.2.2 at page 67)
Unlawful production of iron ore, exceeding the quantity approved in the Environment Clearance

Name of the mines: Thakurani B Iron mine of M/s Sharda Mines (P) Ltd						
Financial Year	**Quantity of extraction approved in EC in MT**	**Quantity extracted in MT**	**Excess quantity extracted in MT**	**Price of mineral (lumps) per MT as of March of the year in rupees as notified by IBM (Average of -65% Fe lump and -62% Fe lump taken, as per the grade produced from the mine**	**Amount realisable (In ₹)**	**Amount in Crores**
2019-20	40,00,000	49,61,260	9,61,260	3,119.50	2,99,86,50,570	
2020-21	40,00,000	61,13,774	21,13,774	5,954	12,58,54,10,396	
Total			**30,75,034**		15,58,40,60,966	**1,558.41**
IBM price and Slime (tailings) production details						
	Month	**Month**				
Grade	March-20	March-21				
Below 62% Fe	2,686	5,711				
Below 65% Fe	3,553	6,197				
Total	6,239	11,908				
Average	**3,119.50**	**5,954**				
Slime production details						
Month	**November 2020**	**December 2020**	**January 2021**	**February 2021**	**March 2021**	
0-2mm slime	14,504	10,909	5,084	4,748	4,957	
Production of 0-2 mm slime has been excluded from the total production of FY 2020-21						

Total production for FY 2020-21	**61,53,976**
Slime total for FY 2020-21	**40,202**
Total	**61,13,774**

(Source: Information furnished by the DDMs)

Appendix – XV

(Refer paragraph 5.2.3 at page 68)

Excess production of ore, exceeding the quantities stipulated in the mining plans

Name of the Circle	Name of mine	Financial Year	Production quantity stipulated in the mining plan				Actual production			Excess production of ore (In MT)	IBM notified Price per MT as on March (In ₹)	Total Price chargeable (₹ in crore)	Remarks
			Ore	Subgrade	Mineral Reject	Production from sub grade dump	Ore	Subgrade	Mineral Reject				
Joda	Keypee Enterprises Thakurani Iron ore	2016-17	52,56,738	2,43,367	0	0	54,81,286	0	0	2,24,548	2,553	57.33	IBM notified Price per MT, as on March for (-) 65%Fe
		2017-18	52,56,684	2,43,365	0	2,700	54,99,515	0	0	2,42,831	3,889	94.44	
		Total	**1,05,13,422**	**4,86,732**	**0**	**2,700**	**1,09,80,801**	**0**	**0**	**4,67,379**		**151.77**	
	K N Ram Roida-II Iron ore	2015-16	18,11,740	3,88,230	0	0	21,97,896	0	0	3,86,156	2,047	79.05	
		2016-17	18,07,540	3,87,330	0	0	21,99,409	0	0	3,91,869	2,553	100.04	
		2019-20	28,11,203	6,88,770	0	0	34,99,291	0	0	6,88,089	4,835	332.69	
		Total	**64,30,483**	**14,64,330**	**0**	**0**	**78,96,596**	**0**	**0**	**14,66,114**		**511.78** (-) 52.04*	
	Rungta Jajang Iron ore	2017-18	1,21,95,855	6,41,887	0		1,27,00,232	0	0	5,04,377	4,725	238.32	
		Total	**1,21,95,855**	**6,41,887**	**0**		**1,27,00,232**	**0**	**0**	**5,04,377**		**238.32**	
	Indrani Patanaik Unchabali Iron ore	2015-16	33,46,325	5,03,675	0	1,50,000	39,89,132	0	0	6,42,807	2,047	131.58	
		2016-17	36,14,013	2,35,987	0	1,50,000	39,92,806	0	0	3,78,793	2,553	96.71	
		2017-18	30,53,733	7,96,268	0	1,50,000	39,90,662	0	0	9,36,929	4,725	442.70	
		2019-20	30,47,555	7,52,346	0	0	37,73,306	0	0	7,25,751	4,835	350.90	
		Total	**1,30,61,626**	**22,88,276**	**0**	**450000**	**1,57,45,906**	**0**	**0**	**26,84,280**		**1,021.89**	
	OMC Roida C	2017-18	2,89,788	1,00,035	0	0	3,83,840	0	0	94,052	4,725	44.44	
		2018-19	3,68,676	51,680	0	0	3,75,670	0	0	6,994	5,171	3.62	
		Total	**6,58,464**	**1,51,715**	**0**	**0**	**7,59,510**	**0**	**0**	**1,01,046**		**48.06**	
Koira	M/s. SN. Mohanty KJST Iron Bauxite and Mn	2016-17	14,55,399	0	2,14,731	2,80,000	18,96,149	0	0	4,40,750	2,553	112.52	IBM notified Price per MT, as on March for (-) 65%Fe
		2017-18	14,98,953	0	2,21,157	2,80,000	18,85,053	0	0	3,86,100	3,889	150.15	
		2018-19	14,98,953	0	2,21,157	2,80,000	17,03,215	0	0	2,04,262	3,703	75.64	
		2019-20	14,98,953	0	2,21,157	2,80,000	19,00,361	0	0	4,01,408	3,553	142.62	
		2020-21	14,98,953	0	2,21,157	2,80,000	17,19,354	1,81,000	2,20,727	2,20,401	6,197	136.58	
		Total	**74,51,211**	**0**	**10,99,359**	**14,00,000**	**91,04,132**	**1,81,000**	**2,20,727**	**16,52,921**		**617.51**	
	M/s JN Patnaik Bhanjpali Iron mines	2019-20	1,75,420	0	46,925	37,590	2,51,100	0	1,200	75,680	2,686	20.33	IBM notified Price per MT as on March for (-) 58% Fe
		Total	**1,75,420**	**0**	**46,925**	**37,590**	**2,51,100**	**0**	**1,200**	**75,680**		**20.33**	
	M/s Essel Mining Koira Iron mines	2016-17	35,48,000	0	4,52,000	40,00,000	39,95,660	0	34,550	4,47,660	2,553	114.29	IBM notified Price per MT as on March for (-)65%Fe
		2017-18	32,75,000	0	7,25,000	40,00,000	37,53,567	0	34,300	4,78,567	3,889	186.11	
		2018-19	35,16,000	0	4,84,000	40,00,000	39,37,437	0	1,46,632	4,21,437	3,703	156.06	
		2019-20	51,73,000	0	8,27,000	60,00,000	58,15,515	0	0	6,42,515	3,553	228.29	
		2020-21	53,88,000	0	6,12,000	60,00,000	59,94,955	0	0	6,06,955	6,197	376.13	
		Total	**2,09,00,000**	**0**	**31,00,000**	**2,40,00,000**	**2,34,97,134**	**0**	**2,15,482**	**25,97,134**	**19,895**	**1,060.88**	
	Total											**3,618.50**	

