

STOPING INSPECTION REPORT Annexure-I
INDIAN BUREAU OF MINES
Bangalore Regional Office

Mine Code No. 27KAR 16001

- (i) **Report Prepared by** : Shri. Sandeep Kumar Singh & Shri K. Srinivas
- (ii) **Designation** : Assistant Controller of Mines & Junior Mining Geologist
IBM, Bangalore
- (iii) **ML.No** : 2671
- (iv) **Accompanying Mine Official** : (1) Sri Arunava Ghosh
(2) Dr. Sanjeeva Kumar Solankar
(3) Sri Prashant
(4) Sri Abhijith M Suryavanshi
- (v) **Designation** : (1) Dy General Manager (Mining) & Mines Manager
(2) I/c Manager (Exploration) & Geologist
(3) Dy Manager (Survey) & Chief Surveyor
(4) Dy Manager (Mining) & Mining Engineer
- (vi) **Date of Inspection** : 30/09/2022
- (vii) **Date of submission of the application by lessee** : Application from Lessee vide letter no 14/MIN/SO/2022-23/IBM dated 07.09.2022, received in the office on 08.09.2022.

PART – I General Information

1. a) **Name of the mine** : Hutti Gold Mine
- b) **Category of the mine** : A-Mechanized U/G mine
- c) **Address of the mine**
- State** : Karnataka
- District** : Raichur
- Village** : Hutti
- Pin** : 584115
- Fax** :
- E-mail** : rohgm1@gmail.com, ghosh.arunava@ka.gov.in,
tn.ravikumar@ka.gov.in
- d) **Name of Police Station** : Hutti
- e) **Lease area in Hectare** : 528.35 Ha
- (i) Forest** : -
- (ii) Non-forest** : Non-Forest
2. a) **Period of Lease** : 20 years (19/12/2008 to 18/12/2028)
- b) **Date of expiry** : 18/12/2028
3. a) **Mineral worked** : Gold, Scheelite and Associated Minerals
- b) **Main mineral** : Gold
- c) **Associated minerals** : Silver
- d) **Captive /non-captive use** : Captive
4. a) **Date of approval of mining plan with reference No.** : No.279/356/92/BNG dtd. 02/09/2022
Modifications to the Approved Mining Plan
- b) **Special conditions stipulated in approval letter** : Nil
5. **Name and address of Lessee and Agent (including Fax/E-mail, if any)**

- a) **Lessee** : Sri. PrabhulingaKavalikatti
The Managing Director
The Hutti Gold Mines Co. Ltd.
Address:3rd Floor, KHB shopping Complex,
National Games Village, Koramangla, Bangalore
Phone:08537-275022
Email: p.kavalikatti@ka.gov.in
Date of Appointment :01/03/2021
- b) **Agent** : Sri. Ravikumar
Address: The Hutti Gold Mines Co. Ltd.
Hutti-584115, Taluk.: Lingasugur, Dist.: Raichur,
Karnataka
Phone:9449615014
Email:dgmengg03@gmail.com,
tn.ravikumar@ka.gov.in
Date of Appointment :01/06/2021
- c) **Status of lessee (Private/ PSU/Joint sector)** : PSU
- d) **Mining Engineer/Geologist under Rule 55 of MCDR, 2016 with date of appointment whether full-time or part time and qualifications.** : Mining Engineer
Sri. Abhijith Suryavanshi
Full time
Date of Appointment :06/08/2020

Geologist
Dr. Sanjeeva Kumar Solankar
Full time
Date of Appointment :08/07/2019

PART- II: TECHNICAL DETAILS

1. Details of Section/Stope applied for permission:

Sl.No.	Name of applied block.	Stope ID	Level		Region	Proposed period as per approved MRMP dated 02/09/2022
			Top Level	Bottom Level		
1	S-4 BLOCK	ZONE I REEF	15 L	16 INT L	DE34	2022-23 (Aug-22 to Mar-23)

	Co-ordinates		Stope Dimension (LxWxH)
	Latitude (From, to) UTM/Local	Longitude (From, to) UTM/Local	(90 x 11 x 21.5)
Top level- 15L	1791633, 1791552	676556, 676595	
Bottom Level- 16 Inter L	1791631, 1791549	676553, 676590	

Table 1: The details of the proposed stopes

2. **Level wise completed and pending development for the proposed stope:** The status of the development has been examined during the mine inspection on 30/09/2022. The updated development as on 30/06/2022 as reported by the Lessee is as below.

