

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR INSPECTION REPORT

Ranchi regional office

Mine file No : JHK/LOH/BX/248/RRO

Mine code : 07JHK12009

- (i) Name of the Inspecting : **S010**) **G.C. SETHI**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri B. K. Mahapatra, DGM, Geology
Official with
Designation
- (iv) Date of Inspection : 21/08/2015
- (v) Prev.inspection date : 17/07/2014

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **HISRI EXTENSION (19.58 H)**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : JHARKHAND
District : LOHARDAGA
Village : HISRI
Taluka : LOHARDAGA
Post office :
Pin Code :
FAX No. : 033-22883964
E-mail : N.A.
Phone : 06526-295526/27, 294611,
- (f) Police Station : KISKO
- (g) First opening date : 10/10/1951
- (h) Weekly day of rest : FRI
2. Address for : VILL.- HISRI,
correspondance P.O.- BAGRU HILL,
DISTT.- LOHARDAGA (JHK)
3. (a) Lease Number : BHR0266
- (b) Lease area : 14.55
- (c) Period of lease : 15
- (d) Date of Expiry : 18/07/1996
4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee : M/S HINDALCO INDUSTRIES LTD.
 AT - COURT ROAD,
 LOHARDAGA, LOHARDAGA
 JHARKHAND
 Phone:06526-22401112, 224446 & 224016.
 FAX :06526-224112 & 224445

Owner : A.K AGRAWAL
 M/S HINDALCO INDUSTRIES
 LTD. CENTURY BHAWAN, 3rd
 FLOOR, Dr. ANNIE BASANT
 ROAD, WORLY, MUMBAI (MH)
 KOLKATA WEST BENGAL
 Phone:
 FAX :

Agent : B.K.JHA
 M/s HINDALCO INDUSTRIES
 Ltd. COURT ROAD PO& DIST -
 LOHARDAGA (JHK) LOHARDAGA
 JHARKHAND
 Phone: Mob- 941708929, 06526-224112/224015
 FAX : 06526-224118

Mining Engineer

Name : SUDEEP KUMAR, Full Time
 Qualification : B. Tech. (Mining)
 Appointment/ : 07/12/2015
 Termination date

Mining Engineer

Name : PRAKASH RANJAN, Full Time
 Qualification : B. Tech (Mining)
 Appointment/ : 26/06/2016
 Termination date

Geologist

Name : B.K. MAHAPATRA, Full Time
 Qualification : M.Sc(Geo)
 Appointment/ : 20/02/2014
 Termination date

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| 6. Date of approval of Mining | : | Existing rule 11 MCDR1988 | 13/01/1994 |
| Plan/Scheme of Mining | | Renewal under rule 24 MCR1960 | 18/12/1995 |
| | | Renewal under rule 24 MCR1960 | 20/05/2006 |
| | | Modif.of approved Mining Plan | 06/10/2010 |
| | | Mining Scheme rule 12 MCDR1988 | 06/10/2010 |
| | | FMCP under 23C(1) | 05/08/2014 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|---|---|---------|
| 1a | Backlog of previous year | No such proposal in the approved scheme of mining for the year 2014-15. | Nil | Nil |
| 1b | Exploration over lease area for geological axis 1 or 2 | No exploration was proposed in the approved scheme of mining for the period from 2010-11 to 2014-15. | No exploration work was undertaken in the lease area during the period from 2010-11 to 2014-15. | Nil |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | No such proposal in the approved scheme of mining for the period from 2010-11 to 2014-15. | Nil | Nil |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | No such proposal in the approved scheme of mining. | Nil | Nil |
| 1e | Balance reserve as on 01/04/20 | In the scheme of mining approved on 06.10.2010, the reserves & resources were estimated as on 01.04.2010 is as given below: Proved reserves(111)-1100375 tonnes and resources (211)-206902 tonnes | The production achieved for the period from 2010-11 to 2014-15 is as follows: 2010-11: Nil, 2011-12: Nil, 2012-13: 99651 tonnes, 2013-14: 93813 tonnes & 2014-15: 54529 tonnes. After depletion of production of 247993 tonnes during the period from 2010-11 to 2014-15, the available reserves & resources as on 01.04.2015 is given below: Reserves(111)-247993 tonnes & resources(211)-206902 tonnes. | Nil |

