

**PEER REVIEWER'S COMMENTS AND JUSTIFICATION ON REPORT THE TITLED
"GEOLOGICAL REPORT ON PRELIMINARY (G-3) EXPLORATION OF TUNGSTEN AND
TIN ORE IN MURARA- DEVENDRAPURA BLOCK, DISTRICT: NIWARI, STATE:
MADHYAPRADESH"**

Comments by Shri R.N. Singh Director (Rtd.)

Sl.No.	Details of Peer Reviewers observation / suggestions / comments	Justification
1	MECL carried out preliminary Exploration (G3) for tungsten and associated mineralisation in the Murara-Devendrapura Block in Niwari district, Madhya Pradesh to establish the strike and depth continuity of tungsten mineralisation associated with quartz reefs. The Block represents extension of the Tarichar Khurd (G4) Exploration Block, where encouraging tungsten Values and Scheelite occurrence under short wave (254 nm wave length) UV Light were reported from the quartz reef system. The mineralized zones are generally confined to fractured, brecciated and silicified portions of quartz reef and associated alteration zones.	Agreed
2	The area is the central part of the Archean Bundelkhand granite gneissic complex comprising granitoids varieties in different shades such as porphyritic and non-porphyritic coarse-grained pink granite, medium to fine-grained granite with linear bodies of quartz reef, which forms prominent geomorphic features with positive relief in Murara-Devendrapura area.	Agreed
3	The objective of the present exploration was to generate a geological, geochemical and analytical database for resource estimation and to establish Inferred Mineral Resources (333 Category).	Exploration carried out as per MEMC Rules and on approval of TCC.
4	MECL carried out detailed geological mapping on 1:2000 Scale and covered 4.16 sq.kms against proposed 4.16 sq.kms with surface contouring at 2m interval, Pitting/trenching and Pit/trench sampling.	Targets were fully achieved.

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5	In addition, core drilling was carried out at 200m intervals and achieved 1220.50m against 1250m. with core sampling for chemical and petrological Studies. The nature and quantum of the work proposed have been achieved except for Pitting and trenching.	Due to limited availability of suitable locations with exposed mineralised zones, only one trench could be excavated. However, the exploration objectives were adequately addressed through systematic drilling, geological mapping and sampling.
6	A combined topographical map along with the interpreted geological map of the block was prepared at 1: 2000 Scale. The dominant litho-unites of the area are coarse-grained porphyritic pink granite, medium to fine-grained granite among the most important litho-units intruding the granitoid is NE-SW trending quartz reefs.	Agreed
7	One trench 42 cu.m.was excavated against 180 cu.m. of pitting and trenching and 21 nos. of samples were collected from the trench. Under UV rays no fluorescence of Scheelite ore observed in any of the trench samples some more pitting and trenching should have been done in soil covered area and analysis of soil samples might have given some clear indication of Scheelite in the float covered area.	Trenching quantum could not be carried out as per reason given in point 5, Pitting is not approved in the quantum. The suggestions are accepted and incorporated in Chapter-21 under recommendations.
8	11 inclined bore-holes in Murara and 4 in Devendrapura block were drilled to intersect the target quartz reef at a vertical depth of 50m and achieved total drilling of 1220.50m. A total of 535 nos of samples were analysed in the Chemical Laboratory of MECL for five elements including W, Sn, Cu, Pb and Zn by AAS method.	Agreed
9	Analytical values of 21 trench samples show tungsten values ranging from 5.51 to 436.77ppm and average of 128.55 ppm. On the other hand, Sn, Cu, Pb and Zn values are not significant.	The analytical results support the tungsten potential of the block and corroborate the drilling data.
10	Core sampling, pit/trench sampling for Chemical analysis and petrological samples for laboratory studies were systematic and of high standard.	Thank You

