MINING PLAN

FOR SAND, *BAJRI* AND BOULDER
IN
SWARNA RIVER
DEHRADUN FOREST DIVISION
AREA: 23.75 ha.

At

JHAJRA FOREST RANGE
NEAR VILLAGE – ABDULLAPUR & RAMPUR
TEHSIL – VIKASNAGAR
DISTRICT – DEHRADUN (UTTARAKHAND)

APPLICANT

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

दिनांक 15 मई 2015

PREPARED BY

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

CONTENTS

LIST OF ANNEXURE

LIST OF PLATES

CHAPTER - 1

GENERAL INFORMATION

M/s Uttarakhand Forest Development Corporation (UKFDC) Uttarakhand has got Letter of Intent in Jhajra Forest Range, Dehradun Forest Division near village- Abdullapur & Rampur, Tehsil- Vikas Nagar, Distt.- Dehradun (Uttarakhand) for preparation of mining plan for Mining License (ML) from Government of Uttaranchal over an area of 23.75 ha. for RBM (sand, *bajri* & boulder) in single block in Swarna River for the period of 05 year (Annexure No.-1). Demarcated Topo Map (Annexure No.-2) is provided by the UKFDC. The applied area is jointly inspected by different state Govt. authorities (Annexure No. 3).

The mining plan of the area is prepared by Harish Kainthola (RQP), M/s *KainGeotech* Lane No.- 8, Indraprashtha, Upper Nathanpur, Ring road, Dehradun, Regd. No.: RQP/DDN/141/2002-A, (Annexure No.4) for estimating the reserve of mineral RBM (sand *bajri* & boulder).

M/s Uttarakhand Forest Development Corporation has authorised M/s *KainGeotech* to prepare the Mining Plan in respect of Abdullapur & Rampur, area over an area of 23.75 ha for minor minera. falls under Forest (*Ite Nop*) land near village- Abdullapur & Rampur, Tehsil- Vikasnagar, Distt.- Dehradun Uttarakhand (Annexure No. 5).

Mining of minerals is site specific in nature and the location of the proposed project is restricted to the geology and mineral deposition of the area. Safety, economical and technical constraints determine the mining methods to be employed.

Harish Kainthola
RQP/DDN/141/2002-A

CHAPTER – 2

DETAIL INFORMATION OF QUARRY LEASE

Name & Address of the Applicant:
M/s Uttarakhand Forest Development Corporation (UKFDC), Aranya Vikas Bhawan, 73 Nehru Road, Dehradun – 248001.

Status of the Applicant:
Govt. Body. Applicant has 10 year experience in mining activities.

Minerals which are occurring in the area and which the applicant intends to mine:
RBM (sand *bajri* & boulder).

Status of the area:
M/s Uttarakhand Forest Development Corporation (UKFDC) has applied for an area of 23.75 ha. falls under Forest (*Be Najo*) land in Abdullapur & Rampur, Tehsil-Vikasnagar, Distt.-Dehradun Uttarakhand.

Period for which the mining lease is granted / renewed / proposed to be applied:
5 years

Name, Address & Registration No. of the recognized person, who prepared the Mining Plan:

Harish Kainthola
KainGeotech
Lane No. 8, Indraprastha,
Mussoorie by pass road, Upper Nathanpur,
Dehra Dun- 248008 (Uttarakhand)
Telephone (Cell): 09412028745, 09412058990 (Office), 0135-2734986 (Resi.)
E-mail hkainthola@gmail.com, kain_geotech2147@rediffmail.com
Registration No. - RQP/DDN/141/2002-A
Valid up to - 16 Jan 2017 (Annexure No - 4)

Infrastructure facilities –

Power & Electricity:
The lease area falls near village- Abdullapur & Rampur which is electrified by 220 volt supply; nearly 80% area fall 5 km periphery of the area is electrified.

Water Supply:
Water table of this area is about 12-100 ft below the ground. Water supply from tank will be arranged for drinking purpose. Dug wells and spring water can also be used for

Harish Kainthola
RQP/DDN/141/2002-A

drinking water purposes. For irrigation, small canal are made on the perennial *nalas* and water supply for drinking purpose through pipelines by Uttarakhand Jal Sasthan.

Post office & Telegraph:

Post Office is situated at Selaqui which is about 4km away from lease hold area.

Education institute:

Primary school is situated in Abdullapur & Rampur which is about 1 km away from lease hold area.

Senior Sec. School are situated in Selaqui which is about 4 km away from lease hold area.

Intermediate collage is available in the Selaqui which is about 4km away from lease hold area.

For getting higher studies, people are going to Dehradun which is about 30 km from the lease area.

Health facility:

In Selaqui Primary Health Center is available, which is about 4 km from lease area. District hospital is situated at Dehradun, which is 30 km away from the lease area.

Police station:

The nearest police station is at Selaqui which is about 4 km from applied area.

Bank:

There are number of banks available at Selaqui which is about 4 km from the applied area.

Harish Kainthola
ROP/DDN/141/2002-A

CHAPTER-3

GEOLOGY AND RESERVES

Physiography:

Physiographically the area is simple except a few dip slopes composed of Pleistocene and Recent deposits facing the syncline Doon valley and ridges & cliffs of the Upper Siwalik Conglomerates. The Middle Siwalik Formation develops low rounded hills with distinct marked lowering throughout northern margin of the unit as compared to southern margin. The important rivers of the area are Tons, Swarna, Nirmi and Chorkhala running approximately towards south-west directions and Asan running approximately south-east direction. Swarna River is a seasonal river which is a tributary of Asan River. The climate of the area is inter- continental (monsoon type). Maximum temperature reaches 36.2^{0}C and the minimum even to freezing points in winters. Average rainfall is about 2073.3mm and most of it flows as runoff and some percolates in sandstones and conglomerates. .

Regional geology:

Situated in the annals of Garhwal Himalaya, the district of Dehradun occupies the long tectonic 'Doon Valley' of the outer Himalaya. It lies within the Pre-Tertiary ranges of Lesser Himalaya to the north, and the Siwalik ranges of Outer Himalaya to the south. The Siwalik rocks have been folded into an overturned syncline, flanked by two anticlines. The syncline shape of Siwaliks has controlled the geomorphological development of Doon Valley (Auden, 1937).

The terrain around Dehradun is full of minor ridges and valleys. A prominent ridge runs north-south. Western part is washed by the river Tons. Nisan Nadi and Asan, tributaries of Yamuna, flowing towards southwest and the eastern segment is drained by the WNW-ESE flowing river Suswa, a tributary of Ganga.

Lithostratigraphy of the Upper Siwalik and Post-Siwalik sediment in Tons Valley is given below:

Age	Formations	Divisions	Lithology	Average Thickness
Recent (Quaternary)	Doon Gravels	Tons/Asan Alluvium	Alluvium	
Sub-Recent	Post-Siwaliks	New Terrace sediments	Gravel and pebble beds with brown clay bands	70m
Upper-Pleistocene-Mid Pleistocene		Old Terrace sediments	Boulder beds/ sand, yellow and maroon clay bands	44m
		Unconformity		
Lower Pleistocene	Upper Siwaliks	Boulder conglomerates ?	Alternating conglomerates, Sand and clay bands	147m

Harish Kainthola
POP/DDN/141/2002-A

The Upper Siwalik partly ranges into Pleistocene which is probably represented by the Boulder Conglomerate Stage here. These are overlain by Post-Siwalik sediments with a pronounced unconformity. The Siwalik rocks constitute low ranges in this area, whereas the Post- Siwalik constitutes the older and newer terraces of the river Tons/Asan. The Quaternary part of the Upper Siwalik consists mainly of conglomerates with alternating sand and clay beds. The conglomerates contain pebble mainly of quartzite, slate, limestone, sandstone etc. embedded in a sandy matrix. The Old Terrace sediments contain boulder and gravel beds with smooth, but often cracked boulders mainly of quartzite, phyllite, schist, sandstone etc. embedded in coarse sandy matrix. There are some bands of yellow and maroon clay along with some sandy and sandy clay horizon. These sediments generally lie horizontally, but occasionally show gentle southerly dips. The New Terrace sediments contain pebble and gravel horizons with unconsolidated material composed mainly of limestone, quartzite etc. There are some brown coloured clay bands, which appear to be older Alluvium. These are usually placed horizontally, unconformably overlying the Old Terrace sediments. Sometimes, these even overlap the Old Terrace, and directly overlie the Siwalik and other Formation. These Post- Siwalik sediments exhibit variable thicknesses. Tube well data shows a gradual increase in their thickness from west to east. In the western part of the area the Old Terrace is 12m and New Terrace is 36 m thick.

