BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE BENCH AT CHENNAI

APPEAL NO.17 OF 2017(SZ)

M/s.V.V.Mineral
Tisaiyanvilai,
Tirunelveli District. Appellant

-Vs-

The Member Secretary,
Tamil Nadu Coastal Zone
Management Authority,
Guindy, Chennai – 600 015. Respondent

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This is to certify that the above documents are true copies of the original.

Date : 4.01.2021
Chennai

Standing Counsel,
National Green Tribunal,
(Southern Zone)

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V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

To
The Director of Environment,
Panagal Building,
Saidapet,
Chennai.

Date : 02-08-12

1898
06 AUG 2012

Sir,

Sub : Coastal Regulation Zone clearance – SEZ project at Thiruvambalapuram village, Radhapuram Taluk , Tirunelveli District - proposal submitted for CRZ clearance - requested – Regarding.

Ref : 1)Industries Dept., Secretariat Letter No.12688/MIE.2/2009-6 dated 3-5-2012 (copy enclosed)
2) Minutes of the 53rd Meeting of the SEZ Board of Approval held on 6th July , 2012 at New Delhi (copy enclosed)

We would like to bring to your kind notice that we have proposed to set up a Specific SEZ for mineral and mineral based products in Thiruvambalapuram village, Radhapuram Taluk, Tirunelveli District for an extent of 166.66.5 hectares which are partly come in the CRZ areas.

The proposal was recommended and forwarded by the Industries Department, Secretariat to the Director – SEZ, Department of Commerce, Ministry of Commerce and Industry, Govt. of India for according 'Formal Approval' as per the reference 2nd cited.

The proposal was placed before the SEZ Board of approval held on 6th July, 2012 at New Delhi under the Chairmanship of the Secretary, Department

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V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

of Commerce, Govt. of India, and it was accorded formal approval as per the reference 3rd cited

In our proposal we have proposed to do the following activities in our application that are given below:

1) Construction of Mineral separation plant (Production of rare earth oxides and allied products by cracking).
2) Construction of Desalination plant.
3) Construction Port and other related buildings.
4) Power plant – (Co-generation power plant, Solar and Wind mill)
5) Transport vehicle shed and workshop
6) Fabrication & maintenance work shop
7) Rare Earth oxide plant, Zircon powder plant, Titanium slag plant, Synthetic Rutile plant.

Please be noted that the mineral separation plant and other constructions which are not permitted in the CRZ area, will be set up in the outside CRZ .

Since the applied SEZ areas are partly come under the CRZ area, we hereby apply for the CRZ clearance . So we humbly request you to accord the CRZ clearance which will be enable us to get the Environmental clearance under EIA notification for our SEZ areas and the activities proposed by us.

Thanking You.

Yours Truly,

(S.VAIKUNDARAJAN)

Encl : as above

P1

TAMIL NADU POLLUTION CONTROL BOARD .

From

Er S. Arumugam, M. Tech,
Convenor,
District Coastal Zone Management Authority
Tirunelveli District
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
30/2, Sidco Industrial Estate,
Pettai, Tirunelveli-627 010.

To

The Director,
Department of Environment,
Panagal Building
Chennai-600 015.

Letter No. DEE/TNV/F CRZ /C.No. 2776/2012 Dated 29.11.2012

Sir,

30 NOV 2012

Sub: District Coastal Zone Management Authority, Tirunelveli District Environmental Clearance under CRZ Notification – Establishment of Products specific (Mineral based) SEZ Project M/s. V.V. Mineral at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli District – Recommendation – submitted - Reg.

Ref:
1. Director, Department of Environment, Chennai R.C. No P 1/1898/2012 Dated 03/09/2012.
2. Minutes of the District Coastal Zone Management Authority, Tirunelveli District, held on 18/10/2012.

******

With reference to the above, I submit that the subject seeking Environmental Clearance under Coastal Regulation Zone Notification for establishment of product specific (Mineral based) Special Economic Zone Project by V. V. Mineral at Thiruvambalapuam Village, Radhapuram Taluk, Tirunelveli District was placed vide Agenda No. 2 of the District Coastal Zone Management Authority, Tirunelveli District held on 18/10/2012. The Committee decided to obtain joint inspection report and to take decision as per rules.

Accordingly, the Committee conducted joint inspection and has suggested to recommend for granting environmental clearance under Coastal Regulation Zone Notification. The subject was again placed before District Coastal Zone Management Authority in its meeting held on 19/11/2012. The Committee decided to forward the subject to State Coastal Zone Management Authority.

In this regard, I submit herewith the applications along with enclosure as received from the applicant, Agenda and minutes of the District Coastal Zone Management Authority, Tirunelveli District the remarks received from Deputy Director, Town and Country Planning, Tirunelveli and copy of joint inspection report for further necessary action please.

Convenor,
District Coastal Zone Management Authority,
Tirunelveli District.
District Environmental Engineer,

SCHEDULE-II

Proforma for submission of the recommendation of Coastal District Committee to the State coastal Zone Management Authority.

1.	Name of the project	:	V.V. Mineral Product specific (Mineral based) SEZ Project			
2.	District and taluk in which located	:	Tirunelveli District Radhapuram Taluk			
3.	Areas of the project site which falls within CRZ	:				
	i) If rural area		No. of village	Name of village	Survey No.	Extent (Hects.)
		:	1	Thiruvambala puram	List enclosed	166.66.5
	ii) If Urban area		Name of Town	Block No./ Ward No.	Survey No.	Extent (Acres/ Hects.)
			-	-	-	-
4.	Do the committee agreed with the information furnished by the applicant in Columns 4 to 10, 12 and 13 or Schedule I.	:	Yes			
5.	CRZ Classification of land as per CRZ Management Plan	:				
	a) Sheet in which occurring	:	Sheet No.			
	b) Classification	:	Within HTL and upto 500 m			
	c) Distance of the nearest point from HTL (in meters)	:	Within HTL			
6.	Whether the proposed project is a permitted activity as per CRZ Notification ?	:	Activities such as facilities for Harbour, desalination plant, non convertional energy system treated effluent disposal system			
7.	Whether the site has been inspected by the Committee	:	Yes, copy of inspection report enclosed			
8.	Recommendations of the Committee (Note : Minutes of the meeting of the District Committee, if any, may be enclosed.)	:	Enclosed.			

Date : 23/11/12

Sd/-
Chairman,
District Coastal Zone Management
Authority,
Tirunelveli District.
Tirunelveli.

// Forwarded by Order //

District Environmental Engineer
Pollution Control Board

Report on the joint inspection of sites of the mining of Transworld Garnet India Private Limited at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli and VV Mineral Product Specific (Mineral Based) Special Economic Zone Project at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli with reference to Environmental Clearance under CRZ Notification:

As per the decisions of the District Coastal Zone Management Authority, Tirunelveli District in its meeting held on 18.10.2012, the sites of Transworld Garnet India Private Limited at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli and VV Mineral Product Specific (Mineral based) SEZ Project at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli were inspected on 06.11.12 by a team of officials comprising of District Environmental Engineer, TNPCB, Tirunelveli, Regional Deputy Director, DTCP, Tirunelveli, Regional Manager, DIC, Tirunelveli, Assistant Director (Town Panchayats), Tirunelveli and Assistant Director (Mines), Tirunelveli.

Agenda : 1 - Transworld Garnet India Private Limited at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli

The unit has filed application for environmental clearance under CRZ Notification for their proposed mining of rare minerals.

During the time of inspection, the following observations were made:

i) The lands as furnished in the application is were located as 3 stretches.

a.	S. Nos. 46/111A, 46/111B, 46/112A, 46/112B, 46/1131J1, 46/1131J2, 46/1K, 46/1L, 327/4A, 327/4B, 327/2A, 327/2B, 326/7A, 326/7B, 57/1A, 57/1B, 57/2, 60/2A (59/2A1A, 59/2A1B, 59/2A2 - 3.32.5 Ha.
b.	S. Nos. 429/1, 429/2, 429/8, 429/9, 429/10A, 429/12, 429/13, 429/15, 429/16 - 2.23.9 Ha.
c.	S. Nos. 436/5A, 436/5B1, 436/5B2, 436/6B, 432/6B2, 432/8, 436/4C – 2.10.5 Ha.

ii) The sites were located between HTL and 500 m as per the HTL demarcated as ground even though some of the lands are found to be located within HTL as per the approved CZMP as furnished by Regional Deputy Director, DTC, Tirunelveli.

iii) The sites were found to be sandy terrain and found vacant. Thorny bushes were found in some area.

iv) There were no structures such as buildings, religious places of worship, monuments of archeological importance etc in the sites.

v) There were no residences within or adjacent to the sites.

vi) The sites were surrounded by sea shore, vacant lands and existing mining sites.

vii) No mining activity was carried out during the time of inspection.

viii) Approach roads have been formed for the transport of mined minerals

As per the CRZ Notification 2011, mining of rare minerals is permitted. With the above observations, the inspecting team [illegible] for grant of environmental clearance.

under CRZ Notification of the proposed mining of rare minerals project of Transworld Garnet India Private Ltd subject to the following conditions:

1) The unit shall adhere to the guidelines / stipulations / conditions of mining lease and shall follow the mining plan.
2) The unit shall not use any explosives for the mining.
3) The unit shall not use any machineries for mining except those permitted under mining rules.
4) The unit shall ensure that the mined area is refilled with the tailings.
5) The unit shall develop green belt within / outside mining area.
6) The unit shall not construct any permanent structures / buildings which are prohibited in the notification.
7) The unit shall not establish mineral benefication plant / processing unit within CRZ area.
8) The unit shall obtain environmental clearance under EIA Notification 2006 if applicable.
9) The unit shall obtain all the statutory permission from competent authorities.

The proposal of Transworld Garnet India Private Ltd for their mining of rare minerals may be recommended for issue of Environmental Clearance under CRZ Notification with the above conditions.

Agenda : 2 - VV Mineral Product Specific (Mineral based) SEZ Project at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli

Application is made for the establishment of Sectoral Economic Zones for which Government of India, New Delhi was already accorded permission.

It has been proposed to manufacture 3.5 Million Tonnes of finished product / year, a port capable of handling 10 Million Tonnes handling capacity, a thermal power plant of capacity 600 MW, cogeneration plant, wind mill and solar power plant along with desalination plant, Common Effluent Treatment Plant and also buildings for an extent of 2 lakhs square metre area.

The unit has proposed to carryout mining of rare minerals and manufacture Titanium Pigment, Titanium Di Oxide, Rare Earth Oxide by solvent extraction and made products using from heavy minerals like Garnet Grid, Zircon, Rutile, Ilmenite etc.

During the time of inspection, the following observations were made:

i) The lands as furnished in the application is enclosed vide Annexure-1.
ii) The extent of the site was 166.66.5 Hectare. The site was extending from sea to the Kanyakumari – Tiruchendur Road, which is at about 1 km from the seashore.
iii) The site was found to be sandy terrain. The site was vacant and only thorny bushes were noticed.
iv) No buildings or other structures such as public buildings, religious or archeological sensitive structures were noticed.
v) The site was surrounded by sea on one side, road on one side and vacant lands on other two sides.
vi) Notified sand dunes were not located within the site area.
vii) There were no agricultural activities in and around the site.

Rare earth mineral mining sites were located near the site.

As per the approved Coastal Zone Management Plan, some of the area is located within CRZ and the rest of the area lies out of CRZ.

The Managing Director assured that the permissible activities under CRZ Notification 2011 and water front activities such as facilities for harbour, desalination plant, Effluent Treatment Plant, wind mill, solar power plant etc only would be established within CRZ area and the facilities for industrial structures would be constructed outside – 200 m from the HTL area.

With the above observations, the inspecting team suggest to recommend for the issue of Environmental clearance under CRZ Notification for the unit VV Mineral Product Specific (Mineral based) SEZ Project subject to the following conditions:

1) The unit shall construct facilities for harbour, desalination plant, non conventional energy systems, effluent treatment plant disposals etc which are water front activities and permissible under CRZ Notification only within CRZ area.
2) All other construction shall be carried out as per CRZ Rules.
3) The unit shall adhere to the conditions and guidelines stipulated in the approval accorded by the Government of India, New Delhi for setting up of Special Economic Zones.
4) The unit shall satisfy the provisions of Special Economic Zone Act.
5) The unit shall provide adequate treatment facilities for waste water. No sewage / trade effluent shall be disposed into sea without adequate treatment.
6) The unit shall follow the guidelines / stipulations of the AERB in handling and disposal of radioactive materials such as Thorium, Uranium, Monosite etc obtained if any during the time of processing of rare minerals.
7) The unit shall apply for and obtain all mandatory clearances / permission as required by AERB etc.
8) The unit shall comply with the provisions of SEZ Act and shall obtain all statutory clearances / permission as required in the Act.
9) The unit shall obtain necessary permission from Maritime Board, Ministry of Surface Transport, Government of India, New Delhi etc.
10) The unit shall carryout activities only for which the formal approval has been obtained from Government of India, New Delhi.

The proposal of VV Mineral Product Specific (Mineral based) SEZ Project may be recommended for issue of Environmental Clearance under CRZ Notification with the above conditions.

DEE, TNPCB, Tirunelveli.	Regional Deputy Director, DTCP, Tirunelveli.	General Manager, DIC, Tirunelveli	Assistant Director (Town Panchayats), Tirunelveli	Assistant Director (Mines), Tirunelveli.

AGENDA FOR THE DISTRICT COASTAL ZONE MANAGEMENT AUTHORITY, TIRUNELVELI MEETING TO BE HELD ON 19.11.2012.

Agenda No.1: Environmental Clearance under CRZ Notification for Mining of Heavy Minerals by Transworld Garnet India Private Ltd, at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli District.

The proponent Transworld Garnet India Private Limited has filed application for environmental clearance under CRZ Notification for their mining of Heavy Minerals over an area of 7.66.9 Ha at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli District.

The subject was placed before the District Coastal Zonal Management Authority, Tirunelveli District in its meeting held on 18/10/2012.

The Committee decided to conduct joint inspection and to obtain report.

Accordingly, the sites were inspected on 06/11/2012 and the inspecting team has suggested to recommend the proposal of Environmental Clearance under CRZ Notification.

The subject is placed before the District Coastal Zonal Management Authority for taking decision.

Agenda No.2: Environmental Clearance under CRZ Notification for Product specific (Mineral Based) SEZ Project over 166.66.5 Ha at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli District.

The unit V.V. Mineral has furnished application seeking environmental clearance under Coastal Regulation Zone Notification for V.V. Mineral Product specific (Mineral Based) SEZ Project proposed to be located at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli District covering an area of 166.66.5 Ha.

The subject was placed before the District Coastal Zonal Management Authority, Tirunelveli District in its meeting held on 18/10/2012.

The Committee decided to conduct joint inspection and to obtain report.

Accordingly, the site was inspected on 06/11/2012 and the inspecting team has suggested to recommend the proposal of Environmental Clearance under CRZ Notification.

The subject is placed before the District Coastal Zonal Management Authority for taking decision.

Agenda No.3: Environmental Clearance under CRZ Notification for Kudankulam Nuclear Power Project (KKNPP) Units 1 &2 Desalination Plant.

Nuclear Power Corporation of India Ltd, Kudankulam Nuclear Power Project has established nuclear power plant of 2 x 1000 MW capacity in Kudankulam and Vijayapathy Villages, Radhapuram Taluk, Tirunelveli District.

The unit has obtained Environmental Clearance vide MoEF Lr No. J 14011/1/88-IA. II (M) dated 09.05.1989 based on the exemption obtained from PMO.

The unit ahs also obtained Environmental Clearance under EIA Notification 2006 for its expansion of units 3 & 4 (2 x 1000 MW) vide MoEF Letter No. J 14011/1/2007-IA II (T) dated 23/09/2008.

Further, the unit has obtained Environmental Clearance under EIA Notification 2006 for their units 5 & 6 (2 x 1000 MW) Power Plants vide MoEF Lr No. J-14011/1/2007-IA. II (T) dated 31/12/2009.

Ministry of Environment and Forest, New Delhi has accorded Environmental Clearance under CRZ Notification 2011 for the above two expansion activities vide F. No.11-25/2010-IA-III, Government of India, Ministry of Environment and Forest (IA Division) dated 25/07/2012.

Now, the unit has applied for environmental clearance under CRZ Notification for the Desalination Plant for unit 1 & 2 stating the following reasons:

The unit originally proposed to obtain fresh water supply from Pechiparai Dam. However, in view of involvement of forest areas as well as apprehensions expressed by local villagers, the unit NPCIL decided to establish a desalination plant to provide adequate fresh water needs of the project units 1 & 2.

As there is deviation from the original proposal for which exemption was obtained from PMO, the unit is seeking environmental clearance under CRZ Notification.

The Director, Department of Environment, Chennai vide this letter R.C. No. P1/3318/2007 Date 19/10/2007 has informed that the Kudankulam Village has been categorized as CRZ III. The Regional Deputy Director, Director of Town and Country Planning, Tirunelveli has also confirmed the same.

As per CRZ Notification 2011, fore shone facilities for desalination plant is an permitted activity within CRZ III area.

The subject is placed before the District Coastal Zonal Management Authority for discussion.

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
(Convenor, DCZMA)
Tirunelveli.

Sd/-
District Collector,
(Chairman, DCZMA)
Tirunelveli

MINUTES OF THE DISTRICT COASTAL ZONE MANAGEMENT AUTHORITY, TIRUNELVELI DISTRICT HELD ON 19.11.2012, AT 05.00 PM AT THE DISTRICT COLLECTORATE, TIRUNELVELI.

Present: -

1.	Dr. R. Selvaraj I.A.S The District Collector, Tirunelveli.	Chairman
2.	Thiru. T. Mohan The Regional Director of Municipalities, Tirunelveli – Nagercoil Road, Tirunelveli	Vice Chairman
3.	Miss. C.H. Padma, I.F.S District Forest Officer, Tirunelveli.	Member
4.	Thiru. S. Arumugam The District Environmental Engineer, Tamil Nadu Pollution Control Board, Tirunelveli.	Convenor
5.	Thiru. G. Nagarajan The Deputy Director, Directorate of Town and Country Planning, Trivandrm Road, Palayamcottai, Tirunelveli-627 002.	Member
6.	Thiru. A. Raja Rajan The General Manager, District Industries Centre, North High Ground, Tirunelveli-627 011.	Member
7.	Thiru. S. Selvam The Assistant Director (Town Panchayats) Tirunelveli Collectorate, Tirunelveli-627 009.	Member
8.	Thiru. R. Selvaraj The Assistant Director of Fisheries, Extension & Training, Radhapuram, Tirunelveli District.	Member

The District Collector, and Chairman of the District Coastal Zone Management Authority, Tirunelveli welcomed all the Members and the subjects in the agenda were discussed and the following decision was arrived at.

Item No.1: Environmental Clearance under CRZ Notification for Mining of Heavy Minerals by Transworld Garnet India Private Ltd., at Karaisuthu Uvari Village, Radhapuram Taluk, Tirunelveli District.

The Committee decided to recommend the proposal to the State Level Coastal Zone Management Authority for taking further action to consider environmental clearance under CRZ Notification.

Item No.2: Environmental Clearance under CRZ Notification for Product specific (Mineral Based) SEZ Project over 166.66.5 Ha at Thiruvambalapurara Village, Radhapuram Taluk, Tirunelveli District. by. V.V. Mineral

The Committee decided to recommend the proposal to the State Level Coastal Zone Management Authority for further taking action to consider environmental clearance under CRZ Notification.

Item No.3: Environmental Clearance under CRZ Notification for Kudankulam Nuclear Power Project (KKNPP) Units 1 & 2 Desalination Plant, Kudankulam Village, Radhapuram Taluk, Tirunelveli District.

The Committee decided to recommend the project of desalination plant already established for Kudankulam Nuclear Power Project (KKNPP) Units 1 & 2, to the State Level Coastal Zone Management Authority for taking further action to consider environmental clearance under CRZ Notification.

Sd/-

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
(Convenor, DCZMA)
Tirunelveli.

District Collector,
(Chairman, DCZMA)
Tirunelveli

// Forwarded by Order //

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
(Convenor, DCZMA)

VVM PRODUCT SPECIFIC (MINERAL BASED) SEZ PROJECT ENVIRONMENT IMPACT ASSESSMENT REPORT

OF

VVM SEZ PROJECT

SPECIAL ECONOMIC ZONE

THIRUVAMBALAPURAM

RADHAPURAM TALUK

TIRUNELVELI DISTRICT

PREPARED BY

ENVIRONMENTAL CELL

COASTAL ENVIRONMENTAL AND ECOLOGICAL

CONSERVATION COMMITTEE

TISAYANVILLAI 627 657

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction to VV Mineral

VV Mineral is a registered Partnership firm. V.V.Mineral is a two decade old company dealing with Mining, Manufacturer and Exporter of Garnet, Ilmenite and associated heavy minerals have achieved significant market share all over the world. V.V. Mineral (VVM) is India's largest Exporter of Garnet and Ilmenite, has obtained number of mining leases in Tirunelveli, Tuticorin and Kanyakumari Districts.

V. V. Mineral is the first company in India to have been conferred the 'STAR EXPORT HOUSE' status for export of heavy minerals issued by Govt., of India, Ministry of Commerce.

Since 1990, VVM has been continuously receiving prestigious awards and recognition from various chambers of commerce and industry, and the government. VVM are the winners of '**Special Export Award**' from CAPEXIL of Ministry of Commerce. Govt., of India consecutively for the past 22 years (from 1990- '91 to 2010- 11). **MADITSIA** Award, National Productivity Award, Highest Exporter Award through Tuticorin Port etc , is also received by V.V.Mineral.

VVM SEZ Project

To promote export, Govt., of India, enacted an act in the name of Special Economic Zone Act (SEZ Act., 2005). Accordingly VV Mineral proposed to set up a product Specific (Mineral Based) Special Economic Zone over an extent of 166.66.5 ha for producing various mineral based products such as cracking of monazite, production of

rare earth oxide. Titanium pigments, Synthetic Rutile, Slag. Scandinium etc , and processing of Garnet, Ilmenite, Rutile, Zircon Sillimanite and other associated heavy minerals by using the industrial heavy minerals mined from their own mining lease area. The other activities proposed in the SEZ are

1. Erection of Wind turbine in and around the project area
2. Port facilities to handle 4.5 million TPA (Tons Per Annum) cargo
3. Solar Power Energy for every Plant
4. Repairing of ship facilities
5. Desalination Plant etc.

The capital cost of the project is 870 crores into stages.

Inception of VVM SEZ

VVM has applied for permission to set up SEZ in Thiruvambalapuram village of Radhapuram Taluk. All the lands are their own land. The Govt., of Tamilnadu approves the above said proposal and forwarded to Govt., of India for notification under SEZ Act. Copy of the above said letter is vide **Annexure - A.**

Purview

The following activities will be carried out within the SEZ area.

1) Processing of heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc in stage by stage with or without joint venture with technical knowhow of Canada, Australia, Japan and other developed countries.
2) Construction of wind turbine and solar power plant altogether of total 450 MW into stages.
3) Port and other related buildings for handling 4.5 million TPA cargo
4) Repairing of ship facilities

5) Construction of desalination Plant
6) Construction of Transport Vehicle shed and workshop
7) Fabrication workshop and maintenance workshop and industrial library
8) Workers rest shed, canteen, dining hall, First aid Centre, smoking zone
9) Statutory amenities buildings and play grounds
10) Installation of water supply and sanitation and sewage systems
11) Power Distribution System
12) Telecom facilities
13) Construction of factory buildings and warehouses

Hence, the Environmental Impact Assessment Report covers the various impacts (environmental as well as socio-economic) expected from the developmental, processing, infrastructure and amenities are considered under the purview of VVM SEZ.

If the industries to be set up in the VVM SEZ generate any kind of environmental pollution in the form of air, water and / or solid, they shall have to appropriately manage and handle the same in compliance with the prevailing environmental norms of the Tamil Nadu State Pollution Control Board and all applicable laws. This responsibility shall entirely lie with the corresponding industries.

Location

The site of VVM SEZ is located in Thiruvambalapuram Village, Radhapuram Taluk, in the district of Tirunelveli, bordered by the Southern coastline of the Gulf of Mannar between latitude 8°24''26' N and Longitude 77°78''97' E. Valliyoor railway station is the nearest passenger rail head 25 km away. Tuticorin air port (about 100 km) is in the vicinity. Thiruvambalapuram is a small village with meager agriculture activities and mostly full of wind turbine and a small section of fishermen people which all are away from the proposed SEZ.

Salient Features of VVM SEZ

The capital cost of the project is 870 crores into stages

Project Site : Thiruvambalapuram Village

Taluk : Radhapuram

District : Tirunelveli

Total Area under the project : 166.66.5 Ha

Latitude : 8°24''26' N

Longitude : 77°78''97' E

Connectivity

Nearest town : Tisaiyanvillai (14 km)

Nearest railway station : Valliyoor approximately 25 km

Nearest sea port : Tuticorin Port (90 km)

Nearest air port : Tuticorin Air Port (100 km)

Access roads : Rameshwaram – Kanyakumari Coastal Road (1 km)

Socio Economic Settings

Basic Amenities

Medical : PHCs and lower facilities, RMP doctors

Educational : Primary schools and few secondary schools and polytechnics college

Transport : State Transport Buses and local service providers

Water Supply : Thamirabarani drinking water supply scheme operated by TWAD Board. Few dependent on Bore wells and dug wells

Power Supply : All villages are electrified, no industrial users

Irrigation : Very few. Mostly on well irrigation. It is a rain shadow area.

Features of Impact Zone

Present Land Use : Mainly barren land

Land area Identified as VVM SEZ – 166.66.5 ha,

Water bodies - River Nambiyar, Gulf of Mannar

Forests : No Reserved forests are present in or around the proposed site

Vegetative Classification - 100 % non vegetative area

Geology - Undifferentiated fluvial /Aeolian / Coastal Sediments

Soil Type - Mainly sandy soil

Crops - Coconut, Pulses, Banana

Seismic Zone : Zone II as per 1893 - 1984

Meteorological data

Ambient air temperature

Climate : Dry, Arid Coastal Climate

Highest daily maximum temperature : 40 °C

Max. dry & wet bulb temperature 37.7 / 26.8 °C

Min. dry & wet bulb temperature 16.2 / 11.5 °C

Wind Regime Summer - SW and W, Monsoon - NW, W Winters - N, NE

Rainfall

Average annual rainfall : 180 mm

Period of water scarcity April to June, in summer season the area is drought prone

Wind velocity

Max. wind velocity 32.4 km/hr study period (Jan 2011 – Dec 2011).

Predominant Wind direction N, NE and SW (Study Period)

Relative humidity

Annual mean humidity 60%

Max. Humidity 85%

Min. Humidity 40%

Purpose of Environment Impact Assessment

The proposed Product specific (Mineral based) activities in the Special Economic Zone is specified as: Project / Activity – 7 (C), Category – B, in Notification vides S.O 3067(E) dated 1st December, 2009 issued by the Ministry of Environment and Forests. It is proposed to use sea water for industrial purpose such as desalination, cooling purpose. and for separation of heavy minerals etc., Construction of port comes within CRZ area.

As it is water front industry and directly need foreshore facilities these activities comes under permissible activity under CRZ notification.

