भूतत्व एवं खनिकर्म इकाई, उद्योग निदेशालय, उत्तराखण्ड,
भोपालपानी, रायपुर, देहरादून।

संख्या 515 /खनन/भू0खनि0ई0/मा0प्लान/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 लालकुंआ के क्षेत्रान्तर्गत प्रवाहित होने वाली गौला नदी के क्षेत्रान्तर्गत 1497 है0 वन भूमि में 10 वर्ष की अवधि हेतु उपखनिज रेता, बजरी, बोल्डर के चुगान/खनन हेतु खनन पट्टा स्वीकृत किया गया है, की अवशेष अवधि हेतु प्रस्तुत खनन योजना जोकि श्री भुवन जोशी, मु0ख0/आर0क्यू0पी0/डी0डी0एन0/01/2016 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, बोल्डर) चुगान नीति–2016 के विन्दु सं0–बिन्दु–22(2) के अन्तर्गत प्रदत्त अधिकार का प्रयोग करते हुए, प्रस्तुत खनन योजना का अनुमोदन निम्नलिखित शर्तों के अधीन किया जाता है:–

शर्तें :–

1. खनन योजना का अनुमोदन खनन पट्टा विलेख/एम0ओ0यू0/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.IA.II(M), दिनांक 13.04.2011 एवं आदेश संख्या 8–61/1999–FC(PT-II), दिनांक 23.01.2013 की समस्त शर्तो का अनुपालन करेगा।
3. पट्टाधारक शासनादेश संख्या 179/VII-2/11–ख/2010, दिनांक 24 जनवरी, 2013 की समस्त शर्तो 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 घन0मी0 (1,19,35,000 टन), द्वितीय वर्ष में 54.25 लाख घन0मी0 (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 मी0 अथवा ग्राउन्ड वाटर लेबल जो भी कम हो तक, के अनुसार किया जायेगा।
6. 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।
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 है, को छोड़ कर अनुमोदित की जायेगी।
8. यह खनन योजना वन (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।
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 अथवा गलत ढंग से दर्शायी गई है तो दस्तावेज का अनुमोदन तत्काल प्रभाव से निरस्त कर दिया जाय।
12. आबद्ध/नियोजित श्रमिकों को सुरक्षात्मक उपकरण प्रदान करने तथा सुरक्षित खनन कार्य करने हेतु सभी आवश्यक सावधानियाँ बरतने का दायित्व पट्टाधाकरक का होगा।
13. अनुमोदित खनन योजना की एक–एक प्रमाणित प्रति सम्बन्धित जिलाधिकारी कार्यालय एवं जिला खान अधिकारी कर्यालय में अभिलेखार्थ यथाशीघ्र प्रस्तुत करने का दायित्व भी आवेदक का होगा।

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

संलग्नकः– खनन योजना की अनुमोदित प्रति।

(बृजेश कुमार संत)
निदेशक

संख्या 515 **/खनन/भू0खनि0ई0/मा0प्लान/2020–21, तद्दिनांकित**
प्रतिलिपिः– निम्नलिखित को सूचनार्थ एंव 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, भूतत्व एवं खनिकर्म इकाई, जनपद नैनीताल।
5. प्रबन्ध निदेशक, उत्तराखण्ड वन विकास निगम लि0, देहरादून।

(बृजेश कुमार संत)
निदेशक

PG2S

REGD. OFFICE
House No. 6, Kamal Bhawan,
Vijay Colony, Lane no.1
Dehradun, Mobile no. 09412152105
Email- joshibhuvan@yahoo.co.in

BHUWAN JOSHI
Empanelled Geologist
Forest & Rural Development Cell (FRDC)
Empanelment no. *URRDA/2008-09/3190*
Govt. of Uttarakhand
RQP, Registration No. *RQP/DDN/180/2009/A*
Indian Bureau of Mines, Govt. of India

Letter no./PG2S/mining_report/ 62 **Date:** 18-06-2021

To,
MANAGING DIRECTOR,
UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC),
(GOVT. OF UTTARAKHAND CORPORATION)
73, NEHRU ROAD,
ARANYA VIKASH BHAWAN,
DEHRADUN-248001

SUBJECT: - SUBMISSION OF APPROVED GAULA MINING PLAN REPORT

Dear Sir,

Reference to above mentioned subject, we are hereby submitting the approved copy of Mining Plan report of **GAULA RIVER RBM MINING PROJECT**.

Enclosures: As above

Thanking you

Yours Sincerely

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

Copy to: Regional Manager (Kumau Region),
Uttarakhand Forest Development Corporation (UKFDC),
Gandhi Farm, Gas Godam Road, Kusumkhera,
Haldwani, Distt-Nainital-263139,
Uttarakhand

उ०व०वि०नि० निदेशालय, देहरादून
प्राप्ति सं० 2080 दिनांक 21-06-2021

अधि०			विभाजन
लेखा			लेखापरीक्षा
ऑडिट			अन्य
पी० एस०			✓

MD/GM/RM/OS

SCHEME OF MINING

WITH

PROGRESSIVE MINE CLOSURE PLAN

APPROVED

अनुमोदित

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

Name of the Mineral- RBM (Sand, Bajri, Boulders etc)
Mining Area- Gaula River Lot
Tehsil- 200Hectare of Haldwani Forest Division
& 1297Hactare of East Tarai Forest Division,
District- Nainital, Uttarakhand
Mining Scheme Period-For Two (2) Years
Total Area- 1497 Hectare

A VIEW OF RBM MINING LEASE AREA

APPLICANT/LESSEE

UTTARAKHAND FOREST DEVELOPMENT CORPORATION (UKFDC)
(Uttarakhand Van Vikash Nigam),
73, Nehru Road, Aranya Vikash Bhawan,
Dehradun-248001,
District- Dehradun

भूतत्व एवं खनिकर्म इकाई
उद्योग निदेशालय, उत्तराखण्ड
देहरादून
शर्तों के अधीन अनुमोदित
पत्रांक 515/
दिनांक 31-05-2021

अपर निदेशक
भूतत्व एवं खनिकर्म इकाई
उद्योग निदेशालय, उत्तराखण्ड

PREPARED BY

BHUWAN JOSHI
EMPANELLED GEOLOGIST, RQP, IBM, UK, J&K, HP
Forest & Rural Development Cell (FRDC)
Empanelment No. *URRD/I/2008-09/3190*
Mo.Kha. RQP/DDN/01/2016
Govt. of Uttarakhand
RQP, Registration No.*RQP/DDN/180/2009/A*
Indian Bureau of Mines
Govt. of India

Address

Progressive Geological & Geotechnical Services (PG2S)
REGD. OFFICE
House No.-6, Kamal Bhawan
Vijay Colony, Lane No.-3, Dehradun
Uttarakhand
E-mail: joshibhuwan@yahoo.co.in
Mo. No. 09412152105

APPROVED

MINING SCHEME अनुमोदित

FOR

PICKING /EXTRACTION OF MINOR MINERALS (SAND, BAJRI AND BOULDERS)

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भूतत्व एवं खनिकर्म इकाई उद्योग निदेशालय

PHUWAN JOSHI (RQP)

खo/RQP/DDN/

APPROVED
अनुमोदित

ANNEXURE

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भूतत्व एवं खनिकर्म निदेशालय उत्तराखण्ड देहरादून

BHUWAN JOSHI (RQP)
मु0 ख0/RQP/DDN/01/2021

MINE SCHEME

APPROVED
अनुमोदित

CHAPTER-1

1.0 INTRODUCTORY NOTE-

State Government Order (GO) was released vide ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013*** **(Annexure-1),** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), **200Hectare of Haldwani Forest Division** & **1297Hactare of East Tarai Forest Division, Total area- 1497Hectare,** in the favor of **Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam),** 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District-Dehradun **(Govt. of Uttarakhand Corporation),** under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** **(Annexure-2)** for the same.

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- Uttarakhand Forest Development Corporation (UFDC) 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, 1988 & EIA Notification 2006 i.e. proposed as manual opencast mine not using explosives. Mine Plan/Scheme of the RBM Mining project been as discussed here in following chapters of this Report-

VILLAGE	TEHSIL	DISTRICT	AREA (Hectares)	MINERAL
Gaula River Lot (a part of Gaula River Bed); Near Villages- Kathgodam, Haldwani, Bedipadav, Debrampur, 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

BHUWAN JOSHI (F...
RQP, Mu.Kha./RQP/DDN/01/2016
मु0 खा0/RQP/DDN/01...

CHAPTER-2

2.0 GENERAL

1.1	Name of the applicant/lessee	Managing Director, Uttarakhand Forest Development Corporation (UFDC), (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 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 *Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,* for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), **Total area- 1497Hectare,** for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO *Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020* for the same. **(Annexure-1 & 2)**

BHUWAN JOSHI

		(GO attached as Annexure I & II)
1.5	Name of the RQP preparing the mining plan	Bhuwan Joshi
	Address	6- Vijay Colony Lane No. 1, New Cantt Road, Dehradun (Uttarakhand) 248001
	Phone	**09412152105** **07533858409**
	Email	**joshibhuvan75@gmail.com**
	Registration No.	RQP/DDN/180/2009/A- IBM Mu.Kha./RQP/DDN/01/2016- State Govt.
	Valid upto	30/08/2019 & 27/12/2020
1.6	Name of the prospecting agency	The baseline data is collected from various reports, proponent, as well as detailed prospecting of the area is carried out by the RQP

BHUWAN JOSHI (RQP)
मु0 खा0/RQP/DDN/01/2016

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:

BHUWAN JOSHI (R)
BHUWAN JOSHI
QUARRY OWNER

- Controlling river channel.
- Protecting of river banks
- 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 insitu mining activity.

3.2 PROJECT BACKGROUND - State Government Order (GO) was released vide ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), 200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, **Total area-1497Hectare,** in the favor of Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** **(Annexure-1 & 2)** for the same.

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 2023 (attached as ANN-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, valid up to 2021 **(attached as ANN-8). Previous Mining Plan/Scheme** been approved vide State DGM letter No.1133/U.KHA./MA.PLAN/NAINI/2015-16, 10 March 2016 for a period of five (5) years, considered as for 2016-17, 2017-18, 2018-19, 2019-20 & 2020-21 (attached as ANN-9). This mine plan/scheme is being prepared to abide by change in RBM Mining Policy as per Gazette of Uttarakhand State Government, Industrial Development Section **No. 1033/VII-1/2015/146-ख /2010 dated 31st July 2015.**

BHUWAN JOSHI (RQP)

CHAPTER-4

4.0 LOCATION, GENERAL AND ACCESSIBILITY

4.1 LOCATION

(a)	Details of Area		Location Map is attached as Plate No. 1
(b)	District and State		Nainital, Uttarakhand
(c)	Tehsil		Haldwani & Lalkua
(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. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), 200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, **Total area- 1497Hectare,** in the favor of Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam), 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun (Govt. of Uttarakhand Corporation), under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same. (Attached as Annexure I&II)
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
		3	Latitude- 29°15'09.6"N Longitude- 79°33'02.3"E

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		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
			Longitude-	79°32'54.0"E
		23	Latitude-	29°14'02.7"N
			Longitude-	79°32'53.1"E

BHUWAN JOSHI

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		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°12'54.4"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
		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

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		45	Latitude- Longitude-	29°12'09.9"N 79°32'40.2"E
		46	Latitude- Longitude-	29°12'08.4"N 79°32'42.8"E
		47	Latitude- Longitude-	29°12'02.4"N 79°32'46.0"E
		48	Latitude- Longitude-	29°11'58.4"N 79°32'45.7"E
		49	Latitude- Longitude-	29°11'54.8"N 79°32'45.5"E
		50	Latitude- Longitude-	29°11'51.8"N 79°32'46.2"E
		51	Latitude- Longitude-	29°11'49.3"N 79°32'49.2"E
		52	Latitude- Longitude-	29°11'46.2"N 79°32'50.7"E
		53	Latitude- Longitude-	29°11'42.9"N 79°32'50.8"E
		54	Latitude- Longitude-	29°11'39.5"N 79°32'49.6"E
		55	Latitude- Longitude-	29°11'28.4"N 79°32'48.6"E
		56	Latitude- Longitude-	29°11'25.1"N 79°32'49.5"E
		57	Latitude- Longitude-	29°11'22.2"N 79°32'48.4"E
		58	Latitude- Longitude-	29°11'19.6"N 79°32'47.6"E
		59	Latitude- Longitude-	29°11'16.4"N 79°32'47.2"E
		60	Latitude- Longitude-	29°11'13.9"N 79°32'48.3"E
		61	Latitude- Longitude-	29°11'09.9"N 79°32'49.5"E
		62	Latitude- Longitude-	29°11'07.0"N 79°32'49.9"E
		63	Latitude- Longitude-	29°11'03.8"N 79°32'50.7"E
		64	Latitude- Longitude-	29°11'00.8"N 79°32'51.4"E
		65	Latitude- Longitude-	29°10'57.5"N 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
		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

BHUWAN JOSHI

		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
		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

BHUWAN JOSHI

		107	Latitude- Longitude-	29°08'47.0"N 79°33'01.2"E
		108	Latitude- Longitude-	29°08'40.4"N 79°33'03.0"E
		109	Latitude- Longitude-	29°08'35.8"N 79°33'02.5"E
		110	Latitude- Longitude-	29°08'32.4"N 79°33'02.2"E
		111	Latitude- Longitude-	29°08'28.7"N 79°33'02.1"E
		112	Latitude- Longitude-	29°08'25.2"N 79°33'03.1"E
		113	Latitude- Longitude-	29°08'21.2"N 79°33'00.3"E
		114	Latitude- Longitude-	29°08'18.0"N 79°32'59.8"E
		115	Latitude- Longitude-	29°08'15.4"N 79°32'59.9"E
		116	Latitude- Longitude-	29°08'11.7"N 79°32'59.5"E
		117	Latitude- Longitude-	29°08'08.7"N 79°33'00.1"E
		118	Latitude- Longitude-	29°08'03.3"N 79°32'59.8"E
		119	Latitude- Longitude-	29°07'59.6"N 79°33'00.5"E
		120	Latitude- Longitude-	29°07'56.9"N 79°33'01.2"E
		121	Latitude- Longitude-	29°07'54.5"N 79°33'02.0"E
		122	Latitude- Longitude-	29°07'52.2"N 79°33'02.7"E
		123	Latitude- Longitude-	29°07'49.7"N 79°33'04.0"E
		124	Latitude- Longitude-	29°07'45.6"N 79°33'07.1"E
		125	Latitude- Longitude-	29°07'43.1"N 79°33'07.9"E
		126	Latitude- Longitude-	29°07'42.0"N 79°33'09.0"E
		127	Latitude- Longitude-	29°07'38.6"N 79°33'10.8"E

BHUWAN JOSHI (RQP)

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
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

BHUWAN JOSHI (RQP)
for Mr. Khem (RQP/DDN/01/2016)

PG2S/RQP/DDN/01/2016

		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
		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

BHUWAN JOSHI (ROP)

		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
		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

BHUWAN JOSHI

		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
		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

BHUWAN JOSHI
RQP, Mu.Rha./RQP/DDN/01/2010

		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
		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

BHUWAN JOSHI

			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
			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°01'05.0"N
			Longitude-	79°34'10.8"E
		257	Latitude-	29°01'01.6"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
		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

BHUWAN JOSHI (PGS)

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°00'00.0"N
	Longitude-	79°33'35.1"E
283	Latitude-	28°59'58.5"N
	Longitude-	79°33'31.8"E
284	Latitude-	28°59'56.0"N
	Longitude-	79°33'29.4"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

BHUWAN JOSHI (ROP/ADEN/01/2015)

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
303	Latitude-	29°00'37.4"N
	Longitude-	79°33'34.5"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

BHUWAN JOSHI

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
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°14'07.9"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°02'11.2"N
	Longitude-	79°33'55.3"E

BHUWAN JOSHI

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
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

BHUWAN JOSHI

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
	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°33'09.5"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°04'25.6"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

BHUWAN JOSHI

30-40/RQP/DDN/01

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
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

BHUWAN JOSHI (RGP)

		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 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

BHUWAN JOSHI

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
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

BHUWAN JOSHI (RQP)

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
	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°08'25.0"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

BHUWAN JOSHI (PGP)

		459	Latitude- 29°08'51.4"N Longitude- 79°32'44.4"E
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		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
		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
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		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°09'52.4"N Longitude- 79°32'33.8"E

BHUWAN JOSHI

480	Latitude-	29°09'55.2"N
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	Longitude-	79°32'31.9"E
485	Latitude-	29°10'08.6"N
	Longitude-	79°32'30.2"E
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487	Latitude-	29°10'13.4"N
	Longitude-	79°32'28.2"E
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	Longitude-	79°32'27.8"E
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	Longitude-	79°32'28.3"E
491	Latitude-	29°10'23.2"N
	Longitude-	79°32'28.5"E
492	Latitude-	29°10'25.9"N
	Longitude-	79°32'29.4"E
493	Latitude-	29°10'27.6"N
	Longitude-	79°32'30.0"E
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	Longitude-	79°32'31.7"E
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BHUWAN JOSHI (ROP)

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	Longitude-	79°32'27.5"E
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	Longitude-	79°32'28.5"E
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	Longitude-	79°32'28.1"E
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	Longitude-	79°32'26.6"E
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	Longitude-	79°32'26.8"E
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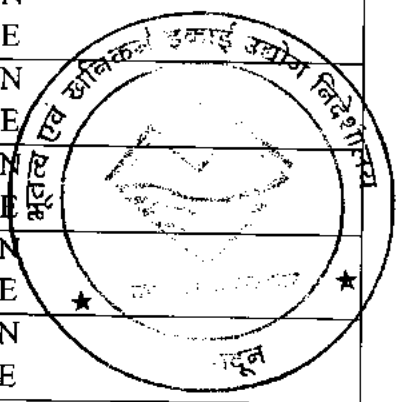
	Longitude-	79°32'26.8"E



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	Longitude-	79°32'25.1"E
524	Latitude-	29°11'56.7"N
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	Longitude-	79°32'22.9"E
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	Longitude-	79°32'22.8"E
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	Longitude-	79°32'22.2"E
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	Longitude-	79°32'20.8"E
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	Longitude-	79°32'18.9"E
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	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
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	Longitude-	79°32'09.3"E
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	Longitude-	79°32'10.2"E
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542	Latitude-	29°13'17.2"N
	Longitude-	79°32'17.8"E

BHUWAN JOSHI

543	Latitude-	29°13'21.7"N
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	Longitude-	79°32'21.4"E
545	Latitude-	29°13'28.1"N
	Longitude-	79°32'23.4"E
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	Longitude-	79°32'26.0"E
548	Latitude-	29°13'40.9"N
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549	Latitude-	29°13'43.8"N
	Longitude-	79°32'28.8"E
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561	Latitude-	29°14'29.6"N
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	Longitude-	79°32'48.2"E

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564	Latitude-	29°14'40.4"N
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	Longitude-	79°32'47.7"E
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	Longitude-	79°32'51.6"E
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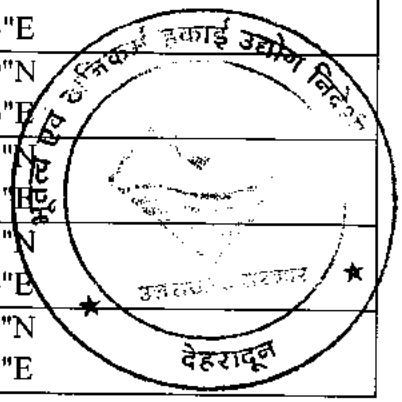
	Longitude-	79°32'51.4"E



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 ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same. (Attached as Annexure I&II)
(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, Minable area proposed= 748.5 Hectare.
(d)	Elevation Range of River Bed	490.35 to 222.23 m

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4.3 ABOUT THE DISTRICT- Nainital district forms part of Kumaon Division of Uttarakhand State. It lies between 29^0 0' and 29^0 36'21" N latitudes and 78^0 50'53" and 80^0 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, Betalghat, Ramgarh, Bhimtal and Okhalkanda. 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 km^2.