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| 1f | General remarks of inspecting officers on geology, exploration etc | No exploration was proposed in the approved scheme of mining during the period from 2010-11 to 2014-15. | No exploration was undertaken during the last approved scheme of mining period. | Nil |
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Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|---|--|---|
| 2a | Location of development w.r.t.lease area | The mining operations were ptoposed northern & eastern part of the lone quarry during the year 2014-15. | The mine excavation was carried out in northern & eastern part of the lone quarry avaialble in the lease area during the year 2014-15. | Nil |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | One bench each in topsoil,overburden and bauxite ore zone was proposed during the year 2014-15 as envisaged in the approved scheme of mining. | Separate benches in topsoil, overburden and in ore zone were made during the year 2014-15. | Nil |
| 2c | Stripping ratio or ore to OB ratio | The proposed stripping ratio was 1: 0.53 in the year 2014-15 as envisaged in the approved scheme of mining. | The achieved Ore:OB ratio was 1: 0.40 during the year 2014-15. | The achieved Ore:OB ratio is in lower side due to less production and waste handling during the year 2014-15. |

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| 2d | Quantity of topsoil generation in m3 | Only 11866 cum. of topsoil was proposed to be generated during the year 2014-15 as envisaged in the approved scheme of mining. | The topsoil generation status during the year 2014-15 has not been furnished in the annual return submitted by the party for the year 2014-15, thereby the same could not be furnished. | Nil |
| 2e | Quantity of overburden generation in m3 | Only 46352 cum. of overburden and waste material was proposed to be generated during the year 2014-15 as envisaged in the approved scheme of mining. | Only 21827 tonnes of overburden and waste material was generated during the year 2014-15. | Nil |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | The development was proposed in northern and eastern side of the lone existing quarry during the year 2014-15. | The development of the mine was undertaken as per the proposal envisaged in the scheme of mining for the year 2014-15. | Nil |

Exploitation:

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---------------------------------------|--|--|---------|
| 3a | Number of pit proposed for production | The lone Quarry No. 1 was proposed for production during the year 2014-15 as envisaged in the approved scheme of mining. | The Quarry No. 1 was developed during the year 2014-15 for production purpose during the year 2014-15. | Nil |

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| 3b | Quantity of ROM mineral production proposed | During the year 2014-15, it was proposed to produce 109314 tonnes of bauxite from the mine as envisaged in the approved scheme of mining. | Only 54529 tonnes of bauxite was produced from the mine during the year 2014-15. | The achievement in production was in lower side due to frequent bandh called by the anti socials of the area. |
| 3c | Recovery of sailable/usable mineral from ROM production | As per the approved scheme of mining, the recovery was 90%. | The reported recovery was about 90% during the year 2014-15. | Nil |
| 3d | Quantity of mineral reject generation | Nil | No mineral reject was generated during the year 2014-15. | Nil |
| 3e | Grade of mineral rejects generation and threshold value declared. | Not applicable. | Not applicable. | Nil |
| 3f | Quantity of sub grade mineral generation. | No proposal for generation of sub-grade material in the approved scheme of mining. | The sub-grade/low grade bauxite generated from the mine was blended with the high grade material in the process to make them salable and as such there was no separate generation of sub-grade ore from the mine as reported during the field visit of the area. | Nil |
| 3g | Grade of sub grade mineral generation | Not applicable. | Not applicable. | Nil |
| 3h | Manual / Mechanised method adopted for segregating from ROM | Mechanised method was proposed in the approved scheme of mining for crushing and sizing of ROM bauxite. | The low grade/sub-grade materials were hand sorted and suitably blended to ensure metal grade requirement of the captive plant. | The mechanical beneficiation facility as proposed in the approved scheme of mining was not under operation. |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | No such proposal in the approved scheme of mining. | Not applicable. | Nil |