Other permissible activities proposed within CRZ are

Activities	Provision No.
Port	Para 3(i) (a) - Water front industry and directly needing foreshore facilities.
Desalination Plant	3 (i) (c) setting up of desalination plants in the area not classified as CRZ I based on the impact assessment study
Construction involving more than 20,000 sq.mts build of Area	4 (i) (d)

The project is a designated project under Schedule and falls under category 'B' of the Environment Impact Assessment (EIA) Notification dated 1st December, 2009.

Activities	**Category**
wind turbine and solar power plant with altogether 450MW capacity	Category B
Mineral Beneficiation 0.095 million TPA	Category B
Port with 4.5 million TPA cargo handling capacity	Category B
Common Effluent Treatment Plant	Category B
Sewage Treatment Plant	Category B
Buildings and construction of plants more than 20,000 sq.meters	Category B

Heavy mineral processing plants will be setup out side CRZ. Hence all the activities proposed in the SEZ project of VVM falls under category B, State EIA and CRZ clearance is enough and therefore it is not required to obtain prior Environmental Clearance form the Ministry of Environment and Forests, Govt. of India. The present Environmental Impact Assessment Report has been prepared for obtaining

Environmental clearance from State Environment Impact Assessment Authority (SEIAA).

This Environmental Impact Assessment Report has been prepared based on the study of impacts due to all the possible activities from the developmental, Processing and infrastructure facilities to be provided by VVM in the SEZ. The report has been prepared based on the guidelines recommended by the Ministry of Environment and Forests (MoEF). For the preparation of this report, the **study area** has been identified as the area falling within a radius of 10 km with the proposed site at the center. The base-line data was collected over a period of one year, starting from January 2011 through December 2011.

PROJECT DESCRIPTION

The project has five major components viz., Processing plants for heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc., wind turbine, solar energy Plant, captive port and desalination plant. The specific details of the project are provided in the following sections.

Processing Plants for Heavy Minerals

It is proposed to process the Industrial heavy minerals mined from own mining lease area for the separation of Garnet, Ilmenite, Rutile, Zircon, Sillimanite, Leucoxene, Monazite and other associated heavy minerals. VVM SEZ will implement the eco friendly processing technique accepted world wide for mineral beneficiation. The proposed Heavy Mineral Processing Plants will comprise the following features.

1. Wet gravity separation (Spirals)
2. Magnetic Separation
3. Electrostatic separator
4. Gravity Separator

5. Rare Earth Drums
6. Enhanced field separators
7. Electrostatic Plate Separators
8. Solvent extraction
9. Cracking of Monazite
10. Titanium pigments, synthetic Rutile and slag Plant
11. Scandinium Plant
12. Magnets production

Wind Turbine

Technology

In wind energy generation, kinetic energy of the wind is converted into mechanical energy and subsequently into electrical energy. Wind turbines capture the wind's energy with two or three propeller like blades, which are mounted on a rotor, to generate electricity. The turbines sit high atop towers, taking advantage of the stronger and less turbulent wind at 100 feet (30 meters) or more above ground. When the wind blows through the blades of the wind mill, a pocket of low-pressure air forms on the downwind side of the blade. The low-pressure air pocket then pulls the blade towards it, causing the rotor to spin. The rotor turns the shaft that further spins the connected generator. The spinning of this generator produces the required electricity.

Technical details

High-speed asynchronous generator with a multi-stage intelligent switching compensation system delivers power factor up to 0.99 will be used. The generated power is free from harmonics and is grid friendly.

Operating Data:

1. Rotor Height : 64 m
2. Hub Height : 65 m
3. Cut in Speed : 3 m/s
4. Rated Speed : 12 m/s
5. Cut out speed : 25 m/s

6. Survival Speed : 67 m/s

Rotor:

1 Blade : 3 Blade Horizontal Axis

2. Swept Area : 3217 m2

3. Rotational Speed : 13.9 to 20.8 rpm

4. Regulation : Pitch Regulated

Generator:

1. Type : Asynchronous 4 / 6 Poles

2. Rated Output : 250 / 1250 kW

3. Rotational Speed : 1006 / 1506 rpm

4. Frequency : 50 Hz

Gear Box:

1. Type : Integrated (1 Planetary & 2 Helical)

2. Ratio : 74.971:1

Yaw System:

1. Drive : 4 electrically driven planetary gearbox
2. Bearings : Polyamide slide bearings

Braking System:

1. Aerodynamic Brake : 3 independent systems with blade pitching

2. Mechanical Brake : Hydraulic fail safe disc braking system

Control Unit:

3. Type: Programmable microprocessor based; high speed data communication, active multilevel security, sophisticated operating software, advance data collection remote monitoring & control option, UPS backup, Real time operating indication

Solar power Plant

The proposed solar power plant will consist of two functional elements:

- A solar field
- A power block

A power block consisting of heat exchangers, turbines, generators and cooling block (the height of the power block is estimated to be between two to five storeys high);

- Collection field –this could either include trough mirrors (trough technology) or heliostats (power tower technology) depending on the final technology selected for project;

- Distribution power lines and associated structures (pylons)

Captive Port

In order to export the processed heavy minerals a captive port with enabling infrastructure along with other plants and machinery is proposed.

The details of the captive port facilities are as follows

1	Length of North Breakwater	2,100 m
2	Length of South Breakwater	1,150 m
3	Length of Approach Channel	3,300 m
4	Width of Approach Channel	160 m
5	Depth at Approach Channel (below CD)	16.1 m
6	Depth at Maneuvering Areas (below CD)	15.5 m
7	Diameter of Turning Circle	500 m
8	No. of berths (length in m)	3 (600m)
9	Dredged depth at berth	15.5 m CD
10	Dredging quantity	11 million m^3

Captive Desalination Plant

The fresh water requirement for the proposed Heavy mineral processing plants, captive port and other domestic uses is estimated as 100 MLD. In order to meet the water demand, a captive desalination plant of 100 MLD capacities is proposed. The desalination plant typically comprises of the following:

- Sea water intake/outfall system
- Process operations
- Chemical dosing system
- RO system
- Post treatment system

Salient Features of the Proposed Project

S.No	Item	Description
Heavy Mineral Processing Plants		
1.	Capacity	0.095 MTPA processed heavy minerals
2.	Technology	Physical and Chemical Separation
3.	No. of units	Eight
4.	Installation locale	Out side CRZ
Wind Turbine and Solar power plant		
5.	Capacity	450 MW
6.	Technology	Grid friendly technology
7.	Installation locale	Wind turbine – In and around the project site Solar power plant – on the top of every building
Captive Port		
8.	Capacity	About 4.5 MTPA cargo handling capacity
9.	Type	All weather Port
10.	No of Berths	3
11.	Length of Breakwaters	North : 2,100 m, South : 1,150 m
12.	Set up locale	Within CRZ

Desalination Plant		
13.	Capacity	100 MLD
14.	Technology	Reverse Osmosis
15.	Installation locale	Within CRZ
General		
1.	Land	166.66.5 hectare
2.	Water Requirement	100 MLD
3.	Source	Desalination Plant
4.	Environmental aspects	• All the processed heavy minerals are natural mineral hence Non – Hazardous and Non – Dangerous cargo according to criterion NOHSC : 1008 (2004) • Individual heavy mineral processing will be done by ecofriendly techniques by make use of its physical properties without chemical treatment to reduce air and water pollution • Fire Protection System • High Recovery RO Technology to minimize the rejects • Disposal of waste water through marine diffuser 1500 meters deep into the sea • Disposal of dredged material at 12 -14 km deep into sea at 30 m depth level.

Utilities and Services

Water supply

Water requirement during the initial stage is expected to be 2.5 MLD and in full fledge operation the requirement would be 100 MLD which will be met by the proposed Desalination Plant. The estimation of sea water required for desalination plant during the operation phase, is 7,680 m^3/hr, which will be sourced from Gulf of Mannar.

Power Supply

The expected power demand is predicted as 250 MW both for Industrial and domestic usage will be sourced at first from TNEB subsequently from the proposed VVM SEZ Power plants (Wind Turbine and Solar Power Energy) into stages.

Waste water / waste management

Sewage generated will be drained through common drainage network line to the proposed Sewage Treatment Plant (1.2MLD) for treatment. The treated water will be used for horticulture purposes and the sludge generated from the STP will be dried and used as manure to the green belt. Storm water drainage system shall be provided for management of storm runoff. The sludge from the bottom of the sea water clarifier is discharged to a sludge pit from where it is partly re circulated back to the clarifier inlet. The used/spent oil to be generated from the DG sets shall be sent to TNPCB approved ventors or recycler for suitable treatment.

Fire Protection System

Fire fighting and rescue facilities with adequate well trained fire personnel will be provided with in the Plant premise. The plant fire protection system will consist of hydrant system, high/medium velocity water sprinkler and portable fire extinguishers. All buildings will be fitted with fire valve with a facility to fit fire hoses. The fire protection system will be designed as per standards prescribed by the National Fire Protection Association (NFPA)/ Tariff Advisory Committee of India.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) STUDY

EIA study for the proposed VVM SEZ project covers both terrestrial and marine environment.

Study Area and Study Period

An area within 10 km radius with project site has been earmarked for the study. The baseline environmental data was generated over a period of one year starting from January 2011 to December 2011.

Description of the Environment

The environmental settings of the project site is given below

S.No	Particulars	Details
1.	Plan Site Latitude and Longitude	82°4"26'N and 77°78"97' E
2.	Plant site elevation above mean sea level (MSL)	4 m
3.	Present land use at the site	Barren Land
4.	Plant site boundary to coast	More than 0.5 km and away from the HTL on land side
5.	Hills/Valley	Nil
6.	Topography	Coast flat terrain sloping towards the coast
7.	Archeologically Important Places	Nil within 10 km zone
8.	National Parks/ Wild life Sanctuaries	Nil within 10 km zone
9.	Reserved Forest /Protected Area	Nil within 10 km zone
10.	Defence Installation	Nil within 10 km zone
11.	Seismicity	Zone II as per 1893-1984

Compatibility of Coastal Regulation Zone (CRZ)

Physical demarcation of high tide level (HTL), low tide level (LTL) and delineation of CRZ boundaries for the project site were carried out by Remote Sensing Department, Anna University which is one of the MoEF-authorized agencies. The project site proposed for Captive port lies between the open coast of Gulf of Mannar on the East and Nambiyar canal on the West. The project development area does not fall or contain

the environmentally sensitive area as specified in the CRZ Notification. The CRZ classification of the project area meets the requirements of CRZ-I (ii) and CRZ-III

Baseline Environmental Conditions

Baseline environmental studies for various environmental attributes were carried out over a period of one year starting from January 2011 to December 2011.

Marine environment

Marine environmental quality monitoring studies were carried out to collect base line data on water quality, sediment quality and marine ecology in project region covering the extent between the proposed seawater intake and marine outfall for the desalination plant.

- The presence of a good plankton community structure, good benthic structure and higher oxygen levels indicate that the waters are free from pollution and also support good aquatic life.
- Observations in terms of chemical and biological parameters reflect ambient coastal processes which are at normal levels analogous to the basic bio-geochemical process of the coastal environment. The levels of hydrocarbon (Oil & Grease) and heavy metals are found to be within the permissible limits.

Terrestrial environment

Ambient air quality

The prime objective of the baseline air monitoring is to evaluate the existing air quality of the area. This will also be useful for assessing the conformity to standards of the ambient air quality during the operation of the proposed VVM SEZ project activities. Ambient Air Quality Monitoring (AAQM) stations were set up at eleven locations. The samples were collected twice in a week every month suspended particulate matter (SPM), Respirable suspended particulate matter (RSPM), oxides of Sulphur (SO_2), oxides of Nitrogen (NOx) were collected on a 24-hourly basis. The values of SPM,

RSPM, Oxides of Sulphur (SO_2) and oxides of Nitrogen (No_x) were found to be well within the limits prescribed by Central Pollution Control Board.

Ambient noise levels

Noise levels were monitored at Eleven (11) locations for assessing the existing noise levels in and around the project site. The monitoring was carried out once in every month for 24 hours. The equivalent values for day and night time noise levels are well within the stipulated CPCB standards at all monitoring locations.

Inland Water Quality

Eleven (11) monitoring locations were identified for ground and surface water quality assessment in different villages around the project site. The samples were collected once in every season TDS, Hardness and chloride content is higher than the permissible limit (IS: 10500, 1991) in most of the samples.

Soil Quality

The proposed site of SEZ is mostly barren with sparse vegetation. The proposed SEZ Project shall convert this into a collage of industrial, commercial, residential and other units interspersed with green patches and green-belt shall be developed so as to cover up to 30 % of the entire proposed land area for SEZ. Thus the land use pattern of the proposed site shall be improved, creating scope for improved flora-fauna in the region.
The soil found in the coastal region is of the erinaceous type (sandy) which is suitable for casuarina plants. Considering the soil profile in the study area, 11 sampling locations have been selected. The pH of the soils ranged between 6.7 and 9.04 indicating neutral to alkaline in nature. Loamy sandy texture soils dominated the study area with Sand (%) range from 21.57 to 41.91, Silt (%) range from 30.56 to 53.37 and Clay (%) range from 12.58 to 48.46. Bulk Density of the soils ranged from 1.33 to 1.47 gm/cm^3. The Infiltration Rate was found to be between 1.31 and 2.95 cm/hr. The Water Holding

Capacity of the soils varied from 29.9 to 45.56%. Porosity of the soils varied from 17.69 to 29.45%.

Flora and Fauna

Detailed flora and fauna study was carried out in the study area. The detailed common flora and fauna status of the study area is given in Chapter III. There is no endemic or threatened species of flora and fauna observed in the project region.

Baseline socio-economic conditions

Primary survey was carried for assessing the existing social conditions of the villages and hamlets falling within the study area.

About 11 villages were surveyed.

The survey covered about an overall population of 75,264.

Total occupation pattern constitutes of 48.3% in the total population. Agriculture activities and fishing is meager in the study area, wind turbine operation associated works is the primary activity.

Almost all the villages in the study area have basic school facilities i.e., primary schools. Few villages have upper primary and high school facilities and Polytechnic college.

The main occupation of the people is Industrial workers in Wind turbine. Cultivators, agricultural laborers, household workers, construction workers, fishermen, etc represent the marginal workers.

Protected water supply is available in almost all villages in the study area

Most of the villages have power supply for domestic purposes, and agriculture through TNEB.

Almost all villages in the study area are well connected by village or major district roads.

There are no notified archaeological or cultural monuments in the study area.

ENVIRONMENTAL IMAPCT ASSESSMENT AND CONTROL MEASURES

The anticipated impacts on the environmental and social attributes, which are likely to arise due to construction and operation of the project were identified, predicted and evaluated.

Construction Phase

Developmental activities such as construction of intake/outfall systems, capital dredging, dredge spoil disposal and development of offshore structures will result in disturbance to the marine environment. Site grading and development, civil construction and mechanical erection of facilities, onsite infrastructure, environmental management facilities and back up area development are likely to cause impacts on the terrestrial environment. The impacts during construction are short-term in nature and will cease on completion of construction activities.

Operation Phase

Mathematical modeling for brine discharge, littoral drift transport and air pollutant dispersion was also carried out to identify the significance of impacts. The models engaged were:

Offshore and Coastal Dispersion (OCD) Model: OCD model is an extension of the classical Gaussian plume model, specifically designed to evaluate the impact of coastal or offshore emission sources including the fumigation episodes. For the impact assessment due to proposed project, OCD5 model has been simulated for the point sources with the onsite observed meteorological condition during the study period.

MIKE 21 HD-AD Model: The disposal of brine from desalination plant and dredged material from port activities into the marine environment may exert impact, if not scientifically disposed. In order to study the impacts of the sediment transport due to the proposed port, hydrodynamic modelling studies have been carried out using MIKE 21 HD-AD model.

COSMOS – 2D Model: The mathematical modelling studies for the littoral drift were carried out by using COSMOS-2D, which is designed for several purposes including calculations of longshore and cross-shore sediment transport rates. In each case, the wave, current and sediment transport parameters are calculated at grid points along a shore-normal line extending from the upper part of the beach to depths beyond the surf zone.

Environmental Monitoring Programme

Environmental Monitoring Programme is an important component during environmental management of the project. Mitigation measures during construction and operation phases can be revised based on monitoring results.

Budgetary Estimate for Environmental protection

The total capital cost for installation of pollution control equipments and implementing the Environmental Management Plan during construction phase is estimated as Rs. 50 lakhs and the annual recurring cost including the environmental monitoring programme during the operation phase is estimated as Rs. 25 lakhs per annum.

Risk Analysis and Disaster Management Plan (DMP)

Preliminary risk analysis was carried out for the various risks associated with the construction and operation of the proposed Heavy mineral Processing Plant, wind turbine, solar power plant, desalination plant and captive port. The analysis covered the following.

- Hazard Identification including potential release events
- Modelling of release rate, atmospheric dispersion in order to estimate the possible effects of the expected events.
- Risk reducing measures

The risk analysis thus carried out also provides inputs for formulating the onsite DMP As the proposed project has five components viz.. Heavy mineral processing plants, wind turbine, solar power plant, captive port and desalination plant; five specific DMPs were formulated with an integrated approach. The specific component team where the emergency has arisen would be in charge of the situation while the other four teams would assist them as and when required. The plan will include the following elements:

- Assessment of the magnitude and nature of the events foreseen and the probability of their occurrence
- Formulation of the plan and liaison with outside authorities, including the emergency services
- Procedures for raising the alarm and communication both within and outside the heavy mineral processing plant, port and desalination plant
- Appointment of key personnel and their duties and responsibilities (organizational structure)
- Emergency control centre
- Action on site and off site

The DMP is prepared in conjunction with and taking into consideration all technical reviews and suggestions, as per acceptable norms and hence, will meet any eventuality.

Social Impact

Land acquisition

The project will be constructed in own patta land and there will not be any rehabilitation involved due to land outsets. VVM SEZ is in possession of 166.66.5 ha own patta land which is contiguous and free from all encumbrances. There is no habitation or encroachment in and around the proposed SEZ area.

Fishing activity

The proposed project area at present is not used as an access to the sea or access to the berthing area, net mending sites and storage area by fisher men. The small section of fishermen people recorded within 10 km radius of the study area is away from the proposed SEZ area.

Construction Workers Camp

The construction of the project would require a large work force. To ensure that there is no strain on the existing infrastructure, the worker camps will be self-sufficient would not rely on any local resources. This would also ensure that there is no conflict with the local population. Further, the worker camps will be located away from the coast and habitations and will be within the project site. To mitigate the impact, particularly health hazards, proper sanitation facilities will be provided.

Employment potential

The project will provide a direct employment potential of 2,500 persons during construction phase and 5,750 persons during the operation phase of the project.

Environmental Management Plan

The effective implementation and close supervision of the environmental management activities to mitigate the environmental impacts, which are likely to arise due to the construction and operation phases of the project could be achieved through a suitable institutional mechanism. During construction and operational phase, VVM SEZ will adopt an Environmental Management System to assess, monitor and manage environmental performances, which can be used to promote continued environmental improvement and prevention of pollution.

GREENBELT DEVELOPMENT

Afforestation is a key element in environment conservation and protection. The establishment of a vegetation cover in and around the proposed Heavy mineral procesing plants, and captive port, will result in many direct and indirect benefits. With a view to attenuate noise propagation and mitigate fugitive air pollution impacts, it is planned to develop a greenbelt all along the periphery of project site. Compatible species have been identified for greenbelt. Saplings will be suitably nurtured. Regular watering, soil conditioning and fertilizer application will be undertaken.

PROJECT BENEFITS

The proposed VVM SEZ Project will bring significant benefits, primarily include:

- Positive impact on the socio-economic profile of the Project region, in particular and Radhapuram Taluk in general, both in terms of overall employment and skill development of the local workforce.
- Augmentation in the infrastructure resources due to the project in the region in respect of transport, communication, health facilities and other basic facilities etc.

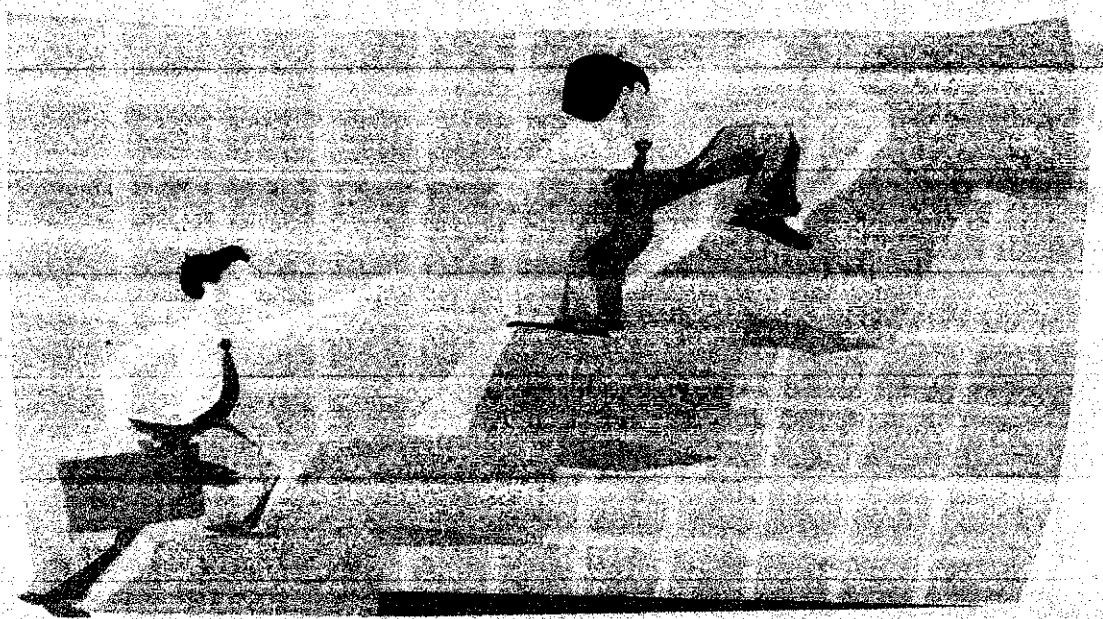
CORPORATE SOCIAL RESPONSIBILITY

VVM SEZ is committed towards fulfilling its social obligations of conducting business. The following are the initiatives towards CSR.

- Public health centers and conducting medical camps
- Educational facilities for the poor children in surrounding villages
- Vocational training institutes for building up of skill force

- Afforestation and environment preservation activities – women empowerment in the surrounding villages
- Supporting sports and heritage preservation etc.

Considering all the above aspects of employment, environment and economic concerns, the proposed SEZ project envisaged by VVM can be justified.



INTRODUCTION

CHAPTER - I

INTRODUCTION

BACKGROUND

In April 2000 Government of India announced the policy for setting up of Special Economic Zones, (SEZ) in India. The SEZ policy aims at creating competitive, convenient and integrated Zones offering World Class Infrastructure facilities. Utilities and Services for globally oriented businesses. SEZs have been declared as **"Deemed Foreign territories"** to be duty free enclaves with no restrictions on investments and import of goods and services. To attract foreign investors and Corporates, the Government has offered several incentives such as access to the Domestic Tariff Area (DTA), 100 per cent Foreign Direct Investmen t under the automatic route, greater flexibility with respect to foreign exchange earnings and procedural ease.

The State Government of Tamil Nadu has accorded approval to VV Mineral to Develop, Operate and Maintain a SEZ at Thiruvambalapuram, in Tamil Nadu. The Project is referred to as **"VVM SEZ"**. The capital cost of the Project is 870 crores.

VVM SEZ would provide integrated infrastructure encompassing all infrastructure relating to business, living, learning, as well as recreation facilities so as to make the zone self-sufficient. VVM SEZ will have world-class Industrial, Business, and Social infrastructure like development of Industries, Commercial and Residential buildings, Entertainment, Sports and Recreation facilities. The SEZ will have all essential utilities such as power generation, transmission and distribution network, water desalination plant and supply network, sewage, water recycling plant, telecom network and multi-modal connectivity viz. roads, sea port etc.

SPECIAL ECONOMIC ZONES

The Kyoto Convention of GATT describes the "free zone" as a part of the territory of a State where any goods introduced are generally recorded, in so far as import duties and taxes are concerned, as being outside the customs territory and are not subject to the usual customs control". The special Economic Zone is a more evolved and integrated version of the free zones.

The minimum features of free zones are :

- The entry and exit points are supervised
- The zones are treated as a territory beyond the jurisdiction of the customs authorities of the host country
- The economic activities of this territory to the extent it exploits the international markets are exempted from the various duties, tariffs, levies of the federal, state and local governments.

  Beginning at Shannon in Ireland in 1956 these zones under varying names have Evolved to become the gateway of the global trade in each country.

The various versions of the Free Zones include :

- Export Processing Zones
- Free Trade Zones / Free Port
- Economic and Technology Development Zones
- Activities Specific Export Promotion Zones/ Parks (Garments, Gems, Electronics, Software, Biotech, etc.

The most evolved and robust of these zones in the version commonly referred to as Special Economic Zones (SEZ). Essential difference between other Free Zones and the SEZ is in its integrated nature.

SEZ POLICY OF THE GOVT. OF INDIA

The Government of India through the SEZ Policy has made available a basket of Incentives, Exemptions, Concessions and Privileges (IECP) to the **SEZ "Developers"** and the **SEZ "Units"**. The benefits available under the SEZ Policy essentially translate

into Reduced Cost of Infrastructure, Utilities, Raw Material, Capital, Manpower and Operation Ease. These Baskets of Benefits available to the Developer and the Units are aimed at enabling Global competitiveness.

Requirement of more than 100 hectares of contagious land and provision of 35% land for processing area are the broad basis of approval for a multi product SEZ.

LEGISLATION GOVERNING SEZs

The SEZs in India are governed under the following legislation of the Govt. of India.

- SEZ Act of the Govt. of India, June 2005
- SEZ Rules, February 2006 (under the SEZ Act, June 2005)

VVM SEZ in addition to the above is also regulated by the Tamil Nadu State SEZ Act, August 2005.

Project Site

The project site is own Patta land (except the port area) in Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli District. There is no Forest land/ Govt. Land envisaged in and around the project area. The land is contiguous with no through fare. River Nambiyar is confluencing Gulf of Mannar at Thiruvambalapuram. Due to the active sedimentation/siltation at the river mouth, a naturally protected Harbour Environment Exists at the confluence region. The project site is in the southern bank of Nambiyar river which is under the tidal influence of Gulf of Mannar (Falls in CRZ I).

Thiruvambalapuram is located about 14 km from the Nearest town, Tisayanvillai, Tirunelveli is the headquarter, about 87 km away form the project site. Thiruvambalapuram is directly linked to the Rameshwaram – Kanyakumari East Coast Road (1 km). Valliyoor railway station is the nearest passenger rail head 25 km away Tuticorin air port (about 100 km) is in the vicinity. Thiruvambalapuram is a small village

with meager agriculture activities and mostly full of wind turbine and a small section of fishermen people which all are away from the proposed SEZ.

VVM - THE PROMOTERS OF VVM SEZ

The Prime Promoter of VVM SEZ, the VV Mineral Company has the expertise and experience in the key components of the SEZ. VV Mineral today is one of the fastest growing entrepreneur in India, consists of a professionally managed network of companies and assets, across the country and abroad.

PRIVATE INFRASTRUCTURE DEVELOPMENT

Heavy Mineral Processing Plant

VVM SEZ is developing a separate processing plant for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, cracking of monazite etc.,

VVM also proposed to produce Scandium, Titanium slag, Rutile grade pigments and other mineral based products by registering one or more subsidiary companies.