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 & 1297Hactare 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-Halduchaur-Lalkua Road.

NEAREST AVAILABLE FACILITIES-

Nearest approachable NH/SH	NH87 i.e. Kathgodam-Haldwani-Halduchaur-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 & Lalkuaa, about 1.5 kms areal
Nearest Post office	At Haldwani & Lalkuaa, about 1.5 kms areal
Nearest Public Health Centre (PHC)	At Haldwani & Lalkuaa, about 1.5 kms areal
Nearest Community Health Centre (CHC)	At Haldwani & Lalkuaa, about 1.5 kms areal
Nearest Primary School	At Haldwani & Lalkuaa, about 1.5 kms areal
Nearest High School/Intermediate Collage	At Haldwani & Lalkuaa, 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 & Lalkuaa, about 1.5 kms areal
Nearest Major market	At Haldwani, about 1.5 kms areal

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4.5 ABOUT THE PROPOSED LEASE AREA- State Government Order (GO) was released vide ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), **200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, Total area- 1497Hectare,** in the favor of **Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam),** 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun **(Govt. of Uttarakhand Corporation),** under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same.

- 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

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 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 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.

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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, granules, 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.

***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 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.

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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

a) **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 in economic viable, therefore economic axis has been considered as E-1.

b) **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 F-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

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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] 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. 2. Reserve Estimation (Proved Reserve)

Cross-Section Line	Sectional Area (m^2)	Strike influence (m)	Volume (m^3)	Volume (Tonnes)
LB TO A-A'	815.58	178.15	145295.57	287685.22
A-A' TO B-B'	1017.81	1681.55	1711498.40	3388766.83
B-B' TO C-C'	1163.25	3107.68	3615008.76	7157717.34
C-C' TO D-D'	1397.58	3396.82	4747327.69	9399708.82
D-D' TO E-E'	1587.66	2302.26	3655206.11	7237308.09
E-E' TO F-F'	1669.74	3923.54	6551291.67	12971557.50
F-F' TO G-G'	1857.93	5350.73	9941281.78	19683737.92
G-G' TO H-H'	1570.92	2197.43	3451986.73	6834933.72
H-H' TO I-I'	1615.89	3063.85	4950844.57	9802672.24
I-I' TO J-J'	1797.45	2107.09	3787388.92	7499030.06
J-J' TO K-K'	1312.17	1727.44	2266694.94	4488055.98
K-K' TO LB'	948.00	506.50	480162.00	950720.76
TOTAL	**16753.98**		**45303987.14**	**89701894.48**

Table No. 3. Reserve Estimation (Probable Reserve)

Cross-Section Line	Sectional Area (m^2)	Strike influence (m)	Volume (m^3)	Volume (Tonnes)

BHUWAN JOSHI

LB TO A-A'	543.72	178.15	96863.71	1191790.14
A-A' TO B'	678.54	1681.55	1140998.93	2259177.88
B-B' TO C-C'	775.5	3107.68	2410005.84	4771811.56
C-C' TO D-D'	931.72	3396.82	3164885.13	6266472.55
D-D' TO E-E'	1058.44	2302.26	2436804.07	4824872.05
E-E' TO F-F'	1113.16	3923.54	4367527.78	8647705.00
F-F' TO G-G'	1238.62	5350.73	6627521.19	13122491.95
G-G' TO H-H'	1047.28	2197.43	2301324.49	4556622.49
H-H' TO I-I'	1077.26	3063.85	3300563.05	6535114.83
I-I' TO J-J'	1198.3	2107.09	2524925.94	4999353.36
J-J' TO K-K'	874.78	1727.44	1511129.96	2992037.32
K-K' TO LB'	632.00	506.50	320108	633813.84
TOTAL	**11169.32**		**30202658.09**	**60801262.97**

Table No. 4. Reserve Estimation (Possible Reserve)

Cross-Section Line	Sectional Area (m²)	Strike influence (m)	Volume (m^3)	Volume (Tonnes)
LB TO A-A'	271.86	178.15	48431.85	95895.06
A-A' TO B-B'	339.27	1681.55	570499.46	1129588.93
B-B' TO C-C'	387.75	3107.68	1205002.92	2385905.78
C-C' TO D-D'	465.86	3396.82	1582442.56	3133236.26
D-D' TO E-E'	529.22	2302.26	1218402.03	2412436.01
E-E' TO F-F'	556.58	3923.54	2183763.89	4323852.50
F-F' TO G-G'	619.31	5350.73	3313760.59	6561245.96
G-G' TO H-H'	523.64	2197.43	1150662.24	2278311.23
H-H' TO I-I'	538.63	3063.85	1650281.52	3267557.40
I-I' TO J-J'	599.15	2107.09	1262462.97	2499676.68
J-J' TO K-K'	437.39	1727.44	755564.98	1496018.66
K-K' TO LB'	316.00	506.50	160054	316906.92
TOTAL	**5584.66**		**15101329.01**	**29900631.39**

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

Table No. - 5.

Mineral Reserve	Code	Quantity of RBM in (m^3)	Quantity of RBM in (Tonne)
Proved Reserve	**111**	**45303987.14**	**89701894.48**
Probable Reserve	**122**	**30202658.09**	**60801262.97**
Possible Reserve	**133**	**15101329.01**	**29900631.39**
Total		**90607974.24**	**180403788.84**

5.3.2 MINEABLE RESERVE: - The mineable reserve is calculated as under Uttarakhand Minor Mineral Policy (Revised)-

- Total Demarcated Area= 1497 hectare.
- Mining proposed Area= 748.5 hectare
- Proposed mine working shall be confined up to 1.5m bgl as vadose ground water zone/unsaturated ground water zone assessed after 1.5m bgl.
- Section wise slicing mineral reserve been discussed as tabulated below-

SECTION 1-1'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
490 - 488	268.61	170.24	45728.16
488 - 486	186.19	205.91	38338.38
486 - 484	89.90	258.55	23243.64
484 – 483	49.56	274.56	13607.19
483 - 482	85.77	281.61	24153.68
482 - 480	135.86	280.43	38099.21
480 - 478	185.25	267.62	49580.31
478 - 476	120.89	247.40	29908.18
476 - 474	109.12	230.68	25171.80
474 - 471	102.72	214.44	22027.27
471 - 470	70.47	195.78	13796.61
Total	**1404.34**		**323654.43**

SECTION 2-2'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
470 - 469	46.88	184.59	8653.57
469 - 468	39.88	184.88	7373.01
468 - 464	245.76	185.54	45598.31
464 – 461	349.56	188.71	65965.46
461 - 462	48.25	192.57	92915.50

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462 - 460	89.25	195.17	17418.92
460 - 458	85.39	198.17	16921.73
458 - 456	96.29	201.63	19414.95
456 - 454	89.51	207.54	18576.90
454 - 452	89.49	214.44	19190.23
452 - 450	95.83	220.32	21113.26
450 - 448	97.00	225.15	21839.55
448 - 447	73.50	228.56	16799.16
447 - 446	53.56	229.91	12313.97
446 - 445	45.89	232.21	10656.11
445 - 444	57.00	235.11	13401.27
444 - 442	105.84	236.89	25072.43
442 - 441	47.10	238.41	11229.11
441 - 440	68.48	240.29	16455.05
Total	**1824.46**		**460908.49**

SECTION 3-3'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
440 - 436	396.46	249.22	98805.76
436 - 435	239.25	251.59	60192.90
435 - 434	102.18	236.73	24189.07
Total	**737.89**		**183187.73**

SECTION 4-4'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
420- 421	74.79	226.24	16920.48
421 - 418	134.79	223.49	30124.21
418 - 417	58.15	217.39	12641.22
417 - 416	66.69	212.3	14158.28
416 - 414	108.40	215.41	23350.44
414 - 412	139.55	226.72	31639.47
412 - 410	120.78	238.4	28793.95
410 - 409	89.79	247.48	22178.13
409 - 408	80.79	254.91	20594.17
408 - 407	90.06	262.56	23646.60
407 - 404	237.00	275.42	65274.54
404 - 402	178.93	289.35	51773.39
Total	**1379.72**		**341094.88**

SECTION 5-5'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
402 - 400	104.73	293.97	30787.47
400 - 399	98.65	292.12	28817.63
399 - 398	89.99	290.37	26130.84

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398 - 396	106.65	289.03	30825.04
396 - 394	125.65	287.12	36076.62
396 - 394	89.56	283.98	25433.24
394 - 392	137.95	282.15	38922.59
392 - 390	125.43	281.09	35257.11
390 - 391	87.43	281.09	24576.13
391 - 388	156.65	279.32	43755.47
388 - 384	176.29	276.64	48768.86
384 - 382	118.56	276.62	32796.06
382 – 381	105.90	272.39	28952.00
382 – 381	36.85	271.81	10016.19
382 – 381	37.87	270.88	10176.96
382 – 381	38.59	269.11	10384.95
381 – 380	81.77	267.8	21898.00
380 – 378	124.53	266.36	33169.81
378 – 376	126.96	262.21	33290.18
376 - 374	129.99	256.51	33343.73
374 - 370	283.94	250.38	71092.89
Total	**2383.94**		**654471.77**

SECTION 6-6'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
370 - 368	58.45	246.87	14429.55
368 - 366	78.50	246.68	19364.38
366 - 365	84.42	245.78	20748.74
365 – 362	105.06	246.54	25901.49
362 – 361	196.28	246.28	48339.83
361 – 360	95.30	245.63	23408.53
360 – 358	103.67	244.79	25377.37
358 – 356	145.68	243.82	35519.69
356 – 352	398.56	241.3	96172.52
352 – 351	83.94	239.24	20081.80
352 – 351	96.89	238.47	23105.35
351 - 350	94.87	237.48	22529.72
350- 348	165.69	235.79	39068.04
348- 346	259.86	232.68	60464.22
346- 345	409.91	227.58	93289.36
345- 344	98.78	224.41	22167.21
344- 342	109.79	226.34	24849.86
342- 341	96.53	228.20	22028.14
341- 340	125.52	228.97	28740.3
Total	**2807.7**		**665586.1**

SECTION 7-7'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**

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340- 339	93.42	231.19	21597.76
339 - 338	97.55	232.70	22699.88
338 - 336	146.63	284.59	41729.43
336 – 334	189.89	237.86	45167.23
334 – 332	178.63	239.75	42826.54
332 – 330	103.42	242.63	25092.79
330 – 328	105.20	242.64	25525.72
328 – 326	115.45	242.71	28020.86
326 – 324	108.56	243.79	26465.84
324 – 322	89.23	244.72	21836.36
322 – 321	59.74	245.58	14670.94
321 - 320	65.94	246.55	16257.50
320- 318	125.20	248.99	31173.54
318- 317	113.25	252.44	28588.83
317- 316	122.65	255.95	31392.26
316- 314	128.45	260.22	33425.25
314- 312	235.95	226.34	53404.92
312- 311	344.86	266.35	91853.46
311- 310	137.22	270.75	37152.31
310- 308	145.89	269.10	39258.99
308- 307	95.56	268.88	25694.17
307- 304	198.56	267.05	53025.44
304- 302	85.56	265.89	22749.54
302- 300	129.48	263.86	34164.59
Total	**3216.29**		**813774.15**

SECTION 8-8'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
300- 298	107.95	261.91	28273.18
298 - 297	89.07	261.19	23264.19
297 - 295	126.47	260.15	32901.17
295 – 296	28.56	261.36	7464.44
296 – 294	136.95	261.79	35852.14
294 – 295	48.92	262.40	12836.80
295 – 292	54.37	262.40	14266.69
292 – 290	98.14	265.25	26032.12
290 – 289	118.92	269.48	32046.56
289 – 288	113.89	272.38	31021.35
288 – 286	120.56	275.44	33207.04
286 - 284	122.94	278.5	34238.79
284 - 283	85.63	281.60	24113.40
283- 282	73.89	283.35	20936.73
282- 281	75.46	284.52	21469.87
281- 280	111.92	286.94	32114.88

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280- 276	736.23	292.10	215052.78
276- 274	145.56	301.25	43849.95
274- 272	128.36	302.18	38787.82
272- 270	152.97	305.23	46691.79
270- 269	120.29	309.88	37275.46
269- 268	82.58	312.14	25776.52
268- 267	85.96	312.94	26900.32
267- 266	140.42	315.65	44323.57
266- 264	147.63	308.58	45555.66
Total	**3253.64**		**934253.01**

SECTION 9-9'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
264- 262	129.56	301.74	39094.08
262 - 261	165.02	295.06	48690.80
261 - 260	197.26	286.26	56467.64
260 – 259	100.64	278.60	28038.80
259 – 258	106.89	272.60	29138.21
258 – 257	134.64	266.46	35876.17
257 – 256	177.13	256.87	45499.38
256 – 254	178.56	251.56	44918.55
256 – 254	179.23	254.75	45658.84
254 – 250	978.15	223.27	218391.55
250 – 248	80.43	218.35	17561.89
248 - 247	112.03	231.23	25904.69
247 - 246	32.06	240.33	7705.14
247 - 246	32.06	243.95	7821.07
246 - 245	35.68	248.08	8851.49
246 - 245	35.69	250.69	8947.12
246 - 245	36.15	251.65	9097.14
246 - 245	37.12	257.28	9550.23
246 - 245	37.48	264.58	9916.45
246 - 245	38.56	268.70	10361.07
246 - 245	38.94	272.34	10604.19
246 - 245	40.15	274.64	11025.79
Total	**2903.43**		**729120.39**

SECTION 10-10'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
246- 244	889.77	277.30	246737.66
244 - 242	54.85	274.10	15034.65
242 - 240	68.57	252.23	17295.75
240 - 238	115.76	219.98	25464.88
238 – 236	118.56	228.32	27069.64
236 – 234	125.76	235.04	29558.63

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234 – 232	127.36	241.23	30723.05
234 – 232	91.36	245.35	22415.17
Total	**1591.99**		**414299.43**

SECTION 11-11'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
234 – 232	488.92	261.6	127901.47
232 - 231	422.67	241.27	101979.70
231 - 230	317.07	194.89	61793.77
230 - 227	150.56	192.62	29000.86
Total	**1379.22**		**320675.8**

SECTION 12-12'			
Bench Level	**Bench Area(m^2)**	**Average Length(m)**	**Volume (m^3)**
230 - 227	82.21	214.47	17631.98
227 - 226	82.24	238.32	19599.43
226 - 222	271.89	227.39	61826.42
226 - 222	756.36	250.19	189233.70
Total	**1192.7**		**288291.53**

SECTION	**Bench Area(m^2)**	**Volume (m^3)**	**Volume (Tonnes)**
SECTION 1-1'	1404.34	323654.43	712039.74
SECTION 2-2'	1824.46	460908.49	1013998.67
SECTION 3-3'	737.89	183187.73	403013.00
SECTION 4-4'	1379.72	341094.88	750408.73
SECTION 5-5'	2383.94	654471.77	1439837.89
SECTION 6-6'	2807.7	665586.1	1464289.42
SECTION 7-7'	3216.29	813774.15	1790303.13
SECTION 8-8'	3253.64	934253.01	2055356.62
SECTION 9-9'	2903.43	729120.29	1604064.63
SECTION 10-10'	1591.99	414299.43	911458.74
SECTION 11-11'	1379.22	320675.8	705486.76
SECTION 12-12'	1192.7	288291.53	634241.36
TOTAL	**24075.32**	**61,29,317.61**	**13484498.69**

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5.4 MINE REPLENISHMENT

5.4.1 RBM Replenishment & DGM-

It has been assessed that mining area/ mineral picking area i.e. central part of the river, generally gets flooded during monsoon season. Based on preliminary survey done by RQP, it is assessed that on an average 1.5m thick RBM deposit seasonally comes over there/within the river zone (mining zone) of the lease site. So considering sediment carrying capacity of Gaula River within the lease area, mining up to 1.5m depth considered as sustainable RBM extraction depth.