Sl. No.	Block	Reef	Level	Development Required (mts)			Development Completed (mts)			Devel. %
				Drive	X-cuts	Total	Drive	X-cuts	Total	Compl.
1	S4	Zone I	15 L	157	63	220	157	63	220	100%
2			15 D/L	61	28	89	61	28	89	100%
3			16 Int L	30	10	40	30	10	40	100%
4			16 Inter L Draw Level (Off-Lode)	132	172	304	132	172	304	100.00%
5			Total	380	273	653	380	273	653	100.00%

Table2: Proposed stope development status

3. Extent of Development in the mine: Details of UG development in Zone-I Reef is as follows:

Access	Dimension
Mallappa Shaft	6.1m x2.17 m
Central Shaft	3.76 m x 1.83 m
Village Shaft	3.51 m x 2.13 m
Circular Shaft	6 m diameter

Levels	Strike Reef(F/W)	Strike Reef(H/W)	Village Reef	Zone-I Reef	Middle Reef	Oakley's Reef	Prospect Reef	Total
1st	-	85.00	88.00	-	-	107.00	-	280.00
2nd	-	233.00	-	145.00	95.00	343.00	-	816.00
3rd	191.00	405.00	575.00	1,004.50	260.00	1,371.70	19.70	3,826.90
4th	180.00	305.00	256.00	923.00	202.00	1,064.00	-	2,930.00
5th	205.00	265.00	300.00	1,248.70	310.00	1,566.00	90.50	3,985.20
6th	211.00	335.00	272.00	633.00	210.00	1,202.00	-	2,863.00
7th	238.00	395.00	434.00	1,191.80	807.00	1,287.00	16.50	4,369.30
8th	283.00	315.00	370.00	631.00	540.00	1,215.00	-	3,354.00
9th	355.00	425.00	353.00	680.00	487.00	870.00	-	3,170.00
10th	418.00	492.00	260.00	833.00	1,097.80	1,113.80	-	4,214.60
11th	620.00	480.00	189.00	788.00	-	-	-	2,077.00
12th	671.00	530.00	158.00	736.00	-	-	-	2,095.00
13th Inter	-	17.30	-	190.00	575.00	948.00	-	1,730.30
13th	713.00	525.00	164.00	1,018.00	720.00	953.00	-	4,093.00
14th	588.00	480.00	96.00	1,138.00	630.00	968.00	-	3,900.00
15th	513.00	875.00	122.00	1,134.30	973.70	1,060.00	-	4,678.00
16th	160.00	845.00	27.00	736.50	910.50	887.00	-	3,566.00
17th	-	800.00	-	734.00	742.40	760.00	-	3,036.40
18th	-	670.00	-	844.20	950.00	775.00	-	3,239.20
19th	-	700.00	-	764.00	779.70	680.00	-	2,923.70
20th	-	670.00	-	851.30	878.90	997.00	-	3,397.20
21st	-	650.00	-	733.00	750.00	576.00	-	2,709.00
22nd	-	620.00	86.00	687.00	935.00	795.00	-	3,123.00
23rd	-	470.00	-	595.00	720.00	288.00	-	2,073.00
24th	-	802.30	-	795.00	1,190.10	1,019.00	-	3,806.40
25th	-	-	-	633.50	-	227.80	-	861.30
26th	-	850.00	118.00	837.50	1,398.00	415.10	-	3,618.60
27th	-	233.60	-	155.00	93.00	18.00	-	499.60
28th	-	494.80	-	31.00	35.00	-	-	560.80
Total	5,346.00	13,968.00	3,868.00	20,691.30	16,290.10	21,506.40	126.70	81,796.50

Table3: Extent of development in mine

4. Stope worked out during last 5 years:The details of stope worked out during last 5 years as reported by the Lessee during inspection are given below.