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| 3j | Provision of drilling and blasting in mineral benches | Drilling was proposed by DTH drills & blasting by charging the drilled holes with explosives. | The same practice was followed as proposed in the approved scheme of mining. | Nil |
| 3k | Provision of mining machineries in mineral benches | The following mining machineries were proposed to be deployed in the mine as envisaged in the approved scheme of mining: (a) Hydraulic Excavator, Ex-300 (b) Hydraulic Excavator, Ex-200 (c) Wheel Loader Tata Hitachi 3.1cum (d) Terex Dumper 30. | The following mining machineries were deployed in the mine during the year 2014-15: (a) Shovel (Hydraulic) 0.900cum. (b) Shovel (Hydraulic) 1.500cum. (c) Shovel (Hydraulic) 1.700cum. (d) Dumper 25 tonner (e) Dumper 32 tonner (f) Air Compressor 365 cum/mn (g) Air Compressor 450 cum/mn | Nil |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Height of the benches in OB: 4.5m & height of the benches in Ore: 4 to 8m as per the approved scheme of mining. | Height of the benches in OB: 1.5 to 2.5m and height of the benches in Ore: 3.5 to 4m as observed in the field. | Nil |
| 3m | Total area covered under excavation/pits | An extent of 5.46ha of area was proposed to be degraded under mine excavation during the approved scheme of mining period from 2010-11 to 2014-15. There was no specific land degradation proposal for each year of the scheme of mining period. | An extent of 1.480ha of area was degraded by the opencast working during the year 2014-15. | Nil |

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| 3n | Ore to OB ratio for the pit/mine during the year. | The proposed Ore:OB ratio was 1:0.53 for the year 2014-15 as envisaged in the approved scheme of mining. | The achieved Ore:OB ratio was 1: 0.40 during the year 2014-15. | The achieved Ore:OB ratio is in lower side due to low production and waste handling during the year 2014-15. |
| 3o | Total area put in use under different heads at the end of year | The proposed land degradation status in different counts during the approved scheme of mining period from 2010-11 to 2014-15 is as follows: Opencast working- 5.46ha, Road- 0.11ha, Green belt-0.51ha | Actual land degradation status in different counts during the year 2014-15 as per the annual return 2014-15 is as given below: Opencast working- 1.480ha, Reclamation/rehabilitation-0.260ha, waste disposal-0.120ha & progressive mine closure-0.260ha. | Year wise land degradation status has not been given in the approved scheme of mining. |
| 3p | Production of ROM mineral during the last five year period as applicable | The proposed production during the last five years as given in the approved scheme of mining is as follows:- 2010-11: 96139 tonnes, 2011-12: 91882 tonnes, 2012-13: 92330 tonnes, 2013-14: 91498 tonnes & 2014-15: 109314 tonnes. | The production achieved during the last five years is as given below: 2010-11: Nil, 2011-12: Nil, 2012-13: 99651 tonnes, 2013-14: 93813 tonnes & 2014-15: 54529 tonnes. | The achievements in production during the last five years is in lower side of the proposed quantities due to intermittent stoppage of mining operations due to law & order problems in the area. |
| 3q | General remarks of inspecting officers on method of mining etc. | The mining operations were proposed by fully mechanised opencast methods. | The same practice was followed as found during the inspection of the mine. | Nil |

Solid Waste Management - Dumping:

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
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| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | The overburden material generated was proposed to be backfilled concurrently & the topsoil so generated was proposed to be spread over the backfilled area . No proposal for separate dumping of topsoil, OB & mineral rejects in the approved scheme of mining. | The overburden materials generated due to the mine excavation during the year 2014-15 was backfilled concurrently in the already excavated areas. The topsoil so generated was spread over the backfilled area as proposed in the approved scheme of mining. | Nil |
| 4b | Location of topsoil, OB and mineral reject dumps | No such proposal in the approved scheme of mining. | Not applicable. | Nil |
| 4c | Number of dumps within lease area and outside of lease area | Not applicable. | Nil | Nil |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Not applicable. | Not applicable. | Nil |
| 4e | Number of active and alive dumps. | Nil | Nil | Nil |
| 4f | Number of dead dumps. | Nil | Nil | Nil |
| 4g | Number of dumps established. | Nil | Nil | Nil |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | No such proposal in the approved scheme of mining. | Nil | Nil |
| 4i | Length of Retaining wall or garland drain all along dumps | Nil | Nil | Nil |
| 4j | Number of settling ponds | Nil | Nil | Nil |