As per Uttarakhand Minor Mineral (Sand, Bajari, Boulder, Brick etc) Policy 2015, dated 31 July 2015; recommended the depth of RBM in this area is 1.5m, it means that DGM approves the 1.5m replenishment of mineral in this area. However, The Department of Geology & Mining department may monitor the replenishment within the lease area and specific consultation or study may be conducted whenever required.

5.4.2 RBM Extraction study carried by Indian Institute of Soil & Water Conservation-

The ICAR-IISWC (Formerly CSWCRTI), Dehradun had undertaken year wise consultancy studies, for Assessment of extractable river bed material (RBM) from river Gaula River, District-Nainital, i.e. for year 2019-20, 2018-19 & 2017-18, sponsored by, Uttarakhand Forest Development Corporation, Dehradun (Uttarakhand).

The total safe extractable quantity given by ICAR-IISWC, as under-

YEAR	SAFE EXTRACTABLE QUANTITY (M^3)	SAFE EXTRACTABLE QUANTITY (Tonnes)
2019-20	18,46,569.06	40,62,451.932
2018-19	34,55,180.00	76,01,396.00
2017-18	40,14,207.00	88,31,255.40

(Latest Detailed Report for year 2019-2020, attached as Annexure No. 11)

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CHAPTER-6
MINING

6.1 DETAILS OF THE APPROVED MINING PLAN/SCHEME- Previous Mining Plan/Scheme been approved vide State DGM letter *No.1133/U.KHA./MA.PLAN/NAINI/2015-16, 10 March 2016* for a period of five (5) years, considered as for 2016-17, 2017-18, 2018-19, 2019-20 & 2020-21 (approval letter attached as ANN-9).

6.2 LAST FIVE YEAR PRODUCTION TARGET & ACHIEVEMENT: Achieved production data been provided by UFDC on Mining Session wise as below-

YEAR	PLANED PRODUCTION AS PER FC (M^3)	PRODUCTION ACHIEVED (M^3)
2015-16	54,25,000.00	44,35,879.00
2016-17	54,25,000.00	37,46,613.00
2017-18	54,25,000.00	40,12,836.00
2018-19	54,25,000.00	34,90,491.00
2019-20	54,25,000.00	2553773.00

Other details given in attached Annexure No.10

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 1.5m below ground levels (bgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/tipper 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 Lot, proposed total area= 1497.00 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

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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 1.5m below ground levels (bgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/tipper 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 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 260 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, H-Block, Nehru Colony, Dehradun* during October 2020 (post monsoon period) 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-

GENERAL APPROACH TO SUSTAINABLE SAND AND GRAVEL MINING (Sustainable Sand Mining Management Guidelines 2016)	FOR LEASE
a) 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	State Government Order (GO) was released vide ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of

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sand and gravel deposit in these locations to manage aggradation problem.	Gaula River (Gaula River RBM mining Lot), **200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, Total area- 1497Hectare,** in the favor of **Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam),** 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun **(Govt. of Uttarakhand Corporation),** under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same. Mining Proposed over first half of the river width i.e. central of the river, after leaving 25% of overall width on each bank, Minable 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 mining area/ mineral picking area generally gets flooded during monsoon season. Based on preliminary post monsoon survey done by RQP, it is assessed that on an average 1.5m thick RBM deposit seasonally comes over there/within the river zone of the proposed site, so considering the carrying capacity of the river in this region mining up to 1.5m depth considered as sustainable RBM extraction for this project.
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, Minable area proposed= **748.5** Hectare
d) Abandoned stream channels on terrace and	Mining is restricted to first half of the river

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inactive floodplains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.	width i.e. central part of the river, Minable 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, Minable 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, Minable area proposed= **748.5** Hectare
h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation.	Safety of mentioned structures ensured, as per demarcation carried
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, Minable area proposed= **748.5** Hectare, demarcation is carried by various 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	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, Minable area proposed= **748.5** Hectare

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capacity based on surveyed cross- section history.	
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, Minable area proposed= **748.5** Hectare area only, Based on preliminary survey done by RQP, it is assessed that on an average 1.5m thick RBM deposit seasonally comes over there/within the river zone of the proposed site, so considering the carrying capacity of the river in this region mining up to 1.5m depth considered as sustainable RBM extraction for this project.
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 meter or 10 percent of the river width whichever less.	Mining is restricted to maximum 1.5m depth and on first half of the river width i.e. central 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	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, Minable area proposed= **748.5** Hectare.

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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.	
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.
- Within the central part of the river, after 1.5 to 2m depth *vadose zone/unsaturated zone of Ground water* been assessed.
- Considering the unsaturated zone of ground water after 1.5m & as per Uttarakhand minor mineral policy, depth of RBM mineral extraction been fixed as 1.5m.
- Maximum (proposed) Height/depth of benches shall be kept 1.5m.
- About 25% Safety barriers/left 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-2

6.5 ABOUT THE RESERVE-

- Total demarcated Area= 1497 Ha.
- Total minable area proposed= **748.5** Hectare = 7485000 M²

- As per Uttarakhand Minor Mineral Policy 2015 (Revised), Quantity of ultimate reserve (tonnes) = mining area (7485000 M²) x 1.5 m depth x 2.2 bulk density= 1,12,27,500 M³ = 2,47,00,500.00 tonnes
- **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 2023 (attached as ANN-7), the maximum RBM **extraction quantity 54,25,000.00 M³ = 1,19,35,000.00 TPA**, been fixed.
- **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, valid up to 2021 **(attached as ANN-8),** the maximum RBM **extraction quantity 65,00,000.00 been fixed.**
- **Previous Mining Plan/Scheme** been approved vide State DGM ***letter No.1133/U.KHA./MA.PLAN/NAINI/2015-16, 10 March 2016,* (attached as ANN-9),** for a period of five (5) years, the approved RBM **extraction quantity is 1,39,70,000** tonnes/year i.e. 63,50,000.00M³.
- As per RBM Extraction study carried by Indian Institute of Soil & Water Conservation (ICAR-IISWC) Kaulagarh for year **2017-18,** total safe extractable quantity been given **40,14,207 M³** i.e. **88,31,255.40 TPA**
- As per RBM Extraction study carried by Indian Institute of Soil & Water Conservation (ICAR-IISWC) Kaulagarh for year **2018-19,** total safe extractable quantity been given **34,55,180 M³** i.e. **76,01,396.00 TPA**
- As per RBM Extraction study carried by Indian Institute of Soil & Water Conservation (ICAR-IISWC) Kaulagarh for year **2019-20,**, total safe extractable quantity been given **18,46,569 M³** i.e. **40,62,451.932 TPA (Detail report attached as Annexure No. 11).**
- The lease area been surveyed by *JSB Surveying Services, H-Block, Nehru Colony, Dehradun,* under guidance of RQP, during post monsoon period & later on extractable material has been evaluated on 1.5m depth (1.5m slice), maintaining the slope from the lease area (details mentioned as above in **Para. 5.3.2 Mineable Reserve**), the quantity been evaluated on 1.5m slice depth = **61, 29,317.61** M³= **1,34,84,498.74** Tonnes/year.
- The quantity evaluated by slicing method & recommended maximum quantity given in **FC**, are close i.e. **54,25,000.00 M³ = 1,19,35,000.00 TPA.**

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- As per the above mineral quantity evaluation/ survey, **54,25,000.00 M³ = 1,19,35,000.00** tonnes/year considered as production quantity & about ≈±2% of material available is planned as considered as waste material, (accordingly planned for river bank protection work & Plantation work).
- **Based on above facts and figure, the saleable mineral i.e. 1,19,35,000.00 tonnes/year, is a sustainable extractable quantity for this project (final saleable figure from the lease).**

6.5 YEARWISE DEVELOPMENT & PRODUCTION FOR REMAINING TWO YEARS-

TABLE NO. 6. - YEARWISE PRODUCTION

YEAR	MINEABLE AREA	DEPTH (M)	ULTIMATE MINABLE RESERVE (tonnes/year)	PRODUCTION (Saleable Quantity of RBM) (tonnes/year)
YEAR 2021-22	74,85,000 m²	1.5	2,47,00,500.00	**1,19,35,000.00**
YEAR 2022-23	74,85,000 m²	1.5	2,47,00,500.00	**1,19,35,000.00**
TOTAL	-	-	**4,94,01,000.00 Tonnes**	**2,38,70,000.00 Tonnes**

6.6 DETAILS ABOUT THE SALEABLE PRODUCTION-

6.6.1 DEVELOPMENT & PRODUCTION FOR YEAR 2021-22 - the mining is proposed within **74,85,000 sqm** area. The saleable production of each **(≈±)** mineral constituent would be on an average as under:-

Table No. 7- PRODUCTION IN YEAR 2021-22
BENCH LEVEL FROM 490.35 M TO 222.23 M (lease highest point to lowest point)

SR. NO.	MINERAL CONSTITUENTS	PRODUCTION (≈±) IN TONNES
1.	Sand (≈±60%)	71,61,000
2.	Bajri (≈±10%)	11,93,500
3.	Boulder (≈±28%)	33,41,800
4.	Silt (≈±2%)	2,38,700
	TOTAL	1,19,35,000.00 TONNES

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6.6.2 DEVELOPMENT & PRODUCTION FOR YEAR 2022-23- The mining is proposed within **74,85,000 sqm** area. The saleable production of each (≈±) mineral constituent would be on an average as under:-

Table No. 8- PRODUCTION IN YEAR 2022-23
BENCH LEVEL FROM 490.35 M TO 222.23 M (lease highest point to lowest point)

SR. NO.	MINERAL CONSTITUENTS	PRODUCTION (≈±) IN TONNES
1.	Sand (≈±60%)	71,61,000
2.	Bajri (≈±10%)	11,93,500
3.	Boulder (≈±30%)	33,41,800
4.	Silt (≈±2%)	2,38,700
	TOTAL	**1,19,35,000.00 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 REMAINING TWO 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

7.0 DRILLING & BLASTING- No drilling and blasting is proposed to be done to undertake mining of riverbed minerals.

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CHAPTER-8

8.0 WATER AND DRAINAGE SYSTEM- Mine working shall be confined up to 1.5m bgl or above the ground water table/level therefore impact on water regime is not anticipated. Hence no water clogging is likely to be encountered. Therefore, there is no need of any such arrangements.

CHAPTER-9

9.1 DISPOSAL OF WASTE MATERIAL

Exact quantitative calculation about reserve/saleable production/waste generated in RBM mining project is not possible but logical classification/assessment may be considered. As per the assessment on various locations within lease stretch, about 2% of extractable quantity/planed production i.e. 2, 38,700 tonnes/year, has been considered as waste material, it includes wastage during transportation and unused/ low value material like silt/clay etc which gets deposited as crust material on the bed profile, shall be scrapped and carefully stored for depositing into the mine pits in the river bed or in the upper terraces earmarked for plantation purpose.

9.1.1 Sewerage System:

For disposal of sewage the eco-friendly mobile Toilets will be provided/ proposed during working time near the lease area.

9.1.2 Solid Waste Management: Exact quantitative calculation about reserve/saleable production/waste generated in RBM mining project is not possible but logical classification/assessment may be considered. As per the assessment on various locations within lease stretch, about 2% of extractable quantity/planed production i.e. 2, 38,700 tonnes/year, has been considered as waste material, it includes wastage during transportation and unused/ low value material like silt/clay etc which gets deposited as crust material on the bed profile, shall be scrapped and carefully stored for depositing into the mine pits in the river bed or in the upper terraces earmarked for plantation purpose.

It would be in fitness of things to repeat that there will be no solid waste generated in the proposed activity (other than mining waste).

CHAPTER-10

10.1 USE OF MINERALS-

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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

11.1 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 changing 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 caste method using hand tools like shovel, spades, and pick-axes. Other machineries on the mining site will be water sprinkler.

11.3 SITE SERVICES

Temporary rest Shelter: A temporary rest shelter will be provided for the workers near the site for rest

First aid box: First aid box along with anti-venoms to counteract poison by certain species of small insects, if any

Sanitation facility: Facilities such as septic tank or community toilet will be provided for workers

11.4 WATER REQUIREMENT

Total water requirement for the project is 72.0 KLD, it breaks up as under:-

TABLE NO. 12. 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 project is given as below -

Table No. 13 Employment Detail

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 PEON	22
6.	UNSKILLED	30,000
	TOTAL	**30,089**

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

- Geologist
- Mining engineer
- 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 will be no violation of safety provisions.

CHAPTER-12

12.0 MINERAL BENEFICIATION- Mineral Sand, Bajari & Boulders doesn't require processing or beneficiation.

CHAPTER-13

13.0 ENVIRONMENT MANAGEMENT PLAN

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.

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13.2 SOLID WASTE MANAGEMENT- Exact quantitative calculation about reserve/saleable production/waste generated in RBM mining project is not possible but logical classification/assessment may be considered. As per the assessment on various locations within lease stretch, about 2% of extractable quantity/planed production i.e. 2, 38,700 tonnes/year, has been considered as waste material, it includes wastage during transportation and unused/ low value material like silt/clay etc which gets deposited as crust material on the bed profile, shall be scrapped and carefully stored for depositing into the mine pits in the river bed or in the upper terraces earmarked for plantation purpose.

It would be in fitness of things to repeat that there will be no solid waste generated in the proposed activity (other than mining waste).

13.1.1 **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.

13.2 PLANTATION- 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. Every year 8000 to 1000 trees will be/proposed to be planted.

13.3 BASELINE INFORMATION

13.3.1 **Land Use Pattern-** Entire lease area is a part of Forest River, i.e. Gaula river, scattered seasonal bushes & shrubs covered outside the bank area of the Gaula river. There is no agricultural land persist within the lease area. There is no existing infrastructure, however during mining period construction temporary rest shelters proposed over safety zone of lease area for workers.

13.3.2 **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 languor, Indian porcupine, wild pig, monkey, barking deer, black capped marten, gural, 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

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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, Chinar, 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 Niglat & Ghorakhal. In the Tarai and Bhabhar belt, a number of plants having medicinal value grow. For example, herbs like Ashok, Bhringraj, Bhilwa, Varun, and Gambhari. Under-the-water life of the district is equally enchanting. Some of the aquatic species living in these waters are potomageton pectinatus, potomageton crispus, polygonum glabrum, holygonum amphibium, and hydrilla verticellata. ***(Reference: https://www.nainital.org/flora-and-fauna-of-nainital.html)***

13.3.2 **Climatic Conditions**- 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)***

13.3.4 Social Infrastructure- The nearest health & education facilities are available at nearest town Haldwani, Lalkua, about 1 to 1.5 km from the project site.

13.3.5 GEOMORPHOLOGY AND SOIL TYPE

13.3.5.1 Physiography: 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.

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13.3.5.2 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 2610 m above Mean Sea Level. The zone is extensively filled up by fluvial terrace deposits. The regional trend of major ridges is NNW-SSE.

13.3.5.3 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.

13.3.5.4 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 9.5 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 posses 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. ***(Reference: CGWB report)***

13.4 EFFECT OF MINING ON ENVIRONMENT

Due to the mining activity following things are going to/projected to be affected

- Degradation of land
- Destruction of Flora & Fauna
- Air Pollution
- Water Pollution
- Noise Pollution

These effects will be either minimized or nullified by adopting following measures:

- The mining activity will take place in barren/waste land which is of no use to the inhabitants or ambient environment.
- Due to manual mining there may be generation of dust which in turn effect the ambient air. This may be maintained to the permissible limit by doing water spraying on the haul road.

- Mining will be done above the ground water table and thus it is not going to be effected/contaminate the ground water. There will be no discharge of mine water to the nearby water source, except rainwater during rainy season, and thus there will be no contamination of water of the nearby water course, if at all present.
- Due to manual mining there may be no generation of noise.
- Ground vibration & Noise pollution it is not possible because manual mining.
- The lessee has plan for plantation along the road and near civic amenities in consultation with the local authority.

13.4.1 OTHERS- other than above, following generalized provisions will be followed for environment friendly RBM Mining-

S. No.	Parameter	ENVIRONMENT MANAGEMENT PLAN
1.	Land Environment	• Access roads from public roads will be aligned in such a way that it would cause least damage. • Maintenance of approach road will be done regularly. • Bank protection and restoration will be ensured. • Safety distance from the bridge and power house will be maintained.
2.	Air Environment	• Water spraying will be done on the evacuation road near mines for dust suppression. • Trucks will be covered with tarpaulin to stop dust emission. • PUC Certified Trucks will be deployed for transportation.
3.	Water Environment	• Mining will not interfere with the ground water table as well as with the surface water.
4.	Noise Environment	• Minimum use of Horns at the village area will be used. • Use of loud sound systems in transport vehicles will be prohibited.
5.	Biological Environment	• Awareness program will be conducted for labours to sensitize them about importance of biological environment.
6.	Health & Safety	• Labours will be made aware of the ways of working and safety measures. • Medical facilities & first aid boxes along with anti-venom will be provided in the mine premises. • Health Awareness Programmes and camps shall be arranged for local villagers.

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		• Tie-up with nearby hospitals/ PHCs for emergency assistance will be ensured.

13.4.2 MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS:-

PARTICULARS	MONITORING FREQUENCIES	IMP. MONITOR PARAMETERS
Ground Water	Twice in a year	pH, SS, TDS, Iron, Cl, Hardness, Alkalinity, NO3, PO4
Surface Water	Twice in a year	pH, SS, TDS, Iron, Cl, Hardness, Alkalinity, NO3, PO4
Ambient Air Quality	Twice in a year	SPM, So2 & NOx
Soil Analysis	Twice in a year	pH conductivity, SO4, NO3, PO4, Texture, Alkalinity
Noise	Twice in a year	Noise level in dBA

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CHAPTER-14

14.0 PROGRESSIVE MINE CLOSURE PLAN

14.1 INTRODUCTORY NOTE- State Government Order (GO) was released vide ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), **200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, Total area-1497Hectare,** in the favor of **Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam),** 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun **(Govt. of Uttarakhand Corporation),** under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same.

RBM/SAND, BAJRI AND BOULDERS MINE, in a part of Gaula river bed area, Haldwani Forest Division & East Tarai Forest Division, District- Nainital, Uttarakhand, Applicant/Lessee- Uttarakhand Forest Development Corporation (UFDC) 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, 1988 & EIA Notification 2006 i.e. proposed as manual opencast mine not using explosives.

