

मृत्तत्व एवं खनिकर्म इकाई, उद्योग निदेशालय, उत्तराखण्ड,
मोपालघानी, रायपुर, देहरादून।

संख्या 3554/उपखनिज/मूखनिर्देश/मापन/2022-23,

दिनांक 09 दिसम्बर, 2022

कार्यालय ज्ञाप

शासनादेश संख्या 1057/VII-A-I/2022/11(ख)/2010, दिनांक 29 सितम्बर, 2022 के द्वारा जनपद भेरीताल की तहसील हल्द्वानी एवं लालकुआँ वन प्रभाग के क्षेत्रान्तर्गत गौला नदी, कुल क्षेत्रफल 1497 है० नदी तल वन क्षेत्र में 10 वर्ष की अवधि के लिए उपखनिज रेत, बजरी एवं बोल्टर के चुगान हेतु शासनादेश संख्या 179/VII-2/11-ख/2010, दिनांक 24 जनवरी, 2013 के द्वारा पूर्व स्वीकृत खनन पट्टा की अवधि समाप्ति की तिथि दिनांक 23 जनवरी, 2023 से नवीन फॉरेस्ट क्लीयरेंस प्राप्त किये जाने की दशा में दिनांक 23 जनवरी, 2023 से 10 वर्ष की अवधि हेतु फटिपत्र शर्तों के अधीन खनन पट्टे का नवीनीकरण किया गया है तथा गौला नदी में स्वीकृत क्षेत्रफल 1497 है० में से खनन योग्य उपलब्ध क्षेत्र 748.50 है० है, से सम्बन्धित प्रस्तुत खनन योजना जोकि श्री भुवन जोशी, मु०ख०/आ०५५०५०/डी०टी०ए००/०१/२०१५ के द्वारा तैयार की गयी है, के वैज्ञानिक, तकनीकी एवं पर्यावरण सुरक्षा के दृष्टिकोण से खनन सक्रियताओं के सुन्मियोजित संचालन हेतु उपयुक्त पाये जाने के दृष्टिगत उत्तराखण्ड उपखनिज परिहार विनवली-2004 के नियम-34 एवं उत्तराखण्ड उपखनिज (बालू, बजरी, बोल्टर) चुगान नीति-2016 के विन्दु संख्या-22(2) के अन्तर्गत प्रदत्त अधिकार का प्रयोग करते हुए, प्रस्तुत खनन योजना का अनुमोदन निम्नलिखित शर्तों के अधीन किया जाता है:-

शर्त :-

1. खनन योजना का अनुमोदन शासनादेश संख्या 1057/VII-A-I/2022/11(ख)/2010, दिनांक 29 सितम्बर, 2022 द्वारा खनन पट्टे की नवीनीकृत अवधि दिनांक 23 जनवरी, 2023 से अग्रतः 05 वर्ष की अवधि हेतु किया जा रहा है।
2. पट्टाधारक द्वारा पर्यावरण एवं वन गंत्रालय, भारत सरकार से प्राप्त पर्यावरणीय अनुमति संख्या J-11015/363/2009-IA.II (M), दिनांक 13 अप्रैल, 2011 एवं J-110105/363/2009-IA.II(M), दिनांक 01 मार्च, 2021 की तमाम शर्तों का अनुपालन किया जायेगा।
3. पट्टाधारक द्वारा पर्यावरण, वन एवं जलवायु परिवर्तन गंत्रालय, भारत सरकार से प्राप्त वन अनुमति (Forest Clearance) F.No. 8 81/1998-FC, दिनांक 23 जनवरी, 2013 को अवधि की समाप्ति दिनांक 22 जनवरी, 2023 के उपरान्त वन, पर्यावरण एवं जलवायु परिवर्तन गंत्रालय, भारत सरकार से वन अनुमति (Forest Clearance) प्राप्ति के उपरान्त ही खनन सक्रियताएँ संचालित की जायेगी।
4. पट्टाधारक शासनादेश संख्या 1057/VII-A-I/2022/11(ख)/2010, दिनांक 29 सितम्बर, 2022 की समस्त शर्तों का अनुपालन करेगा।
5. प्रस्तावित खनन क्षेत्र में खनन कार्य मैनुअल माइनिंग विधि से बिना ब्लारिटर, के अनुमोदित खनन योजना के अन्तर्गत किया जायेगा। खनन योजना के अनुसार वर्ष प्रथम से पंचम वर्ष की अवधि में प्रतिवर्ष 1,17,00,000 टन (117 लाख टन) उपखनिज का खनन/चुगान किया जायेगा।
6. प्रस्तावित खनन क्षेत्र में खनन/चुगान कार्य पर्यावरणीय अनुमति संख्या J-11015/363/2009-IA.II (M), दिनांक 13 अप्रैल, 2011 एवं J-110105/363/2009-IA.II(M), दिनांक 01 मार्च, 2021 में अनुमोदित अधिकतम गहराई 1.5 मी० अथवा ग्राउन्ड वाटर लेवल जो भी कम हो तक, के अनुसार किया जायेगा।
7. पट्टाधारक द्वारा करून की अधिसूचना संख्या 334/VII-A-1/2020/5(15)/19 दिनांक 04 मार्च 2020 के क्रम में यदि चुगान/खनन कार्य 3.0 मीटर अथवा ग्राउन्ड वाटर लेवल, जो भी कम हो तक, के अनुसार किये जाने का अनुरोध किया जाता है तो उक्तानुसार पर्यावरणीय अनुमति में संशोधन कराया जाना होगा।
8. पट्टाधारक, अनुमोदित खनन योजना के अनुसार प्रत्येक खनन सत्र में किये गये खनन कार्य की Compliance Report निदेशालय को अनिवार्य रूप से प्रस्तुत करेगा।
9. पट्टाधारक द्वारा पर्यावरण एवं पारिस्थितिकी को दृष्टिगत रखते हुए खनन सक्रियताएँ वैज्ञानिक विधि से अनुमोदित खनन योजना के अनुसार खनन से सम्बन्धित विशेषज्ञ यथा खनन अभियन्ता/पूँर्वज्ञानिक की देखरेख में कराया जायेगा।

10. पट्टाधारक द्वारा अनुमोदित खनन योजना का भू-सन्दर्भित खनन पट्टा प्लान्स अद्यारोपण उपरान्त भू-सन्दर्भित वैक्टोराइज्ड खसरा प्लान हार्ड एवं सॉफ्ट कॉपी में भूतत्व एवं खनिकर्म इकाई के जिला कार्यालय एवं मुख्यालय, देहरादून में एक माह के अन्तर्गत प्रस्तुत की जायेगी।
11. यह खनन योजना अन्य किसी अधिनियम जो कि इस खान या क्षेत्र पर लागू होते हैं या समय-समय पर राज्य सरकार या केन्द्र सरकार या अन्य किसी सक्षम द्वारा प्रख्यापित किये जाते हैं, को छोड़ कर अनुमोदित दी जायेगी।
12. यह खनन योजना का (संरक्षण) अधिनियम-1980, वन संरक्षण नियमावली 1981 और अन्य सम्बन्धित अधिनियम और नियमावली, आदेश और दिशा निर्देश जो कि इस खनन पट्टे पर समय-समय पर दिये जाये लागू होंगे।
13. यह खनन योजना किसी भी प्रभावी क्षेत्रान्तर्गत माननीय न्यायालय के आदेश एवं दिशा निर्देश के लागू होने को बाधित नहीं करती है।
14. अनुमोदित अवधि में किये गये खनन कार्य के निरीक्षण के उपरान्त यदि खनन योजना में संशोधन हेतु आदेश दिये जाते हैं तब संशोधित खनन योजना प्रस्तुत करने का पूर्ण उत्तरदायित्व आवेदक का होगा।
15. किसी भी स्तर पर यदि यह पाया जाता है कि दस्तावेज में दी गई, उपलब्ध कराई गई सूचनाएं असत्य अथवा गलत ढंग से दर्शायी गई हैं तो दस्तावेज का अनुमोदन तत्काल प्रभाव से निरस्त कर दिया जाय।
16. आबद्ध/नियोजित श्रमिकों को सुरक्षात्मक उपकरण प्रदान करने तथा सुरक्षित खनन कार्य करने हेतु सभी आवश्यक साधनानियौ बरतने का दायित्व पट्टाधारक का होगा।
17. अनुमोदित खनन योजना की एक-एक प्रमाणित प्रति सम्बन्धित जिलाधिकारी कार्यालय एवं जिला खान अधिकारी कार्यालय में अभिलेखार्थ तथ्यशीघ्र प्रस्तुत करने का दायित्व भी आवेदक का होगा।
18. अनुमोदित खनन योजना के अनुसार, आवेदक द्वारा खनन कार्य न किये जाने के, पाये जाने पर, पट्टाधारक के विरुद्ध पट्टे की शर्त का उल्लंघन माना जायेगा और तदनुसार कार्यवाही की जायेगी।
19. खनन योजना इस शर्त के साथ अनुमोदित की जा रही है कि पट्टाधारक श्रमिकों की सुरक्षा एवं स्वास्थ्य की उचित व्यवस्था करेगा।

संलग्नक:- खनन योजना की अनुमोदित प्रति।

(एस० एल० पैट्रिक)
निदेशक

संख्या 3554 / उपखनिज/भूखनि०ई०/मा०प्लान/2022-23, तददिनांकित

प्रतिलिपि:- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. सचिव, खनन, उत्तराखण्ड शासन।
2. जिलाधिकारी, नैनीताल।
3. सदस्य सचिव, पर्यावरण प्रभाव निर्धारण प्राधिकरण (SEIAA), उत्तराखण्ड देहरादून।
4. अपर निदेशक/प्रणारी अधिकारी, भूतत्व एवं खनिकर्म इकाई, जनपद नैनीताल।
5. प्रबन्ध निदेशक, उत्तराखण्ड का विकास निगम, जनपद देहरादून।

09/12/2022
(एस० एल० पैट्रिक)
निदेशक

SCHEME OF MINING **APPROVED** अनुमोदित

WITH

PROGRESSIVE MINE CLOSURE PLAN

(Submitted under Uttarakhand Minor Mineral Rules/Policy, Govt. of Uttarakhand)

NAME OF THE MINERAL- RBM (SAND, BAJRI, BOULDERS ETC)

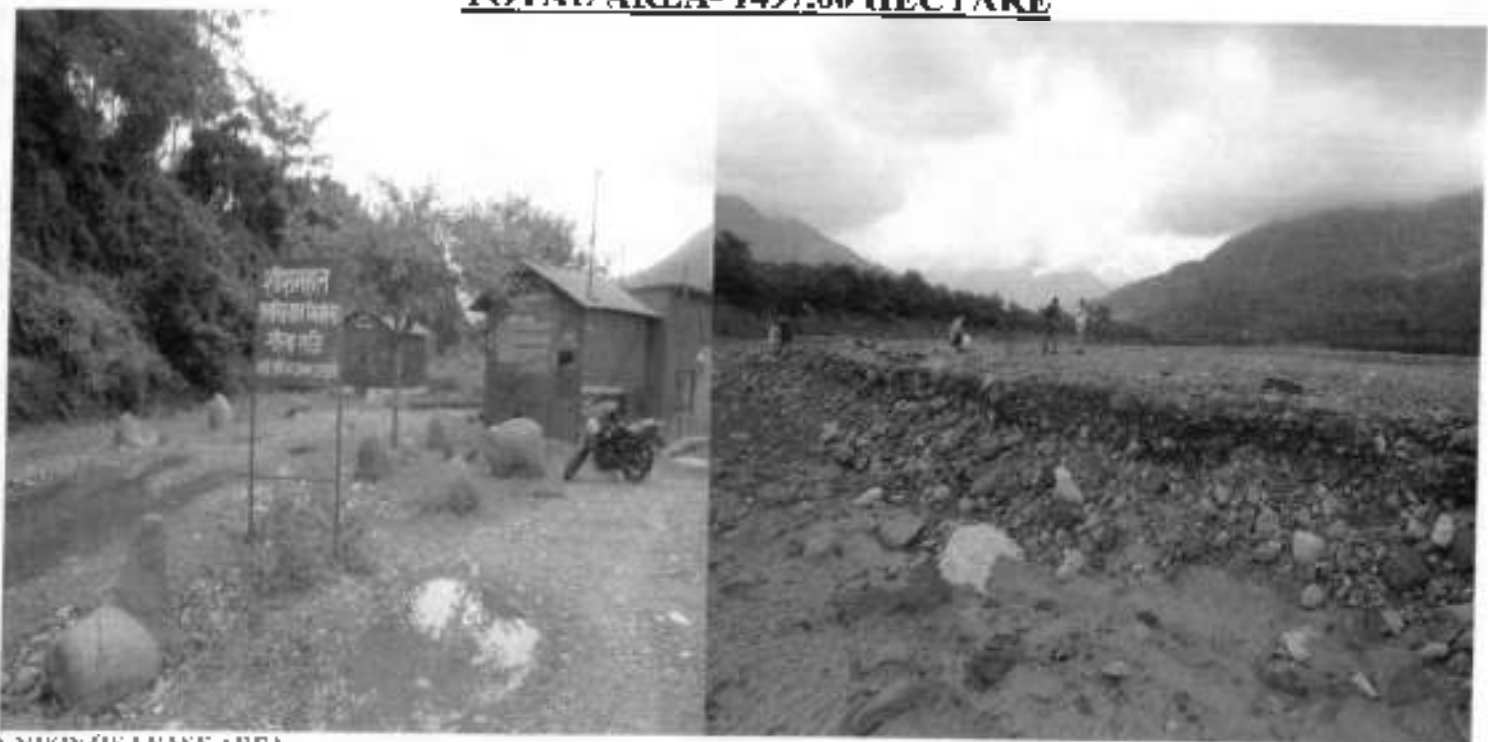
MINING AREA- GAULA RIVER RBM MINING LOT

TEHSIL- HALDWANI FOREST DIVISION & EAST TARAI FOREST DIVISION

DISTRICT- NAINITAL, STATE- UTTARAKHAND

MINING SCHEME PERIOD-FOR FIVE (5) YEARS

TOTAL AREA- 1497.00 HECTARE



A VIEW OF LEASE AREA

APPLICANT/LESSEE

UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC)

(Uttarakhand Van Vikash Nigam Ltd.),

73, Nehru Road, Aranya Vikash Bhawan,

Dehradun-248001, District- Dehradun

भूतत्व एवं खनिकार्य विभाग
प्रदेशीय निदेशालय, उत्तराखण्ड

PREPARED BY

BHUVAN JOSHI

Empanelled Geologist, RQP, IIM, UK, HP, J&K

Forest & Rural Development Cell (FRDC)

Empanelment No. URDA/2008-09/7190

Govt. of Uttarakhand

RQP, Registration No. Mu.Kha./RQP/DDN/01/2016

देहरादून
राज्य के अवीन अनुमोदित
पत्रांक 3554/खन/प्र.खन/30
दिनांक 09-12-2022

विदेशक

भूतत्व एवं खनिकार्य विभाग
उत्तराखण्ड, देहरादून

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E-mail: joshibhuvan75@gmail.com

Mo. No. 09412152105, 07533856409

पर्यावरण का रखे ध्यान, तभी बनेगा देश महान।

DO NOT AVOID THE ENVIRONMENT IT IS OUR BASIC NEED OF LIFE

APPROVED
अनुमोदित

**SCHEME OF MINING
WITH
PROGRESSIVE MINE CLOSURE PLAN**
(Submitted under Uttarakhand Minor Mineral Rules/Policy, Govt. of Uttarakhand)
NAME OF THE MINERAL- RBM (SAND, BAJRI, BOULDERS ETC)

MINING AREA- GAULA RIVER RBM MINING LOT
TEHSIL- HALDWANI FOREST DIVISION & EAST TARAI FOREST DIVISION
DISTRICT- NAINITAL, STATE- UTTARAKHAND
MINING SCHEME PERIOD-FOR FIVE (5) YEARS
TOTAL AREA- 1497.00 HECTARE

C O N T E N T S

CHAPTER NO.	DESCRIPTION	PAGE NO.
1	Introduction	1-1
2	General	2-3
3	Project Description	4-5
4	Location, General & Accessibility	6-37
5	Geology & Exploration	38-43
6	Mining	44-77
7	Drilling & Blasting	77-77
8	Water & Drainage System	77-77
9	Disposal of Waste Material	78-78
10	Use of Mineral	78-78
11	Others	78-80
12	Mineral Beneficiation/Processing	80-80
13	Environment Management Plan	81-86
14	Progressive Mine Closure Plan	87-98
15	Conclusion	98-98



BHUWAN JOSHI (RQP)
मु0 ख0/RQP/DDN/01/2016

CHAPTER-1 INTRODUCTION

State Government Order (GO) was released vide *Letter No. 1057/VII-A-1/2022-11(KH4)/2010, Dated 29 September 2022 (Annexure-1)*, for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining Lot), Haldwani Forest Division & East Tarai Forest Division, District- Nainital (Uttarakhand) Total area- 1497.0 Hectare, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1).

RBM/SAND, BAJRI AND BOULDERS MINE, a part of Gaula river bed area, Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand, Applicant/Lessee-M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), is a 'A' category mine as per explanation furnished in MCDR & EIA Notification 2006 i.e. proposed as manual opencast mine without using explosives. Mine Plan/Scheme of the RBM Mining project been as discussed here in following chapters of this Report-

TABLE NO:-1.1

VILLAGE	TEHSIL	DISTRICT	AREA (Hectares)	MINERAL
Gaula River Lot (a part of Gaula River Bed); Near Villages-Kathgodam, Haldwani, Bedipadav, Dehrampur, Halduchar, Lalkua, Emlighat, Shantipuri etc	Haldwani Forest Division & East Tarai Forest Division, (Haldwani & Lalkua)	Nainital	200Hectare of Haldwani Forest Division & 1297Hectare of East Tarai Forest Division, Total Area- 1497Hectare	RBM i.e. Sand Bajri and Boulder etc



CHAPTER-2

GENERAL- ABOUT THE PROJECT

GENERAL (TABLE NO- 2.1)

1.1	Name of the applicant/lessee	Managing Director, Uttarakhand Forest Development Corporation (UKFDC), (Govt. of Uttarakhand Corporation)
	Address	73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001
	District	Dehradun
	State	Uttarakhand
	Pin Code	248001
	Phone	Ph : 91-135-2713815, 7055072200 E-Mail : vanyikas12@gmail.com
1.2	Status of the applicant	Govt. of Uttarakhand Corporation
1.3	Mineral(s) which the applicant intends to mine	(RBM) Sand, Bajri and Boulder etc. The mineral collected/extracted from the proposed lease area shall be sold in the open market as per the demand.
1.4	Period for which the mining lease is required or granted / renewed	State Government Order (GO) was released vide <i>Letter No. 1057/VII-A-1/2022-11(KHA)/2010, Dated 29 September 2022</i> , for extraction of Sand Bajri and Boulders (RBM) from a part of Gula River (Gula River RBM Mining Lease, Total area- 1497Hectare, for a time period of 10 years (ANN-1).
1.5	Name of the RQP preparing the mining plan	Bhuvan Joshi
	Address	20- Shastarinagar, Lane No- 3, Haridwar Road, Dehradun, Uttarakhand

CAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lense Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

APPROVED**अनुमोदित**

	Phone	09412152105 7533858409
	Email	joshibhuvan75@gmail.com
	Registration No.	RQP/DDN/180/2009/A- IBM Mu.Kha./RQP/DDN/01/2016- State Govt.
	Valid upto	27/12/2025
1.6	Name of the prospecting agency	The general data is collected from various reports, as well as detailed prospecting of the area was carried by UKFDC under supervision of RQP.



CHAPTER-3**3.0 PROJECT DESCRIPTION**

3.1 NEED OF THE PROJECT- RBM i.e. Sand, Bajri and Boulder are available everywhere and is being used from the time immemorial for wide applications in our daily life like infrastructure, building construction, highways, roads, townships, multiplexes, foundations of buildings and industrial units etc. and is an integral part of development. Over the millennia, the weathering effect, the flow of water at high velocities in rivers and the pressure of water from the high mountainous reservoirs converted and pushed the hard ground underneath into sand, gravel etc. which travelled as sediments with the flow. This sand gets deposited along the river course wherever conditions were favorable. In deep past this settled sand was not extracted in a quantity in which it is deposited, since due to less population the requirement was not enough. As a result of continuous deposit of sand, bajri etc, the river course continued changing by widening itself, eroding the fields and expanding. This started resulting in floods, inundation and breaking their banks, causing devastation of property and loss of life. There has been a severe impact on every aspect of the environment. Thus there was a need for channelization of rivers for which extraction of sand through mining was expedient. The haphazard mining of river bed material being practiced for now long through unregulated, uncontrolled and illegal manner added almost an irreversible damage to the environment, which became a cause of serious concern. Though sand is very important mineral source for development, its mining through scientific methods have also become equally imperative. It is for this purpose that 'mining plan' is being drawn so that all its aspects are taken care of justifiably, according to law, protecting the environment, removing all adverse impacts and creating a direct and indirect employment opportunities, improving socio-economic conditions of the local inhabitants and all round status of life, achieving thereby a sustainable development. Besides above, the process of mining of minor minerals is a constant source of revenue generation to the State Government through Royalty.

3.1.1 Project benefits (sustainable mining aspects)

Physical benefits: Road Transport, Market, Enhancement of green cover & Creation of community assets.

Social benefits: Increase in Employment Potential, Increased Health related activities, Educational attainments & Strengthening of existing community facilities etc.

Environmental benefits:

- Controlling river channel,
- Protecting of river banks

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

APPROVED

अनुमोदित

- Reducing submergence of adjoining agricultural lands due to flooding.
- Reducing aggradations of river level.
- Protection of crops being cultivated along the river bank.
- A check on illegal in situ mining activity.

3.2 PROJECT BACKGROUND - State Government Order (GO) was released vide *Letter No. 1957/VII-A-1/2022-11(KHA)/2019, Dated 29 September 2022* (Annexure-1), for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining Lot), Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand (200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division), Total area- 1497.0 Hectare, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1).

Previously Government Order (GO) was released vide *No. 179/VI-2/11-KHA/2010, Dated 24 January 2013*, for extraction/Mining of Sand Bajri and Boulders (RBM) from this project i.e. Gaula River RBM Mining Lot, Total area- 1497.00 Hectare, in the favor of Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, for a time period of 10 years, going to expire as per Forest Clearance (FC) period for the project. (ANNEXURE-3)

Forest Clearance (FC) for the project been granted vide GOI, MoEF (FC Division) F. No.8-61/1999 FC, Dated 23 January 2013, for 10 years, valid up to 22 January 2023 (ANNEXURE-7)

Environment Clearance (EC) for the project been granted vide GOI, MoEF (IA Division) No.J-11015/363/2009-IA.II(M), Dated 13 April 2011, for 10 years. (ANN-8)

Extension of Environment Clearance (EC), for the project been granted vide GOI, MoEF (IA Division) No. J-110105/363/2009-IA.II(M), Dated 01 March 2021, per EC period validity i.e. up to 22 January 2023. (ANN-9)

Earlier Mining Plan/Scheme was approved via State DGM letter No.515/khanan/bhu.khanize/mining plan/2021-22, 31 May 2021 for a period of two (2) years, considered as per EC period validity i.e. up to 22 January 2023. (ANN-10)

This Mine Plan/Scheme is being prepared for further Five Years, it may be considered as 2023-24, 2024-25, 2025-26, 2026-27 & 2027-28; as per already applied FC & EC approvals from MoEF, Govt. of India.

CHAPTER-4

LOCATION, GENERAL AND ACCESSIBILITY

4.1 LOCATION (TABLE NO- 4.1)

(a)	Details of Area	Location Map is attached as Plate No. 1	
(b)	District and State	Nainital, Uttarakhand	
(c)	Tehsil	Haldwani & Talukua	
(d)	Village	Gaula River Lot (a part of Gaula River bed)	
(e)	Khasra No./ Plot No./ Block Range /	Reserve Forest Land, Total Area- 1497 Ha., Mining Proposed over first half of the river width i.e. central of the river, Minable area proposed= 748.5 Hectare	
(f)	Felling Series etc.	None	
(g)	Area (hectares)	1497 Ha.	
(h)	Whether the area is in forest (please specify whether protected, reserved etc.)	Total proposed area falls under Reserve Forest Land. Total Area- 1497 Ha. Mining Proposed over first half of the river width i.e. central of the river, Minable area proposed= 748.5 Hectare	
(i)	Ownership/ Occupancy	State Government Order (GO) was released vide Letter No. 1057/VII-A-1/2022-11(KILA)/2019, Dated 29 September 2022 (Annexure-1), for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining Lot), Haldwani Forest Division & East Tarai Forest Division, District Nainital, Uttarakhand (200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division), Total area- 1497.0 Hectare, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Mining Nigam), 33, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1).	
j)	Geographical Coordinates	1	Latitude- 29°15'17.3"N Longitude- 79°33'01.3"E
		2	Latitude- 29°15'13.4"N Longitude- 79°33'01.5"E

GAULA RIVER RICH MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Baidwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		3	Latitude- 29°15'09.6"N Longitude- 79°33'02.3"E
		4	Latitude- 29°15'06.8"N Longitude- 79°33'04.8"E
		5	Latitude- 29°15'04.0"N Longitude- 79°33'08.1"E
		6	Latitude- 29°15'00.3"N Longitude- 79°33'10.0"E
		7	Latitude- 29°14'56.2"N Longitude- 79°33'11.2"E
		8	Latitude- 29°14'52.2"N Longitude- 79°33'10.8"E
		9	Latitude- 29°14'48.3"N Longitude- 79°33'10.6"E
		10	Latitude- 29°14'44.2"N Longitude- 79°33'11.8"E
		11	Latitude- 29°14'41.6"N Longitude- 79°33'07.8"E
		12	Latitude- 29°14'38.8"N Longitude- 79°33'04.7"E
		13	Latitude- 29°14'35.3"N Longitude- 79°33'04.4"E
		14	Latitude- 29°14'31.4"N Longitude- 79°33'04.6"E
		15	Latitude- 29°14'27.6"N Longitude- 79°33'03.8"E
		16	Latitude- 29°14'24.2"N Longitude- 79°33'02.9"E
		17	Latitude- 29°14'20.4"N Longitude- 79°33'01.5"E
		18	Latitude- 29°14'17.8"N Longitude- 79°33'00.7"E
		19	Latitude- 29°14'14.6"N Longitude- 79°32'59.3"E
		20	Latitude- 29°14'11.3"N Longitude- 79°32'57.6"E
		21	Latitude- 29°14'08.6"N Longitude- 79°32'55.8"E
		22	Latitude- 29°14'05.9"N



GATTA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°32'54.0"E
23		Latitude-	29°14'02.7"N
		Longitude-	79°32'53.1"E
24		Latitude-	29°13'59.4"N
		Longitude-	79°32'52.7"E
25		Latitude-	29°13'55.3"N
		Longitude-	79°32'52.7"E
26		Latitude-	29°13'51.2"N
		Longitude-	79°32'50.1"E
27		Latitude-	29°13'47.7"N
		Longitude-	79°32'47.8"E
28		Latitude-	29°13'44.5"N
		Longitude-	79°32'45.5"E
29		Latitude-	29°13'40.7"N
		Longitude-	79°32'44.6"E
30		Latitude-	29°13'36.8"N
		Longitude-	79°32'44.1"E
31		Latitude-	29°12'58.4"N
		Longitude-	79°32'27.0"E
32		Latitude-	29°12'54.1"N
		Longitude-	79°32'26.3"E
33		Latitude-	29°12'51.0"N
		Longitude-	79°32'25.2"E
34		Latitude-	29°12'47.6"N
		Longitude-	79°32'24.4"E
35		Latitude-	29°12'44.9"N
		Longitude-	79°32'23.6"E
36		Latitude-	29°12'41.8"N
		Longitude-	79°32'22.1"E
37		Latitude-	29°12'38.6"N
		Longitude-	79°32'22.2"E
38		Latitude-	29°12'33.4"N
		Longitude-	79°32'28.8"E
39		Latitude-	29°12'30.7"N
		Longitude-	79°32'30.7"E
40		Latitude-	29°12'27.8"N
		Longitude-	79°32'32.3"E
41		Latitude-	29°12'24.9"N
		Longitude-	79°32'34.5"E



GAGLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

42	Latitude- 29°12'22.9"N Longitude- 79°32'35.5"E
43	Latitude- 29°12'18.1"N Longitude- 79°32'36.7"E
44	Latitude- 29°12'12.0"N Longitude- 79°32'37.6"E
45	Latitude- 29°12'09.9"N Longitude- 79°32'40.2"E
46	Latitude- 29°12'08.4"N Longitude- 79°32'42.8"E
47	Latitude- 29°12'07.4"N Longitude- 79°32'46.0"E
48	Latitude- 29°11'58.4"N Longitude- 79°32'45.7"E
49	Latitude- 29°11'54.8"N Longitude- 79°32'45.5"E
50	Latitude- 29°11'51.8"N Longitude- 79°32'46.2"E
51	Latitude- 29°11'49.3"N Longitude- 79°32'49.2"E
52	Latitude- 29°11'46.2"N Longitude- 79°32'50.7"E
53	Latitude- 29°11'42.9"N Longitude- 79°32'50.8"E
54	Latitude- 29°11'39.5"N Longitude- 79°32'49.6"E
55	Latitude- 29°11'38.4"N Longitude- 79°32'48.6"E
56	Latitude- 29°11'35.1"N Longitude- 79°32'49.5"E
57	Latitude- 29°11'22.2"N Longitude- 79°32'48.4"E
58	Latitude- 29°11'19.6"N Longitude- 79°32'47.6"E
59	Latitude- 29°11'16.4"N Longitude- 79°32'47.2"E
60	Latitude- 29°11'13.9"N Longitude- 79°32'48.3"E
61	Latitude- 29°11'09.9"N Longitude- 79°32'49.5"E
62	Latitude- 29°11'07.0"N



GATLA RIVER BED MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°32'49.9"E
63		Latitude-	29°11'03.8"N
		Longitude-	79°32'50.7"E
64		Latitude-	29°11'00.8"N
		Longitude-	79°32'51.4"E
65		Latitude-	29°10'57.5"N
		Longitude-	79°32'52.3"E
66		Latitude-	29°10'54.6"N
		Longitude-	79°32'51.9"E
67		Latitude-	29°10'51.5"N
		Longitude-	79°32'52.3"E
68		Latitude-	29°10'48.5"N
		Longitude-	79°32'53.7"E
69		Latitude-	29°10'45.3"N
		Longitude-	79°32'53.3"E
70		Latitude-	29°10'42.6"N
		Longitude-	79°32'53.2"E
71		Latitude-	29°10'39.9"N
		Longitude-	79°32'52.4"E
72		Latitude-	29°10'37.3"N
		Longitude-	79°32'50.5"E
73		Latitude-	29°10'34.5"N
		Longitude-	79°32'49.3"E
74		Latitude-	29°10'31.5"N
		Longitude-	79°32'48.3"E
75		Latitude-	29°10'28.4"N
		Longitude-	79°32'48.4"E
76		Latitude-	29°10'25.4"N
		Longitude-	79°32'49.1"E
77		Latitude-	29°10'22.6"N
		Longitude-	79°32'48.5"E
78		Latitude-	29°10'19.6"N
		Longitude-	79°32'48.7"E
79		Latitude-	29°10'16.5"N
		Longitude-	79°32'48.4"E
80		Latitude-	29°10'13.5"N
		Longitude-	79°32'47.8"E
81		Latitude-	29°10'10.3"N
		Longitude-	79°32'47.6"E
82		Latitude-	29°10'07.1"N
		Longitude-	79°32'47.6"E



GAULA RIVER RDM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Garai Forest Division

District- Nainital (Uttarakhand)

83	Latitude- 29°10'03.9"N Longitude- 79°32'47.6"E
84	Latitude- 29°10'00.6"N Longitude- 79°32'48.4"E
85	Latitude- 29°09'57.4"N Longitude- 79°32'50.2"E
86	Latitude- 29°09'54.6"N Longitude- 79°32'51.2"E
87	Latitude- 29°09'51.9"N Longitude- 79°32'52.3"E
88	Latitude- 29°09'48.2"N Longitude- 79°32'53.6"E
89	Latitude- 29°09'45.4"N Longitude- 79°32'54.2"E
90	Latitude- 29°09'42.5"N Longitude- 79°32'54.8"E
91	Latitude- 29°09'39.4"N Longitude- 79°32'54.9"E
92	Latitude- 29°09'39.4"N Longitude- 79°32'54.9"E
93	Latitude- 29°09'33.8"N Longitude- 79°32'54.9"E
94	Latitude- 29°09'30.9"N Longitude- 79°32'55.0"E
95	Latitude- 29°09'28.0"N Longitude- 79°32'54.8"E
96	Latitude- 29°09'24.3"N Longitude- 79°32'55.3"E
97	Latitude- 29°09'20.0"N Longitude- 79°32'57.0"E
98	Latitude- 29°09'16.0"N Longitude- 79°32'57.8"E
99	Latitude- 29°09'12.7"N Longitude- 79°32'58.7"E
100	Latitude- 29°09'09.7"N Longitude- 79°32'59.1"E
101	Latitude- 29°09'05.6"N Longitude- 79°32'59.3"E
102	Latitude- 29°09'02.3"N Longitude- 79°32'59.5"E



GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Farai Forest Division

District- Nainital (Uttarakhand)

103	Latitude- 29°08'59.2"N Longitude- 79°32'59.4"E
104	Latitude- 29°08'56.5"N Longitude- 79°32'59.5"E
105	Latitude- 29°08'54.0"N Longitude- 79°33'00.2"E
106	Latitude- 29°08'50.4"N Longitude- 79°33'00.1"E
107	Latitude- 29°08'47.0"N Longitude- 79°33'01.2"E
108	Latitude- 29°08'40.4"N Longitude- 79°33'03.0"E
109	Latitude- 29°08'35.8"N Longitude- 79°33'02.5"E
110	Latitude- 29°08'32.4"N Longitude- 79°33'02.2"E
111	Latitude- 29°08'28.7"N Longitude- 79°33'02.1"E
112	Latitude- 29°08'25.2"N Longitude- 79°33'03.1"E
113	Latitude- 29°08'21.2"N Longitude- 79°33'00.3"E
114	Latitude- 29°08'18.0"N Longitude- 79°32'59.8"E
115	Latitude- 29°08'15.4"N Longitude- 79°32'59.9"E
116	Latitude- 29°08'11.7"N Longitude- 79°32'59.5"E
117	Latitude- 29°08'08.7"N Longitude- 79°33'00.1"E
118	Latitude- 29°08'03.3"N Longitude- 79°32'59.8"E
119	Latitude- 29°07'59.6"N Longitude- 79°33'00.5"E
120	Latitude- 29°07'56.9"N Longitude- 79°33'01.2"E
121	Latitude- 29°07'54.5"N Longitude- 79°33'02.0"E
122	Latitude- 29°07'52.2"N Longitude- 79°33'02.7"E



GAULA RIVER RIVER MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

123	Latitude- 29°07'49.7"N Longitude- 79°33'04.0"E
124	Latitude- 29°07'45.6"N Longitude- 79°33'07.1"E
125	Latitude- 29°07'43.1"N Longitude- 79°33'07.9"E
126	Latitude- 29°07'42.0"N Longitude- 79°33'09.0"E
127	Latitude- 29°07'38.6"N Longitude- 79°33'10.8"E
128	Latitude- 29°07'35.8"N Longitude- 79°33'11.9"E
129	Latitude- 29°07'33.1"N Longitude- 79°33'13.1"E
130	Latitude- 29°07'30.1"N Longitude- 79°33'13.6"E
131	Latitude- 29°07'27.2"N Longitude- 79°33'14.0"E
132	Latitude- 29°07'24.8"N Longitude- 79°33'13.6"E
133	Latitude- 29°07'22.2"N Longitude- 79°33'12.8"E
134	Latitude- 29°07'19.8"N Longitude- 79°33'11.2"E
135	Latitude- 29°07'13.7"N Longitude- 79°33'06.6"E
136	Latitude- 29°07'11.1"N Longitude- 79°33'05.6"E
137	Latitude- 29°07'08.2"N Longitude- 79°33'05.5"E
138	Latitude- 29°07'05.6"N Longitude- 79°33'04.9"E
139	Latitude- 29°07'02.5"N Longitude- 79°33'06.2"E
140	Latitude- 29°07'00.6"N Longitude- 79°33'06.7"E
141	Latitude- 29°06'58.1"N Longitude- 79°33'06.6"E
142	Latitude- 29°06'55.2"N Longitude- 79°33'06.1"E



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarni Forest Division

District- Nainital (Uttarakhand)

143	Latitude- 29°06'52.7"N Longitude- 79°33'05.9"E
144	Latitude- 29°06'49.9"N Longitude- 79°33'05.9"E
145	Latitude- 29°06'47.0"N Longitude- 79°33'06.2"E
146	Latitude- 29°06'37.3"N Longitude- 79°33'07.9"E
147	Latitude- 29°06'35.3"N Longitude- 79°33'08.3"E
148	Latitude- 29°06'31.0"N Longitude- 79°33'08.5"E
149	Latitude- 29°06'28.0"N Longitude- 79°33'08.7"E
150	Latitude- 29°06'26.4"N Longitude- 79°33'08.6"E
151	Latitude- 29°06'25.3"N Longitude- 79°33'09.2"E
152	Latitude- 29°06'23.3"N Longitude- 79°33'10.0"E
153	Latitude- 29°06'20.5"N Longitude- 79°33'12.1"E
154	Latitude- 29°06'17.2"N Longitude- 79°33'13.1"E
155	Latitude- 29°06'13.8"N Longitude- 79°33'14.6"E
156	Latitude- 29°06'10.1"N Longitude- 79°33'14.8"E
157	Latitude- 29°06'05.7"N Longitude- 79°33'13.2"E
158	Latitude- 29°06'02.4"N Longitude- 79°33'11.3"E
159	Latitude- 29°05'59.6"N Longitude- 79°33'11.5"E
160	Latitude- 29°05'57.1"N Longitude- 79°33'11.7"E
161	Latitude- 29°05'54.2"N Longitude- 79°33'12.8"E
162	Latitude- 29°05'49.9"N Longitude- 79°33'12.6"E



GATLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

163	Latitude- 29°05'46.8"N Longitude- 79°33'12.9"E
164	Latitude- 29°05'43.1"N Longitude- 79°33'13.9"E
165	Latitude- 29°05'40.0"N Longitude- 79°33'15.2"E
166	Latitude- 29°05'36.7"N Longitude- 79°33'16.0"E
167	Latitude- 29°05'33.7"N Longitude- 79°33'15.8"E
168	Latitude- 29°05'30.9"N Longitude- 79°33'15.3"E
169	Latitude- 29°05'28.4"N Longitude- 79°33'15.8"E
170	Latitude- 29°05'24.5"N Longitude- 79°33'16.5"E
171	Latitude- 29°05'21.3"N Longitude- 79°33'17.8"E
172	Latitude- 29°05'17.8"N Longitude- 79°33'18.0"E
173	Latitude- 29°05'14.8"N Longitude- 79°33'17.8"E
174	Latitude- 29°05'10.2"N Longitude- 79°33'18.2"E
175	Latitude- 29°05'07.4"N Longitude- 79°33'19.1"E
176	Latitude- 29°05'03.9"N Longitude- 79°33'19.1"E
177	Latitude- 29°04'59.9"N Longitude- 79°33'20.5"E
178	Latitude- 29°04'58.4"N Longitude- 79°33'20.7"E
179	Latitude- 29°04'57.0"N Longitude- 79°33'20.9"E
180	Latitude- 29°04'54.0"N Longitude- 79°33'22.2"E
181	Latitude- 29°04'50.8"N Longitude- 79°33'23.6"E
182	Latitude- 29°04'47.8"N Longitude- 79°33'24.9"E



GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

183	Latitude- 29°04'45.0"N Longitude- 79°33'26.7"E
184	Latitude- 29°04'40.7"N Longitude- 79°33'28.4"E
185	Latitude- 29°04'37.2"N Longitude- 79°33'29.4"E
186	Latitude- 29°04'33.9"N Longitude- 79°33'30.4"E
187	Latitude- 29°04'26.6"N Longitude- 79°33'30.0"E
188	Latitude- 29°04'23.5"N Longitude- 79°33'30.2"E
189	Latitude- 29°04'20.4"N Longitude- 79°33'31.2"E
190	Latitude- 29°04'16.6"N Longitude- 79°33'32.1"E
191	Latitude- 29°04'13.6"N Longitude- 79°33'31.9"E
192	Latitude- 29°04'10.1"N Longitude- 79°33'31.4"E
193	Latitude- 29°04'08.4"N Longitude- 79°33'31.2"E
194	Latitude- 29°04'05.5"N Longitude- 79°33'31.2"E
195	Latitude- 29°04'02.7"N Longitude- 79°33'31.7"E
196	Latitude- 29°04'00.0"N Longitude- 79°33'32.4"E
197	Latitude- 29°03'57.2"N Longitude- 79°33'32.3"E
198	Latitude- 29°03'54.5"N Longitude- 79°33'31.2"E
199	Latitude- 29°03'48.7"N Longitude- 79°33'31.8"E
200	Latitude- 29°03'45.6"N Longitude- 79°33'31.8"E
201	Latitude- 29°03'41.4"N Longitude- 79°33'33.1"E
202	Latitude- 29°03'39.0"N Longitude- 79°33'33.4"E