** The lessee, during 2019-20, had violated the production limit prescribed in EC also, as pointed out in Para 5.2.2 (i), hence the value of the minerals extracted in excess to EC limit, amounting to ₹52.04 crore has been deducted.*

(Source: Information furnished by the DDMs)

Appendix-XVI
(Refer paragraph 5.2.4 at page 70)
Unlawful production of chromite without Forest Clearance

Month	Below 40% Cr Fines	IBM price per MT	Total Price	40% to 52% Cr Fines	IBM price per MT	Total Price	52% Cr above Fines	IBM price per MT	Total Price	Concentrate	IBM price per MT	Total Price	Below 40% Cr lumps	IBM price per MT	Total Price
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
December 2019 (18.12.2019 to 31.12.2019) 14 days	1,125.42	2,261	25,44,574.62	5,017.44	9,796	4,91,50,842.24	2,425.14	13,119	3,18,15,411.66	0	11,519	0	0	0	
January 2020	9,254.04	2,143	1,98,31,407.72	15,367.00	9,387	14,42,50,029.00	2,573.96	12,504	3,21,84,795.84	3,865.00	12,564	4,85,59,860	363.98	7,969	29,00,557
February 2020	4,859.34	2,229	1,08,31,468.86	10,207.60	10,023	10,23,10,774.80	3,045.04	12,245	3,72,86,514.80	4,284.00	12,596	5,39,61,264			
March 2020	12,656.03	2,701	3,41,83,937.03	7,521.02	8,300	6,24,24,466.00	1,189.95	10,685	1,27,14,615.75	3,235.00	12,250	3,96,28,750			
April 2020	910.16	2,701	24,58,342.16	4,323.89	9,049	3,91,26,880.61	2,885.96	10,694	3,08,62,456.24	3,585.98	12,564	4,50,54,253			
May 2020	220.01	1,836	4,03,938.36	7,408.09	7,209	5,34,04,920.81	168.90	10,483	17,70,578.70	3,494.95	12,596	4,40,22,390			
June 2020	12,116.04	2,348	2,84,48,461.92	1,377.96	7,408	1,02,07,927.68	0	8,875	0	2,947.00	8,697	2,56,30,059			
Jul7 2020	12,026.01	2,033	2,44,48,878.33	2,500.00	8,300	2,07,50,000.00	0	10,256	0	3,003.99	8,947	2,68,76,699			
August 2020	8,064.03	2,787	2,24,74,451.61	415.98	9,049	37,64,203.02	0	9,967	0	1,853.09	8,904	1,64,99,913			
September 2020	120.01	4,006	4,80,760.06	507.00	8,502	43,10,514.00		9,678	0	1,938.00	12,564	2,43,49,032			
October 2020	0	2,271	0	0	10,105	0	0	14,739	0	538.00	12,564	67,59,432			
November 2020 to December 2021	0		0	0		0	0		0	0		0			
January 2022	0	6,870	0	0	16,835	0	0	19,267	0	2,461.00	13,970	3,43,80,170			
February 2022	1,480.03	6,276	92,88,668.28	0	15,931	0	875.97	18,444	1,61,56,390.68	2,790.00	13,199	3,68,25,210			
March 2022	5,243.21	6,772	3,55,07,018.12	4,327.74	16,578	7,17,45,273.72	6,613.05	19,654	12,99,72,884.70	3,186.99	15,842	5,04,88,296			
Total			**19,09,01,907.07**			**56,14,45,831.88**			**29,27,63,648.37**			**45,30,35,328**			**29,00,557**
Grand Total															**1,50,10,47,272**
															150.00 crore