VVM proposed to produce rare earth oxides, solvent extraction, and manufacturing of magnet by registering one or more subsidiary companies.

While cracking Monazite, Thorium and Uranium will be generated in small quantities. They are radioactive materials hence will be stored in a separate place as per the direction of AERB (Atomic Energy Regulatory Board) and it will be disposed of to the Nuclear Power Corporation of DAE (Department of Atomic Energy) and if they do not require it with their permission it will be disposed to other parties. Already VVM has obtained proper license under Radiation Protection Rules and has appointed Radiation Safety Officers duly licensed by AERB.

Captive Port

VVM SEZ proposed to develop mechanized, multipurpose all weather sea -port at Thiruvambalpuram by registering a separate subsidiary company for this purpose. The Port infrastructure will be set up with three multipurpose mechanized jetties, over 2 km continuous quay berths, port backup operations such as open storages and hard stands, godowns, and several Container Freight Stations (CFS) operated by VVM SEZ. The Board of Approvals of Ministry of Commerce and Industry, Govt. of India has accorded VVM SEZ, the status of an SEZ owing to 166.66.5 Ha Land under its possession.

Power Plant

VVM SEZ is developing wind turbine and solar power plant in the VVM SEZ as a dedicated power source by registering a separate subsidiary company for better administration. All this activities are effected in to stages. The total capacity of the proposed Power plants altogether shall be 450 MW.

VVM SEZ COMPANY

VVM has been registered under Indian Partnership Act, 1932 for the development, operation and maintenance of the **VVM SEZ**.

Regulatory Permission to the VVMSEZ

The State Govt., has approved the SEZ project and forwards the same to Govt., of India for formal notification. The project activity will be commenced only after getting the formal notification from Govt., of India.

Status of Land Holding

VVM SEZ is in possession of 166.66.5 ha. Own patta Land, contiguous and free from all encumbrances. There is no habitation or encroachment in and around the proposed SEZ area.

Scope of VVM SEZ

The developmental activities viz., Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction, Construction of captive port and other related buildings, wind turbine, solar power plant, desalination plant, and infrastructure in the SEZ shall be provided, operated and maintained by VVM. Hence, the Environmental Impact Assessment Report covers the various impacts (environmental as well as socio-economic) expected from the developmental, processing, infrastructure and amenities are considered under the purview of VVM SEZ.

If the industries to be set up in the VVM SEZ generate any kind of environmental pollution in the form of air, water and / or solid, they shall have to appropriately manage and handle the same in compliance with the prevailing environmental norms of Tamil Nadu State Pollution Control Board and all applicable laws. This responsibility shall entirely lie with the corresponding industries.

VVM SEZ Implementation Plan

VVM SEZ enjoys several unique advantages over the other existing and planned SEZs in the country. VVM SEZ is visualized to transform an arid, brown-field site into a vibrant, thriving, modern, eco-friendly, state-of-the-art, self sufficient city with world class standards of infrastructure for the best in industrial, modern business and living

environment. VVM SEZ would soon become a self-contained industrial hub having trading centers along with institutions with social, cultural and recreational activities.

The VVM SEZ is expected to achieve its full physical development into stages. during which the realities of today may undergo unforeseen planning changes. Therefore. flexibility in the entire planning, development and management process is incorporated, so that the development can respond to changing scenario without sacrificing the basic concept of structure, the environmental paradigms, or socio-economic concerns. In case any model latest eco friendly technologies available it will be implemented to protect the environment.

The underlying philosophy of VVM SEZ is to be able to attract investment, particularly relating to industrial development, from both domestic as well as international entrepreneurs, by offering not only financial tax incentive, which are inherent in the Government of India policies for SEZs, but also the physical infrastructure facilities of international standards.

Project Completion Schedule

The estimated period over which the VVM SEZ shall be commence its first operation within 3 years. Other activities will be implemented into stages.

The proposed development of VVM SEZ is covering the following activities

- Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc.
- The Captive Port development
- Supporting Infrastructure including road utility corridors to the Port.
- Wind turbine and solar power plant altogether to a total capacity of 450 MW

- A Desalination Plant with a capacity of 100 MLD for Bulk users.
- Sea-water Intake for Desalination Plant
- Common Disposal site is proposed for disposing the rejects from Desalination plant and for other treated effluents.
- Other utilities and amenities along with fire fighting facilities and safety.

Table 1-1 Proposed VVM SEZ supporting infrastructure facilities development into stages

Sr.No.	Supporting Infrastructure facilities	Brief Description
1	Social Infrastructure	• Residential Quarters for approx. 150-200 Mainly for executives and higher grade officers spread over an area of 1 ha will come up in sectors • Associated amenities to match the facilities meeting the best standards in terms of urban planning design. • The social infrastructure will have a well planned Transportation Network having 50m Arterial Road, 30m Sub Arterial Road and 15m Collector Streets adding total up to 2.60 ha of land area. • Other facilities like IT and Telecommunication network will follow to meet the demands.
2	Common Effluent Treatment Plants for Industrial wastes	• CETPs are proposed in a phase wise manner to treat the effluent that would be generated from the proposed multi-product SEZ. • The CETPs with a total capacities that are envisaged are as under:

		1. 25 MLD 2. 50 MLD • These CETPs are phased out would initially be constructed based on the actual effluent discharges from the industries. • The effluents required to be treated would be brought through a dedicated pipeline network at the CETPs which eventually after treatment would be discharged at an identified location into sea. • The sludge formed after the treatment would be discharged to a sludge pit from where it is partly re circulated back to the clarifier inlet.
3	Sewage Treatment Plants	A sewage treatment plant is proposed in a phase wise manner to treat the effluent generated from the proposed social infrastructure facilities. For supporting the entire population of the VVM SEZ, STPs of 1.2 MLD capacity is required. In the first phase STP with an initial size of 0.4 MLD will take care of the sewerage and the recycled water would be helpful for horticulture purpose. • All the suspended solids would be filtered and disposed as per the MSW guidelines 2000 at an identified site.
4	Desalination Plant	Fresh water requirement will be met by desalination plant to meet the demands of the processing, non processing zones as well as the social infrastructure facilities.

		• The desalination plant proposed in the SEZ is of 100 MLD capacity which would come up in modular and expandable manner. • The plant capacities are based on the fresh water requirement as a part of master planning exercise that would come up in a phase wise manner to meet fresh water demands. • The immediate fresh water requirement in the coming 5 years would be ~50 MLD.
5	**Drainage Network**	• A drainage network would be proposed to discharge the treated effluents and RO reject from the CETPs and Desalination plants. • A dedicated drainage network at the social infrastructure facilities leading to STP for further treatment. • The treated effluents and rejects from the plants would be discharged to the sea at a suitable location.
6	Rain/Storm water harvesting plan	Rain water harvesting techniques would be adopted for water conservation. • Storm water would be canalized in a systematic manner to avoid any clogging during natural disasters.
7	Waste management & Disposal	• The SEZ and its supported infrastructure would generate solid wastes approx. 80 t/day that would be disposed as per the guidelines of CPCB
8	Power supply Network	• Power demand of 250MW would be met at first from TNEB. Subsequently from the

		proposed VVM SEZ Power Plant into stages. • Electrical transmission and distribution would be through an overhead and underground cable network spread across the entire SEZ area there by meeting the demands on need basis.
9	IT-Telecommunication network	• In order to have efficient communication spread throughout the proposed SEZ, IT along with telecommunication network will be spread to various zones on need basis.
10	Storage tank for safe custody of Uranium and Thorium	It will be constructed as per the advice and norms of Atomic Energy Regulatory Board (AERB) in an isolated place with in SEZ area fenced with compound wall and fire fencing with lock and key system. The Uranium will be supplied to Govt., of India, Atomic Energy Department for using as fuel in their Nuclear Power plant. The Thorium will be disposed as per the advice of the AERB / Atomic Energy Department.

SCOPE OF ENVIRONMENTAL IMPACT ASSESSMENT STUDY

The Special Economic Zone is specified as:

• Project / Activity – 7 (C)

• Category – B

- in Notification vide S.O. 3067(E) dated 1st December, 2009 issued by the Ministry of Environment and Forests, therefore it is not required to obtain prior Environmental Clearance from the Ministry of Environment and Forests, Govt. of India. Hence all the activities proposed in the SEZ project of VVM falls under category B State EIA and CRZ clearance is enough and therefore the present Environmental Impact Assessment

Report has been prepared for obtaining Environmental clearance from State Environment Impact Assessment Authority (SEIAA). The present Environmental Impact Statement has been prepared for the perusal of the SEIAA.

Study Area and Study Period

The Environmental Impact Assessment (EIA) for the proposed VVM SEZ has been carried out for the identified stretch of land as per Map -1. Owing to geographical spread of the development, the identified boundary of the VVM SEZ has been considered as a core **study area** and impacts to the adjacent habitations receptors within 10 km band from the identified VVM SEZ boundary are termed as buffer study area.

The base-line for environmental parameters and site specific meteorology has been collected for one Year during the **study period** (January 2011 to December 2011) as per the EIA Guidelines issued by the MoEF.

In the core and buffer zones several stations were selected to study the baseline Air, Water, Noise and soil quality. In all the Air quality monitoring stations suspended particulate matter, respirable suspended particulate matter, sulphur di oxide, Nitrogen oxide were monitored to assess the existing status of air quality and pollution dispersion pattern over the whole air basin of the proposed VVM SEZ project.

Micro-meteorological data like temperature, relative humidity, wind speed, wind direction and rainfall have been collected throughout the study period on hourly basis on the selected sites.

On studying the details of the proposed project, all possible significant, non significant, positive, negative, short term and long term impacts have been identified, predicted and assessed. Finally an Environmental Management Plan (EMP) has been prepared recommending measures to be implemented for mitigation of adverse impacts, as described in chapter V.

METHODOLOGY FOR EIA STUDY

The methodology adopted for carrying out this study is based on the guidelines recommended by Ministry of Environment and Forests (MoEF). The total EIA study can be divided into the following three phases :

(i) Identification of significant environmental parameters and preparing baseline data of the existing status within the study area with respect to air, noise, water, land and socio-economic environment.

(ii) Prediction of impacts due to the proposed VVM SEZ on the identified environmental parameters.

(iii) On evaluation of total impacts by super-imposing the predicted impacts over the baseline data, Environmental Management Plan (EMP) has been prepared, which would help in incorporating proper mitigation measures wherever necessary for preventing deterioration in environmental quality.

SALIENT FEATURES OF THE PROJECT - VVM SEZ

The cost of the project is 870 crores

Project Site : Thiruvambalapuram Village

Taluk : Radhapuram

District : Tirunelveli

Total Area under the project : 166.66.5 Ha

Latitude : 8°24''26' N

Longitude : 77°78''97' E

Connectivity

Nearest town : Tisaiyanvillai (14 km)

Nearest railway station : Valliyoor approximately 25 km

Nearest sea port : Tuticorin Port (90 km)

Nearest air port : Tuticorin Air Port (100 km)

Access roads : Rameshwaram – Kanyakumari Coastal Road (1 km)

Socio Economic Settings

Basic Amenities

Medical : PHCs and lower facilities. RMP doctors

Educational : Primary schools and few secondary schools and polytechnics college

Transport : State Transport Buses and local service providers

Water Supply : Thamirabarani drinking water supply scheme operated by TWAD Board. Few dependent on Bore wells and dug wells

Power Supply : All villages are electrified, no industrial users

Irrigation : Very few. Mostly on well irrigation. It is a rain shadow area.

Features of Impact Zone

Present Land Use : Mainly barren land

Land area Identified as VVM SEZ – 166.66.5 ha,

Water bodies - River Nambiyar, Gulf of Mannar

Forests : No Reserved forests are existing in or around the proposed site

Vegetative Classification - 100 % non vegetative area

Geology - Undifferentiated fluvial /Aeolian / Coastal Sediments

Soil Type - Mainly sandy soil

Crops - Coconut, Pulses, Banana

Seismic Zone : Zone II as per 1893-1984

Meteorological data

Ambient air temperature

Climate : Dry, Arid Coastal Climate

Highest daily maximum temperature : 40 °C

Max. dry & wet bulb temperature 37.7 / 26.8 °C

Min. dry & wet bulb temperature 16.2 / 11.5 °C

Wind Regime Summer - SW and W, Monsoon - NW,W Winters - N, NE

Rainfall

Average annual rainfall : 180 mm

Period of water scarcity April to June, in summer season the area is drought prone

Wind velocity

Max. wind velocity 32.4 km/hr study period (Jan 2011 – Dec 2011).

Predominant Wind direction N, NE and SW (Study Period)

Relative humidity

Annual mean humidity 60%

Max. Humidity 85%

Min. Humidity 40%

Site Approach

Thiruvambalapuram is located about 14 km from the Nearest town, Tisayanvillai, Tirunelveli is the headquarter, about 87 km away form the project site. Thiruvambalapuram is directly linked to the Rameswaram – Kanyakumari East Coast Road (1 km) Valliyoor railway station is the nearest passenger rail head 25 km away. Tuticorin air port (about 100 km) is in the vicinity.

Siting Criteria

The core points of the proposed VVM SEZ are the fully operational Heavy mineral processing area specifically for processing of minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc., VVM captive port, VVM Wind turbine and solar power plant and other related activities.

VVM SEZ is developing a separate processing plant for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, cracking of monazite etc., by registering one or more subsidiary companies.

VVM also proposed to produce Scandium, Titanium slag, Rutile grade pigments and other mineral based products by registering one or more subsidiary companies.

VVM proposed to produce rare earth oxides, solvent extraction, and manufacturing of magnet by registering one or more subsidiary companies.

While cracking Monazite, Thorium and Uranium will be generated in small quantities. They are radioactive materials hence will be stored in a separate place as per the direction of AERB (Atomic Energy Regulatory Board) and Uranium will be supplied to Atomic Energy Department as fuel material for its Nuclear Power Plants and Thorium will be disposed of to The Nuclear Power Corporation of DAE (Department of Atomic Energy) and if they do not require it, it will be disposed of as per the advice of the competent authority. Already VVM has obtained proper license under Radiation Protection Rules and has appointed Radiation Safety Officers duly licensed by AERB.

VVM Port is an all-weather port with deep draught, comprising three operational multi-purpose terminal, with mechanized handling and storage facilities for various cargo types.

VVM SEZ is developing wind turbine and solar power plant in the VVM SEZ as a dedicated power source by registering a separate subsidiary company for better administration. All this activities are effected in to stages and the total power production capacity altogether would be 450 MW.

The Special Economic Zone at VVM will further intensify the development of this otherwise marginal-economy stretch of the Thiruvambalapuram region. The infrastructure and living standard of the residents of the VVM SEZ will be at par with international SEZs. The development of this magnitude and character can be made possible only by a developer with commensurate project implementation experience and financial resources.

The land identified for the VVM SEZ is non-agricultural, saline and in-fertile land. This can be better utilized for Processing of Heavy minerals such as Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc. for captive port, wind turbine and Power plant development, in the VVM SEZ. **There are no issues of Resettlement and Rehabilitation on the identified stretch of land.**

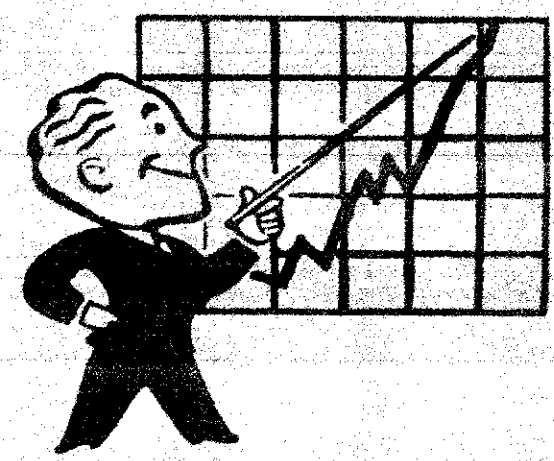
The climatic conditions of VVM SEZ will ensure pleasant and non-extreme weather condition throughout the year. Due to meager rainfall, minimum interruption in traffic, production or living is expected in comparison to any place on the main land. The region has had no events of social unrest in the past. The SEZ development being on the landward side does not envisage any land reclamation.

Major Components of VVM SEZ

The major components involved for VVM SEZ are pointed out below, however these Components are described in depth in Chapter -II.

- Heavy mineral Processing Plant for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc.
- Captive port Development
- Wind turbine and Solar Energy development
- Desalination Plant 100 MLD capacity
- Social infrastructure
- Roads network
- Storm water drainage
- Water supply network
- Power supply network
- Effluent collection network

- Distributed Common Effluent Treatment Plant
- Recycled water supply network
- Municipal solid waste management facility 80 tonnes/day
- Telecommunication network etc.,



PROJECT DESCRIPTION

CHAPTER – II

PROJECT DESCRIPTION

VISION

VVM SEZ has been conceived as a model industrial development of international standards, with emphasis on Heavy mineral Processing Plant for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc., Captive Port development, desalination plant and Wind turbine and solar power plants oriented important activities as the hub. This zone will be enjoying free trade status, having the following features:

- Modern port with potential for progressive quantitative and qualitative up gradation
- Comprehensive and integrated infrastructure within the SEZ comparable to the best practices of planning and provision of infrastructure in similar situations.
- Infrastructure sensitive to local conditions as well as conducive to conduct international business.
- Ideal living and working conditions for its working and complementary population. Endeavoring to preserve and enhance the natural ecosystem of the area.

VVM SEZ shall offer to its users the best infrastructure available in the surroundings that shall be sensitive to local conditions as well as conducive to conduct international business. At the same time, it shall strive to preserve the natural ecosystem of the area and offer ideal living and working conditions for its inhabitants. Hence VVM SEZ is conceived as a rich mix of state-of-the-art services and amenities and green environs.

PROJECT DETAILS

The proposed VVM SEZ project land (166.66.5 ha) is under the possession of the developers and has been notified by Thasildhar, Radhapuram Taluk. The own patta Land of VVM SEZ is contiguous and free from all encumbrances. There is no habitation or encroachment in and around the proposed SEZ area.

The proposed developments in the VVM SEZ are Heavy Mineral Processing Plants for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc..and a fully operational VVM Port, VVM Wind turbine abd Solar Power Plant, Desalination Plant etc.,

VVM SEZ is developing a separate processing plant for Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, cracking of monazite etc., by registering one or more subsidiary companies.

VVM also proposed to produce Scandium, Titanium slag, Rutile grade pigments and other mineral based products by registering one or more subsidiary companies.

VVM proposed to produce rare earth oxides, solvent extraction, and manufacturing of magnet by registering one or more subsidiary companies.

While cracking Monazite, Thorium and Uranium will be generated in small quantities. They are radioactive materials hence will be stored in a separate place as per the direction of AERB (Atomic Energy Regulatory Board) and it will be disposed of to the Nuclear Power Corporation of DAE (Department of Atomic Energy) and if they do not require it, will be disposed of as per the direction of the competent authority. Already VVM has obtained proper license under Radiation Protection Rules and has appointed Radiation Safety Officers duly licensed by AERB.

VVM Port is an all-weather port with deep draught. comprising an operational multi-purpose terminal, with mechanized handling and storage facilities for various cargo types.

VVM SEZ is developing wind turbine and solar power plant in the VVM SEZ as a dedicated power source by registering a separate subsidiary company for better administration. All this activities are effected in to stages. The total power production capacity altogether would be 450 MW.

The Special Economic Zone at VVM will further intensify the development of this otherwise marginal-economy stretch of Thiruvambalapuram region. The infrastructure and living standard of the residents of the VVM SEZ will be at par with international SEZs.

Existing Elements

At present the proposed SEZ project area is a barren waste land with no major development.

Proposed Elements

In order to meet with the projected demand of VVM SEZ, the following elements may require as under:

Table 2.1 Proposed project elements of VVM SEZ

S.No.	Elements	Capacity Required
1.	Heavy Mineral Processing Plant for Garnet, Ilmenite, Rutile, Zircon,	0.095 million TPA (Tons Per Annum) of finished products

	Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction	
2.	Captive Port	4.5 million ton per annum cargo handling facilities All weather port with deep draught, comprising three operational multi-purpose terminal, with mechanized handling and storage facilities for various cargo types.
3.	Power Plant (450 MW)	Wind turbines in and around the project area and Solar Power plant for all buildings altogether will generate 450 MW power, which shall be sufficient to cater for the entire calculated power required for VVM SEZ
4.	Water Supply (Desalination Plant, CETP)	Approximately 100 MLD, depending on industries within VVM SEZ. Approx. 75 MLD of CETP facilities so as to cater to effluents that are generated by the SEZ industries.
	Transport Infrastructure	
5.	Roads Network	The existing roads outside the CRZ will be sufficient. Within the CRZ area road facility will arrange by the developer at their own cost

	Social Infrastructure	Hence it is an Industrial Development Project. Importance will be given to promote Industrial activity rather than residential development. Housing facilities will be provided only to the executives and higher grade officers approx. 150 -200 numbers. Municipal infrastructure like water supply and sewerage (STP), solid waste collection, treatment and disposal, power supply, domestic transport infrastructure (roads) communication network (phone and data), and amenities like medical and educational facilities will be provided.

INDUSTRIAL DEVELOPMENT

The estimated period over which the VVM SEZ shall be commence its first operation within 3 years. Other activities will be implemented into stages.

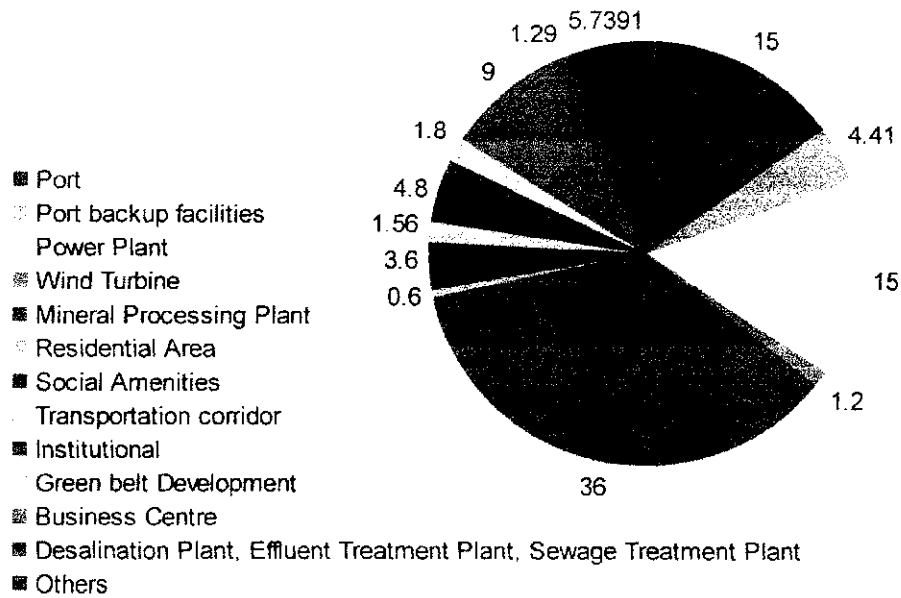
Details of land use for the proposed activities within VVM SEZ such as Processing of heavy minerals such as Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction etc., Port operation, desalination plant and Wind turbine and solar power plants development is tabulated as Table 2.2

Table 2-2 : Details on land use in development plan -VVM SEZ

Land USe	Approx. Area in Ha	% Area
Port	25.00	15.00
Port backup facilities	7.35	4.41
Power Plant	25.00	15.00
Wind Turbine	2.00	1.2
Mineral Processing Plant	60.00	36.00
Residential Area	1.00	0.6
Social Amenities	6.00	3.6
Transportation corridor	2.60	1.56
Institutional	8.00	4.8
Green belt Development	3.00	1.8
Business Centre	15.00	9.0
Desalination Plant, Effluent Treatment Plant, Sewage Treatment Plant	2.15	1.29
Others	9.565	5.7391

The VVM SEZ is expected to achieve its full physical development into stages, during which the realities of today may undergo unforeseen planning changes. Therefore, flexibility in the entire planning and development management process is incorporated, so that the development can respond to changing scenario without sacrificing the basic concept of structure, the environmental paradigms, or socio-economic concerns. In case any model latest eco friendly technologies available it will be implemented to protect the environment then and there.

Figure 2.1 Percentages of Land use by Proposed Industries in VVM SEZ



RESIDENTIAL DEVELOPMENT

The major aim of VVM SEZ is to promote Product specific (mineral based) Industrial Development in the project area hence emphasis will be given to Industrial development rather than Residential Development. Residential quarters facility will be provided only to the executives and higher grade officers approximately to 150 -200 numbers.

Institution Development

The primary objective of providing sufficient and high quality social institutions within VVM SEZ is to be able to give a better quality and modern life style to the Workers. Necessary land have been set aside for institutional uses such as community centers, polyclinic, and library, religious institution, swimming complex, sports complex and an indoor stadium.

Following strategies were formulated to optimize the available land for better Industrial Development

PROCESSING PLANT

The processing of Industrial heavy mineral sand for segregation of heavy minerals is primarily a mechanical operation. As the heavy minerals have different magnetic susceptibilities, relative variations in the magnetic and conductive properties of heavy minerals sand are taken advantage in their sub section in dry state. The processing and mineral separation is normally done in 2 stages.

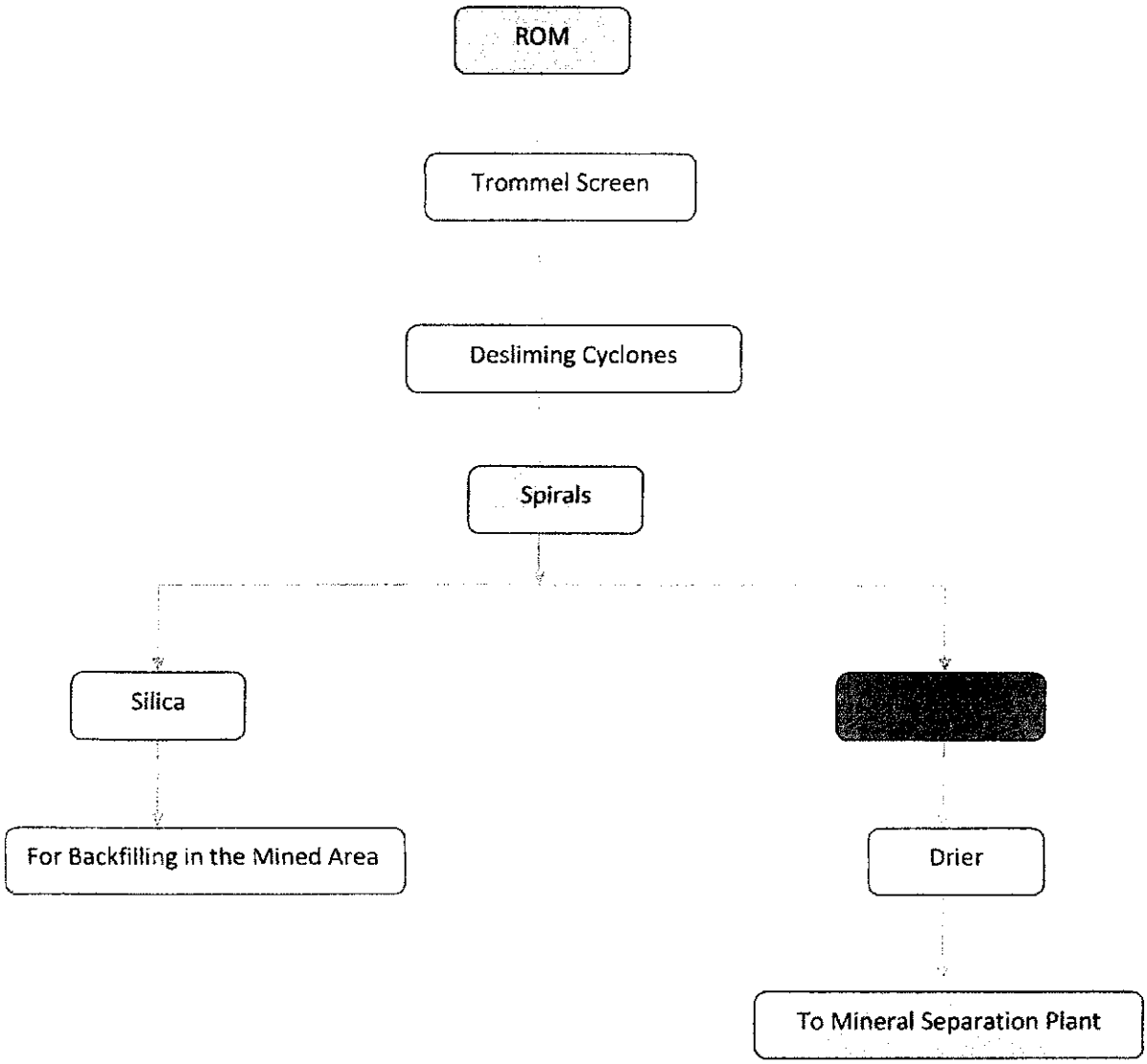
Stage I : Pre concentration Plant

The heavy mineral bearing sand will be subjected to spiraling. The heavies containing Ilmenite, Rutile, Zircon, Sillimanite, Garnet will be separated as concentrate for further treatment in the Mineral Separation Plant. The lights containing Silica, quartz and shell fragments etc. is the balance sand after removing the heavies in the Pre concentration Plant, which will be back filled in the mined blocks and levelled.