In Lesser Himalayan Zone steeply sloping northern flank of the valley comprising rocks of the Lesser Himalayan Formations, such as quartzite, schist, slates, phyllites, hard sandstone, limestone and dolomite of the Chandpur, Nagthat, Blaini, Krol and Tal Formations and having secondary porosity and permeability and are characterised by springs and seepages. Though sedimentary in nature the rocks have very low intergranular porosity and are characterized by fissures, fracture and joints. The zones of lineament, faults and the Main Boundary Thrust show pockets of high secondary porosity. The groundwater/sub-surface water in this zone occurs largely as disconnected local bodies in favourably perched aquifers under both confined and unconfined conditions and also in zones of jointing, fracturing and faulting. Relatively flat areas and gently sloping grounds characterized by deep weathering, such as hill-tops, ridges, saddles, spurs and bulges of old landslide-debris, river terraces and fluvial fans from the recharge area while steeper hill-slopes, 1st or 2nd order stream at slope breaks and scraps of fans are sites of discharges. The upper portions of the catchment areas are saucer-shaped. The springs in the rocks of the secondary porosity show great variability in yield even within short distances. The limestone and dolomite of the Krol Formation is characterized by cavities and solution channels oriented along WNW-ESE and NW-SE trending joints. The sand and clay deposits of fluvial and colluvial origin in the Lesser Himalayan Zone lying in the lower reaches of the stream or near the confluence of two streams in the form of fan and terraces are highly porous and permeable and therefore, hold sufficient quantities of water. The soil cover of the study area was found to be mostly yellowish grey with some soils having brownish colour. The texture of the soil in the study area was found predominantly sandy clay loam in nature.

In Synclinal central zone classified under piedmont zone occupied by the Doon gravels, having primary porosity and permeability, is forming the main aquifer in the area. The groundwater is present in aquifers under unconfined and confined conditions. The

Harish Kainthola
POP/DDN/141/ 2002-A

course and gravels underlain by clay beds is the main water bearing strata. The zone is characterized by high infiltration rate. The Siwalik Zone the water is present under confined conditions and the water table is relatively deep.

Geology of the Area:

The synclinal trough shaped Doon Valley bounded by the rocks of the Lesser Himalayan formations in north and Siwalik in south, forms a part of the sub-mountain region of the Garhwal Himalaya. Geologically the valley is divided into:

The Lesser Himalaya: Mussoorie mountain range in northwest and northeastern parts. It comprises rocks of the Jaunsar (Chandpur phyllites and Nagthat quartzites) and Mussoorie Group (shales, sandstone, greywacks, calcareous slates, dolomite and limestone of Blaini-Krol-Tal sequence) of Proterozoic-Cambrian age.

A synclinal structural depression: filled with coarse clastic/ River Borne Material (RBM) consisting fan deposits of late Pleistocene and Holocene age known as the Doon Gravels. The Doon Gravels have been further subdivided into Oldest, Younger and Youngest Doon Gravels (Nossin, 1971; Meijerink; 1974). The Oldest Doon Gravels resting over the Upper and Middle Siwalik beds and at places directly over Chandpur phyllites are consist of poorly sorted pebbles and gravels set in sandy matrix and red clays. The Oldest Doon Gravels consist partly of crushed Upper Siwaliks cobbles, angular pebbles of quartzites, slates and shales from the Nagthat, Chandpur and Tal Formations and limestone pebbles from the Krol Limestone alternating with clay beds. The Younger Doon Gravels, resting unconformably over the Oldest Doon Gravels in northern part, are characterized by very large boulders present in debris flow and braided river deposits. The unit consist of poorly sorted mixture of clay, sands, gravels and large boulders. The major part of the valley is occupied by Younger Doon Gravels occurring in the form of large fans, formed by reworking of Oldest Doon Gravels, and are called as Principal Doon fans. The Youngest Doon Gravels are braided river deposits and sub-recent terrace deposit along Asan and Song River. A number of coalesced fan have also descend down from the Siwalik range forming "Piedmont zone", are also part of youngest Doon Gravels.

The Siwalik range in the south comprises the middle and Upper Siwalik. The rocks of the middle Siwalik have the characteristic facies of continental deposits of large low land rivers and consist of friable medium grained grey coloured sandstone rich in micaceous minerals with mudstone. The rocks of the Upper Siwalik indicate a change in the region of the large braided rivers and are characterized by alternate polymictic conglomerate and subordinate grey micaceous sandstone (Tandon *et al.*, 1988). The conglomerate consists of well rounded to subrounded clasts of white, pink and grey quartzite, granite, phyllites and rare limestone.

Exploration:

No exploration was carried out as the minerals are abundant in the proposed lease area.

Harish Kainthola
ROP/DDN/141/ 2003-A

Estimation and Categories of reserve:

As much of the lease area is covered with water catchment area only the middle area is considered for reserve estimation. The sand/gravel which is exposed in all the three dimensions (9.0m on an average) is considered as proved. From the field trials conducted in the sector and information gathered from the project proponent, the bulk density is found to be 1.8.

The method of cross section has been adopted for computing the geological reserve. The mining lease boundary & mining limits are marked on the plans. The intersectional volume between two section lines has been determined by the following manner:

V = (S1+S2)/2 x L, where

V= volume

S1 & S2 = Sectional area of the mineral body

L=Strike influence

The mining lease has been applied only in river bed area. Geological reserves have been estimated through geological cross sections. The strike influence of sections is 33m to 54m. The area of each section line is calculated and sectional area is multiplied by the strike influence in between two section line to give the volume of each section line. The incidence of RBM has been taken as 90% of the total volume considering rest 10% as waste and would be used as backfilled material for reclaiming the excavated benches. From 25% area of each side on both banks from lease boundary would not be used for exploitation of mineral. While computing the geological mineral reserves the depth of mineralization is taken upto 18m in all the applied area.

There are three categories of reserve; namely measured/proved, indicated/probable, inferred/possible. The proved categories include minera. upto 9 m depth. The probable category includes 6 m after the proved depth and possible category includes 3m from the possible depth as far as this lease in concerned.

The proved reserve, probable reserves & possible reserves are 2472057.37 tonnes, 16/8038.36 tonnes & 824019.01 tonnes respectively. Following table shows the calculation of different categories of reserve:

Measured/Proved Reserve:

Section Line	Sectional area (m^2)	Strike influence (m)	Volume $(m)^3$	Recoverable reserves (tonnes)
LB to 1-1'	8759.33	33	260152.10	468273.78
1-1' to 2-2'	17627.91	43	682200.12	1227960.21
2-2 to END	8868.58	54	431012.09	775823.38
Total	**35255.82**		**1373365.31**	**2472057.37**

Indicated/Probable reserve:

Section Line	Sectional area (m^2)	Strike influence (m)	Volume $(m)^3$	Recoverable reserves (tonnes)
LB to 1-1'	5839.55	33	173434.64	312182.34
1-1' to 2-2'	11751.94	43	454800.08	818640.14
2-2 to END	5912.39	54	287340.85	517215.88
Total	**23503.88**		**915576.87**	**1648038.36**

Harish Kainthola
ROP/DDN/141/ 2002-A

Inferred /Possible reserved:

Section Line	Sectional area (m^2)	Strike influence (m)	Volume $(m)^3$	Recoverable reserves (tonnes)
LB to 1-1'	2919.78	33	86717.47	156091.44
1-1' to 2-2'	5875.97	43	227400.04	409320.07
2-2' to END	2956.19	54	143670.83	258607.50
Total	**11751.94**		**457788.34**	**824019.01**

Category according to UNFC classification:

Reserves	UNFC code	Geological Reserves (tonnes)	Grade
Proved	131	2472037.37	Road, Bridges and building construction
Probable	232	1648038.36	Road, Bridges and building construction

Harish Kainthola
ROP/DDN/141/ 2002-A

CHAPTER - 4

MINING

Mining (Past):

Applied area for mining is 23.75 ha. The present topography shows some depositional and erosional or mining activity during past years. Infact mining pits if any, are replenished every year during the rainy season. The lease area has gentle slope towards SW. Highest point is at RL 603.5 m in the northeast corner of the area whereas lowest point RL 545m is in the southwest corner of the area.

