

**Dholpani Sand, Gravel & Boulder quarry in the village of Ultapani Forest Revenue Village,
P.O Ultapani, of kokrajhar District in the state of Assam of Sri Swgwmsar Machahary**

ENVIRONMENTAL MANAGEMENT PLAN
OF
EXTRACTION OF SAND, GRAVEL & BOULDER
From
DHOLPANI R.F. MOHAL

**Village – Ultapani Forest Revenue village, PO: Ultapani, P.S Bishmuri
out post, District: Kokrajhar, State: Assam.**

**RF :- Chirang Reserved Forest, FOREST RANGE: Ultapani Range,
FOREST DIVISION: Haltugaon Forest Division.**

**Maximum Production Capacity – 1800 Cu. M per year of Sand,
2356 Cu. M per year of Gravel and 5860 Cu. M per year of Boulder.**

**Mahal Area 5.0 ha
Road Area: 1.9 Ha**

Screening Category – ‘B2’

Financial Year – 5 Years

LESSEE

Sri Swgwmsar Machahary

Village: Katholguri Gaon, P.O. Haluadol

Kokrajhar, BTAD, State: Assam

PREPARED BY
ENVIRONMENT CONSULTANT
Atmos Sustainable Solutions Pvt. Ltd.
(Certificate No. - NABET/ EIA/2023/IA0063)
Validity: 08/09/2023.



EXECUTIVE SUMMARY

Mr. Sri Swgwmsar Machahary, Resident of Katholguri Gaon has granted the mining lease of 5 Ha. village Ultapani Forest Revenue Village, PO Ultapani, PS Bishmuri Outpost, Kokrajhar, BTAD in the state of Assam. The mining Plan has been approved by Senior Geologist, Directorate of Geology and mining; Government of Assam vide Notice No. GM/MM/86-B (40)/Pt. II/657-61 dated 29/07/2020

The entire project area is in Dholpani river bed measuring 5.0 Ha located near Utapani Forest Revenue Village, under Ultapani Forest Range of Haltugaon Forest Division, Kokrajhar, District: Kokrajhar, BTAD, Assam.

Application for Environmental Clearance

This application is submitted in the prescribed format, Form-I along with the EMP and approved mining plan, for obtaining Environmental Clearance from MoEF&CC for the Sand, Gravel & Boulder quarrying project under Category B2.

Method of Mining and Production Quantity proposed

The quarrying will be carried out by Opencast Manual method with some machines and hand tools as per the approved Mining Plan

The average annual production is 10016 Cu.M of sand, gravel and boulder per year.

Area for Dump Management

No Waste is generated hence no Dump management is proposed

Water Requirement & Source

The Total Water requirement of the project is 3 KLD and same will be procured from nearby village.

Nearest Habitation

The Nearest village from the proposed mine is Ultapani, at a distance of 8.0 KM in the South west direction of the site. International boundary (India-Bhutan) is 1.4 kms in NW.

Estimated capital cost of the project

The estimated project cost is Rs. 135 Lakhs and budget of Rs.1.59 Lakhs is earmarked for implementation of environmental Safeguards.

Chapter-I

Introduction

1.0 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

1.1 Identification of Project and Project Proponent

Project Details

Sri Swgwsar Machahary, resident of village Katholguri Gaon, PO Haluadol, Dist. Kokrajhar, BTAD, in the state of Assam is intended to open a Sand, Gravel and Boulder quarry in the Bed of Dholpani River near in Ultapani Forest Revenue Village, P.O Ultapani, of kokrajhar District in the state of Assam. Mining lease was granted by Directorate of Geology and mining, Assam, Kahilipara, Guwahati-19 vide Notice No. GM/MM/86-B (40)/Pt. II/657-61 dated 29/07/2020