GENERAL

1.1	Name of the applicant/Lessee	MD, Uttarakhand Forest Development Corporation(UFDC), (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

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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 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 ***Letter No. 179/VII-2/11-KHA/2010, Dated 24 January 2013,*** for extraction of Sand Bajri and Boulders (RBM) from a part of Gaula River (Gaula River RBM mining Lot), **200Hectare of Haldwani Forest Division & 1297Hactare of East Tarai Forest Division, Total area-1497Hectare,** in the favor of **Uttarakhand Forest Development Corporation (UFDC) Uttarakhand, (Uttarakhand Van Nigam),** 73, Nehru Road, Aranya Vikash Bhawan, Dehradun-248001, District- Dehradun **(Govt. of Uttarakhand Corporation),** under Rule-70 of Uttarakhand Minor Mineral (Sand, Bajri, Boulder) Rules 2001, for a time period of **10 years (ANN-1).** Further time Extension for a period of 10 years been provided vide GO ***Letter No.740/VII-A-1/2020/22KHA/13, dated 26 June 2020*** for the same. (attached as Annexure I & II)
1.5	Name of the RQP preparing the mining plan	Bhuwan Joshi
	Address	Kamal Bhawan, House No. 6, Vijay Colony Lane No. 1, New Cantt Road, Dehradun (Uttarakhand) 248001
	Phone	09412152105 7533858409

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	Fax	-
	Registration No.	RQP/DDN/180/2009/A- IBM Mu.Kha./RQP/DDN/01/2016- State Govt.
	Valid upto	30/08/2019 & 27/12/2020
1.6	Name of the prospecting agency	The baseline data is collected from various reports, proponent, as well as detailed prospecting of the area is carried out by the RQP

14.3 LAND USE PATTERN OF THE PROPOSED AREA:- (Present landuse)

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	-	-	1497 Ha.	-
	Total	-	-	**1497 Ha.**	-

14.4 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 Lot, total area= 1497.00 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 1.5m

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below ground levels (bgl) or above ground water level whichever is less. The loading of mineral shall be done manually and transported by truck/tipper 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 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 260 days in a year; during monsoon period mining activity will be strictly banned.

14.5 NAME & ADDRESS OF THE RECOGNIZED PERSON:-BHUWAN JOSHI (RQP & Geological Consultant), House No. 6, Vijay Colony, Lane No. 1, New Cantt Road, Dehradun (Uttarakhand) 248001

14.6 MINE DESCRIPTION: - Picking /extractions of minor minerals (sand, bajari & boulders), from a part of Gaula River bed (forest area).

14.7 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 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 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, granules, 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.

***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 is evenly sorted.

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

14.8 RESERVES:- The lease area falls in to a part of river main bed possess river borne material as sand, bajari, boulders, cobbles, pebbles, with little mixed clay, generated through erosional & depositional activity from upper horizons.

(a) Geological Reserve-

Mineral Reserve	Code	Quantity of RBM in (m3)	Quantity of RBM in (Tonne)

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Proved Reserve	111	45303987.14	89701894.48
Probable Reserve	122	30202658.09	60801262.97
Possible Reserve	133	15101329.01	29900631.39
Total		**90607974.24**	**180403788.84**

(b) Minable Reserve-

SECTION	Bench Area(m^2)	Volume (m^3)	Volume (Tonnes)
SECTION 1-1'	1404.34	323654.43	712039.74
SECTION 2-2'	1824.46	460908.49	1013998.67
SECTION 3-3'	737.89	183187.73	403013.00
SECTION 4-4'	1379.72	341094.88	750408.73
SECTION 5-5'	2383.94	654471.77	1439837.89
SECTION 6-6'	2807.7	665586.1	1464289.42
SECTION 7-7'	3216.29	813774.15	1790303.13
SECTION 8-8'	3253.64	934253.01	2055356.62
SECTION 9-9'	2903.43	729120.29	1604064.63
SECTION 10-10'	1591.99	414299.43	911458.74
SECTION 11-11'	1379.22	320675.8	705486.76
SECTION 12-12'	1192.7	288291.53	634241.36
TOTAL	**24075.32**	**61,29,317.61**	**13484498.69**

As per the assessment on various locations within lease stretch, about 2% of extractable quantity/planed production i.e. 2, 38,700 tonnes/year, has been considered as waste material, it includes wastage during transportation and unused/ low value material like silt/clay etc which gets deposited as crust material on the bed profile, shall be scrapped and carefully stored for depositing into the mine pits in the river bed or in the upper terraces earmarked for plantation purpose.

14.9 PROGRESSIVE CLOSURE PLAN

a) The proposed mining lease area belongs to river borne deposit (RBM) deposited by Gaula River, mostly during rainy season. The mining process is conventionally opencast river bed mining of minor minerals with hand tools, shovels and pan without drilling & blasting. Proposed mining will be started from higher levels to lower levels through phase wise/ slice wise, going to the maximum depth of 1.5m below ground levels (bgl) or above ground water level whichever is less. Total 748.5 Ha area is workable and replenishable 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 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 260 days in a year; during monsoon period mining activity will be strictly banned.

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b) On an average about 1.5 meters river deposit thickness assessed within the lease area, in few spots, most possibly due to excess in the core zone of the channel the boulders are spreaded outer both sides of the river/channel, proper channelization is essentially required for hazard safety point of view. During the monsoon rainy season 1.5 m average stocking of sand, bajari & boulders assessed. So it is clear that the deposit would be annually replenishing as such no need to develop or plan for closure scheme but towards valley side temporarily construction of longitudinal wall is suggested to reduce the impacts of toe erosion.

c) **Mining:**

Sl. No.	Activities	Area (Ha.)
1-	Area already broken up	-
2-	Area already backfilled/reclaimed	-

Sl. No.	Activities	Area
1-	Additional Area proposed to be broken up per year	7485000 m^2
2-	Additional Area proposed to be replenished with flood water	7485000 m^2

d) **Dump:**

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

e) **Plantation:**

Sl. No.	Activities	Area
1-	Area already covered under plantation	-
2-	Area proposed to be cover under plantation & protection work	748500 m^2
	Total	748500 m^2

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.

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14.10 Air Quality Management

Periodic air quality monitoring will be carried out to monitor the quality and for timely corrective actions.

14.11 Waste Management- Exact quantitative calculation about reserve/saleable production/waste generated in RBM mining project is not possible but logical classification/assessment may be considered. As per the assessment on various locations within lease stretch, about 2% of extractable quantity/planed production i.e. 2, 38,700 tonnes/year, has been considered as waste material, it includes wastage during transportation and unused/ low value material like silt/clay etc which gets deposited as crust material on the bed profile, shall be scrapped and carefully stored for depositing into the mine pits in the river bed or in the upper terraces earmarked for plantation purpose.

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

14.13 Disaster Management and Risk Management- 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.

CHAPTER-15

CONCLUSION-

The project involves collection of sand, bajri and boulder. The river bed material extracted is in high demand in the local market which is used in making bridges, road & building material etc. The project operation will provide livelihood to the poorest section of the society. It provides employment to the people residing in the vicinity directly or indirectly by the project. The lessee will undertake mining activity as per the plan indicated in this Mine Plan with proper taking care of environment aspects i.e. without disturbing the environment condition.

ANNEXURE & PLATES

Annexure - 1

संख्याः 179 /VII-2/11-ख/2010

प्रेषक,

राकेश शर्मा,
प्रमुख सचिव,
उत्तराखण्ड शासन।

सेवा में,

जिलाधिकारी,
नैनीताल।

औद्योगिक विकास अनुभाग-2 देहरादून : दिनांक 24 जनवरी, 2013

विषयः जनपद नैनीताल की तहसील हल्द्वानी एवं लाल कुंआ के वन क्षेत्रान्तर्गत प्रवाहित होने वाली गौला नदी में उपखनिज रेता, बजरी एवं बोल्डर का खनन पट्टा उत्तराखण्ड वन विकास निगम को स्वीकृत किये जाने के सम्बन्ध में।

महोदय,

उपरोक्त विषयक प्रबन्ध निदेशक, उत्तराखण्ड वन विकास निगम, अरण्य विकास भवन, 73 नेहरू रोड, देहरादून के पत्र संख्या उ0 115/उपखनिज, दिनांक 24 जनवरी, 2013 के संदर्भ में सम्यक् विचारोपरान्त मुझे यह कहने का निदेश हुआ है कि जनपद नैनीताल की तहसील हल्द्वानी वन प्रभाग के 200 हैक्टेयर तथा तराई पूर्वी वन प्रभाग के 1297 हैक्टेयर अर्थात् कुल 1497 हैक्टेयर वन क्षेत्र में 10 (दस) वर्ष की अवधि हेतु उपखनिज, रेता, बजरी, बोल्डर का चुगान किये जाने की अनुमति वन संरक्षण अधिनियम, 1980 के प्राविधानों के अन्तर्गत पर्यावरण एवं वन मंत्रालय, भारत सरकार के पत्र संख्या 8-61/1999-FC दिनांक 23 जनवरी, 2013 एवं पर्यावरण संरक्षण अधिनियम, 1986 के प्राविधानों 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 विकास निगम को निम्नलिखित शर्तों के अधीन प्रदान की जाती है :-

1. वन भूमि की वैधानिक स्थिति में कोई परिवर्तन नहीं होगा।
2. उत्तराखण्ड वन विकास निगम द्वारा उक्त नदियों से उपखनिजों का चुगान 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-FC दिनांक 23 जनवरी, 2013 में अंकित समस्त शर्तों का अक्षरशः अनुपालन सुनिश्चित किया जायेगा।
3. पर्यावरण एवं वन मंत्रालय, भारत सरकार द्वारा वन संरक्षण अधिनियम, 1980 तथा पर्यावरण संरक्षण अधिनियम, 1986 के अधीन अन्य लागू अधिनियमों के अन्तर्गत समय-समय पर दिये गये निर्देशों का अनुपालन सुनिश्चित किया जायेगा।
4. निगम चुगान कार्य से किसी भी वन सम्पदा को क्षति नहीं पहुंचायेगा। यदि वन सम्पदा को कोई क्षति पहुंचती है या पहुंचायी जाती है तो उसके लिये सम्बन्धित

-2-

प्रभागीय वनाधिकारी द्वारा निर्धारित प्रतिकर 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 उक्त प्रयोजन हेतु आवश्यकता रहेगी। यदि उत्तराखण्ड वन विकास निगम को उक्त भूमि अथवा उसका ऐसा भाग, जो उत्तराखण्ड वन विकास निगम के लिए आवश्यक न रहे, वन विभाग को बिना किसी प्रतिकर का भुगतान किये यथा स्थिति वापस हो जायेगी।

6. वन विभाग/भूतत्व एवं खनिकर्म विभाग एवं राज्य सरकार के कर्मचारी/अधिकारी या उनके अभिकर्ताओं को किसी भी समय जब वे आवश्यक समझे, प्रश्नगत वन भूमि का निरीक्षण करने का पूर्ण अधिकार होगा।

7. प्रश्नगत क्षेत्र में उपखनिजों के चुगान हेतु किसी भी विस्फोटक पदार्थ का प्रयोग नदी में नहीं किया जायेगा व चुगान कार्य केवल हैण्ड टूल्स द्वारा ही किया जायेगा।

8. प्रश्नगत क्षेत्र में उपखनिजों के चुगान का कार्य सूर्योदय से पूर्व तथा सूर्योदय के पश्चात नहीं किया जायेगा।

9. उत्तराखण्ड उपखनिज परिहार नियमावली, 2001 तथा उत्तराखण्ड खनिज नीति, 2011 के प्रावधानों का अनुपालन सुनिश्चित किया जायेगा।

10. खनन पट्टा की स्वीकृति के पश्चात् उक्त स्थल का सीमाबन्धन भूतत्व एवं खनिकर्म इकाई के अधिकारियों द्वारा राजस्व एवं वन विभाग के अधिकारियों की उपस्थिति में किया जायेगा।

11. किसी सार्वजनिक विनोदस्थल, श्मशान अथवा कब्रिस्तान या व्यक्तियों के किसी वर्ग द्वारा पवित्र माने जाने वाला स्थान, मकान अथवा शमस्थल, सार्वजनिक सड़क या कोई अन्य स्थान जो जिलाधिकारी द्वारा संरक्षित स्थान घोषित किया गया हो, ऐसे स्थानों पर न तो कोई चीज खड़ी की जायेगी, न ही स्थापित की जायेगी और न ही कोई सतह संक्रियायें की जायेंगी, जिससे कोई भवन, भवन निर्माण कार्य, सम्पत्ति या अन्य व्यक्तियों अधिकारों को क्षति पहुँचे।

12. पट्टे में असम्मिलित निर्माण कार्यों या अन्य प्रयोजनों के निमित्त कोई ऐसी भूमि, सतह संक्रियाओं के लिए प्रयुक्त नहीं की जायेगी, जो राज्य सरकार से भिन्न व्यक्तियों के दखल में पहले से ही हो।

13. किसी भी मार्ग का उपयोग करने के अधिकार पर प्रतिक्षेप न किया जायेगा।

14. प्रस्तावित क्षेत्र में खनन कार्य करने से पूर्व प्रवेश व निकासी मार्गों पर पर्याप्त संख्या में अस्थाई चैक पोस्ट स्थापित किये जायेंगे। निकासी किये जाने वाले उपखनिजों के उचित अभिलेखों का संधारण उत्तराखण्ड वन विकास निगम द्वारा किया जायेगा।

15. वन विकास निगम द्वारा उपखनिज की निकासी की मात्रा पर निर्धारित रायल्टी आदि नियमानुसार जमा किया जायेगा।

BHUWAN JOSHI
मु0 ख0/RQP/DDN/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 त्रैमासिक 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 उपखनिजो के चुगान हेतु वन विभाग/अन्य प्राधिकारियों को प्रदत्त समस्त वचनबद्धताओं का अनुपालन सुनिश्चित किया जायेगा।
19. निगम द्वारा उपखनिजो के चुगान हेतु मुख्य वन्य जीव प्रतिपालक, उत्तराखण्ड की संस्तुतियों व उनके द्वारा समय–समय पर जारी निर्देशों का अनुपालन सुनिश्चित किया जायेगा।

भवदीय,

(प्रवेश शर्मा)
प्रमुख सचिव।

पृष्ठांकन संख्याः 179 (1)/VII-2/11–ख/2010, तद्दिनांकित।

प्रतिलिपि : निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :–

1. सचिव, पर्यावरण एवं वन मंत्रालय, भारत सरकार, पर्यावरण भवन, सी0जी0ओ0 काम्पलेक्स, लोदी रोड, नई दिल्ली।
2. प्रमुख सचिव, मा0 मुख्यमंत्री जी, उत्तराखण्ड शासन।
3. प्रमुख सचिव, वन एवं पर्यावरण विभाग, उत्तराखण्ड शासन।
4. स्टाक आफीसर–मुख्य सचिव, उत्तराखण्ड शासन।
5. आयुक्त, कुमाऊँ मण्डल, नैनीताल।
6. प्रमुख वन संरक्षक, उत्तराखण्ड, देहरादून।
7. निदेशक, भूतत्व एवं खनिकर्म इकाई, उद्योग निदेशालय, देहरादून।
8. अपर प्रमुख वन संरक्षक एवं मण्डल अधिकारी, वन संरक्षक, इन्दिरानगर, फारेस्ट कालोनी, देहरादून।
9. प्रबन्ध निदेशक, उत्तराखण्ड वन विकास निगम लि0, देहरादून।
10. गार्ड फाईल।

आज्ञा से,

(किशन नाथ)
अपर सचिव।

BHUWAN JOSHI
मा0 ख0/RQP/DDN/01/2016

संख्याः 740 /VII-A-1/2020/22ख/13

प्रेषक,

ओम प्रकाश,
अपर मुख्य सचिव,
उत्तराखण्ड शासन।

महत्वपूर्ण

अति.	शिवि	ई.डी.एफ.	नियोजन
लेखा	शिविर	आर.टी.आई.	विपणन
ऑडिट	भण्डार	भवन प्रकोष्ठ	
पी.एस.			