Proposed Method of Mining:

The project does not involve any processes such as drilling, blasting and beneficiation. The mining process involves collection of material by simple hand tool such as shovel, pans and sieves. This is followed by sorting and manual picking, stacking and loading into trucks/tractor-trolley for transporting. The pits from where the material is picked are not deeper than 1.5m as allowed in mining area and shall follow the normal channel direction of the river. These get replenished during monsoon. The only waste is silt/clay which is recycled back to the pits.

Mining will be carried out only during the day time. The factors such as topography, bed gradient, soils, rainfall etc will be taken into consideration for the same. The material is transported through the high velocity flow and is deposited in downstream portion where the bed slope is mild.

Applied area is a part of a river bed and mining will be done manually in open cast method in quite a systematic manner by forming benches of 1.5m high. However, there may be variation in the width which the lessee will keep on mending. About 216,000 Tonnes mineral will be exploited per year. From first year to fifth year total 1080,000 Tonnes mineral will be produced. The proposed area is within river bed and mined out area will be replenished gradually during succeeding rainy season. The sandy soil to be scrapped manually with the help of pickaxe, spade & crowbar and will be stacked separately in dump yard located near the working pit. About 80% of the total production is considered as a waste material and will be used for reclaiming the bank slope. Backfilling will be done simultaneously in each year.

Prior to any actual mining being done at the site, it is necessary to remove overburden from the top of the RBM. Overburden is sandy soil or subsoil. This is mainly composed of silty sand. Sandy soil will be kept separate and used on top of the berms once they have reached their final elevation. The berms have multiple purposes; they provide storage for overburden until the mine is reclaimed; they provide a visual barrier between the active mine and roads or adjoining properties, they screen high position should the mine be operated after dark and they act as a noise barrier.

Once the overburden has been removed the sand is excavated depending upon the lithological variation, no blasting may be used to make the sand containing material more amenable to excavation. Excavation is typically performed by manual means. Hand operated tool's like spade, tasla etc will be used to collect the sand. The excavated material

Harish Kainthola
ROP/DDN/141/2002-A

may be directly loaded into trucks, dumpers, tippers and tractors trolleys and send to the destination wherever it is required for construction and other purposes.

Transportation of sand from the mine is a process to deliver mined out material to the location where it is going to be collected. Mined out sand will manually be loaded into truck and transported to its destination where it will ultimately be used. Sufficient space will be left for loading of trucks. Excavation of river bed minerals will commence from the top surface of the area and commence towards down removing the minerals manually in 1.5m slices. Ultimate depth of a bench will be 1.5m. Mining will be restricted upto a maximum depth of 1.5m only. The entire area does not require excavating at once. Per year about 216,000 tonnes production of river RBM (sand *bajri* & boulder) have been proposed to meet the market requirement.

The mineral extraction will be done for a period of 270 days in a year. During this period the areas of mining quarry will be free from submergence. During mining operation the river flow will be away to enable dry pit mining. In the lease area the river flow being reduced and sediment load get deposited. During flood season, the area gets replenished with sediments and source of erosion at this location is comparatively less.

The guidelines of the Ministry of Environment & Forests and Directorate of Geology and Mining will be followed; the most important is as under:

- Dry pit mining will be followed which means mining an all times will be above the flowing river water level. Mining activity will be immediately stopped when water comes in the mining pits.
- RBM (sand *bajri* & boulder) will be collected in slices upto a depth of 1.5 m or river water level's whichever less than prescribed.
- Stream will not be diverted to form inactive channel.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Mining will be restricted minimum 25% from river bank to minimize effect of river bank erosion and to avoid consequent channel migration. Plantation will be done on such area to isolate mining operation form the rest of the area.
- Area of mining lease will be demarcated prior to mining and Pillars will be erected on ground.
- No mining operations shall be carried out in proximity of any bridge and or embankment. Working will be during day-time only; i.e. sunrise to sunset only;
- No constructions will be done at site except for construction of initial temporary shelter house.
- No water intake from river will be done. Water will be supplied by tankers from outside sources.
- No machineries will be used.
- Mining will be completely stopped during monsoon season.

Proposed Rate of Production and Life of Mine:

Depending upon the market about 216, 000 tonnes per annum of RBM is proposed to be swiped out from the mining area. Each bench will be of 1.5m high with 0.5m high sub benches. Tonnage factor of 1.8 has been considered. This material will be expected to be replenished during the next rainy season.

Harish Kainthola
EC/CDN/141/ 2002-A

Year Wise Mining & Development:

Area does not show any outcrop of in-situ deposit. The production is generally in the form of *bajri* and boulder. The general recovery of the RBM is about 90% has been considered as per our past experience. Thus, total saleable quantity in tonnes will be around 216,000. From I year to V year about 224m retaining wall will be constructed along the plantation & dump area and about 78m retaining wall will be constructed along the edge of bench.

I Year:

The mining face will be started from SW to NE direction from the lower level and advance towards higher levels. During this year mining is proposed RL 545m to RL 602.0m to open the mining faces and transportation of mineral. The mining face will be advance towards NE. Backfilling will be done upto RL 600.5m. Tonnage factor of 1.8 has been considered. Thus, total saleable quantity in Tonnes will be 216,000.

The sandy soil will be removed from river bank with the help of crowbar & spade and stacked separately. Each bench will be of 1.5m high with 0.75m high sub benches. In this year about 45m long retaining wall will be constructed along the plantation & dump area.

The net recovery of RBM has been considered 90% of total excavation. The bench wise proposed quantity, production and closing recoverable reserves are given below:

Bench Level (m)	Quantity of the mineral (Tonnes)	Production (Tonnes)	Balance (Tonnes)
545	15408.57	12000	3408.57
546.5	12711.26	8500	4211.26
548	12393.87	8000	4393.87
549.5	6743.89	3500	3243.89
551	7725.97	4000	3725.97
552.5	6726.97	3500	3226.97
554	7392.35	4500	2892.35
555.5	7008.19	4000	3008.19
557	8019.33	5000	3019.33
558.5	7042.71	4000	3042.71
560	8964.45	5000	3964.45
561.5	8299.97	5500	2799.97
563	7703.13	4000	3703.13
564.5	8504.99	6000	2504.99
566	7253.38	4500	2753.38
567.5	7777.47	5000	2777.47
569	6019.45	4000	2019.45
570.5	7060.14	3500	3560.14
572	5879.82	3000	2879.82
573.5	6361.15	3500	2861.15
575	5767.06	3500	2267.06
576.5	5509.64	3000	2509.64

Harish Kainthola
RQP/UK/141/2002-A

578	6686.16	3500	3186.16
579.5	6636.70	3500	3136.70
581	6186.97	3000	3186.97
582.5	9319.70	7000	2319.70
584	10209.84	8000	2209.84
585.5	10770.61	8500	2270.61
587	11140.63	9500	1640.63
588.5	9779.44	7000	2779.44
590	6612.14	4500	2112.14
591.5	10201.84	8500	1701.84
593	9337.25	7500	1837.25
594.5	9541.39	7000	2541.39
596	8676.21	6500	2176.21
597.5	7495.41	5500	1995.41
599	10992.40	8500	2492.40
600.5	8508.93	6000	2508.93
602	7382.01	5500	1882.01
Total	**325751.39**	**216000**	**109751.39**

The position of benches in I year is shown in Plate No.4.

II Year:

As mentioned that the mined out area will be replenished during the monsoon season and the mineral will be filled back over the mined out pit. During this year mining is proposed from RL 545m to RL 602.0m to open the mining faces and transportation of mineral. The mining face will be advance towards NE. Backfilling will be done upto RL 600.5m. Tonnage factor of 1.8 has been considered. Thus, total saleable quantity in Tonnes will be 216,000. In II year about 44m long retaining wall will be constructed along the plantation & dump area.