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| 4k | Specific comments of inspecting officer on waste dump management | The waste so generated was proposed to be backfilled in the already worked out portion of the lease area. | Concurrent backfilling of waste material was in practice as found during the inspection of the mine. | Nil |
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Solid Waste Management - Backfilling:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|---|---|---|
| 5a | Status of part or full extraction of mineral from mined out area before starting backfilling. | Concurrent backfilling of mined out area was proposed in the approved scheme of mining. | The same practice was followed as observed during the field visit of the area. | Nil |
| 5b | Area under backfilling of mined out area | An extent of 2.83ha of area was proposed to be reclaimed during the year 2014-15 as envisaged in the approved scheme of mining. | An extent of 0.120ha of mined out area was reclaimed during the year 2014-15. | Nil |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | The topsoil so generated was proposed to be spread over the backfilled/rec lained area as envisaged in the approved scheme of mining. | The topsoil generated was backfilled in the already worked out areas. | Nil |
| 5d | Total area fully reclaimed and rehabilitated | An extent of 2.83ha of excavted area was proposed to be backfilled/rec lained during the year 2014-15. | An extent of 0.120ha od already worked out area was backfilled during the year 2014-15. | Less extent of area was backfilled during the year 2014-15 agianst the proposal during the year due to low production & low waste handling, which was law & order problems in the area. |

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| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | Concurrent backfilling of mined out area was proposed in the approved scheme of mining. | The same practice was followed as per the approved scheme of mining. | Nil |
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Progressive Mine Clousre Plan:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|---|--|---------|
| 6a | Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2). | Not applicable. | The annual return on PMCP is regualrly submitted by the lessee. | Nil |
| 6b | Area available for rehabilitation (ha) . | No such proposal in the approved scheme of mining. | No rehabilitation measure was adpoted in the mine during the year 2014-15. | Nil |
| 6c | afforestation done (ha). | An extent of 0.5ha of area was proposed under plantation during the period from 2010-11 to 2014-15 as envisaged in the approved scheme of mining. Year wise extent of plantation area has not been given in the scheme of mining. | only 125 nos. of saplings were planted during the year 2014-15 but the extent of plantation area is not available. | Nil |
| 6d | No. of saplings planted during the year | Only 200 nos. of saplings were proposed to be planted during the year 2014-15. | Only 125 nos. of saplings were planted during the year 2014-15. | Nil |

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| 6e | Cumulative no .of plants | Only 1000 nos. of saplings were proposed to be planted during the period from 2010-11 to 2014-15. | The commulative figures of plantation during the last five years is not avialble. | Nil |
| 6f | Any other method of rehabilitation | Not applicable. | Nil | Nil |
| 6g | Cost incurred on watch and care during the year | Not applicable. | Not available. | Nil |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | Nil | Nil | Nil |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | Not applicable. | Nil | Nil |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area | Not applicable. | Nil | Nil |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | Not applicable. | Nil | Nil |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | Not applicable. | Nil | Nil |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | Not applicable. | Nil | Nil |

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| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | Nil | Nil | Nil |
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | Nil | Nil | Nil |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Monitoring of ambient air, water & noise level was proposed in quarterly basis. | The ambient air quality, water quality and noise levels were monitored on quarterly basis and the same was found within the permissible limits. | Nil |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | Not applicable. | Concurrent backfilling of mined out area was done. Besides, plantation along the 7.5m safety zone was also done during the year 2014-15. | Nil |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|--|---|---------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | The entire ROM produced from the mine was proposed to crushed to 100-130mm size & screened and despatched to the captive plant but grade wise sorting was not proposed in the approved scheme of mining. | The ROM is crushed & screened and supplied to the captive plant but grade wise sorting was not in practice in the mine. | Nil |

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| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanical method was proposed for sorting & screening of the ROM. | The ROM produced from the mine was crushed by Jaw crusher and screened for getting the required mental content of the bauxite to meet the captive palnt requirement. | Nil |
| 7c | Different grade of mineral sorted out at mines. | No such proposal in the approved scheme of mining. | The entire ROM produced from the mine was crushed & screened but grade wise sorting was not in practice. | Nil |
| 7d | Any beneficiation process at mines . | Not applicable. | Nil | Nil |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | Not applicable. | There was no mineral conservation and beneficiation problem in the mine. | Nil |

Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|---|---|---------|
| 8a | Separate removal and utilization of topsoil (Rule 32) | The topsoil was proposed to be removed and spread over the backfilled area as envisaged in the approved scheme of mining. | The topsoil removed was utilised for spreading over the reclaimed area as per the proposal given in the approved scheme of mining. | Nil |
| 8b | Concurrent use or storage of topsoil | The topsoil generated was proposed to spread over the backfilled/rec laimed area concurrently. | The topsoil so generated was spread over the backfilled area as a regular practice. | Nil |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | No such proposal in the approved scheme of mining. | The overburden and waste rock so generated was concurrently backfilled in the mined areas. No separate dumping of overburden and waste material was done. | Nil |

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| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | No such proposal in the approved scheme of mining. | Nil | Nil |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Not applicable. | Not applicable. | Nil |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | Not applicable. | Nil | Nil |
| 8g | Survival rate | No such proposal in the scheme of mining. | The reported survival rate of plantation was about 65%. | Nil |
| 8h | Water sprinkling on roads to control airborne dust | No such proposal in the approved scheme of mining. | Water sprinkling was done on the haulage road as a regular practice in every working day of the mine. | Nil |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | Not applicable. | Concurrent backfilling was done in the worked out portion of the mine, which enhances the aesthetic beauty of the mine. | Nil |

Compliance of Rule 45:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
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| 9a | Status of submission of Monthly and Annual returns | The information furnished in the annual return for the year 2014-15 covers Part-I to Part-VII. | The party has submitted monthly returns in Form F-3 regularly within the stipulated time in every month during the year 2014-15. Besides, the annual return in Form H-3, for the year 2014-15 was also submitted by the party within the prescribed time limits. | Nil |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Details of Mining Engineer, Geologist and Mine Manager have been furnished in the annual return. | This is a fully mechanised mine and as per the requirement of the Rule, full time mining engineer, geologist & a mine manager have been appointed. | The details is given in the annual return submitted by the party for the year 2014-15. |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | The land use pattern in different counts furnished in the annual return submitted by the party for the year 2014-15 is as follows: (i) Already exploited & abandoned by opencast working- 1.480ha (ii) Reclaimed/Rehabilitated- 0.260ha & (iii) progressive mine closure - 0.260ha. | The details given in the annual return submitted for the year 2014-15 appears to be correct. | Nil |
| 9d | Scrutiny of Annual return on afforestation | Only 125 nos. of saplings were planted during the year 2014-15 as per the annual return. | The figures of plantation given in the annual return appears to be correct. | Nil |

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| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity) | Nil | No such mineral reject was generated during the year 2014-15. | Nil |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | Only 54529 tonnes of bauxite production was reported during the year 2014-15 as indicated in the annual return. | The figures of production furnished in the annual return is appears to be correct. | Nil |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | The ex-mine price of bauxite is indicated to be for Rs. 513.38 in the annual return 2014-15 and the production cost has not been given separately since, the entire bauxite production is used for captive consumption. | The figures furnished for ex-mine price in the annual return is appears to be correct. | Nil |
| 9h | Scrutiny of Annual return on fixed assets | The value of fixed assets is indicated to be for Rs. 131338832.00 in the annual return submitted by the party for the year 2014-15. | The value of the fixed assets furnished in the annual return is appears to be correct. | Nil |

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| 9k | Scrutiny of Annual return on mining machineries | The details of the mining mechinaries furnished in the annual return 2014-15 is as follows: (i) Shovel (hydraulic) 0.900cum-1 (ii) Shovel(hydraulic) 1.500cum-1 (iii) Shovel (hydraulic) 1.700cum-1 (iv) 25 tonner dumper-3nos (v) 32 tonner dumper-1no. (vi) Air compressor (365 cum/mn)-1 (vii) Air compressor (450cum/mn)-1 (viii) Crusher (120t/h)-1 no & (ix) Crusher (60t/h)-1no. | The list of mining machineries furnished in the annual return is appears to be correct. | Nil |
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Details of violations observed during current inspection and compliance position of violation pointed out

| Violation observed | | Show cause position | |
|--------------------|-------------------------|---------------------|-------------------------|
| Rule NO. | Issued on Compliance on | Rule NO. | Issued on Compliance on |

Date :**(G.C. SETHI)**

Indian Bureau of Mines