The salient features of the project are given in the table below

Table 1.1: Salient Features of the Project

S.No	Particulars	Details
1	Name of the Project	Dholpani Sand, Gravel & Boulder quarry
2	Nature	Quarrying of Construction Sand,Gravel and Boulder
	Size of the Project	Mahal Area 5.0 Ha & Road Area 1.90 Ha
	Type of Land	Forest Land
3	Method of mining	Open cast manual method with machines and hand tools
4	Production	10016 Cu.M of sand, gravel and boulder per year
5	Appraisal Category	B2 Category
6	Location Details	
	Survey/ Compartment No	Forest Land (Unsurveyed)
	Forest	Chirang RF
	Range	Ultapani Range
	Forest Division	Haltugaon Forest Division
	Village	Ultapani Forest Revenue Village
	PO	Ultapani
	PS	Bishmuri Outpost
	District	Kokrajhar, BTAD
	State	Assam
	Latitude & Longitude	Mahal Area (5.0 Ha) 26°51 24.60"N 90°20'23.60'E 26°51 26.30"N 90°20'31.10"E 26 51 19.30"N 90°20'33.80'E 2651 17.50"N 90°20'25.90"E Road Area (1.90 Ha) 26°47 43.86"N 90°18'32.49 E 26 48' 46.45N 90°19'26.12"E 26 50'18.50 N 90°20'12.52"E 26°50'35.42"N 90°20'30.80"E
	Topo sheet No.	78 J/5
7	Government Orders	

**Dholpani Sand, Gravel & Boulder quarry in the village of Ultapani Forest Revenue Village,
P.O Ultapani, of kokrajhar District in the state of Assam of Sri Swgwmsar Machahary**

S.No	Particulars	Details
	Applied for grant of Quarry Lease to Joint Directorate of Geology & Mining, Assam	Letter No. FG.27/Nodal/Khalasi&Dholpani RF Mohal/Haltuga on Dated 17.06.2020 of Chief Conservator of Forest
	Mine Plan Approval by Joint Directorate of Geology & Mining, Assam	Vide Letter no. GM/MM/86-B (40)/Pt. II/657-61 dated 29/07/2020
8	Environmental Setting	
	Nearest village	Ultapani
	Nearest Town	Kokrajhar
	Nearest Railway Station	Kokrajhar
	Nearest Highway	NH 31
	Nearest Airport	LGBI Airport
	Water Bodies	Dholpani River
	Reserve Forests	Chirang RF
	Historical/Important places	Non in the study area
9	Resource Requirement	
	Water requirement	3 KLD
	Manpower Requirement	10
10	Project cost	135 Lakhs
11	EMP Budget	1.59 Lakhs
12	Appraisal category	B2 category
13	Other mines within 500 mts.	Non

1.2 Project Proponent:

Sri Swgwmsar Machahary R/o Katholguri Gaon, PO Haluadol i, Dist. Kokrajhar, BTAD in the state of Assam is Owner of the quarry.

1.3 Brief History of the Project and Applicability of EIA Notification

Sri Swgwmsar Machahary R/o Katholguri Gaon was applied for grant of Quarry Lease for quarrying of Sand, Gravel and Boulders in the river bed of Dholpani River village of Ultapani Forest Revenue Village, Chirang RF, Ultapani Range, Haltugaon Forest Division of Kokrajhar BTAD, District in the state of Assam has applied for grant of quarry lease for Mining of Sand , Gravel and Boulders for use of construction material over an extent of 5 Ha.

The mining plan for a period of 5 years has been granted by director Joint Director, Directorate of Geology & Mining, Assam has granted the mining lease vide letter no GM/MM/86-B (40)/Pt. II/657-61 dated 29/07/2020.

1.4 Applicability of Environmental Clearance details.

As per EIA Notification dated 14th Sep, 2006 and its subsequent amendments thereof, Environmental Clearance is required for all new mining projects. Environmental Management Plan is prepared as per EIA notification 2006 & its amendments thereof and will be submitted to State Level Environmental Impact Assessment Authority / State Expert Appraisal committee along with the quarry plan for obtaining Environmental Clearance.

Clearance Requirements

The project would need the following clearances:

- Environmental Clearance from the Ministry of Environment and Forests, Government India under EP Act.
- Consents under Water and Air Acts from Telangana State Pollution Control Board.

1.5 Need for the Project & its Importance to the Country/ Region

Sand, Gravel and Boulders has a good demand in Kokrajhar and adjoining areas and this Sand, Gravel and Boulders will meet up the requirement of such stone products for some extent.