The sandy soil will be removed from river bank with the help of crowbar & spade and stacked separately. Each bench will be of 1.5m high. The net recovery of RBM has been considered 90% of total excavation. The bench wise proposed quantity, production and closing recoverable reserves are given below:

Bench Level (m)	Quantity of the mineral (Tonnes)	Production (Tonnes)	Balance (Tonnes)
545	15408.57	13000	2408.57
546.5	12711.26	8000	4711.26
548	12393.87	7500	4893.87
549.5	6743.89	4000	2743.89
551	7725.97	4500	3225.97
552.5	6726.97	3000	3726.97
554	7392.35	4000	3392.35
555.5	7008.19	4500	2508.19
557	8019.33	4500	3519.33
558.5	7042.71	4500	2542.71

Harish Kainthola
ROP/DDN/141/ 2002-A

560	8964.45	5500	3464.45
561.5	8299.97	5000	3299.97
563	7703.13	4500	3203.13
564.5	8504.99	5500	3004.99
566	7253.38	5000	2253.38
567.5	7777.47	4500	3277.47
569	6019.45	3500	2519.45
570.5	7060.14	4000	3060.14
572	5879.82	2500	3379.82
573.5	6361.15	3000	3361.15
575	5767.06	3000	2767.06
576.5	5509.64	3500	2009.64
578	6686.16	4000	2686.16
579.5	6636.70	3000	3636.70
581	6186.97	3500	2686.97
582.5	9319.70	6500	2819.70
584	10209.84	8500	1709.84
585.5	10770.61	8000	2770.61
587	11140.63	9000	2140.63
588.5	9779.44	7500	2279.44
590	6612.14	5000	1612.14
591.5	10201.84	8000	2201.84
593	9337.25	7000	2337.25
594.5	9541.39	7500	2041.39
596	8676.21	6000	2676.21
597.5	7495.41	6000	495.41
599	10992.40	8000	2992.40
600.5	8508.93	6500	2008.93
602	7382.01	5000	2382.01
Total	**325751.39**	**216000**	**109751.39**

The position of benches in II year is shown in Plate No.5.

III Year:

As mentioned that the mined out area will be replenished during the monsoon season and the mineral will be filled back over the mined out pit. During this year mining is proposed RL 545m to to RL 602.0m to open the mining faces and transportation of mineral. The mining face will be advance towards northeast. Backfilling will be done upto RL 600.5 m. In this year about 46 m long retaining wall will be constructed along the plantation & dump area.

The sandy soil will be removed from river bank with the help of crowbar & spade and stacked separately. Each bench will be of 1.5m high. The net recovery of RBM has been considered 90% of total excavation. The net saleable production of RBM will be 216,000 Tonnes. In III year about 46m long retaining wall will be constructed along the edge of bench, plantation & dump area.

Harish Kainthola
ROP/DDN/141/2002-A

The bench wise proposed quantity, production and balance reserves are given below:

Bench Level (m)	Quantity of the mineral (Tonnes)	Production (Tonnes)	Balance (Tonnes)
545	15408.57	12500	2908.57
546.5	12711.26	9000	3711.26
548	12393.87	7000	5393.87
549.5	6743.89	4000	2743.89
551	7725.97	3500	4225.97
552.5	6726.97	4500	2226.97
554	7392.35	3500	3892.35
555.5	7008.19	5000	2008.19
557	8019.33	4000	4019.33
558.5	7012.71	5000	2042.71
560	8964.45	4000	4964.45
561.5	8299.97	4000	4299.97
563	7703.13	5500	2203.13
564.5	8504.99	4500	4004.99
566	7253.38	6000	1253.38
567.5	7777.47	4000	3777.47
569	6019.45	5000	1019.45
570.5	7060.14	3000	4060.14
572	5879.82	3500	2379.82
573.5	6361.15	3500	2861.15
575	5767.06	2500	3267.06
576.5	5509.64	3500	2009.64
578	6686.16	3000	3686.16
579.5	6636.70	3000	3636.70
581	6186.97	3500	2686.97
582.5	9319.70	8000	1319.70
584	10209.84	7000	3209.84
585.5	10770.61	9500	1270.61
587	11140.63	8500	2640.63
588.5	9779.44	6000	3779.44
590	6612.14	5500	1112.14
591.5	10201.84	7500	2701.84
593	9337.25	8500	837.25
594.5	9541.39	6500	3041.39
596	8676.21	7000	1676.21
597.5	7495.41	6500	995.41
599	10992.40	7500	3492.40
600.5	8508.93	5500	3008.93
602	7382.01	6000	1382.01
Total	**325751.39**	**216000**	**109751.39**

The position of benches in III year is shown in Plate No.6.

Harish Rainthola
ROP/DDN/141/2002-A

IV Year:

As mentioned that the mined out area of III year will be replenished during the monsoon season and the mineral will be filled back over the mined out pit. The mining face will be advance towards NE. During this year mining is proposed from RL 545m to RL 602.0m to open the mining faces and transportation of mineral. Backfilling will be done upto RL 600.5m. In IV year about 44m long retaining wall will be constructed along the plantation & dump area.

The sandy soil will be removed from river bank with the help of crowbar & spade and stacked separately. Each bench will be of 1.5m high. The net recovery of RBM has been considered 90% of total excavation. The net saleable production of RBM will be 216,000 Tonnes. The bench wise proposed quantity, production and closing recoverable reserves are given below:

Bench Level (m)	Quantity of the mineral (Tonnes)	Production (Tonnes)	Balance (Tonnes)
545	15408.57	12000	3408.57
546.5	12711.26	8500	4211.26
548	12393.87	8000	4393.87
549.5	6743.89	3500	3243.89
551	7725.97	4000	3725.97
552.5	6726.97	3500	3226.97
554	7392.35	4500	2892.35
555.5	7008.19	4000	3008.19
557	8019.33	5000	3019.33
558.5	7042.71	4000	3042.71
560	8964.45	5000	3964.45
561.5	8299.97	5500	2799.97
563	7703.13	4000	3703.13
564.5	8504.99	6000	2504.99
566	7253.38	4500	2753.38
567.5	7777.47	5000	2777.47
569	6019.45	4000	2019.45
570.5	7060.14	3500	3560.14
572	5879.82	3000	2879.82
573.5	6361.15	2500	3861.15
575	5767.06	3500	2267.06
576.5	5509.04	3000	2509.04
578	6686.16	3500	3186.16
579.5	6636.70	3500	3136.70
581	6186.97	3000	3186.97
582.5	9319.70	7000	2319.70
584	10209.84	8000	2209.84
585.5	10770.61	8500	2270.61
587	11140.63	9500	1640.63
588.5	9779.44	7000	2779.44

Harish Kainthola
RQP/ODN/141/ 2002-A

590	6612.14	4500	2112.14
591.5	10201.84	8500	1701.84
593	9337.25	7500	1837.25
594.5	9541.39	7000	2541.39
596	8676.21	6500	2176.21
597.5	7495.41	5500	1995.41
599	10992.40	8500	2492.40
600.5	8508.93	6000	2508.93
602	7382.01	5500	1882.01
Total	**325751.39**	**216000**	**109751.39**

The position of benches in IV year is shown in Plate No.7.

V Year:

As mentioned that the mined out area of IV year will be replenished during the monsoon season and the mineral will be filled back over the mined out pit. The mining face will be advance towards NE. During this year mining is proposed RL 545m to open the mining faces and transportation of mineral. Back Filling will be done upto RL 600.5m. In V year about 45m long retaining wall will be constructed along the plantation & dump area.

The sandy soil will be removed from river bank with the help of crowbar & spade and stacked separately. Each bench will be of 1.5m high. The net recovery of RBM has been considered 90% of total excavation. The net saleable production of RBM will be 216,000 Tonnes. The bench wise proposed quantity, production and balance reserves are given below:

Bench Level (m)	Quantity of the mineral (Tonnes)	Production (Tonnes)	Balance (Tonnes)
545	15408.57	13000	2408.57
546.5	12711.26	8000	4711.26
548	12393.87	7500	4893.87
549.5	6743.89	4000	2743.89
551	7725.97	4500	3225.97
552.5	6726.97	3000	3726.97
554	7392.35	4000	3392.35
555.5	7008.19	4500	2508.19
557	8019.33	4500	3519.33
558.5	7042.71	4500	2542.71
560	8964.45	5500	3464.45
561.5	8299.97	5000	3299.97
563	7703.13	4500	3203.13
564.5	8504.99	5500	3004.99
566	7253.38	5000	2253.38
567.5	7777.47	4500	3277.47
569	6019.45	3500	2519.45
570.5	7060. 4	4000	3060.14
572	5879.82	2500	3379.82

Harish Kainthola
ROP/ODN/141/ 2002-A

573.5	6361.15	3000	3361.15
575	5767.06	3000	2767.06
576.5	5509.64	3500	2009.64
578	6686.16	4000	2686.16
579.5	6636.70	3000	3636.70
581	6186.97	3500	2686.97
582.5	9319.70	6500	2819.70
584	10209.84	8500	1709.84
585.5	10770.61	8000	2770.61
587	11140.63	9000	2140.63
588.5	9779.44	7500	2279.44
590	6612.14	5000	1612.14
591.5	10201.84	8000	2201.84
593	9337.25	7000	2337.25
594.5	9541.39	7500	2041.39
596	8676.21	6000	2676.21
597.5	7495.41	6000	1495.41
599	10992.40	8000	2992.40
600.5	8508.93	6500	2008.93
602	7382.01	5000	2382.01
Total	**325751.39**	**216000**	**109751.39**

The position of benches in V year is shown in Plate No.8.