The List of equipments to be used in the Pre concentration Plant

1. Spirals (10 tonnes per hour capacity) : 800 numbers
2. Trommel Screen (12' length x 8' diameter) : 4 numbers
3. Pumps (25 HP capacity) : 8 numbers

FLOW SHEET OF PRECONCENTRATION PROCESS



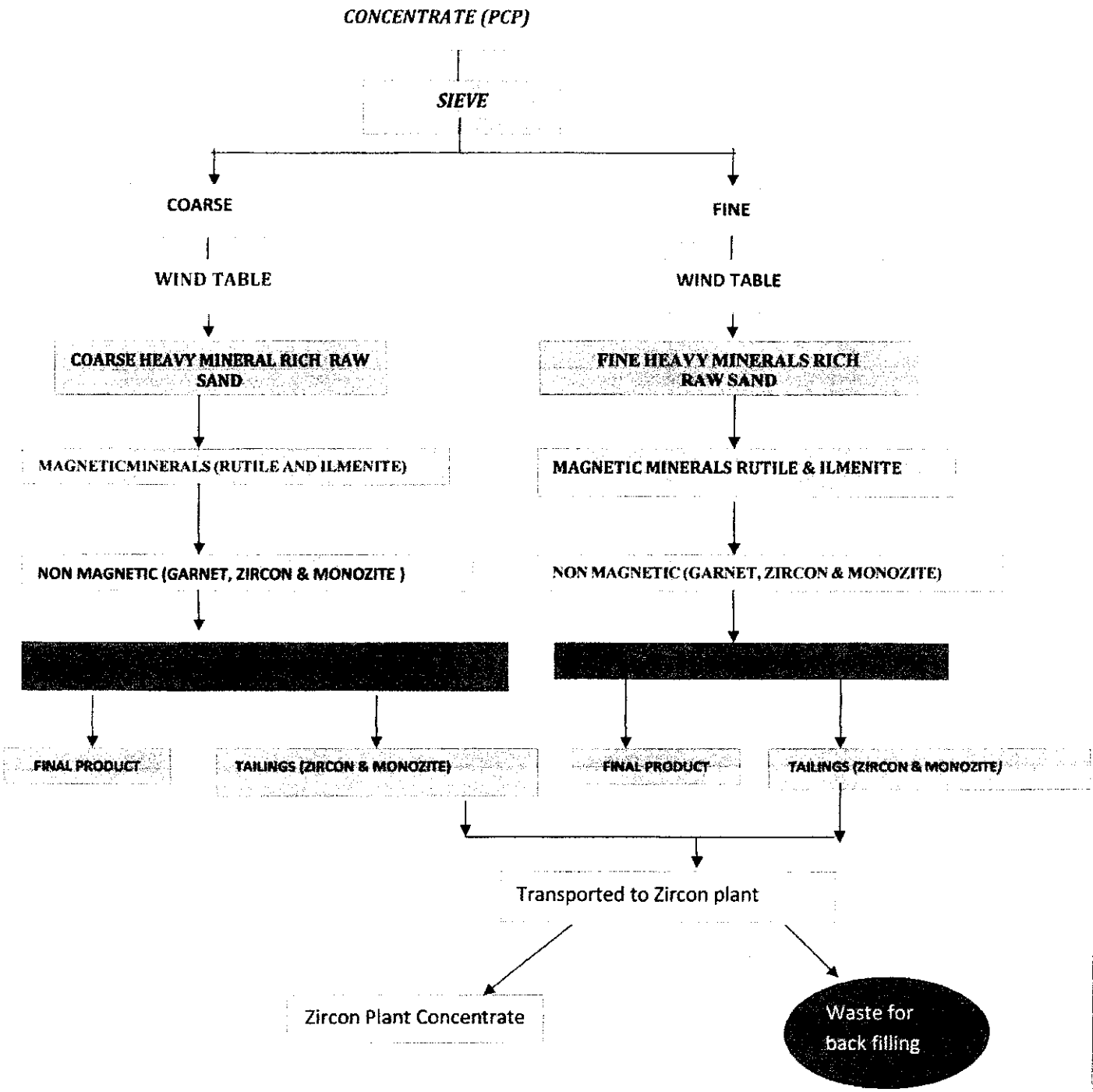
Stage II

The concentrate from the Pre concentration plant will be routed to the Mineral Separation Plant (MSP) for further processing and separation of individual minerals. By using electrostatic separator, the minerals which are primary conductors and the non conductors will be separated out. The primary conductors minerals will pass through Rare Earth Drums to separate the Ilmenite and the Rutile. The non conductors will pass through high intensity Roll Magnetic Separators and various other processes to liberate Garnet, SIllimanite, Zircon etc.

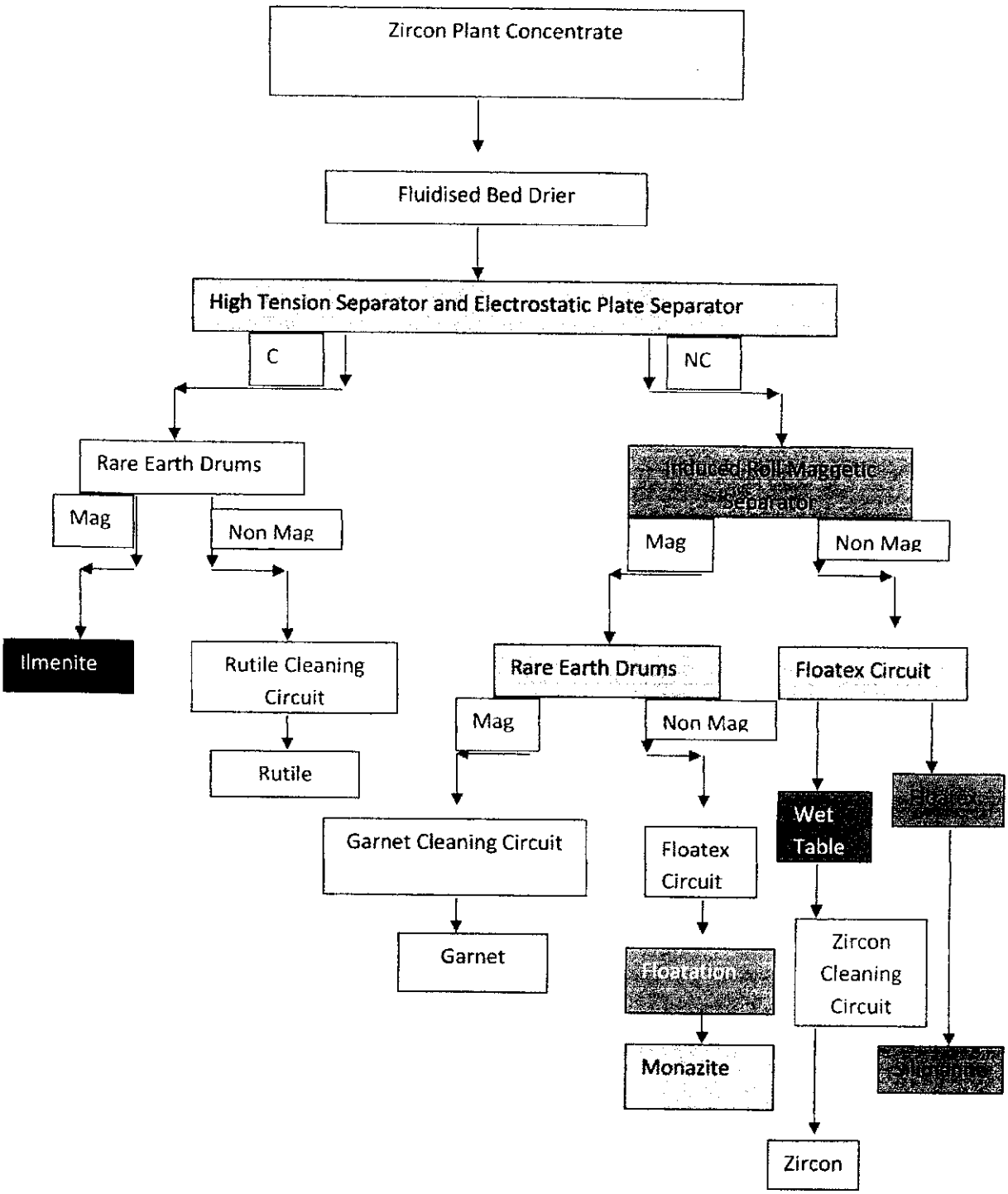
The List of equipments to be used are given below

1. Electrostatic Separators (10 tonnes per hour capacity) : 12 numbers
2. Magnetic Rolls (5,000 gauce approx.) : 40 numbers
3. Magnetic Separators (20,000 gauce approx.) : 40 numbers
4. Bucket Conveyors (12' height) : 48 numbers
5. Belt Conveyors (500 m length x 1 meter width approx.) : 20 numbers
6. Vibrating Screens (10 tonnages per hour capacity) : 12 numbers

FIG. 2-2 FLOW SHEET OF THE MINERAL PROCESSING PLANT

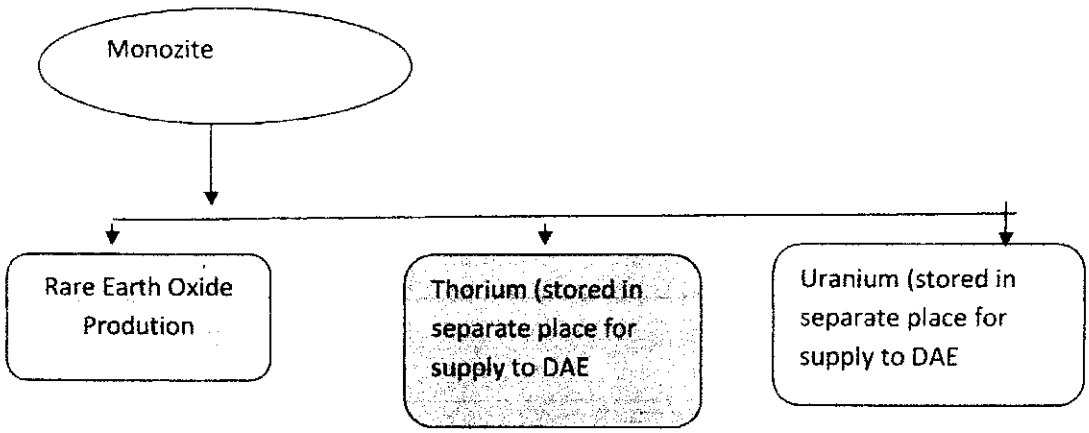


FLOW SHEET OF MINERAL PROCESSING PLANT

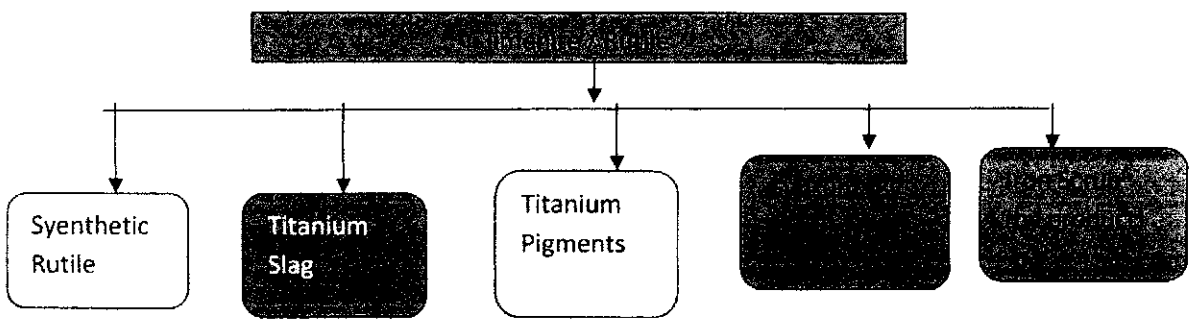


The monazite separated will be stored in separate storage yard.

Cracking of Monozite



Production of Titanium Slag / Pigments



VVM proposed to produce Scandinium, rare earth oxides, solvent extraction, and manufacturing of magnet by registering one or more subsidiary companies.

While cracking Monazite, Thorium and Uranium will be generated in small quantities. They are radioactive materials hence will be stored in a separate place as per the direction of AERB (Atomic Energy Regulatory Board) and it will be disposed of to The Nuclear Power Corporation of DAE (Department of Atomic Energy) and if they do not require it, it will be disposed as per the advice of the competent authority. Already VVM has obtained proper license under Radiation Protection Rules and has appointed Radiation Safety Officers duly licensed by AERB.

VVM CAPTIVE SEA PORT

VVM proposed to establish a port within VVM SEZ area. VVM Port shall be an all-weather port with deep draught, comprising an operational multi-purpose terminal, with mechanized handling and storage facilities for various cargo types.

It will handle VVM's cargo as well as any other cargo required by Export Oriented Units / Exporter / Importer with proper permission from competent authority.

Outward - 1000 TPH of 3700 m length connecting godowns to jetty, Ship Loader – all type of permissible mercantile goods (1000 to 2500 TPH).
Dry Bulk Cargo Coal and Coke and building materials and all type of permissible mercantile goods will be handled in separate yard.

VVM will establish separate container terminal for handling of 40 feet, 20 feet and other specialized containers.
The details of the captive port is as follows

1	Length of North Breakwater	2,100 m
2	Length of South Breakwater	1,150 m
3	Length of Approach Channel	3,300 m
4	Width of Approach Channel	160 m
5	Depth at Approach Channel (below CD)	16.1 m
6	Depth at Maneuvering Areas (below CD)	15.5 m
7	Diameter of Turning Circle	500 m
8	No. of berths (length in m)	3 (600m)
9	Dredged depth at berth	15.5 m CD
10	Dredging quantity	11 million m^3

- **Power supply** – The required power will be meet out by TNEB at first stage and when VVM power plant comes to operation own power will be utilized and the surplus power will be exported. The initial power demand is estimated as 250 MW.

POWER PLANT

To meet the power requirement of VVM SEZ, wind turbine and solar power plants shall be installed in the VVM SEZ. The ultimate capacity altogether would be 450 MW implemented into stages by registering one or more subsidiaries.

TRANSPORTATION

Own transportation arrangement will be done for transportation of materials as well as staffs. For other exporters Cargo handling, private vehicles with valid fitness certificate and registration from the competent authority will be utilized.

Road Network

Existing road network outside the VVM SEZ is sufficient for transportation. Within the SEZ area, road with latest technology will be erected at developers own fund.

Water Requirement and Source:
SOURCES

The water requirement will be met out by its own source by desalination of sea water and harvesting of rain water and recycling of treated water.

The details and estimated quantum of the above water resources are as under:

1. Desalinated Water: It will be necessary to provide substantial volume of desalinated water, in phases, for assured uninterrupted water supply to VVM SEZ. Sea water shall

be treated by desalination plants to the standards of potable water and supplied primarily for domestic use. Water demand is initially 2.5 MLD and in full fledges operation 100 MLD.

3. Recycled Water: Domestic and other waste water shall be collected and treated at strategically placed treatment plants, up to tertiary treatment level and shall then be re-circulated for industry and non-domestic uses.

The wastewater treated shall be used to develop Green belt over the VVM SEZ there by reducing the net fresh water demand and minimize impacts on the competitive users.

DISTRIBUTION

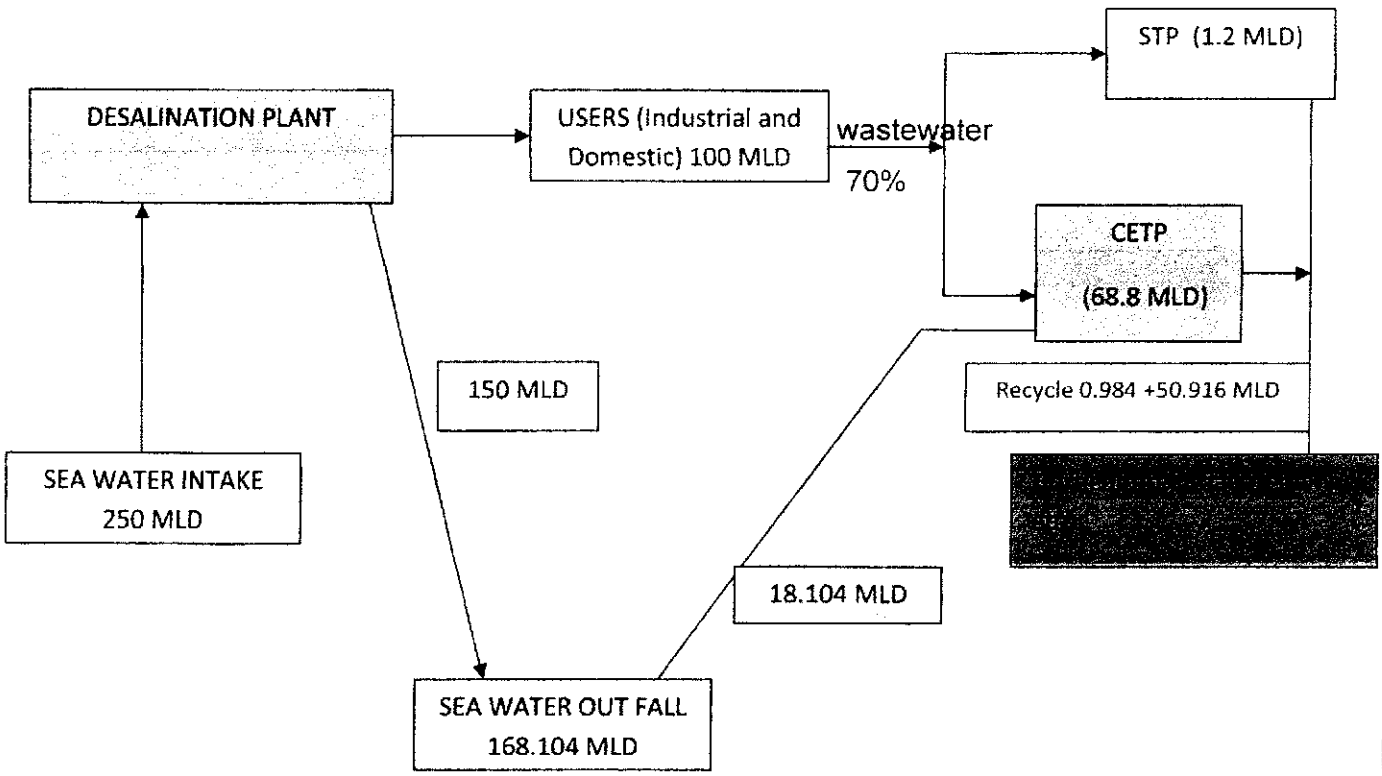
The water distribution scheme has been based on independent storage and distribution of treated water for different sources, for domestic, non-domestic and industrial uses. The water is being pumped into the distribution system by hydro-pneumatic pumps, which also ensure the desired residual pressure. Most part of the water supply is designed as loop system to ensure maximum head of water.

WATER REQUIREMENT

1. Daily Average Water Demand

Daily average water demand has been estimated initially as 2.5 MLD and in full fledge project operation the requirement would be 100 MLD, which will be met by its own source by desalination of sea water and harvesting of rain water and treated water as per demand into stages. The desalination plant will be built in modular and expandable manner.

FIG. 2-3 WATER BALANCE FOR VVM SEZ



2. Design Parameters for Distribution System

The planning for the proposed water supply and distribution system shall cater to phase wise development. In addition, the following parameters shall be adopted for water distribution network for VVM SEZ:

a) Peak factor for transmission main - 1.5

b) Peak factor for distribution system - 2.25 for Residential/Institutional and 1.5 for Industrial

c) Water loss due to leakage - 15%

d) Minimum residual pressure at ferrule point - 7m for single storey, 12m for two storey and 17m for three storey

e) Pipe material proposed- Ductile Iron / Mild Steel / DI (K – 9) / and HDPE pipes (PE 100) pipes are used for water distribution.

f) Minimum diameter- 100mm

3. Fire Protection Demand

The quantity of water required for fire fighting operations shall be planned based on the Manual on "Water Supply and Treatment", published by CPHEEO (Central Public Health and Environmental Engineering Organisation), Ministry of Urban Development, New Delhi, 1991, using the following empirical formula:

Fire demand in liters per day = Q =100000x (P) 0.5

Where P = Workers/Population in thousands

Q = quantity in lpd (liters per day)

For SEZ project, the fire protection system shall be designed for a total worker population of 8250. Therefore,

P = 8.25

Q = 100000 x (8.25) 0.5

= 412500 lpd

= 0.4125 MLD

DISTRIBUTION SCHEME

The water is being pumped into the distribution system by hydro-pneumatic pumps, which also ensure the desired residual pressure. Most part of the water supply is designed as loop system to ensure maximum head of water.

The water distribution pipes are laid along the defined utility corridor and away from sewerage system to avoid any possibility of contamination. A gridiron system of pipelines shall be used for water distribution network, compatible with the sector planning of SEZ. Within the gridiron system of pipe network, all arterial and secondary mains shall be looped and interconnected. This arrangement eliminates dead ends and permits water circulation such that a heavy discharge from one mains allows draining water from other pipes. This also helps in preventing water from developing tastes and odors due to stagnation. In addition to the water supply for domestic, non-domestic and industrial uses, piping system shall also cater for water supply for fire fighting, including necessary pressure boosting measures.

DETAILS ON DESALINATION PLANT USING REVERSE OSMOSIS (RO) SYSTEM

It will be necessary to provide substantial volume of desalinated water, in phases, for assured uninterrupted water supply to VVM SEZ. For this total 100 MLD of sea water desalination facilities will be developed. So to ensure continuous supply of quality water Desalination Plant of 100 MLD capacity is required to meet the estimated demand. The desalination plant will be built in modular and expandable manner.

Technical features of the plant

- Sea water intake
- Pre-treatment
- Filtration
- RO system
- Post treatment
- Automation

After reviewing various technology, VVM SEZ has chosen Sea Water Reverse Osmosis Desalination Technology to implement in this project.

The Reverse Osmosis process uses a semi-permeable membrane to separate and remove dissolved solids, organics, pyrogens, submicron colloidal matter, viruses, and bacteria from water. The process is called "reverse" osmosis since it requires pressure to force pure water across a membrane, leaving the impurities behind.

Reverse Osmosis is capable of removing 98%-99.5% of the total dissolved solids (TDS) and 99% of all bacteria, thus providing safe, pure water.

Pre-treatment

- From the pumping station, raw seawater flows to the pre-treatment facilities.
- Chlorination for effective disinfection is done in stilling chamber.
- The disinfected water is then flow to coagulation and flocculation chambers for chemical treatment using coagulants and flocculants.
- Clarification and gravity settlers are used to settle and remove the heavier suspended and settable solids.
- The sludge from the gravity settler are drawn into the sludge pit

Filtration

Filtration is performed in two stages, starting with gravity filters containing gravel, quartz sand and anthracite media. The filters, which have an automatic backwash facility, offer a 12.5% standby overcapacity and have a proven ability to cope with storm turbidity levels. Four parallel batteries of cartridge filters form the second stage, with a built-in spare capacity of 33% are employed to remove the finer suspended solids present in the seawater to achieve the required SDI (Silt Density Index).

- The clarified water from gravity settler passes through Gravity sand filter and the outlet water from the filter is stored and pumped to the horizontal Pressure filter

through the intermediate pumping station to remove the suspended solids of particle size greater than 5 microns.

- @1.8 MLD backwash effluent water generate from filter will mix with RO reject water and go to reject disposal tank.

• The three modules of 5 micron cartridge filters are used to remove the remaining suspended solids completely and some of the microorganisms present in the seawater before it enter into the RO system.

Figure 2-3 Seawater RO System Discharge Water Characteristics

Parameters	Permissible values	Ambient Values	Discharge Values
BOD	100 mg/l	5 mg/l	14.2 mg/l
COD	250 mg/l	50 mg/l	92.68 mg/l
Salinity	-	37 ppt	57.00 ppt

Post Treatment

• The 100 MLD product water produced is stored in a tank and again chlorinated to avoid microbial contamination during water distribution.

• The brine is drained into the sea along with the disposal system of treated effluent.

Automation

• The proposed 100 MLD desalination plant will be a fully automated plant with multiple PLC's (Programmable Logic Controller) controlled and by SCADA system (Supervisory Control and Data Acquisition) .

Layout of the Plant

The proposed Desalination Plant will remove the dependence of the VVM SEZ, and all its ancillary developments on the ground water and fresh water. Since VVM SEZ area is already a 'dark zone' from the ground water perspective, the desalination plant will protect this fragile area for salinity ingress. The VVM SEZ will thus be completely independent from the point of view of its water requirements.
The RO reject and the CETP treated discharge water will be discharged through a common outfall point into the sea.

Sewage Treatment System

Sewerage system comprising of sub-systems; each catering to a self-contained park/hub, shall consist of collection system of pipe network, lifting stations (LS), terminal sewage pumping stations (TSPS), sewage treatment plants (STP) and Common Effluent Treatment Plant (CETP) before recycling for non-domestic and industrial usages. Planning for the sewerage system for a particular development area shall be such so as to take into account the entire future development in order to avoid re-installation of sewer pipelines for anticipated ultimate flow.

The sewage shall be treated at the STP and treated effluent shall be recycled for non-domestic usages. Effluent from the wastewater shall be treated at the CETP and treated effluent shall be discharged in an appropriate manner. The quality of the effluent after treatment shall meet the standards, as prescribed by the Tamil Nadu Pollution Control Board.