GAULA RIVER RIM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Maltiwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

203	Latitude- 29°03'34.9"N Longitude- 79°33'34.2"E
204	Latitude- 29°03'31.6"N Longitude- 79°33'34.9"E
205	Latitude- 29°03'29.3"N Longitude- 79°33'35.5"E
206	Latitude- 29°03'27.6"N Longitude- 79°33'36.2"E
207	Latitude- 29°03'25.3"N Longitude- 79°33'38.6"E
208	Latitude- 29°03'22.6"N Longitude- 79°33'39.8"E
209	Latitude- 29°03'19.6"N Longitude- 79°33'41.8"E
210	Latitude- 29°03'16.6"N Longitude- 79°33'43.1"E
211	Latitude- 29°03'15.1"N Longitude- 79°33'45.5"E
212	Latitude- 29°03'13.2"N Longitude- 79°33'48.3"E
213	Latitude- 29°03'09.9"N Longitude- 79°33'52.4"E
214	Latitude- 29°03'07.7"N Longitude- 79°33'53.7"E
215	Latitude- 29°03'04.5"N Longitude- 79°33'55.1"E
216	Latitude- 29°03'02.3"N Longitude- 79°33'57.0"E
217	Latitude- 29°02'59.5"N Longitude- 79°33'58.2"E
218	Latitude- 29°02'56.1"N Longitude- 79°33'58.4"E
219	Latitude- 29°02'53.6"N Longitude- 79°33'59.8"E
220	Latitude- 29°02'50.5"N Longitude- 79°34'02.5"E
221	Latitude- 29°02'48.1"N Longitude- 79°34'04.7"E
222	Latitude- 29°02'44.9"N Longitude- 79°34'05.9"E



GAULA RIVER RIM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

223	Latitude- 29°02'42.1"N Longitude- 79°34'05.7"E
224	Latitude- 29°02'38.8"N Longitude- 79°34'06.4"E
225	Latitude- 29°02'36.2"N Longitude- 79°34'07.0"E
226	Latitude- 29°02'33.1"N Longitude- 79°34'10.2"E
227	Latitude- 29°02'30.2"N Longitude- 79°34'11.4"E
228	Latitude- 29°02'26.8"N Longitude- 79°34'11.5"E
229	Latitude- 29°02'24.0"N Longitude- 79°34'09.5"E
230	Latitude- 29°02'21.1"N Longitude- 79°34'08.5"E
231	Latitude- 29°02'18.0"N Longitude- 79°34'08.6"E
232	Latitude- 29°02'14.7"N Longitude- 79°34'09.6"E
233	Latitude- 29°02'12.5"N Longitude- 79°34'10.0"E
234	Latitude- 29°02'08.9"N Longitude- 79°34'10.3"E
235	Latitude- 29°02'06.4"N Longitude- 79°34'10.4"E
236	Latitude- 29°02'06.4"N Longitude- 79°34'10.4"E
237	Latitude- 29°02'01.4"N Longitude- 79°34'12.0"E
238	Latitude- 29°01'58.3"N Longitude- 79°34'14.0"E
239	Latitude- 29°01'55.3"N Longitude- 79°34'15.3"E
240	Latitude- 29°01'51.8"N Longitude- 79°34'16.2"E
241	Latitude- 29°01'48.8"N Longitude- 79°34'16.5"E
242	Latitude- 29°01'46.2"N Longitude- 79°34'18.0"E



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		243	Latitude- 29°01'43.2"N Longitude- 79°34'19.3"E
		244	Latitude- 29°01'39.6"N Longitude- 79°34'19.8"E
		245	Latitude- 29°01'37.0"N Longitude- 79°34'19.4"E
		246	Latitude- 29°01'34.9"N Longitude- 79°34'19.1"E
		247	Latitude- 29°01'33.0"N Longitude- 79°34'19.4"E
		248	Latitude- 29°01'30.3"N Longitude- 79°34'16.6"E
		249	Latitude- 29°01'27.4"N Longitude- 79°34'19.4"E
		250	Latitude- 29°01'23.7"N Longitude- 79°34'19.4"E
		251	Latitude- 29°01'20.2"N Longitude- 79°34'19.5"E
		252	Latitude- 29°01'17.4"N Longitude- 79°34'19.7"E
		253	Latitude- 29°01'13.7"N Longitude- 79°34'19.6"E
		254	Latitude- 29°01'10.2"N Longitude- 79°34'14.8"E
		255	Latitude- 29°01'07.3"N Longitude- 79°34'13.5"E
		256	Latitude- 29°01'03.0"N Longitude- 79°34'10.8"E
		257	Latitude- 29°01'01.8"N Longitude- 79°34'09.5"E
		258	Latitude- 29°00'58.3"N Longitude- 79°34'07.8"E
		259	Latitude- 29°00'55.1"N Longitude- 79°34'06.1"E
		260	Latitude- 29°00'51.8"N Longitude- 79°34'04.6"E
		261	Latitude- 29°00'48.7"N Longitude- 79°34'04.7"E
		262	Latitude- 29°00'45.4"N Longitude- 79°34'03.0"E



GAULA RIVER RBM MINING PLAN

Applicant/Tessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

263	Latitude- 29°00'45.1"N Longitude- 79°33'59.5"E
264	Latitude- 29°00'45.8"N Longitude- 79°33'54.8"E
265	Latitude- 29°00'42.9"N Longitude- 79°33'52.7"E
266	Latitude- 29°00'39.8"N Longitude- 79°33'51.5"E
267	Latitude- 29°00'36.6"N Longitude- 79°33'51.7"E
268	Latitude- 29°00'33.9"N Longitude- 79°33'49.5"E
269	Latitude- 29°00'31.0"N Longitude- 79°33'49.8"E
270	Latitude- 29°00'27.8"N Longitude- 79°33'49.6"E
271	Latitude- 29°00'25.7"N Longitude- 79°33'52.1"E
272	Latitude- 29°00'23.6"N Longitude- 79°33'54.8"E
273	Latitude- 29°00'21.1"N Longitude- 79°33'58.0"E
274	Latitude- 29°00'14.5"N Longitude- 79°33'56.4"E
275	Latitude- 29°00'11.9"N Longitude- 79°33'53.9"E
276	Latitude- 29°00'10.2"N Longitude- 79°33'49.6"E
277	Latitude- 29°00'07.5"N Longitude- 79°33'47.3"E
278	Latitude- 29°00'06.6"N Longitude- 79°33'45.6"E
279	Latitude- 29°00'05.3"N Longitude- 79°33'42.9"E
280	Latitude- 29°00'03.8"N Longitude- 79°33'40.7"E
281	Latitude- 29°00'01.9"N Longitude- 79°33'38.8"E
282	Latitude- 29°00'00.9"N Longitude- 79°33'35.1"E



CAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

283	Latitude- 28°59'58.5"N Longitude- 79°33'31.8"E
284	Latitude- 28°59'56.0"N Longitude- 79°33'29.1"E
285	Latitude- 28°59'53.9"N Longitude- 79°33'27.1"E
286	Latitude- 28°59'51.2"N Longitude- 79°33'24.5"E
287	Latitude- 28°59'48.4"N Longitude- 79°33'21.5"E
288	Latitude- 28°59'45.3"N Longitude- 79°33'19.3"E
289	Latitude- 28°59'51.1"N Longitude- 79°33'11.7"E
290	Latitude- 28°59'53.9"N Longitude- 79°33'14.0"E
291	Latitude- 28°59'56.1"N Longitude- 79°33'15.4"E
292	Latitude- 28°59'59.0"N Longitude- 79°33'17.5"E
293	Latitude- 29°00'01.6"N Longitude- 79°33'18.8"E
294	Latitude- 29°00'04.7"N Longitude- 79°33'22.4"E
295	Latitude- 29°00'07.9"N Longitude- 79°33'23.2"E
296	Latitude- 29°00'11.6"N Longitude- 79°33'26.6"E
297	Latitude- 29°00'15.5"N Longitude- 79°33'28.2"E
298	Latitude- 29°00'18.6"N Longitude- 79°33'29.6"E
299	Latitude- 29°00'21.3"N Longitude- 79°33'30.9"E
300	Latitude- 29°00'25.0"N Longitude- 79°33'31.3"E
301	Latitude- 29°00'29.1"N Longitude- 79°33'32.7"E
302	Latitude- 29°00'33.4"N Longitude- 79°33'33.0"E



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

303	Latitude- 29°00'37.4"N Longitude- 79°33'14.5"E
304	Latitude- 29°00'42.8"N Longitude- 79°33'35.7"E
305	Latitude- 29°00'44.7"N Longitude- 79°33'39.1"E
306	Latitude- 29°00'47.4"N Longitude- 79°33'41.4"E
307	Latitude- 29°00'49.9"N Longitude- 79°33'43.5"E
308	Latitude- 29°00'53.1"N Longitude- 79°33'46.2"E
309	Latitude- 29°00'55.9"N Longitude- 79°33'49.0"E
310	Latitude- 29°00'59.2"N Longitude- 79°33'51.8"E
311	Latitude- 29°01'00.9"N Longitude- 79°33'54.2"E
312	Latitude- 29°01'03.5"N Longitude- 79°33'56.5"E
313	Latitude- 29°01'08.4"N Longitude- 79°33'58.4"E
314	Latitude- 29°01'11.2"N Longitude- 79°34'00.6"E
315	Latitude- 29°01'13.8"N Longitude- 79°33'59.6"E
316	Latitude- 29°01'17.2"N Longitude- 79°33'56.6"E
317	Latitude- 29°01'20.2"N Longitude- 79°33'54.7"E
318	Latitude- 29°01'21.6"N Longitude- 79°33'55.0"E
319	Latitude- 29°01'24.5"N Longitude- 79°33'56.9"E
320	Latitude- 29°01'28.2"N Longitude- 79°33'58.2"E
321	Latitude- 29°01'31.4"N Longitude- 79°33'58.7"E
322	Latitude- 29°01'35.3"N Longitude- 79°33'57.5"E



GAULIA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

323	Latitude- 29°01'39.6"N Longitude- 79°33'57.6"E
324	Latitude- 29°01'44.6"N Longitude- 79°33'55.8"E
325	Latitude- 29°01'47.9"N Longitude- 79°33'54.9"E
326	Latitude- 29°01'50.9"N Longitude- 79°33'52.7"E
327	Latitude- 29°01'54.9"N Longitude- 79°33'48.9"E
328	Latitude- 29°02'00.3"N Longitude- 79°33'49.2"E
329	Latitude- 29°02'03.8"N Longitude- 79°33'49.6"E
330	Latitude- 29°02'05.9"N Longitude- 79°33'52.1"E
331	Latitude- 29°02'08.6"N Longitude- 79°33'55.1"E
332	Latitude- 29°02'11.7"N Longitude- 79°33'55.3"E
333	Latitude- 29°02'17.1"N Longitude- 79°33'54.8"E
334	Latitude- 29°02'21.1"N Longitude- 79°33'53.4"E
335	Latitude- 29°02'24.9"N Longitude- 79°33'54.2"E
336	Latitude- 29°02'30.2"N Longitude- 79°33'52.1"E
337	Latitude- 29°02'34.8"N Longitude- 79°33'50.1"E
338	Latitude- 29°02'37.7"N Longitude- 79°33'47.3"E
339	Latitude- 29°02'40.9"N Longitude- 79°33'46.8"E
340	Latitude- 29°02'43.7"N Longitude- 79°33'45.1"E
341	Latitude- 29°02'46.4"N Longitude- 79°33'41.7"E
342	Latitude- 29°02'50.6"N Longitude- 79°33'42.7"E



GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

343	Latitude- 29°02'53.6"N Longitude- 79°33'40.0"E
344	Latitude- 29°02'56.3"N Longitude- 79°33'37.8"E
345	Latitude- 29°02'59.3"N Longitude- 79°33'36.3"E
346	Latitude- 29°03'02.2"N Longitude- 79°33'33.6"E
347	Latitude- 29°03'05.8"N Longitude- 79°33'31.9"E
348	Latitude- 29°03'08.9"N Longitude- 79°33'30.5"E
349	Latitude- 29°03'12.8"N Longitude- 79°33'28.5"E
350	Latitude- 29°03'17.2"N Longitude- 79°33'27.0"E
351	Latitude- 29°03'20.6"N Longitude- 79°33'24.1"E
352	Latitude- 29°03'25.7"N Longitude- 79°33'20.8"E
353	Latitude- 29°03'29.4"N Longitude- 79°33'19.2"E
354	Latitude- 29°03'35.1"N Longitude- 79°33'18.5"E
355	Latitude- 29°03'40.2"N Longitude- 79°33'17.6"E
356	Latitude- 29°03'44.0"N Longitude- 79°33'15.4"E
357	Latitude- 29°03'46.8"N Longitude- 79°33'12.0"E
358	Latitude- 29°03'51.7"N Longitude- 79°33'11.5"E
359	Latitude- 29°03'54.7"N Longitude- 79°33'10.5"E
360	Latitude- 29°03'57.4"N Longitude- 79°33'10.4"E
361	Latitude- 29°04'00.9"N Longitude- 79°33'09.6"E
362	Latitude- 29°04'04.0"N Longitude- 79°33'09.4"E
363	Latitude- 29°04'07.2"N



GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (U.F.D.C.)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°33'09.4"E
364	Latitude-	29°04'09.4"N	
	Longitude-	79°33'08.8"E	
365	Latitude-	29°04'11.9"N	
	Longitude-	79°33'08.9"E	
366	Latitude-	29°04'13.9"N	
	Longitude-	79°33'09.3"E	
367	Latitude-	29°04'15.6"N	
	Longitude-	79°33'09.8"E	
368	Latitude-	29°04'17.4"N	
	Longitude-	79°33'10.4"E	
369	Latitude-	29°04'19.6"N	
	Longitude-	79°33'10.6"E	
370	Latitude-	29°04'21.8"N	
	Longitude-	79°33'10.3"E	
371	Latitude-	29°04'23.6"N	
	Longitude-	79°33'09.0"E	
372	Latitude-	29°04'28.6"N	
	Longitude-	79°33'08.6"E	
373	Latitude-	29°04'31.6"N	
	Longitude-	79°33'08.8"E	
374	Latitude-	29°04'45.6"N	
	Longitude-	79°33'03.5"E	
375	Latitude-	29°04'48.5"N	
	Longitude-	79°33'01.7"E	
376	Latitude-	29°04'57.4"N	
	Longitude-	79°32'57.8"E	
377	Latitude-	29°05'06.7"N	
	Longitude-	79°32'54.6"E	
378	Latitude-	29°05'16.3"N	
	Longitude-	79°32'53.4"E	
379	Latitude-	29°05'19.6"N	
	Longitude-	79°32'54.0"E	
380	Latitude-	29°05'23.3"N	
	Longitude-	79°32'53.8"E	
381	Latitude-	29°05'26.6"N	
	Longitude-	79°32'54.7"E	
382	Latitude-	29°05'31.1"N	
	Longitude-	79°32'55.0"E	
383	Latitude-	29°05'33.8"N	
	Longitude-	79°32'55.0"E	



GALLA RIVER RRM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

384	Latitude- 29°05'36.8"N Longitude- 79°32'54.2"E
385	Latitude- 29°05'39.8"N Longitude- 79°32'54.0"E
386	Latitude- 29°05'41.9"N Longitude- 79°32'54.0"E
387	Latitude- 29°05'44.8"N Longitude- 79°32'54.1"E
388	Latitude- 29°05'47.7"N Longitude- 79°32'54.8"E
389	Latitude- 29°05'50.2"N Longitude- 79°32'55.7"E
390	Latitude- 29°05'52.4"N Longitude- 79°32'56.4"E
391	Latitude- 29°05'56.7"N Longitude- 79°32'56.6"E
392	Latitude- 29°06'00.3"N Longitude- 79°32'56.0"E
393	Latitude- 29°06'03.3"N Longitude- 79°32'55.5"E
394	Latitude- 29°06'06.6"N Longitude- 79°32'54.5"E
395	Latitude- 29°06'09.6"N Longitude- 79°32'53.9"E
396	Latitude- 29°06'12.4"N Longitude- 79°32'53.6"E
397	Latitude- 29°06'15.9"N Longitude- 79°32'52.6"E
398	Latitude- 29°06'18.7"N Longitude- 79°32'51.4"E
399	Latitude- 29°06'22.0"N Longitude- 79°32'50.1"E
400	Latitude- 29°06'24.1"N Longitude- 79°32'50.0"E
401	Latitude- 29°06'25.7"N Longitude- 79°32'49.4"E
402	Latitude- 29°06'28.0"N Longitude- 79°32'48.3"E
403	Latitude- 29°06'30.1"N Longitude- 79°32'46.9"E
404	Latitude- 29°06'33.0"N



GAULA RIVER RRM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°32'47.6"E
405	Latitude-	29°06'35.5"N	
	Longitude-	79°32'48.1"E	
406	Latitude-	29°06'38.4"N	
	Longitude-	79°32'48.3"E	
407	Latitude-	29°06'41.7"N	
	Longitude-	79°32'48.7"E	
408	Latitude-	29°06'43.4"N	
	Longitude-	79°32'48.6"E	
409	Latitude-	29°06'45.8"N	
	Longitude-	79°32'47.8"E	
410	Latitude-	29°06'48.2"N	
	Longitude-	79°32'47.5"E	
411	Latitude-	29°06'50.5"N	
	Longitude-	79°32'46.8"E	
412	Latitude-	29°06'52.9"N	
	Longitude-	79°32'46.4"E	
413	Latitude-	29°06'55.3"N	
	Longitude-	79°32'45.8"E	
414	Latitude-	29°06'57.4"N	
	Longitude-	79°32'45.4"E	
415	Latitude-	29°06'59.1"N	
	Longitude-	79°32'45.1"E	
416	Latitude-	29°07'01.4"N	
	Longitude-	79°32'45.7"E	
417	Latitude-	29°07'03.5"N	
	Longitude-	79°32'46.6"E	
418	Latitude-	29°07'05.7"N	
	Longitude-	79°32'47.2"E	
419	Latitude-	29°07'08.2"N	
	Longitude-	79°32'48.0"E	
420	Latitude-	29°07'11.1"N	
	Longitude-	79°32'49.4"E	
421	Latitude-	29°07'14.3"N	
	Longitude-	79°32'49.5"E	
422	Latitude-	29°07'17.5"N	
	Longitude-	79°32'48.9"E	
423	Latitude-	29°07'20.6"N	
	Longitude-	79°32'49.7"E	
424	Latitude-	29°07'23.3"N	
	Longitude-	79°32'50.3"E	



GAULA RIVER BED MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (U.F.D.C.)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

425	Latitude- 29°07'25.7"N Longitude- 79°32'49.3"E
426	Latitude- 29°07'28.3"N Longitude- 79°32'48.8"E
427	Latitude- 29°07'30.9"N Longitude- 79°32'49.8"E
428	Latitude- 29°07'32.9"N Longitude- 79°32'49.1"E
429	Latitude- 29°07'34.7"N Longitude- 79°32'48.7"E
430	Latitude- 29°07'37.2"N Longitude- 79°32'48.6"E
431	Latitude- 29°07'39.3"N Longitude- 79°32'48.0"E
432	Latitude- 29°07'41.6"N Longitude- 79°32'47.0"E
433	Latitude- 29°07'44.2"N Longitude- 79°32'47.0"E
434	Latitude- 29°07'46.8"N Longitude- 79°32'46.8"E
435	Latitude- 29°07'49.2"N Longitude- 79°32'45.2"E
436	Latitude- 29°07'51.7"N Longitude- 79°32'44.2"E
437	Latitude- 29°07'54.5"N Longitude- 79°32'43.6"E
438	Latitude- 29°07'57.3"N Longitude- 79°32'43.7"E
439	Latitude- 29°07'59.9"N Longitude- 79°32'42.8"E
440	Latitude- 29°08'02.8"N Longitude- 79°32'42.8"E
441	Latitude- 29°08'05.4"N Longitude- 79°32'42.9"E
442	Latitude- 29°08'08.4"N Longitude- 79°32'43.3"E
443	Latitude- 29°08'10.8"N Longitude- 79°32'43.7"E
444	Latitude- 29°08'13.5"N Longitude- 79°32'42.9"E
445	Latitude- 29°08'16.0"N



GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°32'43.5"E
446		Latitude-	29°08'19.6"N
		Longitude-	79°32'43.0"E
447		Latitude-	29°08'20.9"N
		Longitude-	79°32'42.7"E
448		Latitude-	29°08'23.4"N
		Longitude-	79°32'43.0"E
449		Latitude-	29°08'25.8"N
		Longitude-	79°32'45.8"E
450		Latitude-	29°08'27.7"N
		Longitude-	79°32'46.2"E
451		Latitude-	29°08'30.0"N
		Longitude-	79°32'46.7"E
452		Latitude-	29°08'32.6"N
		Longitude-	79°32'47.0"E
453		Latitude-	29°08'34.3"N
		Longitude-	79°32'46.5"E
454		Latitude-	29°08'36.2"N
		Longitude-	79°32'46.3"E
455		Latitude-	29°08'39.2"N
		Longitude-	79°32'46.4"E
456		Latitude-	29°08'42.5"N
		Longitude-	79°32'46.1"E
457		Latitude-	29°08'45.2"N
		Longitude-	79°32'45.2"E
458		Latitude-	29°08'48.7"N
		Longitude-	79°32'45.4"E
459		Latitude-	29°08'51.4"N
		Longitude-	79°32'44.4"E
460		Latitude-	29°08'53.7"N
		Longitude-	79°32'43.1"E
461		Latitude-	29°08'56.1"N
		Longitude-	79°32'42.1"E
462		Latitude-	29°08'58.7"N
		Longitude-	79°32'40.8"E
463		Latitude-	29°09'01.9"N
		Longitude-	79°32'39.7"E
464		Latitude-	29°09'03.7"N
		Longitude-	79°32'38.6"E
465		Latitude-	29°09'06.3"N
		Longitude-	79°32'38.1"E



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

466	Latitude- 29°09'09.2"N Longitude- 79°32'37.5"E
467	Latitude- 29°09'12.1"N Longitude- 79°32'37.4"E
468	Latitude- 29°09'14.9"N Longitude- 79°32'35.8"E
469	Latitude- 29°09'17.4"N Longitude- 79°32'35.5"E
470	Latitude- 29°09'21.0"N Longitude- 79°32'35.3"E
471	Latitude- 29°09'23.8"N Longitude- 79°32'36.8"E
472	Latitude- 29°09'28.3"N Longitude- 79°32'36.9"E
473	Latitude- 29°09'30.6"N Longitude- 79°32'37.7"E
474	Latitude- 29°09'35.3"N Longitude- 79°32'37.8"E
475	Latitude- 29°09'39.1"N Longitude- 79°32'36.8"E
476	Latitude- 29°09'44.7"N Longitude- 79°32'36.2"E
477	Latitude- 29°09'46.8"N Longitude- 79°32'35.6"E
478	Latitude- 29°09'49.5"N Longitude- 79°32'34.8"E
479	Latitude- 29°09'52.1"N Longitude- 79°32'33.8"E
480	Latitude- 29°09'55.2"N Longitude- 79°32'33.0"E
481	Latitude- 29°09'57.8"N Longitude- 79°32'32.5"E
482	Latitude- 29°10'00.5"N Longitude- 79°32'31.9"E
483	Latitude- 29°10'03.1"N Longitude- 79°32'31.9"E
484	Latitude- 29°10'06.0"N Longitude- 79°32'31.9"E
485	Latitude- 29°10'08.6"N Longitude- 79°32'30.2"E
486	Latitude- 29°10'10.6"N



GAULA RIVER RBM MINING PLAN

Applicant/Tessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

507	Latitude- 29°11'04.1"N Longitude- 79°32'30.0"E
508	Latitude- 29°11'06.9"N Longitude- 79°32'29.2"E
509	Latitude- 29°11'09.7"N Longitude- 79°32'29.3"E
510	Latitude- 29°11'12.7"N Longitude- 79°32'28.7"E
511	Latitude- 29°11'16.1"N Longitude- 79°32'28.6"E
512	Latitude- 29°11'18.1"N Longitude- 79°32'28.2"E
513	Latitude- 29°11'21.0"N Longitude- 79°32'27.5"E
514	Latitude- 29°11'23.7"N Longitude- 79°32'27.2"E
515	Latitude- 29°11'26.5"N Longitude- 79°32'27.5"E
516	Latitude- 29°11'28.8"N Longitude- 79°32'28.5"E
517	Latitude- 29°11'31.8"N Longitude- 79°32'28.1"E
518	Latitude- 29°11'40.5"N Longitude- 79°32'26.9"E
519	Latitude- 29°11'41.4"N Longitude- 79°32'26.6"E
520	Latitude- 29°11'45.8"N Longitude- 79°32'26.8"E
521	Latitude- 29°11'48.6"N Longitude- 79°32'26.8"E
522	Latitude- 29°11'51.3"N Longitude- 79°32'26.2"E
523	Latitude- 29°11'54.2"N Longitude- 79°32'25.1"E
524	Latitude- 29°11'56.7"N Longitude- 79°32'24.0"E
525	Latitude- 29°11'59.7"N Longitude- 79°32'23.6"E
526	Latitude- 29°12'02.6"N Longitude- 79°32'22.9"E
527	Latitude- 29°12'05.6"N



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude-	79°32'22.8"E
528		Latitude-	29°12'10.1"N
		Longitude-	79°32'22.2"E
529		Latitude-	29°12'13.4"N
		Longitude-	79°32'20.8"E
530		Latitude-	29°12'14.9"N
		Longitude-	79°32'18.9"E
531		Latitude-	29°12'17.3"N
		Longitude-	79°32'15.7"E
532		Latitude-	29°12'19.6"N
		Longitude-	79°32'14.0"E
533		Latitude-	29°12'24.4"N
		Longitude-	79°32'11.8"E
534		Latitude-	29°12'27.4"N
		Longitude-	79°32'11.8"E
535		Latitude-	29°12'30.6"N
		Longitude-	79°32'11.8"E
536		Latitude-	29°12'36.5"N
		Longitude-	79°32'09.3"E
537		Latitude-	29°13'01.0"N
		Longitude-	79°32'10.1"E
538		Latitude-	29°13'04.7"N
		Longitude-	79°32'10.2"E
539		Latitude-	29°13'07.7"N
		Longitude-	79°32'11.6"E
540		Latitude-	29°13'11.2"N
		Longitude-	79°32'12.5"E
541		Latitude-	29°13'14.2"N
		Longitude-	79°32'14.9"E
542		Latitude-	29°13'17.2"N
		Longitude-	79°32'17.8"E
543		Latitude-	29°13'21.7"N
		Longitude-	79°32'19.4"E
544		Latitude-	29°13'24.9"N
		Longitude-	79°32'21.4"E
545		Latitude-	29°13'28.1"N
		Longitude-	79°32'21.4"E
546		Latitude-	29°13'33.0"N
		Longitude-	79°32'24.9"E
547		Latitude-	29°13'37.3"N
		Longitude-	79°32'26.0"E



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

548	Latitude- 29°13'40.9"N Longitude- 79°32'27.1"E
549	Latitude- 29°13'43.8"N Longitude- 79°32'28.8"E
550	Latitude- 29°13'46.4"N Longitude- 79°32'31.0"E
551	Latitude- 29°13'49.6"N Longitude- 79°32'33.7"E
552	Latitude- 29°13'52.4"N Longitude- 79°32'35.1"E
553	Latitude- 29°13'55.5"N Longitude- 79°32'36.1"E
554	Latitude- 29°13'59.6"N Longitude- 79°32'37.4"E
555	Latitude- 29°14'03.9"N Longitude- 79°32'38.7"E
556	Latitude- 29°14'08.9"N Longitude- 79°32'40.8"E
557	Latitude- 29°14'14.1"N Longitude- 79°32'42.2"E
558	Latitude- 29°14'19.0"N Longitude- 79°32'44.0"E
559	Latitude- 29°14'23.3"N Longitude- 79°32'47.7"E
560	Latitude- 29°14'25.9"N Longitude- 79°32'49.9"E
561	Latitude- 29°14'29.6"N Longitude- 79°32'48.8"E
562	Latitude- 29°14'33.8"N Longitude- 79°32'48.6"E
563	Latitude- 29°14'36.8"N Longitude- 79°32'48.2"E
564	Latitude- 29°14'40.4"N Longitude- 79°32'48.1"E
565	Latitude- 29°14'42.3"N Longitude- 79°32'47.7"E
566	Latitude- 29°14'44.7"N Longitude- 79°32'47.5"E
567	Latitude- 29°14'47.5"N Longitude- 79°32'48.0"E
568	Latitude- 29°14'50.3"N



GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		Longitude- 79°32'48.4"E
569	Latitude- 29°14'53.4"N	Longitude- 79°32'48.4"E
570	Latitude- 29°14'56.3"N	Longitude- 79°32'48.1"E
571	Latitude- 29°14'59.2"N	Longitude- 79°32'47.4"E
572	Latitude- 29°15'01.9"N	Longitude- 79°32'48.6"E
573	Latitude- 29°15'09.5"N	Longitude- 79°32'51.3"E
574	Latitude- 29°15'12.7"N	Longitude- 79°32'51.6"E
575	Latitude- 29°15'17.5"N	Longitude- 79°32'51.4"E

4.2 GENERAL

(a)	Mineral proposed to mine	Sand, Bajri and Boulder etc
(b)	Period of mining Lease	State Government Order (GO) was released vide <i>Letter No. 1957/VII-A-1/2022-11(KHA)/2010, Dated 29 September 2022</i> (Annexure-I), for extraction of Sand Bajri and Boulders (RBM) from a part of Galla River Bed (Galla River RBM mining Lot), Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand (200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division), Total area- 1497.0 Hectare, for a time period of further 10 years with various conditions (ANN-1).
(c)	Category of land use	Total proposed area falls under Reserve Forest Land, Total Area- 1497 Ha. Mining Proposed over first half of the river width i.e. central of the river, Mining area proposed= 748.5 Hectare.
(d)	Elevation Range of River Bed	490.35m to 224.23m

4.3 ABOUT THE DISTRICT- Nainital district forms part of Kumaon Division of Uttarakhand State. It lies between 29°0' and 29°36'21" N latitudes and 78°50'53" and 80°0' E longitudes. The district comprises of four tehsils namely, Nainital, Dhari, Haldwani and Kosya Kutoli and eight developmental blocks viz., Haldwani, Ramnagar, Kotabagh, Dhari, Bawalghat, Ramgarh, Bhimtal and Okhukanda.

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

The total population of the district is 7, 62,909 as per 2001 census. The density of population is 198 persons per sq. km. The geographical area of the district is 4064.33 km².

4.4 ACCESSIBILITY TO THE PROPOSED LEASE AREA- The lease area is a part of Gaula River bed (Gaula River RBM mining Lot), 200Hectare of Haldwani Forest Division & 1297Hectare of East Tarai Forest Division, Total area- 1497Hectare, under Reserve forest Area, District- Nainital. Lease area starts from Kathgodam and terminates at Shantipuri, is about 28 kms in length, Gaula Bridge is constructed at about 5kms (distance from upper end) in between the lease area, mining is planned to restrict within 500m upstream and downstream of the bridge area. The lease is approachable via 11 No. of gates, by in large the lease area connects through NH87 i.e. Kathgodam-Haldwani-Halduehaur-Lalkua Road.

NEAREST AVAILABLE FACILITIES-

Nearest approachable NH/SH	NH87 i.e. Kathgodam-Haldwani-Halduehaur-Lalkua Road
Nearest Railway transportation facility	At Kathgodam & Haldwani, about 1.5 kms areal
Nearest Air facility/Helipad etc	Pantnagar, about 1 kms
Nearest bank facility	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Post office	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Public Health Centre (PHC)	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Community Health Centre (CHC)	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Primary School	At Haldwani & Lalkua, about 1.5 kms areal
Nearest High School/Intermediate Collage	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Degree & Post Degree Collage	At Haldwani, about 1.5 kms areal
Nearest Vocational Educational Center/ITI	At Haldwani, about 1.5 kms areal
Nearest Small market	At Haldwani & Lalkua, about 1.5 kms areal
Nearest Major market	At Haldwani, about 1.5 kms areal



4.5 ABOUT THE PROPOSED LEASE AREA- State Government Order (GO) was released vide *Letter No. 1057/VII-A-1/2022-11(KILA)/2010. Dated 29 September 2022 (Annexure-1)*, for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining Lot). Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand (200Hectare of

GATLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District: Nainital (Uttarakhand)

Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division), Total area- 1497.0 Hectare, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1).

- Quantity of minable mineral with reference to technically & environmentally safe method of mining (**Discussed in chapter 6**).
- Satellite map of the lease area Annex. As **Plate 2**).



CHAPTER-5

GEOLOGY & EXPLORATION

5.0 GEOLOGY & EXPLORATION

5.1 GEOLOGY- Nainital district can be classified into three broad geotectonic divisions namely, the Lesser Himalayas, the sub Himalayas and the Piedmont alluvial plains. Each of these divisions is characterised by distinct rock types of varied geological age, structural trends, tectonic setting and geomorphic features.

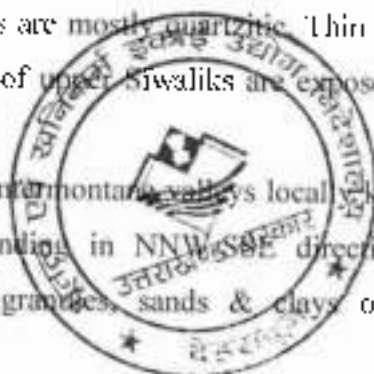
Lesser Himalayas: The Lesser Himalayan formations occupy almost one third area of the district. These formations comprise dominantly of unfossiliferous meta-sedimentary sequences along with low to medium grade metamorphics ranging in age from Precambrian to Palaeogene. The main rock types are granite, granodiorite, phyllites, slates, quartzites, schists and gneiss. The Krol and Blaini formations comprise mainly of sandstones, limestones and quartzites.

Outer Himalayan Foothill Zone: This zone can be classified into the Lower Siwaliks, Middle Siwaliks and the Upper Siwaliks.

1. **Lower Siwaliks:** The lower Siwaliks are characterised by hard, massive, grey to brownish grey sandstones interbedded with grey to maroon clays. They form the outermost zone in the Nainital Himalayas and occasionally exhibit local structural discontinuities. The dip is usually northwards.
2. **Middle Siwaliks:** The middle Siwaliks are characterised by massive light grey micaceous sandstones. They exhibit sporadic patterns of cementation at different stratigraphic intervals.
3. **Upper Siwaliks:** The Upper Siwaliks are constituted of pebbles, cobbles, boulders, conglomerates and clay lenses. The pebbles and boulders are mostly quartzitic. Thin lenses of grey to light green colour clays are common. Outcrops of upper Siwaliks are exposed in the western part between Kaladhungi and Ramnagar.

Intermontane Valleys: Small (~ 25 km long and 10 km wide) intermontane valleys locally known as "Kota Doon" occur within the Sub-Himalayan Siwaliks trending in NNW-SSE direction. The epispastics mainly comprise of boulders, pebbles, cobbles, gravels, sands & clays of varied composition.

Piedmont Alluvial Plains: This zone is broadly classified into the Bhabar and Tarai formations, which are separated by the spring line.



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UFD-DC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

Bhabar Formation: The formation is mainly comprised of poorly sorted unconsolidated sediments viz. cobbles boulders, gravel, pebbles, sand and silt with intervening clay layers. The lithological constituents are of heterogeneous nature viz., basic, acid and intermediate along with epiclastics and metamorphic clasts. Clay lenses are of limited extent. The belt exhibits NW-SE elongation. Its northern boundary has an abrupt structural contact (Main Boundary Thrust) with lower Siwaliks. The width of the belt is quite variable. The maximum width (about 21km) is in Haldwani – Kichha (Udharn Singh Nagar) section.

Tarai Formation: Tarai formation consists of sand, clay, silt, sandy clays and occasionally gravel. Clay beds predominate over sand beds. The northern limit of the belts is the spring line, separating it from Bhabar. The Tarai deposits represent the finer wash out material brought by the streams from the hilly tracts and is evenly sorted.

The proposed mining area deposit is a product of fluvial activity (Gaula River) deposit i.e. Sand, Bajari and Boulders.

5.2 EXPLORATION

Adequate amount of sand, bajri and boulder in reserve is available for meeting consumer demand. Moreover mining will be carried out by batch rotation manner and the mined out area is annually replenishable.

5.3 ESTIMATION OF RESERVE

The method of cross section has been adopted for computing the reserve. The mining lease boundary, proven and mining limits are marked on the plan which is thereafter transferred to cross section for determining the different categories of reserve.

The geological reserves have been estimated as per UNFC in all the three axis is as below

- Economic Axis (E-1):** The RBM exists within the entire stretch & having no problem selling in the market. The road is near the lease area & RBM shall be loaded into tipper with the help of labors & deployment of manual excavator & transport to open market & crusher. On the feasibility study, economics viability of deposit has been established & RBM is economic viable, therefore economic axis has been considered as E-1.
- Feasibility Status (F-1):** Feasibility study has been carried out & is considered to be feasibility status. A feasibility study provides a preliminary assessment with a level of confidence as

compared to that of feasibility study. It has been revealed that exploitation of RBM is feasible & Economic viable & feasibility axis under UNFC code has been considered as T-1.

- c) **Geological Axis:** The exposure of RBM is seen in the entire stretch & thickness of RBM varies 2.5m to 3.0m. Therefore geological axis has been considered as G-1.

In order to calculate the mineable reserve the geological map on the 1:1000 scale was prepared and main litho units were marked on the plan to know the surface spread of each unit. The different constituents of the deposits such as sand, bajri, boulder and mixture of clay, soil, silt, based on sized classification were considered for the reserve calculation. Although it is not possible to mark these units separately on the geological map, as such three pits of 1x1x1 meters were got dug in the mineable lease area and material so excavated was separated into different size and their percentage was worked out.

Bulk density is taken as 2.2 for calculation (as per Go UK, Industrial Development Section Notification 1033/VII-1/ 2015/ 146 Kha/ 2010, dated 31st July 2015). Calculation of reserve has been done as following:

1. Cross sections have been prepared at intervals. Refer Plate No.4
2. Area of every cross section has been taken. For example, if the area of cross section A-A' is 'X' and area of B-B' is 'Y', then average of both calculating the reserve (i.e. (X+Y)/2).
3. Distance between the two sections has been multiplied with the average area of the two sections to get the total volume. I.e. [(X+Y)/2] x Distance between A-A' & B-B'.

The overall geological reserves have been estimated through geological cross section method. The area of each section line is calculated. The section area is multiplied by the strike influence to get the volume. The target geological reserve classified in to three categories i.e. Proved reserve, Probable reserve & possible reserve. In this project the proved reserve assessed as 3m depth & further 2m as probable reserve whereas 1m considered as possible reserve. Out of total volume the 90% considered as the recoverable reserve & 2.2 bulk density.