Ultimate pit limit and life of the mine:

The proposed area is within river bed and mined out area will be replenished gradually during succeeding rainy season. Hence there will be no change in land use, land cover or topography of the area. Mining will be undertaken through manually. The height and width of the mining faces will be kept 1.5m each and ultimate pit slope will be 45^0. The existing track will be used for the opening of the faces and transportation of mineral. The waste material will stack separately and will be kept in the earmarked stack site. Mineable reserve of the area is calculated with the help of slices (Plate-11) and is tabulated below:

Mineable reserve:

Bench Level (m)	Area of Bench $(m)^2$	Depth (m)	Volume $(m)^3$	Recoverable Reserves $(m)^3$	Recoverable Reserves (Tonnes)
1	*2*	*3*	*4*	*5*	*6*
545	6340.98	1.5	9511.47	8560.32	15408.57
546.5	5230.97	1.5	7846.45	7061.81	12711.26
548	5100.36	1.5	7650.54	6885.49	12393.87
549.5	2775.26	1.5	4162.89	3746.60	6743.89
551	3179.41	1.5	4769.12	4292.21	7725.97
552.5	2768.30	1.5	4152.45	3737.21	6726.97

Harish Kainthola
RQP/ODN/141/2002-A

554	3042.12	1.5	4563.18	4106.86	7392.35
555.5	2884.03	1.5	4326.04	3893.44	7008.19
557	3300.14	1.5	4950.21	4455.19	8019.33
558.5	2898.24	1.5	4347.35	3912.62	7042.71
560	3689.07	1.5	5533.61	4980.25	8964.45
561.5	3415.62	1.5	5123.44	4611.09	8299.97
563	3170.01	1.5	4755.02	4279.52	7703.13
564.5	3500.00	1.5	5249.99	4724.99	8504.99
566	2984.93	1.5	4477.40	4029.66	7253.38
567.5	3200.61	1.5	4800.91	4320.82	7777.47
569	2477.14	1.5	3715.71	3344.14	6019.45
570.5	2905.41	1.5	4358.11	3922.30	7060.14
572	3419.68	1.5	5129.52	4616.57	8309.82
573.5	2617.76	1.5	3926.63	3533.97	6361.15
575	2373.28	1.5	3559.92	3203.92	5767.06
576.5	2267.54	1.5	3401.01	3060.91	5509.64
578	2751.51	1.5	4127.26	3714.53	6686.16
579.5	2731.15	1.5	4096.73	3687.06	6636.70
581	2546.08	1.5	3819.12	3437.21	6186.97
582.5	3835.97	1.5	5753.96	5177.61	9319.70
584	4201.58	1.5	6302.37	5672.13	10209.84
585.5	4432.35	1.5	6648.53	5983.67	10770.61
587	4584.62	1.5	6876.93	6189.24	11140.63
588.5	4024.46	1.5	6036.69	5433.02	9779.44
590	2721.05	1.5	4081.57	3673.41	6612.14
591.5	4198.29	1.5	6297.43	5667.69	10201.84
593	3842.49	1.5	5763.74	5187.36	9337.25
594.5	3926.50	1.5	5889.75	5300.77	9541.39
596	3570.46	1.5	5355.68	4820.11	8676.21
597.5	3084.53	1.5	4626.79	4164.11	7495.41
599	4523.62	1.5	6785.43	6106.89	10992.40
600.5	3501.62	1.5	5252.42	4727.18	8508.93
602	3037.86	1.5	4556.80	4101.12	7382.01
Total	**134054.07**	1.5		**180972.99**	**325751.39**

Conceptual Mine Plan and Life of Mine:

A margin of 25% from both banks has been left all along the lease boundary which will help in proper channelization of the river as a statutory condition. No RBM will be collected from the proximity of any bridge/embankment. Collection of sand is restricted up to a maximum depth of 1.5m. River/stream will not be diverted in any case. No mining is proposed during rainy season. A quantity of material about 800m tonnes per day ROM has been proposed to collect during the course of mining. This will be replenished during the next rainy season. Area has sufficient material for the next coming 5 years. The ultimate pit plan is shown in Plate No. 10.

Harish Kainthola
ROP/DDN/141/ 2002-A

Afforestation:

The entire mining lease area being a part of river bed, there is no vegetation in the leased out area. Hence there would be no clearance of existing land and vegetation. Plantation will be done on both side of river bank for stabilising the slope.

Infrastructure:

Track having width 5.0m and gradient varies 1:20 to 1:50 will be made for different working pits and up to sandy soil stack. The entire mining lease area being a part of river bed, there is no buildings in the leased out area. Hence there would be no clearance of existing land.

Backfilling:

The mining will be undertaken on the river bed. The mined out pit will be restored by backfilling of waste material (sandy soil). The final backfilling can be started once the ultimate benches are formed and mineral is completely excavated. However the mined out area will be replenished during the monsoon season and the mineral will be filled back over the mined out pit itself. During extraction of RBM (sand *bajri* & boulder) from Swarna river bed near Abdullapur & Rampur village; sandy clay will also be removed in form of waste materials. The excavated sandy clay will be used for backfilling of the pits. Therefore there is no risk associated with failure of waste dump.

Harish Kainthola
ROP/DON/141/ 2002-A

CHAPTER – 5

USE OF MINERAL

The RBM containing sand *bajri* & boulder is an important material for construction. The RBM will be used in road, bridge and building constructions.

CHAPTER – 6

MINE DRAINAGE

The deposit is situated in the river bed and area has a moderate to heavy rainfall. The maximum highest RL is about603.5 m on the NE part of the area, while the lowest RL recorded on the SW part of the area is about 545m and general slope is towards south-western direction. Provision of garland drainage is given along the lease boundary with proper gradient towards SW direction.

CHAPTER – 7

STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE

The top RBM containing sandy soil will be removed with the help of pickaxe, spade & crowbar and stacked separately. Part of these rejects will be utilized in construction and maintenance of retaining walls.

Harish Kainthola
ROP/DDN/141/ 2002-A

CHAPTER - 8

OTHER

Site Services:

The following site services will be provided:

(i) Office
(ii) Store
(iii) First Aid Centre
(iv) Drinking water shed
(v) Rest shelter

The site services like rest room shelter, first aid box and drinking water facilities will be provided to workers at the mine site.

Employment Potential:

The mine manager should be a graduate engineer holding at least second class manager's certificate.

The category-wise employments are given as below:

Manager/Foreman	:	13
Skilled		
Supervisor	:	15
Time Keeper	:	5
Office Assistant/Dispatch Supervisor	:	5
Un-skilled		
Daily wages/mining workers	:	262
Total	:	**300**

The services of following persons/agencies may be retained on part time basis.

(i) Environment consultancy agency
(ii) Consultant Mining Engineer (Part-time) degree in Mining
(iii) Mining Geologist
(iv) Mines Surveyor

CHAPTER - 9

BENEFICIATION

No beneficiation of mineral processing will required for sand. Hence for no such investigations have been conducted.

Harish Kainthola
RQP/DDN/141/2002-A

CHAPTER - 10

ENVIRONMENT

Land use:

Land degradation and ecological disturbances generally occurs in open cast mining. In preparation of mining plan of River Swarna, for sand *bajri* & boulder mining to M/s Uttarakhand Forest Development Corporation (UKFDC), emphasis on environmental protection has been given to minimize the adverse impact on the present environmental status. Opencast method of mining causes some land degradation and disturbs the ecology of the area. While preparing the Environment Management Plan (EMP) emphasis has been laid on restoring the ecology of the area as much as is possible. Applied area is almost barren but at places covered with thin grasses. This has been made possible by planning the mine workings in the most systematic, safe and scientific manner with due regard to conservation of mineral.

Water regime:

The ground water table in this valley region is at moderate depth below ground surface and hence ground water may not interfere in opencast mining below1.5m depth. The ground water conditions in Doon valley are considerably influenced by the varying lithology of the subsurface formations. The main source of water, which sustains groundwater in the district, is rainfall. Alluvium is the main water bearing formation in the area, which consists of coarse sand, fine sand and silt. Ground water in Doon valley occurs under unconfined, confined and semi-confined conditions. The aquifers are separated with thick clay with considerable thickness, which act as confining layers. The water level data suggests the presence of multilayer aquifer system.