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11	Zone demarcation and resource estimation has been carried out by geological cross-section method using 400 ppm W cut-off grade and minimum workable thickness of 2.0m. A total Inferred geological resource (333 Category) of about 1.138 million tonnes has been estimated with average grade of 430.16 ppm W. The mineralized zones remain open at depth and along strike in several sectors	Depth continuity in resource estimation is up to 1 st level; Upgradation of this block is recommended to establish continuity beyond present limits.
12	Due to variation in mineralisation, the existing data spacing is not sufficient for higher confidence resource estimation. So, infill drilling at closer spacing and pitting and trenching in gap areas is required for better delineation of ore bodies and upgradation of the resource category.	Agreed and this recommendation is line with MECL observations, where G-2 stage exploration is recommended for upgradation of resources and confidence.
13	It is concluded that Tungsten, (Scheelite) mineralisation in quartz reefs is a structurally controlled hydrothermal deposit. Scheelite is a calcium tungstate mineral (CaWO ₄) and one of the top two primary ore of tungsten. It is highly valued for characteristic bright fluorescence under UV light. It is processed for tungsten. Tungsten is used for making hand metals, alloys, aerospace, military and industrial applications.	The geological interpretation and genetic model presented in the report support this conclusion.
14	Scheelite is mostly found in skarn deposits associated with granite intrusion and hydrothermal veins. Due to high sp.gr. (around 6) and resistance to weathering, it is frequently found in placer and alluvial deposits. Preliminary search for placer and alluvial deposit of Scheelite in Murara Devendrapara area may be taken up during the next stage of investigation in the area.	The suggestion is accepted. Reconnaissance evaluation of drainage channels and alluvial accumulations for secondary scheelite concentration may be considered during future stages of exploration.
15	The domestic consumption of tungsten is rapidly increasing due to infrastructural development and industrial expansion. It is, therefore, needed a sustained domestic availability of tungsten to reduce import and maintain uninterrupted supply to strategic sectors. As no large deposit of tungsten is discovered in recent years, so working small deposits in proximity to each other will be wiser step	The strategic importance of tungsten and the need for further exploration have been highlighted in the report.

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16	The exploration results indicate encouraging potential for tungsten for further detailed exploration in Murara- Devendrapura Block. The mineralised lode remains open at depth and along strike in several sectors and requires close space drilling and Second Level exploration.	Accepted. MECL will submit G2 level proposal for close space drilling and Second Level exploration.
17	It is, therefore, recommended to take up for general exploration (G2) Stage with close spaced drilling in the mineralised sector of Murara-Devendrapura area, for up-grading resource confidence from inferred to indicated category (332).	Accepted and MECL is ready to do G-2 stage exploration in the block.

From:

R. N. Singh
Director (Rtd)
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Patna-800026, Bihar

Dated--06-2026

To:

The H.O.D. (Exploration) Mineral Exploration
and Consultancy Ltd.
Dr. Babasaheb Ambedkar Bhawan.
Seminary Hills,
Nagpar-440006,
Maharashtra
E-mail: gm.exploration@mecl.gov.in

Subject: Peer Review of G R. Preliminary (G3) Exploration for Tungsten and Tin ore in Murara-Devendrapura Block, District-Niwari, Madhya Pradesh.

Dear sir,

With reference to above cited subject, I am herewith enclosing hard copy of the Preliminary (G3) Exploration for Tungsten and Tin ore in Musara Devendrapura Block, Niwari district, Madhya Pradesh after peer review with comments on different Chapters of the investigation report and recommendations.

The geological Report consists of the following.

- 1.Text
- 2.Annexure
- 3.Plates

As requested, Please find the details for paying honorarium.

- (1) Name of the person - Radha Nand Singh
- (2) Account No-30015459635 (SB A/C), PBB, SBI, Doctor's Colony Kankarbagh, Patna.
- (3)IFSC Code - SBIN0004445 (4) PAN NO.- AKOPS0186K

Yours Sincerely
R.N. Singh
Director (Rtd), G.S.I.

Copy for information to:

The HOD, NMET Secretariat, Room No 325 & 326, Wing F, Udyog Bhawan, Rafi Ahmed Kidwai Marg, Rajpath area, Central Secretariat, New Delhi-110011.
Email-HOD: nmet-mines@gov.in

Yours Sincerely
R N Singh Director (Retd)

**GEOLOGICAL REPORT ON PRELIMINARY (G3) EXPLORATION
FOR
TUNGSTEN AND TIN ORE IN MURARA-DEVENDRAPURA BLOCK,
NIWARI DISTRICT, MADHYA PRADESH
(UNDER NMET PROGRAMME)
BY MINERAL EXPLORATION AND CONSULTANCY LIMITED**

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The area is the central part of the Archean Bundelkhand granite gneissic complex comprising granitoids varieties in different shades such as porphyritic and non-porphyritic coarse-grained pink granite, medium to fine-grained granite with linear bodies of quartz reef, which forms prominent geomorphic features with positive relief in Murara-Devendrapura area.

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R.N.Singh Director (Rtd),
GSI.