30.06.2020

सेवा में,

प्रबन्ध निदेशक,
उत्तराखण्ड वन विकास निगम,
उत्तराखण्ड देहरादून

औद्योगिक विकास (खनन) अनुभाग–1 देहरादून, दिनांकः 26 जून, 2020

विषयः आरक्षित वन क्षेत्र की गौला, कोसी, दाबका एवं शारदा नदी से उपखनिज चुगान हेतु स्वीकृति के संबंध में।

महोदय,

उपर्युक्त विषयक आपके पत्र संख्या–उ–7189/उपखनिज चुगान/आशय पत्र–05(506), दिनांक 12 मार्च, 2020 के सन्दर्भ में मुझे यह कहने का निदेश हुआ है कि वन विभाग, उत्तराखण्ड के आरक्षित वन क्षेत्रों के अन्तर्गत जनपद नैनीताल स्थित गौला, कोसी, दाबका नदी तथा जनपद चम्पावत स्थित शारदा नदी से उपखनिज चुगान एवं निकासी का कार्य उत्तराखण्ड वन विकास निगम के द्वारा आगामी 10 वर्ष की अवधि हेतु किये जाने बाबत् वन विभाग, उत्तराखण्ड शासन एवं औद्योगिक विकास (खनन) विभाग, उत्तराखण्ड शासन की अनापत्ति है।

कृपया तदनुसार अवगत होने का कष्ट करें।

भवदीय,

(ओम प्रकाश)
अपर मुख्य सचिव

संख्याः 740 (1)/VII-A-1/2020 तद्दिनांक।

प्रतिलिपिः निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषितः–

1. प्रमुख सचिव, वन एवं पर्यावरण विभाग, उत्तराखण्ड शासन को वन विभाग, उत्तराखण्ड शासन द्वारा प्रदत्त अनापत्ति के सन्दर्भ में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
2. निदेशक, भूतत्व एवं खनिकर्म इकाई, उत्तराखण्ड देहरादून।

आज्ञा से,

(एन०एस० डुंगरियाल)
संयुक्त सचिव

BHUWAN JOSHI
ख0/RQP/DDN/01

उत्तराखण्ड वन विकास निगम

प्रधान कार्यालय – अरण्य विकास भवन, 73 नेहरु रोड, देहरादून
दूरभाष :-0135-2657610, फैक्स :-0135-2655488, ई-मेलः vanvikas12@gmail.com

पत्रांक -उ - 1531 /LOI (05/506) दिनांक : 07, जुलाई, 2020

सेवा में,

1- महाप्रबन्धक (कु0म0),
2- क्षेत्रीय प्रबन्धक (कु0क्षे0)
उत्तराखण्ड वन विकास निगम,
हल्द्वानी।

विषय :- आरक्षित वन क्षेत्र की गौला, कोसी, दाबका एवं शारदा नदियों से उपखनिज चुगान हेतु स्वीकृतियों के सम्बन्ध में।

सन्दर्भ :- अपर मुख्य सचिव, औद्योगिक विकास (खनन) अनुभाग-1 की पत्र संख्या-740/VII-A-I/2020/22 ख /13 दिनांक 26.06.2020 (संलग्न)

महोदय,

शासन के सन्दर्भित पत्र के क्रम में आरक्षित वन क्षेत्र की जनपद नैनीताल की गौला, कोसी, दाबका एवं जनपद चम्पावत शारदा नदी से आगामी 10 वर्षो की अवधि के लिये उपखनिज चुगान एवं निकासी हेतु वन विभाग व उत्तराखण्ड शासन, औद्योगिक विकास (खनन) विभाग की अनापत्ति है।

"वन विभाग, उत्तराखण्ड के आरक्षित वन क्षेत्रों के अन्तर्गत जनपद नैनीताल स्थित गौला, कोसी, दाबका नदी तथा जनपद चम्पावत स्थित शारदा नदी से उपखनिज चुगान एवं निकासी का कार्य उत्तराखण्ड वन विकास निगम के द्वारा आगामी 10 वर्ष की अवधि हेतु किये जाने बाबत्, वन विभाग, उत्तराखण्ड शासन एवं औद्योगिक विकास (खनन) विभाग, उत्तराखण्ड शासन की अनापत्ति है।"

अतः आप उपरोक्त शासन के आदेश के क्रम में आरक्षित वन क्षेत्र की जनपद नैनीताल की गौला, कोसी, दाबका एवं जनपद चम्पावत शारदा नदी से आगामी 10 वर्षो की अवधि के लिये उपखनिज चुगान एवं निकासी हेतु यथा वांछित वन / पर्यावरणीय अनापत्ति आदि प्राप्त करने हेतु कार्यवाही करने का कष्ट करें।

संलग्नक :- उपरोक्तानुसार।

भवदीय,
07.07.2020
(मोनिष मल्लिक)
प्रबन्ध निदेशक

पत्रांक- 1531 /तद्दिनांकित।

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

1. समस्त प्रभागीय प्रबन्धक, खनन, उत्तराखण्ड वन विकास निगम, कुमाऊँ मण्डल।
2. वरिष्ठ लेखाप्रबन्धक (मु0) उत्तराखण्ड वन विकास निगम, देहरादून।

07.07.2020
(मोनिष मल्लिक)
प्रबन्ध निदेशक

BHUWAN JOSHI
मु० ख0/RQP/DDN/01/[illegible]

संयुक्त निरीक्षण

कृपया जिलाधिकारी नैनीताल के पत्र संख्याः 710/30–जी0सी0/2020–21 दिनांक 28 सितम्बर 2020 ए
भूतत्व एवं खनिकर्म इकाई उद्योग निदेशालय, उत्तराखण्ड हल्द्वानी नैनीताल के पत्र 677/भू0खनि0इ0/खनन/2020–2
दिनांकः 07.10.2020 के कम में गोला नदी एवं उपखनिज निकासी गेटों (यथा शीशमहल, राजपुरा, आंवलाचौकी आदि) पे
का संयुक्त निरीक्षण सिटी मजिस्ट्रेट हल्द्वानी, उपप्रभागीय वनाधिकारी तराई पूर्वी वन प्रभाग हल्द्वानी, प्रभागीय वन विका
प्रबन्धक हल्द्वानी एवं खान अधिकारी हल्द्वानी की उपस्थिति में आज दिनांक 07 अक्टूबर 2020 को सम्पन्न किया गय
संयुक्त निरीक्षण के दौरान देखा गया, कि शीशमहल के समीप नदी का जल स्तर सामान्य है जिसपर वाहन गुजर सकते
अन्य गेटों के समीप नदी का जल स्तर न्यून/शून्य पाया गया।

संयुक्त निरीक्षण के दौरान यह भी देखा गया कि गोला नदी के उपखनिज निकासी क्षेत्रों के सीमादन्ध
कार्य एवं वाहन निकासी मार्गों का पुर्ननिर्माण कार्य वन विभाग द्वारा प्राथमिकता में पूर्ण कर लिया गया है जबकि वन विका
निगम द्वारा उपखनिज निकासी गेटों पर आवश्यक व्यवस्थाओं (यथा C.C.T.V. कैमरों, RFID चिप, धर्मकांटों के सम्बन्ध
कार्यवाही गतिमान है।

अतः वन विकास निगम की व्यवस्थाओं को देखते हुए समिति द्वारा गोला नदी के उक्त निकासी गेटों
उपखनिज निकासी का कार्य दिनांक 15 अक्टूबर 2020 से किये जाने की संस्तुति की जाती है।

(उपप्रभागीय वनाधिकारी)
तराई पूर्वी वन प्रभाग हल्द्वानी

(प्रभागीय वन विकास प्रबन्धक)
हल्द्वानी

(सहायक भूवैज्ञानिक/प्रभारी अधिकारी)
भूतत्व एवं खनिकर्म इकाई, हल्द्वानी

(सब-मजिस्ट्रेट)
हल्द्वानी

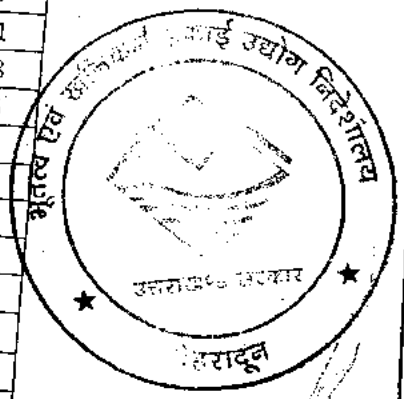
भूतत्व एवं खनिकर्म उद्योग निदेशालय
उत्तराखण्ड

BHUWAN JOSHI
भू0 ख0/RQP/DDN/01/20

गौला नदी व वन क्षेत्र का सीमांकन

Forward and Backward Bearing

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



BHUWAN JOSHI (RO/P)
मु0 ख0/RO/P/DDN/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
मु0 ख0/RQP/DDN/01/2015

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	

भूतत्व एवं खनिज उद्योग निदेशालय
उत्तराखण्ड सरकार
देहरादून

BHUWAN JOSHI
मु0 ख0/RQFO

161	182^0	2^0	N29 05 54.2 E79 33 12.8
162	175^0	355^0	N29 05 49.9 E79 33 12.6
163	167^0	347^0	N29 05 46.8 E79 33 12.9
164	160^0	340^0	N29 05 43.1 E79 33 13.9
165	167^0	347^0	N29 05 40.0 E79 33 15.2
166	185^0	5^0	N29 05 36.7 E79 33 16.0
167	188^0	8^0	N29 05 33.7 E79 33 15.8
168	170^0	350^0	N29 05 30.9 E79 33 15.3
169	171^0	351^0	N29 05 28.4 E79 33 15.8
170	161^0	341^0	N29 05 24.5 E79 33 16.5
171	177^0	357^0	N29 05 21.3 E79 33 17.8
172	183^0	3^0	N29 05 17.8 E79 33 18.0
173	176^0	356^0	N29 05 14.8 E79 33 17.8
174	164^0	344^0	N29 05 10.2 E79 33 18.2
175	169^0	349^0	N29 05 07.4 E79 33 19.1
176	172^0	352^0	N29 05 03.9 E79 33 19.9
177	173^0	353^0	N29 04 59.9 E79 33 20.5
178	173^0	353^0	N29 04 58.4 E79 33 20.7
179	160^0	340^0	N29 04 57.0 E79 33 20.9
180	159^0	339^0	N29 04 54.0 E79 33 22.2
181	159^0	339^0	N29 04 50.8 E79 33 23.6
182	150^0	330^0	N29 04 47.8 E79 33 24.9
183	161^0	341^0	N29 04 45.0 E79 33 26.7
184	166^0	346^0	N29 04 40.7 E79 33 28.4
185	166^0	346^0	N29 04 37.2 E79 33 29.4
186	183^0	3^0	N29 04 33.9 E79 33 30.4
187	176^0	356^0	N29 04 26.6 E79 33 30.0
188	165^0	345^0	N29 04 23.5 E79 33 30.2
189	168^0	348^0	N29 04 20.4 E79 33 31.2
190	185^0	5^0	N29 04 16.6 E79 33 32.1
191	187^0	7^0	N29 04 13.6 E79 33 31.9
192	187^0	7^0	N29 04 10.1 E79 33 31.4
193	180^0	0^0	N29 04 08.4 E79 33 31.2
194	171^0	351^0	N29 04 05.5 E79 33 31.2
195	167^0	347^0	N29 04 02.7 E79 33 31.7
196	182^0	2^0	N29 04 00.0 E79 33 32.4
197	200^0	20^0	N29 03 57.2 E79 33 32.3
198	175^0	355^0	N29 03 54.5 E79 33 31.2
199	180^0	0^0	N29 03 48.7 E79 33 31.8
200	165^0	345^0	N29 03 45.6 E79 33 31.8
201	173^0	353^0	N29 03 41.4 E79 33 33.1
202	171^0	351^0	N29 03 39.0 E79 33 33.4
203	169^0	349^0	N29 03 34.9 E79 33 34.2
204	167^0	347^0	N29 03 31.6 E79 33 34.9
205	161^0	341^0	N29 03 29.3 E79 33 35.5
206	137^0	317^0	N29 03 27.6 E79 33 36.2
207	159^0	339^0	N29 03 25.3 E79 33 38.6
208	150^0	330^0	N29 03 22.6 E79 33 39.8
209	159^0	339^0	N29 03 19.6 E79 33 41.8
210	124^0	304^0	N29 03 16.6 E79 33 43.1
211	129^0	309^0	N29 03 15.1 E79 33 45.5
212	133^0	313^0	N29 03 13.2 E79 33 48.3
213	153^0	333^0	N29 03 09.9 E79 33 52.4
214	158^0	338^0	N29 03 07.7 E79 33 53.7
215	144^0	324^0	N29 03 04.5 E79 33 55.1

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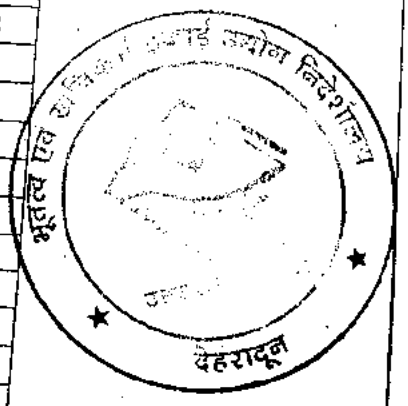
216	159°	339°	N29 03 02.3 E79 33 57.0
217	177°	357°	N29 02 59.5 E79 33 58.2
218	155°	335°	N29 02 56.1 E79 33 58.4
219	143°	323°	N29 02 53.6 E79 33 59.8
220	140°	320°	N29 02 50.5 E79 34 02.5
221	162°	342°	N29 02 48.1 E79 34 04.7
222	184°	4°	N29 02 44.9 E79 34 05.9
223	170°	350°	N29 02 42.1 E79 34 05.7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



BHUWAN JOSHI
मु0 ख0/RQP/DDN/01/2016

271	131°	311	
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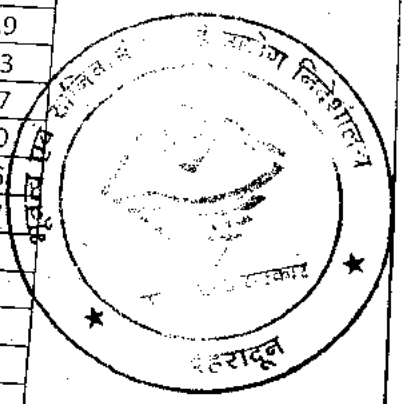
274	220°	40°	N29 00 21.1 E79 33 58.0
275	246°	66°	N29 00 14.5 E79 33 56.4
276	217°	37°	N29 00 11.9 E79 33 53.9
277	239°	59°	N29 00 10.2 E79 33 49.6
278	241°	61°	N29 00 07.5 E79 33 47.3
279	232°	52°	N29 00 06.6 E79 33 45.6
280	221°	41°	N29 00 05.3 E79 33 42.9
281	240°	60°	N29 00 03.8 E79 33 40.7
282	242°	62°	N29 00 01.9 E79 33 38.8
283	220°	40°	N29 00 00.0 E79 33 35.1
284	224°	44°	N28 59 58.5 E79 33 31.8
285	220°	40°	N28 59 56.0 E79 33 29.4
286	223°	43°	N28 59 53.9 E79 33 27.1
287	212°	32°	N28 59 51.2 E79 33 24.5
288	311°	131°	N28 59 48.4 E79 33 21.5
289	36°	216°	N28 59 45.3 E79 33 19.3
290	29°	209°	N28 59 51.1 E79 33 11.7
291	32°	212°	N28 59 53.9 E79 33 14.0
292	24°	204°	N28 59 56.1 E79 33 15.4
293	45°	225°	N28 59 59.0 E79 33 17.5
294	12°	192°	N29 00 01.6 E79 33 18.8
295	39°	219°	N29 00 04.7 E79 33 22.4
296	19°	199°	N29 00 07.9 E79 33 23.2
297	22°	202°	N29 00 11.6 E79 33 26.6
298	23°	203°	N29 00 15.5 E79 33 28.2
299	5°	185°	N29 00 18.6 E79 33 29.6
300	17°	197°	N29 00 21.3 E79 33 30.9
301	3°	183°	N29 00 25.0 E79 33 31.3
302	18°	198°	N29 00 29.1 E79 33 32.7
303	11°	191°	N29 00 33.4 E79 33 33.0
304	58°	238°	N29 00 37.4 E79 33 34.5
305	37°	217°	N29 00 42.8 E79 33 35.7
306	36°	216°	N29 00 44.7 E79 33 39.1
307	36°	216°	N29 00 47.4 E79 33 41.4
308	41°	221°	N29 00 49.9 E79 33 43.5
309	37°	217°	N29 00 53.1 E79 33 46.2
310	51°	231°	N29 00 55.9 E79 33 49.0
311	38°	218°	N29 00 59.2 E79 33 51.8
312	19°	199°	N29 01 00.9 E79 33 54.2
313	35°	215°	N29 01 03.5 E79 33 56.5
314	341°	161°	N29 01 08.4 E79 33 58.4
315	322°	142°	N29 01 11.2 E79 34 00.6
316	331°	151°	N29 01 13.8 E79 33 59.6
317	11°	191°	N29 01 17.2 E79 33 56.6
318	30°	210°	N29 01 20.2 E79 33 54.7
319	17°	197°	N29 01 21.6 E79 33 55.0
320	8°	188°	N29 01 24.5 E79 33 56.9
321	345°	165°	N29 01 28.2 E79 33 58.2
322	1°	181°	N29 01 31.4 E79 33 58.7
323	342°	162°	N29 01 35.3 E79 33 57.5
324	347°	167°	N29 01 39.6 E79 33 57.6
325	327°	147°	N29 01 44.6 E79 33 55.8
			N29 01 47.9 E79 33 54.9



BHUVAN JOSHI (RQP)
मु0 ख0/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 41.7
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 36.3
346	338^0	158^0	N29 03 02.2 E79 33 33.6
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 (QP)
मु0 ख0/RQP/DDN/01

381	3°	183°	N29 05 26.6 E79 32 54.7
382	1°	181°	N29 05 31.1 E79 32 55.0
383	346°	166°	N29 05 33.8 E79 32 55.0
384	357°	177°	N29 05 36.8 E79 32 54.2
385	5°	185°	N29 05 39.8 E79 32 54.0
386	358°	178°	N29 05 41.9 E79 32 54.2
387	13°	193°	N29 05 44.8 E79 32 54.1
388	17°	197°	N29 05 47.7 E79 32 54.8
389	15°	195°	N29 05 50.2 E79 32 55.7
390	2°	182°	N29 05 52.4 E79 32 56.4
391	352°	172°	N29 05 56.7 E79 32 56.6
392	352°	172°	N29 06 00.3 E79 32 56.0
393	345°	165°	N29 06 03.3 E79 32 55.5
394	350°	170°	N29 06 06.6 E79 32 54.5
395	355°	175°	N29 06 09.6 E79 32 53.9
396	346°	166°	N29 06 12.4 E79 32 53.6
397	339°	159°	N29 06 15.9 E79 32 52.6
398	341°	161°	N29 06 18.7 E79 32 51.4
399	358°	178°	N29 06 22.0 E79 32 50.1
400	342°	162°	N29 06 24.1 E79 32 50.0
401	338°	158°	N29 06 25.7 E79 32 49.4
402	329°	149°	N29 06 28.0 E79 32 48.3
403	12°	192°	N29 06 30.1 E79 32 46.9
404	10°	190°	N29 06 33.0 E79 32 47.6
405	3°	183°	N29 06 35.5 E79 32 48.1
406	6°	186°	N29 06 38.4 E79 32 48.3
407	357°	177°	N29 06 41.7 E79 32 48.7
408	344°	164°	N29 06 43.4 E79 32 48.6
409	355°	175°	N29 06 45.8 E79 32 47.8
410	344°	164°	N29 06 48.2 E79 32 47.5
411	352°	172°	N29 06 50.5 E79 32 46.8
412	348°	168°	N29 06 52.9 E79 32 46.4
413	350°	170°	N29 06 55.3 E79 32 45.8
414	351°	171°	N29 06 57.4 E79 32 45.4
415	13°	193°	N29 06 59.1 E79 32 45.1
416	21°	201°	N29 07 01.4 E79 32 45.7
417	14°	194°	N29 07 03.5 E79 32 46.6
418	15°	195°	N29 07 05.7 E79 32 47.2
419	23°	203°	N29 07 08.2 E79 32 48.0
420	1°	181°	N29 07 11.1 E79 32 49.4
421	351°	171°	N29 07 14.3 E79 32 49.5
422	13°	193°	N29 07 17.5 E79 32 48.9
423	10°	190°	N29 07 20.6 E79 32 49.7
424	340°	160°	N29 07 23.3 E79 32 50.3
425	350°	170°	N29 07 25.7 E79 32 49.3
426	19°	199°	N29 07 28.3 E79 32 48.8
427	343°	163°	N29 07 30.9 E79 32 49.8
428	349°	169°	N29 07 32.9 E79 32 49.1
429	358°	178°	N29 07 34.7 E79 32 48.7
430	346°	166°	N29 07 37.2 E79 32 48.6
431	339°	159°	N29 07 39.3 E79 32 48.0
432	0°	180°	N29 07 41.6 E79 32 47.0
433	356°	176°	N29 07 44.2 E79 32 47.0
434	331°	151°	N29 07 46.8 E79 32 46.8
435	341°	161°	N29 07 49.2 E79 32 45.2