(Source: Information furnished by the DDMs)

Glossary of Abbreviations

Glossary of abbreviations

Sl. No.	Abbreviations	Description
1	ASP	Average Sale Price
2	BG	Bank Guarantee
3	CBA (A&D) Act	Coal Bearing Areas (Acquisition and Development) Act
4	CCTV	Closed-circuit television
5	CF	Crushed Fines
6	CIL	Coal India Limited
7	CLO	Calibrated Lumps Ore
8	Cr_2O_3	Chromium Oxide
9	CT	Commercial Tax
10	CTO	Consent to Operate
11	DDCA	Deputy Director of Chemical Analysis
12	DDM	Deputy Director of Mines
13	DEIAA	District Environment Impact Assessment Authority
14	DFO	Divisional Forest Officer
15	DGPS	Differential Global Positioning System
16	DLC	District Level Committee
17	DMF	District Mineral Foundation Fund
18	DoM	Director of Mines
19	EC	Environment Clearance
20	EIA	Environment Impact Assessment
21	EMF	Environment Management Fund
22	EMP	Ex-Mine Price
23	GoI	Government of India
24	GoO	Government of Odisha
25	GST	Goods and Services Tax
26	HLC	High Level Committee
27	i3MS	Integrated Mines and Mineral Management System
28	IBM	Indian Bureau of Mines
29	JDCA	Joint Director Chemical Analysis
30	LoI	Letter of intent
31	MARs	Mineral Auction Rules
32	MC Rules	Mineral Concession Rules
33	MCDR	Mineral Conservation and Development Rules
34	MCL	Mahanadi Coalfields Limited
35	MCR	Mineral Concession Rules

Sl. No.	Abbreviations	Description
36	MCV	Mineral Carrying Vehicle
37	MDPA	Mines development and Production Agreement
38	MMDR Act	Mines and Minerals (Development and Regulation) Act
39	MO	Mining Officer
40	MoEF&CC	Ministry of Environment, Forest and Climate Change
41	MP	Mining Plan
42	MT	Metric Tonne
43	MTPA	Million Tonne Per Annum
44	NMET	National Mineral Exploration Trust
45	OMC	Odisha Mining Corporation
46	OMC Rules	Odisha Mineral Concession Rules
47	OMMC Rules	Odisha Minor Mineral Concession Rules
48	OMPTS Rules	Odisha Minerals (Prevention of Theft, Smuggling & Illegal Mining and Regulation of Possession, Storage, Trading and Transportation) Rules
49	OPDR Act	Odisha Public Demand Recovery Act
50	ORSAC	Odisha Space Application Centre
51	OSMMAR	Odisha Specified Minor Minerals (Auction) Rules
52	OSPCB	Odisha State Pollution Control Board
53	PMV	Pit Mouth Value
54	R&DM	Revenue & Disaster Management
55	RA	Revisional Authority
56	RA	Revenue Authority
57	RML	Renewal of Mining Lease
58	ROM	Run of Mines
59	RTO	Regional Transport Office
60	S&M	Steel & Mines
61	SEIAA	State Environment Impact Assessment Authority
62	SF	Screened Fines
63	SFD	State Forest Department
64	SIM	Senior Inspector of Mines
65	SLES	State Level Enforcement Squad
66	UC	Utilisation Certificate
67	VATIS	Value Added Tax Information System
68	Water PCP Act	Water Prevention and Control of Pollution Act