<i>Permission Letter</i>	<i>Stopes already worked out</i>	<i>No. of Stopes</i>	<i>Top level RL</i>	<i>Bottom Level RL</i>	<i>Quantity Proposed (Tonnes)</i>	<i>Quantity recovered (Tonnes)</i>
No. KNT/RCH/G-1-SZ/253, Dated 15.06.2018	OR 17 L – 19 L BE 43-44(8P Block)	1	545.61	609.61	88,115	32,060
No.KNT/RCH/G-I SZ Dated 11.11.1998	ZI 16L –20 L AW27 - BE31	1	471.50	637.50	1,17,065	1,60,285
No.M5/RCH/G-1-SZ Dated 09.06.2003	SR 21 L – 22 L FE34 - BE36	1	679.09	716.60	1,04,544	1,07,277
No.KNT/RCH/G-1-SZ Dated 14.07.1993	MR 19 L – 22 L DE45-EE46 (M-3)	1	609.07	718.50	1,15,435	43,818

Table 4: Details of stope workout during last five years

5. Reserve position of stopes in operation: Balance reserves in stopes under operation for which permission is granted as on 30/6/2022 as reported by the Lessee during inspection are.

Level	Name of the Reef	Stope ID	Permission letter and date	Quantity Proposed (T)	Quantity Recovered(T)	Balance Reserves(T)
15L - 17L	Middle Reef	M7-3	No.MS/RCH/G-I-SZ, Dated 18.09.2003	66,689	1,07,313	Nil
8L - 11L	Strike Reef Foot Wall	B2	No.KNT/RCH/G-I-SZ/250, Dated 15.06.2018	58,802	1,40,392	Nil
24L - 26L	Strike Reef	S1	No.KNT/RCH/G-I-SZ/256, Dated 15.06.2018	1,16,188	2,16,582	Nil
9L - 13 Inter L	Oakley's Reef	ORT	No.KNT/RCH/G-I-SZ/259, Dated 15.06.2018	1,00,169	1,27,878	Nil
17L - 19L	Middle Reef	MR (FW)	No.KNT/RCH/G-1-SZ/171 Dated 06.09.2019	7,51,475	3,17,127	4,34,348
24L - 26L	Middle Reef	N-1 Sub Block A	No KNT/RCH/G-1-SZ/218 Dated 20.10.2021	3,52,301	24,204	3,28,097
24L - 26L	Oakley's Reef	S1	No.KNT/RCH/G-I-SZ/221 Dated 20.10.2021	2,72,924	896	2,72,046

Table 5: Details of stope under operation for the year 2022-23.

6. Reserve position of applied stopes: In-situ tonnage is geological resources; Mineable tonnage is tons including planned dilution.

S. No.	Reef	Stope Name	Level	In-situ Tonnage	Minable Tonnage	Grade (g/t)
1	Zone I	S-4 Block	15 L - 16 Inter L	60,251	60,973	3.31

Note: Mineable tonnage 60,973 tonnes, inclusive of 88% recovery factor & 15% dilution factor

Table 6: Reserve position in applied/proposed stopes.