BHUWAN JOSHI
खo/RQP/DBN/

436	350^0	170^0	N29 07 51.7 E79 32 44.2
437	2^0	182^0	N29 07 54.5 E79 32 43.6
438	343^0	163^0	N29 07 57.3 E79 32 43.7
439	0^0	180^0	N29 07 59.9 E79 32 42.8
440	2^0	182^0	N29 08 02.8 E79 32 42.8
441	7^0	187^0	N29 08 05.4 E79 32 42.9
442	8^0	188^0	N29 08 08.4 E79 32 43.3
443	346^0	166^0	N29 08 10.8 E79 32 43.7
444	12^0	192^0	N29 08 13.5 E79 32 42.9
445	353^0	173^0	N29 08 16.0 E79 32 43.5
446	348^0	168^0	N29 08 19.6 E79 32 43.0
447	6^0	186^0	N29 08 20.9 E79 32 42.7
448	57^0	237^0	N29 08 23.4 E79 32 43.0
449	8^0	188^0	N29 08 25.0 E79 32 45.8
450	11^0	191^0	N29 08 27.7 E79 32 46.2
451	5^0	185^0	N29 08 30.0 E79 32 46.7
452	346^0	166^0	N29 08 32.6 E79 32 47.0
453	355^0	175^0	N29 08 34.3 E79 32 46.5
454	2^0	182^0	N29 08 36.2 E79 32 46.3
455	356^0	176^0	N29 08 39.2 E79 32 46.4
456	344^0	164^0	N29 08 42.5 E79 32 46.1
457	3^0	183^0	N29 08 45.2 E79 32 45.2
458	342^0	162^0	N29 08 48.7 E79 32 45.4
459	334^0	154^0	N29 08 51.4 E79 32 44.4
460	341^0	161^0	N29 08 53.7 E79 32 43.1
461	335^0	155^0	N29 08 56.1 E79 32 42.1
462	343^0	163^0	N29 08 58.7 E79 32 40.8
463	331^0	151^0	N29 09 01.9 E79 32 39.7
464	351^0	171^0	N29 09 03.7 E79 32 38.6
465	350^0	170^0	N29 09 06.3 E79 32 38.1
466	358^0	178^0	N29 09 09.2 E79 32 37.5
467	333^0	153^0	N29 09 12.1 E79 32 37.4
468	354^0	174^0	N29 09 14.9 E79 32 35.8
469	357^0	177^0	N29 09 17.4 E79 32 35.5
470	26^0	206^0	N29 09 21.0 E79 32 35.3
471	1^0	181^0	N29 09 23.8 E79 32 36.8
472	17^0	197^0	N29 09 28.3 E79 32 36.9
473	1^0	181^0	N29 09 30.6 E79 32 37.7
474	347^0	167^0	N29 09 35.3 E79 32 37.8
475	355^0	175^0	N29 09 39.1 E79 32 36.8
476	346^0	166^0	N29 09 44.7 E79 32 36.2
477	346^0	166^0	N29 09 46.8 E79 32 35.6
478	343^0	163^0	N29 09 49.5 E79 32 34.8
479	346^0	166^0	N29 09 52.4 E79 32 33.8
480	351^0	171^0	N29 09 55.2 E79 32 33.0
481	349^0	169^0	N29 09 57.8 E79 32 32.5
482	0^0	180^0	N29 10 00.5 E79 32 31.9
483	0^0	180^0	N29 10 03.1 E79 32 31.9
484	330^0	150^0	N29 10 06.0 E79 32 31.9
485	329^0	149^0	N29 10 08.6 E79 32 30.2
486	349^0	169^0	N29 10 10.6 E79 32 28.8
487	354^0	174^0	N29 10 13.4 E79 32 28.2
488	7^0	187^0	N29 10 16.9 E79 32 27.8
489	7^0	187^0	N29 10 18.3 E79 32 28.0
490	4^0	184^0	N29 10 20.6 E79 32 28.3

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491	16°	196°	N29 10 23.2 E79 32 28.5
492	17°	197°	N29 10 25.9 E79 32 29.4
493	38°	218°	N29 10 27.6 E79 32 30.0
494	17°	197°	N29 10 29.5 E79 32 31.7
495	18°	198°	N29 10 32.3 E79 32 32.7
496	344°	164°	N29 10 34.5 E79 32 33.5
497	7°	187°	N29 10 37.5 E79 32 32.5
498	9°	189°	N29 10 40.2 E79 32 32.9
499	5°	185°	N29 10 42.5 E79 32 33.3
500	4°	184°	N29 10 45.5 E79 32 33.6
501	4°	184°	N29 10 48.6 E79 32 33.9
502	352°	172°	N29 10 51.4 E79 32 34.1
503	303°	123°	N29 10 54.4 E79 32 33.6
504	356°	176°	N29 10 55.6 E79 32 31.4
505	0°	180°	N29 10 59.1 E79 32 31.1
506	333°	153°	N29 11 02.2 E79 32 31.1
507	346°	166°	N29 11 04.1 E79 32 30.0
508	2°	182°	N29 11 06.9 E79 32 29.2
509	350°	170°	N29 11 09.7 E79 32 29.3
510	359°	179°	N29 11 12.7 E79 32 28.7
511	350°	170°	N29 11 16.1 E79 32 28.6
512	348°	168°	N29 11 18.1 E79 32 28.2
513	355°	175°	N29 11 21.0 E79 32 27.5
514	5°	185°	N29 11 23.7 E79 32 27.2
515	20°	200°	N29 11 26.5 E79 32 27.5
516	354°	174°	N29 11 28.8 E79 32 28.5
517	353°	173°	N29 11 31.8 E79 32 28.1
518	355°	175°	N29 11 40.5 E79 32 26.9
519	4°	184°	N29 11 43.4 E79 32 26.6
520	0°	180°	N29 11 45.8 E79 32 26.8
521	349°	169°	N29 11 48.6 E79 32 26.8
522	341°	161°	N29 11 51.3 E79 32 26.2
523	339°	159°	N29 11 54.2 E79 32 25.1
524	353°	173°	N29 11 56.7 E79 32 24.0
525	348°	168°	N29 11 59.7 E79 32 23.6
526	358°	178°	N29 12 02.6 E79 32 22.9
527	353°	173°	N29 12 05.6 E79 32 22.8
528	339°	159°	N29 12 10.1 E79 32 22.2
529	312°	132°	N29 12 13.4 E79 32 20.8
530	310°	130°	N29 12 14.9 E79 32 18.9
531	327°	147°	N29 12 17.3 E79 32 15.7
532	338°	158°	N29 12 19.6 E79 32 14.0
533	0°	180°	N29 12 24.4 E79 32 11.8
534	0°	180°	N29 12 27.4 E79 32 11.8
535	355°	175°	N29 12 30.6 E79 32 11.8
536	9°	189°	N29 12 56.5 E79 32 09.3
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
540	35°	215°	N29 13 11.2 E79 32 12.5
541	40°	220°	N29 13 14.2 E79 32 14.9
542	17°	197°	N29 13 17.2 E79 32 17.8
543	29°	209°	N29 13 21.7 E79 32 19.4
544	29°	209°	N29 13 24.9 E79 32 21.4
545	15°	195°	N29 13 28.1 E79 32 23.4

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546	13^0	193^0	N29 13 33.0 E79 32 24.9
547	15^0	195^0	N29 13 37.3 E79 32 26.0
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
551	24^0	204^0	N29 13 49.6 E79 32 33.7
552	17^0	197^0	N29 13 52.4 E79 32 35.1
553	15^0	195^0	N29 13 55.3 E79 32 36.1
554	15^0	195^0	N29 13 59.6 E79 32 37.4
555	13^0	193^0	N29 14 03.9 E79 32 38.7
556	20^0	200^0	N29 14 08.9 E79 32 40.0
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 25.9 E79 32 49.9
561	358^0	178^0	N29 14 29.6 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
566	9^0	189^0	N29 14 44.7 E79 32 47.5
567	7^0	187^0	N29 14 47.5 E79 32 48.0
568	0^0	180^0	N29 14 50.3 E79 32 48.4
569	355^0	175^0	N29 14 53.4 E79 32 48.4
570	348^0	168^0	N29 14 56.3 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
573	5^0	185^0	N29 15 09.5 E79 32 51.3
574	358^0	178^0	N29 15 12.7 E79 32 51.6
575	91^0	271^0	N29 15 17.5 E79 32 51.4

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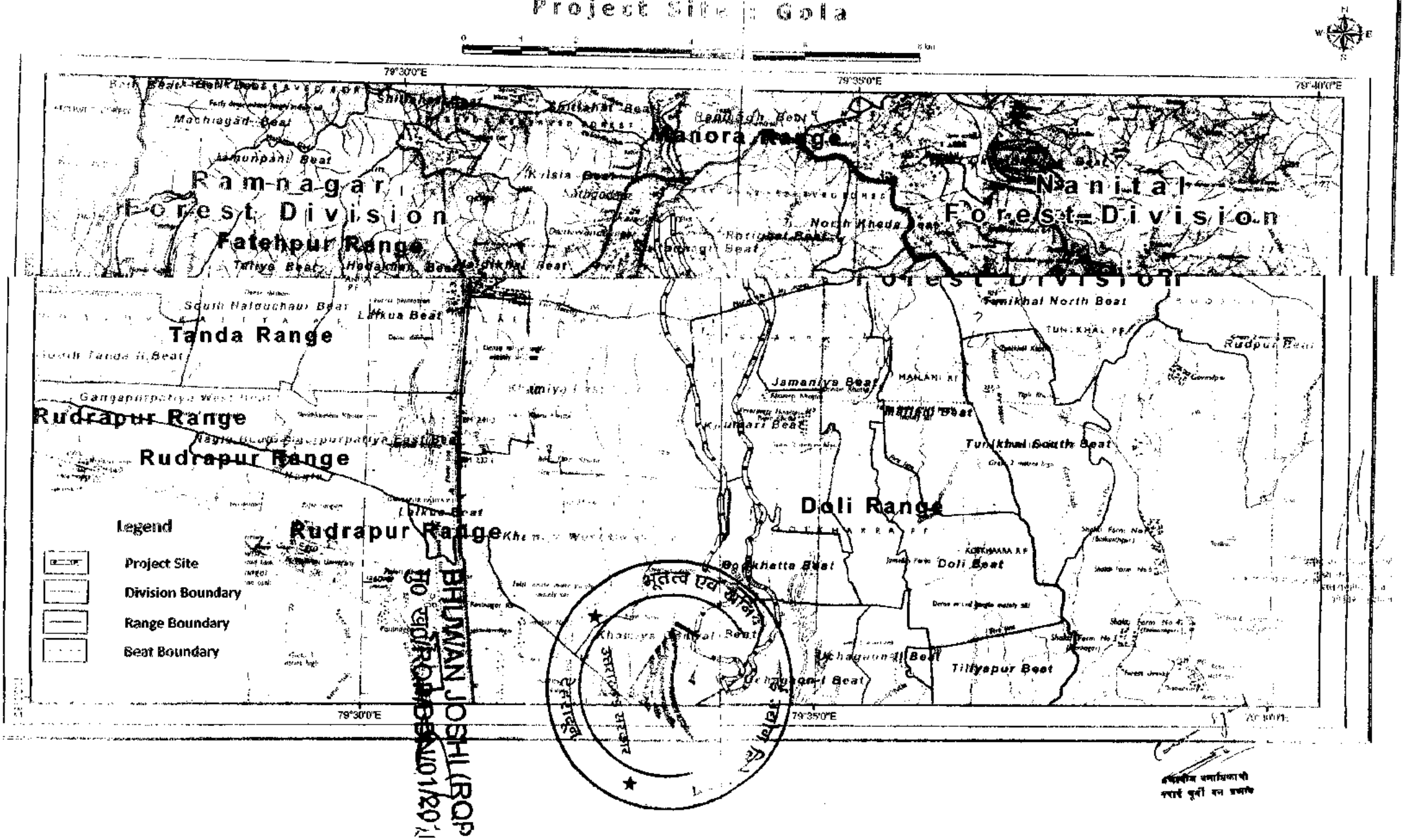
Topographical Map Showing Gol... River And Adjoining Area

Project Site : Gola



(ii) Compensatory afforestation over the degraded forest land equal in extent to the forest land being diverted shall be raised and maintained by the State Forest Department from funds realised from the User Agency

(iii) The State Government shall realise from the user agency the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India and transfer the same to the ad-hoc CAMPA;

(iv) The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;

(v) The State Government and the user agency shall work with local residents of Bindu Katha 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 generally increase awareness of the methods of co-existence of man and wildlife.

(vi) 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 line upto the Bindu Katha settlement;

(vii) To eliminate disturbance from collection of minor minerals on movement of wild animals along the Gola corridor, collection of minor minerals in a 7.50 km long stretch of the river bed located on the Gola corridor shall be prohibited. However, in case it is observed that non-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 accelerated collection (during the period having least frequency of wildlife movement) of minor minerals from said stretch of the river bed, to maintain river geometry;

(viii) To restore the functionality and utility of the migratory corridor linking Corbet Tiger Reserve with the Fawalgarh Conservation Reserve, the State Government may explore feasibility to relocate the settlements from the Sundarkhal village by using State CAMPA funds;

(ix) The State Government shall constitute a committee under Chairmanship of the Principal Chief Conservator of Forests, Government of Uttarakhand and having the representative 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 issue 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 protected corridor. The collection of minor minerals after 31st day of January [illegible] 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 the instructions issued by the Monitoring Committee have [illegible] been complied in collection of the minor minerals during the previous calendar year;

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(x) To ensure extraction of minor minerals in a sustainable manner, the user agency shall formulate a transparent and unbiased procedure for engagement of labourers for extraction of the minor minerals from the diverted forest land;

(xi) 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;

(xii) The total quantity of minor minerals extracted during a year shall not be more than 54.25 lakh cubic meter;

(xiii) 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.

(xiv) 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 3m and it shall gradually be reduced till it reaches boundary of the permissible zone;

(xv) 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;

(xvi) Extraction of minor mineral shall be restricted from 1st October to 31st May of the subsequent year;

(xvii) Minor minerals shall be collected manually by using hand tools. Use of explosive and heavy machineries for breaking/collection of minor minerals shall be strictly prohibited;

(xviii) Collection time shall be from sun-rise to sun-set;

(xix) No labour camp shall be set up in the forest area for the labourers engaged in collection of the minor minerals;

(xx) Breaking of boulders shall be undertaken outside the forest boundaries;

(xxi) The labourers engaged in collection work shall be provided free of cost, fuel wood/alternate source of energy to avoid any pressure on adjoining forests.

(xxii) The boundary of the forest land being diverted shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, UG/S coordinates, forward and back bearing, and distance from adjoin pillars etc

(xxiii) The forest land shall not be used for any purpose other than that specified in the proposal;

(xxiv) User agency shall submit annual self-monitoring report, indicating status of compliance to the conditions stipulated in the approval, to the State Government and the concerned Regional Office of this Ministry;

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(xxv) Any other condition that the Central Regional Office of this Ministry, Lucknow and the State Government of Uttarakhand may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and

(xxvi) The User Agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

Yours faithfully

(H.C. Chaudhary)
Assistant Inspector General of Forests

Copy to:

1. The Principal Chief Conservator of Forests, Government of Uttarakhand, Dehradun.
2. The Nodal Officer, Forest Department, Government of Uttarakhand, Dehradun.
3. The Chief Conservator of Forest, Regional Office, Lucknow.
4. User Agency.
5. Monitoring Cell, Ministry of Environment and Forests.
6. Guard File.

(H. C. Chaudhary)
Assistant Inspector General of Forests

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No. J-11015/363/2009-IA.II(M)
Government of India
Ministry of Environment and Forests
IA Division

Paryavaran Bhawan
CGO Complex, Lodhi Road,
New Delhi-110 003

Dated the 13th April, 2011

To

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

कार्यालय प्रबन्ध निदेशक
उत्तरांचल वन विकास निगम
निदेशक कार्यालय, देहरादून
प्राप्त दिनांक 23/4/11

Subject: Collection of Reta, Bajri and Boulder (Minor Mineral) from the River Bed of Gola River by M/s Uttaranchal Forest Development Corporation, located in Tehsil(s) Haldwani and Lal Kuan in the East Tarai and the Haldwani Forest Divisions, 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 of

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the water during the rainy season and to protect the nearby forestland and habitant from floods. The area available for mining would therefore be 748.5ha 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 reta, bajri and sand. Three Reserve Forests namely the Gola RF(East), the Haltani RF(1.8km Southeast) and the Horai 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 opencast by manual method without involving drilling and blasting. The mining is confined to extraction of sand, reta and bajri from the river bed. The reta and bajri will be collected by sieving 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 targetted production capacity of the mine is 117Lakh TPA(65Lakh m^3 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 uses locations via private agencies using their own transport. Computerized weigh bridges have been installed in order to check and monitor moment of material. The proposed mining area is reported to lies between 29°15'44.63" to 29°3'33.13" N Latitude and 79° 32'50.54" to 79° 33'22.71" 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 Shishmahal Region (Kathgodam) and 256.52m 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 replenishment rate.