Table No. 5.1 Reserve Estimation (Proved Reserve)

Cross-Section Line	Sectional Area (m ²)	Strike influence (m)	Volume (m ³)	Volume (Tonnes)
B-B' TO A-A'	815.58	178.15	130766.01	287685.22
A-A' TO B-B'	1017.81	1681.55	1540348.56	3388766.83
B-B' TO C-C'	1163.25	3107.68	3253507.88	7157717.34

GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

C-C' TO D-D'	1397.58	3396.82	4272591.92	9399708.82
D-D' TO E-E'	1587.66	2302.26	3289685.50	7237308.09
E-E' TO F-F'	1669.74	3923.54	5896162.51	12971557.50
F-F' TO G-G'	1857.93	5350.73	8947153.61	19683737.92
G-G' TO H-H'	1570.92	2197.43	3106788.06	6834933.72
H-H' TO I-I'	1615.89	3063.55	4455760.11	9802672.24
I-I' TO J-J'	1797.45	2107.09	3408650.02	7499030.06
J-J' TO K-K'	1312.17	1727.44	2040025.45	4488055.98
K-K' TO L-L'	948.00	506.50	432145.80	950720.76
TOTAL	16753.98		40773588.43	89701894.48

Table No. 5.2 Reserve Estimation (Probable Reserve)

Cross-Section Line	Sectional Area (m ²)	Strike influence (m)	Volume (m ³)	Volume (Tonnes)
LB TO A-A'	543.72	178.15	87177.34	191790.16
A-A' TO B-B'	678.54	1681.55	1026899.04	2259177.89
B-B' TO C-C'	775.5	3107.68	2169005.25	4771811.56
C-C' TO D-D'	931.72	3396.82	2818396.61	6266472.55
D-D' TO E-E'	1058.44	2302.26	2193123.66	4824872.06
E-E' TO F-F'	1113.16	3923.54	3930775.00	8647705.01
F-F' TO G-G'	1238.62	5350.73	5964769.07	13122491.96
G-G' TO H-H'	1047.28	2197.43	2071192.04	4556947.47
H-H' TO I-I'	1077.26	3063.85	2970506.94	6535114.84
I-I' TO J-J'	1198.3	2107.09	2272403.35	4999353.37
J-J' TO K-K'	874.78	1727.44	1360016.96	2992037.32
K-K' TO L-L'	632.00	506.50	288097.25	633813.84
TOTAL	11169.32		27182392.20	59801176.03

Table No. 5.3 Reserve Estimation (Possible Reserve)

Cross-Section Line	Sectional Area (m ²)	Strike influence (m)	Volume (m ³)	Volume (Tonnes)
LB TO A-A'	271.86	178.15	43588.67	95895.06
A-A' TO B-B'	339.27	1681.55	513419.52	1129588.95

GAPLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

B-B' TO C-C'	387.75	3107.68	1084502.62	2385905.78
C-C' TO D-D'	465.86	3396.82	1124198.30	3133256.26
D-D' TO E-E'	579.22	7302.26	1096561.83	2412436.01
E-E' TO F-F'	556.58	3923.54	1965387.50	4323857.50
F-F' TO G-G'	619.31	5350.73	2982384.53	6561245.96
G-G' TO H-H'	523.64	2197.43	1035596.02	2278311.23
H-H' TO I-I'	538.63	3063.85	1485253.37	3267557.10
I-I' TO J-J'	599.15	2107.09	1136216.67	2499676.68
J-J' TO K-K'	437.39	1727.44	688008.48	1496018.66
K-K' TO L-L'	316.00	506.50	144048.6	316906.92
TOTAL	5584.66		13591196.11	29900631.39

5.3.1 Geological Reserves: The summarized category wise geological reserve estimated by is:-

Table No. - 5.4

Mineral Reserve	Code	Quantity of RBM in (m ³)	Quantity of RBM in (Tonne)
Proved Reserve	111	40773588.43	89701894.48
Probable Reserve	122	27182392.26	59801176.03
Possible Reserve	133	13591196.11	29900631.39
Total		8,15,47,176.8	17,94,03,701.9

5.3.2 MINEABLE RESERVE: -

- Total Demarcated Area= 1497 hectare.
- Mining proposed Area= 748.5 hectare
- Proposed mine working shall be confined up to maximum 1.5m bgl, as per valid EC & GO.
- Section wise slicing mineral reserve been discussed as tabulated below-

Table No. - 5.5

SECTION	Bench Area(m ²)	Volume (m ³)	Volume (Tonnes)
SECTION 1-1'	1356.34	315375.9	691826.98
SECTION 2-2'	1681.46	434986.36	954769.99
SECTION 3-3'	577.89	143312.53	315287.56
SECTION 4-4'	1354.72	335586.48	738290.25
SECTION 5-5'	2353.94	646960.37	1423312.81
SECTION 6-6'	2362.7	560933.65	1234054.02

CHAPTER-6

MINING

6.1 BRIEF ABOUT PREVIOUS APPROVED MINING PLAN/SCHEME- Previous Mining Plan/Scheme been approved vide *State DGM letter No.315/khanan/Phu.khanki.e./mining plan/2021-22, 31 May 2021* for a period of two (2) years, proposed production 1,19,35,000 TPA, considered as per FC period validity. (Attached as ANN-11)

6.2 LAST THREE YEARS PRODUCTION TARGET & ACHIEVEMENT: Achieved production data been provided by UKFDC on Mining Session wise as below- Table No- 6.1

YEAR	PLANNED PRODUCTION AS PER OSWORTI (M ³)	PRODUCTION ACHIEVED (M ³)
2019-20	-	2553772.78
2020-21	32.92,179.27	3293699.75
2021-22	38.24,307.14	3687279.06

Other details given in attached Annexure No. 11&12

6.3 METHOD OF WORKING

1. Existing Method of Mining: The project does not involve any processes such as overburden removal, drilling, blasting and beneficiation. The mining method is conventional opencast river bed mining primarily involves scooping the mineral through use of implements like spade, pick axe and shovel etc, and requires no drilling & blasting with maximum depth of 1.5 m below ground levels (hgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/kipper to the storage points located outside the mining lease.

2. Proposed Method of Mining: Taking into consideration the matrix of deposit in the river bed and the targeted production, the mine will be worked by fully manual opencast method for collection of Minor Minerals (Sand, Bajri & Boulders) from at a part of River Gaula (Gaula River bed, total area= 1497Hectare. Mineable area after leaving safety zone= 748.50 Hectare) District- Nainital, Uttarakhand. The project does not involve any processes such as overburden removal, drilling, blasting and beneficiation. The proposed mining method is conventional opencast river bed mining primarily involves scooping the mineral through use of implements like spade, pick axe and shovel etc, and requires no drilling & blasting. Proposed mining will be started from higher levels to lower levels through phase wise/ slice wise, going to the maximum depth of 1.5 m below ground levels (hgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/kipper to the storage points located outside the mining lease.

Mining is proposed over first half of the river bed and replenishable yearly. After each workable year, a

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

longitudinal wall of about 1m be may be raised and repaired thereafter, as required, on the river bank side to check toe erosion, an environment hazardous phenomenon may be induced by the heavy floods during monsoon season. Mineral extraction will be done for a period of 270 days in a year; during monsoon period mining activity will be strictly banned.

6.2 SURVEY SPECIFICATION-

6.2 Area Survey- survey of Mining area been done by JSB Surveying Services, II Block, Nehru Colony, Dehradun. Due to paper size limitations the mine planning plate scale, as generally used, been reduced, (presented on linear scale) Annex as Survey Plate/Surface Plan-3.

Following guidelines will be followed while carrying out mining:

1. Uttarakhand State Minor Mineral Mining Policy and Amendments.
2. All other guidelines & Circulars, related to RBM mining/ Gazettes of the Ministry of Environment & Forests.
3. Sustainable Sand Mining Management Guidelines 2016, MoEF, Govt. of India.

SUSTAINABLE SAND MINING MANAGEMENT GUIDELINES 2016 OF MoEF & LEASE COMPLIANCE- TABLE NO- 6.2

GENERAL APPROACH TO SUSTAINABLE SAND AND GRAVEL MINING (Sustainable Sand Mining Management Guidelines 2016)	FOR LEASE
at Parts of the river reach that experience deposition or aggradation shall be identified first. The Lease holder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.	State Government Order (GO) was released vide <i>Letter No. 1057/VII-A-1/2022-11(KHA)/2019, Dated 29 September 2022</i> (Annexure-1), for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining Leas, Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand (200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division). Total area- 1497.0 Hectare, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Mineral (Sand, Bajri,

GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Garhi Forest Division

District- Nainital (Uttarakhand)

	Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1). Mining Proposed over first half of the river width i.e. central of the river, after leaving 25% of overall width on each bank, Movable area proposed= 748.5 Hectare.
b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.	It has been assessed that proposed mining area/mineral picking area generally gets flooded during monsoon season and gets completely replenished. The RBM extraction planned up to maximum 1.5m depth considering the replenishment of the material up to 1.5m depth. However, The Department of Geology & Mining department may monitor the replenishment on yearly basis within the proposed lease area and specific consultation or study may be conducted whenever required for quantity verification.
c) Sand and gravel may be extracted across the entire active channel during the dry season.	Mining is restricted to first half of the river width i.e. central part of the river, Movable area proposed 748.5 Hectare
d) Abandoned stream channels on terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.	Mining is restricted to first half of the river width i.e. central part of the river, Movable area proposed 748.5 Hectare
e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.	Mining is restricted to maximum 1.5m depth and Mining is restricted to first half of the river width i.e. central part of the river, Movable area proposed= 748.5 Hectare
f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.	25% safety zone left each bank, so erosion problem may not occur/negligible scope of erosion.
g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.	Mining is restricted to maximum 1.5m depth and Mining is restricted to first half of the river width i.e. central part of the river, Movable area proposed= 748.5 Hectare
h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial	Safety of mentioned structures ensured, as per demarcation carried

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Hahiwani Forest Division & East Tara Forest Division

District- Nainital (Uttarakhand)

hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation.	
i) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.	Mining is restricted to maximum 1.5m depth and Mining is restricted to first half of the river width i.e. central part of the river. Movable area proposed 748.5 Hectare, demarcation is carried by district level authority
j) Flood discharge capacity of the river could be maintained in areas where there are significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history.	Mining is restricted to maximum 1.5m depth and Mining is restricted to first half of the river width i.e. central part of the river, Movable area proposed 748.5 Hectare
k) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.	Mining is restricted to maximum 1.5m depth and on first half of the river width i.e. central part of the river, Movable area proposed 748.5 Hectare area only. It has been assessed that proposed mining area/ mineral picking area generally gets flooded during monsoon season and gets completely replenished. The RBM extraction planned up to maximum 1.5m depth considering the replenishment of the material up to 1.5m depth. However, The Department of Geology & Mining department may monitor the replenishment on yearly basis within the proposed lease area and specific consultation or study may be conducted whenever required for quantity verification.
l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for ground water recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.	Mining is restricted to maximum 1.5m depth and on first half of the river width i.e. central part of the river, so this will not affect to groundwater recharging system of the area.
m) Mining depth should be restricted to 3 meter and distance from the bank should be 3	Mining is restricted to maximum 1.5m depth and on First half of the river width i.e. central

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District: Nainital (Uttarakhand)

meter or 10 percent of the river width whichever less.	part of the river.
n) The borrow area should preferably be located on the river side of the proposed embankment, because they get silted up in course of time. For low embankment less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In case of higher embankment the distance should not be less than 50 m. In order to obviate development of flow parallel to embankment, cross bars of width eight times the depth of borrow pits spaced 50 to 60 meters centre-to-centre should be left in the borrow pits.	Mining is restricted to maximum 1.5m depth and Mining is restricted to first half of the river width i.e. central part of the river. Movable area proposed: 748.5 Hectare.
o) Demarcation of mining area with pillars and geo-referencing should be done prior to start of Mining.	Geo-referencing of the proposed demarcated lease area done. Georeference Satellite Map attached as Plate 2B

6.3 EXTENT OF MECHANIZATION- No mechanization is required as the operation will be manual method without drilling or blasting.

6.4 MODE OF WORKING- For the optimum utilization of the mineral available in the lease area, mine working has been planned and scientific layout has been designed considering the following parameters:

- Mining operation proposed by opencast manual method.
- Maximum (proposed) Height/depth of benches shall be kept 1.5m.
- About 25% Safety barriers/loft from the river bank/ has been proposed on each side to stop the toe erosion phenomena.
- The quarry planning is done in simple rotational manner, since deposit is very simple, shallow and beds are horizontal.
- Simultaneous plantation work will also be done along the lease boundary/provided land for plantation
- The approach road will be repaired from time to time.
- The proposed minor mineral extraction area is jointly visited by various district level department officers; joint report is attached as Annexure 4.



6.5 ABOUT THE MINABLE RESERVE/QUANTITY-

- Total Area= 1497.00 Hectare.
- Mining proposed over Reserve Forest- River Bed Land, Total Area- 1497.00 Hectare. Mining Proposed over first half of the river width i.e. central part of the river bed, after leaving 25% safety zone on each bank i.e. 374.25 Hectare area shall be left on each bank, so actual minable area is 748.50 Hectare= 74,85,000 m².
- Environment Clearance (EC) granted for the project vide GOI, MoEF (IA Division) No. J-11015/363/2009-IA.H(M), Dated 13 April 2011, the maximum RBM extraction quantity = 1,17,00,000.00 TPA, has been fixed (attached as annexure-08).
- Based upon the above mentioned valid EC quantity & GO, the saleable mineral i.e. 1,17,00,000.00 Tonnes/year, is sustainable extractable quantity for this project (Final Saleable Figure proposed from the lease)

6.5 YEARWISE DEVELOPMENT & PRODUCTION FOR NEXT FIVE YEARS-**TABLE NO.-6.3 - YEARWISE PRODUCTION**

YEAR		MINEABLE AREA	PRODUCTION (Saleable Quantity of RBM) (tonnes/year)
FIRST YEAR	1 st	74,85,000 m ²	1,17,00,000.00
SECOND YEAR	2 nd	74,85,000 m ²	1,17,00,000.00
THIRD YEAR	3 rd	74,85,000 m ²	1,17,00,000.00
FOURTH YEAR	4 th	74,85,000 m ²	1,17,00,000.00
FIFTH YEAR	5 th	74,85,000 m ²	1,17,00,000.00
TOTAL			5,85,00,000.00 Tonnes

6.6 DETAILS ABOUT THE SALEABLE PRODUCTION-

6.6.1.1 DEVELOPMENT & PRODUCTION FOR FIRST YEAR- RBM mining is proposed within 74,85,000 sqm area. Mineral slice/bench along the section line (L-section), (assessment of minable quantity) evaluated & described as tabulated below-

SECTION 1-1* Table No. - 6.4			
Bench Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
490 - 488.5	223.61	170.24	38067.36

GAULA RIVER RUB MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

488.5 - 487	183.19	205.91	37720.65
488.5 - 485.5	89.90	258.55	23243.64
485.5 - 484	49.56	274.56	13607.19
484 - 482.5	85.77	281.61	24153.68
482.5 - 481	135.86	280.43	38099.21
481 - 479.5	185.25	267.62	49580.31
479.5 - 478	120.89	247.40	29908.18
478 - 476.5	109.12	230.68	25171.80
476.5 - 475	102.72	214.44	22027.27
475 - 473.5	70.47	195.78	13796.61
Total	1356.34		315375.9

SECTION 2-2'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
473.5 - 472	46.88	184.59	8653.57
472 - 470.5	39.88	184.88	7373.01
470.5 - 469	225.76	185.54	41887.51
469 - 467.5	226.56	188.71	42754.13
467.5 - 466	48.25	192.57	92915.50
466 - 464.5	80.25	195.17	17418.92
464.5 - 463	85.39	198.17	16921.73
463 - 461.5	96.29	201.63	19414.93
461.5 - 460	89.51	207.84	18576.90
460 - 458.5	89.49	214.44	19190.23
458.5 - 457	95.83	220.32	21115.26
457 - 455.5	97.00	225.15	21839.55
455.5 - 454	73.50	228.56	16799.16
452.5 - 451	55.56	229.91	12713.97
451 - 449.5	45.89	232.21	10656.11
449.5 - 448	57.00	235.12	13301.27
448 - 446.5	105.84	236.89	25072.43
446.5 - 445	47.10	238.41	11229.11
445 - 443.5	68.48	240.29	16455.05
Total	1681.46		433986.36

SECTION 3-3'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
443.5 - 442	236.46	249.22	58930.56
442 - 440.5	239.25	251.59	60192.90
440.5 - 439	102.18	236.73	24189.07
Total	577.89		143312.53

SECTION 4-4'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
439- 437.5	74.79	226.24	16920.48
437.5 - 436	134.79	223.49	30124.21
436 - 434.5	58.15	217.39	12641.22
434.5 - 433	66.69	212.3	14158.28

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

433 - 431.5	168.40	215.41	23350.44
431.5 - 430	139.55	226.72	31639.17
430 - 428.5	120.78	238.4	28793.95
428.5 - 427	89.79	247.48	22178.13
427 - 425.5	80.79	254.91	20594.17
425.5 - 424	98.06	262.56	23646.60
424 - 422.5	217.00	275.42	59766.14
422.5 - 421	178.93	289.35	51773.39
Total	1359.72		335586.48

SECTION 5-5'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
421 - 419.5	104.73	293.97	30787.47
419.5 - 418	98.65	292.12	28817.63
418 - 416.5	89.99	290.37	26130.84
416.5 - 415	106.65	289.03	30825.04
415 - 413.5	125.65	287.12	36076.62
413.5 - 412	89.56	283.98	25433.24
412 - 410.5	137.95	282.15	38922.59
410.5 - 409	125.43	281.09	35257.11
409 - 407.5	87.43	281.09	24576.13
407.5 - 406	156.65	279.32	43755.47
406 - 404.5	176.79	276.64	48768.86
404.5 - 403	118.56	276.67	32796.06
403 - 401.5	105.90	272.39	28952.00
401.5 - 400	76.85	271.81	10916.19
400 - 398.5	37.87	270.88	10176.96
398.5 - 397	38.59	269.11	10384.95
397 - 395.5	81.77	267.8	21898.00
395.5 - 394	174.53	266.36	33169.81
394 - 392.5	126.96	262.21	33290.18
392.5 - 391	129.99	256.51	33343.73
391 - 389.5	253.94	250.38	63581.49
Total	2353.94		646960.37

SECTION 6-6'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
389.5 - 388	58.45	246.87	14429.55
388 - 386.5	78.50	246.68	19364.38
386.5 - 385	84.42	245.78	20748.94
385 - 383.5	105.06	246.54	25901.40
383.5 - 382	126.28	246.28	31100.23
382 - 380.5	95.30	245.63	23408.53
380.5 - 379	103.67	244.79	25377.37
379 - 377.5	145.68	243.82	35498.89
377.5 - 376	256.56	241.3	61907.92
376 - 374.5	83.94	239.24	20081.80
374.5 - 373	96.89	238.47	23105.35

GAILA RIVER RBM MINING PLAN

Applicant/ Lessee: Mrs Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Turai Forest Division

District- Nainital (Uttarakhand)

372-371.5	94.87	237.48	22529.72
371.5-370	165.69	235.79	39068.04
370-368.5	239.86	237.68	55810.62
368.5-367	209.91	227.58	47771.37
367-365.5	98.78	234.41	22167.21
365.5-364	109.79	226.34	24849.86
364-362.5	96.53	228.20	22078.14
362.5-361	112.57	238.97	25763.70
Total	2362.7		560933.65

SECTION 7-7'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
361-359.5	93.42	231.19	21597.76
359.5-358	97.55	232.70	22699.88
358-356.5	146.63	284.59	41729.43
356.5-355	189.89	237.86	45167.23
355-353.5	178.63	239.75	42826.54
353.5-352	103.42	242.63	25092.79
352-350.5	105.20	242.64	25525.72
350.5-349	115.45	242.71	28020.86
349-347.5	108.56	243.79	26165.84
347.5-346	89.23	244.72	21836.36
346-344.5	59.74	245.58	14670.94
344.5-343	65.91	246.55	16257.50
343-341.5	125.70	248.99	31173.54
341.5-340	113.25	252.44	28558.83
340-338.5	122.65	255.95	31392.26
338.5-337	128.45	260.22	33425.25
337-335.5	235.95	270.73	63904.92
335.5-334	244.86	266.35	65218.46
334-332.5	137.22	270.75	37152.31
332.5-301	145.89	269.10	39253.99
301-329.5	95.56	268.85	25691.17
329.5-328	198.56	267.96	53023.44
328-326.5	85.56	265.89	22749.54
326.5-325	179.78	263.86	47164.59
Total	3116.29		787139.15

SECTION 8-8'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
325-323.5	107.95	261.91	28273.18
323.5-322	89.07	261.19	23264.19
322-320.5	126.47	260.15	32901.17
320.5-319	28.56	261.36	7464.44
319-317.5	136.95	261.79	35852.14
317.5-316	48.92	262.40	12836.60

GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

316 - 314.5	54.37	262.40	14266.68
314.5 - 313	98.14	265.25	26032.12
313 - 311.5	118.92	269.48	32046.56
311.5 - 310	113.89	272.38	31021.55
310 - 308.5	120.56	275.44	33207.04
308.5 - 307	122.94	278.5	34238.79
307 - 305.5	85.63	281.60	24117.40
305.5 - 304	73.89	283.35	20936.73
304 - 302.5	75.46	284.52	21469.87
302.5 - 301	111.92	286.94	32114.88
299.5 - 298	336.23	292.10	98212.78
298 - 296.5	145.56	301.25	43849.95
296.5 - 295	128.36	302.18	38787.82
295 - 293.5	152.97	305.23	46691.79
293.5 - 292	120.29	309.88	37275.46
292 - 290.5	82.58	312.14	25776.52
290.5 - 289	85.96	312.94	26900.32
289 - 287.5	140.42	315.65	44325.57
287.5 - 286	147.63	308.58	45555.66
Total	2853.64		817413.01

SECTION 9-9'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
286 - 284.5	129.56	301.74	39094.68
284.5 - 283	165.02	295.06	48690.80
283 - 281.5	197.26	286.26	56467.64
281.5 - 280	100.64	278.60	28038.80
280 - 278.5	106.89	272.60	29138.21
278.5 - 277	134.64	266.46	35876.17
277 - 275.5	177.13	256.87	45499.38
275.5 - 274	178.56	251.56	44918.55
274 - 272.5	179.23	254.75	45688.84
272.5 - 271	278.15	223.27	61902.55
271 - 269.5	80.43	218.32	17561.89
269.5 - 268	112.03	237.28	26694.09
268 - 266.5	45.06	240.37	10829.26
266.5 - 265	48.06	243.95	11724.38
265 - 263.5	35.68	248.98	8851.49
263.5 - 262	35.69	250.69	8947.12
262 - 260.5	36.15	251.65	9097.14
260.5 - 259	37.12	257.28	9550.23
259 - 257.5	37.48	264.58	9916.45
257.5 - 256	38.56	268.70	10361.07
256 - 254.5	38.94	272.34	10604.19
254.5 - 253	40.15	274.64	11025.79
Total	2232.43		579858.57

SECTION 10-10'

GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwari Forest Division & East Tarai Forest Division

District: Nainital (Uttarakhand)

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
253- 251.5	289.77	277.50	80353.22
251.5 - 250	54.85	274.10	15034.65
250 - 248.5	68.57	252.23	17295.75
248.5- 247	115.76	219.98	25464.88
247 - 245.5	118.56	228.32	27069.64
245.5 - 244	125.76	235.04	29558.63
244 - 242.5	127.36	241.23	30723.05
242.5 - 241	91.36	245.35	22415.17
Total	991.99		247914.99
SECTION 11-11'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
241 - 239.5	353.51	261.6	92478.71
239.5 - 238	323.52	241.27	78055.67
238 - 236.5	326.21	194.89	63575.06
236.5 - 235	341.45	192.62	65770.09
Total	1344.69		299879.03
SECTION 12-12'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
235 - 233.5	82.22	214.44	17631.25
233.5 - 232	82.24	238.31	19598.61
232 - 230.5	232.89	227.39	52956.85
230.5 - 229	238.36	250.19	59635.28
Total	635.71		149821.99

TABLE NO-6.5

SECTION	Bench Area(m ²)	Volume (m ³)	Volume (Tonnes)
SECTION 1-1'	1356.34	315375.9	693826.98
SECTION 2-2'	1681.16	453986.36	954769.99
SECTION 3-3'	577.89	143312.38	307587.56
SECTION 4-4'	1359.72	335386.48	738590.25
SECTION 5-5'	2353.94	646960.37	1423313.81
SECTION 6-6'	2362.7	560933.65	1234054.62
SECTION 7-7'	3116.29	787139.15	1731706.83
SECTION 8-8'	2853.64	817413.01	1798308.67
SECTION 9-9'	2232.43	579858.67	1275888.84
SECTION 10-10'	991.99	247914.99	545412.97
SECTION 11-11'	1344.69	299879.03	659733.85
SECTION 12-12'	635.71	149821.99	329608.37
TOTAL	20866.8	53,18,182.03	1,17,00,000.00

6.6.1.2 THE SALEABLE PRODUCTION OF EACH (=) MINERAL CONSTITUENT WOULD BE AS UNDER:-

Table No. 6.6- Mineral Constituent Production in First Year
Bench Level From 490.35 M to 224.23 M (Highest point to lowest point of working pit)

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

SR. NO.	MINERAL CONSTITUENTS	PRODUCTION (≈) IN TONNES
1.	Sand (≈±75%)	87,75,000.00
2.	Bajri (≈±15%)	17,55,000.00
3.	Boulder (≈±10%)	11,70,000.00
	TOTAL	1,17,00,000.00 TONNES

6.6.2.1 DEVELOPMENT & PRODUCTION FOR SECOND YEAR- RBM mining is proposed within 74,85,000 sqm area. Mineral slice/bench along the section line (L-section), (assessment of minable quantity) evaluated & described as tabulated below-

SECTION 1-1' Table No. - 6.4			
Bench Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
490 - 488.5	223.61	170.24	38067.36
488.5 - 487	183.19	205.91	37720.65
488.7 - 485.5	89.90	258.55	23243.64
485.5 - 484	49.56	274.56	13607.19
484 - 482.5	85.77	281.61	24153.68
482.5 - 481	135.86	280.43	38099.21
481 - 479.5	185.25	267.62	49580.31
479.5 - 478	120.89	247.40	29908.18
478 - 476.5	109.12	230.68	25171.80
476.5 - 475	102.72	214.44	22027.27
475 - 473.5	70.47	195.78	13796.61
Total	1356.34		315375.9
SECTION 2-2'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
473.5 - 472	46.88	184.59	8653.57
472 - 470.5	39.88	184.88	7373.01
470.5 - 469	225.76	185.54	41887.51
469 - 467.5	226.56	188.77	42754.13
467.5 - 466	48.25	182.37	8801.50
466 - 464.5	89.25	195.17	17418.92
464.5 - 463	85.39	198.17	16921.73
463 - 461.5	96.29	200.63	19414.95
461.5 - 460	89.51	202.54	18157.90
460 - 458.5	89.49	209.47	19190.23
458.5 - 457	95.83	220.38	21113.26
457 - 455.5	97.00	225.15	21839.55
455.5 - 454	73.50	228.56	16799.16
452.5 - 451	53.56	229.91	12313.97
451 - 449.5	45.89	232.21	10656.11

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Locarint: Haddwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

449.5 - 448	57.00	235.11	13401.27
448 - 446.5	105.84	236.89	25072.43
446.5 - 445	47.10	238.41	11229.11
445 - 443.5	68.48	240.29	16455.05
Total	1681.46		433986.36

SECTION 3-3'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
443.5 - 442	236.46	249.22	58930.56
442 - 440.5	239.25	251.59	60192.90
440.5 - 439	102.18	236.73	24189.67
Total	577.89		143312.53

SECTION 4-4'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
439 - 437.5	74.79	226.24	16920.48
437.5 - 436	134.79	223.49	30124.21
436 - 434.5	58.15	217.39	12641.22
434.5 - 433	66.09	212.3	14158.28
433 - 431.5	108.40	215.41	23350.41
431.5 - 430	139.55	226.72	31639.47
430 - 428.5	120.78	238.4	28793.95
428.5 - 427	89.79	247.48	22178.13
427 - 425.5	80.79	254.91	20594.17
425.5 - 424	90.06	262.56	23646.60
424 - 422.5	217.00	275.47	59766.14
422.5 - 421	178.93	289.35	51773.39
Total	1359.72		335586.48

SECTION 5-5'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
421 - 419.5	104.73	293.97	30787.47
419.5 - 418	98.65	292.12	28817.63
418 - 416.5	89.99	290.37	26130.84
416.5 - 415	106.65	289.03	30825.04
415 - 413.5	125.65	287.12	36076.62
413.5 - 412	89.56	283.12	25243.24
412 - 410.5	137.95	281.12	38788.59
410.5 - 409	125.43	281.09	35249.11
409 - 407.5	87.43	281.09	24375.13
407.5 - 406	156.65	279.32	43755.47
406 - 404.5	176.29	278.64	48768.86
404.5 - 403	118.56	276.62	32796.06
403 - 401.5	105.90	272.89	28952.00
401.5 - 400	36.85	271.81	10016.19
400 - 398.5	37.87	270.88	10176.96
398.5 - 397	38.59	269.11	10384.95
397 - 395.5	81.77	267.8	21898.00
395.5 - 394	124.53	266.36	33169.81

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

394 - 392.5	126.96	262.21	33290.18
392.5 - 391	129.99	256.51	33343.73
391 - 389.5	253.94	250.38	63581.49
Total	2353.94		646960.37

SECTION 6-6'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
389.5 - 388	58.45	246.87	14429.55
388 - 386.5	78.50	246.68	19364.38
386.5 - 385	84.42	245.78	20748.74
385 - 383.5	105.06	246.54	25901.49
383.5 - 382	126.28	246.28	31100.73
382 - 380.5	95.30	245.63	23488.53
380.5 - 379	103.67	244.79	25377.37
379 - 377.5	145.68	243.82	35519.69
377.5 - 376	256.56	241.3	61907.92
376 - 374.5	83.94	239.24	20081.80
374.5 - 373	96.89	238.47	23103.35
373 - 371.5	94.87	237.48	22529.72
371.5 - 370	165.69	235.79	39068.04
370 - 368.5	239.86	232.68	55810.62
368.5 - 367	209.91	227.58	47771.31
367 - 365.5	98.78	224.41	22167.21
365.5 - 364	109.79	226.34	24849.86
364 - 362.5	96.53	228.20	22028.14
362.5 - 361	112.52	228.97	25763.70
Total	2362.7		560933.65

SECTION 7-7'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
361 - 359.5	93.42	251.19	21597.76
359.5 - 358	97.55	232.70	22699.88
358 - 356.5	146.63	284.59	41729.43
356.5 - 355	189.89	237.86	45167.23
355 - 353.5	178.63	239.71	42826.54
353.5 - 352	103.42	243.63	25092.79
352 - 350.5	105.20	242.64	25523.72
350.5 - 349	115.45	242.71	28120.86
349 - 347.5	108.56	243.79	26465.84
347.5 - 346	89.23	241.72	21546.36
346 - 344.5	59.74	245.58	14670.94
344.5 - 343	65.94	240.55	16257.50
343 - 341.5	125.20	248.99	31173.54
341.5 - 340	113.25	252.44	28588.83
340 - 338.5	122.65	255.95	31392.26
338.5 - 337	128.45	260.22	33425.25

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Jaldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

337- 335.5	235.95	226.34	53404.92
335.5- 334	244.86	266.35	65218.46
334- 332.5	137.22	270.75	37152.31
332.5- 301	145.89	269.10	39258.99
301- 329.5	95.56	268.88	25694.17
329.5- 328	198.56	267.05	53025.44
328- 326.5	85.56	265.89	22749.54
326.5- 325	129.48	263.86	34164.59
Total	3116.29		787139.15

SECTION 8-8'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
325- 323.5	107.95	261.91	28273.18
323.5 - 322	89.07	261.19	23264.19
322 - 320.5	126.47	260.15	32901.17
320.5 - 319	28.56	261.36	7464.41
319 - 317.5	136.95	261.79	35852.11
317.5 - 316	48.92	262.40	12836.60
316 - 314.5	54.37	262.40	14266.68
314.5 - 313	98.14	265.25	26032.12
313 - 311.5	118.92	269.48	32016.56
311.5 - 310	113.89	272.38	31021.35
310 - 308.5	120.56	275.44	33207.04
308.5 - 307	122.94	278.5	34238.79
307 - 305.5	85.63	281.60	24113.40
305.5 - 304	73.89	283.55	20936.73
304- 302.5	75.46	284.52	21469.87
302.5- 301	111.92	286.94	32114.88
299.5- 298	536.23	292.10	156212.78
298- 296.5	145.56	301.27	43849.95
296.5- 295	128.36	302.14	38787.82
295- 293.5	152.97	305.23	46591.79
293.5- 292	130.29	309.88	37275.46
292- 290.5	82.58	312.14	25776.52
290.5- 289	85.96	312.94	26930.32
289- 287.5	140.42	315.65	44123.57
287.5- 286	147.63	308.58	45555.66
Total	2853.64		817413.01

SECTION 9-9'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
286- 284.5	129.56	301.71	39094.08
284.5 - 283	165.02	295.06	48690.80
283 - 281.5	197.26	286.76	56467.64
281.5 - 280	100.64	278.60	28038.80
280 - 278.5	106.89	272.60	29138.21
278.5 - 277	131.64	266.46	35876.17

GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

277 - 275.5	177.13	256.87	45499.38
275.5 - 274	178.56	251.56	44918.55
274 - 272.5	179.23	254.75	45658.84
272.5 - 271	278.15	223.27	62102.55
271 - 269.5	80.43	218.35	17561.89
269.5 - 268	112.63	231.23	25904.69
268 - 266.5	45.06	240.33	10829.26
266.5 - 265	48.06	243.95	11724.23
265 - 263.5	35.68	248.08	8851.49
263.5 - 262	35.69	250.69	8947.12
262 - 260.5	36.15	251.65	9097.14
260.5 - 259	37.12	257.28	9550.23
259 - 257.5	37.48	264.58	9976.45
257.5 - 256	38.56	268.70	10361.07
256 - 254.5	38.94	272.34	10604.19
254.5 - 253	40.15	274.64	11025.79
Total	2232.43		579858.57
SECTION 10-10'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
253 - 251.5	289.77	277.30	80353.22
251.5 - 250	54.85	274.10	15034.65
250 - 248.5	68.57	252.23	17295.75
248.5 - 247	115.76	219.98	25464.88
247 - 245.5	118.56	228.32	27069.64
245.5 - 244	125.76	233.04	29358.63
244 - 242.5	127.36	241.23	30723.05
242.5 - 241	91.36	245.35	22415.17
Total	991.99		247914.99
SECTION 11-11'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
241 - 239.5	353.51	261.6	92478.21
239.5 - 238	323.52	241.27	78055.67
238 - 236.5	326.21	194.80	63575.06
236.5 - 235	341.45	192.82	65770.69
Total	1344.69		299879.03
SECTION 12-12'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
2335 - 233.5	82.22	214.44	17631.25
233.5 - 232	82.24	238.31	19598.61
232 - 230.5	232.89	227.39	52956.85
230.5 - 229	238.36	250.89	59635.28
Total	635.71		149821.99

TABLE NO-6.8

SECTION	Bench Area(m ²)	Volume (m ³)	Volume (Tonnes)
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GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwari Forest Division & East Garhi Forest Division

District- Nainital (Uttarakhand)

SECTION 1-1'	1356.34	315375.9	693826.98
SECTION 2-2'	1681.46	433986.36	954769.99
SECTION 3-3'	577.89	143312.53	315287.56
SECTION 4-4'	1359.72	335586.48	738290.25
SECTION 5-5'	2353.94	646960.37	1423312.81
SECTION 6-6'	2362.7	560933.65	1234054.02
SECTION 7-7'	3116.29	787139.15	1731766.13
SECTION 8-8'	2853.64	817413.01	1798308.62
SECTION 9-9'	2232.43	579858.57	1275688.84
SECTION 10-10'	991.99	247914.99	545412.97
SECTION 11-11'	1344.69	299879.03	659733.85
SECTION 12-12'	635.71	149821.99	329608.37
TOTAL	20866.8	53,18,182.03	1,17,00,000.00

6.6.2.2 THE SALEABLE PRODUCTION OF EACH ($\approx$) MINERAL CONSTITUENT WOULD BE AS UNDER:-

Table No. 6.9- Mineral Constituent Production in Second Year
Bench Level From 490.35 M to 224.23 M (Highest point to lowest point of working pit)

Sr. No.	MINERAL CONSTITUENTS	PRODUCTION ($\approx$) IN TONNES
1.	Sand ($\approx$ 75%)	87,75,000.00
2.	Bajri ($\approx$ 15%)	17,55,000.00
3.	Boulder ($\approx$ 10%)	11,70,000.00
	TOTAL	1,17,00,000.00 TONNES

6.6.3.1 DEVELOPMENT & PRODUCTION FOR THIRD YEAR- RBM mining is proposed within 74,85,000 sqm area. Mineral slice/bench along the section line (I-section), (assessment of minable quantity) evaluated & described as tabulated below:-

SECTION 1-1' Table No. - 6.4			
Bench Level	Bench Area(m ²)	Average Length(m)	Volume(m ³)
490 - 488.5	223.61	170.24	38063.26
488.5 - 487	183.19	201.91	37020.83
487 - 485.5	89.90	258.15	23240.84
485.5 - 484	49.56	214.56	10627.79
484 - 482.5	85.77	281.68	24153.68
482.5 - 481	135.86	280.43	38099.21
481 - 479.5	185.25	267.62	49580.31
479.5 - 478	120.89	247.40	29908.18
478 - 476.5	109.12	230.68	25171.80
476.5 - 475	107.72	214.44	23027.27

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (U.K.FDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

475 - 473.5	70.47	195.78	13796.61
Total	1356.34		315375.9

SECTION 2-2'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
473.5 - 472	46.88	184.59	8653.57
472 - 470.5	39.88	184.88	7373.01
470.5 - 469	225.76	185.54	41887.51
469 - 467.5	226.56	188.71	42754.13
467.5 - 466	43.25	192.57	92915.50
466 - 464.5	89.25	195.17	17418.92
464.5 - 463	85.39	198.17	16921.73
463 - 461.5	96.79	201.63	19414.95
461.5 - 460	89.51	207.54	18576.90
460 - 458.5	89.49	214.44	19190.23
458.5 - 457	95.83	220.32	21113.26
457 - 455.5	97.00	225.15	21839.55
455.5 - 454	73.50	228.56	16799.16
452.5 - 451	53.56	229.91	12313.97
451 - 449.5	45.89	237.21	10656.11
449.5 - 448	57.00	235.11	13401.27
448 - 446.5	105.84	236.89	25072.43
446.5 - 445	47.10	238.41	11229.11
445 - 443.5	68.48	240.29	16455.05
Total	1681.46		433986.36

SECTION 3-3'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
443.5 - 442	236.46	249.22	58940.56
442 - 440.5	239.25	251.59	60192.90
440.5 - 439	102.18	236.73	24189.67
Total	577.89		143312.53

SECTION 4-4'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
439 - 437.5	74.79	226.21	16920.48
437.5 - 436	134.79	233.49	31474.21
436 - 434.5	58.15	217.49	12641.22
434.5 - 433	66.69	217.49	14498.58
433 - 431.5	108.40	215.41	23350.44
431.5 - 430	139.55	226.72	31639.47
430 - 428.5	130.78	238.41	28793.05
428.5 - 427	89.79	247.48	22178.13
427 - 425.5	80.79	251.91	20891.17
425.5 - 424	90.06	262.56	23646.60
424 - 422.5	217.00	273.42	59766.14
422.5 - 421	178.93	289.35	51773.39
Total	1359.72		335586.48

GAULA RIVER RUBB MINE PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

SECTION 5-5'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
421 - 419.5	104.73	293.97	30787.47
419.5 - 418	98.65	292.12	28817.63
418 - 416.5	89.99	290.77	26130.84
416.5 - 415	106.65	289.07	30825.04
415 - 413.5	125.65	287.17	36076.62
413.5 - 412	89.56	283.98	25433.24
412 - 410.5	137.95	282.15	38922.59
410.5 - 409	125.43	281.09	35257.11
409 - 407.5	87.43	281.09	24576.13
407.5 - 406	156.65	279.32	43755.47
406 - 404.5	176.29	276.64	48768.86
404.5 - 403	118.56	276.62	32796.06
403 - 401.5	105.90	272.39	28952.00
401.5 - 400	36.85	271.81	10016.19
400 - 398.5	37.87	270.88	10176.96
398.5 - 397	38.59	269.11	10384.95
397 - 395.5	81.77	267.8	21898.00
395.5 - 394	124.53	266.36	33169.81
394 - 392.5	126.96	262.21	33290.18
392.5 - 391	129.99	256.51	33343.73
391 - 389.5	253.94	250.38	63581.49
Total	2353.94		646960.37

SECTION 6-6'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
389.5 - 388	58.15	246.87	14429.55
388 - 386.5	78.50	246.68	19364.38
386.5 - 385	84.42	245.78	20748.74
385 - 383.5	105.06	246.54	25901.49
383.5 - 382	126.28	246.28	31100.23
382 - 380.5	95.30	245.63	23408.53
380.5 - 379	103.67	243.82	25377.37
379 - 377.5	145.68	241.3	35119.69
377.5 - 376	256.56	239.23	61907.92
376 - 374.5	83.94	238.47	20081.80
374.5 - 373	96.89	237.48	22705.35
373 - 371.5	94.87	235.79	22529.72
371.5 - 370	165.69	232.68	39068.04
370 - 368.5	239.86	227.58*	55810.62
368.5 - 367	209.91	224.41	47771.31
367 - 365.5	98.78	226.34	22467.21
365.5 - 364	109.79	228.20	24849.86
364 - 362.5	96.53	228.97	22028.14
362.5 - 361	112.52		25763.70

District- Nainital (Uttarakhand)

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Farai Forest Division

District- Nainital (Uttarakhand)

304- 302.5	75.46	284.52	21469.87
302.5- 301	111.92	286.94	32114.88
299.5- 298	336.23	292.10	98212.78
298- 296.5	145.56	301.25	43849.95
296.5- 295	138.36	302.18	38787.82
295- 293.5	152.97	305.23	46691.79
293.5- 292	120.29	309.88	37275.46
292- 290.5	82.58	312.14	25776.52
290.5- 289	85.96	312.94	26900.32
289- 287.5	140.42	315.65	44323.57
287.5- 286	147.63	308.58	45555.66
Total	2853.64		817413.01