Flora and fauna:

Area supports moderately healthy vegetation. the main forest species are along the Shiwalik foothills. These plains support the species of Sisam, Arjuna, Kanji, Khair, Sagaun, Neem, Eucalyptus, Babul etc. Ground vegetation mainly consists of grasses and small shrubs. Useful fodder grasses, *Cynodon dactylon, Eleusine indica, Trifolium alexandrinum* etc. can be seen growing in the area. The large weeds which infest uncultivated tracts are Aak (*Calotropis procera*), Castor (*Ricinus communis*), Dhatura (*Datura metel*) and thorn (*Opuntia stricta*). Other noxious weeds and these which appear in crops are Pohli or Thistle (*Carthamus oxyacantho*), Shial Kanta (*Argemone Mexicana*), Kandyari (*Solanum xanthocarpum*), Parthenium hysterophorus and Bhang (*Cannabis sativa*).

The core zone of Asan/Tons /Swarna River where mining operation is proposed consists of riparian vegetation in which aquatic and marshland plants are the main component. Most among them are weeds. No ecologically sensitive plant species has been reported from this area. Riparian vegetation is found along the river side. In stagnant water growth of hydrophytes like *Hydrolea zeylanica, Ipomoea aurea, Ludwigia adscendens, Sagittaria sagittifola, Spilanthes paniculata, Typha latifoli*, etc can be commonly observed.

Buffer zone of the applied area is Doon Valley and foothills of Siwalik and tree species observed in the area are. Aam, Jamun, Bail, Bakain, Bargad, Neem, Peepal, Popular, Safeda and Sisam etc.

Shrubs: *Calotropis procera*, with a few *Datura innoxia* and *Ipomoea carnea* etc, occurs in the depressions.

Herbs: Ageratum conyzoides, Amaranthus spinosus, Cannabis savita and Hydrolea zeylanica.

Quality of air, ambient noise level and water:

Mining activities includes excavation and lifting of minerals. The proposed mining activity is manual in nature. No drilling and blasting is envisaged for the mining activity. Hence the only impact anticipated is due to movement of vehicles deployment for transportation of minerals. The location of the monitoring stations will be selected based on predominant wind direction and sensitive locations within the study area.

Water quality:

The surface drainage system in the area is almost seasonal. The flow in the natural drain is observed only immediately after the rainfall and then these nala become entirely dry. Drinking water quality will not deteriorate by mining and allied activities.

Climatic condition:

Rainfall: Doon valley is characterized by humid climate with moderate temperature, rainfall and luxuriant vegetation. The average annual rainfall in the area is 2073.3mm. Maximum rainfall seems during July and August. On an average there are about 48 rainy days in a year.

Temperature: Mean Maximum temperature is 36.2^0C and the mean minimum temperature is 6.1^0C. In association with the cold waves arising in the wake of the western disturbance which travels East wards, the minimum temperature goes down to about 3^0 and at times leads to frosts.

Socio-Economics:

Social and demographic profile:

The scale of operation is medium. It is expected that 90% employment will be local. Therefore there will be positive impact on socio-economic status of people.

Historical monuments etc

There is no historical building in the lease area.

Harish Kainthola
ROP/DDN/141/ 2002-A

Programme of afforestation:

Plantation is proposed along the slope on both bank of the river. Plantation will be carried out on approach roads and nearby vicinity of river bank.

Rehabilitation of extracted land has to be designed skilfully in order to restore it to its formal use, or to an alternative use that is compatible with the surroundings. Plantation with grasses, herbs, shrubs and trees is an important means for restoring such areas.

Stabilizing and re-vegetate the de-vegetated areas viz. debris, dumps and slopes which get degraded due to vehicle movement, rolling stones, etc are important for conservation of soil, regulation of surface and underground water and for rehabilitation of wild life habitat. These generally are extracting operations and need planting in various phases by select species. Protective engineering measures, in conjunction, become necessary.

Top layer of RBM having some sandy soil is considered as an overburden and will be stacked separately and nature of this dump will be temporary. Mining pits will be backfilled from first year onwards in the proposed pit. Soil will be spread over the benches.

Harish Kainthola

CHAPTER - II

CLOSURE PLAN

Mined Out land:

Plantation is proposed along the slope on both bank of the river. The mining will commence from the lower levels and will advance towards higher levels. Intermittent backfilling will commence from the lower levels and subsequently advance, towards the higher elevations. The year wise proposal for reclamation is shown in Plate No. - 4 to 8.

Water Quality Management:

The mineral as well as soil are non-toxic and mining is also proposed at medium to small scale. Hence no proposal has been provided for the surface and ground water bodies. The expected depth of water table in applied area likely to be more than the exploitation depth.

Air Quality Management:

The lease area is situated in the river bed. The manual mining without drilling and blasting has been proposed. Therefore the impact on air environment will be negligible. Mining and allied activities are going on a comparatively small scale; the existing air is absolutely clean.

Waste Management:

The RBM containing sandy soil will be stacked separately and these dumps are temporary in nature. The dumping will be undertaken manually. The toe wall having width 1.5m and height 1.0m will be made along the side and slope of the soil and width & height 1.5m each retaining wall for protecting RBM dump to avoid the wash off material during intermittent rains.

Infrastructure:

In river bed RBM (sand *bajri* & boulder) is excavated by manual open cast mining method. No mechanization is required. The tracks having width of 3.0m and gradient 1:20 to 1:50 will be made for the advancement of mining faces and for the transportation of RBM and waste material. There will not be any changed in existing infrastructure.

Disposal of Mining Machinery:

The RBM (sand *bajri* & boulder) mine is manual open cast. Hence, disposal of mining machineries are not required.

Safety and Security:

Each worker employed in the mine will be provided helmets and shoes. Safety belts will be used for working in the top of the benches. Protective works like parapet walls, garland drains shall be provided before the mine/pit is abandoned.

Harish Kainthola
ROP/DDN/141/ 2002-A

A worker in a mine should be able to work under adequately safe and healthy condition. Safety of the mine and the employees is taken care of by the Mining Rules & Regulations. The minerals will be mined out in a uniform wash so that the river flow/course shall not get disturbed. Mining is to be done leaving safety barrier on both sides and maximum barrier should be on concave side of the river, preferably the flow channel (excavation void) created should be kept straight so as to help avoid erosion. River banks will not be excavated to form access ramps. Only excavated river gravel should be used to deposit against the river bank to form access ramps.

Disaster management and risk assessment:

The possible risks in the case of river bed mining project are bank erosion, floods, accidents due to transportation etc. At present the mining is proposed in a mild sloping forest (*Be nap)* land in river bed. Pits will be created of limited depth of 1.5 m only, thus the chance of failure of pit slope does not exist.

When the mining will reach up to the optimum economical depth then backfilling will commence to restore the topography of the area. The mining faces shall be dressed properly because any hanging boulders/loose material may create fatal accidents to the labourers while working in the pit. The mine shall be critically examined for its proneness to any natural hazard and assessment regarding danger of hazard and precautions to be taken and should be reviewed so that chances of slope failures will be minimized.

CHAPTER - 12

CONCLUSION

This applied area is suitable for producing material for making road, bridge, buildings and other constructional work. This is a part of Govt. of India's policy to develop maximum infrastructure facility in India. This making of road or bridge will generate direct & indirect employment to the local people. Uttaranchand Forest Development Corporation (UKFDC) will undertake mining activity as per the plan indicated in the above chapters with proper taking care of environmental aspects i.e. without disturbing the ambient condition. Pits will be created of limited depth of 1.5 m only, thus the chance of failure of pit slope seems to be least. The proposed river bed mining is unlikely to change any characteristic of the river bed as the permitted mining volume is based upon annual replenishment.