**Dholpani Sand, Gravel & Boulder quarry in the village of Ultapani Forest Revenue Village,
P.O Ultapani, of kokrajhar District in the state of Assam of Sri Swgwsar Machahary**

**Figure 1
Location Map**

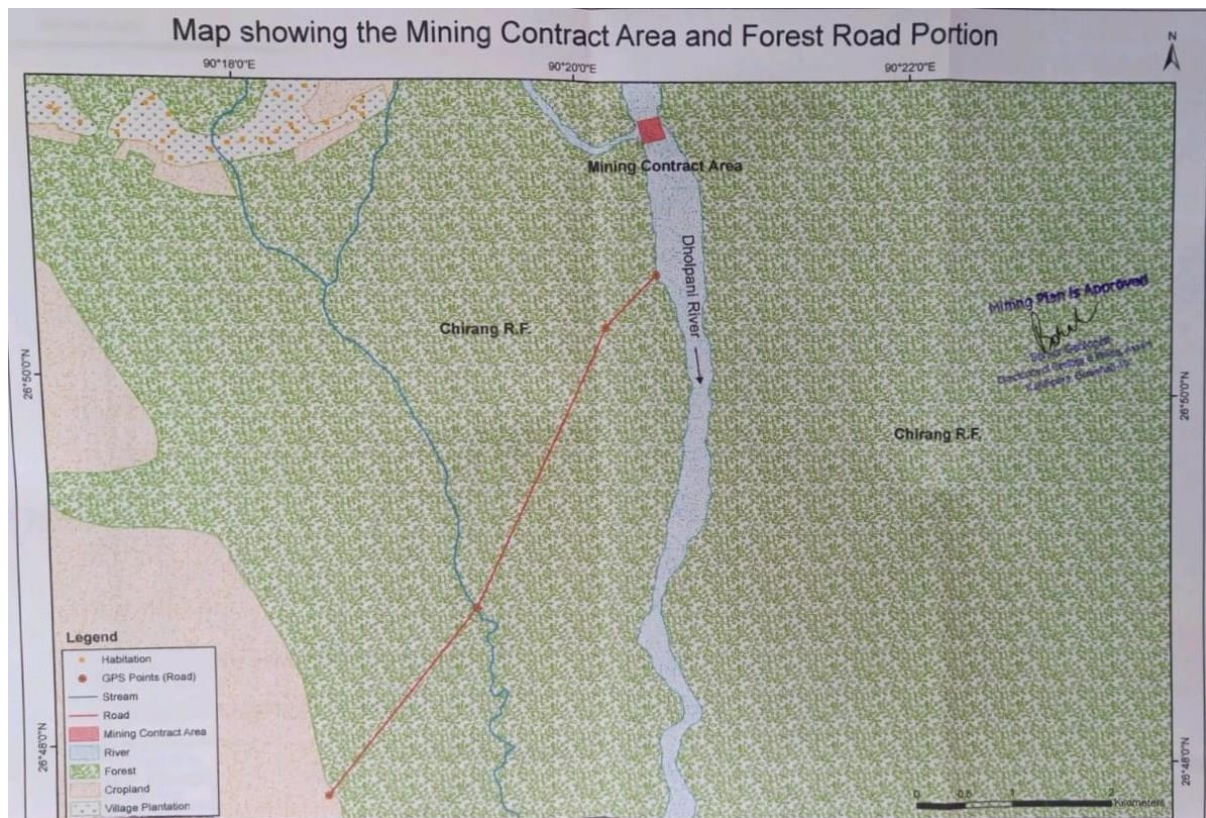


Figure 2

Prepared By Atmos Sustainable Solutions Pvt. Ltd.

**Dholpani Sand, Gravel & Boulder quarry in the village of Ultapani Forest Revenue Village,
P.O Ultapani, of kokrajhar District in the state of Assam of Sri Swgmsar Machahary**

Topographical Map



Chapter 2

Project Description

2.0 Topography

The proposed quarry lease area comes under Ultapani Range of Haltugaon Forest Division. The topography of the area is flat with deposit of gravel and boulder deposit. Mining of the mineral will be carried out to the depth of 3.0m from the surface. The proposed area is devoid of river bed.

2.1.1 General geology of the area:

The area proposed by the Divisional Forest Officer of Haltugaon Forest Division, Kokrajhar, District. The geology of the mining area is predominantly sand, gravel and boulder used for civil construction material and road metal.