SECTION 9-9'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
286- 284.5	129.56	301.74	39094.08
284.5 - 283	165.02	295.06	48690.80
283 - 281.5	197.26	286.26	56467.64
281.5 - 280	100.64	278.60	28038.80
280 - 278.5	106.89	272.60	29138.21
278.5 - 277	134.64	266.46	35876.17
277 - 275.5	177.13	256.87	45499.38
275.5 - 274	178.56	251.56	44918.55
274 - 272.5	179.23	254.75	45658.84
272.5 - 271	278.15	223.27	62102.55
271 - 269.5	80.43	218.35	17561.89
269.5 - 268	112.03	231.21	25904.69
268 - 266.5	45.06	240.35	10829.26
266.5 - 265	48.06	242.63	11724.23
265 - 263.5	35.68	248.08	8851.49
263.5 - 262	35.69	248.69	8847.12
262 - 260.5	36.15	251.63	9097.11
260.5 - 259	37.12	257.28	9550.23
259- 257.5	37.48	264.58	9916.45
257.5 - 256	38.56	268.70	10361.07
256 - 254.5	38.94	272.34	10604.19
254.5 - 253	40.15	274.61	11025.79
Total	2232.43		579858.57

SECTION 10-10'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
253- 251.5	289.77	277.30	80333.22
251.5 - 250	54.85	274.19	15034.65
250 - 248.5	68.57	252.24	17295.75
248.5- 247	115.76	219.98	25464.88
247 - 245.5	118.56	228.32	27069.64
245.5 - 244	125.76	235.01	29558.63
244 - 242.5	127.36	241.23	30723.05

6.6.4.1 DEVELOPMENT & PRODUCTION FOR FOURTH YEAR- RBM mining is proposed within 74.85,000 sqm area. Mineral slice/bench along the section line (I-section), (assessment of minable quantity) evaluated & described as tabulated below-

SECTION 1-1* Table No. – 6.4			
Bench Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
490 – 488.5	223.61	170.24	38067.36
488.5 – 487	183.19	205.91	37720.65
488.5 – 485.5	89.90	358.55	23243.64
485.5 – 484	49.56	274.56	13607.19
484 – 482.5	85.77	281.61	24153.68
482.5 – 481	135.86	280.43	38099.21
481 – 479.5	185.25	267.62	49580.31
479.5 – 478	120.89	247.40	29908.18
478 – 476.5	109.12	230.68	25171.80
476.5 – 475	102.72	214.44	22027.27
475 – 473.5	70.47	195.78	13796.61
Total	1356.34		315375.9
SECTION 2-2'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
473.5 – 472	46.88	184.59	8653.57
472 – 470.5	39.88	184.88	7373.01
470.5 – 469	225.76	185.54	41887.51
469 – 467.5	276.56	188.71	52154.13
467.5 – 466	48.23	192.57	92915.50
466 – 464.5	89.25	195.17	17418.92
464.5 – 463	85.39	198.17	16921.73
463 – 461.5	96.29	201.63	19414.95
461.5 – 460	89.51	207.54	18576.90
460 – 458.5	89.49	211.32	19190.73
458.5 – 457	45.83	215.32	9863.26
457 – 455.5	97.00	225.15	21839.55
455.5 – 454	73.50	228.56	16799.16
452.5 – 451	53.56	229.91	12312.97
451 – 449.5	45.89	232.21	10676.11
449.5 – 448	57.00	235.11	13401.27
448 – 446.5	105.84	236.80	25072.43
446.5 – 445	47.10	238.47	11229.11
445 – 443.5	68.48	240.29	16455.05
Total	1681.46		433986.36
SECTION 3-3'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
443.5 – 442	236.46	249.22	58930.56

GAULIA RIVER RIVER MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Farai Forest Division

District- Nainital (Uttarakhand)

442 - 440.5	239.25	251.59	60192.50
440.5 - 439	102.18	236.73	24189.07
Total	577.89		143312.53

SECTION 4-4'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
439- 437.5	74.79	226.24	16930.18
437.5 - 436	134.79	223.49	30124.21
436 - 434.5	58.15	217.39	12641.32
434.5 - 433	66.69	212.3	14158.28
433 - 431.5	108.40	215.41	23350.44
431.5 - 430	139.55	226.72	31639.47
430 - 428.5	120.78	218.1	28793.95
428.5 - 427	89.79	247.48	22178.13
427 - 425.5	80.79	254.91	20594.17
425.5 - 424	90.06	262.56	23646.60
424 - 422.5	217.00	273.42	59766.14
422.5 - 421	178.91	289.35	51771.59
Total	1359.72		335586.48

SECTION 5-5'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
421 - 419.5	104.73	293.97	30787.17
419.5 - 418	98.65	292.12	28817.63
418 - 416.5	89.99	290.37	26130.84
416.5 - 415	106.65	289.03	30825.04
415 - 413.5	125.65	287.12	36076.62
413.5 - 412	89.56	283.98	25433.24
412 - 410.5	137.95	282.15	38922.59
410.5 - 409	125.43	281.09	35257.11
409 - 407.5	87.43	281.09	24576.13
407.5 - 406	156.65	279.32	43755.47
406 - 404.5	176.29	276.64	48768.86
404.5 - 403	178.56	272.39	48796.06
403 - 401.5	105.90	271.81	28952.00
401.5 - 400	36.85	270.98	10016.19
400 - 398.5	37.87	267.8	10176.96
398.5 - 397	38.59	266.36	10384.95
397 - 395.5	81.77	262.21	21898.00
395.5 - 394	124.53	256.57	3169.81
394 - 392.5	126.96		33290.18
392.5 - 391	129.99		33343.73
391 - 389.5	253.94	250.38	63581.49
Total	2353.94		646960.37

SECTION 6-6'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
389.5 - 388	58.15	246.87	14429.53
388 - 386.5	78.50	246.68	19364.38

GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

386.5 - 385	84.42	245.78	20748.74
385 - 383.5	105.06	246.54	25901.49
383.5 - 382	126.28	246.28	31100.23
382 - 380.5	95.30	245.63	23408.53
380.5 - 379	103.67	241.79	25377.37
379 - 377.5	145.68	243.82	35519.69
377.5 - 376	256.56	241.3	61907.92
376 - 374.5	83.94	239.74	20081.80
374.5 - 373	96.89	238.47	23105.35
373 - 371.5	94.87	237.48	22529.72
371.5 - 370	165.69	235.79	39068.04
370 - 368.5	239.86	232.68	55810.62
368.5 - 367	209.91	227.58	47771.51
367 - 365.5	98.78	224.41	22167.21
365.5 - 364	109.79	226.34	24849.86
364 - 362.5	96.53	228.20	22028.14
362.5 - 361	117.52	228.97	25763.70
Total	2362.7		560933.65

SECTION 7-7'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
361 - 359.5	93.42	231.19	21597.76
359.5 - 358	97.55	232.70	22699.88
358 - 356.5	146.63	284.59	41729.43
356.5 - 355	189.89	237.86	45167.23
355 - 353.5	178.63	239.75	42826.54
353.5 - 352	103.42	242.63	25092.79
352 - 350.5	105.00	242.64	25525.72
350.5 - 349	115.45	242.71	28020.86
349 - 347.5	108.56	243.79	26465.84
347.5 - 346	89.23	244.72	21836.36
346 - 344.5	59.74		14670.94
344.5 - 343	65.94	16.33	16257.50
343 - 341.5	125.20	218.99	31173.54
341.5 - 340	113.25	252.15	28588.87
340 - 338.5	122.65	255.35	31392.26
338.5 - 337	128.45	260.22	33425.25
337 - 335.5	235.95	226.34	53404.92
335.5 - 334	244.86	266.33	65218.46
334 - 332.5	137.22	270.75	37152.31
332.5 - 301	145.89	269.10	39258.99
301 - 329.5	95.56	268.58	25694.17
329.5 - 328	198.56	267.05	53025.44
328 - 326.5	85.56	265.89	22749.54
326.5 - 325	129.48	263.86	34164.59

GATTA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

Total	3116.29		787139.15
SECTION 8-8'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
325- 323.5	107.95	261.97	28273.18
323.5 - 322	89.07	261.19	23364.19
322 - 320.5	126.47	260.15	32901.17
320.5 - 319	28.56	261.36	7464.44
319 - 317.5	136.95	261.79	35852.14
317.5 - 316	48.92	262.40	12876.60
316 - 314.5	54.37	262.40	14266.68
314.5 - 313	98.14	265.75	26032.12
313 - 311.5	118.92	269.48	32046.56
311.5 - 310	113.89	272.38	31021.35
310 - 308.5	120.56	275.44	33367.04
308.5 - 307	122.94	278.5	34238.79
307 - 305.5	85.63	281.60	24113.40
305.5- 304	73.89	283.15	20936.73
304- 302.5	75.46	284.52	21469.87
302.5- 301	111.92	286.94	32114.88
299.5- 298	336.23	292.10	98212.78
298- 296.5	145.56	301.25	43849.95
296.5- 295	128.36	302.18	38787.87
295- 293.5	152.97	305.23	46691.79
293.5- 292	120.29	309.88	37275.46
292- 290.5	82.58	312.14	25776.52
290.5- 289	85.96	312.94	26990.37
289- 287.5	140.42	315.65	44323.57
287.5 - 286	147.63	308.58	45555.66
Total	2853.64		817413.01
SECTION 9-9'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
286- 284.5	129.56	301.74	39094.08
284.5 - 283	165.02	293.06	48690.80
283 - 281.5	197.26	286.26	56467.62
281.5 - 280	109.64	278.60	3038.80
280 - 278.5	106.89	272.69	29138.21
278.5 - 277	134.64	266.94	35876.17
277 - 275.5	177.13	256.87	45499.38
275.5 - 274	178.56	251.78	44918.55
274 - 272.5	179.23	254.75	45658.84
272.5 - 271	278.15	225.27	62102.55
271 - 269.5	80.43	218.35	17561.89
269.5 - 268	112.03	231.25	25901.69
268 - 266.5	45.06	240.33	10829.26
266.5 - 265	48.06	243.95	11724.23
265 - 263.5	35.68	248.08	8851.49

GAULA RIVER RBM MINING PLAN

Applicant/Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

263.5 - 262	35.69	250.69	8947.12
262 - 260.5	36.15	251.65	9097.14
260.5 - 259	37.12	257.28	9550.23
259- 257.5	37.48	264.58	9916.45
257.5 - 256	38.56	268.70	10361.07
256 - 254.5	38.94	272.34	10604.19
254.5 - 253	40.15	274.64	11025.79
Total	2232.43		579858.57
SECTION 10-10'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
253 - 251.5	289.77	277.30	80353.22
251.5 - 250	54.85	274.10	15034.65
250 - 248.5	68.57	252.73	17295.75
248.5- 247	115.76	219.98	25464.88
247 - 245.5	118.56	228.32	27069.64
245.5 - 244	123.76	235.04	29558.63
244 - 242.5	127.36	241.23	30723.05
242.5 - 241	91.36	245.35	22415.17
Total	991.99		247914.99
SECTION 11-11'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
241 - 239.5	353.51	261.6	92478.21
239.5 - 238	323.52	241.27	78055.67
238 - 236.5	326.21	194.89	63573.06
236.5 - 235	341.45	192.62	65770.09
Total	1344.69		299879.03
SECTION 12-12'			
Bed Level	Bench Area(m²)	Average Length(m)	Volume (m³)
2335 - 233.5	82.22	214.44	17631.25
233.5 - 232	82.24	238.31	19598.61
232 - 230.5	232.89	227.39	52956.85
230.5 - 229	238.36	250.19	59635.28
Total	635.71		149821.99

TABLE NO-6.14

SECTION	Bench Area(m ²)	Volume (m ³)	Volume (Tonnes)
SECTION 1-1'	1356.34	315375.0	693826.98
SECTION 2-2'	1681.46	233986.3	954769.99
SECTION 3-3'	577.89	143312.53	315287.56
SECTION 4-4'	1359.72	33536.48	738290.25
SECTION 5-5'	2353.94	46962.37	1423312.81
SECTION 6-6'	2362.7	568923.62	1234054.02
SECTION 7-7'	3716.29	778779.15	1731706.13
SECTION 8-8'	2853.64	817413.01	1798308.62
SECTION 9-9'	2232.43	579858.57	1275688.84

GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKEFC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

SECTION 10-10'	991.99	247914.99	545412.97
SECTION 11-11'	1344.69	299879.03	659733.85
SECTION 12-12'	635.71	149821.99	329608.37
TOTAL	20866.8	53,18,182.03	1,17,00,000.00

6.6.4.2 THE SALEABLE PRODUCTION OF EACH (≈) MINERAL CONSTITUENT WOULD BE AS UNDER:-

Table No. 6.15- Mineral Constituent Production in Fourth Year
Bench Level From 490.35 M to 224.23 M (Highest point to lowest point of working pit)

SR. NO.	MINERAL CONSTITUENTS	PRODUCTION (≈) IN TONNES
1.	Sand (≈±75%)	87,75,000.00
2.	Bajri (≈±15%)	17,55,000.00
3.	Boulder (≈±10%)	11,70,000.00
	TOTAL	1,17,00,000.00 TONNES

6.6.5.1 DEVELOPMENT & PRODUCTION FOR FIFTH YEAR- RBM mining is proposed within 74,85,000 sqm area. Mineral slice/bench along the section line (L-section), (assessment of minable quantity) evaluated & described as tabulated below:-

SECTION 1-1' Table No. - 6.4			
Bench Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
490 - 488.5	223.61	170.24	38067.36
488.5 - 487	183.19	205.91	37720.65
488.5 - 485.5	89.90	258.55	23213.64
485.5 - 484	49.56		13607.19
484 - 482.5	85.77	161.61	138153.68
482.5 - 481	135.86	280.43	38099.21
481 - 479.5	185.25	267.62	49580.31
479.5 - 478	120.89	247.40	29908.18
478 - 476.5	109.12	230.68	25171.80
476.5 - 475	102.72	214.44	22027.27
475 - 473.5	70.47	195.48	13796.61
Total	1356.34		315375.9
SECTION 2-2'			
Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
473.5 - 472	46.88	184.59	8653.57
472 - 470.5	39.88	184.88	7373.01
470.5 - 469	225.76	185.54	41887.51
469 - 467.5	226.56	188.71	42754.23
467.5 - 466	48.25	192.57	92915.50
466 - 464.5	89.25	195.17	17418.92
464.5 - 463	85.39	198.17	16921.73

GAULA RIVER RHM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

463 - 461.5	96.29	201.63	19411.95
461.5 - 460	89.51	207.54	18576.90
460 - 458.5	89.49	214.44	19190.23
458.5 - 457	95.83	220.32	21113.26
457 - 455.5	97.00	225.15	21839.55
455.5 - 454	73.50	228.56	16799.16
452.5 - 451	53.56	229.91	12313.97
451 - 449.5	45.89	232.21	10656.11
449.5 - 448	57.00	235.11	13401.27
448 - 446.5	105.84	236.89	25072.43
446.5 - 445	47.10	238.41	11229.11
445 - 443.5	68.48	240.29	16455.05
Total	1681.46		433986.36

SECTION 3-3'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
443.5 - 442	236.46	249.27	58930.56
442 - 440.5	239.25	251.59	60192.90
440.5 - 439	102.18	236.73	24189.07
Total	577.89		143312.53

SECTION 4-4'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
439 - 437.5	74.79	226.74	16920.48
437.5 - 436	134.79	223.49	30124.21
436 - 434.5	58.15	217.59	12641.22
434.5 - 433	66.69	212.33	14158.28
433 - 431.5	108.40	215.41	23350.44
431.5 - 430	139.55	226.72	31639.47
430 - 428.5	170.78	238.4	40791.95
428.5 - 427	89.79	247.48	22178.13
427 - 425.5	80.79	254.91	20594.17
425.5 - 424	90.06	262.56	23646.60
424 - 422.5	217.00	275.42	59766.14
422.5 - 421	178.93	289.55	51773.59
Total	1359.72		335586.48

SECTION 5-5'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
421 - 419.5	104.73	293.97	30787.47
419.5 - 418	98.65	292.12	28817.63
418 - 416.5	89.99	290.37	26130.84
416.5 - 415	106.65	289.03	30825.04
415 - 413.5	125.65	287.12	36076.62
413.5 - 412	89.56	283.98	25433.24
412 - 410.5	137.95	282.15	38922.59
410.5 - 409	125.43	281.09	35257.11
409 - 407.5	87.43	281.09	24576.13
407.5 - 406	156.65	279.32	43755.47

GATLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District: Nainital (Uttarakhand)

406 - 404.5	176.29	276.64	48768.86
404.5 - 403	118.56	276.62	32796.06
403 - 401.5	105.90	272.39	28952.00
401.5 - 400	36.85	271.81	10016.19
400 - 398.5	37.87	270.88	10176.96
398.5 - 397	38.59	269.11	10384.95
397 - 395.5	81.77	267.8	21898.00
395.5 - 394	124.53	266.36	33169.81
394 - 392.5	126.96	262.71	33290.18
392.5 - 391	129.99	256.51	33343.73
391 - 389.5	253.94	250.38	63581.49
Total	2353.94		646960.37

SECTION 6-6'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
389.5 - 388	58.45	246.87	14429.55
388 - 386.5	78.50	246.68	19364.38
386.5 - 385	84.42	245.78	20748.74
385 - 383.5	105.06	246.54	25901.49
383.5 - 382	176.28	246.28	31100.23
382 - 380.5	95.30	245.63	23408.33
380.5 - 379	103.67	244.79	25377.37
379 - 377.5	145.68	243.82	35519.69
377.5 - 376	256.56	241.3	61907.92
376 - 374.5	83.94	239.24	20081.80
374.5 - 373	96.89	238.47	23105.35
373 - 371.5	94.87	237.18	22529.72
371.5 - 370	165.69	235.79	39068.04
370 - 368.5	239.86	235.68	55810.62
368.5 - 367	209.91	227.58	47771.31
367 - 365.5	98.78	224.41	22167.21
365.5 - 364	109.79	226.34	24849.86
364 - 362.5	96.53	228.20	22028.14
362.5 - 361	112.52	228.97	25763.70
Total	2362.7		560933.65

SECTION 7-7'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
361 - 359.5	93.42	237.19	21977.76
359.5 - 358	97.53	232.70	22699.88
358 - 356.5	146.63	284.59	41729.45
356.5 - 355	189.89	237.86	45167.23
355 - 353.5	178.63	239.75	42826.54
353.5 - 352	103.42	242.63	25092.79
352 - 350.5	105.20	242.64	25525.72
350.5 - 349	115.45	242.71	28020.86
349 - 347.5	108.56	243.79	26465.81

GAULA RIVER RRM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

347.5 - 346	89.23	244.72	21876.36
346 - 344.5	59.71	245.58	14670.94
344.5 - 343	65.94	246.55	16257.50
343- 341.5	125.29	248.99	31173.54
341.5- 340	113.25	252.44	28588.83
340- 338.5	122.65	255.95	31392.26
338.5- 337	128.75	260.22	33425.25
337- 335.5	235.95	226.34	53404.92
335.5- 334	244.86	266.35	65218.46
334- 332.5	137.22	270.75	37152.31
332.5- 301	145.89	269.10	39258.99
301- 329.5	95.56	268.88	25694.17
329.5- 328	198.56	267.05	53025.44
328- 326.5	85.56	265.89	22749.54
326.5- 325	129.48	265.86	34164.59
Total	3116.29		787139.15

SECTION 8-8'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
325- 323.5	107.95	261.91	28273.18
323.5 - 322	89.07	261.19	23264.19
322 - 320.5	126.47	260.15	32901.17
320.5 - 319	28.56	261.56	7464.44
319 - 317.5	136.95	261.79	35852.14
317.5 - 316	48.92	262.40	12836.60
316 - 314.5	54.37	262.40	14266.68
314.5 - 313	98.14	265.25	26032.12
313 - 311.5	118.92	269.48	32046.56
311.5 - 310	113.89	272.38	31021.35
310 - 308.5	120.56		33207.04
308.5 - 307	122.94	278.5	34238.79
307 - 305.5	85.63	281.60	24113.40
305.5 - 304	73.89	281.55	20936.77
304- 302.5	75.46	284.55	21469.87
302.5- 301	111.92	286.94	32114.88
299.5- 298	336.23	289.10	98212.78
298- 296.5	145.56	301.25	43849.95
296.5- 295	128.36	302.18	38787.82
295- 293.5	152.97	305.23	46691.79
293.5- 292	120.29	309.88	37275.46
292- 290.5	82.58	312.24	25776.52
290.5- 289	85.96	312.94	26900.32
289- 287.5	140.42	315.65	44321.57
287.5- 286	147.63	308.58	45555.66
Total	2853.64		817413.01



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

SECTION 9-9'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
286- 284.5	129.56	301.74	39094.08
284.5 - 283	165.02	295.06	48640.80
283 - 281.5	197.26	286.26	56467.64
281.5 - 280	100.64	278.60	28038.80
280 - 278.5	106.89	272.60	29138.21
278.5 - 277	134.64	266.46	35876.17
277 - 275.5	177.13	256.87	45499.38
275.5 - 274	178.56	251.56	44918.55
274 - 272.5	179.23	254.75	45658.84
272.5 - 271	278.15	223.27	62102.55
271 - 269.5	80.43	218.35	17561.89
269.5 - 268	112.03	231.23	25904.69
268 - 266.5	45.06	240.33	10829.26
266.5 - 265	48.06	243.95	11724.23
265 - 263.5	35.68	248.08	8851.49
263.5 - 262	35.69	250.69	8947.12
262 - 260.5	36.15	251.65	9097.14
260.5 - 259	37.12	257.38	9550.23
259-257.5	37.48	264.58	9916.45
257.5 - 256	38.56	268.70	10361.07
256 - 254.5	38.94	272.34	10604.19
254.5 - 253	40.15	274.64	11025.79
Total	2232.43		579858.57

SECTION 10-10'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
253- 251.5	289.77		80353.22
251.5 - 250	54.85	24.10	15034.65
250 - 248.5	68.57	252.23	17295.75
248.5- 247	115.76	219.84	25464.88
247 - 245.5	118.56	224.43	267069.64
245.5 - 244	125.76	235.04	29558.63
244 - 242.5	127.36	241.88	30723.05
242.5 - 241	91.36	245.35	22415.17
Total	991.99		247914.99

SECTION 11-11'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
241 - 239.5	353.51	261.6	92478.21
239.5 - 238	323.52	241.27	78055.67
238 - 236.5	326.21	194.89	63575.06
236.5 - 235	341.45	192.62	65770.09
Total	1344.69		299879.03

SECTION 12-12'

Bed Level	Bench Area(m ²)	Average Length(m)	Volume (m ³)
2335 - 233.5	82.22	214.44	17631.25

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

233.5 - 232	82.24	238.31	19598.61
232 - 230.5	232.89	227.39	52956.85
230.5 - 229	238.36	250.19	59635.28
Total	635.71		149821.99

TABLE NO-6.17

SECTION	Bench Area(m ²)	Volume (m ³)	Volume (Tonnes)
SECTION 1-1'	1356.34	315375.9	693826.98
SECTION 2-2'	1681.46	433986.36	954769.99
SECTION 3-3'	577.89	143312.53	315287.56
SECTION 4-4'	1359.72	335586.48	738290.25
SECTION 5-5'	2353.94	646960.37	1423312.81
SECTION 6-6'	2362.7	560933.65	1234054.02
SECTION 7-7'	3116.29	787139.15	1731706.13
SECTION 8-8'	2853.64	817413.01	1798308.62
SECTION 9-9'	2232.43	579858.57	1275688.84
SECTION 10-10'	991.99	247914.99	545412.97
SECTION 11-11'	1344.69	299879.03	659733.85
SECTION 12-12'	635.71	149821.99	329608.37
TOTAL	20866.8	53,18,182.03	1,17,00,000.00

6.6.5.2 THE SALEABLE PRODUCTION OF EACH ($\approx$) MINERAL CONSTITUENT WOULD BE AS UNDER:-

Table No. 6.18- Mineral Constituent Production in Fifth Year
Bench Level From 490.35 M to 224.23 M (Highest point to lowest point of working pit)

SR. NO.	MINERAL CONSTITUENTS	PRODUCTION ($\approx$) IN TONNES
1.	Sand ($\approx$ 75%)	87,75,000.00
2.	Bajri ($\approx$ 15%)	17,55,000.00
3.	Boulder ($\approx$ 10%)	11,70,000.00
	TOTAL	1,17,00,000.00 TONNES

6.10 MINERAL PRODUCTION- The riverbed mining will consist of sand and their production may vary to a great extent depending upon availability. Therefore quantity of sand cannot be estimated on logical parameters, the figures given here above only tentative. The production target is as above

6.11 OTHER DEVELOPMENT PROGRAMME FOR FIVE YEARS

Prior to start production from the area, some development work has to be completed as under Plate No.5-9.

- Haul road preparation/maintenance
- Erection of a temporary site office and rest shelters.
- Barbed wire fencing all around the mining/working area shall be provided to avoid accident and inadvertent entry.
- Retaining wall will be raised towards the valley side (river bank) to abstain from toe erosion.

CHAPTER-7 **DRILLING & BLASTING**

No drilling and blasting is required to undertake mining of riverbed minerals.

CHAPTER-8 **WATER AND DRAINAGE SYSTEM-**

(a) Likely depth of water table based on observations from nearby wells and water bodies:

There are many Hand pumps are situated about 500m serial distances. Ground water zone/unsaturated ground water zone assessed/reported after 10.0m bgl. Mining/RBM extraction is proposed maximum up to 1.5m depth so it seems that no such negative/contamination effects on Ground Water regime would be possible.

(b) Working expected to be 1.5m above the water table during lease period:

During Plan Period i.e. next five years, the mine working shall be confined to maximum 1.5m depth. Mine working is proposed in 1.5m maximum slice along the river stretch. Ground water zone/unsaturated ground water zone assessed/reported after 10.0m bgl. Water table will not be intersected by mining operations.

(c) Quantity and quality of water likely to be encountered, the pumping arrangement and places where the mine water if finally proposed to be discharged:

As per the proposed mining the working shall be confined upto 1.5m bgl (maximum) or above the ground water table, whichever is less. Ground water zone/unsaturated ground water zone assessed/reported after 5.0m bgl. Hence no water clogging is likely to be encountered. Therefore, there is no need of any such arrangements.



CHAPTER-9

STACKING OF MINERAL REJECT & DISPOSAL OF WASTE MATERIAL.

A) Indicate briefly the nature and quantity of top soil, overburden/waste and mineral reject likely to be generated during the plan period;

No soil will be generated during plan Period therefore no proposal has been envisaged for separate stacking.

B) Land chosen for disposal of waste with proposed justification;

No top soil shall be generated during mining activities; therefore no proposal has been envisaged for its separate stacking.

C) Attach a note indicating the manner of disposal, and configuration, sequence of built of dumps along with the proposals for the stacking of sub-grade ore, to be indicated wise;

As stated earlier no waste shall be generated during plan period, therefore no proposal has given for disposal of waste & its configuration along with its protective measures.

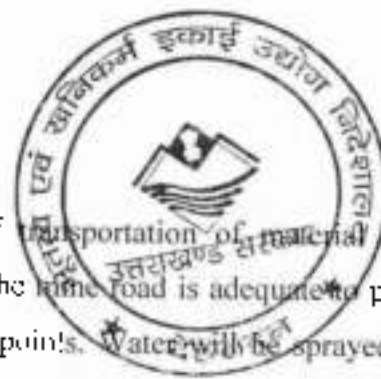
CHAPTER-10

USE OF MINERALS:

Sand, bajri and boulders are used in construction activities like building, roads, bridges etc. The requirement for the mineral is always high in the nearby cities and towns.

CHAPTER-11

OTHERS



11.1 HAULAGE AND SURFACE TRANSPORT- Mode of transportation of material is by trucks/tractors, of size of 10 tonnes capacity have been planned. The mine road is adequate to permit easy maneuverability of trucks allowing cross over and charging points. Water will be sprayed two times a day by tractor mounted sprinklers until dust remains airborne.

11.2 MINE MACHINERY

Mining will be done by manually open cast method using hand tools like shovel, spades, and pick-axes. Other machineries on the mining site will be water sprinkler.

11.3 SITE SERVICES: Following services shall be provided/arrange during operational phase of the project:-

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lense Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

1-Site Office: shall be maintained during operational phase of the project**2-Temporary Rest Shelter with drinking water Facility:** A temporary rest shelter shall be provided for the workers near the site for rest -12 No.**3-First aid Centre:** First aid box along with anti-venoms to counteract poison by certain species of small insects, if any-12Nos.**4-Sanitation facility:** Portable Mobile Toilets shall be provided for workers- 44Nos.**11.4 WATER REQUIREMENT:** Total water requirement for the project is : 72 KLD, it breaks up as under:-**TABLE NO. 11.1- WATER REQUIREMENT**

S. NO.	PURPOSE	WATER REQUIREMENT (KLD)
1.	Dust Suppression	30.0
2.	Drinking	22.0
3.	Miscellaneous (Plantation etc)	20.0
Total		72.0 KLD

11.5 EMPLOYMENT

The manpower requirement for the proposed project is given below .

Table No. 11.2- Employment Break-up

S.NO.	CATEGORY	NUMBERS
1.	MINING HEAD ADMINISTRATIVE/DLM	1
2.	MINING COMPETENT PERSON/SECTION OFFICER	11
3.	SUPERVISOR/SCALAR	22
4.	GATE INCHARGE	11
5.	GATE PFON	22
6.	UNSKILLED	30,000
	TOTAL	30,089

The part time services of following experts/ expert agencies optional for proposed project for environment friendly sustainable sand mining, as and when required-

- Geologist
- Mining expert
- Environmental consultancy agency/NABL Accredited Laboratory
- Surveyor



- Horticulturist/Plant Expert etc

11.6 SAFETY PROVISION- All provision in safety rules & regulation will be maintained by providing required materials to the employees. The lessee will provide safety shoes, safety helmets to all the employees. There shall be no violation of safety provision.

CHAPTER-12

MINERAL PROCESSING:

- A) If processing/ beneficiation of the ore or minerals mined in planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing/ beneficiation. This should indicate size and grade of feed material and concentrate:**

The entire lease area consists of RBM & it is ready market product therefore, no beneficiation of mineral processing will be required.

- B) Explain the disposal method for tailing or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and capacity of tailing pond, toxic effect of such tailing, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam):**

As stated above that no beneficiation is required therefore no tailing or waste disposal from processing plant will be undertaken.

- C) A flow sheet or schematic diagram of the processing procedure should be attached.**

No beneficiation studies will be carried out therefore no flow sheet of processing process is attached.

- D) Specify quantity and type of chemicals to be used in the processing plant.**

No chemicals shall be required.

- E) Specify quantity and type of chemicals to be stored on site/plant.**

No chemicals shall be stored on the site/plant.

- F) Indicate quantity (cum. per day) of water required for mining and processing and sources of supply of water. Disposal of water and extent of recycling.**

No water is required for mining and processing hence no disposal of water and extent for recycling is required.



CHAPTER-13

ENVIRONMENT MANAGEMENT PLAN (EMP)

13.1 INTRODUCTION- EMP identifies the extent of the environmental, social and economic impacts of a project prior to mining of mineral and systematically examines both beneficial and adverse impacts of the proposed project over and above the prevailing conditions of environmental parameters and ensure that these impacts are taken into account during the project designing stage itself and the values of the combined impacts are never allowed to exceed and remain within the statutory norms.

13.3 BASELINE INFORMATION:

13.3.1 Land Use Pattern- Entire lease area is forest river bed area. There is no agricultural land. There is no existing infrastructure within the proposed lease area, however during mining temporary rest shelters for workers shall be provided. The existing landuse is given in tabular form: Table No- 13.1

Sr. No.	Land Use (Ha.)	Agriculture Land (Ha.)	Forest Land (Ha.)	Waste Land (Ha.)	Grazing Land (Ha.)
1	Mining pits quarry	-	-	-	-
2	Approach Road	-	-	-	-
3	Dumps	-	-	-	-
4	Office, rest shelter etc	-	-	-	-
5	Balance undistributed land	-	748.5	-	-
6	Safety zone	-	748.5	-	-
	Total	-	1497	-	-

Buffer Map of the proposed lease area is attached as Plate-2

13.3.2 Water regime: Mining proposed over Reserve Forest- River Bed Land, i.e. Gaula River Bed. Total Area- 1497.00Hectare. Mining Proposed over first half of the river width i.e. central part of the river bed, after leaving 25% safety zone on each bank, so actual mineable area is 485.6Hectare. Gaula River Mining lot area is a part of Gaula river bed, it exists in foothill zone of Kumaun Himalaya under Haldwani Forest Division & East Tarai Forest Division, during mostly Monsoon period, this river carries huge amount of debris/material from upper reaches. It is generally seen, if river is not been channelize timely this river frequently change its course towards forest and other regions, it may create severe flooding situation, so it is essential to yearly channelize the river course. RBM mining up to limited depth through manual method will minimize the flooding hazard & there would be less

negative effect on water regime of the lot area.

13.3.3 Flora & Fauna- The District of Nainital is blessed with all types of zones responsible for the growth of diverse flora and fauna in the area. The area has different varieties of soil for different plantations. The deep valleys of Nainital having an elevation up to 1000 meters providing an ideal climate for growing plants of both hilly areas and the plains. The dense forests is a habitat for a large number of animals like the Himalayan langur, Indian porcupine, wild pig, monkey, barking deer, black capped marten, goral, and brown flying squirrel. One can also hear the humming of a large number of birds in these forests. Some of them are jungle crow, streaked laughing thrush, grey winged black bird, house sparrow, the Himalayan tree creeper, house crow, green backed tit. Nainital lakes are inhabited with a variety of fishes commonly known as carps. There are both major and minor carps. The major ones have three classes, mahaseer, hill trout (commonly known as asela or rasela), and mirror carp. The carps are bred on a large scale in Nainital. The place also has grooves of Kaphal, Sal, Oak, Pine, and Buruns trees that are as tall as 6000 ft. At much higher altitudes, Deodar and Surai trees are a common sight. For flora lovers, some of the important trees and bushes growing in the woods are Panger, Akhrot, Hill Pipal, Chinari, Angu, Kilmora, Kunj, Hisalu, Weeping Willow, and Pine. Especially in the Bhabhar region, one can see Babul and Kikar trees in abundance apart from Sal, Shisham, and Khair. Nainital takes horticulture on a big way. It is one of the major fruit growing districts of the country. A large portion of the land is converted into orchards for growing peaches, pears, apricots, kafals, strawberries, etc. Apple orchards, a prime attraction, are found along the Ramgarh and Mukteshwar belt. Lichis that grow in the Ramnagar area are quite famous. Floriculture is also coming up in on a large scale due to the favourable climate for growing flowers. Besides, tea plantations are also growing in number on the slopes of Ghilari & Ghora Ghilari. In the Tarai and Bhabhar belt, a number of plants having medicinal value grow. For example, herbs like Ashok, Bhringraj, Bhitwa, Varun, and Gambhari. Under-the-water life of the district is equally enchanting. Some of the aquatic species living in these waters are potomogoton perobatus, potomogoton crispus, polygonum giabrum, holygonum amphibium, and hydrilla verticellata. (Reference: <https://www.nainital.org/flora-and-fauna-of-nainital.html>)

13.3.4 Climatic Condition- The district enjoys sub-tropical to sub-humid climate. The maximum temperature in the plain areas ranges from 42°C to 46°C and the minimum between 1°C and 9°C. In the hilly areas the minimum temperature falls below freezing point up to 0.9°C during winter. The annual normal rainfall in the district varies from 1200 mm to 2647 mm. The average annual rainfall is 1246 mm. The intensity of rainfall generally increases from north to South. (Reference: CGWB report)

13.3.5 Quality of ambient air noise level and water: the proposed site is river bed area having clean atmosphere. SPM, SO₂, NO_x will be either below the permissible limits or close to threshold limits. Similarly the ambient noise level is as low as of any slandered. Water quality will not be affected as mining is restricted to above the groundwater level. Drinking water shall be taken from hand pumps. Number of hand pumps are established near the vicinity of the lease area.

13.3.6 Public Building, Places of worship and monuments: None of the above important features are within the proposed lease or in close proximity of the lease hold.

13.3.7 Does area (partly or fully) falls under notified area under water (Prevention & control of Pollution) Act 1974:

The lease hold/proposed lease has not been notified under water (Prevention & control of Pollution) Act 1974.

13.4 ATTACH AN ENVIRONMENTAL IMPACT ASSESSMENT STATEMENT DESCRIBING THE IMPACT OF MINING AND BENEFICIATION ON THE FOLLOWING OVER THE NEXT ONE YEAR

i) **Land use:** (The area likely to be degraded due to quarrying, pitting & roads): The impact on the land form or Physiography will be limited to the modification of the slope. The modifications due to mining & allied activities during next five year are given below: **Table No-13.2**

S.N.	Activity	Area occupied (Hectare) During Plan Period	At the end of the conceptual period (Hectare)
1	Mining & Existing Pits	748.5	Nil
2	Waste Dumps	0	Nil
3	Road	0	Nil
4	Area Replenished	748.5	Nil
5	Afferestation	-	-

ii) **Air Quality:** It has already been explained that mining will be without of adopting of drilling and blasting. One of the most crucial elements for air pollution is vehicle transport. Water sprinkling on dry months may be undertaken on the haul road where the maximum traffic will be observed. Effective safe guard measures, such as regular water sprinkling shall be carried out in critical areas prove to pollution and having high level particular matter such as loading & unloading points and all transfer points. It should be ensure that the ambient air quality parameters conform to the norms of prescribed by the central pollution control board in this regard.

- iii) **Water Quality** The ground water table in this region found 10 to 50m below variation. The working during next five year will be confined to maximum 1.5m below the surface level therefore no impact on water quality shall be observed.
- iv) **Noise Level:** It has been explained earlier that proposed mining is of open cast manually without drilling & blasting exploitation of RBM shall be carried out manually with conventional hand tools. Therefore noise level too will not show any significant increase.
- v) **Vibration Level:** It is already discussed that Mining shall be carried out without adoption of drilling & blasting therefore no impact on vibration level shall be envisaged.
- vi) **Water Regime:** The Collection of RBM during working season shall start from center of river/ mining site width & shall gradually extent to the boundary of the permissible area so as to ensure maintenance of river geometry. The lessee shall undertake adequate safe guard measures during extraction of riverbed material & ensure that due to this activity the hydro geological regime of the surrounding area are not affected. Therefore no significant impact on surface water will be made. However due to excavation some changes in base flow may occur but then it has been proposed that mining will be carried out in shallow depth so that it will not touch the water regime.
- vii) **Socio-Economic:** It has been observed that there is a serious problem of migration in this region for the need of livelihood, any attempt of generating employment will be important contribution to this area and should be welcomed. The activity will also provide indirect employment by way of shopkeepers, dhabas and truck drivers etc.
- viii) **Historical Monuments etc:** No Historical Monuments exist surrounding the lease area.

13.5 ATTACH AN ENVIRONMENT MANAGEMENT PLAN (EMP) SUPPORTED BY APPROPRIATE PLANS AND SECTION DEALING THE TIME BOUND ACTION PROPOSED TO BE TAKEN WITH SEQUENCE AND TIMING IN THE FOLLOWING AREAS (OR DIAGRAM SHOULD BE ADDED):

- i) **Temporary storage and utilization of top soil:** The area is devoid of soil cover therefore generation of top soil shall be nil & no proposal has been given for it's temporarily storage & utilization.
- ii) **Year wise proposal for reclamation of land affected by abandoned quarries and allied mining activities during next five year period:** Mining shall be suspended during monsoon period & all mined out pits shall be replenished with flood water & area will restore its original topography.
- iii) **Programme of afforestation year wise for five years indicating number of plants with name of species, afforested under different areas in Ha.**

GAULA RIVER BED MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

Programme of Afforestation:

Other Area: The tree species recommended are *Ficus religiosa* (pipal), *Boswellia serrata* (Salai), *Shorea robusta* (sal) and *Tectona grandis* (teak) may also be recommended. *Mangifera indica* (Aam), *Emblica officinalis* (Amla), *Acacia catechu* (Behl).

Planting should be four in large sized 90 cm x 90 cm. The plantation raised earlier should be carefully maintained. Mortalities should be replaced by fresh planting. Plantation in the mining lease area is not possible. Instead, Plantation will be raised along both sides of the roads and civic amenities in consultation with the local authorities.

Year wise no of saplings to be planted is as below: **Table No-13.3**

YEAR	AREA (HA.)	NO. OF SAPLINGS
FIRST YEAR	35	35,000
SECOND YEAR	35	35,000
THIRD YEAR	35	35,000
FOURTH YEAR	35	35,000
FIFTH YEAR	35	35,000
TOTAL	175	1,75,000

Post Plantation Care:

Following precaution to be undertaken for survival of plants:

- 1-The samplings will be undertaken for survival of plants.
- 2-Plants will be taken care by applying fertilizers and proper weeding.
- 3-Healthy tree species will be recommends for plantation.
- 4-Fatal saplings will be replaced with new healthy saplings.
- 5-Every sapling will be covered by tree guard to avoid damage through cattle grazing.
- 6-A Gardener or mazdoor should be employed for care.
- 7-Necessary arrangement will be provided for watering tree species planted at different parts.