The following planning criteria shall be adopted for the proposed sewerage system at VVM SEZ site:

- Sewage Flow: 70% of water supply shall be considered as sewage inflow.
- Peak Factor: Design peak flow shall be two times the average flow.
- Discharge Capacity: The sewers shall be designed for the discharge capacity

of Q to cater adequately for the estimated peak run off using Manning's formula:-

Where,

$Q = 1/n.A.R^{2/3} S^{1/2}$ (m^3/sec)

Q = Discharge capacity (cu.m/sec)

A = Flow area of sewer (m^2)

R = Hydraulic mean radius (m)

S = Bed gradient

n = roughness coefficient, (assume n=0.015 for reinforced concrete pipes)

DETAILS OF SEWAGE TREATMENT PLANTS

To meet the waste water disposal standards, VVM SEZ envisages developing 1.2 MLD Sewage Treatment Plant for Social Infrastructures. The STP will be built in modular and expandable manner. It will be of high efficiency aerobic treatment schemes based on extended aeration system using fine bubble diffused aeration are proposed. These plants are compact, odor free and have an energy efficient process. STP shall generate water of high quality, suitable for use as process water for industries / warehouses / transportation / horticulture etc.

Activated sludge process is an aerobic treatment of sewage in which bacteria require oxygen for their existence, thrive in presence of light and bring about oxidation of the sewage. In this system, certain amount of oxidized or activated sludge is intimately mixed with the sewage, which greatly hastens the process of oxidation of organic matter. Aeration and activation is done through compressed air, which is introduced through diffusers into the sewage as it flows through tanks. Air is supplied through vertical pipes, which run longitudinally along the tank. Waste or excess sludge from the liquid stream is removed in the form of flocculent sludge in settling tanks. Also, pre-treatment of industrial waste is to be made essential before discharging into the main

sewers as these wastes may be of such composition as would damage the sewers or interfere with the treatment process.

DETAILS OF INDUSTRIAL WASTE WATER MANAGEMENT SYSTEM

To meet the waste water disposal standards, VVM SEZ envisages developing 75 MLD Common Effluent Treatment Plant (CETP) facilities. The CETP will be built in modular and expandable manner.

Technology

After reviewing various technology, VVM SEZ has chosen conventional treatment scheme of Activated Sludge Process to implement this project.

Treatment

The effluent will be collected in the equalization tanks after passing through screen chamber. The effluent is then pumped to common Effluent treatment plant to bring the effluent to the accepted level for disposal in marine coastal areas or into the sea.

Description of the Plant

- Effluent Characteristics
- Treatment Scheme
- Technical features of the plant

Effluent Characteristics

It is proposed to combine treatment of the wastewater from different industries of VVM Special Economic Zone in the proposed Common Effluent Treatment Plant (CETP)

The expected effluent characteristics and those required after the treatment as per the guide lines of Tamil Nadu Pollution Control Board are as follows:

Table 2.4 : CETP Expected Raw Effluent Characteristics

S.No	Parameter	Unit	Value
1	pH		6.5-8.5
2	BOD	mg/l	100
3	COD	mg/l	250
4	Suspended solids	mg/l	100
5	Oil and Grease	mg/l	20
6	Cyanide	mg/l	0.2
7	Phenolic compounds	mg/l	5
8	Ammonical Nitrogen	mg/l	50
9	Residual Chlorine	mg/l	0.5

Treatment Scheme

Following is the list of units involved in the proposed common effluent Treatment Plant.

- Screen Channel with Mechanical Bar Screen.
- Equalization Tanks
- Neutralization Tanks
- Primary Settling tank with Mechanical sludge scrapper and scum removal.
- Sludge sump cum collection tank with pumps.(Dry well and wet well type Aeration Tank , with mechanical surface aerators (1st stage).
- Secondary Settling tank with mechanical Sludge scrapper (1st stage).
- Sludge sump with pumps (1st stage). (Dry well and wet well type)
- Aeration Tank, with mechanical surface aerators (2nd stage).
- Secondary Settling tank with mechanical Sludge scrapper (2nd stage).
- Sludge sump with pumps (2nd stage). (Dry well and wet well type)
- Aeration Tank , with mechanical surface aerators (3rd stage optional).
- Final Settling tank with mechanical sludge scrapper(3rd stage optional)

- Sludge sump with pumps (3rd stage optional). (Dry well and wet well type)
- Sludge drying Platforms.
- Decanters.
- Intermediate collection Tank.
- Chlorination Plant
- Guard Pond.
- Dried Sludge storage facility.

Table 2.5: Treated Effluent Characteristics Permissible limit for Discharge

Sr. No.	Parameter	Permissible Value for disposal into marine coastal areas	Permissible Value for on land irrigation
1	BOD	100 mg/l	100 mg/l
2	COD	250 mg/l	-
3	pH	5.5-8.5	5.5-9.0
4	Suspended soilds	100 mg/l	200 mg/l
5	Oil and Grease	20 mg/l	10 mg/l
6	TDS	-	2100 mg/l

Solid Waste Management System

Solid waste can be classified into two main categories, namely municipal solid waste and Industrial waste. Solid waste shall be sorted out for recycling and non-recycling material. Recycling turns materials that would otherwise become waste into valuable resources. Materials like glass, metal, plastics and paper are collected, separated and sent to facilities that can process these into new material.

All biodegradable municipal solid waste shall be mixed with sewage sludge to undergo composting to produce saleable fertilizer. Composting is another form of recycling. Composting is the controlled biological decomposition of organic matter into humus.

Composting is nature's way of recycling organic waste into new soil, which can be used in vegetable and flower gardens. landscaping and many other applications.

Noise Management System

The industries to be set up in VVM SEZ have slightly noise generating equipment / machinery, however suitable acoustic hoods / enclosures will be provided such that the noise level in the vicinity shall conform to the national noise quality criteria.

The infrastructure facilities will not produce considerable noise. However, in case of emergency, DG sets shall be operated. Hence, they shall be installed in acoustic enclosures, to minimize noise pollution.

Table 2.6 : National Noise Quality Criteria

Area Code	Category of Area	Noise Levels dB(A) Leq	
		Day time	Night time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note : Day time is from 06.00 AM to 10.00 PM and Night time from10pm to06.00 am.

** Silence zone is defined as area up to 100 meters around premises of hospitals, educational institutions and courts. Use of vehicle horns, loud speakers and bursting of crackers are banned in these zones.

ENVIRONMENTAL FRIENDLY MEASURES AT VVM SEZ

DEVELOPMENT OF GREEN BELT

Land Zoning and Green Cover:

Through out the VVM SEZ project area a greenbelt will be maintained at appropriate places into stages.

Introduction:

The VVM SEZ region has dry arid conditions with Saline sandy soil, highly saline water (TDS 35000-45000) and with strong wind conditions. So to improve climatic condition and to change the environment, VVM SEZ has adopted a strategy to develop an ecofriendly Heavy Mineral Processing Plants, Port, Power plants, Desalination Plant, Social Infrastructure as well as greeneries in the Project Area.

VVM will develop a well planned Green belt with suitable plants in and around the project area to absorb air and water pollutants, arrest noise and soil erosion as well as creates favorable climate and aesthetic conditions.

Planning of Landscape\Green zone:

VVM is always consider following criteria While planning of each Landscape \Green zone.

1. To minimize\control the Noise and air pollution by planting of dense Screen tree
2. To minimize\control the Noise and air pollution by developing sloppy\undulating lawn feature in landscape.
3. To Control Soil Erosion by planting of dense saline resistant Ground cover.
4. To minimize water requirement in irrigation by using Hi-tech mechanized irrigation.
5. To save environment by utilizing treated STP\CETP water in irrigation in green zone development.
6. To use sloppy landscape for help in rain water harvesting collection without damage to landscape.

Planning of Landscape at Social Infrastructure for controlling noise and air pollution

1. **First Screen Tree** : Selected *Casuarina equisetifolia* as a dense Screen tree from ground level to upwards

2. Several rows of screen tree with plant to plant distance of 1m along the both side of main traffic road ,in front of social infrastructure, inside of all side boundary will be maintained from ground level to upwards (10m dense green zone).

2. **Second Screen Tree**: Selected *Cocus nucifera* as a dense second Screen tree from ground stem to upwards dense leafs . These trees will be planted with plant to plant distance of 3m along the inside of all boundary.

3. **Third base undulating landscape feature** : Selected undulating landscape feature as a third base of landscape feature from ground level to till 2m as a undulating lawn for controlling the base noise\air pollution along the inside of all boundary.

ELECTRIC POWER SUPPLY

POWER DEMAND

Power demand of 250 MW would be met at first from TNEB. Subsequently from the proposed VVM SEZ power plants.

Telecommunications/IT Network:

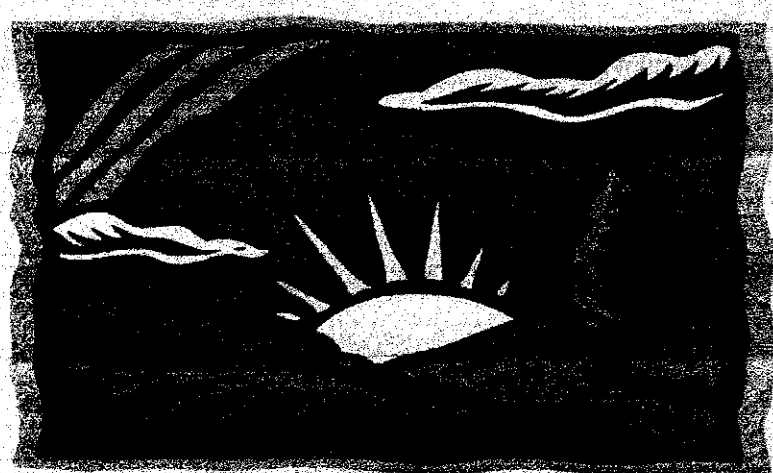
The different activities in Special Economic Zone will have modern telecommunication facilities, by linking communication flow in India and selected destinations throughout the world. A telecommunication service network having latest networking features like online, real time and convergence facilities shall be proposed, which shall be capable of transmitting voice, image and data networks.

Manpower Requirement

During the construction and for operation of the VVM SEZ, the estimated man power requirement shall be as follows in Table 2-7

Table 2-7: Manpower Requirement

STAGE	MAN POWER REQUIREMENT
First Stage	1000
Second Stage	1300
Third Stage	1700
Fourth Stage	2000
Fifth Stage	2250
Total	8250



EXISTING ENVIRONMENTAL SCENARIO

CHAPTER - III

EXISTING ENVIRONMENTAL SCENARIO

Preparation of EIA needs a baseline data about the environment on which impact prediction and evaluation can be done. It is therefore, necessary to collect data about different environmental attributes that are likely to be affected due to the proposed activity, which in turn defines an existing environmental quality to serve as the baseline data. Baseline data are also necessary to identify environmentally significant issues prior to initiation of proposed action as well as to enumerate the critical environmental changes likely to occur due to the implementation of the project. Hence an attempt has been made to collect the information about the existing environment on eight major environmental attributes viz.

- Socio-economic Profile
- Ambient Air Quality
- Climate and Meteorology
- Water Quality
- Noise Levels
- Soil Quality
- Ecological Status
- Aesthetics

SOCIO-ECONOMIC ENVIRONMENT

An integral part of EIA study is to collect base line information about the socio-economic profile of the study area (core and buffer zone) for the proposed VVM SEZ at Thiruvambalpuram. This database is based on Census of India 2001 thus, generated in the process include total population, caste, sex ratio, literacy rate, total main worker, marginal worker and non-worker etc. It is envisaged that this information would serve as

baseline while evaluation of likely impact which may occur on socio-economic environment because of proposed SEZ development.

DEMOGRAPHIC PROFILE:

POPULATION:

The population details of each village within the buffer zone with male, female classification as per 2001 census is provided in Table 3.1. Study of the statement shows that there is a total population of 75,264 in these villages where in 38,910 (51.70%) are female and 36,354 (48.30%) are male.

LITERACY LEVEL:

Village wise literacy level within the study zone is given in Table 3.1. Of the total population (75,264) only 45,660 (60.67%) are literates, of which 24,242 (32.21%) are male and 21,418 (28.46%) are female. Literacy level amongst women is lower than male.

TABLE 3.1

SOCIO – ECONOMIC SURVEY – GENERAL DETAILS

S.No	Name of the village	House hold	Male population	Female population	Total population	S.C (M)	S.C (F)	Total S.C	S.T (M)	S.T (F)	Total (S.T)	Mae literate	Female literate	Total literate
1	Vijayapathi	1893	4577	4730	9307	398	468	866	0	0	0	3165	2965	6130
2	Kudankulam	2124	4462	4561	9023	407	428	835	4	6	10	2963	2451	5414
3	Udayathur	925	1807	2066	3873	558	612	1170	114	126	240	1006	844	1850
4	Radhapuram	1431	2819	3041	5860	1078	1153	2231	31	30	61	1892	1666	3558
5	Parameshwarapuram	410	791	882	1673	265	272	537	261	330	591	519	435	954
6	Danakkakulaam	1091	2200	2436	4636	566	607	1173	0	0	0	1499	1319	2818
7	Adankarkulam	685	1343	1532	2875	436	531	967	0	0	0	812	689	1501
8	Pazhavoor	770	1540	1563	3103	657	667	1324	12	5	17	1155	915	2070
9	Karunkulam	734	1492	1628	3120	230	252	482	3	2	5	953	728	1681
10	Levinjiipuram	2376	5074	5470	10544	214	230	444	2	2	4	3853	3772	7625
11	Chettikulam	1834	4179	4456	8635	106	95	201	0	0	0	2645	2268	4913
12	Irrukkunthuri	797	1595	1733	3328	700	723	1423	0	0	0	1058	855	1913
13	Kasthurirangapuram	683	1341	1517	2858	401	416	817	0	0	0	763	606	1369
14	Thiruvambalapuram	1380	3134	3295	6429	8	7	15	0	0	0	1959	1905	3864

OCCUPATIONAL STRUCTURE:

The occupational structure of the villages within the Buffer zone is given below.

S.No	Details of Occupation	Total	Percentage
1	Main Workers	15,548	42.77
	❖ Cultivators	2,541	6.99
	❖ Agricultural workers	4,675	12.86
	❖ House hold workers	2,832	7.79
	❖ Other workers (Wind Turbine)	5,500	15.13
2	Total Marginal Workers	1,658	4.56
3	Non Workers	19,148	52.67

It could be seen that the non workers strength comes to 52.67% and the main workers form 42.77% of the total population. Out of the 42.77% of main workers agricultural workers constitute 12.86%.

LAND USE PATTERN

The proposed VVM SEZ project land of 166.66.5 ha is under the possession of the developers and has been notified by Thasildhar, Radhapuram Taluk. The own patta Land of VVM SEZ is contiguous and free from all encumbrances. There is no Forest land, habitation or encroachment in and around the proposed SEZ area.

AMENITIES AVAILABLE WITHIN THE BUFFER ZONE:

The details of basic amenities like education, medical, drinking water, approach roads, facilities etc., in the rural villages within the Buffer zone, are illustrated in Table 3.2.

EDUCATIONAL FACILITY:

Most of the villages have got educational facilities at the primary level. There are primary schools, Middle Schools and High Schools in most of the villages selected with in the buffer zone. Polytechnic college is also present in the buffer zone village.

DRINKING WATER SUPPLY:

It is evident from the survey that there are adequate drinking water facilities in all the villages. Most of the villages depend on the Thamirabarani Drinking water project since the entire Radhapuram Taluk is rain shadow area and the ground water is mostly saline due to over extraction of ground water during summer and drought period.

POWER SUPPLY:

All villages within the Buffer zone have got electric power supply. Electricity is used for both domestic as well as for agricultural purposes.

MEDICAL FACILITIES:

The medical facilities available within the study zone includes maternity child welfare centers, dispensaries, registered practitioner and private hospitals as per the 1991 census. How ever presently the number of medical facilities have increased.

TABLE 3.2

SOCIO – ECONOMIC SURVEY – BASIC AMENITIES

	Name of the Village	Education	Medical	Drinking water	P.O/P.T.O	Communication	Road Approach	Nearest Town	Power supply	Staple food
1	Vijayapathi	PS(2) MS(2) HS(1)	A	W/HP	PO	Bus	Pukka. Road	Tisayanvilai	EA	Rice
2	Kudankulam	HSS(1) MS(2) HS(1) PS(2)	A	W/HP	PO	Bus	Pukka. Road	Tisayanvilai	EA	Rice
3	Udayathur	PS(4) HS(1)	A	W/HP	PO	Bus	Pukka. Road	Tisayanvilai	EA	Rice
4	Radhapuram	PS(1) HS(1)	B	W/HP	PO	Bus	Pukka Road	Tisayanvilai	EA	Rice
5	Parameshwara puram	PS(1) HS(1)	B	W/HP	PO	Bus	Pukka Road	Tisayanvilai	EA	Rice
6	Danakkakulam	PS(1) HS(1)	B	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
7	Adangarkulam	HSS(1) HS(1)	B	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
8	Pazhavoor	HS(1) PS(2)	B	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
9	Karunkulam	HS(1) PS(2)	B	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
10	Levingipuram	PS(1)	A	W/HP	PO	Bus	Pukka Road	Radhapuram	EA	Rice
11	Chettikulam	HSS(1) MS(2) PS(1)	A	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
12	Irukkanthurai	HSS(1) MS(2)	A	W/HP	PO	Bus	Pukka. Road	Radhapuram	EA	Rice
13	Kasthurirangapuram	PS(2) MS(2)	B	W/HP	PO	Bus	Pukka. Road	Tisayanvilai	EA	Rice

RELIGION:

The population of the buffer zone consists of Hindus, Christians and Muslims. Chettiyars, Mudaliars, Devar, Nadars, etc., are the dominant communities followed by Harijans, Fernandes and Muslims. There is good communal harmony in the area amongst the various religious classes.

CROPPING PATTERN:

In general, agriculture is found to be the predominant income source in most of the rural villages. Pulses, coconut and banana are grown in this area. Irrigation in general is by rain fed tanks and wells.

AIR ENVIRONMENT

A methodically designed Air Quality Surveillance Program (AQSP) has formed the basis to determine the impact assessment on air environment that has helped in formulating a sound EMP. The basic considerations for designing such a program included :

i. Representative selection of sampling locations primarily guided by the topography and micrometeorology of the region,

ii. Adequate sampling frequency, and

iii. Inclusion of all the major parameters.

The existing Ambient Air Quality Status (AAQS) within the study area (core and buffer zone) was characterized through in-situ monitoring. The scope of VVM SEZ is to develop and operate eco friendly Heavy mineral processing Plants for Processing heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc, captive port development. Wind turbine and solar power plants, desalination plant and other associated infrastructure facilities within the VVM SEZ may release different types of gases in to the environment. Such industries shall provide stacks / vents of adequate

height along with appropriate air pollution control equipment, which shall be in line with the statutory requirements under the Air Act of State Pollution Control Board. Hence, no significant impact is likely on the air environment due to VVM SEZ's activity.

Reconnaissance Survey

The prime objective of this AAQ survey within the study area was to establish the existing regional background levels and baseline of air pollution status with present level of emissions from existing sources within the study area.

To assess the existing level of air quality in and around proposed Special Economic Zone (SEZ), Eleven Ambient Air Quality Monitoring Stations (AAQMS) were selected primarily on the basis of prevailing meteorological conditions analyzed through past meteorological data available for study area. While selecting the AAQMS, due consideration was given to local topography as well as the other landscape features of entire 10 km radius area from proposed SEZ as per MoEF guideline for the purpose. The location of selected AAQMS is presented in Table 3-3.

Table 3-3 : Locations of Selected AAQMS

AAQMS	LOCATION
AS 1	Thiruvambalapuram
AS 2	Navaladi
AS 3	Karichithu Pudur
AS 4	Parameshwarapuram
AS 5	Vijayapathy
AS 6	Koodankulam
AS7	Kasthurirangapuram
AS-8	Urumangulam
AS-9	Udayattur
AS-10	Islapuram
AS-11	Rammadupuram

Ambient Air Quality Status

Four major air pollutants i.e. Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter (RSPM), Sulphur Dioxide (SO_2) and Oxides of Nitrogen (NOX) representing the range of emissions from proposed industrial units to be set up in the SEZ were identified for AAQM. The samples were collected round the clock during study period. Gaseous pollutants i.e. SO_2 and NOX were collected on 24 hourly basis by drawing air at a flow rate of 0.5 lt/min through the absorbing media, whereas, SPM was collected as 24 hour average by drawing air at a flow rate of 1.0 - 1.5 m^3/min through micro glass fibre filter paper. The standard techniques used for quantification of pollutants are highlighted in Table 3-4.

Table 3-4 : Standard Techniques used for AAQM

S.No	Parameter	Technique	Minimum Detectable Limit
1	Suspended Particulate Matter (SPM)	High Volume Sampler	1.0 µg/m^3
2	Respirable Suspended Particulate Matter (RSPM)	Respirable Suspended Particulate Matter Sampler	1.0 µg/m^3
3	Sulphur Dioxide (SO2)	Improved West and Gaeke Method	6.0 µg/m^3
4	Oxides of Nitrogen (NOX)	Modified Jacob and Hochheisor Method	3.0 µg/m^3

A total of 48 weekly cycles of air quality monitoring has been undertaken during the study period (January – December 2011) for every separate sampling stations. The status of air pollution within the study area in terms of criteria / major air pollutants i.e. SPM, RSPM, SO_2 as well as NOX recorded during the study period is presented in Tables 3-5 and 3-6.

Table 3-5 : Status of Particulate Matter in Core and Buffer Zone

S.No	Name of the sampling stations	SPM µg/m^3			RSPM µg/m^3		
		Min	Max	Mean	Min	Max	Mean
1	Thiruvambalapuram	147	249	196	46.3	79.1	64.0
2	Navaladi	166	209	188	51.9	70.7	60.5
3	Karichithu Pudur	163	243	184	52.3	82.9	60.0
4	Parameshwarapuram	174	186	180	57.4	61.2	59..3
5	Vijayapathy	146	184	170	42.1	56.5	51.1
6	Koodankulam	191	253	215	62.3	85.1	73.2
7	Kasthurirangapuram	192	259	232	62.4	84.7	75.8
8	Urumangulam	182	219	198	59.2	80.9	68.6
9	Udayattur	156	231	192	49.5	72.1	58.7
10	Islapuram	173	272	206	59.4	86.2	67.7
11	Rammadupuram	170	226	192	54.6	80.4	63.2

SPM concentrations within the study area varied from 146 - 272 µg/m^3, with the highest in Islapuram i.e. 272 µg/m^3 and the lowest in Vijayapathy i.e. 146 µg/m^3. The SPM concentration at the proposed SEZ was found to be well within the permissible limits of National Ambient Air Quality Standards (NAAQS) i.e. 500 µg/m^3.

RSPM concentrations within the study area varied from 42.1 – 86.2 µg/m^3, with the highest concentration found at Islapuram i.e. 86.2 µg/m^3 and the lowest in Vijayapathy i.e. 42.1 µg/m^3. The RSPM concentration at the proposed SEZ was found to be well within the permissible limit of National Ambient Air Quality Standards (NAAQS) i.e. 150 µg/m^3.

Table 3-6 : Status of Gaseous Pollutants in Core and Buffer Zone

S.No	Name of the sampling stations	SO2 µg/m^3			NOx µg/m^3		
		Min	Max	Mean	Min	Max	Mean
1	Thiruvambalapuram	9.7	12.4	10.8	11.8	15.1	13.6
2	Navaladi	8.4	10.9	9.5	13.8	16.1	14.6
3	Karichithu Pudur	10.8	16.3	14.0	14.3	26.4	19.5
4	Parameshwarapuram	8.9	12.9	11.0	12.1	15.2	13.7
5	Vijayapathy	9.6	10.2	9.9	14.3	15.4	14.9
6	Koodankulam	8.7	14.2	11.6	11.3	15.2	13.6
7	Kasthurirangapuram	11.34	16.30	13.39	15.12	20.02	17.15
8	Urumangulam	10.8	16.3	14.0	14.3	26.4	19.5
9	Udayattur	8.7	14.2	11.6	11.3	15.2	13.6
10	Islapuram	14.9	20.6	17.1	18.1	28.9	20.4
11	Rammadupuram	10.6	16.1	12.9	10.1	15.6	13.1

SO_2 concentrations within the study area varied from 8.4 – 20.6 µg/m^3 with the highest concentration found in Islapuram i.e. 20.6 µg/m^3 and the lowest in Navaladi i.e. 8.4 µg/m^3. The concentration of SO_2 in proposed SEZ study area was found to be well within the permissible limit of National Ambient Air Quality Standards (NAAQS) i.e. 120 µg/m^3.

NOX concentrations within the study area varied from 10.1 – 28.9 µg/m^3 with the highest concentration found at Islapuram i.e. 28.9 µg/m^3 and lowest at Rammadupuram i.e. 10.1 µg/m^3. The concentration of NOX in proposed SEZ study area was found to be well within the permissible limit of National Ambient Air Quality nStandards (NAAQS) i.e. 120 µg/m3.

Thus, the concentration of major gaseous pollutants that is SO_2 and NOX was found much below the permissible limit of 120 µg/m^3.

MICRO-METEOROLOGICAL STATUS

Transport and diffusion of pollutants in the atmosphere are governed by micrometeorological factors. Micro-meteorology is defined as the study of minute variation in the atmospheric conditions to an area of few square kilometers and an elevation of 500 -1000 m. Meteorological data was collected from Tirunelveli IMD Observatory. The current micro-meteorological status like wind speed, wind direction, ambient temperature, relative humidity etc. for the study period have been monitored. Micro-meteorological features of the study area are given below :

Climate

The study area lies in the tropical region characterized by aggressive summer and scanty rainfall. Annual maximum temperature is 40°C while the minimum temperature is 25°C. Annual rainfall recorded at Tirunelveli IMD observatory at an aerial distance of 75 km) is 180 mm. The relative humidity ranges between 40 % and 85%. The predominant wind direction recorded was NNE.