Harish Kainthola
ROP/DDN/141/2002-A

Annexure - 1

कार्यालय [illegible]

[illegible] उत्तराखण्ड [illegible] देहरादून

संख्या [illegible] / 2012-13, दिनांक 23 जनवरी, 2013

कार्यालय ज्ञाप

आशय पत्र (Letter of Intent)

[illegible] के अन्तर्गत [illegible] उत्तराखण्ड [illegible] 2001 [illegible] 05 वर्ष हेतु [illegible] प्रबन्ध निदेशक, [illegible] आशय पत्र (Letter of Intent) [illegible] प्रबन्ध निदेशक, [illegible] देहरादून [illegible] 02 [illegible] जनपद [illegible] स्वीकृति [illegible]

[illegible]:

क्र0सं0	नदी का नाम	जनपद का नाम	क्षेत्रफल (है0)
1.	[illegible]	देहरादून	42.00
2.	[illegible]		35.00
3.	यमुना नदी किनारा [illegible]		70.30
4.	यमुना नदी किनारा [illegible] कुल्हाल		32.00
5.	[illegible]		30.00
6.	[illegible]		26.11
7.	[illegible]		31.75
8.	[illegible]		21.75
9.	[illegible]		20.00
10.	[illegible]		30.00
11.	[illegible]		30.00
12.	[illegible]		9.00
13.	[illegible]		15.00
14.	[illegible] + [illegible]		6.00
15.	[illegible]		30.00
16.	[illegible]		30.00
17.	[illegible]		16.00
18.	[illegible]		21.00

23-01-2013

19	[illegible]		[illegible]
20	[illegible]	[illegible]	10.00
21	[illegible] नदी		7.00
22	[illegible] नदी	[illegible]	40.00
23	[illegible] नदी		73.00
24	[illegible]		5[illegible]
25	[illegible]		5[illegible]
26	[illegible]	[illegible]	246.[illegible]
27	[illegible] नदी		30.[illegible]
28	[illegible] नदी		15.00
29	[illegible]		155.[illegible]
30	[illegible]		170.00
31	[illegible]	[illegible]	65.00
32	[illegible]		135.[illegible]
33	[illegible] नदी	[illegible]	[illegible]
34	[illegible]	[illegible]	[illegible]
35	[illegible]		15.4[illegible]
	योग		2[illegible]

3. [illegible] Notification, 2006 [illegible]

भवदीय,

([illegible])
निदेशक

पृष्ठांकन संख्या [illegible]

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :

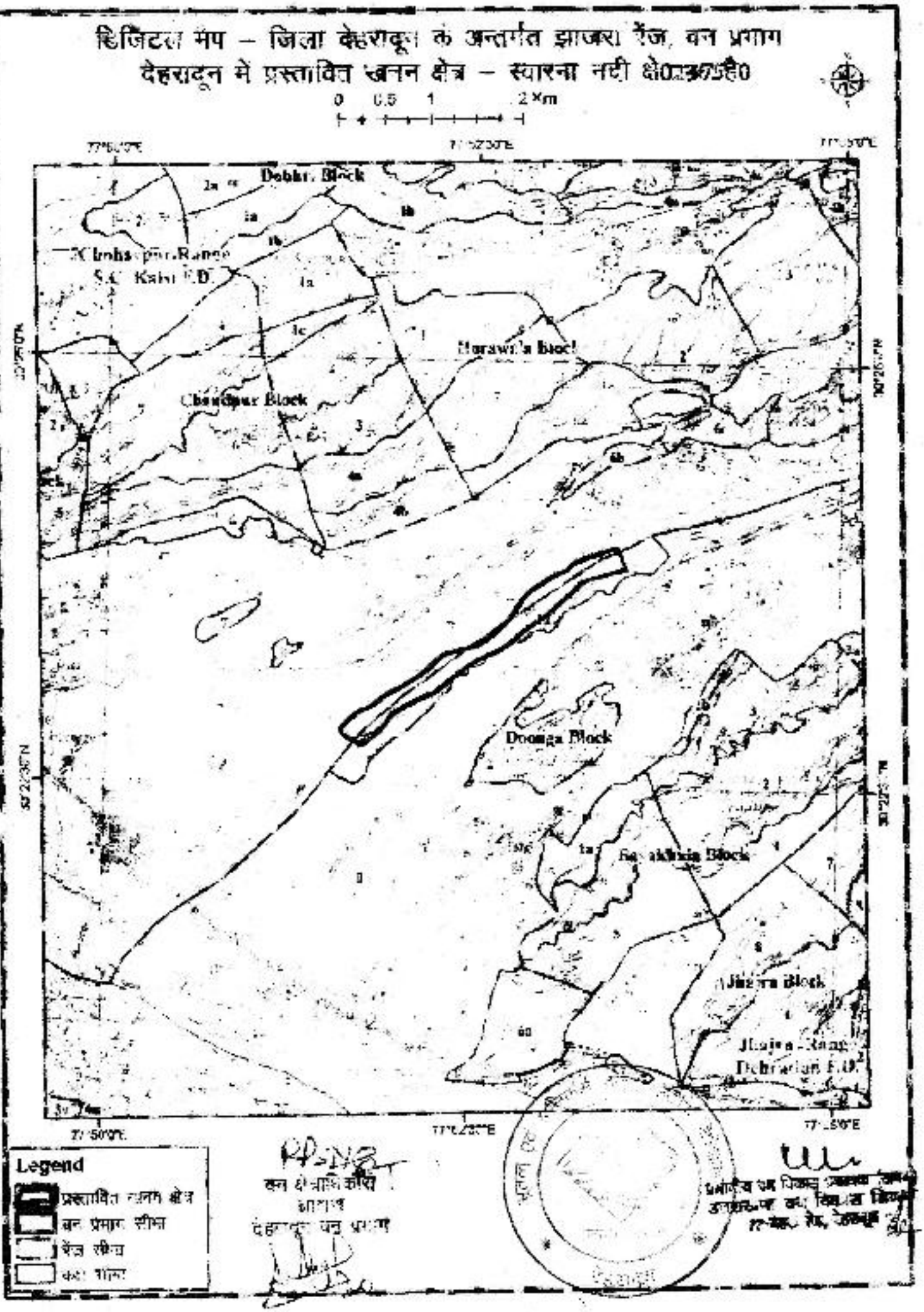
1. [illegible]
2. [illegible]
3. [illegible] Notification, 2006 [illegible]
4. [illegible]

([illegible])
निदेशक

देहरादून

Annexure-2

डिजिटल मैप – जिला देहरादून के अन्तर्गत झाजरा रेंज, वन प्रभाग देहरादून में प्रस्तावित खनन क्षेत्र – स्यारना नदी क्षे0फ0 75है0



वन क्षेत्राधिकारी
झाजरा
देहरादून वन प्रभाग

Annexure-3

संयुक्त निरीक्षण आख्या

भारत सरकार से अनुमति प्राप्त करने के लिये देहरादून वन प्रभाग की स्वारना नदी, झाझरा (आरक्षित वन क्षेत्र) से उपखनिज चुगान हेतु संयुक्त निरीक्षण आख्या।

प्रभागीय वनाधिकारी, देहरादून वन प्रभाग की पत्र संख्या [illegible] दिनांक [illegible] के क्रम में निर्धारित तिथि दिनांक ..... से ..... तक देहरादून वन प्रभाग की झाझरा रेंज की स्वारना नदी का संयुक्त निरीक्षण उप प्रभागीय वनाधिकारी, देहरादून, प्रभागीय वन विकास प्रबन्धक, खनन देहरादून, तहसीलदार, विकासनगर व एस0 डी0 जिलाधिकारी, विकासनगर द्वारा किया गया।

निरीक्षण के दौरान उक्त क्षेत्र में उपखनिज (रेता, बजरी पत्थर, [illegible]) मिलीजुली अवस्था में विद्यमान है। जिसका वर्तमान में चुगान/खनन कार्य शासन सरकार द्वारा दिये गये निर्देशों के अनुसार किया जाता है। वर्षाकाल में स्वारना नदी से आस पास में उपखनिज (रेता, बजरी, पत्थर) एकत्र होने से पानी का बहाव मुख्य धारा में न होकर नदी के दोनों तटों पर कटाव कर रहा है। जिससे स्वारना नदी से सटे गाँव को आबादी प्रभावित हो रही है व स्वारना नदी, झाझरा वन क्षरण हो रहा है, स्वारना नदी, झाझरा से उपखनिज चुगान कार्य में बड़ी संख्या में श्रमिक कार्य करेंगे और इससे रोजगार का सृजन होगा यदि खनन् चुगान नहीं किया जाता है तो इस क्षेत्र मे रोजगार का प्रश्न खड़ा हो जायेगा। साथ ही स्थानीय आपूर्ति सस्ता, नियमानुसार दर से होगी। इससे नदियों में अन्य मलबे के चुगान से नदियों की अविरलता प्रभावित नहीं होगी।