**iv) Stabilization and vegetation of dumps along with interburden dumps management year wise:**

The area is devoid of soil cover therefore generation of top soil shall be nil & no proposal has been given for it's temporarily storage & its utilization.

v) Measures to Control erosion/sedimentation of water courses: No drainage or water course will be disturbed due to mining. The area consists of waste land & during monsoon period the mining operation shall be suspended. Therefore no question arises to control erosion/sedimentation of water-

courses.

vi) **Treatment and disposal of water from mine:** Mining shall be carried out up to depth of 1.5m from surface & mined out pit shall be submerged by flood water during monsoon period. No mining activities shall be carried out during monsoon period. Therefore no question arises to disposal of water from mine.

vii) **Measures for minimizing adverse effects on water regime:** It has already been stated that mining will not go beyond 1.5m depth & no water regime will be disturbed during plan period. However mining operation will be suspended during monsoon period.

viii) **Protective measures for ground vibration/air blast caused by blasting:** As the proposed method of mining is manual opencast & no drilling & blasting shall be required. The impact on this aspect is negligible.

ix) **Measure for protecting historical Monuments and for rehabilitation of human settlement likely to be disturbed due to mining activity:** No such feature exists within the lease area.

x) **Socioeconomic beneficeate out of mining:** The scale of operation is limited with 90% local employment. Hence some benefit to the local community will occur on this aspect. Besides the direct employment, indirect employment will include tractor owners, shop keepers dhaba walas etc.

xi) **Sewerage system:** There will no waste water generation from mining activity. However if there is any generation it shall be disposed through eco-friendly Mobile Toilets.

13.6 MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS:-

TABLE NO-13.4

PARTICULARS	MONITORING FREQUENCIES	IMP. MONITOR PARAMETERS
Ground Water	Twice in a year	pH, SS, TDS, Iron, Cl, Hardness, Alkalinity, NO ₃ , PO ₄
Surface Water	Twice in a year	pH, SS, TDS, Iron, Cl, Hardness, Alkalinity, NO ₃ , PO ₄
Ambient Air Quality	Twice in a year	SPM, SO ₂ & NO _x
Soil Analysis	Twice in a year	pH, Conductivity, SO ₄ , NO ₃ , PO ₄ , Texture, Alkalinity
Noise	Twice in a year	Noise level in dBA



CHAPTER-14

PROGRESSIVE MINE CLOSURE PLAN

14.1 INTRODUCTORY NOTE- State Government Order (GO) was released vide Letter No. 1057/VII-A-1/2022-11(KHA)/2010, Dated 29 September 2022 (Annexure-1), for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River Bed (Gaula River RBM mining I-0), Haldwani Forest Division & East Tarai Forest Division, District- Nainital (Uttarakhand) Total area- 1497.0 Hectare, Movable area-748.5, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Uttarakhand Minor Minerals (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1). RBM/SAND, BAJRI AND BOULDERS MINE, a part of Gaula river bed area, Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand, Applicant/Lessee-M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), is a 'A' category mine as per explanation furnished in MCDR & EIA Notification 2006 i.e. proposed as manual opencast mine without using explosives.

GENERAL TABLE NO-14.1

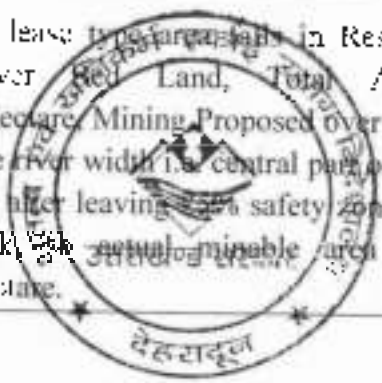
1.1	Name of the applicant	MD. Uttarakhand Forest Development Corporation (UKFDC), (Govt. of Uttarakhand Corporation)
	Address	73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001
	District	Dehradun
	State	Uttarakhand
	Pin Code	248001
	Phone	Ph : 91-135-2713815, 7055072200 E-Mail : vanvikas12@gmail.com
1.2	Status of the applicant	Govt. of Uttarakhand Corporation
1.3	Mineral(s) which the applicant intends to mine	(RBM) Sand, Bajri and Boulder etc. The mineral collected/extracted from the

GALLA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwari Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

		proposed lease area shall be sold in the open market as per the demand.
1.4	Period for which the mining lease is required or granted / renewed	State Government Order (GO) was released vide <i>Letter No. 105/VII-A-1/2022-11(KHA)/2010, Dated 29 September 2022</i> (Annexure-1), for extraction of Sand Bajri and Boulders (RBM) from a part of Galla River Bed (Galla River RBM mining Lot), Haldwari Forest Division, District- Nainital (Uttarakhand) Total area- 1497.0 Hectare, Movable area-748.5, in favor of M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand, under Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001 and amendments, for a time period of further 10 years with various conditions (ANN-1).
1.5	Extent & Type of the Lease area	Proposed lease type area falls in Reserve Forest-River Bed Land, Total Area-1497.00 Hectare. Mining Proposed over first half of the river width i.e. central part of the river bed, after leaving 25% safety zone on each bank.  actual movable area is 748.51 hectare.

14.2 Land Use Pattern of the Area:- Table No-14.2

Sr. No.	Land Use (Ha.)	Agriculture Land (Ha.)	Forest Land (Ha.)	Waste Land (Ha.)	Grazing Land (Ha.)
1	Mining pits quarry	-	-	-	-
2	Approach Road	-	-	-	-
3	Dumps	-	-	-	-
4	Office, rest shelter etc	-	-	-	-
5	Balance undistributed land	-	748.5	-	-
6	Safety zone	-	748.5	-	-
	Total	-	1497.00	-	-

14.3 Proposed Method of Mining:- Taking into consideration the matrix of deposit in the river bed and the targeted production, the mine will be worked by fully manual opencast method for collection of Minor Minerals (Sand, Bajri & Boulders) from a part of River - Gaula (Gaula River Lot, total area 1497.60 Hectare, mineable area after leaving safety zone 748.51 Hectare) District- Nainital, Uttarakhand. The project does not involve any processes such as overburden removal, drilling, blasting and beneficiation. The proposed mining method is conventional opencast river bed mining primarily involves scooping the mineral through use of implements like spade, pick axe and shovel etc. and requires no drilling & blasting. Proposed mining will be started from higher levels to lower levels through phase wise/ slice wise, going to the maximum depth of 1.5 m below ground levels (bgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/kipper to the storage points located outside the mining lease.

Mining is proposed over first half of the river bed and replenish able yearly. After each workable year, a longitudinal wall of about 1m be may be raised and repaired thereafter, as required, on the river bank side to check too erosion, an environment hazardous phenomenon may be induced by the heavy floods during monsoon season. Mineral extraction will be done for a period of 270 days in a year; during monsoon period mining activity will be strictly banned.

14.4 Reasons for Closure: At present there is no foreseeable reason regarding closure of mine. Progressive Closure Plan is being submitted under 34 of Uttarakhand Minor Mineral Concession Rule.

14.5 Statutory Obligations: No statutory obligations have been imposed by any Govt. agency, private Institutions, NGOs, Court etc. in this lease area.

14.6 NAME & ADDRESS OF THE RECOGNIZED PERSON:- BHUWAN JOSHI (RQP & Geological Consultant), 20- Shastrinagar, Lane No. 3, Haridwar Road, Dehradun (Uttarakhand)

14.7 MINE DESCRIPTION:- Picking /extractions of minor minerals (sand, bajri & boulders) from a part of Dabka River bed (forest area river).

14.7.1 Topography/ Physiography of the area: Nainital district comprises of three broad physiographic divisions, from north to south viz., the Lesser Himalayan Zone, the Himalayan Foot Hill Zone and the Piedmont Alluvial Tract corresponding to the major geo tectonic sub-divisions of the Himalayas.

(A) Lesser Himalaya: This zone comprises of deep valleys and distinct terraces, both of alluvial and glacial origin. The terrain is overall rugged with sudden rise and/or fall in relief and slope with a maximum elevation of 3610 m above Mean Sea Level. The zone is extensively filled up by fluvial terrace deposits. The regional trend of major ridges is NNW-SSE.

(B) The Himalayan Foothill Zone: This zone runs in NW-SE direction with a maximum elevation of 1677 m above Mean Sea Level. The lower Siwaliks are truncated towards south by major/minor structural discontinuities. The slopes are relatively moderate, with flat-topped hills.

(C) Piedmont Alluvial Zone: At the Himalayan foothills, extensive zone of Recent sediments were deposited by the streams running downhill which can broadly be classified as Bhabar and Tarai. These zones extend in the NW-SE direction along the Himalayan foothill and are separated with each other by spring line. The slope of this belt gradually decreases towards south and becomes almost flat beyond the spring line. The gradients vary from 2.5 to 17 m/km. The soils are natural, dynamic, heterogeneous, non-renewable resource, which support plant and animal life. The tract of Nainital district consists of outward succession of ridges viz; Lesser Himalaya and Siwaliks of decreasing height. These hills possess very little leveled land. The soils have developed from rocks like granite, schist, gneiss, limestone, phyllites, shales, slate, sand stone etc. under cool and moist climate.

Proposed Mining Area falls under Piedmont Alluvial zone. (Ref: CGPB District brochure)

14.7.2 GEOLOGY- Nainital district can be classified into three broad tectonic divisions namely, the **Lesser Himalayas, the sub Himalayas and the Piedmont alluvial plains**. Each of these divisions is characterised by distinct rock types of varied geological age, structural trends, tectonic setting and geomorphic features.

1-Lesser Himalaya: The Lesser Himalayan formations occupy almost one third area of the district. These formations comprise dominantly of unfossiliferous meta-sedimentary sequences along with low to medium grade metamorphics ranging in age from Precambrian to Palaeogene. The main rock types are granite, granodiorite, phyllites, slates, quartzites, schists and gneiss. The Krol and Bainsi formations comprise mainly of sandstones, limestones and quartzites.

2-Outer Himalayan Foothill Zone: This zone can be classified into the Lower Siwaliks, Middle Siwaliks and the Upper Siwaliks.

Lower Siwaliks: The lower Siwaliks are characterized by hard massive, grey to brownish grey sandstones interbedded with grey to maroon clays. They form the outermost zone in the Nainital Himalayas and occasionally exhibit local structural discontinuities. The dip is usually northwards.

Middle Siwaliks: The middle Siwaliks are characterised by massive light grey micaceous sandstones. They exhibit sporadic patterns of cementation at different stratigraphic intervals.



GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

Upper Siwaliks: The Upper Siwaliks are constituted of pebbles, cobbles, boulders, conglomerates and clay lenses. The pebbles and boulders are mostly quartzitic. Thin lenses of grey to light green colour clays are common. Outcrops of upper Siwaliks are exposed in the western part between Kaladhungi and Ramnagar.

Intermontane Valleys: Small (~ 25 km long and 10 km wide) intermontane valleys locally known as "Kota Doon" occur within the Sub-Himalayan Siwaliks trending in NNW-SSE direction. The epispastics mainly comprise of boulders, pebbles, cobbles, granules, sands & clays of varied composition.

3-Piedmont Alluvial Plains: This zone is broadly classified into the **Bhabar** and **Tarai formations**, which are separated by the spring line.

Bhabar Formation: The formation is mainly comprised of poorly sorted unconsolidated sediments viz., cobbles boulders, gravel, pebbles, sand and silt with intervening clay layers. The lithological constituents are of heterogeneous nature viz., basic, acid and intermediate along with epiclastics and metamorphiclasts. Clay lenses are of limited extent. The belt exhibits NW-SE elongation. Its northern boundary has an abrupt structural contact (Main Boundary Thrust) with lower Siwaliks. The width of the belt is quite variable. The maximum width (about 21km) is in Haldwani - Kichha (Udham Singh Nagar) section.

Tarai Formation: Tarai formation consists of sand, clay, silt, sandy clays and occasionally gravel. Clay beds predominate over sand beds. The northern limit of the belts is the spring line, separating it from Bhabar. The Tarai deposits represent the finer wash out material brought by the streams from the hilly tracts and are evenly sorted.

The proposed mining area deposit is a product of fluvial activity (Gaula River) deposit i.e. Sand, Bajari and Boulders, geologically belongs Piedmont Alluvial Plain zone of Haldwani Forest division & East Tarai Forest division, District Nainital. (Ref: CGWB District brochure)

14.7.3 Exploration: Adequate amount of sand, silt and boulder in reserve is available for meeting consumer demand. Moreover mining will be carried out by batch rotation manner and the mined out area is annually replenishable.

14.7.4 Method of estimation of Reserve: The method of cross section has been adopted for computing the reserve. The mining lease boundary, proven and mining limits are marked on the plan which is thereafter transferred to cross section for determining the different categories of reserve.

The geological reserves have been estimated as per UNFC in all the three axis is as below

- d) **Economic Axis (E-1):** The RBM is exists within the entire stretch & having no problem selling in the market. The road is near the lease area & RBM shall be loaded into tipper with the help of labors & deployment of manual excavator & transport to open market & crusher. On the feasibility study, economics viability of deposit has been established & RBM is economic viable, therefore economic axis has been considered as E-1.
- e) **Feasibility Status (F-1):** Feasibility study has been carried out & is considered to be feasibility status. A feasibility study provides a preliminary assessment with a level of confidence as compared to that of feasibility study. It has been revealed that exploitation of RBM is feasible & Economic viable & feasibility axis under U NFC code has been considered as F-1.
- f) **Geological Axis:** The exposure of RBM is seen in the entire stretch & thickness of RBM varies 2.5m to 3.0m. Therefore geological axis has been considered as G-1.

In order to calculate the mineable reserve the geological map on the 1:1000 scale was prepared and main litho units were marked on the plan to know the surface spread of each unit. The different constituents of the deposits such as sand, bajri, boulder and mixture of clay, soil, silt, based on sized classification were considered for the reserve calculation. Although it is not possible to mark these units separately on the geological map, as such three pits of 1x1x1 meters were got dug in the mineable lease area and material so excavated was separated into different size and their percentage was worked out.

Bulk density is taken as 2.2 for calculation (as per Go UK, Industrial Development Section Notification 1031/VII-1/ 2015/ 146 Khat/ 2010, dated 31st July 2015). Calculation of reserve has been done as following:

1. Cross sections have been prepared at intervals. Refer Plate No.4
2. Area of every cross section has been taken. For example, if the area of cross section A-A' is 'X' and area of B-B' is 'Y', then average of both calculating the reserve (i.e. $(X+Y)/2$).
3. Distance between the two sections has been multiplied with the average area of the two sections to get the total volume. Eg. $[(X+Y)/2] \times \text{Distance between A-A' \& B-B'}$.
4. The overall geological reserves have been estimated through geological cross section method. The area of each section line is calculated. The section area is multiplied by the strike influence to get the volume. The target geological reserve classified in to three categories i.e. Proved reserve, Probable reserve & possible reserve. In this project the proved reserve assessed as 3m depth & further 2m as probable reserve whereas 1m considered as possible reserve. Out of total volume, 90% considered as the recoverable reserve & 2.2 bulk density.

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

wise, going to the maximum depth of 1.5m below ground levels (bgl) or above ground water level whichever is less. Remaining 748.5 Hectare area is workable and replenishable yearly. After each workable year, a longitudinal wall of about 1m height may be raised and repaired thereafter, as and when required, on the river bank side to check toe erosion, an environment hazardous phenomenon may be induced by the heavy floods during monsoon season. Mineral extraction will be done for a period of 270 days in a year; during monsoon period mining activity will be strictly banned.

- b) It has been assessed that proposed mining area/ mineral picking area generally gets flooded during monsoon season and gets completely replenished. The RBM extraction planned up to maximum 1.5m depth considering the replenishment of the material up to 1.5m depth. However, The Department of Geology & Mining department may monitor the replenishment on yearly basis within the proposed lease area and specific consultation or study may be conducted whenever required for quantity verification.

c) Mining: Table No- 14.5

Sl. No.	Activities	Area (Ha.)
1-	Area already broken up	-
2-	Area already backfilled/reclaimed	-
3-	Additional Area proposed to be broken up per year	7485000 m ²
4	Additional Area proposed to be replenished with flood water	7485000 m ²

d) Dump: Table No- 14.6

Sl. No.	Activities	Area (Ha.)
1-	Area already covered by dump	-
2	Additional Area to be covered by soil stack	-
3-	Additional area to be covered by in. garden dump	-
4-	Dump area to be covered by protective measures	-

e) Plantation: Table No-14.7

Sl. No.	Activities	Area
1-	Area already covered under plantation	-
2-	Area proposed to be cover under plantation & protection work	3,50,000 m ²

GAULA RIVER RBM MINING PLAN

Applicant/ Lessee: M/s Uttarakhand Forest Development Corporation (UKFDC)

Lease Location: Haldwani Forest Division & East Tarai Forest Division

District- Nainital (Uttarakhand)

	Total	3,50,000 m ²
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In the river bed area/lease area the plantation is not possible however in the outer bank area, in forest land & in the village panchayat land, the plantation is proposed with consultation of mining officer and district/local administration.

14.11 Water Quality Management: Periodic water quality monitoring will be carried out to monitor the quality and for timely corrective actions.

14.12 Air Quality Management: Periodic air quality monitoring will be carried out to monitor the quality and for timely corrective actions.

14.13 Waste Management- No waste shall be generated due to mining activities. All quantities of RBM to be generated shall be sold in the local market. Therefore no proposal of waste management has been envisaged.

14.14 Top soil Management: No soil shall be generated during plan period so no separate proposal has been provided for its separate stacking & No top soil management has been envisaged during plan period.

14.15 Tailing Dam Management: No tailing dam is proposed in the RBM mining.

14.16 Infrastructure Management: No infrastructure facilities like aerial ropeway, conveyor belts, building & structure, water treatment plant, transport & water supply sources are present within the lease area. Therefore no utilization & their physical stability & maintenance will be required. There are no infrastructure facilities like telephone line, water pipe line, sewer line, gas pipe line, electrical cables, culvert etc running or existed within the lease area, so no question arises for their restoration. The approach road been proposed within the forest area. Lessee shall time to time maintain it.

14.17 Disposal of Mine Machinery Management: The RBM mine is manual open cast method. No mechanization, drilling and blasting proposed, hence disposal of mining machinery not applicable for the mine.

14.18 Safety and Security: The picking and extractions of minor minerals shall be carried on only up to a depth of 1.5 meters; no blasting is involved. Hence there is no danger and no special precaution is required. However standard precautions are always to be kept in mind for the safety of workers and general public.

1. Each worker shall be provided with helmets & safety shoes.
2. Safety belt shall be provided to workers and working the top benches.
3. Hanging of loose boulders shall be removed from mine faces.
4. The mining area shall be properly fenced to avoid any inadvertent entry in to mining pit.

GAULA RIVER RBM MINING PLAN

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District- Nainital (Uttarakhand)

14.19 Disaster Management and Risk Management/Assessment: No blasting is involved, picking and extractions of minor minerals (sand, bajari & boulders) shall be carried on only up to a depth of 1.5 meters therefore negligible scope of landslides & subsidence.

14.20 Economic repercussions of closure of mine and manpower retrenchment: The industry will provide direct and indirect employment. The local residents shall earn good amount of money due to mining activities. It will change their life style. Due to closure of mine, it will create negative impact on the economy of the workers for their survival. In the overall view, the closure of mine shall very bad impact on the society and surrounding areas.

- Local residents of nearby villages shall be employed in the mine. The family occupation is most by farming. Few of them occupation carpentry & masonry.
- The local residents shall be employed in the mining operations and allied activities related to mining operations.

14.21.1 Time scheduling for abandonment: The year wise schedule of completion of quantities is given below. - **Reclamation Plan- Table No- 14.8**

ACTIVITIES	YEARS →				
	I	II	III	IV	V
Toe wall at the base of soil stack (m)	-	-	-	-	-
Retaining wall along backfilled pit (m)	-	-	-	-	-
Backfilling (Cum)	-	-	-	-	-
Plantation (No. of sapling, outside the area)	35,000	35,000	35,000	15,000	35,000

14.21.2 Reclamation Cost: - Table No- 14.9

ACTIVITIES	YEARS →				
	I	II	III	IV	V
Toe wall (@ Rs. 100.00/sapling)	-	-	-	-	-
Retaining wall (@ Rs. 110.00/sapling)	-	-	-	-	-
Backfilling (@ Rs. 50.00/sapling)	-	-	-	-	-
Plantation (@ Rs. 25.00/sapling)	8,75,000	8,75,000	8,75,000	8,75,000	8,75,000
TOTAL	43,75,000.00				

14.22 ANY OTHER INFORMATION: -

Community Development: Table No- 14.10

ANNEXURE & PLATES



संख्या: 179/VI-2/11-ख/2010 दिनांक 24 जनवरी, 2013

प्रेषक:

लक्ष्मण सिंह,
अपर सचिव
उत्तराखण्ड शासन

सेवा में,

महानिदेशक,
भूतत्व एवं खनिकर्ष इकाई,
उत्तराखण्ड, देहरादून।

औद्योगिक विकास (खनन) आयोग-1

देहरादून, दिनांक 24 जनवरी, 2022

विषय: उत्तराखण्ड वन विभाग के पक्ष में जनपद नैनीताल की तहसील हल्द्वानी एवं लालकुशी वन प्रभाग के क्षेत्रान्तर्गत गौला नदी, कुल क्षेत्रफल 1497 हे० नदी तल वन क्षेत्र में स्वीकृत खनन पट्टे के नदीनीकरण किये जाने के सम्बन्ध में।

महोदय,

उपर्युक्त विषयक उत्तराखण्ड उपखनिज परिहार नियमावली, 2009 (समाप्त-समय पर यथासंशोधित) के अग्रपट्ट-2 के प्रावधानों के अन्तर्गत आपके पत्र संख्या 1253/खनन नदी०/विवि०/भू०/अ०/2022-23, दिनांक 02.07.2022 द्वारा संस्तुति सहित उपलब्ध कराये गये प्रस्ताव के क्रम में उत्तराखण्ड वन विकास निगम के पक्ष में जनपद नैनीताल की तहसील हल्द्वानी एवं लालकुशी वन प्रभाग के क्षेत्रान्तर्गत गौला नदी, कुल क्षेत्रफल 1497 हे० नदी तल वन क्षेत्र में 10 वर्ष की अवधि के लिए उपखनिज रेत, बजरी एवं बाल्टा के भुगान के खनन पट्टा हेतु शासनादेश संख्या 179/VI-2/11-ख/2010, दिनांक 24 जनवरी, 2013 द्वारा पूर्व स्वीकृत अवधि की समाप्ति तिथि दिनांक 23 जनवरी, 2023 से नवीन फॉरेस्ट क्लीयरेंस (Forest Clearance) प्राप्त किये जाने की दशा में दिनांक 23 जनवरी, 2023 से 10 वर्ष की अवधि हेतु निम्नलिखित शर्तों के अधीन खनन पट्टा का नदीनीकरण किये जाने की अनुमति प्रदान की जाती है :-

- स्वीकृत क्षेत्र का सीमाबन्धन/गैलरबन्धी नियम 17 के अनुसार खनन विभाग के द्वारा सजस्त विनाय एवं वन विभाग के साथ संयुक्त रूप से किया जायेगा।
- शासन के पत्र संख्या 770/VI-A-1/2021/212ख/14, दिनांक 17.12.2014 के अनुसार पर्यावरण, वन एवं जलवायु परिकर्तन मंत्रालय, भारत सरकार की अधिभूचना संख्या 2601(अ), दिनांक 07.10.2014 के क्रम में शासनादेश संख्या 1621/VI-1/212-ख/2014, दिनांक 17.12.2014 में किये गये प्रावधान वर्तमान में भी प्रभावी होने के दृष्टिगत पट्टाधारक द्वारा पर्यावरण एवं वन मंत्रालय, भारत सरकार से प्राप्त पर्यावरणीय अनुमति संख्या J-11015/363/2009-IA.II(M), दिनांक 13 अप्रैल, 2011 की समस्त शर्तों का अनुपालन किया जायेगा।
- पट्टाधारक द्वारा पर्यावरण, वन एवं जलवायु परिकर्तन मंत्रालय, भारत सरकार से प्राप्त फॉरेस्ट क्लीयरेंस संख्या F.No. 8-81/1999-FC, दिनांक 23 जनवरी, 2013 की समस्त शर्तों का अनुपालन किया जायेगा एवं अग्रोत्तर अवधि हेतु वन, पर्यावरण एवं जलवायु परिकर्तन मंत्रालय, भारत सरकार से वन अनापत्ति (Forest Clearance) प्राप्त की जायेगी।
- प्रसंगत खनन क्षेत्र में खनन/भुगान कार्य पर्यावरणीय अनुमति संख्या J-11015/363/2009-IA.II(M), दिनांक 13 अप्रैल, 2011 में अनुमत अधिकतम गहराई 1.5 मी० अथवा ग्राउन्ड वाटर लेवल जो भी कम हो तब, के अनुसार किया जायेगा।

BHUVAN JOSHI (RQP)

50 360/RQP/ODN/01/2016

5. पट्टाधारक द्वारा शासन की अधिसूचना संख्या 334/VII-A-1/2020/5(15)/19 दिनांक 04 मार्च 2020 के क्रम में यदि चुगान/खनन कार्य 3.0 मीटर अथवा ग्राउन्ड वाटर लेवल, जो भी कम हो तक, के अनुसार किए जाने का अनुरोध किया जाता है तो उक्तानुसार पर्यावरणीय अनुमति में संशोधन कराया जाना होगा।
6. पट्टाधारक के द्वारा स्वीकृत उपखनिज क्षेत्र से उपखनिज का खनन/चुगान का कार्य निदेशक, भूतत्व एवं खनिकर्म द्वारा उत्तराखण्ड उपखनिज परिहार नियमावली, 2001 (समय-समय पर तथासंशोधित) के नियम-34 के खनन योजना अनुमोदित करायी जायेगी तथा तदनुसार अनुमोदित खनन योजना के अनुसार खनन/चुगान कार्य किया जायेगा।
7. जिलाधिकारी एवं जिला खान अधिकारी द्वारा सुनिश्चित किया जायेगा कि सीमाबद्ध खनन क्षेत्र में न्याई स्तम्भ लगाये जाने की पुष्टि के उपरान्त ही ई-खनना प्रपत्र एमओएम-11 पट्टाधारक को रिगर्त किया जाय।
8. उपखनिज चुगान नीति-2016 के बिन्दु-8(ड) के प्रावधानानुसार निगम द्वारा स्वीकृत क्षेत्र में चुगान कार्य करने से पूर्व एवं चुगान समाप्ति के समय आधुनिक उपकरण जैसे ड्रोन से लिये गये फोटोग्राफ की प्रति भूतत्व एवं खनिकर्म इकाई एवं सम्बन्धित जिलाधिकारी कार्यालय में जमा कराया जाना आवश्यक होगा।
9. पट्टाधारक द्वारा अनुमोदित खनन योजना के अनुसार प्रत्येक खनन रात्र में किये गये खनन कार्य की Compliance Report निदेशालय को अनिवार्य रूप से प्रस्तुत की जायेगी।
10. पट्टाधारक द्वारा प्रतिवर्ष चुगान कार्य आरम्भ करने से पूर्व एवं चुगान की समाप्ति के उपरान्त शासनादेश संख्या 1948/VII-A-1/2020/5(39)/20, दिनांक 08.12.2020 के द्वारा गठित समिति से प्रस्तुत क्षेत्र/उपखनिज लॉट की Replenishment Study कराई जानी आवश्यक होगी।
11. पट्टाधारक के द्वारा खनन योजना/पर्यावरणीय अनुमति में निकासी हेतु निर्धारित वार्षिक मात्रा की पूर्ण निकासी की जायेगी एवं उक्तानुसार वार्षिक रायल्टी एवं अन्य देयकों का भुगतान किया जाना होगा।
12. उत्तराखण्ड उपखनिज परिहार नियमावली, 2001 के नियम-14 एवं उपखनिज चुगान नीति-2016 के बिन्दु-17 के प्रावधानानुसार निगम द्वारा चुगान कार्य प्रारम्भ करने से पूर्व निदेशक भूतत्व एवं खनिकर्म इकाई से समस्त औपचारिकताएँ पूर्ण करते हुए निर्धारित प्रपत्र पर एमओएम-12 हस्ताक्षर करने के उपरान्त ही उपखनिज का चुगान प्रारम्भ किया जायेगा।
13. पट्टाधारक नदी के प्रत्येक किनारे से 15% भाग छोड़ते हुये स्वीकृत क्षेत्रान्तर्गत उपखनिज बालू, बजरी, बोटलर का चुगान करेगा।
14. पट्टाधारक के द्वारा उत्तराखण्ड उपखनिज उपखनिज परिहार नियमावली 2001 समय-समय पर तथा संशोधित के नियम-21 के अनुसूची-1 में संशोधन की दशा में संशोधनान्तरात् तत्तान्य निर्धारित रायल्टी दर के अनुसार रायल्टी का भुगतान किया जायेगा।
15. पट्टाधारक के द्वारा समय-समय पर मा0 उच्चतम न्यायालय, मा0 उच्च न्यायालय तथा शासन द्वारा पारित आदेशों का अनुपालन सुनिश्चित किया जायेगा।
16. पट्टाधारक उपखनिज की निकासी का त्रैमासिक विवरण प्रपत्र एमओएम-12 में जिलाधिकारी कार्यालय एवं भूतत्व एवं खनिकर्म इकाई के जिला कार्यालय को प्रस्तुत करेगा।
17. पट्टाधारक के द्वारा उत्तराखण्ड खनिज परिहार नियमावली-2001 समय-समय पर तथा संशोधित, उत्तराखण्ड खनिज नीति-2016 एवं समय-समय पर जारी शासनादेशों का कड़ाई से अनुपालन करेगा।
18. पट्टाधारक द्वारा उपखनिज चुगान नीति-2016 के बिन्दु संख्या 22(3) के प्रावधानानुसार चुगान पट्टा क्षेत्र के प्रवेश एवं निकासी गेटों पर कम्प्यूटाइज्ड धमकंटा एवं सी0सी0डी0वी0 कैमरा स्वयं के व्यय पर स्थापित किया जायेगा तथा रिकॉर्डिंग की सी0डी0 प्रत्येक माह भूतत्व एवं खनिकर्म विभाग के जिला कार्यालय व जिलाधिकारी कार्यालय में प्रस्तुत किया जायेगा।
19. पट्टाधारक द्वारा उपखनिज चुगान नीति-2016 के बिन्दु संख्या 22(4) के प्रावधानानुसार चुगान पट्टा क्षेत्रों से खनिजों के परिवहन हेतु उपयोग में लाये जाने वाले पंजीकृत वाहन की सूचना पट्टाधारक के द्वारा निदेशक, भूतत्व एवं खनिकर्म इकाई को उपलब्ध कराई जायेगी।

संख्या: नं. 14-D (1) / VII-A-1 / 2020 / 2221 / 13

प्रेषक,

ओम प्रकाश,
अपर मुख्य सचिव,
उत्तराखण्ड शासन।

महत्वपूर्ण

सेवा में,

प्रबन्ध निदेशक,
उत्तराखण्ड वन विभाग निगम,
उत्तराखण्ड देहरादून

आवेदन क्र. 300 दिनांक 30/11/20

अति.	विधि	ई.टी.एफ.	नियोजन
लेखा	शिविर	आर.टी.आई.	विभाग
ऑडिट	भण्डार	गवन प्रकाश	अन्य
सी.एस.			

30.08.2020

देहरादून, दिनांक: 06 दून, 2020

औद्योगिक विकास (खन) अनुभाग-1

विषय: अखिल वन क्षेत्र की नीला, कोसी, बालका एवं शारदा नदी से उपस्थित नुगान हेतु स्वीकृति के संबंध में।

महोदय,

उत्पुष्ट निदेशक आपके पत्र संख्या-उ-7189/उपस्थित नुगान/आशय नं-25(500) दिनांक 12 मार्च, 2020 के अन्तर्गत में मुझे यह ज्ञान का निदेश हुआ है कि वन विभाग, उत्तराखण्ड के आदिवासी वन क्षेत्रों के अन्तर्गत जनपद नैनीताल स्थित नीला, कोसी, बालका नदी तथा जनपद चम्पावत स्थित शारदा नदी से उपस्थित नुगान एवं निष्कर्ष का कार्य उत्तराखण्ड वन विभाग निगम के द्वारा लगभग 10 वर्ष की अवधि हेतु किये जाने वाला वन विभाग, उत्तराखण्ड शासन एवं औद्योगिक विकास (खन) विभाग, उत्तराखण्ड शासन की अनापत्ति है।

कृपया तदनुसार अवगत होने का कष्ट करें।



भवदीय,

(ओम प्रकाश)

अपर मुख्य सचिव

संख्या: नं. 14-D (1) / VII-A-1 / 2020 तदुद्दिष्ट

प्रतिनिधि निर्मातृत्व को शुद्धार्थ एवं आवश्यक कार्यवाही हेतु अपेक्षित-

1. प्रमुख सचिव, वन एवं पर्यावरण विभाग, उत्तराखण्ड शासन की वन विभाग, उत्तराखण्ड शासन द्वारा प्रदत्त अनापत्ति के संदर्भ में सूचना एवं आवश्यक कार्यवाही हेतु प्रेषित।
2. निदेशक, श्रुत एवं खनिकार्य इकाई, उत्तराखण्ड देहरादून।



आज्ञा से,

(नं०एस० हुंगरियाल)
संयुक्त सचिव

BHUWAN JOSHI (RQP)

मू० ख०/RQP/DDN/01/2016

BHUWAN JOSHI (RQP)

मू० ख०/RQP/DDN/01/2016

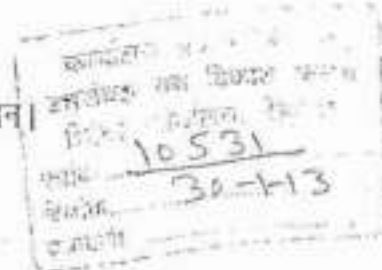
संख्या: 177 / VII-2 / 11-12 / 2015

प्रमुख,

सफेद शर्मा,
प्रमुख सचिव,
उत्तराखण्ड शासन।

संख्या में,

जिलाधिकारी,
नैनीताल।



औद्योगिक विकास अनुमान-2

दिनांक: 24 जनवरी, 2016

विषय: जनपद नैनीताल की तहसील हल्द्वारी एवं लाल कुंदा के वन क्षेत्रों में प्रस्तावित होने वाली ग्रीनफील्ड क्षेत्रों, वजरी एवं फोल्डर का सदन पर्याप्त उत्तराखण्ड वन विभाग के स्वीकृत बिन्दु होने के सम्बन्ध में।

प्रमुख,

उपरोक्त विषयक प्रमुख निदेशक, उत्तराखण्ड वन विभाग निदेश, अखण्ड विकास भवन, 73 मेहरू रोड, देहरादून के पत्र संख्या: 30-115/एफएनएन, दिनांक 24 जनवरी, 2013 के संदर्भ में सम्बन्धित विधानेतरा नई यह कहने का निर्देश दिया है कि जनपद नैनीताल की तहसील हल्द्वारी वन प्रभाग के 200 हेक्टर तथा तहसील लाल कुंदा वन प्रभाग के 1297 हेक्टर अर्थात् कुल 1497 हेक्टर वन क्षेत्र में 10 हेक्टर क्षेत्र को खनिज एवं उद्योगिक, रेता, वजरी, फोल्डर का सदन लिये जाने की अनुमति, वन संरक्षण अधिनियम, 1980 के प्रावधानों के अन्तर्गत पर्यावरण एवं वन मंत्रालय, भारत सरकार के पत्र संख्या: 8-61/1999-एनओ दिनांक 23 जनवरी, 2013 एवं पर्यावरण संरक्षण अधिनियम, 1986 के प्रावधानों के अन्तर्गत पर्यावरण एवं वन मंत्रालय, भारत सरकार के पत्र संख्या: J-11015/363/2009-IA, II (M) दिनांक 13 अप्रैल, 2011 के अधीन, उत्तराखण्ड वन विभाग निदेश के अन्तर्गत शर्तों के अधीन प्रदान की जायेगी :-

1. वन भूमि की वैधानिक स्थिति में कोई परिवर्तन नहीं होगा।
2. उत्तराखण्ड का विविध निम्न क्षेत्रों से उपखनिजों के भूभाग में भारत सरकार, पर्यावरण एवं वन मंत्रालय, नई दिल्ली के आदेश संख्या J-11015/363/2009-IA, II (M) दिनांक 13 अप्रैल, 2011 एवं आदेश संख्या 8-61/1999-एनओ दिनांक 23 जनवरी, 2013 के अन्तर्गत शर्तों का अक्षरशः अनुपालन सुनिश्चित किया जायेगा।
3. पर्यावरण एवं वन मंत्रालय, भारत सरकार द्वारा वन संरक्षण अधिनियम, 1980 एवं पर्यावरण संरक्षण अधिनियम, 1986 के अधीन अनुसूचित अधिनियमों के अन्तर्गत राणाय-समय पर दिये गये निर्देशों का अनुपालन सुनिश्चित किया जायेगा।
4. विभिन्न भूभाग कार्य से किसी भी वन सम्बन्धित क्षेत्रों में नई पर्यावरण यदि वन पर्यावरण को कोई भी परेशानी है या पर्यावरण को नुकसान है तो उसके लिये सम्बन्धित

BHUWAN JOSHI (RQP)

मु० ख०/RQP/DDN/01/2016

BHUWAN JOSHI

मु० ख०/RQP/DDN/01/2016

संलग्नक
आती

प्रकारित बनाधिकारी द्वारा निर्धारित प्रतिफल उत्तराखण्ड वन विकास निगम द्वारा देय होगा।

5. उक्त वन भूमि उत्तराखण्ड वन विकास निगम के उपयोग में तब तक बना रहेगा जब तक कि उत्तराखण्ड वन विकास को उसकी उचित प्रयोजन हेतु आवश्यकता रहेगी। यदि उत्तराखण्ड वन विकास निगम को उचित भूमि अथवा उसका ऐसा भाग, जो उत्तराखण्ड वन विकास निगम के लिए आवश्यक न रहे, वन विभाग को बिना किसी प्रतिफल का भुगतान किये तथा स्थिति वापस हो जाएगी।
6. वन विभाग/भूदत्त एवं खनिज विभाग एवं राज्य सरकार के कर्मचारी/अधिकारी या उनके अधिकारियों को किसी भी समय जब वे आवश्यक समझे, प्रस्तावित वन भूमि का निरीक्षण करने का पूर्ण अधिकार होगा।
7. प्रस्तावित क्षेत्र में उपखनिजों के भुगतान हेतु किसी भी विस्फोटक पदार्थ का प्रयोग जहाँ में नहीं किया जायेगा व भुगतान कार्य केवल हॅण्ड टूलस द्वारा ही किया जायेगा।
8. प्रस्तावित क्षेत्र में उपखनिजों के भुगतान का कार्य सूर्योदय से पूर्व तथा सूर्यास्त के पश्चात नहीं किया जायेगा।
9. उत्तराखण्ड उपखनिज परिहार नियमवली, 2001 तथा उत्तराखण्ड खनिज विधि, 2011 के प्रावधानों का अनुपालन सुनिश्चित किया जायेगा।
10. अनाम पट्टा की स्वीकृति के पश्चात उक्त स्थल का सीमादखन भूतत्व एवं खनिज सर्वेक्षण के अधिकारियों द्वारा राजस्व एवं वन विभाग के अधिकारियों की उपस्थिति में किया जायेगा।
11. किसी सार्वजनिक स्थान, जहाँ शांति, सन्तान अथवा कर्मस्थान या व्यक्तियों के किसी वर्ग द्वारा परेशान माने जाने वाले स्थान, मकान अथवा ग्रामस्थल, सार्वजनिक सड़क या कोई अन्य स्थान जो विवादिकारी द्वारा सार्वजनिक स्थान घोषित किया गया हो, ऐसे स्थानों पर न तो कोई चीज खोदी जायेगी न ही स्थापित की जायेगी और न ही कोई सीमांक संकेतों की जायेगी, जिससे कोई भवन, भवन निर्माण कार्य, स्थापित या अन्य व्यक्तियों अधिकारों को क्षति पहुँचे।
12. पट्टे में असंश्लिष्ट निर्माण कार्य या अन्य प्रयोजनों के निमित्त कोई भी भूमि सतह संकेतों के लिए प्रयुक्त नहीं की जायेगी, जो राज्य सरकार से भिन्न व्यक्तियों के दखल में पहले से ही हो।
13. किसी भी कार्य का उपयोग करने के अधिकार पर हस्तक्षेप न किया जायेगा।
14. प्रस्तावित क्षेत्र में खनन कार्य करने से पूर्व प्रवेश व निष्कर्ष मार्गों पर पर्याप्त संख्या में अस्थाई चौक फेसट स्थापित किये जायेंगे। निष्कर्ष किये जाने वाले उपखनिजों के उचित अनिलेखों को उत्तराखण्ड वन विकास निगम द्वारा किया जायेगा।
15. वन विपत्ता निगम द्वारा उपखनिज की निष्कर्ष की निष्कर्ष निष्कर्ष निष्कर्ष आदि नियमानुसार जमा किया जायेगा।