2.1.2 Reserves & Mineable Reserves:

The calculated mineral reserves of the Permit area to be available for extraction are as stated below:

The area of the Permit site 5.0 Hectares

The Mineable area = 5.0 Hectares = 50000 Sq. M

The maximum depth allowed for extraction of the mineral = 3M

So the total reserve of the minerals available would be = $50000 \times 3 = 150000$ Cu M

The above quantity may be termed as 'Inferred Reserve' of the mineral and the actual mineral reserve will be less than the inferred reserve as a considerable volume of the minerals will have to be left unmined for preparation of the benches/ steps as per opencast mining practice.

Table No 2.2: Details of Year wise Production

Year	Year wise production of Sand in Cum.	Year wise production of Gravel in Cum.	Year Wise production of Boulder in Cum.
1 st Year	1800	2356	5860
2 nd Year	1800	2356	5860
3 rd year	1800	2356	5860
4 th year	1800	2356	5860
5 th year	1800	2356	5860
Total	9000	11780	29300

2.2 Method of Mining:

The proposed mining is to extract sand, gravel and boulder from the Dholpani river bed, which is a perennial river. The mineral from the mining area is extracted by manual opencast method of mining.

1. The entire boundary of the Mining Contract area will be marked with boundary lines and pillars in all the corner points. The boundary pillars are to be numbered and marked with GPS coordinate there on. Extraction of sand, gravel and boulder and gravel is to be carried out with a bench height of 0.5 metre to 1.0 metre for the whole area. Use of explosives for mining is not required.
2. The sand, gravel and boulder extracted and stacked by the Mining Contract Holder will not exceed twice the average monthly production.
3. The extraction of sand, gravel and boulder will be restricted within the central 3/4th width of the river. The average mineable width of the Permit area is to be kept at 240 metres out of the average width of the rivers being 320 metres.
4. The depth of the river bed mining will not in any way exceed 3 metres at any point in the Permit area from the top of the unmined river bed

2.2.1 Solid Waste Generation:

The proposed mining lease is within the river bed and extraction of sand gravel and boulders which is used 100% in the civil construction works and Road metal. And hence no solid waste is generation and stacking are observed.

2.2.2 Water Requirement

The total water requirement for domestic and dust suppression will be around 6 KLD which will be sourced through tankers from the nearby villages. Details are given in the able below.

Table 3: Details of Water Requirement

Description	Total Requirement (KLD)
Dust Suppression along the haul road	2.0
Green Belt development	2.0
Domestic Usage	2.0
Total	6.0

2.2.3 Manpower Requirement

The man power of around 10 people will be employed in the quarry for various activities and they will be hired from the nearby villages.

Table 4: Details of Man Power Requirement

S.No	Category	No. of Persons
1	Mine manager	1
2	Mining Supervisor	1
3	Office Staff	2
5	Unskilled work force	6

2.2.4 Site Services

Necessary and basic infrastructure will be created for the manpower after the commencement of quarrying operations like quarry office, rest shelter, first aid room, drinking water facility, mobile toilets, etc. at the quarry site.

Chapter3

Environment management Plan

3.1 Introduction

Environmental Management Measures specific to the above subject mine area detailed under the following heads

1. Air Environment
2. Noise Environment
3. Water Environment
4. Land Environment
5. Socio Welfare Measures
6. Occupation Safety and Health Measures
7. Budget for Environmental Protection/Management Measures

3.2 Air Environment

a)Source of Air Pollution

Quarrying of Sand, Gravel and Boulder involves excavation, loading and transportation to the local market. The above activity invariably generates dust/ particulate matter/ fugitive dust, etc. and the more common pollutants in air are particulate matter (PM10), SO2 and NOx. The major identified sources of emissions during quarrying activity are.

- Excavation
- Loading and Transportation

b)Air Pollution control Measures

The measures proposed for implementation are listed below

- Water sprinkling will be done for dust suppression using Water Tankers on and haul roads.
- Dust masks will be provided for the workers based on area of working.
- Plantation will be carried out along the mine boundary from the first year of the plan period.
- Mined material shall be covered with tarpaulin to prevent dust pollution during transportation.