TABLE 3.7

TEMPERATURE AND RELATIVE HUMIDITY

Project Site: Thiruvambalapuram				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	30.0	27.0	26.2	28.0
Max	38.0	34.0	31.0	32.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	45	49	62	49
Max	65	78	82	68

Project Site: Navaladi				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	32.8	30.0	28.0	29.8
Max	39.5	36.0	32.0	38.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	40	49	62	49
Max	65	78	82	68

Project Site: Karichithu Pudur				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	30.0	27.5	25.0	28.0
Max	36.0	34.0	32.0	35.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	46	52	65	49
Max	65	78	82	66

Project Site: Parameshwarapuram				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	31.0	28.5	26.0	29.0
Max	38.0	34.0	32.0	36.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	45	49	62	49
Max	65	78	82	68

Project Site: Vijayapathy				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	32.5	29.0	27.0	30.5
Max	40.0	37.0	32.0	38.5
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	45	55	65	50
Max	68	79	85	68

Project Site: Koodankulam				
Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	31.0	28.5	27.0	29.0
Max	38.5	36.0	34.0	36.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	45	49	62	49
Max	65	78	82	68

Project Site: Kasthurirangapuram				
Temperature (°C)				
	Summer	**Winter**	**Monsoon**	**Post Monsoon**
Min	31.0	27.5	26.0	29.0
Max	38.0	35.0	32.0	36.0
Relative Humidity (%)				
	Summer	**Winter**	**Monsoon**	**Post Monsoon**
Min	43	55	65	48
Max	68	79	85	68

Project Site: Urumangalam				
Temperature (°C)				
	Summer	**Winter**	**Monsoon**	**Post Monsoon**
Min	30.0	28.5	26.0	29.0
Max	39.0	35.0	32.0	36.0
Relative Humidity (%)				
	Summer	**Winter**	**Monsoon**	**Post Monsoon**
Min	43	55	65	48
Max	68	79	85	68

Project Site: Udayattur

Temperature (°C)

	Summer	Winter	Monsoon	Post Monsoon
Min	32.0	29.0	27.0	31.0
Max	40.0	37.0	32.0	39.0

Relative Humidity (%)

	Summer	Winter	Monsoon	Post Monsoon
Min	45	56	66	50
Max	68	79	85	68

Project Site: Islapuram

Temperature (°C)

	Summer	Winter	Monsoon	Post Monsoon
Min	31.0	28.5	27.0	29.0
Max	38.5	36.0	34.0	37.0

Relative Humidity (%)

	Summer	Winter	Monsoon	Post Monsoon
Min	45	49	63	49
Max	65	78	82	69

Project Site: Rammadupuram

Temperature (°C)				
	Summer	Winter	Monsoon	Post Monsoon
Min	30.0	28.5	26.0	29.5
Max	39.0	35.0	33.0	36.0
Relative Humidity (%)				
	Summer	Winter	Monsoon	Post Monsoon
Min	43	55	65	49
Max	68	79	85	68

Precipitation

Precipitation at VVM SEZ core and buffer zone villages is mostly brought by the winds of the North East monsoon. In general, Rainfall is poor, the annual average rainfall recorded was 180 mm, out of which 60% falls during the North-east monsoon. The region being on the leeward side of the Western Ghats, receives very little rain during the South-west monsoon.

Winds

The wind pattern varies with different seasons throughout the year. The wind-roses for the analysis of wind direction and wind speed pattern for the study period were plotted on the basis of collected data and are shown in Table 3.8.

Table 3.8 WIND ROSE DATA

Wind Frequency Distribution in Winter Season (Day)

Direction	Velocity Ranges					Sum%
	1<V<=5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	2.48	8.35	1.20	7.73	0.00	19.76
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	3.00	1.20	0.59	0.00	0.00	4.79
WNW	0.00	0.00	0.00	0.00	0.000	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.59	0.00	0.00	0.00	0.00	0.59
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	3.57	10.11	0.00	3.57	0.00	17.25
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	3.00	4.78	0.00	0.59	0.00	8.37
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	5.35	13.69	0.00	0.59	0.00	19.63
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	3.00	7.14	0.59	1.20	0.00	11.93
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum (%)	20.99	45.27	2.38	13.68	0.00	82.32
Calm	V<0.44m/s) = 17.68%					

Wind Frequency Distribution in Winter Season (Night)

Direction	Velocity Ranges					Sum%
	1<V≤5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	3.48	6.35	1.20	7.73	0.00	18.76
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	2.58	1.20	0.59	0.00	0.00	4.37
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.59	0.00	0.00	0.00	0.00	0.59
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	2.57	8.82	0.00	5.57	0.00	16.96
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	3.00	4.78	0.00	0.59	0.00	8.37
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	3.35	10.69	0.00	0.59	0.00	14.63
ENE	0.00	0.00	0.00.	0.00	0.00	0.00
NE	3.00	6.14	0.59	3.20	0.00	12.93
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum (%)	18.57	37.98	2.38	17.68	0.00	76.61
Calm	V<0.44m/s) = 23.39%					

Wind Frequency Distribution in Winter Season (Overall)

Direction	Velocity Ranges					Sum%
	1<V≤5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	2.48	8.35	1.20	7.73	0.00	19.76
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	3.00	1.20	0.59	0.00	0.00	4.79
WNW	0.00	0.00	0.00	0.00	0.000	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.59	0.00	0.00	0.00	0.00	0.59
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	3.57	8.11	0.00	3.57	0.00	15.25
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	3.00	4.78	0.00	0.59	0.00	8.37
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	5.35	13.69	0.00	0.59	0.00	19.63
ENE	0.00	0.00	0.00.	0.00	0.00	0.00
NE	3.00	7.14	0.59	1.20	0.00	11.93
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum (%)	20.99	43.27	2.38	13.68	0.00	80.32
Calm	V<0.44m/s) = 19.68%					

Wind Frequency Distribution in Summer Season (Day)

Direction	Velocity Ranges					Sum%
	1<V<=5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	10.91	4.4	0.28	0.00	0.00	15.59
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.69	0.00	0.00	0.00	0.00	0.69
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	10.26	2.35	0.00	0.00	0.00	12.61
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	15.69	10.27	0.14	0.00	0.00	26.1
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	37.55	17.02	0.42	0.00	0.00	54.99
Calm	V<0.44m/s) = 45.01%					

Wind Frequency Distribution in Summer Season (Night)

Direction	Velocity Ranges					Sum%
	1<V<=5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	16.91	4.4	0.28	0.00	0.00	21.59
NNW	0.00	0.00	0.00	0 00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0 00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.69	0.00	0.00	0.00	0.00	0.69
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	8.26	2.35	0.00	0.00	0.00	10.61
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	23.69	8.27	0.14	0.00	0.00	32.1
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	49.55	15.02	0.42	0.00	0 00	64.99
Calm	V<0.44m/s) = 35.01%					

Wind Frequency Distribution in Summer Season (Overall)

Direction	Velocity Ranges					Sum%
	1<V<=5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	16.91	4.4	0.28	0.00	0.00	21.59
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.69	0.00	0.00	0.00	0.00	0.69
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	8.26	2.35	0.00	0.00	0.00	10.61
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	25.69	10.27	0.14	0.00	0.00	36.1
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	51.55	17.02	0.42	0.00	0.00	68.99
Calm	V<0.44m/s) = 31.01%					

Wind Frequency Distribution in Post Monsoon Season (Day)

Direction	Velocity Ranges					Sum%
	1<V<=5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	2.97	6.54	0.00	2.38	0.00	11 89
NNW	0.00	0.00	0.00	0.00	0.00	0 00
NW	2.97	1.20	0.00	0.00	0.00	4.17
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	1.20	1.20	0.00	0.00	0.00	2.40
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	4.76	0.00	0.00	0.00	0.00	4.76
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	14.0	2.38	0.00	0.00	0.00	16.38
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	5.35	2.38	0.00	0.00	0.00	7.73
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	7.73	15.47	0.59	8.92	0.00	32.71
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	2.97	4.76	0.59	3.57	0.00	11.89
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	41.95	33.93	1.18	14.87	0.00	91.93
Calm	(V<0.44m/s) = 8.07%					

Wind Frequency Distribution in Post Monsoon Season (Night)

Direction	Velocity Ranges					Sum%
	1<V≤5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	3.59	8.33	1.20	7.73	0.00	20.85
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	3.57	1.20	0.59	0.00	0.00	5.36
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.59	0.59	0.00	0.00	0.00	1.18
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	6.54	10.11	0.00	3.57	0.00	20.22
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	5.35	4.78	0.00	0.59	0.00	10.72
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	8.38	13.69	0.00	0.59	0.00	22.66
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	4.16	7.14	0.59	1.20	0.00	13.09
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	32.18	45.84	2.38	13.68	0.00	94.08
Calm	(V<0.44m/s) = 5.92%					

Wind Frequency Distribution in Post Monsoon Season (Overall)

Direction	Velocity Ranges					Sum%
	1<V≤5	6<V<=10	11<V<=15	16<V<=20	V>20	
N	3.57	8.33	1.20	7.73	0.00	20 83
NNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	3.57	1.20	0.59	0.00	0.00	5.36
WNW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.59	0.00	0.00	0.00	0.00	0.59
SSW	0.00	0.00	0.00	0.00	0.00	0.00
S	6.54	10.11	0.00	3.57	0.00	20.22
SSE	0.00	0.00	0.00	0.00	0.00	0.00
SE	5.35	4.78	0.00	0.59	0.00	10.72
ESE	0.00	0.00	0.00	0.00	0.00	0.00
E	8.33	13.69	0.00	0.59	0.00	22.61
ENE	0.00	0.00	0.00	0.00	0.00	0.00
NE	4.16	7.14	0.59	1.20	0.00	13.09
NNE	0.00	0.00	0.00	0.00	0.00	0.00
Sum%	32.11	45.25	2.38	13.68	0.00	93.42
Calm	(V<0.44m/s) = 6.58%					

WIND ROSE AT STUDY AREA DURING WINTER SEASON (DAY)

WIND ROSE AT STUDY AREA DURING WINTER SEASON (NIGHT)

WIND ROSE AT STUDY AREA DURING WINTER SEASON (OAERA14)

WIND ROSE OF STUDY AREA DURING SUMMER SEASON (DAY)

WIND ROSE AT SITE DURING SUMMER SEASON (NIGHT)

WIND ROSE AT STUDY AREA DURING SUMMER SEASON (OVERALL)

WIND ROSE AT STUDY AREA DURING POST MONSOON SEASON (DAY)

WIND ROSE AT SEEDS AREA DURING POST MONSOON SEASON (NIGHT)

WIND ROSE AT SELUDO AREA DURING POST MONSOON SEASON (OVERALL)

WATER ENVIRONMENT

In connection with the assessment of baseline status for water environment, detailed studies have been undertaken for both surface water and ground water in and around proposed SEZ at VVM.

Reconnaissance Survey

Reconnaissance survey and field investigations were carried out to collect relevant information on the existing water resources (ground/surface) falling within the study area of the proposed SEZ area for their quantitative and qualitative assessment. The water quality of surface as well as ground water sources in the study area was analyzed for major physico-chemicaland biological parameters.

Ground Water Quality Status

The ground water occurs under phreatic conditions within the upper 20 to 25 cm thick quaternary formations consisting of sands and sandstones. Water table occurs at depths normally varying between 7 m and 15 m with a gradient towards sea Shallow wells generally ranging from 10 – 15 meters below ground level are found in the study area. The average yield of wells around the proposed study area was found to be 30 to 50 LPM. The water quality data of these shallow wells revealed that the water is saline in nature suggesting the marine origin of the underlying formations.

In order to assess the ground water quality within the study area, water samples were collected through bore well / well / hand pump from Eleven representative locations in study area (Table 3-9), during every season and analyses were carried out as per the Standard procedures of MoEF/CPCB. While selecting the GWMS (Ground Water Monitoring System) due consideration was given to depth aquifer i.e. shallow and deep besides the location the entire 10 km radius area from VVM SEZ as per MoEF guideline for the purpose. Analytical results are given in details in Table 3-10 and 3-11.

Table 3.9 Stations Selected for Ground Water Quality Monitioring in the study area

STATION CODE	LOCATION
WS 1	Thiruvambalapuram
WS 2	Navaladi
WS 3	Karichithu Pudur
WS 4	Parameshwarapuram
WS 5	Vijayapathy
WS 6	Koodankulam
WS7	Kasthurirangapuram
WS8	Urumangulam
WS9	Udayattur
WS10	Islapuram
WS11	Rammadupuram

Table 3.10 GROUND WATER - PHYSICAL CHARACTERISTICS

STATIONS	pH	Temp. (°C)	Turbidity NTU	TDS (mg/l)	Colour
Thiruvambalapuram					
Summer	7.5	Ambient	3	3858	Colourless
Winter	7.2		3	3764	
Monsoon	7.0		4	2906	
Post monsoon	7.2		3	3100	
Navaladi					
Summer	7.4	Ambient	3	7847	
Winter	7.23		3	7819	Colourless
Monsoon	7.1		3	6935	

Post monsoon	7.5		2	7399	
Karichithu Pudur					
Summer	7.68	Ambient	3	6170	Colourless
Winter	7.2		2	6152	
Monsoon	7.0		3	5918	
Post monsoon	7.2		3	6006	
Parameshwarapuram					
Summer	7.6	Ambient	3	2648	Colourless
Winter	7.2		3	2586	
Monsoon	7.0		3	2300	
Post monsoon	7.2		3	2425	
Vijayapathy					
Summer	7.4	Ambient	3	6845	Colourless
Winter	7.2		3	6780	
Monsoon	7.1		4	6241	
Post monsoon	7.5		2	6499	
Koodankulam					
Summer	7.52	Ambient	1	5240	Colourless
Winter	7.2		1	5118	
Monsoon	7.0		3	4810	
Postmonsoon	7.2		2	5018	

Kasthurirangapuram					
Summer	7.38	Ambient	1	4385	Colourless
Winter	7.2		1	4200	
Monsoon	7.0		2	3512	
Post monsoon	7.1		1	3895	
Urumangalam					
Summer	7.5	Ambient	1	2390	Colourless
Winter	7.2		1	2160	
Monsoon	7.0		1	1808	
Post monsoon	7.2		1	1950	
Udayattur					
Summer	7.38	Ambient	1	2385	Colourless
Winter	7.2		1	2240	
Monsoon	7.0		2	1812	
Post monsoon	7.1		1	2103	
Islapuram					
Summer	7.4	Ambient	1	5388	Colourless
Winter	7.2		1	5120	
Monsoon	7.0		3	4912	
Post monsoon	7.2		2	5050	
Rammadupuram					
Summer	7.3	Ambient	1	3382	Colourless
Winter	7.2		1	3202	
Monsoon	7.0		2	2910	
Post monsoon	7.1		1	3027	

TABLE 3.11

GROUND WATER QUALITY – CHEMICAL CHARACTERISTICS

S.No	Chemical Parameter	Unit	Thiruvambalapuram				Navaladi				Karichithu Pudur			
			S	W	M	PM	S	W	M	PM	S	W	M	PM
1)	Total Hardness	mg/l	1460	1450	1250	1350	2564	2550	2200	2350	4980	4950	4420	4605
2)	Calcium Hardness	mg/l	208	200	175	182	312	308	292	298	1125	1110	980	1050
3)	Magnesium Hardness	mg/l	1252	1250	1075	1168	2252	2242	1908	2052	3855	3840	3440	3555
4)	Phenolphthalein Alkalinity	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5)	Methyl Orange Alkalinity	mg/l	266	256	250	255	234	220	215	224	240	228	208	220
6)	Sulphates	mg/l	330	325	320	318	320	310	308	312	328	320	309	315
7)	Chlorides	mg/l	2148	2045	1840	1842	4280	4112	3850	3985	3825	3800	3785	3810
8)	Ammonica Nitrogen	mg/l	0.086	0.088	0.082	0.085	0.092	0.094	0.097	0.096	0.092	0.091	0.088	0.090
9)	Albuminoid Nitrogen	mg/l	0.076	0.075	0.073	0.075	0.104	0.098	0.092	0.10	0.098	0.096	0.092	0.097
10)	Nitrates as N	mg/l	0.88	0.79	0.95	0.92	0.8	0.81	0.85	0.82	0.78	0.80	0.84	0.82

11)	Nitrites as N	mg/l	0.10	0.12	0.15	014	0.22	0.24	0.27	0.25	0.22	0.25	0.29	0.27
12)	Fluorides as F	mg/l	0.72	0.76	0.81	0.78	1.0	1.1	1.5	1.3	0.81	0.83	0.88	0.85
13)	Phosphates	mg/l	0.75	0.77	0.82	0.79	0.82	0.84	0.88	0.86	0.75	0.78	0.84	0.80
14)	Iron	mg/l	0.031	0.033	0.037	0.035	0.576	0.582	0.596	0.593	0.02	0.023	0.028	0.025
15)	Manganese	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16)	Silica (as SiO_2)	mg/l	55	57	59	58	60	62	65	63	68	64	65	66
17)	Dissolved Oxygen	mg/l	5.2	5.4	5.8	5.6	4.8	5.4	5.8	5.5	4.2	5.2	5.9	5.5
18)	BOD at 20°C	mg/l	0.66	0.63	0.59	0.61	0.72	0.65	0.59	0.60	0.92	0.67	0.55	0.76
19)	COD	mg/l	16.5	17.1	17.8	17.6	15.1	17.2	18.0	17.5	12.8	15.9	18.0	17.8
	BACTERIOLOGICAL PARAMETERS													
20)	Total cfu/ml at 37°C on Agar plate		155	150	148	152	180	178	175	182	172	170	168	175
21)	MPN of coliform in 100 ml		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
22)	Faecal coliforms		Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

GROUND WATER QUALITY – CHEMICAL CHARACTERISTICS

S.No	Chemical Parameter	Unit	Parameshwarapuram				Vijayapathy				Koodankulam			
			S	W	M	PM	S	W	M	PM	S	W	M	PM
1)	Total Hardness	mg/l	660	650	645	662	5464	5450	5420	5440	1080	1050	1020	1060
2)	Calcium Hardness	mg/l	75	70	68	78	1266	1250	1230	1220	175	160	150	168
3)	Magnesium Hardness	mg/l	585	580	577	584	4198	4200	4190	4220	905	890	870	892
4)	Phenolphthale in Alkalinity	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5)	Methyl Orange Alkalinity	mg/l	236	218	203	225	234	220	215	224	240	215	208	220
6)	Sulphates	mg/l	230	225	220	218	220	210	208	212	228	220	219	222
7)	Chlorides	mg/l	928	924	898	905	4812	4800	4675	4798	1125	1115	1092	1098
8)	Ammonica Nitrogen	mg/l	0.096	0.098	0.094	0.099	0.096	0.095	0.094	0.097	0.092	0.094	0.091	0.096
9)	Albuminoid Nitrogen	mg/l	0.096	0.098	0.093	0.095	0.104	0.098	0.092	0.100	0.098	0.096	0.092	0.097
10)	Nitrates as N	mg/l	0.60	0.62	0.69	0.66	0.62	0.65	0.69	0.67	0.58	0.6	0.65	0.63

11)	Nitrites as N	mg/l	0.14	0.12	0.18	0.16	0.15	0.13	0.11	0.14	0.15	0.12	0.10	0.14
12)	Fluorides as F	mg/l	0.9	0.98	0.97	1.0	1.0	0.98	0.99	0.96	0.89	0.91	0.96	0.92
13)	Phosphates	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
14)	Iron	mg/l	0.14	0.12	0.16	0.13	0.10	0.13	0.09	0.11	0.14	0.12	0.15	0.11
15)	Manganese	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16)	Silica (as SiO_2)	mg/l	63	60	58	61	62	64	61	65	66	64	65	68
17)	Dissolved Oxygen	mg/l	4.4	5.5	5.9	5.7	4.2	5.2	5.9	5.5	5.2	5.4	5.8	5.6
18)	BOD at 20°C	mg/l	0.90	0.75	0.55	0.66	0.92	0.67	0.55	0.76	0.66	0.63	0.59	0.61
19)	COD	mg/l	13.1	16.3	18.6	17.9	12.8	15.9	18.0	17.5	16.5	17.1	17.8	17.6
BACTERIOLOGICAL PARAMETERS														
20)	Total cfu/ml at 37°C on Agar plate		175	170	178	172	180	178	175	182	172	170	168	175
21)	MPN of coliform in 100 ml		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
22)	Faecal coliforms		Absent	Absent	Absent	Absent	Nil	Absent	Absent	Absent	Absent	Absent	Absent	Absent

GROUND WATER QUALITY – CHEMICAL CHARACTERISTICS

S.No	Chemical Parameter	Unit	Kasthurirangapuram				Urumangalam				Udayattur			
			S	W	M	PM	S	W	M	PM	S	W	M	PM
1)	Total Hardness	mg/l	1460	1450	1250	650	660	650	645	662	1080	1050	1020	1060
2)	Calcium Hardness	mg/l	208	200	175	420	75	70	68	78	175	160	150	168
3)	Magnesium Hardness	mg/l	1252	1250	1075	230	585	580	577	584	905	890	870	892
4)	Phenolphthale in Alkalinity	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5)	Methyl Orange Alkalinity	mg/l	266	256	250	224	236	218	203	225	240	215	208	220
6)	Sulphates	mg/l	330	325	320	322	230	225	220	218	228	220	219	222
7)	Chlorides	mg/l	2148	2045	1840	1898	982	978	956	972	1125	1115	1092	1098
8)	Ammonica Nitrogen	mg/l	0.086	0.088	0.082	0.096	0.096	0.098	0.094	0.099	0.092	0.094	0.091	0.090
9)	Albuminoid Nitrogen	mg/l	0.076	0.075	0.075	0.100	0.096	0.098	0.093	0.095	0.098	0.096	0.092	0.097
10)	Nitrates as N	mg/l	0.88	0.79	0.95	0.6	0.60	0.62	0.69	0.66	0.58	0.6	0.65	0.63
11)	Nitrites as N	mg/l	0.10	0.12	0.15	<0.05	0.14	0.12	0.18	0.16	0.15	0.12	0.10	0.14

12)	Fluorides as F	mg/l	0.72	0.76	0.81	0.99	0.9	0.98	0.97	1.0	0.89	0.91	0.96	0.92
13)	Phosphates	mg/l	0.75	0.77	0.82	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
14)	Iron	mg/l	0.031	0.033	0.037	0.11	0.14	0.12	0.16	0.13	0.14	0.12	0.15	0.11
15)	Manganese	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16)	Silica (as SiO_2)	mg/l	55	57	59	63	63	60	58	61	66	64	65	68
17)	Dissolved Oxygen	mg/l	5.2	5.4	5.8	5.2	4.4	5.5	5.9	5.7	5.2	5.4	5.8	5.6
18)	BOD at 20°C	mg/l	0.66	0.63	0.59	6	0.90	0.75	0.55	0.66	0.66	0.63	0.59	0.61
19)	COD	mg/l	16.5	17.1	17.8	57	13.1	16.3	18.6	17.9	16.5	17.1	17.8	17.6
BACTERIOLOGICAL PARAMETERS														
20)	Total cfu/ml at 37°C on Agar plate		155	150	148	152	150	158	155	152	156	140	155	150
21)	MPN of coliform in 100 ml		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
22)	Faecal coliforms		Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

GROUND WATER QUALITY -- CHEMICAL CHARACTERISTICS

S.No	Chemical Parameter	Unit	Islapuram				Rammadupuram			
			S	W	M	PM	S	W	M	PM
1)	Total Hardness	mg/l	1080	1050	1020	1060	660	650	645	662
2)	Calcium Hardness	mg/l	175	160	150	168	75	70	68	78
3)	Magnesium Hardness	mg/l	905	890	870	892	585	580	577	584
4)	Phenolphthalein Alkalinity	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5)	Methyl Orange Alkalinity	mg/l	240	215	208	220	236	218	203	225
6)	Sulphates	mg/l	228	220	219	222	230	225	220	218
7)	Chlorides	mg/l	1125	1115	1092	1098	928	922	895	902
8)	Ammonica Nitrogen	mg/l	0.092	0.094	0.091	0.090	0.096	0.098	0.094	0.099
9)	Albuminoid Nitrogen	mg/l	0.098	0.096	0.092	0.097	0.096	0.098	0.093	0.095
10)	Nitrates as N	mg/l	0.58	0.6	0.65	0.63	0.60	0.62	0.69	0.66
11)	Nitrites as N	mg/l	0.15	0.12	0.10	0.14	0.14	0.12	0.18	0.16
12)	Fluorides as F	mg/l	0.89	0.91	0.96	0.92	0.9	0.98	0.97	1.0
13)	Phosphates	mg/l	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
14)	Iron	mg/l	0.14	0.12	0.15	0.11	0.14	0.12	0.16	0.13
15)	Manganese	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16)	Silica (as SiO_2)	mg/l	66	64	65	68	63	60	58	61

17)	Dissolved Oxygen	mg/l	5.2	5.4	5.8	5.6	4.1	5.5	5.9	5.7
18)	BOD at 20°C	mg/l	0.66	0.63	0.59	0.61	0.90	0.75	0.55	0.66
19)	COD	mg/l	16.5	17.1	17.8	17.6	13.1	16.3	18.6	17.9
	BACTERIOLOGICAL PARAMETERS									
20)	Total cfu/ml at 37°C on Agar plate		150	158	155	152	152	150	148	152
21)	MPN of coliform in 100 ml		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
22)	Faecal coliforms		Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Surface Water Quality Status

The surface water in the study area mainly includes Gulf of Mannar. As the Nambiyar river flow is obstructed by the Nambiyar tank no river water is found in the study area. To obtain a general idea about the quality of surface water, the water quality of the Gulf of Mannar was determined, which is tabulated in Table 3-12 and 3-13.

Table 3-12 : SURFACE WATER – PHYSICAL CHARACTERISTICS

Stations	Parameters					
	pH	Temp (°C)	Turbidity (NTU)	TDS (mg/l)	EC(µS/cm)	Colour
Gulf of Mannar						
S	8.3	Ambient	12	39,157	67,500	Sea blue
W	8.2	Ambient	14	40,000	67,480	Sea blue
M	8.2	Ambient	16	45,000	67,438	Sea blue
PM	8.1	Ambient	12	39,000	67,490	Sea blue

Table 3-13 SURFACE WATER – CHEMICAL CHARACTERISTICS

S.No	Chemical Parameter	Unit	Gulf of Mannar			
			S	W	M	PM
1)	Total Hardness	mg/l	5962	5900	5800	5900
2)	Calcium Hardness	mg/l	974	965	950	955
3)	Magnesium Hardness	mg/l	4988	4935	4850	4945
4)	Phenolphthalein Alkalinity	mg/l	Nil	Nil	Nil	Nil
5)	Methyl Orange Alkalinity	mg/l	109	110	105	98
6)	Sulphates	mg/l	2750	2800	2780	2760
7)	Chlorides	mg/l	19185	19190	19160	19178
8)	Ammonica Nitrogen	mg/l	0.08	0.082	0.079	0.084

9)	Albuminoid Nitrogen	mg/l	0.068	0.069	0.072	0.070
10)	Nitrates as N	mg/l	0.41	0.43	0.47	0.45
11)	Nitrites as N	mg/l	<0.05	<0.05	<0.05	<0.05
12)	Fluorides as F	mg/l	1.2	1.0	1.5	1.3
13)	Phosphates	mg/l	Nil	Nil	Nil	Nil
14)	Iron	mg/l	0.46	0.45	0.42	0.48
15)	Manganese	mg/l	BDL	BDL	BDL	BDL
16)	Silica (as SiO_2)	mg/l	Nil	Nil	Nil	Nil
17)	Dissolved Oxygen	mg/l	4.0	4.8	5.2	4.9
18)	BOD at 20°C	mg/l	0.92	0.87	0.72	0.85
19)	COD	mg/l	14.2	13.6	13.0	13.5
20)	Total cfu/ml at 37°C on Agar plate		180	150	168	172
21)	MPN of coliform in 100 ml		Nil	Nil	Nil	Nil
22)	Faecal coliforms		Absent	Absent	Absent	Absent

NOISE ENVIRONMENT

The basic steps associated with impact assessment on the noise components of the environment involve identification, prediction and evaluation of the exposure status of the workers (occupational) as well as general population including sensitive receptors viz. school, hospital, post offices, phone etc.

Reconnaissance Survey

The scope of VVM SEZ is to develop and operate eco friendly Heavy mineral processing Plants for Processing heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc., Port, wind and solar power plants and associated infrastructure facilities within the VVM SEZ have slightly noise generating equipment / machinery, however suitable acoustic hoods / enclosures will be provided such that the noise level in the vicinity shall conform to the national noise quality criteria.

The infrastructure facilities will not produce considerable noise. However, in case of emergency, DG sets shall be operated which will produce considerable noise. Hence, they shall be installed in acoustic enclosures, to minimize noise pollution.