5. The public hearing of the project was held on 20.08.2010 for lease area of 1497ha from the Gola River. The Principal Secretary, Government of Uttarakhand vide letter No.2536/VII-I/163-KHA/2009/10 dated 23.10.2010 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

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08.04.2011 for collection of stone, boulders and other minor minerals from the river bed of Gola River in the District Nainital. The proponent has stated that there is no court case to 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 Uttaranchal Forest Development Corporation for an annual collection of 1,17,00,000tonnes(117Lakh 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, the 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.

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(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 all 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- pre-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 authorities 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.

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(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, crèche 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 RSPM (Particulate matter with size less than 10micron i.e., PM_{10}) 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 27.05.2009 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 safeguard 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.

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(xxi) 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 reta, bajri 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 10micron i.e., PM_{10}) and NOx 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 10micron i.e., PM_{10}) & NOx 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 contractions 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.

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(ix) The project authorities should inform to the Regional Office located at Lucknow regarding date of financial closures 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 (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

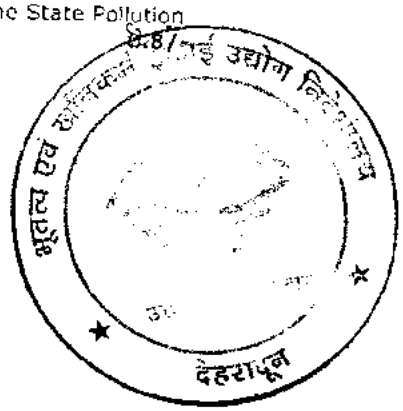
(xi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Lucknow, the respective 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 Parisad/ 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/ Tehsildar's Office for 30 days.

(xiv) The environmental statement for each financial year ending 31st March in Form-V as is mancated 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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(x) The District Collector, Nainital District, Uttarakhand.

(xi) EI Division, Ministry of Environment and Forests, Paryavaran Bhavan, C. G. O. Complex, Lodi Road, New Delhi-110 003.

(xii) Monitoring File.

(xiii) Guard File.

(xiv) Record File.

BHUWAN JOS

मु0 ख0/RQP/DD

प्रेषक,

निदेशक,
भूतत्व एवं खनिकर्म इकाई,
उद्योग निदेशालय उत्तराखण्ड देहरादून।

सेवा में,

प्रबन्ध निदेशक,
वन विकास निगम उत्तराखण्ड,
देहरादून।

संख्याः 1133 /उ0ख0/मा0प्लान/नैनी0/2015–16 दिनांक 12 मई 2016

विषः पट्टाधारक उत्तराखण्ड वन विकास निगम के पक्ष में जनपद नैनीताल की तहसील हल्द्वानी एवं लाल कुंआ के क्षेत्रान्तर्गत प्रवाहित होनी वाली गौला नदी के क्षेत्रान्तर्गत कुल 1,497 है0 वन भूमि में उपखनिज बालू, बजरी, बोल्डर के खनन हेतु 10 वर्ष की अवधि हेतु खनन पट्टे पर स्वीकृत क्षेत्र की खनन योजना के अनुमोदन के सम्बन्ध में।

महोदय,

आपके द्वारा जनपद नैनीताल की तहसील हल्द्वानी एवं लाल कुंआ के क्षेत्रान्तर्गत प्रवाहित होनी वाली गौला नदी के क्षेत्रान्तर्गत कुल 1,497 है0 वन भूमि जिसमें शासनादेश संख्या 179/VII-2/11–ख/2010 दिनांक 24 जनवरी 2013 के द्वारा आपके पक्ष में उपखनिज बालू/बजरी/बोल्डर का 10वर्ष की अवधि हेतु खनन पट्टा स्वीकृत किया गया है, से सम्बन्धित प्रस्तुत खनन योजना श्री हरीश कैन्थोला आर0क्यू0पी0/DDN/141/2002–A 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 नीति–2015 के विन्दु सं0–6 (2) अन्तर्गत प्रदत्त अधिकार का प्रयोग करते हुए, प्रस्तुत खनन योजना का अनुमोदन निम्नलिखित शर्तों के अधीन किया जाता है:–

शर्तें

1. खनन योजना का अनुमोदन खनन अनुमोदित खनन योजना की तिथि से आगामी पांच वर्षो की अवधि के लिए किया जा रहा है।
2. पट्टाधारक द्वारा प्रश्नगत क्षेत्र के सम्बन्ध में पर्यावरण एवं वन मंत्रालय भारत सरकार से पर्यावरणीय अनुमति प्राप्त की जायेगी तथा पर्यावरणीय अनुमति की समस्त शर्तो का अनुपालन किया जायेगा।
3. स्वीकृत क्षेत्र का सीमाबन्धन/पिलरबन्दी उपखनिज परिहार नियामवली–2001 के नियम–17 के अनुसार भूतत्व एवं खनिकर्म विभाग के द्वारा राजस्व विभाग के साथ सयुक्त रूप से किया जायेगा तथा नियम–14 के अनुसार पट्टाधारक द्वारा पट्टा विलेख के निष्पादन एवं पट्टा विलेख का पंजीकरण कराने के उपरान्त खनन क्षेत्र से उपखनिज का खनन/चुगान प्रारम्भ किया जायेगा।
4. प्रस्तावित खनन योजना के अनुसार, मैनुवल माइनिंग से, बिना ब्लास्टिंग के प्रथम वर्ष आर0एल0 219.5 मी0 से 500 मी0 तक 13970000.00 टन, द्वितीय वर्ष में आर0एल0 219.5 मी0 से 500 मी0 तक 13970000.00 टन, तृतीय वर्ष में आर0एल0 219.5 मी0 से 500 मी0 तक 13970000.00 टन, चतुर्थ वर्ष में आर0एल0 219.5 मी0 से 500 मी0 तक 13970000.00 टन, एवं पंचम वर्ष में आर0एल0 219.5 मी0 से 500 मी0 तक 13970000.00 टन, उपखनिज का खनन किया जायेगा।

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5. 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 है, को छोड़ कर अनुमोदित की जाती है।
6. यह खनन योजना वन (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।
7. अनुमोदित खनन योजना किसी भी प्रभावी क्षेत्रान्तर्गत माननीय न्यायालय के आदेश एवं दिशा निर्देश के लागू होने को बाधित नहीं करती है।
8. 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 पट्टाधारक का होगा।
9. आबद्ध/नियोजित श्रमिकों को सुरक्षात्मक उपकरण प्रदान करने तथा सुरक्षित खनन कार्य करने हेतु सभी आवश्यक सावधानियाँ बरतने का दायित्व पट्टाधारक का होगा।
10. अनुमोदित खनन योजना की एक–एक प्रमाणित प्रति सम्बन्धित जिलाधिकारी कार्यालय एवं निदेशालय के क्षेत्रीय कार्यालय में अभिलेखार्थ यथाशीघ्र प्रस्तुत करने का दायित्व भी पट्टाधारक का होगा।
11. अनुमोदित खनन योजना के अनुसार, पट्टाधारक द्वारा खनन कार्य न किये जाने पर, पट्टाधारक के विरूद्ध पट्टे की शर्त का उल्लंघन माना जायेगा और तद्नुसार कार्यवाही की जायेगी।
12. खनन योजना इस शर्त के साथ अनुमोदित की जा रही है कि पट्टाधारक द्वारा श्रमिकों की सुरक्षा एवं स्वास्थ्य की उचित व्यवस्था की जायेगी।

संलग्नकः– खनन योजना की अनुमोदित प्रति।

भवदीय,

(श्रीधर बाबू अद्दाकी)
निदेशक

संख्याः 1133 /मा0प्लान/उ0खनि0/उ0ध0/2015–16 तद्दिनांकित।
प्रतिलिपिः– निम्नलिखित को सूचनार्थ एंव आवश्यक कार्यवाही हेतु प्रेषित।

1. जिलाधिकारी नैनीताल।
2. उपनिदेशक खनन भूतत्व एवं खनिकर्म इकाई नैनीताल।

(श्रीधर बाबू अद्दाकी)
निदेशक

BHUWAN JOSHI
मु0 ख0/RQP/DDN/01

SCHEME OF MINING

(MINING PLAN)

FOR SAND, *BAJRI* AND BOULDER
IN
GAULA RIVER
EAST TARAI & HALDWANI FOREST DIVISION
AREA: 1497 ha.

At

GAULA FOREST RANGE
NEAR VILLAGES – KATHGODAM, SHISMAHAL, HALDWANI, BEDIPADAV,
DEBRAMPUR, HALDUCHAUR, LALKUA, IMLIGHAT & SHANTIPUR,
TEHSIL – LALKUA & HALDWANI
DISTRICT – NAINITAL (UTTARAKHAND)

APPLICANT

M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION
ARANYA VIKAS BHAWAN, 73 NEHRU ROAD,
DEHRADUN – 248001 (UTTARAKHAND)

भूतत्व एवं खनिकर्म इकाई,
उद्योग निदेशालय, उत्तराखण्ड
देहरादून
शर्तों के अधीन अनुमोदित
पत्रांक 1133/
दिनांक 20/3/2016
निदेशक

PREPARED BY

Harish Kainthola
RQP/DDN/141/2002-A
(Valid upto 16 Jan. 2017)

BHUWAN JOSHI (RQP)
मु0 ख0/RQP/DDN/

क्र0सं0	खनन सत्र	कार्यकाल	आवंटन (एफ0सी0)	कुल उत्पादन (घ0मी0 में)
1.	2001–02	माह अक्टूबर से माह जून तक	33 लाख घ0मी0	2917227
2.	2002–03	माह अक्टूबर से माह जून तक	33 लाख घ0मी0	3194619
3.	2003–04	माह अक्टूबर से माह जून तक	33 लाख घ0मी0	2962718
4.	2004–05	माह अक्टूबर से माह जून तक	50 लाख घ0मी0	4898451
5.	2005–06	माह अक्टूबर से माह जून तक	65 लाख घ0मी0	6083387
6.	2006–07	माह अक्टूबर से माह जून तक	65 लाख घ0मी0	6447840
7.	2007–08	माह अक्टूबर से माह जून तक	65 लाख घ0मी0	6182429
8.	2008–09	माह नवम्बर से माह जून तक	65 लाख घ0मी0	6204004
9	2009–10	माह फरवरी से माह मई 10 तक	60 लाख घ0मी0	3293572
10	2010–11	नवम्बर, 10 से फरवरी , 11 तक	33 लाख घ0मी0	4075496
		माह अप्रैल, 11 से माह मई , 11	16.95 लाख घ0मी0	
11	2011–12	माह नवम्बर, 11 से माह मई , 12	54.25 लाख घ0मी0	5323059
12	2012–13	माह नवम्बर, 12 से माह मई , 13	54.25 लाख घ0मी0	4080728
13	2013–14	माह नवम्बर, 13 से माह मई , 14	54.25 लाख घ0मी0	5407254
14	2014–15	माह नवम्बर, 14 से माह मई , 15	54.25 लाख घ0मी0	5416963
15	2015–16	माह नवम्बर, 15 से माह मई , 16	54.25 लाख घ0मी0	4435879
16	2016–17	माह अक्टूबर , 16 से माह मई , 17	54.25 लाख घ0मी0	3746613
17	2017–18	माह अक्टूबर, 17 से	54.25 लाख घ0मी0	4012836
18	2018–19	माह नवम्बर, 18 से मई, 19 तक	54.25 लाख घ0मी0	3490491
19	2019–20	माह नवम्बर, 18 से जून, तक	54.25 लाख घ0मी0	2553773

8– <u>श्रमिक कल्याणार्थ योजना –:</u>

BHUWAN JOSHI
मु0 ख0/RQP/DDN/01

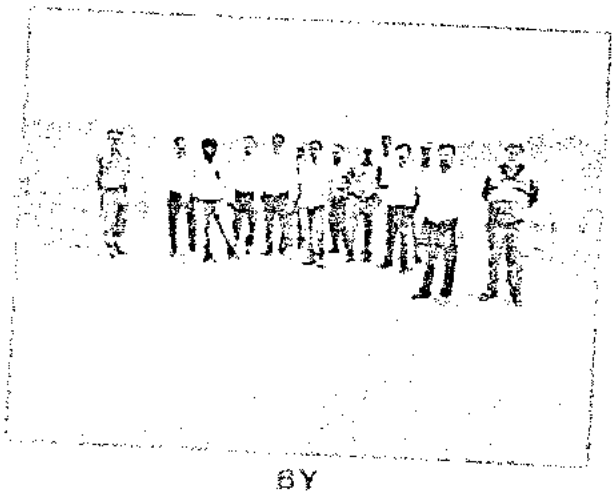
REPORT

ON

Assessment of extractable River Bed Material (RBM) from River Gaula during the year 2019-20

FOR

UTTRAKAKND FOREST DEVELOPMENT CORPORATION,



BY

S S SHRIMALI
P R OJASVI
SK SHARMA
H S BHATIA
AMIT CHAUHAN

ICAR –IISWC
218, KAULAGARH ROAD DEHRADUN 248195

DEC 2019

1

BHUWAN JOSHI
मु0 ख0/RQP/DDN/01/2018

EXECUTIVE SUMMARY

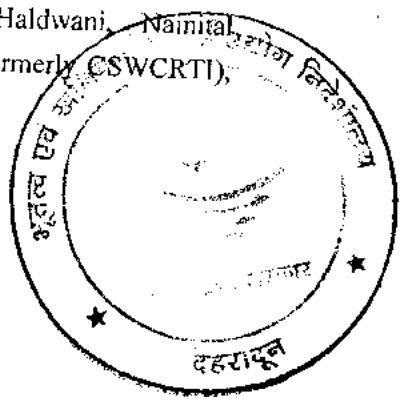
A study was undertaken by Indian Institute of Soil & Water Conservation, Dehradun (Uttarakhand) under a consultancy project sponsored by Uttarakhand Forest Development Corporation, Haldwani (Uttarakhand) on "**Assessment of extractable River Bed Material (RBM) from River Gaula during the year 2019-20**". 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 2019-2020 is **1846569 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 steamlined by appropriately spreading the heap 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 1, 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. As the RBM deposit has been depleted and proposed dam construction in upstream it is recommended that extraction of RBM may be deferred for 2- 3 years in red marked zone and alternative site and avenues to get the river profile back. Recommendation may be strictly adhered to prevent the degraqdation of bed profile

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



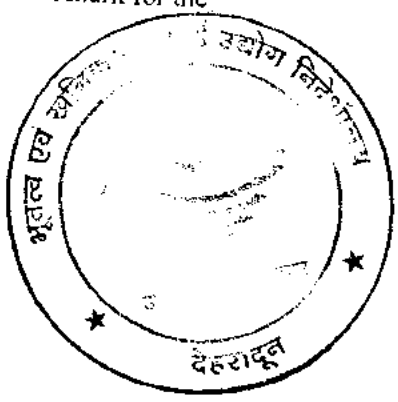
BHUWAN JOSHI (RCP)
मु0 ख0/RQP/DDN/01[illegible]

Objectives

1. Study the profile (Cross section) of river Gaula 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 taked 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.



BHUWAN JOSHI
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Consultancy Project

on

"Assessment of extractable River Bed Material (RBM) from River Gaula during the year 2019-2020" under UKFDC, Haldwani (Uttarakhand)

Introduction

The mountain river, specially of Himalayas, brings land mass broken into clay, silt, sand and boulders of various sizes (small gravels to very big stones weighing in tones) while traveling with high velocity on the steep slopes of the stream/river. The heavy material (small gravels and stones) roll over the stream surface and get deposited while coming to the foot hills with mild slope due to reduction in the velocity. The course / fine particle like sand, silt and clay are further carried and get deposited in mild slopping areas where the velocity further reduces. The very fine clay particle, which remain in suspension are further carried to the sea through river and get deposited in the plains during overflowing of the river.

The heavy and coarse material when gets deposited in the foothills (plain river bed with mild slope), it obstructs the subsequent flow of water carrying more land mass material. This results in change of river course to the sides. This process continues and the river encroaches to either side of the river thus increasing the total width of the river though the actual flow width is much less. Further the encroachment on either side also damages/destroys the valuable property/plantation/agriculture land and hence needs some management practices to avoid such phenomena. Sometimes the river flows full of its width also thus accelerate the erosion of river banks.

The extraction/removal of the deposited material from the river bed may maintain the course of river within prescribed banks/boundaries. However if the extraction/removal, is not carried out properly, it may further aggravate the problem. The proper way to prevent a river from damaging the banks is to channelize /centralize the flow at the centre of the river bed. Hence a proper methodology needs to be followed while extracting/removing the deposited river bed material (RBM) from the river bed. In view of the source of construction material for various civil works and revenue to the Government it is not advisable to promote the excessive & unscientific extraction from the river. The River Gaula from Kathodam to Lalkuan is also believed to be used by elephant (and other wild animals) to cross from the forest of Left Bank of the river to the forest at the right bank of the river (termed as elephant

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corridor) and vice versa. In order to facilitate the smooth passage of the elephant and other wild animals an elephant corridor of 2.5 Kms near Lalkuan (at about 20 Kms from Kathgodam) has been earmarked as no extraction zone. A length of 1.0 Km on either side of the Gaula bridge (upstream and downstream) has also been left from extraction of RBM from safety point of view for the further damage to the bridge.