7. Balance Reserves: Position of Reserve and Resource as on 01/04/2022 is as follows:

A. Total Mineral Reserves & Resources			
	UNFC	Million Tonnes	Grade (g/t)
Proved Mineral Reserve	111	15.58	4.38
Probable Mineral Reserve	121&122	3.36	3.90
Feasibility Mineral Resource	211	2.98	3.64
Pre-feasibility Mineral Resource	221	0	0
Measured Mineral Resource	331	0	0
Indicated Mineral Resource	332	1.49	3.26
Inferred Mineral Resource	333	2.24	2.73
Reconnaissance Mineral Resource	334	0	0

Table 7: Reserve & Resource position of the mine as on 1.04.2022

8. Manner of Extraction of ZI 15L - 16L DE 34 'S-4' Block

Reference Plans and Sections:

SEQUENCE OF OPERATION

8.1. STOPE PREPARATION: [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

- A. 15th Drill Level has been developed between 15th level and 16th Inter level.
- B. One service raise from 15th Level to 16th Inter level has been developed at the northern side of the proposed block S-4 and southern end of 16 Inter level, a service raise has been developed from 15th Level to 16th Inter level.

8.2. EXTRACTION LEVEL: [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

The bottom level of the proposed Block i.e., 16th Inter level shall be used as extraction level. A footwall haulage drive of 3.00 m.(H) x 3.00 m. (W) is developed in the waste rock and draw cross cuts of 13.9m to 16.6m length are developed with dimensions of 3.00 m. (H) x 3.00m. (W) at an interval of 9.00 m to 10.70 m.

8.3. DRILLING OF BLAST HOLES: [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

57 mm dia downward holes with burden of 1.5m and toe spacing of 1.8 m have been drilled from 15th drill Level to 16 Inter level.

8.4. BLASTING [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

- a. Blasting of holes drilled from 15th level to 16th Inter level will be commenced from slot rise provided at southern end of the stope S-4 block and will progress towards north retaining a Crown Pillar of 9.1m.
- b. Once the blasting face reaches 15 Drill Level, holes drilled from 15 Drill Level to 16 Inter Level shall be blasted progressing towards North.
- c. The pillar between 15 Level & 15 Drill Level shall be retained as Crown Pillar
- d. This sequence of blasting operation shall be maintained for the entire stoping block.
- e. Emulsion /Slurry explosives of 40 mm & 83 mm will be used for blasting operations.

Sequence of Blasting: [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

- (1) Slot Raise (**Slice-1A**) between 15 Level (15L) and 16 Inter Level (16 Int L) shall be blasted from 15L by Drop Raising method, retaining pillar of 9.1m as Crown Pillar.
- (2) Slot Widening (**Slice-1B**) between 15L and 16 Int L shall be done by blasting of holes drilled from 15L. The already blasted slot raise (Slice-1A) shall act as free face for slot widening.
- (3) This will be followed by blasting of **Slice-2** to **Slice-5** from 15L against the free face of Slot between 16 Inter L and 15L, retaining a pillar of 9.1m as Crown Pillar.
- (4) Blasting of Drill holes from 15 Drill Level (15D/L) to 16 Int L will commence by blasting of **Slice-6** against already blasted **Slice-5** between 15L and 16 Int L.
- (5) This will be followed by blasting of **Slice-7 to 15** between 15 D/L and 16 Int L & retaining a Crown Pillar of 9.1m between 15 Level & 15 Drill Level.
This will mark **completion of blasting** in ZI 15L - 16 INT L DE 34 'S-4' Block.

8.5. WITHDRAWAL & TRANSPORTATION OF ORE [Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/A-Plate-1]

The broken ore shall be drawn from stope by Electric LHD and will be dumped into Ore Transfer Raise CE 34, towards Northern end of S-4 Block at 16 Inter Level. Further this will be go to 20th Level and after crushing at 22nd level it will be raised to the surface through Mallappa Shaft.