To assess the existing noise level in and around proposed SEZ, Eleven Ambient Noise Level Monitoring Stations (ANLMS) have been selected primarily based on prevailing meteorological conditions. The noise level has been recorded at various strategic locations on highway as well as major sensitive receptors located within the study area viz. hospitals, schools, temples/mosques etc. At each ANLMS, hourly spot noise level has been recorded for 24 hours. The vehicular density in the study area has also been studied.

Baseline Status

Noise survey was conducted in and around the study area. Noise levels (A weighted) dB (A) were measured using precision noise level meters. The community noise sources including traffic and other activities were also monitored to determine the general noise pollution status. While selecting the ANLMS, due consideration was given to nature of the receptor i.e. commercial,

- residential and sensitive as well as other landscape features in the study area, as per MoEF guideline for the purpose. The location of selected ANLMS is presented in Table 3-14.

Table 3-14 : Location of selected ANLMS

STATION CODE	LOCATION
NS 1	Thiruvambalapuram
NS 2	Navaladi
NS 3	Karichithu Pudur
NS 4	Parameshwarapuram
NS 5	Vijayapathy
NS 6	Koodankulam
NS 7	Kasthurirangapuram
NS 8	Urumangalam
NS 9	Udayattur
NS 10	Islapuram
NS 11	Rammadupuram

The sampling sites for community exposure survey were selected keeping in view the prevalent micro-meteorological condition at the time of survey. Diurnal variation of Ambient Noise levels for different locations for minimum, maximum and equivalent noise levels in the study area is given in Table 3-15.

Table 3-15 : Status of Ambient Noise Level in Study Area during Study Period

Station code	Location	Minimum Noise Level (dB)	Maximum Noise Level (dB)	Eqivalent Noise Level (dB)
NS 1	Thiruvambalapuram	51.00	65.00	62.17
NS 2	Navaladi	41.00	49.00	44.80
NS 3	Karichithu Pudur	58.00	65.00	61.92
NS 4	Parameshwarapuram	54.00	62.00	58.76
NS 5	Vijayapathy	45.00	53.00	49.04
NS 6	Koodankulam	67.00	79.00	74.43
NS 7	Kasthurirangapuram	51.00	59.00	56.39
NS 8	Urumangalam	53.00	61.00	57.55
NS 9	Udayattur	56.00	63.00	58.87
NS 10	Islapuram	51.00	65.00	62.17
NS 11	Rammadupuram	41.00	49.00	44.80

Status of Noise Pollution

About Eleven major locations were identified in the study area. Noise levels were measured at these locations (within 1 to 3 m from major noise generation sources) to determine the strength of noise sources and status of noise in the study area.

Community Noise

Community noise includes all types of noise in the outdoor acoustic environment and it is essential to study its variation, magnitude and character at various locations. The ambient sound pressure level is defined as total noise at a given location due to all sources. The residual noise level is that level below which the

- ambient noise does not seem to drop during a given time interval and due to distant unidentified sources.

The extent to which an individual is affected by intruding noise is a complex phenomenon. The impact of noise on the individual's strength depends on :

a) Physical dose of noise, viz. Noise level, frequency spectrum, intermittency etc.

b) Human factors, viz. Sex, age, health status, occupation during exposure period, etc.

The intensity of impact however, depends on :

a) Psychological and physiological state of individual and

b) The number of individual exposed.

Day vs. Night Noise Levels

The community noise is determined by recording the day-night noise levels (Ldn). Ldn is defined as the 24 hrs equivalent sound level except that weighting penalty of 10 db(A) is added to the measured instantaneous noise level for night time period i.e.from 22-00 to 07-00 hrs. This is because the same noise levels during the night time are more annoying than the daytime. Ldn for given location in a community is calculated from an hourly equivalent level (leq) by the following equation :

$$L_{dn} = 10 \log \{ 1 / 24 [15^{(10 L / 10)}] + 9 [10^{(L+10) / 10}]\}$$

where Ld = equivalent noise level during day time (07.00 to 22.00 hrs)

Ln = equivalent noise level during night time (22.00 to 07.00 hrs)

Hourly equivalent levels (leq) for eleven different locations were collected.

Table 3-16 : Day and night noise level in core and buffer zone

Station code	Location	Ld (dB)	Ln (dB)	Ldn (dB)
NS 1	Thiruvambalapuram	64.62	59.69	67.02
NS 2	Navaladi	50.43	41.44	50.79
NS 3	Karichithu Pudur	49.065	41.81	50.18
NS 4	Parameshwarapuram	49.53	42.33	50.68
NS 5	Vijayapathy	46.94	40.56	48.51
NS 6	Koodankulam	67.47	52.04	66.29
NS 7	Kasthurirangapuram	48.85	38.40	49.42
NS 8	Urumangalam	48.21	40.54	49.13
NS 9	Udayattur	67.45	52.04	66.29
NS 10	Islapuram	47.46	41.76	49.40
NS 11	Rammadupuram	49.45	41.09	50.07

LAND ENVIRONMENT

VVM SEZ is in possession of 166.66.5 ha. own patta Land, which is contagious and free from all encumbrances. There is no habitation or encroachment in and around the proposed SEZ area.

Landuse Pattern in study Area

Due to proximity of the sea, despite the arid landscape, the temperature does not rise above 40° C or fall to very low level. Scarce rainfall, poor soil conditions do not promote good vegetation, which can act as a significant climate modifier.

The structure of soil profile also indicates that poor quality of soil that will not support major vegetation. Therefore, appropriate adoption of plantation and irrigation techniques may be able to transform this very arid landscape over a period of time.

➢ *Soil Characteristics*

To assess the soil quality in and around proposed VVM Special Economic Zone (SEZ), eleven Soil Quality Monitoring Stations (SQMS) were selected. The location of selected SQMS is presented in Table 3-17. The collected soil samples were analyzed for texture analysis along with other physico-chemical characteristics of soil.

Table 3-17 : Locations of selected SQMS

Station code	Location
SS 1	Thiruvambalapuram
SS 2	Navaladi
SS 3	Karichithu Pudur
SS 4	Parameshwarapuram
SS 5	Vijayapathy
SS 6	Koodankulam
SS 7	Kasthurirangapuram
SS 8	Urumangalam
SS 9	Udayattur
SS 10	Islapuram
SS 11	Rammadupuram

The chemical composition of the soil samples taken from various parts of Core and buffer zone establish that there are no sources of heavy metals contamination (Table 3.18). The contents of sodium and potassium are, however very high - and the soil is saline which would warrant for adequate treatment.

Salinity

The soil characteristics of project site are mainly Category - L, P and K type of soil. The salinity of soil has prohibited the land area to be used for agriculture and thus, whatever small volume of agriculture is being practices is only in pockets

TABLE 3.18 PHYSICO CHEMICAL CHARACTERISTICS OF SOIL AT PROJECT SITE

Physical characteristics of soil in core and buffer zone

Sl.No	Parameters	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11
1	Water Retention Capacity (%)	33.4	36.5	37.8	36.4	29.9	30.9	34.1	34.6	45.56	32.8	35.4
2	Bulk density g/cm^3	1.39	1.41	1.42	1.41	1.33	1.35	1.38	1.39	1.47	1.37	1.4
3	Porosity (%)	23.67	25.77	26.98	25.71	17.69	18.26	22.98	23.78	29.45	21.34	24.18
4	Texture Analysis											
	% of Sand	35.29	36.61	37.88	36.24	21.57	23.68	28.9	30.21	41.91	27.68	34.59
	% of Silt	41.37	44.87	47.98	45.01	30.56	34.28	37.19	38.67	53.37	36.44	42.38
	% of Clay	22.15	27.26	34.87	28.99	12.58	15.69	17.79	20.35	48.46	16.97	23.66

Chemical Characteristics of soil in core and buffer zone

Sl.No	Parameters	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11
1	pH (10% Solution)	7.49	7.99	8.5	8.21	9.04	7.82	7.83	7.78	6.7	7.52	8.7
2	Loss on Ignition	14.1	10.5	11.4	12.6	12.3	11.2	11.7	9.7	13.8	13.4	11.8
3	Chloride (as Cl) in mg/kg	0.47	0.49	0.55	0.48	0.62	0.53	0.48	0.56	0.42	0.43	0.57
4	Calcium g/kg	0.56	0.57	0.51	0.62	0.47	0.55	0.53	0.48	0.51	0.49	0.52
5	Magnesium g/kg	0.16	0.17	0.22	0.15	0.29	0.17	0.19	0.18	0.12	0.18	0.24
6	Available Nitrogen g/kg	0.52	0.77	0.85	0.82	0.92	0.69	0.76	0.64	0.49	0.92	0.88
7	Available Phosphorous g/kg	0.36	0.35	0.21	0.29	0.16	0.2	0.18	0.18	0.30	0.19	0.23
8	Sodium (as Na) in g/kg	0.71	0.72	0.84	0.75	0.89	0.81	0.83	0.73	0.66	0.69	0.86
9	Potassium (as K) in g/kg	0.60	0.61	0.54	0.59	0.49	0.61	0.63	0.54	0.54	0.60	0.57
10	Organic Matter (as C) in %	0.44	0.33	0.25	0.48	0.19	0.27	0.28	0.24	0.41	0.32	0.28

Status of Heavy metals in soil of core and buffer zone

Sl.No	Parameters	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11
1	Lead (Pb) in mg/kg	0.021	0.009	0.015	0.024	0.016	0.008	0.009	0.011	0.014	0.012	0.013
2	Nickel (as Ni) in mg/kg	0.017	0.009	0.011	0.012	0.007	0.012	0.014	0.014	0.012	0.009	0.009
3	Chromium (as Ch) in mg/kg	0.016	0.013	0.021	0.027	0.028	0.017	0.018	0.017	0.019	0.02	0.019
4	Iron (as Fe) in mg/kg	0.23	0.28	0.24	0.14	0.19	0.43	0.51	0.26	0.24	0.34	0.24
5	Zinc (as Zn) in mg/kg	0.12	0.16	0.13	0.07	0.09	0.16	0.19	0.016	0.14	0.14	0.14
6	Copper (as Cu) in mg/kg	0.018	0.019	0.012	0.016	0.018	0.018	0.012	0.012	0.016	0.002	0.016

- with availability of good ground water quality areas. However, it would be necessary to indicate that the agricultural yield of these fields is very low.

ECOLOGICAL ENVIRONMENT

The study on ecological aspect is important for Environmental Impact Assessment in view of conservation of environmental quality and safety of natural flora and fauna. A biological community being dependent on the condition and resources of its location may change if there is a little change in the ecosystem. Such a community change is a reflection of changes in the plant and animal population that comprises of the community, because of the complex interrelationships of a changing condition of resource that causes one or more of the population to change, may cause many populations to change and be replaced by others. Since the environment of organisms are able to inhabit that location, the inhabitants should be biological induces of environmental changes.

Reconnaissance Survey

The proposed VVM Special Economic Zone at Thiruvambalapuram is located in Tirunelveli district of Tamil Nadu covering an approximate area of 166.66.5 ha. The main objective of this survey is to assess the present status of ecological environment in the study area.

In the present study 10 km radius all around the proposed SEZ site was considered for both terrestrial and aquatic ecological analysis.

METHODOLOGY:

A thorough traverse study of the core and buffer zone was conducted and the occurrence of flora at various locations was recorded and plant specimens were collected for record. The morphology of the plants was recorded. The relative

density of plant species and their predominance in the study area are studied through quadrate method.

The list of flora observed in the buffer zone is given below

LIST OF FLORA IN THE BUFFER ZONE

List of plant species

Botanical Name	Family
Abrus fruticulosus	Fabaceae
Abrus precatorius L.	Fabaceae
Abutilon indicum L.	Malvaceae
Acacia nilotica (L.)Willd. Ex Del.	Mimosaceae
Acacia pennata, Willd.	Mimosaceae
Acacia planifrons Wight & Arn.	Mimosaceae
Acalypha indica L.	Euphorbiaceae
Acanthospermum hispidumDC.	Asteraceae
Achyranthus aspera L. var. *aspera*	Amaranthaceae
Aegle marmelos (L.) Correa.	Rutaceae
Aerva lanata (L.) Juss.ex	Amaranthaceae
Aeschynomene aspera L.	Fabaceae
Adenostemma lavenia, (L.) Kuntz.	Asteraceae
Ageratum conyzoides L.	Asteraceae
Allium cepa L.	Liliaceae
Allmania nodiflora, R.Br.	Amaranthaceae
Aloe vera (L.) Burm.f.	Liliaceae
Albizzia lebbeck, (L.) Benth.	Mimosaceae
Alysicarpus monilifer	Fabaceae
Annona squamosa	Annonaceae
Anisomoles malabarica	Lamiaceae
Apluda mutica L.	Poaceae
Argemone maxicana Linn.	Papaveraceae
Aristida hysterix L.f	Poeaceae
A. setacea Retz.	Poeaceae
Atalantia monophylla, W&A	Rutaceae
Altenathera sessilis	Amaranthaceae
Amaranthus spinosus L.	Amaranthaceae
Ammania baccifera L.	Lythraceae
Anacardium occidentale	Anacardiaceae
Andrographis alata, Nees.	Acanthaceae
Andrographis paniculata (Burm.f.) Wall ex Nees	Acanthaceae
Anisomeles malabarica (L.)R.Br.	Lamiaceae

Aristolochia indica L.	Aristolochiaceae
Asparagus racemosus Willd	Liliaceae
Atylosia volubilis, Gamb.	Fabaceae
Azadirachta indica A. Juss	Meliaceae
Bulbostylis barbata	Cyperaceae
Barleria buxifdia. Linn	Acanthaceae
B. cristata	Acanthaceae
B. noctiflora	Acanthaceae
Boerhaavia diffusa. Linn	Nyctaginaceae
B .eracta	Nyctaginaceae
Borassus flabellifer L.	Arecaceae
Blepharis boerhaaviaefolia. Rers	Acanthaceae
Bidens pillosa,	Astraceae
Brachiaria ramose (L.)Stapt.	Poaceae
Cadapa indica, Lam.	Capparidaceae
Cadapa fruticosa, W&A.	Capparidaceae
Canavalia ensiformis,	Fabaceae
Canthium parviflorum.Lam.	Rubiaceae
Capparis sepiaria, L.	Capparidaceae
Capparis zeylanica.L.	Capparidaceae
Calotropis gigantean	Asclepiadaceae
Canavalia cathartica Tho.	Fabaceae
Canavalia rosea Sw.and Dc.	Fabaceae
Cardiospermum halicacabum L.	Sapindaceae
Carissa spinarum,	Apocynaceae
Carica papaya	Caricaceae
Cassia auriculata ,L.	Caesalpiniaceae
Casureneia equisitifolivs L.	Casureneiaceae
Cassytha filiformis, L.	Lauraceae
Catharanthus roseus G. Don	Apocyanaceae
Centella asiataca	Apiaceae
Ceropegia junceae, Roxb.	Asclepidiaceae
Chloris inflate Link.	Poaceae
Cissus quadrangularis L.	Vitaceae
Cleome viscosa L.	Cleomaceae
C .gynandra	Cleomaceae
Clitoria ternata, L.	Fabaceae
Coccinia indica, W&A	Cucurbitaceae
Cocculus hirsutus, Diels.	Minispermmaceae
Combretum ovalifolium, Roxb.	Asclepiddaceae
Commelina benghalensis Linn.	Commelinaceae
Commiphora berryi, Engl.	Burseraceae
Corchorus trilocularis L.	Tiliaceae
Citrullus colocynthes (L.) Sch.	Cucurbitaceae

Crataeva magna	Capparidaceae
Crotallaria juncea	Fabaceae
Croton bonplandianus Baillon	Euphorbiaceae
Croton klotzschianus, Thw.	Euphorbiaceae
Cucumis trigonus Roxb.	Cucurbitaceae
Cynodon dactylon (L.) Pers	Poaceae
Cyprus arenarius	Cyperaceae
Cyprus articulates	Cyperaceae
Cyprus bulbosus	Cyperaceae
Cyprus compressus	Cyperaceae
Cyprus difformis	Cyperaceae
Cyprus distans	Cyperaceae
Cyprus exallatus	Cyperaceae
Cyprus halpan	Cyperaceae
Cyprus iria L	Cyperaceae
Cyprus procerus Rottb	Cyperaceae
Cyprus rotundus L.	Cyperaceae
Cyprus temiculmis	Cyperaceae
Cyprus triceps (Rottb.) Endl.	Cyperaceae
Crytococcum trigonum (Retz.) A.	Poaceae
Dactyloctenium aegyptium (L.)	Poaceae
Daemia extensa, N.E.Br.	Asclepidiaceae
Datura metal L.	Solanaceae
Dichrostachyus cinerea Wight et Arn.	Mimosaceae
Dodoneae viscose, L.	Sapindaceae
Echolium linneanum	Acanthaceae
Eclipta prostrata (L.) Hassk.	Asteraceae
Enicostema littorale, Bume	Gentianaceae
Enteropogen dolichostachyus	Poaceae
Eragrostiellla tenella (L.) P.Beauv.ex.Rome &Schultes var.insularis	Poaceae
Eragrostiellla tenella (L.) P.Beauv.ex.Rome &Schultes var.tenella	Poaceae
Euphobia antiquorumL.	Euphorbiaceae
Euphorbia hirtaL.	Euphorbiaceae
Euphobia rosea, Retz.	Euphorbiaceae
*Ephorbia thymifolia,*L.	Euphorbiaceae
Evolvulus alsinoides, L.	Convolvulaceae
Fluggea lecopyrus, Willd.	Euphorbiaceae
Ficus bengalinciesL.	Moraceae
Ficus religiosaL.	Moraceae
F. tomentosa, Roxb.	Moraceae
Fimbristylis eregrostis	Cyperaceae
Gloriosa superba L.	Liliaceae
Gisekia pharnaceoids L.	Molluginaceae

Glinus oppositifolius (L.) Aug. DC.	Molluginaceae
Gmelina asiatica. L	Verbenaceae
Gymnema sylvestre R.Br.ex Schultes	Asclepiadaceae
Hemidesmus indicus, R.Br.	Asclepidiaceae
Heteropogen contortus (L.) P.Beauv.ex Roemer & Schultes	Poaceae
Hibiscus micranthus.L.	Malvaceae
Hyptis suaveolens	Lamiaceae
Ichnocarpus frutecens R.Br	Apocynaceae
Indigofrea aspalathoides Vahl ex	Fabaceae
Indigofrea linnaei L.	Fabaceae
Indigofrea tinctoria L.	Fabaceae
Indigofrea trita L.	Fabaceae
Indigofrea echinatus (Willd). Benth.	Fabaceae
Ipomea carnea	Convolvulaceae
Ipomea obscura (L.) Ker Gawl.	Convolvulaceae
Ipomea pes-carprae L. R.Br.	Convolvulaceae
Ipomea sepiaria	Convolvulaceae
Jasminum auriculatum, Vahl.	Oleaceae
Jatropha glandulifera	Euphorbiaceae
J.*maheswarii*	Euphorbiaceae
Justicia adhatoda L.	Acanthaceae
Kyllinga brevifolia	Cyperaceae
Kyllinga bulbosa	Cyperaceae
Lantana camara L.	Verbenaceae
Lawsonia inermis L.	Lythraceae
Lepidagathis pungens	Acanthaceae
Lettsomia aggregate, Roxb.	Convolvulaceae
Leucas aspera (Willd) Link	Lamiaceae
Leucaena glauca, Benth.	Mimosaceae
Ludwigia sp	Onagraceae
Maba buxifolia, Pers.	Ebenaceae
Maerva apetala	Capparideaceae
Mangifera indica	Anacardiaceae
Melia azadarach, Linn.	Meliaceae
Merremia 137ridentate (Linn.) Hallier f	Convulvulaceae
Monihot esculenta	Euphorbiaceae
Morinda pubecencs J. E. Sm.	Rubiaceae
Mimosa pudica L.	Mimosaceae
Miusops elengi	Sapotaceae
Mollugo cerviana (L.) Ser.	Molluginaceae
M.pentaphylla, L.	Molluginaceae
Mukia maderaspatana (L.) M. Roem)	Cucurbitaceae
Niebuhria apetala, Dunn.	Capparidaceae
Ocimum sanctum, L.	Lamiaceae

O. teneiflorum	Lamiaceae
Opuntia sp.	Cactaceae
Oldenlandia umbellata, L.	Rubiaceae
Possiflora foetidal.	Possifloraceae
Paspalidium flavidum (Retz.) A.Camus	Poaceae
Pavonia odorata Willd	Malvaceae
P. procumbens	Malvaceae
P. zylanica	Malvaceae
Paspalidum flavidum	Poaceae
Pedalium murax L.	Pedaliaceae
Percularia daemia (Forssk.) Chiov.	Asclepiadaceae
Perotis indica	Poaceae
Phyllanthus amarus Schum & Thonn.	Euphorbiaceae
Phyllanthus murex	Euphorbiaceae
Phyllanthus emblica L.	Euphorbiaceae
Phoenix humilis, Royle	Areaceae
Phyllanthus amarus	Euphorbiaceae
P. maderaapatensis L.	Euphorbiaceae
P. reticlatus	Euphorbiaceae
Physalis minima	Solanaceae
Plumbago zylanica L.	Plumbaginaceae
Polycarpaea corymposa (L.) Lam	Caryophyllaceae
Polygala chinensis. L.	Polygalaceae
Polygala jawana DC.	Polygalaceae
Polyalthia longifolia	Annonaceae
Pongamia pinnata. (L.) Pierre	Fabaceae
Pithocellobium dulce (Roxb.) Benth	Mimosaceae
Priva cordifolia	Verbanaceae
Prosopis juliflora (Sw.)DC	Fabaceae
Psidium guajava	Myrataceae
Randia dumeturum	Rubiaceae
Rhinacanthus communis	Acanthaceae
Ricinus communis L.	Euphorbiaceae
Rivea hypocrateriformis (Desr. ex Lam.) Choisy.	Convolunaceae
Rothia indica (L.) Druce	Fabaceae
Rungia repens.Nees.	Acanthaceae
Santalum album L.	Santalaceae
Scoparia dulcis L.	Scrophulariaaceae
Securinega leucopyrus Willd.	Euphorbiaceae
Senna alata	Caesalpiniceae
Sesamum indicum L.	pedaliaceae
Sida acuta	Malvaceae
Sida cordifolia L.	Malvaceae
Sida rhombifolia L.	Malvaceae
Solanum insanum L.	Solanaceae

Sporobolus virginicus	Poaceae
Streblus asper. Lore	Moraceae
Striga angustifolia	Scrophulariaceae
Striga densiflora	Scrophulariaceae
Stylosanthes mucronata, willd.	*Fabaceae*
Syzygium cumini (L.) Skeels	Myrtaceae
Tamarantus induca, Linn.	Caesalpinaceae
Tectona grandis	Verbenaceae
Tephrosia purpurea (L.) Pers.	Fabaceae
Tephrosia villosa (L.) Pers.	Fabaceae
Terminalia chebula Retz.	Combretaceae
Thespesia populnea	Malvaceae
Tinospora cordifolia (Willd.) Miers ex Hook.	Menispermaceae
Trianthema portulacastrum	Aizoaceae
Tribulus terrestries L.	Zygophyllaceae
Trichodesma indicum (L.) Sam.	Boraginaceae
Tridax procumbens	Asteraceae
Triumfetta romboidea	Tiliaceae
Triumfetta pentandra A.Rich.	Tiliaceae
Triumfetta rotundifolia Lam.	Tiliaceae
Typha angustata Bony et Chaub.	Typhaceae
Ventilago maderaspatana, Gaertn.	Rhamnaceae
Vernonia cinerea Less	Asteraceae
Vitex negundo L.	Verbanaceae
Vitrifolia	Verbanaceae
Waltheria indica L.	Sterculiaceae
Wrightia tintoria, (Roxb) R.Br.	Apocyanaceae
Ziziphus oenoplia, Mill.	Rhamnaceae
Ziziphus jujuba Mill.	Rhamnaceae
Zornia diphylla Pers.	Fabaceae

Agricultural field angiosperm plant species

Plant species
Acanthaceae
Andrographis paniculata (Burm.f.) Wall ex Nees
Aizoaceae
Trianthema portulacastrum L.
Amaranthaceae
Achyranthes aspera L.
Aerva lanata (L.) Juss. Ex Schult.
Amaranthus spinosus L.

Amaranthus viridis L.
Anacardiaceae
Mangifera indica L.
Annonaceae
Annona squamosa L.
Polyalthia longifolia (Sonn.) Thwaites
Catharanthus roseus (L.) G.Don
Hemidesmus indicus (L.) R.Br.
Nerium oleander L.
Pergularia daemia (Forssk.) Chiov.
Asclepiadaceae
Calotropis gigantea R.Br
Arecaceae
Borassus flabellifer L.
Caryota urens L.
Cocos nucifera L.
Roystonea regia (Kunth) O.F.Cook
Aristolochiaceae
Aristolochia bracteolata Lam.
Asparagaceae
Asparagus racemosus Willd.
Asteraceae
Acanthospermum hispidum DC.
Tridax procumbens L.
Tagetes erecta L.
Bignoniaceae
Millingtonia hortensis L.f.
Boraginaceae
Trichodesma indicum R.Br.
Brassicaceae
Cleome viscosa L.
Gynandropsis gynandra (L.) Briq.
Caricaceae
Carica papaya L.
Casuarinaceae
Casuarina equisetifolia L.
Colchicaceae
Gloriosa superba L.
Combretaceae
Terminalia catappa L.
Commelinaceae
Commelina benghalensis L.
Cyanotis axillaris (L.) D.Don
Convolvulaceae
Evolvulus species

Cucurbitaceae
Coccinia indica L.
Cucumis sativus L
Luffa acutangula
Momordica charantia L.
Trichosanthes cucumerina L.
Cyperaceae
Cyperus rotundus L.
Euphorbiaceae
Acalypha indica L.
Euphorbia hirta L.
Jatropha gossypifolia L.
Ricinus communis L.
Phyllanthus amarus Schum & Thonn.
Phyllanthus emblica L.
Fabaceae
Abrus precatorius L.
Acacia auriculiformis A.Cunn. ex Benth.
Albizia lebbeck (L.) Benth.
Albizia saman (Jacq.) F.Muell.
Arachis Villosolicarpa Hoehne
Caesalpinia pulcherrima (L.) Sw.
Cassia fistula L.
Cassia hirsuta L.
Cassia occidentalis L.
Cassia siamea Lam.
Cajanus cajan(L). Milsp
Clitoria ternatea L.
Crotalaria trifoliastrum Willd.
Cyamopsis tetragonoloba L.
Delonix regia (Bojer) Raf.
Desmodium triflorum (L.) DC.
Leucaena leucocephala (Lam.) de Wit.
Lab labpurpureus Var typicus
Mimosa pudica L.
Pithecellobium dulce (Roxb.) Benth.
Pongamia pinnata Merr.
Prosopis juliflora (Sw.) Dc.
Senna alata (L.) Roxb.
Tamarindus indica L.
Tephrosia purpurea (L.) Pers.
Vigna mongo (L). Hepper
Vigna vadiata(L). R. Wilczek
Gisekiaceae

Gisekia pharnaceoides L.
Lamiaceae
Leucas aspera Link
Ocimum tenuiflorum L.
Lythraceae
Lawsonia inermis L.
Malvaceae
Abutilon indicum (L.) Sweet
Abelmoschus esculentus (L.) Moench
Gossypium hirsutum
Hibiscus rosa-sinensis L.
Thespesia populnea (L.) Correa
Meliaceae
Azadirachta indica A.Juss.
Moraceae
Ficus benghalensis L.
Ficus religiosa L.
Moringaceae
Moringa pterygosperma Gaertn.
Moringa oleifera L.
Musaceae
Musa paradisiaca L.
Myrtaceae
Psidium guajava L.
Syzygium cumini (L.) Skeels
Nyctaginaceae
Boerhavia diffusa L.
Boerhavia erecta L.
Bougainvillea spectabilis Willd.
Oleaceae
Jasminum grandiflorum L.
Jasminum sambac Ait
Passifloraceae
Ziziphus jujuba Lam.
Rosaceae
Rosa indica L.
Rutaceae
Aegle marmelos Correa
Citrus aurantiifolia (Christm.) Swingle
Citrus medica L.
Murraya koenigii Spreng.
Sapindaceae
Cardiospermum halicacabum L.
Sapotaceae
Rhamnaceae

Manilkhara achras
Solanaceae
Capsicum annuum (L.)
Lycopersicum esculentum Mill
Solanum melongena (L.)