BHUWAN JOSHI (RQP)

मु० ख०/RQP/EDN/01/2016

मु० ख०/RQP/EDN/01/2016

16. उत्तराखण्ड उपखनिज परिहार नियमावली-2001 के नियम-70 के अनुसार उपखनिजों का परिवहन खनन विभाग द्वारा निर्गत प्रपत्र एम0एम0-11 पर किया जायेगा तथा नियम-73 के अनुसार प्रपत्र एम0एम0-12 पर वैसासिक विवरण निगम द्वारा जिलाधिकारी, नैनीताल तथा खान अधिकारी, भूतत्व एवं खनिकर्म इकाई हल्द्वानी-नैनीताल को प्रेषित किया जायेगा।
17. इसके अतिरिक्त इस हेतु जो भी शर्तें स्थानीय जिला प्रशासन तथा भूतत्व एवं खनिकर्म इकाई द्वारा निर्धारित की जायेंगी, का अनुपालन उत्तराखण्ड वन विकास निगम द्वारा किया जायेगा।
18. उत्तराखण्ड वन विकास निगम द्वारा उक्त नदी से उपखनिजों के चुगान हेतु वन विभाग/अन्य प्राधिकारियों को प्रदत्त समस्त पत्रव्यवहारों का अनुपालन सुनिश्चित किया जायेगा।
19. निगम द्वारा उपखनिजों के चुगान हेतु मुख्य वन्य जीव प्रतिपालक, उत्तराखण्ड की संस्तुतियों व उनके द्वारा समय-समय पर जारी निर्देशों का अनुपालन सुनिश्चित किया जायेगा।

भवदीय,

(अक्षय शर्मा)
प्रमुख सचिव।

पृष्ठसंख्या संख्या: 179 (1)/VII-2/13-ख/2019, तददिनांकित।

प्रतिनिधिक विमोचनित को सूचना एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. सचिव, पर्यावरण एवं वन मंत्रालय, भारत सरकार, पर्यावरण भवन, सी0सी0ओ0
फाउन्टेन रोड, नई दिल्ली।
2. मुख्य सचिव, मो0 मुख्यमंत्री जी, उत्तराखण्ड शासन।
3. प्रमुख सचिव, वन एवं पर्यावरण विभाग, उत्तराखण्ड शासन।
4. स्टाफ अधिकारी-मुख्य सचिव, उत्तराखण्ड शासन।
5. आयुक्त, मुनाऊ मण्डल, नैनीताल।
6. प्रमुख वन संरक्षक, उत्तराखण्ड, देहरादून।
7. निदेशक, भूतत्व एवं खनिकर्म इकाई, उद्योग निदेशालय, देहरादून।
8. अपर प्रमुख वन संरक्षक, वन विभाग, अधिकारी, वन संरक्षक, देहरादून।
9. फारेस्ट कालोनी, देहरादून।
10. प्रधान निदेशक, उत्तराखण्ड वन विकास निगम लि0, देहरादून।
11. गार्ड फाईल।

आज्ञा से,

(किशन चाथ)
अपर सचिव।

BHUWAN JOSHI (RQP)

मु0 ख0/RQP/DDN/01/2016

संयुक्त निरीक्षण आख्या (गौला नदी)

कार्यालय प्रभागीय तैंगिक एबन्धक उत्तराखण्ड वन विकास निगम, खनन गौला हल्द्वानी प्रभाग, हल्द्वानी जिला नैनीताल के पत्र संख्या 787/नवीनीकरण प्रस्ताव/गौला नदी दिनांक 27.08.2021 के द्वारा गौला नदी से आगामी 10 वर्षों के लिए उपखनिज के चुगान के नवीनीकरण किये जाने हेतु जिलाधिकारी नैनीताल को पेशित पत्र के क्रम में जिलाधिकारी नैनीताल के पत्र सं० 1550/30-जी०सी०/2021-22 दिनांक 27 अगस्त, 2021 के अनुपालन में भूतत्व एवं खनिकर्म इकाई, उद्योग निदेशालय उत्तराखण्ड हल्द्वानी-नैनीताल के पत्र संख्या 624/भू०खनि०ई०/खनन-गौला /2021-22 दिनांक 31.08.2021 के द्वारा उत्तराखण्ड बालू बजरी बोल्डर चुगान नीति, 2016 में दिये गये प्राविधानों के दृष्टिगत उत्तराखण्ड वन विकास निगम (गौला नदी) में स्वीकृत उपखनिज खनन पट्टा के आगामी 10 वर्षों हेतु नवीनीकरण किये जाने हेतु आवेदित क्षेत्र का संयुक्त निरीक्षण राजस्व विभाग, सिंचाई विभाग, वन विभाग, एवं खनन विभाग (गठित समिति) के द्वारा उत्तराखण्ड वन विकास निगम के प्रतिनिधि की उपस्थिति में निर्धारित दिनांक 03.09.2021 को सम्पन्न किया गया। आवेदक द्वारा खनन पट्टा हेतु निर्धारित आवेदन प्रपत्र एग०एम०-1 के पर आवेदन किया गया है तथा खनन पट्टा आवेदन शुल्क रु० 1,00,000/- ई चालान सं० 08530021E0497805 दिनांक 03 सितम्बर 2021 द्वारा निर्धारित लेखा शीर्षक में जमा कर दिया गया है। जिसकी संयुक्त निरीक्षण आख्या निम्नवत् है:-

राजस्व विभाग:- उत्तराखण्ड वन विकास निगम गौला नदी द्वारा पूर्व से आवेदित खनन लॉट कुल क्षेत्रफल 1497 है० जिसमें से नदी के दोनों किनारों के 25-25 प्रतिशत भाग को छोड़त हुए वर्तमान में उपखनिज चुगान कार्य किया जा रहा है, जिसमें खनन पट्टा आगामी 10 वर्षों के लिए नवीनीकरण किये जाने हेतु आवेदन पत्र प्रस्तुत किया गया है। गौला नदी में वर्तमान में पर्याप्त मात्रा में उपखनिज उपलब्ध है जिसमें आगामी दस वर्षों तक खनन पट्टा नवीनीकरण किया जा सकता है।

वन विभाग:- प्रभागीय वनाधिकारी/प्रतिनिधि के द्वारा अवगत कराया गया है कि खनन/चुगान हेतु प्रस्तावित क्षेत्र आरक्षित वन क्षेत्रान्तर्गत स्थित है तथा खनन चुगान स्थल राष्ट्रीय पार्क/सैंचुरी से 10 किमी० से अधिक की दूरी पर स्थित है। गौला नदी में वर्तमान में पर्याप्त मात्रा में उपखनिज उपलब्ध है जिसमें आगामी दस वर्षों तक खनन पट्टा नवीनीकरण किया जा सकता है। वन विकास निगम को खनन पट्टा के नवीनीकरण करने से पूर्व भारत सरकार से F.C (Forest Clearance) लेना आवश्यक होगा।

सिंचाई विभाग:- सिंचाई विभाग के प्रतिनिधि द्वारा अवगत कराया गया है कि आवेदित क्षेत्र गौला नदी में स्थित है। नदी के दोनों किनारों से 25-25 प्रतिशत दूरी छोड़कर तथा चुगान क्षेत्र में Underground Water Table या अधिकतम 3.00 मीटर की गहराई जो भी न्यून हो तक खनन कार्य किया जा सकता है। इसके अतिरिक्त पूल से 100 मीटर अपस्ट्रीम तथा 100 मीटर डाउन स्ट्रीम क्षेत्र को प्रभावित करते हुए उपखनिज का चुगान कार्य अनुमत गहराई तक किया जा सकता है।

भूतत्व एवं खनिकर्म इकाई:- वन विकास निगम के पत्र में गौला नदी में हेतु पर्यावरण एवं वन मंत्रालय भारत सरकार द्वारा प्राप्त पर्यावरणीय स्वीकृति में कुल प्रस्तावित क्षेत्रफल 1497 है० के सापेक्ष नदी के दोनों किनारों से 25-25 प्रतिशत भाग को छोड़कर मध्य के 50 प्रतिशत क्षेत्रफल अर्थात् 748.5 है० भाग में खनन हेतु स्वीकृति

11 अप्रैल 2011 से 10 वर्षों हेतु प्रदान की गयी है। जिसकी अवधि पुनः बढ़ाकर जनवरी 2023 तक की गई है। उपरोक्त खनन लॉड हेतु पर्यावरणीय स्वीकृति में तत्समय में कुल 54.25 लाख घन मीटर उपखनिज प्रतिवर्ष निकासी किये जाने हेतु स्वीकृति प्रदान है।

आरक्षित वन क्षेत्रान्तर्गत जनपद नैनीताल स्थित गौला नदी में उपखनिज चुगान के लिए प्रचुर मात्रा में उपखनिज रेता, बजरी, बोल्टर मिश्रित अवस्था में एकत्रित है। प्रस्तावित स्थल से नियमानुसार नदी पुल, शैक्षणिक संस्थान, आवासीय भवन, श्मशान घाट, सड़क आदि 100 मीटर की दूरी पर छोड़ते हुए खनन कार्य किया जाएगा। प्रशस्त क्षेत्र से खनिजों की निकासी हेतु एहुचमार्ग उपलब्ध है। उल्लेखनीय है कि शासन के कार्यालय ज्ञाप संख्या 1561/VII-1/80-ख/2016 दिनांक 30 सितम्बर, 2016 के द्वारा राज्य में प्रख्यापित उत्तराखण्ड उपखनिज बालू, बजरी, बोल्टर चुगान नीति-2016 के बिन्दु संख्या 3 क में उल्लेख है कि उपखनिज क्षेत्रों में निक्षेपित उप खनिज बालू, बजरी, बोल्टर की अधिकतम मात्रा वही मानी जायेगी जो पर्यावरणीय स्वीकृति में निर्धारित की गयी है। पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार के पत्र संख्या 11015/363/2009-IA.II(M) दिनांक 13 अप्रैल 2011 के द्वारा गौला नदी से प्रतिवर्ष कुल 117 लाख टन उपखनिज की मात्रा निर्धारित की गयी है। संशोधित पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार के पत्र F.NO- 861/1989-FC दिनांक 23.01.2013 से 10 वर्ष हेतु अनुमत्य की गयी है।

भूतत्व एवं खनिकर्म इकाई, उद्योग निदेशालय उत्तराखण्ड देहरादून के कार्यालय ज्ञाप संख्या 515/खनन/मूखनि0ई0/भा0प्लान/2020-21 दिनांक 31 मई 2021 द्वारा अनुमोदित खनन योजना की शर्त संख्या 04 में प्रथम वर्ष एवं द्वितीय वर्ष में 54.25 लाख घन मीटर (113,35,000 टन) उपखनिज का खनन/चुगान किया जायेगा उल्लेखित है।

उत्तराखण्ड वन विकास निगम के पक्ष में (गौला नदी) स्वीकृत खनन पट्टे के अग्रेतर 10 वर्षों के लिए नवीनीकरण किये जाने हेतु गठित समिति द्वारा संस्तुति निम्नलिखित प्रतिबंध/शर्तों के अधीन की जाती है।

आवश्यक प्रतिबंध/शर्तें:-

- 1- पट्टाधारक उत्तराखण्ड वन विकास निगम द्वारा स्वामित्व का भुगतान निर्धारित लेखा शीर्षक में जमा करना होगा। जमा बालान की प्रति भूतत्व एवं खनिकर्म इकाई जनपद नैनीताल स्थित हल्द्वानी के कार्यालय तथा जिलाधिकारी कार्यालय में प्रस्तुत करेगा। उपखनिज निकासी का विवरण (प्रपत्र एम्प्ल-12) प्रत्येक महीने भूतत्व एवं खनिकर्म इकाई जनपद नैनीताल स्थित हल्द्वानी, जिलाधिकारी कार्यालय नैनीताल में प्रस्तुत करेगा।
- 2- पट्टाधारक द्वारा स्वीकृत क्षेत्र में संरक्षित चुगान एवं पर्यावरण की सुरक्षा के लिए शासन एवं निदेश जारी किये जायेंगे उनका अनुपालन पट्टाधारक द्वारा सुनिश्चित किया जायेगा।
- 3- उपखनिज के चुगान हेतु किसी भी प्रकार के विस्फोटकों का प्रयोग किया जाना प्रतिबन्धित होगा।



- 4- यदि खनन/चुगान के दौरान होरा का कोई भी भाग संवेदनशील हो जाता है या अवैध खनन में लिपता पायी जाती है तो खनन के दौरान निकलने वाला समस्त उप खनिज अवैध खनन की श्रेणी में आयेगा और उसकी क्षतिपूर्ति हेतु आवश्यक कार्रवाई, जिलाधिकारी महोदय के माध्यम से की जायेगी।
- 5- खनन/चुगान करते समय किसी प्रकार की कोई दुर्घटना घटित होती है तो उसकी सम्पूर्ण जिम्मेदारी पट्टाधारक की रहेगी जो कि गन्ध होगी।
- 6- यदि पट्टाधारक द्वारा निर्धारित गहराई से अधिक गहराई तक खुदान किया जाता है तो निकाला गया उपखनिज अवैध खनन की श्रेणी में आयेगा।
- 7- पर्यावरण दन एवं जलवायु मंत्रालय भारत सरकार द्वारा जनवरी 2020 में जारी सैंड माईनिंग गाईडलाइन के अनुसार कार्य करना होगा।
- 8- पर्यावरण दन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा (Forest Clearance) लिया जाना अनिवार्य होगा।
- 9- वन संरक्षण अधिनियम-1980, वन संरक्षण नियमावली 1981 और अन्य सम्बन्धित अधिनियम और नियमावली, आदेश और दिशा निर्देश जो कि इस खनन पट्टे हेतु सही समय पर दिये जाये लागू होंगे।
- 10- उपखनिज की मात्रा का निर्धारण अनुमोदित खनन योजना के अनुसार या पर्यावरणीय अनुमति के अनुसार होगा।



राजस्व उपनिरीक्षक
तहसील हल्द्वानी

भूतत्व एवं खनिकर्म इकाई
नैनीताल

सहायक अभियन्ता
प्रतिनिधि सिचाई विभाग

प्रतिनिधि
प्रभागीय वन अधिकारी तराई पूर्वी
वन प्रभाग हल्द्वानी।
सदस्य

उपनिदेशक
भूतत्व एवं खनिकर्म इकाई
सदस्य सचिव

उपजिलाधिकारी
हल्द्वानी (नैनीताल)

BHUWAN JOSHI (RQP)
ख0/RQP/DDN/01/2016

गौला नदी बंदा क्षेत्र का सौमिकन

Annex

Forward and Backward Bearing

S.No.	Forward Bearing	Back Bearing	Position
1	177°	357°	N29 15 17.3 E79 33 01.3
2	170°	350°	N29 15 13.4 E79 33 01.5
3	142°	322°	N29 15 09.6 E79 33 02.3
4	134°	314°	N29 15 06.8 E79 33 04.8
5	156°	336°	N29 15 04.0 E79 33 08.1
6	166°	346°	N29 15 00.3 E79 33 10.0
7	185°	5°	N29 14 56.2 E79 33 11.2
8	183°	3°	N29 14 52.2 E79 33 10.8
9	166°	346°	N29 14 48.3 E79 33 10.6
10	233°	53°	N29 14 44.2 E79 33 11.8
11	224°	44°	N29 14 41.6 E79 33 07.8
12	184°	4°	N29 14 38.8 E79 33 04.7
13	177°	357°	N29 14 35.3 E79 33 04.4
14	190°	10°	N29 14 31.4 E79 33 04.6
15	193°	13°	N29 14 27.6 E79 33 03.8
16	198°	18°	N29 14 24.2 E79 33 02.9
17	195°	15°	N29 14 20.4 E79 33 01.5
18	201°	21°	N29 14 17.8 E79 33 00.7
19	204°	24°	N29 14 14.6 E79 32 59.3
20	210°	30°	N29 14 11.3 E79 32 57.6
21	210°	30°	N29 14 08.6 E79 32 55.8
22	194°	14°	N29 14 05.9 E79 32 54.0
23	186°	6°	N29 14 02.7 E79 32 53.1
24	180°	0°	N29 13 59.4 E79 32 52.7
25	209°	29°	N29 13 55.3 E79 32 52.7
26	210°	30°	N29 13 51.2 E79 32 50.1
27	212°	32°	N29 13 47.7 E79 32 47.8
28	192°	12°	N29 13 44.5 E79 32 45.5
29	186°	6°	N29 13 40.7 E79 32 44.6
30	201°	21°	N29 13 36.8 E79 32 44.1
31	189°	9°	N29 12 58.4 E79 32 27.0
32	196°	16°	N29 12 54.4 E79 32 26.3
33	191°	11°	N29 12 51.0 E79 32 25.2
34	195°	15°	N29 12 47.6 E79 32 24.4
35	203°	23°	N29 12 44.9 E79 32 23.6
36	178°	358°	N29 12 41.8 E79 32 22.1
37	132°	312°	N29 12 38.6 E79 32 22.2
38	148°	328°	N29 12 33.4 E79 32 28.8
39	154°	334°	N29 12 30.7 E79 32 30.7
40	146°	326°	N29 12 27.8 E79 32 32.3
41	156°	336°	N29 12 24.9 E79 32 34.5
42	168°	348°	N29 12 22.9 E79 32 35.5
43	173°	353°	N29 12 18.1 E79 32 36.7
44	133°	313°	N29 12 12.0 E79 32 37.6
45	123°	303°	N29 12 09.9 E79 32 40.2
46	155°	335°	N29 12 08.4 E79 32 42.8
47	184°	4°	N29 12 02.4 E79 32 46.0
48	183°	3°	N29 11 58.4 E79 32 45.7
49	169°	349°	N29 11 54.8 E79 32 45.5
50	134°	314°	N29 11 51.8 E79 32 46.2



BHUVANAPUR (RQP)
10/01/2016

51	157 ⁰	337 ⁰	N29 11 49.3 E79 32 49.2
52	178 ⁰	358 ⁰	N29 11 46.2 E79 32 50.7
53	197 ⁰	17 ⁰	N29 11 42.9 E79 32 50.8
54	184 ⁰	4 ⁰	N29 11 39.5 E79 32 49.6
55	167 ⁰	347 ⁰	N29 11 28.4 E79 32 48.6
56	198 ⁰	18 ⁰	N29 11 25.1 E79 32 49.5
57	195 ⁰	15 ⁰	N29 11 22.2 E79 32 48.4
58	186 ⁰	6 ⁰	N29 11 19.6 E79 32 47.6
59	159 ⁰	339 ⁰	N29 11 16.4 E79 32 47.2
60	166 ⁰	346 ⁰	N29 11 13.9 E79 32 48.3
61	173 ⁰	353 ⁰	N29 11 09.9 E79 32 49.5
62	168 ⁰	348 ⁰	N29 11 07.0 E79 32 49.9
63	168 ⁰	348 ⁰	N29 11 03.8 E79 32 50.7
64	167 ⁰	347 ⁰	N29 11 00.8 E79 32 51.4
65	186 ⁰	6 ⁰	N29 10 57.5 E79 32 52.3
66	174 ⁰	354 ⁰	N29 10 54.6 E79 32 51.9
67	158 ⁰	338 ⁰	N29 10 51.5 E79 32 52.3
68	186 ⁰	6 ⁰	N29 10 48.5 E79 32 53.7
69	182 ⁰	2 ⁰	N29 10 45.3 E79 32 53.3
70	194 ⁰	14 ⁰	N29 10 42.6 E79 32 53.2
71	213 ⁰	33 ⁰	N29 10 39.9 E79 32 52.4
72	200 ⁰	20 ⁰	N29 10 37.3 E79 32 50.5
73	196 ⁰	16 ⁰	N29 10 34.5 E79 32 49.3
74	178 ⁰	358 ⁰	N29 10 31.5 E79 32 48.3
75	168 ⁰	348 ⁰	N29 10 28.4 E79 32 48.4
76	191 ⁰	11 ⁰	N29 10 25.4 E79 32 49.1
77	177 ⁰	357 ⁰	N29 10 22.6 E79 32 48.5
78	185 ⁰	5 ⁰	N29 10 19.6 E79 32 48.7
79	190 ⁰	10 ⁰	N29 10 16.5 E79 32 48.4
80	183 ⁰	3 ⁰	N29 10 13.5 E79 32 47.8
81	180 ⁰	0 ⁰	N29 10 10.3 E79 32 47.6
82	180 ⁰	0 ⁰	N29 10 07.1 E79 32 47.6
83	168 ⁰	348 ⁰	N29 10 03.9 E79 32 47.6
84	154 ⁰	334 ⁰	N29 10 00.6 E79 32 48.4
85	163 ⁰	343 ⁰	N29 09 57.4 E79 32 50.2
86	160 ⁰	340 ⁰	N29 09 54.6 E79 32 51.2
87	163 ⁰	343 ⁰	N29 09 51.9 E79 32 52.3
88	169 ⁰	349 ⁰	N29 09 48.2 E79 32 53.6
89	170 ⁰	350 ⁰	N29 09 45.4 E79 32 54.2
90	178 ⁰	358 ⁰	N29 09 42.5 E79 32 54.8
91	187 ⁰	7 ⁰	N29 09 39.4 E79 32 54.9
92	173 ⁰	353 ⁰	N29 09 36.5 E79 32 54.5
93	178 ⁰	358 ⁰	N29 09 33.8 E79 32 54.9
94	184 ⁰	4 ⁰	N29 09 30.9 E79 32 55.0
95	174 ⁰	354 ⁰	N29 09 28.0 E79 32 54.8
96	161 ⁰	341 ⁰	N29 09 24.3 E79 32 55.3
97	170 ⁰	350 ⁰	N29 09 20.0 E79 32 57.0
98	167 ⁰	347 ⁰	N29 09 16.0 E79 32 57.8
99	173 ⁰	353 ⁰	N29 09 12.7 E79 32 58.7
100	178 ⁰	358 ⁰	N29 09 09.7 E79 32 59.1
101	177 ⁰	357 ⁰	N29 09 05.6 E79 32 59.3
102	182 ⁰	2 ⁰	N29 09 02.3 E79 32 59.5
103	178 ⁰	358 ⁰	N29 08 59.2 E79 32 59.4
104	166 ⁰	346 ⁰	N29 08 56.5 E79 32 59.5
105	181 ⁰	1 ⁰	N29 08 54.0 E79 33 00.2



BHUWAN JOSHI (ROP)

मं ख0/RQP/DDN/01/2016

BHUWAN JOSHI

मं ख0/RQP/DD

106	164 ⁰	344 ⁰	N29 08 50.4 E79 33 00.1
107	167 ⁰	347 ⁰	N29 08 47.0 E79 33 01.2
108	185 ⁰	5 ⁰	N29 08 40.4 E79 33 03.0
109	184 ⁰	4 ⁰	N29 08 35.8 E79 33 02.5
110	181 ⁰	1 ⁰	N29 08 32.4 E79 33 02.2
111	166 ⁰	346 ⁰	N29 08 28.7 E79 33 02.1
112	211 ⁰	31 ⁰	N29 08 25.2 E79 33 03.1
113	188 ⁰	8 ⁰	N29 08 21.2 E79 33 00.3
114	177 ⁰	357 ⁰	N29 08 18.0 E79 32 59.8
115	186 ⁰	6 ⁰	N29 08 15.4 E79 32 59.9
116	170 ⁰	350 ⁰	N29 08 11.7 E79 32 59.5
117	183 ⁰	3 ⁰	N29 08 08.7 E79 33 00.1
118	171 ⁰	351 ⁰	N29 08 03.3 E79 32 59.8
119	167 ⁰	347 ⁰	N29 07 59.6 E79 33 00.5
120	164 ⁰	344 ⁰	N29 07 56.9 E79 33 01.2
121	165 ⁰	345 ⁰	N29 07 54.5 E79 33 02.0
122	156 ⁰	336 ⁰	N29 07 52.2 E79 33 02.7
123	147 ⁰	327 ⁰	N29 07 49.7 E79 33 04.0
124	164 ⁰	344 ⁰	N29 07 45.6 E79 33 07.1
125	139 ⁰	319 ⁰	N29 07 43.1 E79 33 07.9
126	155 ⁰	335 ⁰	N29 07 42.0 E79 33 09.0
127	161 ⁰	341 ⁰	N29 07 38.6 E79 33 10.8
128	159 ⁰	339 ⁰	N29 07 35.8 E79 33 11.9
129	172 ⁰	352 ⁰	N29 07 33.1 E79 33 13.1
130	174 ⁰	354 ⁰	N29 07 30.1 E79 33 13.6
131	187 ⁰	7 ⁰	N29 07 27.2 E79 33 14.0
132	195 ⁰	15 ⁰	N29 07 24.8 E79 33 13.6
133	210 ⁰	30 ⁰	N29 07 22.2 E79 33 12.8
134	213 ⁰	33 ⁰	N29 07 19.8 E79 33 11.2
135	200 ⁰	20 ⁰	N29 07 13.7 E79 33 06.6
136	182 ⁰	2 ⁰	N29 07 11.1 E79 33 05.6
137	190 ⁰	10 ⁰	N29 07 08.2 E79 33 05.5
138	160 ⁰	340 ⁰	N29 07 05.6 E79 33 04.9
139	167 ⁰	347 ⁰	N29 07 02.5 E79 33 06.2
140	183 ⁰	3 ⁰	N29 07 00.6 E79 33 06.7
141	188 ⁰	8 ⁰	N29 06 58.1 E79 33 06.6
142	184 ⁰	4 ⁰	N29 06 55.2 E79 33 06.1
143	180 ⁰	0 ⁰	N29 06 52.7 E79 33 05.9
144	175 ⁰	355 ⁰	N29 06 49.9 E79 33 05.9
145	171 ⁰	351 ⁰	N29 06 47.0 E79 33 06.2
146	170 ⁰	350 ⁰	N29 06 37.3 E79 33 07.9
147	178 ⁰	358 ⁰	N29 06 35.3 E79 33 08.3
148	177 ⁰	357 ⁰	N29 06 31.0 E79 33 08.5
149	184 ⁰	4 ⁰	N29 06 28.0 E79 33 08.7
150	154 ⁰	334 ⁰	N29 06 26.4 E79 33 08.6
151	161 ⁰	341 ⁰	N29 06 25.3 E79 33 09.2
152	147 ⁰	327 ⁰	N29 06 23.3 E79 33 10.0
153	165 ⁰	345 ⁰	N29 06 20.5 E79 33 12.1
154	159 ⁰	339 ⁰	N29 06 17.2 E79 33 13.1
155	178 ⁰	358 ⁰	N29 06 13.8 E79 33 14.6
156	198 ⁰	18 ⁰	N29 06 10.1 E79 33 14.8
157	207 ⁰	27 ⁰	N29 06 05.7 E79 33 13.2
158	176 ⁰	356 ⁰	N29 06 02.4 E79 33 11.3
159	177 ⁰	357 ⁰	N29 05 59.6 E79 33 11.5
160	162 ⁰	342 ⁰	N29 05 57.1 E79 33 11.5



BHUWAN JOSHI (RQP)
मु. ख. 0/RQP/DDN/01/16

BHUWAN JOSHI
मु. 0 ख. 0/RQP/DDN/01/16

161	182"	2"	N29 03 54.2 E79 33 12.8
162	175"	355"	N29 03 49.9 E79 33 12.5
163	167"	347"	N29 03 46.8 E79 33 12.9
164	165"	340"	N29 03 43.1 E79 33 13.0
165	167"	347"	N29 03 40.0 E79 33 13.2
166	185"	5"	N29 03 36.7 E79 33 13.0
167	188"	8"	N29 03 33.7 E79 33 13.8
168	170"	350"	N29 03 30.0 E79 33 14.0
169	171"	351"	N29 03 28.4 E79 33 15.8
170	161"	341"	N29 03 24.5 E79 33 16.5
171	177"	357"	N29 03 21.2 E79 33 17.8
172	183"	3"	N29 03 17.8 E79 33 18.9
173	176"	356"	N29 03 14.5 E79 33 17.6
174	164"	344"	N29 03 10.2 E79 33 18.2
175	169"	349"	N29 03 07.4 E79 33 19.1
176	172"	352"	N29 03 03.0 E79 33 19.9
177	173"	353"	N29 04 00.0 E79 33 20.5
178	173"	353"	N29 04 08.4 E79 33 20.7
179	169"	349"	N29 04 07.0 E79 33 20.9
180	159"	339"	N29 04 04.0 E79 33 22.2
181	159"	339"	N29 04 50.8 E79 33 23.6
182	150"	330"	N29 04 47.8 E79 33 24.9
183	161"	341"	N29 04 45.0 E79 33 26.7
184	166"	346"	N29 04 40.7 E79 33 28.4
185	166"	346"	N29 04 37.2 E79 33 29.4
186	183"	3"	N29 04 33.9 E79 33 30.4
187	176"	356"	N29 04 26.6 E79 33 30.6
188	165"	345"	N29 04 21.5 E79 33 30.2
189	168"	348"	N29 04 20.4 E79 33 31.2
190	185"	5"	N29 04 16.5 E79 33 32.1
191	187"	7"	N29 04 13.6 E79 33 31.9
192	187"	7"	N29 04 10.1 E79 33 31.4
193	180"	0"	N29 04 08.4 E79 33 31.2
194	171"	351"	N29 04 05.5 E79 33 31.2
195	167"	347"	N29 04 02.7 E79 33 31.7
196	182"	2"	N29 04 00.0 E79 33 32.4
197	200"	20"	N29 03 57.2 E79 33 32.3
198	175"	355"	N29 03 54.3 E79 33 31.2
199	180"	0"	N29 03 49.7 E79 33 31.8
200	165"	345"	N29 03 45.5 E79 33 31.8
201	173"	353"	N29 03 41.4 E79 33 32.1
202	171"	351"	N29 03 39.0 E79 33 33.4
203	169"	349"	N29 03 34.9 E79 33 34.2
204	167"	347"	N29 03 31.6 E79 33 34.9
205	161"	341"	N29 03 29.3 E79 33 35.5
206	137"	317"	N29 03 27.6 E79 33 36.2
207	159"	339"	N29 03 25.3 E79 33 38.6
208	150"	330"	N29 03 22.5 E79 33 39.8
209	159"	339"	N29 03 19.6 E79 33 41.8
210	124"	304"	N29 03 15.6 E79 33 43.1
211	129"	309"	N29 03 15.1 E79 33 45.5
212	133"	313"	N29 03 13.2 E79 33 48.3
213	153"	333"	N29 03 09.9 E79 33 52.4
214	158"	338"	N29 03 07.7 E79 33 53.7
215	144"	324"	N29 03 04.5 E79 33 55.1



BHUWAN JOSHI (P.O.)
मु. ख. 0/RQP/DDN/01/...

BHUWAN JOSHI
मु. ख. 0/RQP/DDN/01/...

216	159 ⁰	339 ⁰	N29 03 02.3 E79 33 57.0
217	177 ⁰	357 ⁰	N29 02 59.5 E79 33 58.2
218	155 ⁰	335 ⁰	N29 02 56.1 E79 33 58.4
219	143 ⁰	323 ⁰	N29 02 53.6 E79 33 59.8
220	140 ⁰	320 ⁰	N29 02 50.5 E79 34 02.5
221	162 ⁰	342 ⁰	N29 02 48.1 E79 34 04.7
222	184 ⁰	4 ⁰	N29 02 44.9 E79 34 05.9
223	170 ⁰	350 ⁰	N29 02 42.1 E79 34 05.7
224	167 ⁰	347 ⁰	N29 02 38.8 E79 34 06.4
225	139 ⁰	319 ⁰	N29 02 36.2 E79 34 07.0
226	160 ⁰	340 ⁰	N29 02 33.1 E79 34 10.2
227	178 ⁰	358 ⁰	N29 02 30.2 E79 34 11.4
228	212 ⁰	32 ⁰	N29 02 26.8 E79 34 11.5
229	197 ⁰	17 ⁰	N29 02 24.0 E79 34 09.5
230	179 ⁰	359 ⁰	N29 02 21.1 E79 34 08.5
231	164 ⁰	344 ⁰	N29 02 18.0 E79 34 08.6
232	171 ⁰	351 ⁰	N29 02 14.7 E79 34 09.6
233	176 ⁰	356 ⁰	N29 02 12.5 E79 34 10.0
234	178 ⁰	358 ⁰	N29 02 08.9 E79 34 10.3
235	180 ⁰	0 ⁰	N29 02 06.4 E79 34 10.4
236	142 ⁰	322 ⁰	N29 02 03.2 E79 34 10.4
237	151 ⁰	331 ⁰	N29 02 01.4 E79 34 12.0
238	159 ⁰	339 ⁰	N29 01 58.3 E79 34 14.0
239	168 ⁰	348 ⁰	N29 01 55.3 E79 34 15.3
240	175 ⁰	355 ⁰	N29 01 51.8 E79 34 16.2
241	154 ⁰	334 ⁰	N29 01 48.8 E79 34 16.5
242	158 ⁰	338 ⁰	N29 01 46.2 E79 34 18.0
243	173 ⁰	353 ⁰	N29 01 43.2 E79 34 19.3
244	189 ⁰	9 ⁰	N29 01 39.6 E79 34 19.8
245	186 ⁰	6 ⁰	N29 01 37.0 E79 34 19.4
246	174 ⁰	354 ⁰	N29 01 34.9 E79 34 19.1
247	176 ⁰	356 ⁰	N29 01 33.0 E79 34 19.4
248	184 ⁰	4 ⁰	N29 01 30.3 E79 34 19.6
249	180 ⁰	0 ⁰	N29 01 27.4 E79 34 19.4
250	178 ⁰	358 ⁰	N29 01 23.7 E79 34 19.4
251	176 ⁰	356 ⁰	N29 01 20.2 E79 34 19.5
252	182 ⁰	2 ⁰	N29 01 17.4 E79 34 19.7
253	230 ⁰	50 ⁰	N29 01 13.7 E79 34 19.6
254	202 ⁰	22 ⁰	N29 01 10.2 E79 34 14.8
255	226 ⁰	46 ⁰	N29 01 07.3 E79 34 13.5
256	199 ⁰	19 ⁰	N29 01 05.0 E79 34 10.8
257	203 ⁰	23 ⁰	N29 01 01.6 E79 34 09.5
258	205 ⁰	25 ⁰	N29 00 58.3 E79 34 07.8
259	202 ⁰	22 ⁰	N29 00 55.1 E79 34 06.1
260	178 ⁰	358 ⁰	N29 00 51.8 E79 34 04.6
261	205 ⁰	25 ⁰	N29 00 48.7 E79 34 04.7
262	264 ⁰	84 ⁰	N29 00 45.4 E79 34 03.0
263	280 ⁰	100 ⁰	N29 00 45.1 E79 33 59.5
264	213 ⁰	33 ⁰	N29 00 45.8 E79 33 54.8
265	199 ⁰	19 ⁰	N29 00 42.9 E79 33 52.7
266	177 ⁰	357 ⁰	N29 00 39.8 E79 33 51.5
267	216 ⁰	36 ⁰	N29 00 36.6 E79 33 51.7
268	175 ⁰	355 ⁰	N29 00 33.9 E79 33 49.5
269	183 ⁰	3 ⁰	N29 00 31.0 E79 33 49.8
270	133 ⁰	313 ⁰	N29 00 27.8 E79 33 49.6



BHUWAN JOSHI (Rop)
 No. ख0/RQP/DDN/01/2
BHUWAN JOSHI
 No. ख0/RQP/DDN/01/2

272	133 ⁰	313 ⁰	N29 00 25.7 E79 33 52.1
273	192 ⁰	12 ⁰	N29 00 23.6 E79 33 54.8
274	220 ⁰	40 ⁰	N29 00 21.1 E79 33 58.0
275	246 ⁰	66 ⁰	N29 00 14.5 E79 33 56.4
276	217 ⁰	37 ⁰	N29 00 11.9 E79 33 53.9
277	239 ⁰	59 ⁰	N29 00 10.2 E79 33 49.6
278	241 ⁰	61 ⁰	N29 00 07.5 E79 33 47.3
279	232 ⁰	52 ⁰	N29 00 06.6 E79 33 45.6
280	221 ⁰	41 ⁰	N29 00 05.3 E79 33 42.9
281	240 ⁰	60 ⁰	N29 00 03.8 E79 33 40.7
282	242 ⁰	62 ⁰	N29 00 01.9 E79 33 38.8
283	220 ⁰	40 ⁰	N29 00 00.0 E79 33 35.1
284	224 ⁰	44 ⁰	N28 59 58.5 E79 33 31.8
285	220 ⁰	40 ⁰	N28 59 56.0 E79 33 29.4
286	223 ⁰	43 ⁰	N28 59 53.9 E79 33 27.1
287	212 ⁰	32 ⁰	N28 59 51.2 E79 33 24.5
288	311 ⁰	131 ⁰	N28 59 48.4 E79 33 21.5
289	36 ⁰	216 ⁰	N28 59 45.3 E79 33 19.3
290	29 ⁰	209 ⁰	N28 59 51.1 E79 33 11.7
291	32 ⁰	212 ⁰	N28 59 53.9 E79 33 14.0
292	24 ⁰	204 ⁰	N28 59 56.1 E79 33 15.4
293	45 ⁰	225 ⁰	N28 59 59.0 E79 33 17.5
294	12 ⁰	192 ⁰	N29 00 01.6 E79 33 18.8
295	39 ⁰	219 ⁰	N29 00 04.7 E79 33 22.4
296	19 ⁰	199 ⁰	N29 00 07.9 E79 33 23.2
297	22 ⁰	202 ⁰	N29 00 11.6 E79 33 26.6
298	23 ⁰	203 ⁰	N29 00 15.5 E79 33 28.2
299	5 ⁰	185 ⁰	N29 00 18.6 E79 33 29.6
300	17 ⁰	197 ⁰	N29 00 21.3 E79 33 30.9
301	3 ⁰	183 ⁰	N29 00 25.0 E79 33 31.3
302	18 ⁰	198 ⁰	N29 00 29.1 E79 33 32.7
303	11 ⁰	191 ⁰	N29 00 33.4 E79 33 33.0
304	58 ⁰	238 ⁰	N29 00 37.4 E79 33 34.5
305	37 ⁰	217 ⁰	N29 00 42.8 E79 33 35.7
306	36 ⁰	216 ⁰	N29 00 44.7 E79 33 39.1
307	36 ⁰	216 ⁰	N29 00 47.4 E79 33 41.4
308	41 ⁰	221 ⁰	N29 00 49.9 E79 33 43.5
309	37 ⁰	217 ⁰	N29 00 53.1 E79 33 46.2
310	51 ⁰	231 ⁰	N29 00 55.9 E79 33 49.0
311	38 ⁰	218 ⁰	N29 00 59.2 E79 33 51.8
312	19 ⁰	199 ⁰	N29 01 00.9 E79 33 54.2
313	35 ⁰	215 ⁰	N29 01 03.5 E79 33 56.5
314	341 ⁰	161 ⁰	N29 01 08.4 E79 33 58.4
315	322 ⁰	142 ⁰	N29 01 11.2 E79 34 00.6
316	331 ⁰	151 ⁰	N29 01 13.8 E79 33 59.6
317	11 ⁰	191 ⁰	N29 01 17.2 E79 33 56.6
318	30 ⁰	210 ⁰	N29 01 20.2 E79 33 54.7
319	17 ⁰	197 ⁰	N29 01 21.6 E79 33 55.0
320	8 ⁰	188 ⁰	N29 01 24.5 E79 33 56.9
321	345 ⁰	165 ⁰	N29 01 28.2 E79 33 58.2
322	1 ⁰	181 ⁰	N29 01 31.4 E79 33 58.7
323	342 ⁰	162 ⁰	N29 01 35.3 E79 33 57.5
324	347 ⁰	167 ⁰	N29 01 39.6 E79 33 57.6
325	327 ⁰	147 ⁰	N29 01 44.6 E79 33 55.8
			N29 01 47.9 E79 33 54.9



BHUWAN JOSHI (R)

मु० ख०/RQP/DDN/01/...

BHUWAN JOSHI

मु० ख०/RQP/DDN/01/...