3.3 Noise Environment

a) Source of Noise

Noise produced from quarrying operations is not continuous. The levels of noise are different based on the activity workers are exposed to. Identified sources of noise from the quarry are listed below:

Source of Noise:

- Due to Vehicular movement

The quarry operations will be carried out for one shift.

b) Noise protection Measures

Development of greenbelt in the periphery of mine which will act as barrier between core and buffer zones. Regular maintenance and lubrication of machinery will be carried out.

c) Safety Measures:

- ❖ Mineral will be mined out in central position of stream and sufficient safety barrier say 10% of width will be left towards bank side. So that the river flow/course will not get disturbed.
- ❖ Mining of minerals will be started from dip side towards rise at the centre and also laterally in 1 meter slice so that the river course will not get affected.
- ❖ Unwanted material or spillage (if any) will not be stacked by the side of the excavation voids created. This is to be done so, because it will otherwise hinder the flow of water in monsoon season.
- ❖ Mining is to be done leaving safety barrier on both sides and maximum barrier should be on concave side of river preferably the flow channel (excavation void created) should be kept straight so as to help avoid erosion as side cutting.
- ❖

3.4 Water Environment

a) Source of Water pollution

The main sources of water pollution will be from the domestic consumption, siltation from dump yard and quarrying activities will not encounter the ground water table. Water quality of river shall not be polluted in any way during operation and transportation.

Water Consumption

Water consumption in the quarry is estimated to be 3 KLD. Water will be sourced through tankers from local villages.

b) Water Pollution Control Measures

The domestic wastewater generated from the quarry will be sent to the septic tank followed by soak pit. The depth of ground water table is 10-20 m bgl and the proposed quarrying activities will not obstruct the ground water table during this plan period.

3.5 Land Environment

a) Areas Considered

The identified aspects which can cause impact due to quarrying operations are listed below.

- Land use
- Transportation
- Greenbelt

Land Use:

The quarry lease area is river bed. The excavated material will be replenished again during the monsoon.

Solid Waste Generation

No solid Waste Generation is anticipated during the processes of mining.

Transportation

Approximately 50 Cum of the mineral is excavated per day and will be transported by 10 No. Trucks/ Dumpers of 5 Cum Capacity. All the Trucks/ Dumpers used for transportation of minerals will have Pollution Under Control (PUC) Certificate.

Greenbelt Development

Approximately 20 trees of native species will be planted per year along the haul road during the plan period.

b) Land Management Measures

Reclamation of mined out area and conceptual plan

No top soil reclamation is anticipated as the mining is carried out in the river bed and the replenishment of the excavated area will be done by natural process.

c) Social Welfare Measures

The mine will provide employment to 10 persons and equal number of persons will be employed indirectly for transportation and other activities. Local persons will be given preference. The manpower details of the quarry are given in

Table 3.2: Manpower

S.No	Category	No. of Persons
1	Mine manager	1
2	Mining Supervisor	1
3	Office Staff	2
4	Un Skilled Man force	6

d) Occupational Health Measures

Fugitive dust, noise and fines may affect the health of workers. Safety of employee during operation will be taken care as per Mine Regulations Act, 1961. To avoid any adverse effects on the health of workers due to dust and noise. The following measures will be implemented.

- ❖ Provision of rest shelters for mine workers with amenities like drinking water, fans, toilets etc.
- ❖ Dust suppression of haul road.
- ❖ First – Aid facilities within lease area.
- ❖ Regular medical examination for the employees.

e) Budget for Environment Management Plan

Total cost for the proposed project is Rs.135 lakhs. Budget allocated for EMP is Rs. 1.59 lakhs (Capital Cost), Rs. 1.29 lakhs (Recurring Cost). Details are given in Table below.

Table 3.3: Budget for Environmental Management Plan (Rs)

S.No	Work name	Annual in INR	Recurring in INR
1	PPE	9000	9000
4	Water Sprinkling	50000	20000
5	Green Belt development	20000	20000
6	Medical Camp	10000	10000
7	Environmental Monitoring	50000	50000
8	Social Welfare Measures	20000	20000
	Total	1,59,000	1,29,000

Chapter 4

Environmental Monitoring

4.0 Introduction

Environmental monitoring program includes periodic analysis of Air, Ground Water, Soil and Water quality from water bodies.