The river site was visited and surveyed(first week of July 2019 and subsequently 15th to 19 th Nov. 2019) and byDr. P.R Ojasvi Director ICAR- IISWC, Er. S.S. Shrimali, Senior Scientist, Er. S.K. Sharma, Asst. Chief Technical Officer and H. S Bhatia Technical officer of ICAR-IISWC, Dehradun along with the officials of UFDC, Haldwani.

The River Gaula and its survey

The length of River Gaula surveyed from where the extraction of RBM is to be carried out is located between 79^0 32' 56.17'' E longitudes to 29^0 15' 16.52'' N latitude 79^0 33' 16.59'' E longitudes and 28^0 59' 47.66'' N latitude. This river segment has slope less than 1.5 percent.

The River Gaula brings down sand, *bajari* and boulders (RBM), from its fragile catchments (Fig. 1) situated in steep slopes (more than 100 percent) of Kumaon, to the foot hills where the slopes is less than 1.5 percent. The gentle slope of the River Gaula starts from Kathgodam. The average annual rainfall is decreasing in this zone, therefore the discharge of the river is also decreasing. It is not necessary that the highest annual rainfall may cause highest peak rate of discharge. The peak rate of discharge is normally related with one day maximum rainfall received in the region along with its intensity. However with the available data for the discharge for the year 2010 to 2015 in the defined reach of the river it has been concluded that the discharge is in decreasing pattern .

The dense forest catchment makes the river perennial till Kathgodam, however the deposition of RBM downstream side of Kathgodam, for time immemorial, makes it dry (seasonal) after monsoon as the water seeps down raising the ground water table nearer to the ground level. The region is therefore termed as tarai (wet area).

The RBM brought down from steep slopes of the catchment and getting deposited from Kathgodam to Lalkuwan and further down, if not removed, meanders the river on either side as per the dynamics of deposition and removal (with river flow or manual). In order to channelize the river and keep the banks protected, the removal of the RBM is required.

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Further the RBM is also a very good construction material and fetches revenue. Hence instead of using the word removal the use of word extraction of RBM is more relevant. The river when coming down to mild slopes (along with RBM) from steep slopes dissipates its energy and thus deposits the RBM brought along with it. The heavy materials (boulders) are deposited first followed by small material (bajari and sand). The finer soil particles (slit and clay) are carried over further down.

Procedure of extraction of the RBM

It is recommended that the extraction may be undertaken of the portion shown within the middle half portion indicated between M_R & M_L in Fig. 3. The depth of extraction may also be limited as shown in the cross section at different segments in Fig. 3. Further, the extraction may not be started just from the pillar constructed at right hand side leaving 25 percent from the river bank. This year, the extraction may start leaving another 5 to 10 meters from the pillar constructed at 25 percent of the river width from the river bank.

The survey of the River Gaula was carried out during May2019 /November 2019 (Table 1 & Fig 2; cross sections taken at various locations in defined area of the river Gaula).

The computation of the permissible extraction / removal of the RBM from the 29 Kms reach of River Gaula is presented in Table 2. The cross section of all the sections along with the depth of extraction at various segment, width and location of extraction of RBM is presented in Fig 3. Extraction should be strictly confined between the cross section(CS1 to 4 and CS14-18) No extraction should now be done between CS5 to CS 13 as per the coordinates mentioned in Fig. 2 (marked in red).

The Elephant Corridor

The elephant corridor is located at 79^0 33' .92" E longitudes and 29^0 05' 40.22" N latitude. The Elephant corridor which is 2.5 km long between Haldu Chaur and Lal Kuan was kept as 'no extraction zone' for past few years. The 2.5 Km wide stretch is left from extraction / removal of RBM so as to facilitate the free and smooth passage of elephant/wild animal for crossing the river from either side. It was noticed that river bed of this section has substantially aggraded resulting in meandering of river towards the banks and causing severe bank erosion. Profile section of this portion clearly shows that deposition of material over the years has resulted in raised bed in the middle portion and therefore, is obstructing flow of river through middle section. Hence, it is advisable that RBM from the middle portion of this

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section be removed or extracted in such a manner which does not affect the movement of wild life. **The quantity of RBM that may be removed from this portion while maintaining a smooth bed profile. This need to be addressed by creating a channel having mild side slopes in the middle in such a way that it allows the passage of flows without hampering the movement of elephants. However, the removal of aggraded RBM should be done in consultation with the wild life expert. Though some material has been dredged from the middle section but the heap of the RBM on either side is required to spread appropriately.**

Assessment of Extractable RBM from River Gaula during 2019-2020

Based on the survey, assessment of the sediment deposits has been made and the estimated safe limit for extraction/removal of deposited river material from River Gaula during 2019-2020 is **1846569cum. . The quantiy does not include the reaches 1km on either side of the Gaula bridge and Elephant corridor**

RBM Extraction Plan for Ideal Cross section of River

It was suggested by the Indian Institute of Soil and Water Conservation, Dehradun through previous reports that the extraction / removal of the deposited RBM from these river be made leaving 25 % width of the river on either side of the river (Fig. 5(a) & 5 (b)). The recommendation to restrict the flow to the middle half of the river was to ensure the stability of the river bank and also to rehabilitate the reclaimed area by suitable plantation etc. This would help in channelization and centralization of the river which is very much relevant from river training point of view. In absence of the periodically channelization/centralization of the river material deposited-foothills-river, the tendency of periodical flooding of the adjoining area on the river bank exists. It further accelerates the stream bank cutting also.

The extraction/removal of the deposited river material should be executed in a scientific manner which will help in channelization of the river flow. The extraction should be from the middle portion of the riverbed so that it should maintain the profile as shown in Fig.5 (a)

If this method is adopted, the river is likely to take a parabolic shape (Fig. 4(b)). It will not happen in a year or two but the extraction / removal with the recommended practice

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for several years may lead to the ideal morphological shaping of the river cross section. However, during the flood discharge (Bankfull discharge) of extreme probability the profile may change again but the damage to river banks and adjoining land is expected to be minimum. This pattern of extraction is to ensured by the controlling /regulating agency to avoid any damage to surrounding banks

Impact of RBM Extraction Plan on Riparian Zone

The policy of leaving 1/4th portion of river width from either side of the banks as 'no extraction zone' has resulted in significant impact on stabilization of river banks and natural regeneration of vegetation in the riparian zone. It was observed that in the undisturbed zones of both the left and right banks a good dense cover of multi-storeyed vegetation has come up during the past 8-10 years. This green cover mainly constitutes Shisham, Kikar, Ipomea, Ban tulsi, Munj etc. This vegetation not only protects the banks from erosion but also acts as filter for the runoff water entering in to the river from the adjoining agricultural fields. The stabilized riparian zones of the banks were noticed all along the river reach except in portions where due to meandering of river, bank erosion has taken place.

Recommendations

1. It may be ensured that the water flowing in the river may not be polluted during the extraction.
2. The 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.
3. 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.
4. 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. While erecting the pillar, the corner of the pillar may face upstream.

5. 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.
6. Though the riparian zone of both the left and right banks is significantly stabilized. However, the meandering of river is a natural process, therefore, wherever required bank protection work should be undertaken to protect the banks from bank erosion and toe cutting.
7. The extraction may be carried out strictly as per the cross-sections and the depth illustrative in respective cross section and table.
8. **The extraction of RBM may be deferred from Red marked zone to avoid the damage to the river profile and river health**

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APPLICANT'S IDENTITY

Uttarakhand Forest Development Corporation (UAFDC) is a statutory body constituted by the State Government. 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.uafdc.in/

Contact-

MANAGING DIRECTOR
Shri Vinod Kumar
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 : uafdcmd@yahoo.com,vanvikas12@gmail.com

BHUWAN JOSHI
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कोषागार प्रपत्र सं.-209 (A) (संशोधित)

वित्तीय नियम संग्रह खण्ड-5, भाग-2

प्रपत्र संख्या-43 ए (1)

(प्रस्तर 417 एवं 478 देखिए)

धनराशि जमा करने का चालान फार्म

कोषागार/बैंक का नाम व शाखा — स्टेट बैंक हल्द्वानी

1. जिस व्यक्ति (पदनाम यदि आवश्यक हो) या संस्था के नाम से धनराशि जमा की जा रही है उसका नाम एवं पता — [illegible]

2. कार्यालय संख्या/पक्ष का नाम व वाद संख्या (यदि आवश्यक हो) — [illegible]

3. जमा की जा रही धनराशि का पूर्ण विवरण (धनराशि किस हेतु जमा की जा रही है तथा किस नियम या आदेश के अन्तर्गत जमा की जा रही है) — [illegible] रु 50000=00

4. [illegible] — 0853-अलौह खनिज तथा धातुकर्म उद्योग

5. लेखा शीर्षक का पूर्ण विवरण/शब्दों में — 102-खनिज रियायत शुल्क किराया ... [illegible]

6. लेखा शीर्षक का 13 डिजिट कोड — [illegible]

मुख्य लेखाशीर्षक	उप मुख्य शीर्षक	लघु शीर्षक	उप शीर्षक	ब्यौरेवार शीर्षक	धनराशि अंकों में
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				योग	50000=00

धनराशि (शब्दों में) — [illegible]

चालान में लेखा शीर्षक की पुष्टि करने वाले विभागीय अधिकारी के हस्ताक्षर मुहर सहित — विभाग: ... [illegible]

जमाकर्ता का नाम व हस्ताक्षर

केवल कोषागार/बैंक के प्रयोगार्थ

[illegible]

भारतीय स्टेट बैंक हल्द्वानी ... 27 NOV 2020

... अधिकारी के हस्ताक्षर ... बैंक की मुहर

भूतत्व एवं खनिकर्म ... उद्योग निदेशालय ... देहरादून

BHUWAN JOSHI
ख0/RQP/DDN/01/...

AUTHORIZATION LETTER TO RQP

I, **Regional Manager (Kumau Region)**, Uttarakhand Forest Development Corporation (UFDC), Gandhi Farm, Gas Godam Road, Kusumkhera, Haldwani, Distt-Nainital-263139, Uttarakhand, hereby authorize **Sh. Bhuwan Joshi, Geological Consultant & RQP, Mu.Kha./RQP/DDN/01/2016**, to prepare Mining Plan of **Gaula River Mining Lot, TotalArea-1497.00Hectare** (*GO letter No.740/VII-A-1./2020/22KHA/13, Dated 26 June 2020*), under Uttarakhand Minor Mineral Policy i.e. Sand, Bajri, Boulder and Bricks etc, Policy; for extraction of SAND, BAJARI AND BOULDERS (RBM) from a part of Gaula River (Gaula River Lot), Dist. Nainital, Uttarakhand.

I request the Director, Geology & Mining Department, Uttarakhand, to make further correspondence regarding modification and to collect the approved copies of the aforesaid Mining plan to the said recognized person in his following address or communicate in other modes:-

Name of the RQP- BHUWAN JOSHI
RQP, Registration No. ***Mu.Kha./RQP/DDN/01/2016***

Address-

House No.-6, Kamal Bhawan
Vijay Colony, Lane No.-1, Dehradun
Uttarakhand
E-mail: joshibhuvan@yahoo.co.in
Mo. No. 09412152105

Place-

Date-

Regional Manager (Kumaun) UFDC

भूतत्व एवं खनिकर्म उद्योग निदेशालय
देहरादून

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

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

संख्या – 346/भू०ख०नि०इ०/2020-21,
Renewal दिनांक – 17/05/2021

CERTIFICATE OF RECOGNITON AS RECOGNISED PERSON

Registration No. मु0ख0/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 मु0ख0/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. 1589/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. मु0ख0/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

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Place: Dehradun

Date: 17/05/2021

(Birjesh Kumar Sant)
Director
भूतत्व एवं खनिकर्म इकाई
उद्योग निदेशालय
उत्तराखण्ड, देहरादून

BHUWAN JOSHI
मु0 ख0/RQP/DD...

GOVT OF UTTARAKHAND
GEOLOGY AND MINING UNIT,
BHOPALPANI, UTTARAKHAND
DEHRADUN.

Paste specimen signature of Recognized Person here

CERTIFICATE OF RECOGNITON AS RECOGNISED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

Shri Bhuwan Joshi S/O shri K.N. Joshi resident of House No. 6 vijay Colony Lane No. 1 New cant Road, Dehradun affixed herein above, having given satisfactory evidence of his qualifications and experience is hereby RECOGNISED under Government Industrial Development Department, Uttarakhand Notification No. 844/VII-1/2015/68-kha/2015, Date, 31-07-2015 and Notification No. 1589/VII-1/2015/68/kha/2015, Date 07-10.2015 as Recognized Person to Prepare Mining Plans, Scheme of Mining of Mine Closer Plan.

His registration number is मु0ख0/RQP/DDN/01/2016

This recognition is valid for a period of 05 (Five) years ending on 27-12-2020

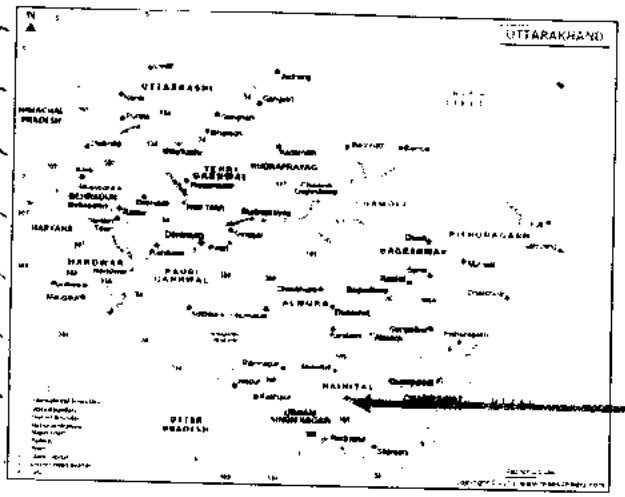
This certificate is liable to be withdrawn/cancelled in the event of furnishing the wrong information/documents in the mining plan Scheme of Mining of Mine Closer Plan submitted by him.

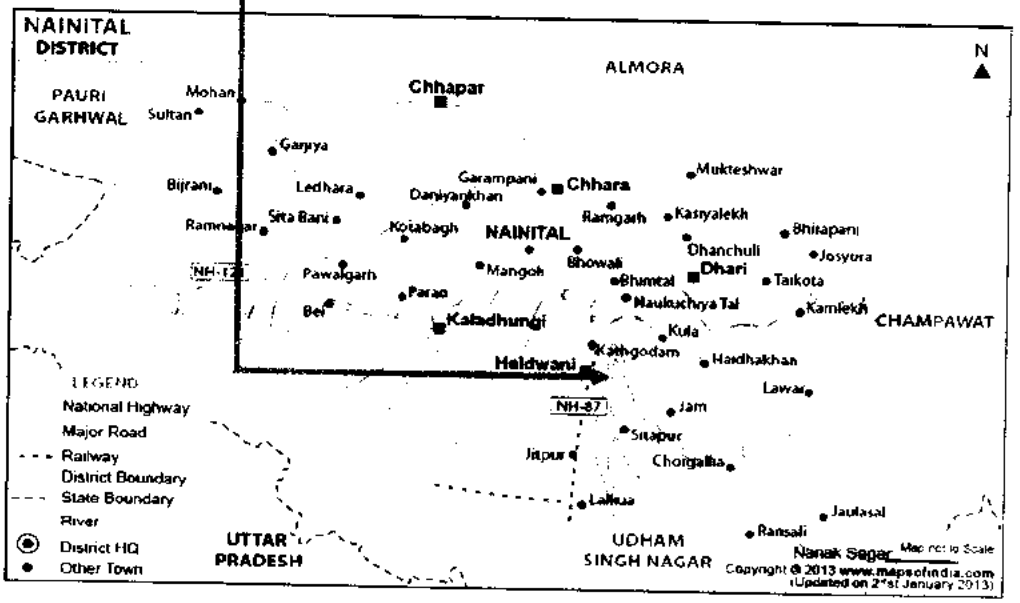
Director/Geology & Mining
Bhopalpani, Uttarakhand
Dehradun

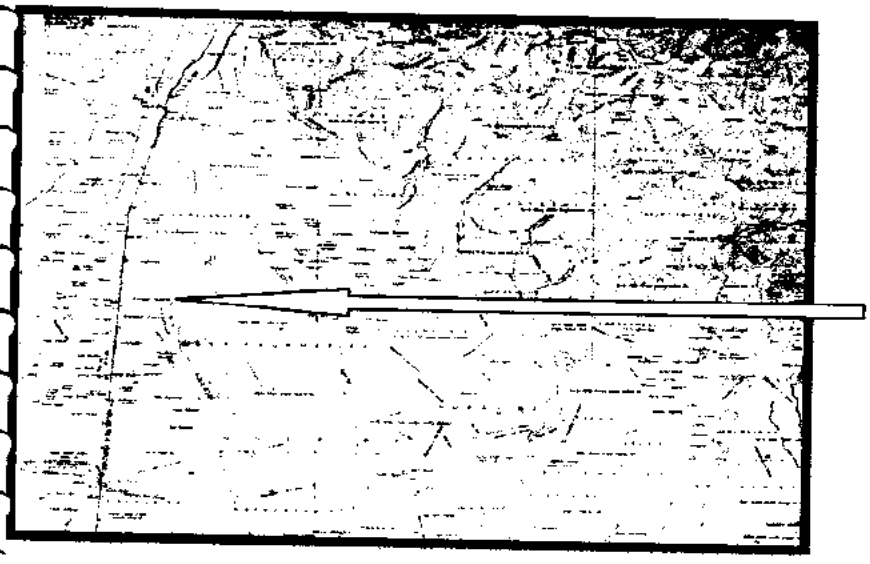
भूतत्व एवं खनिज निदेशालय
देहरादून

Place : Dehradun
Date : 10-3-2016

BHUWAN JOSHI
मु0 ख0/RQP/DDN/01/2016







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

PLATE NO.1

LOCATION PLAN OF THE WORKING SITE

GAULA RIVER RBM MINING LOT

200 Hectare of Haldwani Forest Division & 1297 Hectare of East Tarai Forest Division
(Total Area-1497Hectare)
DITRICT- NAINITAL, UTTARAKHNAD

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

NAME OF THE RQP- BHUWAN JOSHI