272	133 ⁰	311	N29 00 25.7 E79 33 52.1
273	192 ⁰	313 ⁰	N29 00 23.6 E79 33 54.8
274	220 ⁰	12 ⁰	N29 00 21.1 E79 33 58.0
275	246 ⁰	40 ⁰	N29 00 14.5 E79 33 56.4
276	217 ⁰	66 ⁰	N29 00 11.9 E79 33 53.9
277	239 ⁰	37 ⁰	N29 00 10.2 E79 33 49.6
278	241 ⁰	59 ⁰	N29 00 07.5 E79 33 47.3
279	232 ⁰	61 ⁰	N29 00 06.6 E79 33 45.6
280	221 ⁰	52 ⁰	N29 00 05.3 E79 33 42.9
281	240 ⁰	41 ⁰	N29 00 03.8 E79 33 40.7
282	242 ⁰	60 ⁰	N29 00 01.9 E79 33 38.8
283	220 ⁰	62 ⁰	N29 00 00.0 E79 33 35.1
284	224 ⁰	40 ⁰	N28 59 58.5 E79 33 31.8
285	220 ⁰	44 ⁰	N28 59 56.0 E79 33 29.4
286	223 ⁰	40 ⁰	N28 59 53.9 E79 33 27.1
287	212 ⁰	43 ⁰	N28 59 51.2 E79 33 24.5
288	311 ⁰	32 ⁰	N28 59 48.4 E79 33 21.6
289	36 ⁰	131 ⁰	N28 59 45.3 E79 33 19.3
290	29 ⁰	216 ⁰	N28 59 51.1 E79 33 11.7
291	32 ⁰	209 ⁰	N28 59 53.9 E79 33 14.0
292	24 ⁰	212 ⁰	N28 59 56.1 E79 33 15.4
293	45 ⁰	204 ⁰	N28 59 59.0 E79 33 17.5
294	12 ⁰	225 ⁰	N29 00 01.6 E79 33 18.8
295	39 ⁰	192 ⁰	N29 00 04.7 E79 33 22.4
296	19 ⁰	219 ⁰	N29 00 07.9 E79 33 23.2
297	22 ⁰	199 ⁰	N29 00 11.6 E79 33 26.6
298	23 ⁰	202 ⁰	N29 00 15.5 E79 33 28.2
299	5 ⁰	203 ⁰	N29 00 18.6 E79 33 29.6
300	17 ⁰	185 ⁰	N29 00 21.3 E79 33 30.9
301	3 ⁰	197 ⁰	N29 00 25.0 E79 33 31.3
302	18 ⁰	183 ⁰	N29 00 29.1 E79 33 32.7
303	11 ⁰	198 ⁰	N29 00 33.4 E79 33 33.0
304	58 ⁰	191 ⁰	N29 00 37.4 E79 33 34.5
305	37 ⁰	238 ⁰	N29 00 42.8 E79 33 35.7
306	36 ⁰	217 ⁰	N29 00 44.7 E79 33 39.1
307	36 ⁰	216 ⁰	N29 00 47.4 E79 33 41.4
308	41 ⁰	216 ⁰	N29 00 49.9 E79 33 43.5
309	37 ⁰	221 ⁰	N29 00 53.1 E79 33 46.2
310	51 ⁰	217 ⁰	N29 00 55.9 E79 33 49.0
311	38 ⁰	231 ⁰	N29 00 59.2 E79 33 51.8
312	19 ⁰	218 ⁰	N29 01 00.9 E79 33 54.2
313	35 ⁰	199 ⁰	N29 01 03.5 E79 33 56.5
314	341 ⁰	215 ⁰	N29 01 08.4 E79 33 58.4
315	322 ⁰	161 ⁰	N29 01 11.2 E79 34 00.6
316	331 ⁰	142 ⁰	N29 01 13.8 E79 33 59.6
317	11 ⁰	151 ⁰	N29 01 17.2 E79 33 56.6
318	30 ⁰	191 ⁰	N29 01 20.2 E79 33 54.7
319	17 ⁰	210 ⁰	N29 01 21.6 E79 33 55.0
320	8 ⁰	197 ⁰	N29 01 24.5 E79 33 56.9
321	345 ⁰	188 ⁰	N29 01 28.2 E79 33 58.2
322	1 ⁰	165 ⁰	N29 01 31.4 E79 33 58.7
323	342 ⁰	181 ⁰	N29 01 35.3 E79 33 57.5
324	347 ⁰	162 ⁰	N29 01 39.6 E79 33 57.6
325	327 ⁰	167 ⁰	N29 01 44.6 E79 33 55.8
		147 ⁰	N29 01 47.9 E79 33 54.9



BHUWAN JOSHI (RQP)
मु. ख. 0/RQP/DDN/01/2016

BHUWAN JOSHI
मु. ख. 0/RQP/DDN/01/2016

326	320 ⁰	140 ⁰	N29 01 50.9 E79 33 52.7
327	3 ⁰	183 ⁰	N29 01 54.9 E79 33 48.9
328	6 ⁰	186 ⁰	N29 02 00.3 E79 33 49.2
329	46 ⁰	226 ⁰	N29 02 03.8 E79 33 49.6
330	44 ⁰	224 ⁰	N29 02 05.9 E79 33 52.1
331	4 ⁰	184 ⁰	N29 02 08.6 E79 33 55.1
332	356 ⁰	176 ⁰	N29 02 11.2 E79 33 55.3
333	343 ⁰	163 ⁰	N29 02 17.1 E79 33 54.8
334	11 ⁰	191 ⁰	N29 02 21.1 E79 33 53.4
335	341 ⁰	161 ⁰	N29 02 24.9 E79 33 54.2
336	339 ⁰	159 ⁰	N29 02 30.2 E79 33 52.1
337	320 ⁰	140 ⁰	N29 02 34.8 E79 33 50.1
338	352 ⁰	172 ⁰	N29 02 37.7 E79 33 47.3
339	332 ⁰	152 ⁰	N29 02 40.9 E79 33 46.8
340	312 ⁰	132 ⁰	N29 02 43.7 E79 33 45.1
341	12 ⁰	192 ⁰	N29 02 46.4 E79 33 42.7
342	322 ⁰	142 ⁰	N29 02 50.6 E79 33 42.7
343	325 ⁰	145 ⁰	N29 02 53.6 E79 33 40.0
344	336 ⁰	156 ⁰	N29 02 56.3 E79 33 37.8
345	321 ⁰	141 ⁰	N29 02 59.3 E79 33 35.3
346	338 ⁰	158 ⁰	N29 03 02.2 E79 33 33.8
347	339 ⁰	159 ⁰	N29 03 05.8 E79 33 31.9
348	336 ⁰	156 ⁰	N29 03 08.9 E79 33 30.5
349	344 ⁰	164 ⁰	N29 03 12.8 E79 33 28.5
350	323 ⁰	143 ⁰	N29 03 17.2 E79 33 27.0
351	331 ⁰	151 ⁰	N29 03 20.6 E79 33 24.1
352	339 ⁰	159 ⁰	N29 03 25.7 E79 33 20.8
353	354 ⁰	174 ⁰	N29 03 29.4 E79 33 19.2
354	351 ⁰	171 ⁰	N29 03 35.1 E79 33 18.5
355	333 ⁰	153 ⁰	N29 03 40.2 E79 33 17.6
356	313 ⁰	133 ⁰	N29 03 44.0 E79 33 15.4
357	355 ⁰	175 ⁰	N29 03 46.8 E79 33 12.0
358	344 ⁰	164 ⁰	N29 03 51.7 E79 33 11.5
359	358 ⁰	178 ⁰	N29 03 54.7 E79 33 10.5
360	349 ⁰	169 ⁰	N29 03 57.4 E79 33 10.4
361	357 ⁰	177 ⁰	N29 04 00.9 E79 33 09.6
362	0 ⁰	180 ⁰	N29 04 04.0 E79 33 09.4
363	347 ⁰	167 ⁰	N29 04 07.2 E79 33 09.4
364	1 ⁰	181 ⁰	N29 04 09.4 E79 33 08.8
365	16 ⁰	196 ⁰	N29 04 11.9 E79 33 08.9
366	7 ⁰	187 ⁰	N29 04 13.9 E79 33 09.5
367	17 ⁰	197 ⁰	N29 04 15.6 E79 33 09.8
368	4 ⁰	184 ⁰	N29 04 17.4 E79 33 10.4
369	354 ⁰	174 ⁰	N29 04 19.6 E79 33 10.6
370	343 ⁰	163 ⁰	N29 04 21.8 E79 33 10.3
371	353 ⁰	173 ⁰	N29 04 25.6 E79 33 09.0
372	3 ⁰	183 ⁰	N29 04 28.6 E79 33 08.6
373	342 ⁰	162 ⁰	N29 04 31.6 E79 33 08.8
374	331 ⁰	151 ⁰	N29 04 45.6 E79 33 03.5
375	339 ⁰	159 ⁰	N29 04 48.5 E79 33 01.7
376	343 ⁰	163 ⁰	N29 04 57.4 E79 32 57.8
377	354 ⁰	174 ⁰	N29 05 06.7 E79 32 54.6
378	9 ⁰	189 ⁰	N29 05 16.3 E79 32 53.4
379	357 ⁰	177 ⁰	N29 05 19.6 E79 32 54.0
380	13 ⁰	193 ⁰	N29 05 23.3 E79 32 53.8



BHUWAN JOSHI (P)
 म० ख०/RQP/DDN/01
BHUWAN JOSHI
 मु० ख०/RQP/DDN/01

N29 05 26-6-70 25117

382	1 ⁰	181 ⁰	N29 05 31.1 E79 32 55.0
383	346 ⁰	166 ⁰	N29 05 33.8 E79 32 55.0
384	357 ⁰	177 ⁰	N29 05 36.8 E79 32 54.2
385	5 ⁰	185 ⁰	N29 05 39.8 E79 32 54.0
386	358 ⁰	178 ⁰	N29 05 41.9 E79 32 54.2
387	13 ⁰	193 ⁰	N29 05 44.8 E79 32 54.1
388	17 ⁰	197 ⁰	N29 05 47.7 E79 32 54.8
389	15 ⁰	195 ⁰	N29 05 50.2 E79 32 55.7
390	2 ⁰	182 ⁰	N29 05 52.4 E79 32 56.4
391	352 ⁰	172 ⁰	N29 05 56.7 E79 32 56.6
392	352 ⁰	172 ⁰	N29 06 00.3 E79 32 56.0
393	345 ⁰	165 ⁰	N29 06 03.3 E79 32 55.5
394	350 ⁰	170 ⁰	N29 06 06.6 E79 32 54.5
395	355 ⁰	175 ⁰	N29 06 09.6 E79 32 53.9
396	346 ⁰	166 ⁰	N29 06 12.4 E79 32 53.6
397	339 ⁰	159 ⁰	N29 06 15.9 E79 32 52.6
398	341 ⁰	161 ⁰	N29 06 18.7 E79 32 51.4
399	358 ⁰	178 ⁰	N29 06 22.0 E79 32 50.1
400	342 ⁰	162 ⁰	N29 06 24.1 E79 32 50.0
401	338 ⁰	158 ⁰	N29 06 25.7 E79 32 49.4
402	329 ⁰	149 ⁰	N29 06 28.0 E79 32 48.3
403	12 ⁰	192 ⁰	N29 06 30.1 E79 32 46.9
404	10 ⁰	190 ⁰	N29 06 33.0 E79 32 47.6
405	3 ⁰	183 ⁰	N29 06 35.5 E79 32 48.1
406	6 ⁰	186 ⁰	N29 06 38.4 E79 32 48.3
407	357 ⁰	177 ⁰	N29 06 41.7 E79 32 48.7
408	344 ⁰	164 ⁰	N29 06 43.4 E79 32 48.6
409	355 ⁰	175 ⁰	N29 06 45.8 E79 32 47.8
410	344 ⁰	164 ⁰	N29 06 48.2 E79 32 47.5
411	352 ⁰	172 ⁰	N29 06 50.5 E79 32 46.8
412	348 ⁰	168 ⁰	N29 06 52.9 E79 32 46.4
413	350 ⁰	170 ⁰	N29 06 55.3 E79 32 45.8
414	351 ⁰	171 ⁰	N29 06 57.4 E79 32 45.4
415	13 ⁰	193 ⁰	N29 06 59.1 E79 32 45.1
416	21 ⁰	201 ⁰	N29 07 01.4 E79 32 45.7
417	14 ⁰	194 ⁰	N29 07 03.5 E79 32 46.6
418	15 ⁰	195 ⁰	N29 07 05.7 E79 32 47.2
419	23 ⁰	203 ⁰	N29 07 08.2 E79 32 48.0
420	1 ⁰	181 ⁰	N29 07 11.1 E79 32 49.4
421	351 ⁰	171 ⁰	N29 07 14.3 E79 32 49.5
422	13 ⁰	193 ⁰	N29 07 17.5 E79 32 48.9
423	10 ⁰	190 ⁰	N29 07 20.6 E79 32 49.7
424	340 ⁰	160 ⁰	N29 07 23.3 E79 32 50.3
425	350 ⁰	170 ⁰	N29 07 25.7 E79 32 49.3
426	19 ⁰	199 ⁰	N29 07 28.3 E79 32 48.8
427	343 ⁰	163 ⁰	N29 07 30.9 E79 32 49.8
428	349 ⁰	169 ⁰	N29 07 32.9 E79 32 49.1
429	358 ⁰	178 ⁰	N29 07 34.7 E79 32 48.7
430	346 ⁰	166 ⁰	N29 07 37.2 E79 32 48.6
431	339 ⁰	159 ⁰	N29 07 39.3 E79 32 48.0
432	0 ⁰	180 ⁰	N29 07 41.6 E79 32 47.0
433	356 ⁰	176 ⁰	N29 07 44.2 E79 32 47.0
434	331 ⁰	151 ⁰	N29 07 46.8 E79 32 46.8
435	341 ⁰	161 ⁰	N29 07 49.2 E79 32 45.2



BHUWAN JOSHI (R)
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492	17°	197°	N29 10 25.9 E79 32 29.4
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496	344°	164°	N29 10 34.5 E79 32 33.5
497	7°	187°	N29 10 37.5 E79 32 32.5
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500	4°	184°	N29 10 45.5 E79 32 33.6
501	4°	184°	N29 10 48.6 E79 32 33.9
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503	303°	123°	N29 10 54.4 E79 32 33.6
504	356°	176°	N29 10 55.6 E79 32 31.9
505	0°	180°	N29 10 59.1 E79 32 30.8
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513	355°	175°	N29 11 21.0 E79 32 27.5
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525	348°	168°	N29 11 59.7 E79 32 23.6
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527	353°	173°	N29 12 05.6 E79 32 22.8
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535	355°	175°	N29 12 30.6 E79 32 11.8
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537	1°	181°	N29 13 01.0 E79 32 10.1
538	22°	202°	N29 13 04.7 E79 32 10.2
539	13°	193°	N29 13 07.7 E79 32 11.6
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542	17°	197°	N29 13 17.2 E79 32 17.8
543	29°	209°	N29 13 21.7 E79 32 19.4
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545	15°	195°	N29 13 28.1 E79 32 23.4



BHUWAN JOSHI (RQP)
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546	13 ⁰	193 ⁰	N29 13 31.0 E79 32 24.5
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548	27 ⁰	207 ⁰	N29 13 40.9 E79 32 27.1
549	36 ⁰	216 ⁰	N29 13 43.8 E79 32 28.8
550	36 ⁰	216 ⁰	N29 13 46.4 E79 32 31.0
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553	15 ⁰	195 ⁰	N29 13 55.3 E79 32 36.1
554	15 ⁰	195 ⁰	N29 13 59.5 E79 32 37.4
555	13 ⁰	193 ⁰	N29 14 03.9 E79 32 39.7
556	20 ⁰	200 ⁰	N29 14 08.9 E79 32 42.0
557	18 ⁰	198 ⁰	N29 14 14.1 E79 32 42.2
558	44 ⁰	224 ⁰	N29 14 19.0 E79 32 44.0
559	28 ⁰	208 ⁰	N29 14 22.3 E79 32 47.7
560	345 ⁰	165 ⁰	N29 14 25.0 E79 32 49.9
561	358 ⁰	178 ⁰	N29 14 29.5 E79 32 48.8
562	354 ⁰	174 ⁰	N29 14 33.8 E79 32 48.6
563	358 ⁰	178 ⁰	N29 14 36.8 E79 32 48.2
564	350 ⁰	170 ⁰	N29 14 40.4 E79 32 48.1
565	356 ⁰	176 ⁰	N29 14 42.3 E79 32 47.7
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567	7 ⁰	187 ⁰	N29 14 47.5 E79 32 48.0
568	0 ⁰	180 ⁰	N29 14 50.0 E79 32 48.4
569	355 ⁰	175 ⁰	N29 14 53.4 E79 32 48.4
570	348 ⁰	168 ⁰	N29 14 56.0 E79 32 48.1
571	21 ⁰	201 ⁰	N29 14 59.2 E79 32 47.4
572	17 ⁰	197 ⁰	N29 15 01.9 E79 32 48.6
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574	358 ⁰	178 ⁰	N29 15 12 7.1 E79 32 51.5
575	91 ⁰	271 ⁰	N29 15 17.5 E79 32 51.4



(बहुमुखी विकास) एवं पर्यावरण
वनसंरक्षण गोलरेल रेली पूर्वी वन प्रभाग, हल्द्वारी



BHUWAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016

BHUWAN JOSHI
मु० ख०/RQP/DDN/01/2016



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BHUMKANT JOSHI (RQP)
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P. No. 1161/1999-FC
Government of India
Ministry of Environment & Forests
(FC Division)

3/3/2016
14/03/2016
28/01/2016

Project on Research
CCG Campus
Ludhiana Road, P.O. Box 110000
Date: 28th January, 2016

The Principal Secretary (Forest)
Forest and Revenue Department,
Government of Uttarakhand
Dehradun

1. Proposal to obtain prior approval of the Central Government under the Forest (Conservation) Act, 1980, for collection of sample seedlings and other minor & brush, from 1487 ha. area in river bed of Gula river for a period of 10 years by the Uttarakhand Forest Development Corporation.

Sr.

I am directed to refer to the Joint Principal Chief Conservator of Forests & the Senior Officer, Forest (Administration) No. 1880, Government of Uttarakhand's letter No. 2317/FC-FC (Forest) dated 20.07.2010 and No. 8.17/FC-FC dated 06.10.2011 on the above mentioned subject, seeking prior approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 and to say that the said proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section 2 of the Forest (Conservation) Act, 1980 and the proposal has been approved by the Central Government under Section 2 of the said Act, subject to the following conditions: (a) The said area was granted under this Ministry's order of even (number dated) 20.07.2010 subject to fulfillment of certain conditions. The State Government has furnished a plan report in respect of conditions stipulated in the said proposal and has requested the Central Government for prior approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the Joint Principal Chief Conservator of Forests & the Senior Officer, Forest (Administration) No. 1880, Government of Uttarakhand and letters No. 1024/FC-FC dated 11.11.2011 and No. 1251/FC-FC dated 19.11.2012 and the Executive Forest Officer, Forest Development Corporation's letter No. 417/FC dated 19.01.2013 approved by the Central Government, the said area has been granted under Section 2 of the Forest (Conservation) Act, 1980 for collection of sample seedlings and other minor & brush from 1487 hectares area in river bed of Gula river for a period of 10 years by the Uttarakhand Forest Development Corporation, subject to fulfillment of the following conditions:

- (a) Legal status of the proposed forest will remain as follows:

sh. D. K. Joshi

for V.P.

श्री. धीरेंद्र प्रजापति
वरिष्ठ अधिकारी



BHUWAN JOSHI (RQP)
मो. ख०/RQP/DDN/01/2016

BHUWAN JOSHI
मो. ख०/RQP/DDN/01/2016

- (i) Compensation allowed over the degraded forest land equal to extent of the forest and being diverted shall be raised and maintained by the State Forest Department, from funds allotted from the User Agency.
- (ii) The State Government shall realize from the user agency the additional amount of Rs. 2, if not determined, as per the final decision of the Hon'ble Supreme Court of India and transfer the same to the ad-hoc CAMPA.
- (iii) The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental Protection Act, 1986, if required.
- (iv) The State Government and the user agency shall work with local residents of Binda Katla to give safe and uninterrupted passage to the wild animals passing through the Gola corridor, expedite payment of compensation in case of any damage to property etc. and promote income awareness of the methods of co-existence of man and wildlife.
- (v) The State Government shall not allow any new facility/ structure within the Gola corridor to ensure its restoration in future. The State Government shall also ensure that the boundary of the ITBP Battalion headquarters be shifted towards south so as to ensure that it is located entirely on southern side of the Gola corridor and that the corridor is maintained free of fresh obstructions from the Highway/ Railway except the Binda Katla settlement.
- (vi) To eliminate disturbance from collection of minor minerals on movement of wild animals along the Gola corridor, collection of minor minerals in a 2.50 km long stretch of the river bed adjacent to the Gola corridor shall be prohibited. However, in case it is observed that collection of minor mineral from the corridor results in major floods in adjoining areas, the user agency, under strict supervision of the State Forest Department and representative of the Chief Wildlife Warden, may undertake periodic accidental collection during the period having least frequency of wildlife movement of minor minerals from collection of the river bed, to maintain river geometry.
- (vii) To restore the functionality and utility of the regulatory corridor linking Garhi Tega, Laxmi and the Panna National Park, the State Government may explore feasibility to restrict the activities from the Sanjivdham Project by means State CAMPA, under.
- (viii) The State Government shall constitute a committee under Chairmanship of the Principal Chief Conservator of Forests, Government of Uttarakhand and having the representation of the Ministry of Environment & Forests, Wildlife Institute of India and NGOs such as WWF-India, WTI, IUCN etc. as its members, before start of mining/ collection of minor minerals, to review annually the status of compliance of the stipulated conditions and give appropriate direction to the user agency in case of any deviation as well as any hazard due to non-removal of minor minerals from the prohibited corridor. The collection of minor minerals after 31st day of January in a year shall be allowed only after receipt of certificate from the Monitoring Committee that the conditions stipulated in the approval accorded under the Forest Conservation Act, 1980 and its instructions issued by the Ministry of Environment and Forests, Government of India are complied in relation to the minor minerals during the previous year.



BHUWAN JOSHI (RQP)
मु. ख. 0/RQP/DDN/01/2016

BHUWAN JOSHI

मु. ख. 0/RQP/DDN/01/2016

- (iv) To ensure extraction of minor minerals in a sustainable manner, the user agency shall formulate a transparent and unbiased procedure for management of I-Permits for extraction of the minor minerals from the diverted forest land.
- (v) Fifty percent of the net profit earned by the user agency from the collection of minor minerals shall be deposited in a Special Purpose Vehicle (SPV) to be constituted by the State Government under the Chairmanship of the Chief Wildlife Warden, Government of Uttarakhand. The amount to be deposited in the SPV shall be used exclusively for river training activities and management & protection of forest & wildlife in vicinity of forest land diverted for collection of minor minerals.
- (vi) The total quantity of minor minerals extracted during a year shall not be more than 50,000 lakh cubic meter.
- (vii) Extraction of minor minerals shall be restricted to the middle half of the of the width of river bed after leaving intact one-fourth of width of the river bed along its each bank.
- (viii) To ensure maintenance of river geometry, collection of minor minerals during a working season shall start from centre of the river width and shall gradually extend to the boundary of the permissible area. The maximum permissible depth for collection of minor minerals at centre of the river width shall be limited to 1m and it shall gradually be reduced till it reaches boundary of the permissible zone.
- (ix) To regulate and maintain record of the quantity of minor minerals extracted during a season, the State Forest Department shall set up adequate number of check posts during the collection season.
- (x) Extraction of minor mineral shall be restricted from 1 October to 31 May of subsequent year.
- (xi) Minor minerals shall be collected manually by using hand tools. The use of heavy machinery for breaking/collection of minor minerals shall be strictly prohibited.
- (xii) Collection area shall be maximum upto 1000 sq. m.
- (xiii) No blasting activity shall be set up in the forest area for the collection of minor minerals.
- (xiv) Breaking of boundary shall be undertaken outside the forest boundary.
- (xv) The workers engaged in collection work shall be provided with adequate safety gear/protective gear of energy to avoid any possible injury.
- (xvi) The boundary of the forest land being diverted shall be demarcated by putting up concrete pillars by erecting four feet high reinforced cement concrete pillars, with the serial number, GPS coordinates, forward and back-sighting, and distance from actual pillars etc.
- (xvii) The forest land shall not be used for any purpose other than that specified in the proposal.
- (xviii) User agency shall submit annual self-certifying report, indicating status of compliance to the conditions stipulated in the approval, to the State Government, and also to the Regional Office of this Ministry.



BHUWAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016

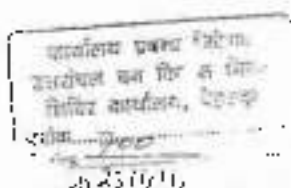
BHUWAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016

No. J-11815/363/2009-IA.II(M)
Government of India
Ministry of Environment and Forests
IA Division

Paryavaran Bhawan
CGO Complex, Indira Park,
New Delhi-110 031

Dated: 13th April, 2011

To
M/s Uttarakhand Forest Development Corporation
Aranya Vikas Bhawan,
77, Nehru Road,
Dehra Dun-248 001
E-mail: uafdemd@yahoo.com
Yanvikas12@gmail.com



Subject: Collection of Reta, Bajri and Boulder (Minor Mineral) from the River Bed of Gola River by M/s Uttarakhand Forest Development Corporation, located in Tehsil (a) Haldwani and Lal Kuan in the East Tarai and the Haldwani Forest Division, District Nainital, Uttarakhand. Environmental clearance regarding.

Sir,
This has reference to your letter No. U-2985/Environmental clearance dated 09.09.2010 and subsequent letters dated 15.11.2010 and 11.01.2011 on the subject mentioned above. The project was earlier prescribed Terms of Reference (TORs) by the Ministry of Environment and Forests on 15.02.2010 for undertaking detailed EIA study for the purpose of obtaining environmental clearance. The proposal is for extraction of 117Lakh Tonnes Per Annum (LTPA) of reta, bajri and boulder (minor mineral) from the river bed of Gola River.

2. The total mine lease area of the project is 1497ha, which is a forestland falling under the East Tarai and the Haldwani Forest Divisions in Nainital District. Out of the total lease area, an area of 200ha falls in the Haldwani Forest Division and remaining 1297ha in the East Tarai Forest Division of Western Circle of the Uttarakhand Forest. It was stated by the proponent that although the lease has been granted to them in perpetuity, however, since the forestry clearance is for a period of 10 years, the environmental clearance may also be granted for a maximum period of 10 years to make it co-terminus with the forestry clearance. The total length of Gola River under East Tarai Forest Division and the Haldwani Forest Division being proposed under the project is approximately 29km. Out of the total allotted area of 1497ha, the minor mineral collection will be carried out from 50% of the total area i.e. 748.5ha leaving 25% area on each side of the river banks for better channelization.



BHUWAN JOSHI (RQP)

ख०/RQP/DDM/01/2016

BHUWAN JOSHI

ख०/RQP/DDM/01/2016

the water during the rainy season and to protect the nearby forestland and habitat from floods. The area available for mining would therefore lie 748 ha along the centre of the river flow, which is devoid of any flora.

3. No national park and wildlife sanctuary are reported to be located in the core and buffer zone of the mine. The project area falls under the Shivalik Elephant Reserve. The Jim Corbett National Park is reported to be located at a distance of 46.57km NW from the project boundary. The Chief Wildlife Warden, Government of Uttarakhand vide letter No.1192/12-1 dated 08.12.2010 accorded NOC for collection of minor mineral from the Gola River in an area of 1497ha. An authenticated map has also been submitted. It was stated that the forest working plan, being implemented by State Forest Department include protection of wildlife and this would be duly taken care of while picking up of rets, bajri and sand. Three Reserve Forests namely the Gola RF(East), the Hallani RF(1.8km Southeast) and the Horal RF (2.1km North) and five Protected Forests namely the Barmdeo PF(East), the Kotkharra PF(South), the Lal Kuan PF(West), the Tunikhal PF(1.9km SE) and the Kharitan PF(5km South) are reported to be located in the buffer zone of the mine.

4. The mine working will be operated by manual method without involving drilling and blasting. The mining is confined to extraction of sand, rets and bajri from the river bed. The rets and bajri will be collected by sifting of river bed material using hand tools like shovel, pan, sieve etc. Mining will be carried out only during the day time. Extraction of river bed material will be completely stopped during the monsoon season. The targeted production capacity of the mine is 117 lakh TPA(50Lakh m³ per annum). The river bed material will be replenished during the monsoon season every year. The mined out material will be transported to their respective local markets via private agencies using their own transport. Computerized weigh bridges have been installed in order to check and monitor movement of material. The proposed mining area is reported to lie between 29°15'44.53" to 29°3'33.13" N Latitude and 78°22'50.54" to 78°32'22.71" E Longitude in topo sheet No. 53 O/12. The elevation from the sea level of the proposed area is reported as 510.61m in Chermahal Region (Kangdhar) and 504.2m in Lal Kuan Region (Lal Kuan). Mining will be carried out upto a depth of 1.5m. The quantity of mineral to be removed has been fixed based on implementation rate.

5. The public hearing of the project was held on 30.06.2010 for lease area of 1497ha from the Gola River. The Principal Secretary, Government of Uttarakhand vide letter No.2575/VII-1/163-PHA/2009/10 dated 24.10.2010 informed that collection of minor mineral from the river bed does not require mine plan approval under Uttarakhand Minor Mineral Concession Rules 2001. The Ministry of Environment and Forests has accorded stage-I approval under Forest (Conservation) Act, 1980 for diversion of 1497ha forestland, on 18/3/



BHUWAN JOSHI (RQP)
सु. सं०/RQP/DDN/01/2016

BHUWAN JOSHI
सु. सं०/RQP/DDN/01/2016

08.04.2011 for collection of stone, boulders and other minor minerals from the river bed of Gola River in the District Valmiki. The proponent has stated that there is no court case in the project or related activity.

6. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification, 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Minor Mineral (reta, bajri and boulder) Mining Project of M/s Uttarakhand Forest Development Corporation for an annual collection of 1,17,00,000 tonnes (117 Lakh tonnes) of reta, bajri and boulder (minor mineral) from the Gola River bed by the opencast manual method involving total mining lease area of 1497ha, for a period of 10 years or till the forestry clearance, whichever is earlier subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

- (i) The project proponent shall obtain Consent to Establish and Consent to Operate from the Uttarakhand Environment Protection & Pollution Control Board and effectively implement all the conditions stipulated therein.
- (ii) The environmental clearance is subject to grant of forestry clearance. The project proponent shall obtain requisite prior forestry clearance under the Forest (Conservation) Act, 1980 for working in the forest area.
- (iii) The project proponent shall ensure that wherever deployment of labour attracts the Mines Act, a provision thereof shall be strictly followed.
- (iv) Requisite prior clearance from the Standing Committee of the National Board for Wildlife shall be obtained due to location of the project area within Shivalik Elephant Reserve, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project. It shall be noted that this clearance does not necessarily implies that wildlife clearance shall be granted to the project and that your proposal for wildlife clearance shall be considered by the competent authorities on its merit and decision taken. The investment made in the project, if any based on environmental clearance granted to the project, in anticipation of the clearance from wildlife clearance shall be entirely at the cost and risk of the project proponent and Ministry of Environment and Forests shall not be responsible in this regard in any manner.
- (v) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.

14/-



BHUWAN JOSHI (RQP)

मु० ख०/RQP/DDN/01/2016

BHUWAN JOSHI

मु० ख०/RQP/DDN/01/2016

- (vi) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (vii) The project proponent shall prepare the plan of mining in conformity with the mine lease conditions and the Rules prescribed in this regard clearly showing the no work zone in the mine lease i.e. the distance from the bank of river to be left unworked, distance from the bridges etc. It shall be ensured that no mining shall be carried out during the monsoon season.
- (viii) The project proponent shall identify the degraded forest area within the mine lease in consultation with the State Forest Department and undertake plantation/afforestation work by planting the native species.
- (ix) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and a transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (x) The project proponent shall undertake adequate safeguard measures during extraction of river bed material and ensure that due to this activity the hydro geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring (at least four times in a year i.e. monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season) shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Lucknow, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.
- (xi) The project proponent shall obtain necessary prior permission of the competent authority for drawl of requisite quantity of water (surface water and groundwater), if any, required for the project.
- (xii) Appropriate mitigative measures shall be taken to prevent pollution of the river in consultation with the State Pollution Control Board. It shall be ensured that there is no leakage of oil and grease in the river from the vehicles used for transportation.

दि. 51-



BHUWAN JOSHI (RQP)
मु. ख. 0/RQP/DDN/01/2016

BHUWAN JOSHI

मु. ख. 0/RQP/DDN/01/2016

- (xiii) Vehicular emissions shall be kept under control and regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- (xiv) No drilling and blasting operation shall be carried out.
- (xv) Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.
- (xvii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, canteen etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (xviii) Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring the change of river course, if any and report submitted to the Ministry of Environment and Forests and its Regional Office located at Lucknow.
- (xix) The critical parameters such as PM_{10} (Particulate matter with size less than $10 \mu m$ in air, $PM_{2.5}$) and NO_x in the ambient air within the impact zone shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH, Fecal Coliform and Total Suspended Solids (TSS))]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-IA.II(M) dated 27.05.2006 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.
- (xx) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely elephant etc. found in the study area. Action plan for conservation of flora and fauna shall be prepared in consultation with the State Forest and Wildlife Department. All the conservation measures brought out in the Wildlife Conservation Plan so prepared specific to this project site shall be effectively implemented. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Lucknow.

261-



BHUWAN JOSHI (RQP)
मु० ख०/RQP/DCN/01/2016

BHUWAN JOSHI

मु० ख०/RQP/DCN/01/2016

- (xvi) The project proponent shall get a siltation study carried out within one year through some Expert Agency like Central Water Commission to determine the siltation load in the river bed so that there is no over exploitation of river bed material at any point of time. The mineral to be removed shall be determined based on siltation load. A copy of siltation study so carried out shall be submitted to the Ministry of Environment and Forests and its Regional Office Lucknow.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
 - (ii) No change in the calendar plan including excavation, quantum of mineral (cath, beryl and boulder (minor mineral)) and waste should be made.
 - (iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM_{10}) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
 - (iv) Data on ambient air quality RSPM (Particulate matter with size less than 10 micron i.e., PM_{10}) & NO_x should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.
 - (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
 - (vi) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- Occupational health surveillance program of the workers should be undertaken periodically to observe any contraindications due to exposure to dust and take corrective measures, if needed.
- (vii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
 - (viii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Lucknow.



BHUWAN JOSHI (RQP)

मु० ख०/RQP/DBN/01/2016

BHUWAN JOSHI

मु० ख०/RQP/DBN/01/2016

- (ix) The project authorities should inform the Regional Office located at Lucknow regarding date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
- (x) The Regional Office of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (y) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, the Regional Office Lucknow, the respective Zonal Office of Central Pollution Control Board (the State Pollution Control Board). The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Lucknow, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board.
- (xii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xiii) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's Office/ District's Office for 30 days.
- (xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Lucknow by e-mail.
- (xv) The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution

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BHUWAN JOSHI (RQP)

उप/रqp/ddn/01/2016

BHUWAN JOSHI

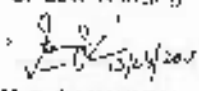
उप/रqp/ddn/01/2016

Control Board and also at web site of the Ministry of Environment and Forests at <https://enufor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Lucknow.

7. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

8. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

9. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder and also any other orders passed by the Hon'ble Supreme Court of India/High Court of Uttarakhand and any other Court of Law relating to the subject matter.


(SATISH C. GARKOTI)
Scientist 'F'

Copy to:

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi
- (ii) The Secretary, Department of Mines & Geology, Government of Uttarakhand, Secretariat, Dehradun.
- (iii) The Secretary, Department of Environment, Government of Uttarakhand, Secretariat, Dehradun.
- (iv) Chief Wildlife Warden, Government of Uttarakhand, Secretariat, Dehradun.
- (v) The Chief Conservator of Forests, Central Region, Ministry of Environment and Forests, B-1/72, Sector A, Allgauj, Lucknow-226026.
- (vi) The Chairman, Central Pollution Control Board, Farvash Bhawan, Con-Com Office complex, East Arjun Nagar, New Delhi-110003.
- (vii) The Member Secretary, Central Ground Water Authority, A-2, W3, Connaught Road Barracks, K.G. Marg, New Delhi 110001.
- (viii) The Chairman, Uttarakhand Environment Protection & Pollution Control Board, F-115, Nehru Colony, Hardwar Road, Dehradun, Uttarakhand.
- (ix) The Controller General, Indian Bureau of Mines, Indira Bhawan, Civil Lines, Noida-440 001

...9/-



BHUWAN JOSHI (RQP)
मु० खा०/RQP/DDN/01/2016

BHUWAN JOSHI

मु० खा०/RQP/DDN/01/2016

- (x) The District Collector, Nainital District, Uttarakhand.
(xi) E1 Division, Ministry of Environment and Forests, Parvathan Bhavan,
C. S. C. Complex, Lodi Road, New Delhi-110 003.
(xii) Monitoring File.
(xiii) Guard File.
(xiv) Record File.



BHUWAN JOSHI (RQP)

मु. ख. 0/RQP/DDN/01/2016

BHUWAN JOSHI

मु. ख. 0/RQP/DDN/01/2016

Ann-9

No. J-110105/363/2009-IA-II (M)
Government of India
Ministry of Environment Forest and Climate Change
Impact Assessment Division

2nd Floor, Prithvi Wing,
Indira Paryavaran Bhavan,
Jor Bagh Road, Aliganj,
New Delhi-110 003

Dated: 1st March, 2021

To,

M/s Uttarakhand Forest Development Corporation
Aranya Vikas Bhawan,
73, Nehru Road,
Dehradun-248 001
E-mail: jafdemd@yahoo.com, Vanvikas12@gmail.com

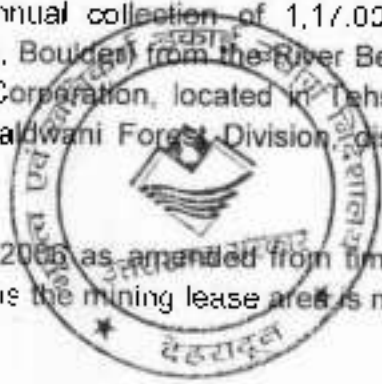
Sir,

Subject: Collection of Minor Minerals (Reta, Bajri, Boulder) from the River Bed of Gola River by M/s Uttarakhand van vikas nigam, located in Tehsil(s) Haldwani and Lal Kuan in the East Tarai and the Haldwani Forest Division, district Nainital, Uttarakhand - Extension of validity of Environmental Clearance regarding.

Ref: Proposal No. IA/UK/MIN/8724/2011

This is with reference to proposal of M/s Uttarakhand Van Vikas Nigam is for Amendment w.r.t. the extension of validity of EC co-terminous with the validity of Forest Clearance i.e. 22nd January, 2023. The EC was granted vide Letter No. J-110105/363/2009-IA-II(M) dated 13.04.2011 for an annual collection of 1,17,00,000 tonnes (117 Lakh tonnes) of Minor Minerals (Reta, Bajri, Boulder) from the River Bed of Gola River by M/s Uttarakhand Forest Development Corporation, located in Tehsil(s) Haldwani and Lal Kuan in the East Tarai and the Haldwani Forest Division, district Nainital, Uttarakhand.

2 As per EIA Notification dated 14th September, 2005 as amended from time to time, the project falls under Category B or Activity 1(a) as the mining lease area is more than 100 ha.



M/s Uttarakhand Forest Development Corporation

Page 1 of 4

ERHUNWAN JOSH (RQP)
मु 0 ख 0/RQP/DDN/41/2016

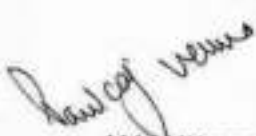
3. Project Proponent has submitted that Environmental Clearance was granted vide Letter No.J-11015/363/2009-IA-II(M) dated 13.04.2011 for an annual collection of 1,17,00,000 tonnes (117 Lakh tonnes) of Minor Minerals (Kata, Bajri, Boulder) from the River Bed of Gola River by M/s Uttaranchal Forest Development Corporation located in Tehsil(s) Halowani and La. Kuan in the East Tarai and the Haldwani Forest Division, district Nainital, Uttarakhand. Para 6 of EC letter specifically mentions that, "The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification, 2006 and hereby accords environmental clearance No.J-11015/363/2009-IA-II(M) dated 13.04.2011 for a period of 10 years or till the forestry clearance whichever is earlier ...".

4. Project Proponent vide its Proposal No. IA/UK/MIN/8724/2011 dated 29.08.2020 has applied for amendment in EC w.r.t. the extension of validity of EC coterminous with the validity of Forest Clearance i.e. 22nd January, 2023. PP has stated that MoEF&CC vide its letter F. No. 8-51/1999-FC dated 23.01.2013 granted Forest Clearance for a period of 10 years and is valid till 22.01.2023. Since, EC is also valid for a period of 10 years i.e. till 12.04.2021, therefore, PP has requested for extension of validity of Environmental Clearance coterminous with the validity of Forest Clearance i.e. 22nd January, 2023 for hassle free operations.

5. Based on the documents submitted and discussion held during 21st FAC meeting held on 23-25, September, 2020 the Committee recommended the proposal of extension of validity of Environmental Clearance dated 13.04.2011 till 22.01.2023 subject to the following additional conditions.

- I. The PP has to furnish the Certified Environmental Clearance Compliance report.
- II. All other terms and conditions prescribed under EC dated 13.04.2011 shall remain unchanged.