उपरोक्त नदी से उपखनिज चुगान कार्य उत्तराखण्ड राज्य के हित में है। इससे राज्य को भारी राजस्व की प्राप्ति होगी।

अतः संयुक्त निरीक्षण के दौरान संयुक्त रूप से यह निर्णय लिया गया है कि स्वारना नदी, झाझरा क्षेत्र से 23.75 है0 क्षेत्र में उपखनिज चुगान की अनुमति हेतु भारत सरकार को प्रस्ताव प्रस्तुत किया जा सकता है।

उपरोक्त 23.75 है0 में उपखनिज चुगान की अनुमति भारत सरकार द्वारा दिये जाने की दशा में नियमानुसार चुगान कार्य किये जाने पर पर्यावरण की दृष्टिकोण से [illegible] विपरीत प्रभाव पड़ने की सम्भावना प्रतीत नहीं होती है।

चुगान कार्य हेतु वन संरक्षण अधिनियम 1980 की धारा–2 एवं EIA Act 2006 के प्रावेधानों के अनुरूप भारत सरकार से अनुमति प्राप्त किये जाने की संस्तुति की जाती है।

प्रभागीय वन विकास प्रबन्धक उत्तराखण्ड वन विकास निगम देहरादून	उप प्रभागीय वनाधिकारी देहरादून वन प्रभाग देहरादून	तहसीलदार एवं एस0 डी0 जिलाधिकारी विकासनगर विकासनगर

[illegible]

Annexure-3

जनपद देहरादून स्वारना नदी, झाझरा में उपलब्ध उपखनिज के खनन के सम्बन्ध में भूगर्भीय/तकनीकी आख्या।

कार्यालय प्रभागीय वन विकास प्रबन्धक (खनन), देहरादून के पत्रांक 375/दि0 10.07.2013 के कम में जनपद देहरादून के स्वारना नदी, झाझरा उपखनिज युक्त क्षेत्र का निरीक्षण दि0 01-08-13 को श्री आर0एस0कण्डेरी, प्रभागीय वन विकास प्रबन्धक एवं श्री शेर सिंह, उप खनिज अधिकारी, अवन प्रभाग, देहरादून की उपस्थिति में उपलब्ध कराये गये मानचित्रानुसार विभागीय सर्वेक्षण के सहयोग से किया गया। क्षेत्र की भूगर्भीय/तकनीकी आख्या निम्नवत् है:-

उक्त प्रस्तावित क्षेत्र देहरादून से 18 कि0मी0 दूरी पर देहरादून सकरौता मार्ग के उत्तर दिशा में 8 कि0मी0 दूरी पर सेलाकुई–भानियावाला मार्ग पर रानी पुल से उत्तर दिशा में है, प्रस्तावित क्षेत्र स्वरना नदी, झाझरा के पूर्व दिशा एवं पश्चिम दिशा में आरक्षित वन क्षेत्र है, इस क्षेत्र में उपखनिज रेत, बजरी पत्थर, रोड़ी–गिट्टी अवस्था में है जिसका खनन किया जा सकता है। इस क्षेत्र में उपखनिज का अनुमानित अनुपात लगभग 1:3:3 है। यह उपखनिज विभिन्न निर्माण कार्यों में प्रयोग किया जा सकता है। इस क्षेत्र के मध्य भाग से खनन करते हुए प्रतिवर्ष लगभग 1.20 लाख घन मी0 उपखनिज निकाला जा सकता है। उपखनिज निकाले जाने से स्वारना नदी झाझरा द्वारा किनारों पर किये जा रहे कटाव को कम किया जा सकता है।

सुव्यवस्थित खनन कार्य किये जाने से भूगर्भीय/तकनीकी दृष्टिकोण से प्रभाव पड़ने की सम्भावना प्रतीत नहीं होती है। विगत वर्षों में इस क्षेत्र में खनन अनुमति प्राप्त नहीं हुई है। खनन अनुमति प्राप्त होने पर राजस्व प्राप्ति की जा सकती है। क्षेत्र में उपखनिज की उपलब्धता को दृष्टि गोचर रखते हुए नियमानुसार प्रस्ताव तैयार किये जाने से सम्बन्धी आवश्यक कार्यवाही करना चाहें।

(शेर सिंह)
उप खनिज अधिकारी
अवनविकासनिगम, देहरादून

(आर0एस0कण्डेरी)
प्रभागीय वन विकास प्रबन्धक (खनन)
अवन विकास निगम, देहरादून

(राजेन्द्र प्रसाद शुक्ला)
भू वैज्ञानिक
भूतत्व एवं खनिकर्म इकाई
जिला टास्क फोर्स, देहरादून

देहरादून

Annexure-4

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TO PREPARE MINING PLANS

(Under Rule 22 (c) of Mineral Concession Rules 1960)

Shri HARISH KAINTHOLA resident of 57, ANARWALA, DEHRADUN, UA, son of SHRI MADAN MOHAN SHARMA, having given satisfactory evidence of his qualifications and experience is hereby granted recognition under Rule 22 (c) of the Mineral Concession Rules, 1960 as a Qualified Person to prepare Mining Plans.

His registration number is RQP/DDN/141/2002-A

This recognition is valid for a period of five years ending 16.1.2012

Place: Dehradun

Date : 17.1.2002

Regional Controller of Mines
Indian Bureau of Mines

दि. 10.05.2012 से पाँच से नवीनीकृत

श्री [illegible]
[illegible]
[illegible]
[illegible] ([illegible]) ।

खान नियंत्रक ([illegible])
Controller of Mines [illegible]
भारतीय खान ब्यूरो
Indian Bureau of Mines

16 जनवरी 2017 तक के लिए नवीनीकृत
Renewed up to 16th January 2017

खान नियंत्रक (उत्तर)
Controller of Mines (North)
भारतीय खान ब्यूरो
Indian Bureau of Mines

Annexure-5

AUTHORISATION LETTER

M/s Uttarakhand Forest Development Corporation (UKFDC) has made an agreement regarding the preparation of mining plan of 21 lots at different districts in Uttarakhand with M/s *KainGeotech* (Prop. Shri Harish Kainthola, RQP) and here by authorize M/s *KainGeotech*- Prop. Shri Harish Kainthola, (RQP/DDN/141/2002-A) to prepare the Mining Plan in respect of Swarna river in Jhajra Forest Range, over an area of 23.75 ha. for minor mineral, falls under forest land near village Abdullapur & Rampur, Tehsil-Vikasnagar, Distt. – Dehradun (Uttarakhand).

UKFDC request the Director, Geology and Mining Unit, Directorate of Industry, Govt. of Uttarakhand, Dehradun to make further correspondence regarding modification and collection of the aforesaid Mining Plan with the said recognized person on his following address.

Name of RQP : Shri Harish Kainthola C/o M/s *KainGeotech*
Registration No. : RQP/DDN/141/2002-A
Validity : (Valid upto 16th Jan, 2017)

Address of RQP

Lane No. 8,
Indraprastha, Upper Nathanpur,
Ring road, P.O. Nehrugram- 248008,
Dehra Dun (Uttarakhand)
Telephone: 09412028745(Office),
8410411206 (Cell)
E- mail: hkainthola@gmail.com

प्रभागीय वन विकास पदाधिकारी
उत्तराखण्ड वन विकास निगम
आवास प्रकोष्ठ, देहरादून

LEGEND

- INTERNATIONAL BOUNDARY
- STATE BOUNDARY
- DISTRICT BOUNDARY
- DISTRICT HEAD QUATER
- RAILWAY LINE
- RIVER
- ROAD
- FOOT TRACK
- LEASE AREA

PLATE - 1

LOCATION PLAN

(IN SWARNA NADI (RIVER), JHAJRA RANGE AREA [illegible] ha.)
DEHRADUN FOREST DIVISION
NEAR VILLAGE - SUDHOWALA, KANDHAULI
TEHSIL - VIKASNAGAR, DISTT.- DEHRADUN (UK)

M/s UTTARAKHAND FOREST DEVELOPMENT CORPORATION
ARANYA VIKAS BHAWAN, 73 NEHRU ROAD, DEHRADUN

PREPARED BY: SATYAPRAKASH
CHECKED BY: HARISH KAINTHOLA

SCALE 1: [illegible]

KaleGeotech
LANE NO. 8, [illegible], UPPER
NATHANPUR, RING ROAD
DEHRADUN-248008 (UTTARAKHAND)

Certified that Plan is correct to the best of my knowledge & belief.

Harish Kainthola
ROP/DDN/141/ 2002-A