4.1 Monitoring Strategy

The monitoring of various environmental parameters is necessary and is a part and parcel of the environmental protection measures. Locations and frequency of monitoring should be as per the guidelines of Assam State Pollution Control Board. Details are given in Table below.



Table 4.1: Environmental Monitoring Plan

S.No	Potential impact	Action to be Followed	Parameters for Monitoring	Frequency of Monitoring	Location
1	Air Emissions	Ambient air quality within the premises of the Mine Lease Area and nearby habitations to be monitored.	PM10, PM2.5, SO2, NOx and CO.	Periodic during operation phase As per CPCB/ ASPCB guidelines	Four Locations
2	Noise	Noise generated from various quarrying activities	Spot Noise Level recording	Periodic during operation phase	Five Locations
3	Water & Waste Water Quality	Sampling & Analysis of Waste Water	As per CPCB Guidelines	Periodic during operation phase	Two Locations
4	Soil Quality	Sampling & Analysis	As per CPCB Guidelines	Periodic during operation phase	One Location
5	Health	Employees and Labour health check ups	All relevant parameters	Regular check ups	Annually

Chapter 5


Conclusion

Dholpani Sand Gravel & Boulder Quarry of Sri Swgmsar Machahary over an area of 5.0 Ha. Mohal area and 1.90 Ha Road is located at Chirang Reserved Forest area of Ultapani Range of Haltugaon Forest Division, Kokrajhar, District: Kokrajhar, BTAD, Assam. will be environmentally compatible to the surroundings due to the high standards of pollution control measures to be adopted during the operational phase. Environmental Management Plan will help minimize adverse impacts on the environment. Where impacts occur, immediate action will be taken to reduce the escalation of effects associated with these impacts. To ensure the relevance of this document to the specific quarry development stage, it needs to be reviewed throughout all phases. Hence, it is requested that necessary Environmental Clearance may be accorded for implementation of the project.

	Quality Council of India		
National Accreditation Board for Education & Training			
Certificate of Accreditation			
<u>Atmos Sustainable Solutions Pvt. Ltd.</u> A-73, 3 rd Floor, Sector-65, Noida, Uttar Pradesh-201301			
Accredited as Category – 'B' organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA/EMP reports in the following sectors:			
Sl. No	Sector Description	Sector (as per) NABET MoEFCC	Cat.
1.	Mining of minerals including opencast and underground mining	1 1 (a) (i)	A
2.	River Valley projects	3 1 (c)	A
3.	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31 7 (c)	A
4.	Highways,	34 7 (f)	A
5.	Common Municipal Solid Waste Management Facility (CMSWMF)	37 7 (i)	B
6.	Building and construction projects	38 8 (a)	B
7.	Townships and Area development projects	39 8 (b)	B

**Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in IA AC Minutes
dated December 4, 2020 on QCI-NABET website.**

*The Accreditation shall remain in force subject to continued compliance to the terms and conditions
mentioned in NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/21/1592 dated January 6,
2021. The accreditation needs to be renewed before the expiry date by Atmos Sustainable Solutions Pvt.
Ltd., Noida following due process of assessment.*


Sr. Director, NABET
Dated: January 6, 2021

Certificate No.
NABET/EIA/2023/IA0063

Valid till
September 8, 2023

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

**Dholpani Sand, Gravel & Boulder quarry in the village of Ultapani Forest Revenue Village,
P.O Ultapani, of kokrajhar District in the state of Assam of Sri Swgmsar Machahary**



TO,
The Member Secretary,
SEIAA, Assam
Bamunimaidam, Guwahati – 21 ASSAM.

SUBJECT: EMP preparation of the minor mining 'Dholpani R F Mohal' for sand, gravel and boulder located in Dholpani river bed, under Ultapani Range of Haltugaon forest Division, Kokrajhar, BTAD, Assam.

Dear Sir,
This is to bring to your kind notice that M/s Atmos Sustainable Solutions Pvt. Ltd., a QCI/NABET approved organisation, has prepared the EMP for the above mentioned project. The EMP is prepared as per the criteria's of EIA Notification 2006 and its amendments.

Yours Sincerely,



Mervyn Gilbert