PROPOSED RATE OF PRODUCTION FROM STOPE (as per modifications to the approved mining Plan)

Block ID	MONTH	TONNAGE	TOTAL
S-4 Block	OCT'22	7500	45,000
	NOV'22	7500	
	DEC'22	7500	
	JAN'23	7500	
	FEB'23	7500	
	MAR'23	7500	

Table 8: Proposed Rate of production from stope

ESTIMATED TONNAGE & GRADE TO BE RECOVERED FROM 'S-4' BLOCK

SL NO	Name of Sub-Block	Insitu Ore Reserve			Irrecoverable Reserve			Recoverable ore			Dilution @ 15 %			Extraction from the Block		
		Tonnes (MT)	Grade (g/t)	Gold (g)	Tonnes (MT)	Grade (g/t)	Gold (g)	Tonnes (MT)	Grade (g/t)	Gold (g)	Tonnes (MT)	Grade (g/t)	Gold (g)	Tonnes (MT)	Grade (g/t)	Gold (g)
1	S-4 BLOCK	60,251	3.78	227749	7,231	3.55	25670	53,020	3.81	202079	7,953	0.00	0.00	60,973	3.31	202079

Table 9: Estimated tonnage and grade from proposed block

8.6. SUPPORT OF WORKINGS: Drg. NO.MP/SPA/2022/4/S-4 BLOCK_ZI/J-Plate no-10.

The following measures have been implemented for support of workings,

- 1) All drives and cross cuts developed inside the ore body of 3m X 3m size in the proposed block are supported with 20mm diameter tor steel rock bolts of 1.50m length at 1.0m spacing.
- 2) All drives and cross cuts of 3m X 3m size developed in waste rock outside the ore body are supported with 20mm diameter tor steel rock bolts of 1.50 m length at 1.0m spacing.

8.7. SAFETY MEASURES: Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/M-Plate no 13.

The following safety measures will be implemented for proposed Stope Block, as per recommendation of NIRM Report MD-01-07 dated June 2003.

Effect of Mining of the proposed block would be monitored by installing Stress Cells in the Rib Pillars adjacent to the block.

Convergence would be monitored by installing Tape Extensometers and Convergence indicators in the Haulage Drives and in the Draw Cross Cuts in the proposed stoping block as shown in the drawing

8.8. VENTILATION: Drg. No. MP/SPA/2022/4/S-4 BLOCK_ZI/D-Plate no 4.

The stope will be ventilated with 400 Cu.m/min fresh intake air from Mallappa Shaft through the connecting drives and cross cut at 20th Level and the return air would go up through the raises/old stopes to the return circuit as shown in Drawing

VR Air Shaft Fan Details:

Make: ABB 1600-800-12 VP Axial Flow Fan
Capacity: 1500 Cu.m/min
Water Gauge: 103 mm

8.9. STOWING:

After completion of extraction of the proposed block, the stope void shall be backfilled by hydraulic stowing with classified mill tailings and waste rock, in order to ensure stable working conditions in future stope blocks adjacent to the proposed block.


9. Compliance of Rule 30 under MCDR, 2017: - has been complied with as Stopping application has been applied in prescribed Form –F under rule 30(2) of MCDR, 2017 by Hutti Underground Gold Mine of M/s The Hutti Gold Mines Company limited.

10. Comments on the scrutiny of stopping notice: The stopping notice has been examined in light of the field visit on 30/09/2022 and discussion held with mine officials. The scrutiny comments were communicated to the Lessee vide Letter no KNT/RCH/G-1/BNG-Vol-XIV dated 04/10/22. The Lessee has incorporated corrections and the final copy is submitted vide Lessee letter no. 71/HGML/Stope/2022/390 dated 14.10.2022.

- a) Application of stopping was submitted for Zone-I reef between 15th level to 16th Interlevel DE-34 region (S-4 block) between grids as mentioned in Table 1.
- b) As per Modifications to the approved Mining Plan approved on 02/09/2022, above mentioned stope in Table-1 is proposed to stope out in the year 2022-23(Aug-22 to March-23) as mentioned below in Table 11. The proposed stope details have been furnished in the table 1. The proposed rate of production & estimated tonnage and grade has been furnished in Table 8 &9.
- c) Adequate development has been carried out for the proposed stope w.r.t the off-lode, on-lode & primary development by the Lessee as mentioned above in Table 2& below in Table-10.
- d) Accordingly, the proposed stope is recommended for permission as adequate development has been carried out in this stope.