6. The Ministry of Environment, Forest & Climate Change has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto; and after accepting the recommendation of FAC meeting held during 23-25, September, 2020 hereby decided to accord the amendment of Environmental Clearance under the provisions thereof to the above mentioned proposal for grant of extension of validity of EC coterminous with the validity of Forest Clearance i.e. 22nd January, 2023 for M/s Uttarakhand Forest Development Corporation located at Gola River Reserve, Kanan Haldwani located at Gola River Reserve Forest, District Nainital, Uttarakhand. All other terms & conditions of the Environmental Clearance granted vide J-11015/363/2009-IA-II(M) dated 13.04.2011 shall remain same and Environmental Clearance is valid up to 22.01.2023.


M/s Uttaranchal Forest Development Corporation

Page 2 of 4

BHUVAN JOSHI (RQP)
30 ख0/RQP/DDN/01/2016

- 5). The Chief Conservator of Forests, Central Region, Ministry of Environment and Forests, B-1/72, Sector A, Aliganj, Lucknow-226020
- 6). The Member Secretary, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.
- 7). The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- 8). The Member Secretary, Uttarakhand Environment Protection & Pollution Control Board, E-115, Nenru Colony, Harwar Road, Dehradun, Uttarakhand.
- 9). The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- 10). The District Collector, Nainital District, Uttarakhand.
- 11). Guard File.
- 12). PARIVESH PORTAL.

(Pankaj Verma)

Scientist 'E'

Email- pankaj.verma@nic.in

Tel./Fax- 011- 24695284



**मूल्य एवं खनिकर्म इकाई, उद्योग निदेशालय, उत्तराखण्ड,
मोपालपानी, रायपुर, देहरादून।**

संख्या 515 / खनन/मूखनिई/माप्लान/2021-22.

दिनांक 31 मई, 2021

कार्यालय ज्ञाप

शासनादेश संख्या 179/VII-2/11-ख/2010, दिनांक 24 जनवरी, 2013 के द्वारा प्रबन्ध निदेशक, उत्तराखण्ड वन विकास निगम, देहरादून के पक्ष में जनपद नैनीताल की तहसील हल्द्वानी एवं लालकुआ के क्षेत्रान्तर्गत प्रवाहित होने वाली गौला नदी के क्षेत्रान्तर्गत 1497 हे० वन भूमि में 10 वर्ष की अवधि हेतु उपखनिज रेत, बजरी, बोल्टर के चुगान/खनन हेतु खनन पट्टा स्वीकृत किया गया है, की अवशेष अवधि हेतु प्रस्तुत खनन योजना जोकि श्री भुवन जोशी, मु०ख०/आ०ख०पी०/डी०डी०एन०/०१/2016 के द्वारा तैयार की गयी है, को वैज्ञानिक, तकनीकी एवं पर्यावरण सुरक्षा के दृष्टिकोण से खनन संक्रियाओं के सुनियोजित संचालन हेतु उपयुक्त पाये जाने के दृष्टिगत उत्तराखण्ड उपखनिज परिहार नियमावली-2001 के नियम-34 एवं उत्तराखण्ड उपखनिज (बालू, बजरी, बोल्टर) चुगान नीति-2016 के बिन्दु सं०-बिन्दु-22(2) के अन्तर्गत प्रदत्त अधिकार का प्रयोग करते हुए, प्रस्तुत खनन योजना का अनुमोदन निम्नलिखित शर्तों के अधीन किया जाता है:-

शर्त :-

1. खनन योजना का अनुमोदन खनन पट्टा विलेख/एम०ओ०यू०/शासनादेश संख्या: 179/VII-2/11-ख/2010, दिनांक 24 जनवरी, 2013 में स्वीकृत अवधि में से अवशेष अवधि के लिए किया जा रहा है।
2. पट्टाधारक द्वारा पर्यावरण एवं वन मंत्रालय, भारत सरकार के आदेश संख्या J-11015/363/2019(A.II(M), दिनांक 13.04.2011 एवं आदेश संख्या 8-81/1999-FC(P.T-II), दिनांक 23.01.2013 की समस्त शर्तों का अनुपालन करेगा।
3. पट्टाधारक शासनादेश संख्या 179/VII-2/11-ख/2010, दिनांक 24 जनवरी, 2013 की समस्त शर्तों का अनुपालन करेगा।
4. प्रस्तावित खनन क्षेत्र में खनन कार्य मैनुअल माइनिंग विधि से बिना ब्लास्टिंग के अनुमोदित खनन योजना के अनुसार किया जायेगा। खनन योजना के अनुसार प्रथम वर्ष में 54.25 लाख घनमी० (1,19,35,000 टन), द्वितीय वर्ष में 54.25 लाख घनमी० (1,19,35,000 टन) उपखनिज का खनन/चुगान किया जायेगा।
5. प्रश्नगत खनन क्षेत्र में खनन/चुगान कार्य पर्यावरणीय अनुमति दिनांक 13.04.2011 में अनुमत अधिकतम गहराई 1.5 मी० अथवा ग्राउन्ड वाटर लेवल जो भी कम हो तब, के अनुसार किया जायेगा।
6. पट्टाधारक द्वारा अनुमोदित खनन योजना का भू-सन्दर्भित खनन पट्टा प्लान्स अद्यारोपण उपरान्त भू-सन्दर्भित वैक्टोराइज्ड खसरा प्लान शार्ड एवं सॉफ्ट कॉपी में मूल्य एवं खनिकर्म इकाई के जिला कार्यालय एवं मुख्यालय, देहरादून में एक माह के अन्तर्गत प्रस्तुत की जायेगी।
7. यह खनन योजना अन्य किसी अधिनियम जो कि इस खान या क्षेत्र पर लागू होते है या समय-समय पर राज्य सरकार या केन्द्र सरकार या अन्य किसी सक्षम द्वारा प्रख्यापित किये जाते हैं, को छोड़ कर अनुमोदित की जायेगी।
8. यह खनन योजना वन (संरक्षण) अधिनियम-1980, वन संरक्षण नियमावली 1988 और अन्य सम्बन्धित अधिनियम और नियमावली, आदेश और दिशा निर्देश जो कि इस खनन पट्टे पर समय-समय पर दिये जाये लागू होंगे।
9. यह खनन योजना किसी भी प्रभावी क्षेत्रान्तर्गत माननीय न्यायालय के आदेश एवं दिशा निर्देश के लागू होने को बाधित नहीं करती है।
10. अनुमोदित अवधि में किये गये खनन कार्य के निरीक्षण के उपरान्त यदि खनन योजना में संशोधन हेतु आदेश दिये जाते हैं तब संशोधित खनन योजना प्रस्तुत करने का पूर्ण उत्तरदायित्व आवेदक का होगा।
11. किसी भी स्तर पर यदि यह पाया जाता है कि दस्तावेज में दी गई, उपलब्ध कराई गई सूचनाएं असत्य कथवा गलत ढंग से दर्शायी गई है तो दस्तावेज का अनुमोदन तत्काल प्रभाव से निरस्त कर दिया जायेगा।
12. आवश्यक/नियोजित श्रमिकों को सुरक्षात्मक उपकरण प्रदान करने तथा सुरक्षित खनन कार्य करने हेतु सभी आवश्यक साधनियों बरतने का दायित्व पट्टाधारक का होगा।
13. अनुमोदित खनन योजना की एक-एक प्रमाणित प्रति सम्बन्धित जिलाधिकारी कार्यालय एवं जिला खान अधिकारी कार्यालय में अभिलेखार्थ यथाशीघ्र प्रस्तुत करने का दायित्व भी आवेदक का होगा।

BHUWAN JOSHI (RQP)

मु० ख०/RQP/DDN/01/2016

14. अनुमोदित खनन योजना के अनुसार, आवेदक द्वारा खनन कार्य न किये जाने के, पाये जाने पर, पट्टाधारक के विशुद्ध पट्टे की शर्त का उल्लंघन माना जायेगा और तदनुसार कार्यवाही की जायेगी।
15. खनन योजना इस शर्त के साथ अनुमोदित की जा रही है कि पट्टाधारक अगिकों की सुरक्षा एवं स्वास्थ्य की उचित व्यवस्था करेगा।

संलग्नक:- खनन योजना की अनुमोदित प्रति।

(बृजेश कुमार संत)
निदेशक

संख्या 515 / खनन / मु0खनि0ई0 / मा0प्लान / 2020-21, तददिनांकित
प्रतिलिपि:- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. सचिव, खनन, उत्तराखण्ड शासन।
2. जिलाधिकारी, नैनीताल।
3. सदस्य सचिव, पर्यावरण प्रभाव निर्धारण प्राधिकरण (SEIAA), उत्तराखण्ड देहरादून।
4. जिला खान अधिकारी, मूतत्व एवं खनिकर्म इकाई, जनपद नैनीताल।
5. प्रबन्ध निदेशक, उत्तराखण्ड वन विकास निगम लि0, देहरादून।

(बृजेश कुमार संत)
निदेशक



BHUVAN JOSHI (RQP)
मु0 ख0/RQP/DDN/01/2016

YEAR	CUBIC METER	AMOUNT
2019-20	2553772.7800	1292445201.0000
2020-21	3293699.7500	1651195200.0000
2021-22	3687279.0600	1862327105.0000



BHUWAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016

Ann-12



REPORT

ON



**"Assessment of extractable River Bed Material (RBM) from
River Gaula during the year 2021-22"**

FOR

**Uttarakhand Forest Division Corporation (UKFDC)
Haldwani (Uttarakhand)**



BY

Dr. P.R. Ojasvi
Er. S.S. Shrimali
Er. S.K. Sharma
Sh. H.S. Bhatia
Er. Amit Chauhan



**ICAR-Indian Institute of Soil and Water Conservation,
218, Kaulagarh Road, Dehradun-248 195 (Uttarakhand)**

February, 2022

BHUVAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016

EXECUTIVE SUMMARY

A study was undertaken by Indian Institute of Soil & Water Conservation, Dehradun (Uttarakhand) under a consultancy project sponsored by Uttarakhand Forest Development Corporation, Haldwani (Uttarakhand) on "Assessment of extractable River Bed Material (RBM) from River Gaula during the year 2021-2022". The study was carried out at River Gaula in a length of 29 km.

Based on the survey, assessment of the sediment deposits has been made and it is estimated that the safe limit for extraction/removal of deposited river material from River Gaula during 2021-2022 is 3824307.14 cum. This quantity has been arrived upon considering that profile of the river flow is guided to the centre of the river so as to minimize risk of stream bank erosion. It has been observed that no extraction zone left for the elephant corridor is slightly inclined to the right bank and elevated in the middle portion which may be dangerous to the stability of the right bank. Construction of appropriate spurs at upstream of right side of the river is therefore recommended. The channelization of flow in the elephant corridor is to be streamlined by appropriately spreading the beam of the RBM dredged from the middle. In some of the reaches the removal has gone beyond the recommended depth which is detrimental to river system which should be strictly avoided.

It is recommended to confine the extraction of RBM from middle half of the river width in order to channelize the flow and for protecting the adjoining land from flood damages. The various depths of cut at different distance from the bank of the river have been mentioned in Table I, which is strictly required to be followed for safe passage of river flow.

Hence, it is strongly recommended that extraction of RBM should be undertaken in a scientific and regulated manner by marking the extraction boundaries in order to improve the safe passage of flow and protect the adjoining river ecosystem. Recommendations may be strictly adhered to prevent the degradation of bed profile.

On request from Regional Manager (R.R), UKFDC, Haldwani, Uttarakhand, consultancy project was undertaken by ICAR-IISWC (formerly CSWCERTI) Dehradun to conduct a study on river Gaula with following objectives



BHUWAN JOSHI (RQP)
मु.ख.0/RQP/DDN/01/2016

Objectives

1. Study the profile (Cross section) of river Gaura for defined river reach.
2. Estimation of permissible limit of extraction of river bed material to improve the river flow passage.

The following recommendations for future are also made for the assessment of permissible quantity of RBM to be made from the river and the methodology of extraction to be followed so as to maintain the hydrological profile of the river along with the extraction of the RBM.

1. The very big boulders in the river should not be removed from the junction of the hilly area and plain area as these big boulders serve for dissipating the energy of the flowing water.
2. The extraction may be carried out as per the methodology explained in the report and the concerned authorities responsible for extraction may please be communicated accordingly. No extraction zone should be clearly demarcated and appropriate measure should be taken to prevent illicit mining.
3. As explained to the staff present during survey and communicated in the earlier report and in this report as well, permanent pillars on both sides of the river at every one kilometer of length may be erected as permanent bench post. Further the pillars constructed to demarcate width of extraction leaving 25 % of river width from the bank may be erected with a depth of 1.5 m below the ground and 1.2 m above the ground. Probably this may not be carried over by river during monsoon and hence reduce the periodical construction of pillar every year. While erecting the pillar, the corner of the pillar may face upstream.
4. The four existing pillars constructed to help for confining the extraction of RBM may please be marked from the right hand side of the river to the left hand side of the river as 1/1, 1/2, 1/3, and 1/4 starting from zero length of the river and then at the interval of about 1 Km distance in the river length till the last of the river reach up to which the extraction of RBM is made. These will serve as the permanent bench mark for the survey of the cross section.



APPLICANT'S IDENTITY

Uttarakhand Forest Development Corporation (UKFDC) is a statutory body constituted by the State Government (Government of Uttarakhand). The Corporation was formed for the better preservation, supervision and development of forest also for better exploitation of forest produce within the State and for matters connected there with.

The Corporation has been progressing forward not only in its financial aspect but also has taken a big leap in the direction of diversification of its activities.

The Corporation has added the collection and disposal of minor minerals from the rivers situated inside reserved forest areas, collection and marketing of medicinal plants and Eco tourism in its works apart from the removal of dead, dying and uprooted trees as allotted by the Forest department.

<http://www.ualdc.in/>

Contact-

MANAGING DIRECTOR

Uttarakhand Forest Development Corporation

Aranya Vikas Bhawan, 73, Nehru Road, Dehra Dun, Uttarakhand - INDIA, PIN 248001

Ph : 91-135-2657610 Fax : 91-135-2655488

E-Mail : ualdcnd@yahoo.com, vanvikas12@gmail.com



BHUWAN JOSHI (RQP)

ख0/RQP/DDN/01/2018



कार्यालय क्षेत्रीय प्रबन्धक (कु0क्षेत्र0),
उत्तराखण्ड गन विकास निगम, गोष्ठी कर्म गैस मोदाम रोड, कुसुमखेड़ा, हल्द्वानी।
E-mail:- gm_kumeshwar_haldwani@usmdc.com

पत्रांक:- 2495/गौला/माइनिंग प्लान/कार्यदेश/2022-23

दिनांक:- 13/09/2022

सेवा में,

BHUVAN JOSHI,
(RQP & GEOLOGICAL CONSULTANT),
29 SHASTRINAGAR, LANE-3,
HARIDWAR ROAD, DEHRADUN
MOB No- 9412152105, 7533858409

विषय:- आरक्षित गन क्षेत्र की जनपद मैनीताल स्थित गौला नदी (1497 हे0) से जनवरी 2023 उपरान्त आखिरी तुलान हेतु MINING PLAN तैयार करने संबंध कार्यदेश।
सन्दर्भ:- प्रबन्ध निर्देशक, उत्तराखण्ड गन विकास निगम, देहरादून की पत्र संख्या-30 2707/पर्यावरणीय अनापति (2925) दिनांक 03.09.2022, इस कार्यालय की पत्र संख्या-2407/गौला एवं गौला/माइनिंग प्लान/2022-23 दिनांक 06.09.2022 के क्रम में आपसे दिनांक 13.09.2022 को हुए अनुबन्ध।

महोदय,

प्रबन्ध निर्देशक, उत्तराखण्ड गन विकास निगम, देहरादून के उपरोक्त संदर्भित पत्र से प्राप्त अनुबंध के क्रम में आपको आरक्षित गन क्षेत्र की जनपद मैनीताल स्थित गौला नदी (1497 हे0) में उपरान्त हेतु की माइनिंग प्लान तैयार करने एवं माइनिंग प्लान की निदेशक, भुवन एवं सतिकां ईकाई, उद्योग निदेशालय, देहरादून से अनुमोदन किये जाने हेतु कार्यदेश जारी किया जाता है। रिपयर्स कार्य हेतु अन्त. नियम 0 शर्तें इस सम्बन्ध में दिनांक 13.09.2022 को आदेशित की गईं एवं आप द्वारा किये गये अनुबन्ध के अनुसार यथावत् रहनी।

अतः उपरोक्त विषयक क्रम में आप अनुबन्ध में दी गयी शर्तों एवं नियमों के अनुसार अविलम्ब अक्षेतर कार्यवाई करने का कष्ट करें।

संलग्नक- अनुबन्ध की प्रती।



महोदय
(महेश चन्द्र आर्य),
क्षेत्रीय प्रबन्धक (कु0क्षेत्र0)

पत्रांक:- /वक्तविवर्तिका।

प्रतिलिपि:-

1. प्रबन्ध निर्देशक महोदय, उत्तराखण्ड गन विकास निगम, देहरादून को उपरोक्त विषयक हेतु शीघ्र सूचनाएं प्रेषित।
2. पर्यावरण (कु0क्षेत्र0), उत्तराखण्ड गन विकास निगम, हल्द्वानी को उपरोक्त विषयक हेतु शीघ्र सूचनाएं प्रेषित।

(महेश चन्द्र आर्य),
क्षेत्रीय प्रबन्धक (कु0क्षेत्र0)



PROGRESSIVE GEOLOGICAL & GEOTECHNICAL SERVICES (PG2S)

OFFICE ADD:-

House No. 20, Shastrinagar
Haridwar Road, Lane no.3
Dehradun,
Mobile no. -09412152105,
Email- joshibhuvan75@gmail.com

BHUVAN JOSHI

Empanelled Geologist

Forest & Rural Development Cell (FRDC)

Empanelment no. URRD/1/2008-09/3190

Govt. of Uttarakhand

RQP, Registration No. RQP/DDN/180/2009/1

Indian Bureau of Mines, Govt. of India

Ann-15

Date 27-10-2022

CONSENT & CERTIFICATE

Uttarakhand Forest Development Corporation (UKFDC), Uttarakhand.
vide letter No. 2495/Gaula/mining plan/Work order/2022-23, dated 13/09/2022,
assigned & authorized me for preparation of Mining Plan of Gaula River RBM
Mining Lot- RBM Mining project.

I **Bhuvan Joshi** hereby certify that the provisions of Uttarakhand Minor
Mineral Policy/Rule (Sand, Bajri, Boulder Policy); been observed in the preparation
of Mining Plan for Picking /Extraction of minor minerals (sand, bajri and boulders)
from a part of Gaula River (Gaula River RBM Mining Lot), Dist. Nainital,
Uttarakhand, total area 1497 Hectare (Mirable area 748.5 Hectare).

The information provided and data furnished in this mining plan with
Progressive Closure Plan is correct to the best of my knowledge.

Place-

Ddn.

Date-

27-10-2022

BHUVAN JOSHI (RQP)

मु0 ख0/RQP/DDN/01/2016

BHUVAN JOSHI, RQP

Reg. No. - RQP/DDN/180/2009/A



GEOLOGY AND MINING UNIT, DIRECTORATE OF INDUSTRIES
Bhopalpani, Post Badashi, Raipur-Thano Road, Dehradun
UTTARAKHAND

Renewal

346/1/2015/68-kha/2015
 दिनांक - 17/05/2021

CERTIFICATE OF RECOGNITION AS RECOGNISED PERSON

Registration No. 50ख0/RQP/DDN/01/2016

Shri Bhuwan Joshi S/O Shri K.N. Joshi, resident of House no.6, Vijay Colony Lane No.1, New Cant Road, District Dehradun, Uttarakhand whose photograph is affixed herein below, was registered as Recognised Qualified Person vide office Registration Number 50ख0/RQP/DDN/01/2016 dated 10-03-2016 for a period of 05 years in lieu of Notification no. 844/1/11-1/2015/68-kha/2015, Date, 31-07-2015 and Notification no. 1539/VII-1/2015/68-kha/2015 dated 07-10-2015 issued by the govt. of Uttarakhand to prepare Mining Plans, Scheme of Mining and Progressive Mine Closure Plans. His registration expired on dated 27-12-2020 and has applied for renewal of the said registration and has paid the requisite registration fee.

After scrutiny of his previous works and finding it satisfactory, the RQP registration no. 50ख0/RQP/DDN/01/2016 dated 10-03-2020 is hereby renewed further for a period of 05 years from 28-12-2020 to 27-12-2025.



Specimen Signature of RQP



Place: Dehradun

Date: 17/05/2021

(Birjesh Kumar Sant)

Director

भूतत्व एवं खनिकर्म इकाई
 उद्योग निदेशालय
 उत्तराखण्ड, देहरादून

—BHUWAN JOSHI (RQP)

50 ख0/RQP/DDN/01/2016



PLATE NO.1

LOCATION PLAN OF THE WORKING SITE

GAULA RIVER RBM MINING LOT

200 Hectare of Haldwari Forest Division & 1297 Hectare of East Tarai Forest Division
(Total Area-1497 Hectare)

DISTRICT- NAINITAL, UTTARAKHAND

APPLICANT/ LESSEE:- M/s UTTARAKHAND FOREST DEVELOPMENT
CORPORATION (U.K.F.D.C)

(UTTARAKHAND VAN VIKAS NIGAM), 73 NEHRU ROAD, ARANYA VIKAS
BHAWAN DEHRADUN- 248001, DISTRICT-DEHRADUN

NAME OF THE RQP- BHUWAN JOSHI (RC)

मु० ख०/RQP/DDN/01/2.



TITLE : BUFFER MAP 500M

LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tara Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

APPLICANT/ LESSEE :- M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN- 248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A3

CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST

BHUWAN JOSHI (RQP)

30/RQP/DDN/01/2016

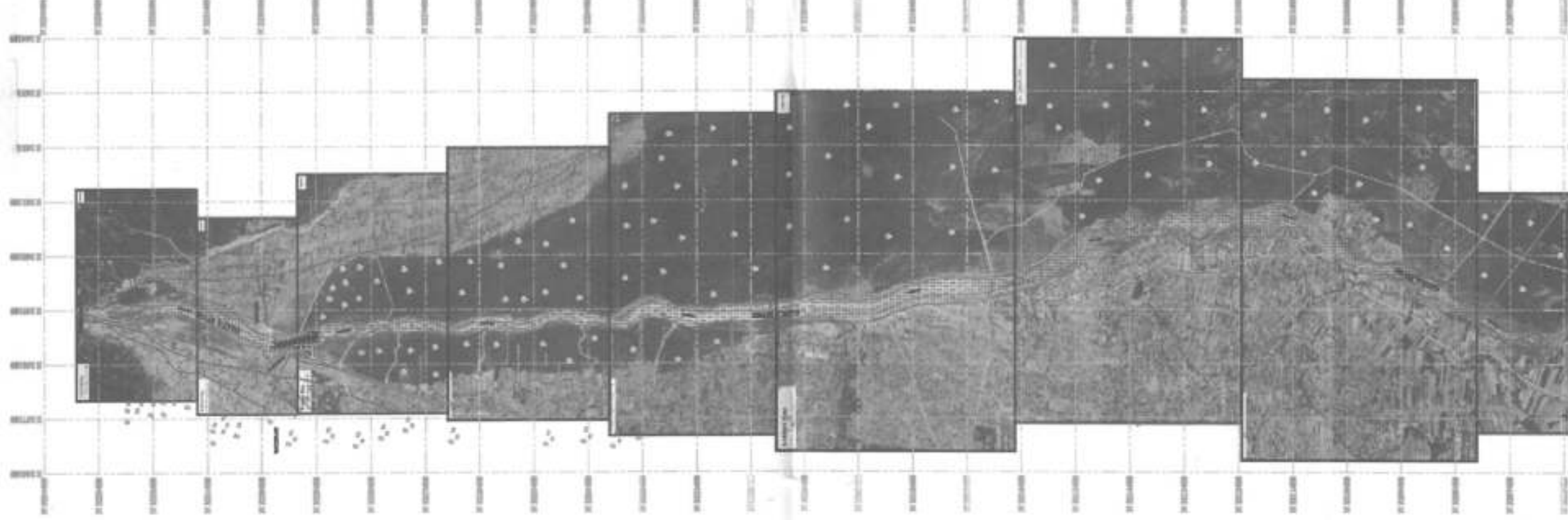


PLATE NO. 2B

TITLE : GEOREFERENCED SATELLITE MAP OF MINING LEASE

GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot, 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Terni Forest Division (Total Area-1497 Hectare), District-Nainital, Uttarakhand.

APPLICANT/ LESSEE :- M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (URFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A3

CERTIFIED THAT THE PLAN IS CORRECT BY THE SURVEYOR (R)

30-06/2024



LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HEIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE

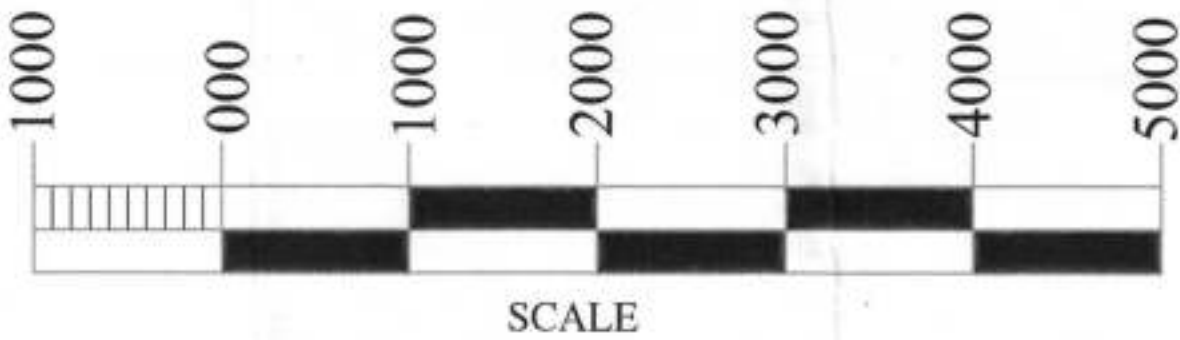


PLATE NO. 3

TITLE : GEOLOGICAL SURFACE PLAN

LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

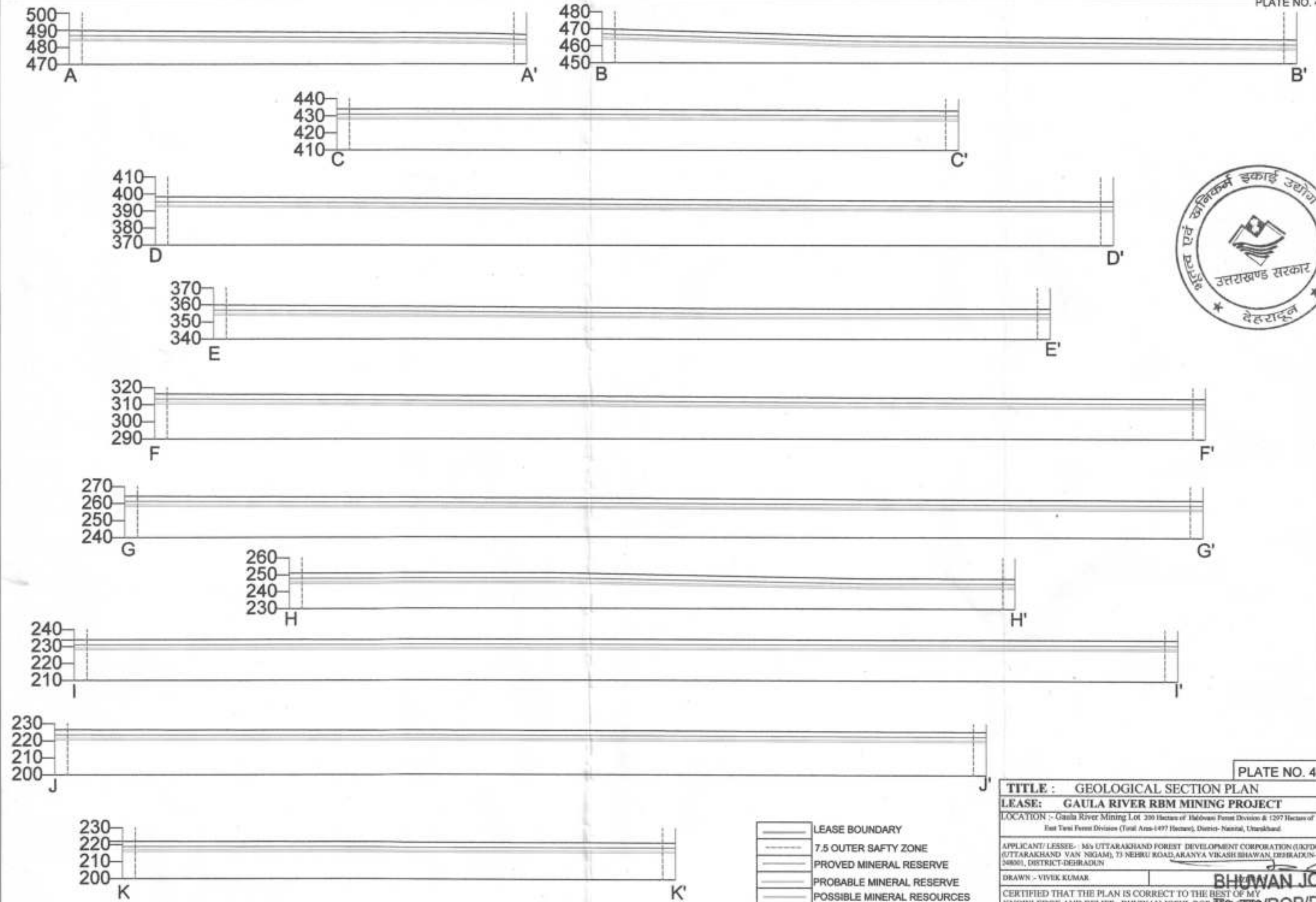
APPLICANT/ LESSEE- : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A1

CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST

BHUWAN JOSHI
RQP/01/2016



TITLE : GEOLOGICAL SECTION PLAN
LEASE: GAULA RIVER RBM MINING PROJECT
LOCATION : Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tansi Forest Division (Total Area-1497 Hectare), District-Nainital, Uttarakhand.
APPLICANT/ LESSEE : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN
DRAWN : VIVEK KUMAR
CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP
30-09/2016

BHUWAN JOSHI (RQP)



LEGENDS

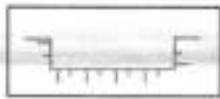
1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HEIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT

PLANTATION

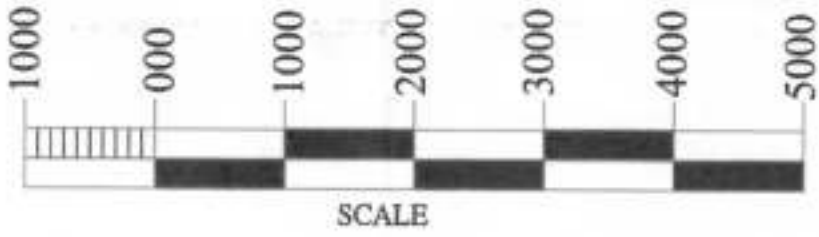


1 ST YEAR

EXTEND OF MINING



1ST YEAR



TITLE : WORKING PIT/PLAN FOR FIRST YEAR
LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

APPLICANT/ LESSEE- : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD,ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A2

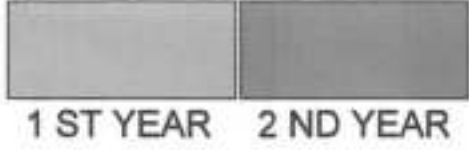
CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST



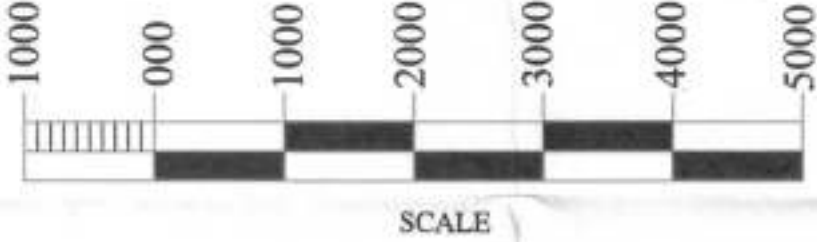
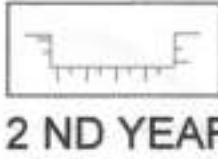
LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HEIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT

PLANTATION



EXTEND OF MINING



TITLE :WORKING PIT/PLAN FOR SECOND YEAR

LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

APPLICANT/ LESSEE- : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD,ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A2

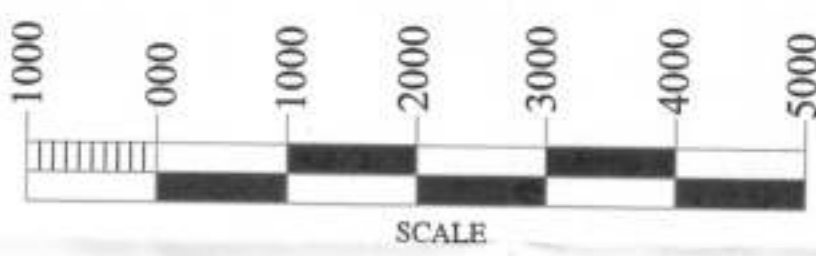
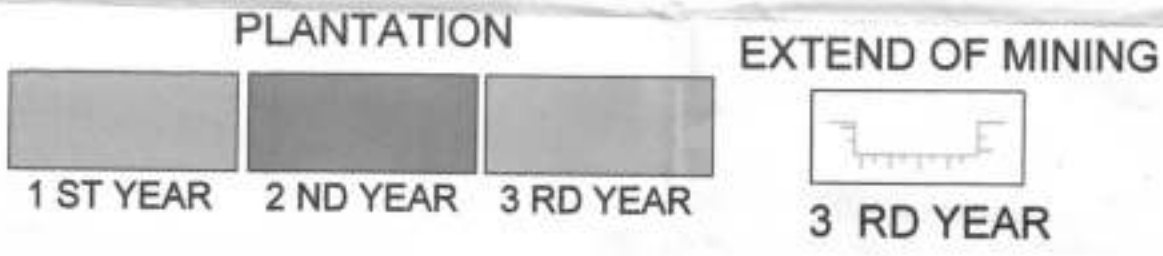
CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST

BHUWAN JOSHI (RQP)
मु० ख०/RQP/DDN/01/2016



LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT



TITLE : WORKING PIT/PLAN FOR THIRD YEAR
LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

APPLICANT/ LESSEE:- M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN- 248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR SIZE :- A2

CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST

BHUWAN JOSHI (RQP)
30/06/2016



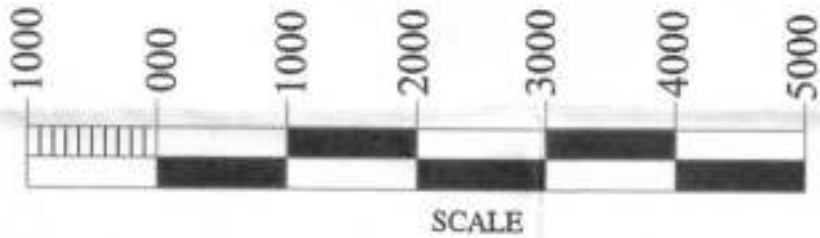
LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT

PLANTATION



EXTEND OF MINING



TITLE :WORKING PIT/PLAN FOR FOURTH YEAR

LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

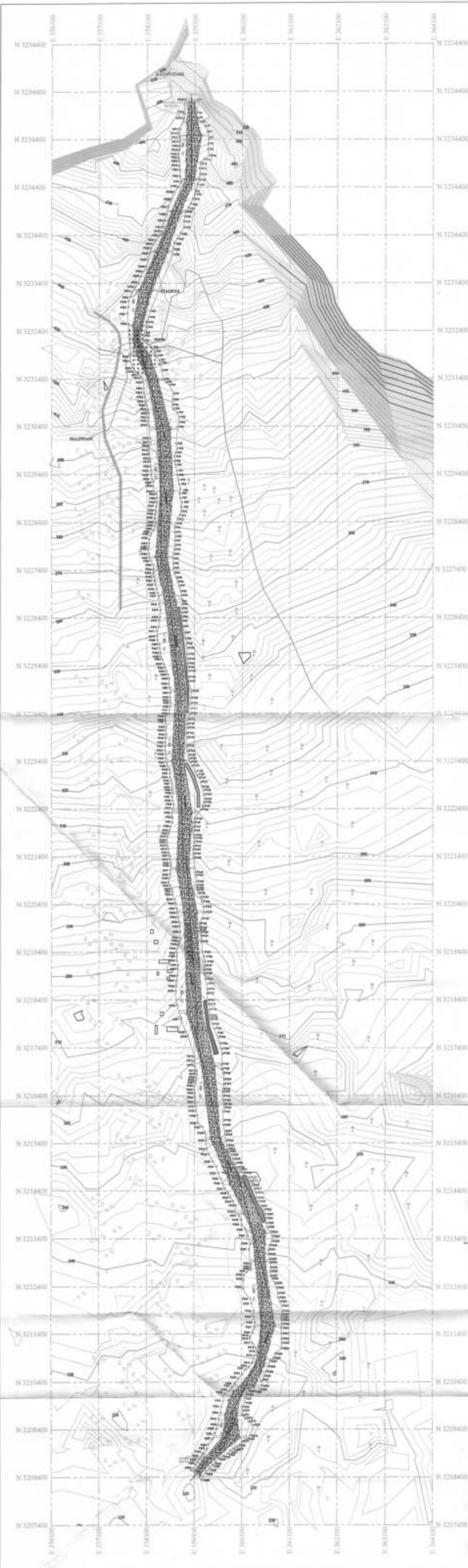
APPLICANT/ LESSEE- : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN- 248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A2

CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST

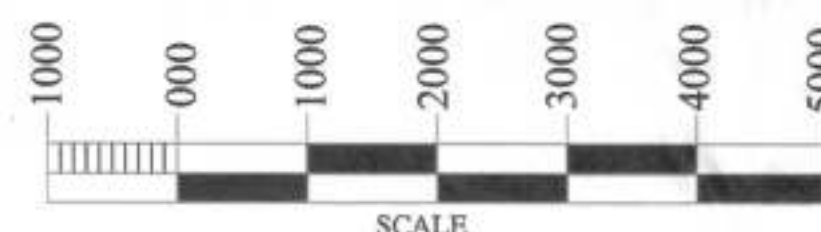
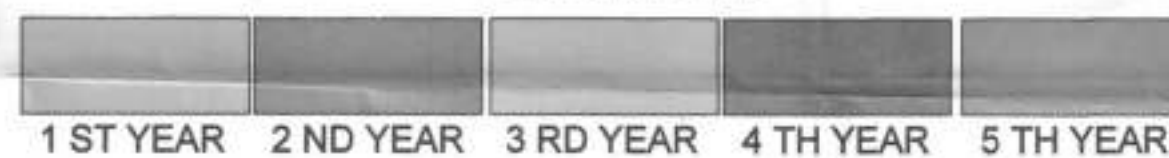
BHUWAN JOSHI (RQP)
मु. ख. 07/RQP/DDN/01/2016



LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT

PLANTATION



EXTEND OF MINING

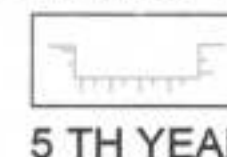


PLATE NO. 9

TITLE : WORKING PIT/PLAN FOR FIFTH YEAR

LEASE: GAULA RIVER RBM MINING PROJECT

LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.

APPLICANT/ LESSEE:- M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN-248001, DISTRICT-DEHRADUN

DRAWN :- VIVEK KUMAR

SIZE :- A2

CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, ROP GEOLOGIST

BHUWAN JOSHI (ROP)
30/06/2016



LEGENDS

1		LEASE BOUNDARY
2		PROPOSED MINING AREA
3		CONTOUR
4		HIGHEST RL
5		LOWEST RL
6		SECTION LINE
7		HAUL ROAD
8		RBM
9		PILLARS
10		RIVER
11		S. H.
12		FLOW
13		BRIDGE
14		FOREST GREENERY
15		BUILDING
16		RAILWAY LINE
17		MOBILE TOILET
18		REST SHELTER
19		WATER CONSERVATION TANK/PIT

PLANTATION



SCALE

PLATE NO. 11

TITLE : ULTIMATE CLOSURE PLAN	
LEASE: GAULA RIVER RBM MINING PROJECT	
LOCATION :- Gaula River Mining Lot 200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division (Total Area-1497 Hectare), District- Nainital, Uttarakhand.	
APPLICANT/ LESSEE- : M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC) (UTTARAKHAND VAN NIGAM), 73 NEHRU ROAD, ARANYA VIKASH BHAWAN, DEHRADUN- 248001, DISTRICT-DEHRADUN	
DRAWN :- VIVEK KUMAR	SIZE :- A2
CERTIFIED THAT THE PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF- BHUWAN JOSHI, RQP GEOLOGIST	

BHUWAN JOSHI (RQP)
मु. ख. 0/RQP/DDN/01/2016