Sl. No.	Block	Reef	Level	Development Required (mts)			Development Completed (mts)			Devel. %
				Drive	X-cuts	Total	Drive	X-cuts	Total	Compl.
1	S4	Zone I	15 L	157	63	220	157	63	220	100%
2			15 D/L	61	28	89	61	28	89	100%
3			16 Int L	30	10	40	30	10	40	100%
4			16 Inter L Draw Level (Off-Lode)	132	172	304	132	172	304	100.00%
5			Total	380	273	653	380	273	653	100.00%

Table 10 showing status of development of stope recommended for permission



4.2.2.6: Stope wise Production(Annexure 25)

Level (mRL)	Stope ID	Estimated Reserve Stope (t)	Proposed ROM production from Stope (t)	Planned Recovery (%)	Planned Dilution (%)	Grade Range (g/t)	Location (Latitude, Longitude)
SRF 8L - 11L KE 37 (240.76m - 338.05m)	B2 BLOCK	58,802	20,000	85	15	2.0	1791604, 676902 1791553, 676934 1791580, 676880 1791538, 676901
SR 24L - 26L DE 34 (779.2m - 839.4m)	S1 BLOCK	1,16,188	7,800	85	15	10.00	1791670, 676598 1791625, 676638 1791657, 676578 1791606, 676612
SR 24L - 26L DE 34 (779.2m - 839.4m) Extension	S1 BLOCK (Extension)	57,115	45,000	86	15	14.8	1791625, 676638 1791600, 676656 1791606, 676612 1791582, 676630
ZI 15 L - 16 INT DE 34 (476 m - 495m)	S4 BLOCK	60,251	45,000	88	15	2.80	1791633, 676556 1791552, 676595 1791631, 676553 1791549, 676590
MR (F/W) 17L - 19L GE 47 (544.84m - 608.83m)	A BLOCK	1,57,914	26,000	85	15	3.00	1791023, 676733 1790963, 676733 1790962, 676698 1791022, 676689
OR 9L - 13 INT GE 47 (286.23m - 354.9m)	OR1 BLOCK	43,707	30,000	85	15	3.20	1791040, 676737 1790970, 676776 1791013, 676707 1790950, 676746
OR 9L - 13 INT GE 49 (286.23m - 354.9m)	OR2 BLOCK	56,462		85	15	2.00	1790964, 676780 1790996, 676812 1790941, 676748 1790875, 676777
ZI 24L - 26L BE 34 (780.4m - 840m)	S1 BLOCK	1,15,512	58,000	85	15	2.80	1791594, 676465 1791532, 676497 1791586, 676449 1791523, 676479
OR 24L - 26L CW 37 (780.6m - 837.6m)	S1 BLOCK	2,72,942	60,000	88	15	2.50	1791471, 676293 1791385, 676307 1791465, 676276 1791372, 676283
MR 24L - 26L CE 44 (778.5m - 835.5m)	N1 BLOCK (Sub Block A)	3,52,301	60,000	88	15	2.00	1791159, 676528 1791115, 676563 1791136, 676504 1791097, 676531
SR 15L - 17L JE 37- 40 (472m - 542m)	P-7 BLOCK	41,151	10,000	85	15	3.00	1791406, 676893 1791359, 676916 1791391, 676862 1791346, 676890
Total			3,61,800				

Table 11: Proposed period as per approved MMP dated 02/09/2022 for recommended stope

11. Recommendation: Based on field observations, compliance of scrutiny comments submitted by the Lessee, recommendations in NIRM report and proposals in present modifications to the approved mining plan, the present stoping permission for Zone-I reef 15th level to 16th Inter level in DE 34 region (S-4 Block) may be granted.

K. Srinivas
Junior Mining Geologist

Sandeep Kumar Singh
Assistant Controller of Mines