LIST OF CULTIVATED CROPS :

1. *Cocos nucifera* - Coconut
2. *Canna indica* - Banana
3. *Phaseolus mungo* - Black gram

FAUNA:

INTRODUCTION:

Industrialization normally causes adverse impact on the biotic and abiotic factors of the environment. This is mainly because of the impact the industry causes on air, water and soil components of the environment. The magnitude of the impact depends primarily on the amount of dislocation / degradation of the land right from the construction phase of the project and the changes in land use pattern consequent to the establishment of the project. Intensity of the individual operations and the concentration of gaseous, liquid and solid emissions from the industries also affect the fauna in a significant manner. This will be reflected in the fauna content, distribution, proliferation etc. The response of plants to the changes in environment is not so quick as animals since they are highly eco-sensitive. The status of the fauna of the region will reveal the degree of such impact if any due to the industrial activity. In this perspective, the study / survey of the fauna within the core and buffer zones of the proposed VVM SEZ area was undertaken.

METHOD OF STUDY:

The entire core and buffer zone was divided into 1 km blocks for the convenience of field study. By proper field traverses and observations, the terrestrial, arboreal and avian fauna were recorded. Personal enquiries / discussion with local inhabitants, villagers, forest department officials, etc. were conducted to get a fair idea of the existing fauna and flora status of the study area.

CORE ZONE:

The core zone of VVM SEZ comprises some common birds like crow, sparrow and a few insects pertaining to the area.

BUFFER ZONE:

In the buffer zone domestic animals like cows, buffaloes, dogs, cats etc. are found. The detailed list of fauna found in this zone is given below.

The core and buffer zones do not contain any wild animals like elephants, tigers etc. This area neither contains any biosphere, national parks, sanctuaries etc. nor breeding grounds for migrating fauna. The nearest marine national park is more than 100 kms away from the core zone.

FAUNA STATUS IN THE BUFFER ZONE AREA:

LIST OF INVERTEBRATES AND VERTEBRATES:

List of butterflies

S.No	Family	Zoological Name	Common Name
1	Nymphalidae	*Danaus chrysippus* (Linnaeus, 1758)	Plain tiger
2	..	*Ariadne merione* (Cramer,1777)	Common caster
3	.	*Junonia lemonias* (Linnaeus, 1758)	Lemon pancy
4	..	*Neptis hylas* (Linnaeus, 1758)	Common sailor
5	..	*Danaus genutia* (Cramer,1779)	Striped tiger
6	..	*Phalanta phalantha* (Drury,17	Common leopard
7	..	*Hypolimnas bolina* (Linnaeus, 1758)	Great egg fly
8	..	*Acraea terpsicore* (Linnaeus, 1758)	Tawny caster

9	..	*Ariadne ariadne* (Linnaeus 1763)	Angled castor
10	..	*Ariadne merione* (Cramer, 1777)	Common castor
11	..	*Hypolimnas misippus* (Linnaeus,1764)	Danaid egg fly
12	..	*Hypolimnas bolina* (Linnaeus,1758)	Great eggfly
13	..	*Junonia iphita* (Cramer,1779)	Chocolate pancy
14	..	*Cirrochora thais* (Fabricius,1787)	Tamil yeoman
15	..	*Euploea core* (Cramer,1780)	Common crow
16	..	*Junonia hierta*	Yellow pancy
17	..	*Tirumala septentrionis* (Butler, 1874)	Dark blue tiger
18	..	*Tirumala limniace* (Cramer,1775)	Blue tiger
19	..	*Melanitis leda* (Linnaeus, 1758)	Common evening brown
20	..	*Mycalesis perseus* (Fabricus 1775)	Common bush brown
21	..	*Ypthima ceylonica* (Hewitson, 1865)	White four ring
22	..	*Junonia oithya* (Linnaues 1758)	Blue pancy
23	..	*Euthala nais* (Forrstar,1771)	Baronet
24	..	*Mycalesis mineus*	Dark brand bush brown
25	..	*Argynnis hyperbius* (1763)	Indian fritillary
26	..	*Byblia ilithya* (Drury, 1773)	Joker
27	Pieridae	*Colotis danae* (Fabricius,1775)	Crimson tip
28	..	*Colotis etrida* (Boistuval.1836)	Small orange tip
29	..	*Ixias* sp(Cramer, 1779)	White orange tip
30		*Hebomoia glaucippe* (Linnaeus, 1758)	Great orange tip
31	..	*Belenosis aurota* (Fabricius,1793)	Pioneer
32	..	*Ixias pyrene* (Linnaeus, 1764)	Yellow orange tip
33	..	*Eurema hecabe* (Linnaeus, 1758)	Common grass yellow
34	..	*Catopsilia pyranthe* (Linnaeus, 1758)	Mottled emigrant,
35	..	*Catopsillia 145omona* (Fabricius,1775)	Common emigrant or lemon emigrant
36	..	Delias eucharis (Drury,1773)	Common Jezebel
37	..	Cepora nerissa (Fabricius, 1775)	Common gull
38	..	Leptosia nina (Fabricius,1793)	Psyche
39	..	*Belonosis aurota* (Fabricius, 1793)	Pioneer
40	..	*Colisa croceus* (Geoffroy, 1785)	Dark clouded yellow
41	Lycaenidae	*Castalius rosimon* (Fabricius, 1775)	Common pierrot
42	..	*Arhopala centaurus* (Fabricius,1775)	Centauroak blue
43	..	*Spindasis vulcanus* (Fabricius, 1775)	Common silver line
44	..	*Euchrysops cnejus* (Fabricius,1798)	Gram blue
45	..	*Jamides celeno* (Grammer, 1775)	Common cerulin
46	..	*Freyeria trochylus* (Freyer, 1845)	Grass jewel
47	..	*Tarucus plinius* (Fabricius, 1793)	Zebra blue
48	..	*Zizina otis* (Fabricius, 1787)	Lesser grass blue
49	..	*Zizeeria knysna* (Trimen, 1862)	Dark grass blue
50	..	*Chilades parrhasius* (Fabricius, 1793)	Indian cupid
51	Papilionidae	*Papilio polytes* (Linnaeus, 1758)	Common mormon
52	..	*Graphium agamemnon* (Linnaeus	Tailed jay

		1758)	
53	..	Atrophaneura (pachliopta) aristolochiae (Linnaeus, 1758)	Common rose
54	..	*Atrophaneura (Pachliopta) hector* (Linnaeus, 1758)	Crimson rose
55	..	*Papilio demoleus*	Lime butterflies
56	Hesperiidae	*Borbo cinnara* (Wallace, 1866)	Rice swift
57	..	*Sarangesa purendra* (Moore,1882)	Spotted small flat
58	..	*Spialia galba* (Fabricius, 1793)	Indian skipper
59	..	*Suastus gremius*	Indian palm bob

List of ant

S.No	Ants
1	*Componotus compressus* (Fabricius, 1787)
2	*Componotus rufoglaucus* (Jerdon, 1851)
3	*Recophylla samaragdina* ((Fabricius, 1777)
4	*Myrmicaria brunnea* (Saunders, 1842)
5	*Diacamma rugosum rugosum* (Leguilou,1842)
6	*Meranoplus bicolor* (Guerin- meneville, 1884)
7	*Pochycondyla tesseronoda* (Emery, 1877)
8	*Camponotus rufoglaucus* (Jerdom, 1851)
9	Crematogastes subnuda (Mayr, 1879)

List of birds

S.No	Family	Common name	Scientific name	Order
1	Podicipedidae	Little grebe	*Tachybaptus ruficollis*	Podicipediformes
2	Ardeidae	Cattle egret	*Bubulcus ibis*	Pelecaniformes
3		Little egret	*Egretta garzetta*	Pelecaniformes
4		Grey heron	*Ardea cinerea*	Pelecaniformes
5		Median egret	*Mesophoyx intermedia*	Pelecaniformes
6		Great egret	*Ardea alba*	Pelecaniformes
7		Grey heron	*Ardea cinerea*	Pelecaniformes
8		Indian pond heron	*Ardeola grayii*	Pelecaniformes
9		Purple heron	*Ardea purpurea*	Pelecaniformes
10		Black – crowned Night Heron	*Nycticorax nycticorax*	Pelecaniformes
11	Pelecanidae	Spot-billed pelican	*Pelecanus philippensis*	Pelecaniformes
12		Little cormorant	*Microcarbo niger*	Pelecaniformes
13		Indian shag	*Phalacrocorax fuscicollis*	Phalacriformes

14	Anhingidae	Oriental darter	*Anhinga melanogaster*	Pelecaniformes
15	Ciconiidae	Painted strock	*Mycteria leucocephala*	Ciconiiformes
16		Asian-open billed strock	*Anastomus oscitans*	Ciconiiformes
17	Threskiornithidae	Indian black ibis	*Pseudibis papillosa*	Pelecaniformes
18		Black- headed ibis	*Threskiornis melanocephalus*	Pelecaniformes
19		Glossy ibis	*Plegadis falcinellus*	Ciconiiformes
20		Straw necked ibis	*Threskiornis spinicollis*	Ciconiiformes
21		Eurasian spoonbill	*Platalea leucorodia*	Pelecaniformes
22	Alcedinidae	Small blue kingfisher	*Alcedo atthis*	Coraciiformes
23		White- breasted kingfisher	*Halcyon smyrnensis*	Coraciiformes
24		Lesser pied kingfisher	*Ceryle rudis*	Coraciiformes
25	Anatidae	Indian spot billed duck	*Anas poecilorhyncha*	Anseriformes
26		Northern Pintail	*Anus acuta*	Anseriformes
27		Garganey	*Anus querquedula*	Anseriformes
28		Common Teal	*Anus crecca*	Anseriformes
29		Comb duck	*Sarkidiornis melanotos*	Anseriformes
30		Cotton pygmy-goose	*Nettapus coromandelianus*	Anseriformes
31	Accipitridae	Brahminy kite	*Haliastur indus*	Accipitriformes
32		Black kite	*Milvus migrans*	Accipitriformes
33		Black shouldered kite	*Elanus axillaris*	Accipitriformes
34		Shikra	*Accipiter badius*	Falconiformes
35		Common buzzard	*Buteo buteo*	Accipitriformes
36	Rallidae	White breasted waterhen	*Amaurornis phoenicurus*	Gruiformes
37		Purple swamphen	*Porphyrio porphyrio*	Gruiformes
38		Common coot	*Fulica atra*	Gruiformes
39		Purple moorhen	*Porphyrio porphyrio*	Gruiformes
40	Phasianidae	Jungle bush quail	*Perdicula asiatica*	Galliformes
41		Indian peacock	*Pavo cristatus*	Galliformes
42		Grey francolin	*Francolinus pondicerianus*	Galliformes
43	Jacanida	Pheasant- tailed jacana	*Hydrophasianus chirurgus*	Charadriiformes
44		Bronze- winged jacana	*Metopidius indicus*	Charadriiformes
45	Charadriidae	Red-wattled	*Vanellus indicus*	Charadriiformes

		lapwing		
46		Yellow-wattled lapwing	*Vanellus malabaricus*	Charadriiformes
47		Little ringed plover	*Charadrius dubius*	Charadriiformes
48		Lesser sand plover	*Charadrius mongolus*	Charadriiformes
49		greater sand plover	*Charadrius leschenaultii*	Charadriiformes
50	Scolopacidae	Common sandpiper	*Actitis hypoleucos*	Charadriiformes
51		Common greenshank	*Actitis hypoleucos*	Charadriiformes
52	Recurvirostridae	Black- winged stilt	*Himantopus himantopus*	Charadriiformes
53	Burhinidae	Stone curlew	*Burhinus oedicnemus*	Charadriiformes
54	Laridae	Tern	*Actitis hypoleucos*	Charadriiformes
55		Common Tern	*Sterna hirundo*	Charadriiformes
56	Columbidae	Spotted dove	*Streptopelia chinensis*	Columbiformes
57		Eurasian collared dove	*Streptopelia decaocto*	Columbiformes
58		Rock pigeon	*Colmuba livia*	Columbiformes
59		Little brown dove	*Streptopelia senegalensis*	Columbiformes
60	Nectariniidae	Purple- rumped Sunbird	*Nectarinia zeylonica*	Passeriformes
61		Purple- Sunbird	*Cinnyris asiaticus*	Passeriformes
62		Small sunbird	*Leptocoma minima*	Passeriformes
63	Cuculidae	Asian Koel	*Eudynamys scolopaceus*	Cuculiformes
64		Pied Cuckoo	*Clamator jacobinus*	Cuculiformes
65		Indian roller	*Coracias benghalensis*	Cuculiformes
66		Blue faced Malhoha	*Phaenicophaeus viridirostris*	Cuculiformes
67		Common hawk-cuckoo	*Hierococyx varius*	Cuculiformes
68		Common cuckoo	*Cuculus canorus*	Cuculiformes
69		Indian cuckoo	*Calculus micropterus*	Cuculiformes
70		Greater coucal	*Centropus sinensis*	Cuculiformes
71		Brain fever bird	*Hierococcyx varius*	Cuculiformes
72	Motacillidae	Large pied wagtail	*Motacilla maderaspatensis*	Passeriformes
73		Forest wagtail	*Dendronanthus indicus*	Passeriformes
74		Grey Wagtail	*Motacilla cinerea*	Passeriformes
75		Yellow wagtail	*Motacilla flava*	Passeriformes
76		Paddyfield wagtail	*Anthus rufulus*	Passeriformes
77	Estrildidae	Black headed munia	*lonchura atricapilla*	Passeriformes
78		Spotted Munia	*lonchura punctulata*	Passeriformes

79		White- throated Munia	*Lonchura malabarica*	Passeriformes
80		White- rumped Munia	*Lonchura striata*	Passeriformes
81	Passeridae	House sparrow	*Passer domesticus*	Passeriformes
82		Baya weaver bird	*Ploceus philippinus*	Passeriformes
83	Sturnudae	Common myna	*Acridotheres tristis*	Passeriformes
84		Jungle myna	*Acridotheres fuscus*	Passeriformes
85		brahminy myna	*Sturnus pagodarum*	Passeriformes
86	Pycnonotidae	Red – whiskered bulbul	*Pycnonotus jocosus*	Passeriformes
87		Red – ventrd bulbul	*Pycnonotus cafer*	Passeriformes
88	Meropidae	Green bee eater	*Merops orientalis*	Coraciiformes
89		Blue – tailed bee eater	*Merops philippinus*	Coraciiformes
90	Muscicapidae	Indian robin	*Saxicoloides fulicata*	Passeriformes
91		Oriental magpie-robin	*Copsychus saularis*	Passeriformes
92		Common tailorbird	*Orthotomus sutorius*	Passeirformes
93		Asian paradise-flycatcher	*Terpsiphone paradisi*	Passeriformes
94	Psittacidae	Rose ringed parakeet	*Psittacula krameri*	Psittaciformes
95	Alaudidae	Red winged bushlark	*Mirafra erythroptera*	Passeriformes
96		Indian small skylark	*Alauda gulgula*	Passeriformes
97	Oriolidae	Eurasian Golden oriole	*Oriolus oriolus*	Passeriformes
98	Upupidae	Common hoopoe	*Upupa epops*	Coraciiformes
99	Apodidae	House swift	*Apus affinis*	Apodiformes
100		Asian palm swift	*Cypsiurus balasiensis*	Apodiformes
101	Picidae	Black- rumped flameback	*Dinopium benghalense*	Piciformes
102	Pittidae	Indian pitta	*Pitta brachyura*	Passeriformes
103	Capitonidae	Copperamith	*Magalaima viridis*	Piciformes
104	Hirundinidae	Common swallow	*Hirundo rustica*	Passeriformes
105	Timaliidae	Yellow billed babbler	*Turdoides caudatus*	Passeriformes
106	Strigidae	Spotted owlet	*Athene brama*	Strigiformes
107	Irenidae	Common lora	*Aegithina tiphia*	Passeriformes
108	Acrocephalidae	Indian great reed warbler	*Acrocephalus orientalis*	Passeriformes
109	Corvidae	Rufous treepie	*Dendrocitta vagabunda*	Passeriformes

110	White- bellied treepie	*Dendrocitta leucogastra*	Passeriformes
111	House crow	*Corvus splendens*	Passeriformes
112	Jungle crow	*Corvus macrorhynchos*	Passeriformes
113	Black drongo	*Dicrurus macrocercus*	Passeriformes

List of earthworms

S.No	Scientific name
1	*Lampito mauritii*
2	*Eudrilus eugeniae*
3	*Eisenia foetida*
4	*Perionyx excavates*
5	Octochaetona sp
6	Lampito sp
7	*Pontascolex corethrutus*

List of reptiles

S.No	Common Name	Scientific Name	Order	Family
1	Garden lizard	*Calotes versicolor*	Squamata	Agrimidae
2	Fan throated lizard	*Sitana ponticeriana*	Squamata	Scincidae
3	Common skink	*Eutropis macularia*	Bronze Grass Skink	Scincidae
4	Snake-eyed lizard	*Ophisops leschenaultii*		
5	Russels's Viper	*Daboia Russelii daboia russ*	Squamata	Viperidae
6	Monitor lizard	*Varanus* sp	Squamata	Varanidae
7	Green vine or long nosed whip Snake	*Ahaetulla nasuta*	Squamata	Colubridae
8	Indian red snake	*Ptyas mucosus*		
9	Bark gecko	*Hemidactylus leschenaultia*		
10	Indian cobra	*Naja naja*	Squamata	Elopidae
11	Ant eater	-	-	-

List of Mammal

S.No	Order	Family	Scientific Name	Common Name
1	Sciuridae		*Funambulus palmarum*	Squirrels
2	Muridae		*Rattus sp*	Rat
3			*Rattus norvegicus*	Rat

4	Herpestidae		*Herpestes edwardsii*	Grey Mongoose
8	Chiroptera	Pteropodidae	*Cynopterus sphinx*	Short nosed fruit bat
9			*Rousettus leschenaulti*	Fulvovus fruit bat
10			*Pteripus giganteus*	Indian flying fox
11			*Rhinopoma hardwickii*	Small mouse- tailed bat
12			*Taphozous melanopogan*	Black-bearded sheath-tailed bat
13			*Taphozous nudiventris*	Naked - rumbed tomb bat
14			*Megaderma lyra*	Indian false vampire bat
15			*Hipposideros ater*	Dusky leaf- nosed bat
16			*Hipposideros fulvus*	Fulvous leaf nosed bat
17	Leporidae		*Lepus timidus*	Hare

Marine Ecology

As part of the marine ecological studies, studies were carried out in the sea both in the littoral and sub littoral zone of the proposed sea Port. Phytoplankton, Zooplankton, Primary producivity, Benthic organisms and Nekton studies were carried out. The methodology of the study is as follows

I. PLANKTON STUDIES

Qualitative and quantitative estimation of Phytoplankton

A known volume of sea water was filtered through phytoplankton net made of ultra fine cloth (0.1mm mezh size). Immediately after filtration, the filtered samples were fixed in 5% formalin. In the laboratory, the samples were allowed to stand in a measuring cylinder until all the materials settled to the bottom. The supernatant was siphoned out and the filtrate was reduced to a known volume. From this, sub samples were made (1 ml each) and they were placer in a Haemocytometer. The phytoplankton were counted numerically with the help of compound microscope at a magnification of 400x. Phytoplankton density was expressed in numbers per litre. For qualitative estimation of phytoplankton, the

plankton net was towed behind the boat at selected locations in the sea and the sample filtered was used.

Qualitative and quantitative estimation of zooplankton

Zooplankton samples were collected from selected stations using a zooplankton net having mesh size 0.3 mm. The net was towed behind the boat and the samples were transferred to a plastic container and were fixed in 5% formalin. In the laboratory the total volume of zooplankton was determined by settlement volume method. The zooplankton aliquots were pipetted out in to a Bogorov counting tray and counted numerically with a help of a binocular compound microscope at a magnification of 400x. Three aliquots in the replicates were examined and the final numerical estimates made following Wickstead (1974) and expressed as number/m^3.

II PRIMARY PRODUCTIVITY STUDIES

Primary productivity in the sea was estimated following Light and Dark bottle method of Strickland and Parson (1972). To start with, oxygen content was estimated following Winkler's method. Then by using Photosynthetic Quotient (PQ) values, it was converted into carbon values.

III BENTHIC STUDIES

Benthic samples were collected from the littoral and sub littoral zones using a hand operated Petersen Grab and also with the help of scuba divers. The bottom sediments were washed with sea water. Sieves of different mesh size (0.1 – 2.0 μ) were used for separating benthic organisms from the substratum and the residue was fixed in 5% formalin and the samples were brought to the laboratory. In the laboratory the samples were rewashed and preserved in spirit. Then the samples were stained with Rose Bengal and the fauna was separated with the help of a binocular microscope and identified.

➢ *IV NEKTON STUDIES*

Information about the availability of major species of fin fishes and shell fishes were collected from direct observation. Some information was collected from the fisherman engaged in fishing in the area, published accounts and also from scuba divers who made in – situ observations.

FLORA AND FAUNA OF THE STUDY AREA

Phytoplankton

In the proposed study area 24 genera of Phytoplankton from 15 families were recorded. Among these, genera like *Biddulphia*, *Lithodesmium* from the family Biddulphiaceae and *Peridinium* and *Ceratium* from family Dinophyceae, Genus *Trichodesmium* from Oscillatoriaceae, Genus *Pleurosigma* from Achnathaceae, *Leptocylindrus* from Leptocylindraceae, *Tintinnopsis* from Tintinnididae, *Epitocylis* from Plychocyladeae and *Chaetoceros* from Caetoceraceae, the genus *Hyalodiscus* from the family Melosiraceae, *Stephanophysis* belonging to the family Skeletonemaceae were uniformly present in the littoral and sub littroal area. Genus like *Thalassiosira* from Thalassiosiraceae, *Coscinodiscus*, *Planktoniella* and *Asteromphalus* from Coscinodiscaceace, *Bacteriastrum* from Bacteriastraceae, *Vitzschia* from Biddulphiaceae, *Fragilaria* and *Thalassiothrix* from Fragilariaceae, *Cocconeis* from Achnathaceae and *Rhizosolenia* from Rhizosolieniaceae were also present in less numbers in the sampled zones.

In the sea side transects, the density of phytoplankton was more in the littoral zones than in the sub littoral zones.

Table 3.19 Average Phytoplankton density (nos.x10^3)

Sl.No	Family	Genus	Average Density	
			Littoral Zone	Sub Littoral Zone
1.	Melosiraceae	*Hyalodiscus*	20±0.4	10±0.25

2	Skeletonemaceae	*Stephanophyxis*	10±0.2	10±0.2
3	Leptocylinderaceae	*Leptocylindrus*	250±4.5	152±5.2
4	Thalassiosiraceae	*Thalassiosira*	200±4.3	10±0.2
5	Coscinodiscaceae	*Coscinodiscus*	160±3.0	140±3.0
		Planktoniella	80±1.7	40±0.8
		Asteromphalus	20±0.6	8±0.2
6	Bacteriastraceae	*Bacteriastrum*	80±1.4	10±0.2
7	Chaetoceraceae	*Chaetoceros*	250±5.5	160±4.1
8.	Biddulphiaceae	*Nitzschia*	40±1.2	10±0.2
		Biddulphia	1080±19.1	760±16.1
		Triceratium	440±8.3	160±3.4
		Lithodesmium	1300±28.1	2060±52.7
9.	Acanthaceae	*Cocconeis*	120±2.1	80±1.7
		Pleurosigma	300±6.5	160±3.0
10.	Fragilariaceae	*Fragilaria*	40±0.8	-
		Thalassiothrix	80±1.4	360±7.6
11.	Oscillatoriaceae	*Trichodesmium*	320±6.9	20±0.5
12.	Dinophyceae	*Peridinium*	440±9.5	220±5.5
		Ceratium	1780±33.4	920±19.9
13.	Tintinnididae	*Tintinnopsis*	160±2.9	240±5.1
14.	Plychocylade	*Epitocylis*	480±15.5	141±3.5
15.	Rhizosoleniaceae	*Rhizosolenia*	180±3.2	40±0.7

➢ *Zooplankton*

In the study area, a total of 24 species of zooplanktopn were recorded. Of these *copepods* were the dominant group. Next to this *Decopods*, *Polychaetes* and *Chaetognaths* were found abundandly. *Amphipods*, *Ostracods*, *Lucifer*, fish eggs and larvae. Appendicularia larvae, Cladocerans, Veliger larvae, Ctenophore, *Comanthus*, *Obelia* sp., Mysis, Isopods, Trochophore larvae, Stomatopods, Bipinnaria larvae of Echinoderm and Doliolum were also present but in lesser numbers. The population details and distribution of zooplankton are given in Table 3.20.

Table 3.20 Zooplankton Abundance (nos./m^3)

Sl.No	Species	Average Density	
		Littoral Zone	Sub Littoral Zone
1.	Copepods	45.0±18.7	46.0±20.08
2.	Decapod larvae	18.0±7.5	18.5±8.08
3.	Amphipoda	5.0±2.07	4.6±2.01
4.	Ostracoda	15.0±6.2	9.0±3.93
5.	Lucifer	4.3±2.0	4.6±2.5
6.	Polychaeta	17.2±7.2	14.0±6.11
7.	Fish eggs	7.5±3.1	4.6±2.01
8.	Fish larvae	2.5±1.03	14.0±6.11
9.	Chaetognatha	20.0±8.3	18.5±8.08
10.	Appendicularia	15.0±6.2	14.0±6.11
11.	Cladocera	2.5±1.03	4.6±2.01

12.	Veliger Larvae	10.3±4.3	9.0±3.93
13.	Ctenophora	2.5±1.03	9.0±3.93
14.	Comanthus	-	4.6±2.01
15.	Obelia	10.0±4.15	9.0±3.93
16.	Mysis	7.6±3.15	-
17.	Isopoda	7.5±3.1	-
18.	Trochophore larvae	10.0±4.15	9.0±3.93
19.	Stomatopoda	5.0±2.07	5.0±2.18
20.	Bipinnaria larvae	17.6±7.3	9.0±3.93
21.	Doliolum	7.5±3.1	4.5±1.97
22.	Sipnonophora	10.0±4.15	9.0±3.93
23.	Acetes larvae	5.0±2.07	4.5±1.97
24.	Tintinnids	-	4.0±1.75

Primary Productivity

Irrespective of the sampling area the Net Primary Productivity (NPP) in the littoral zone was higher than the values recorded for sub littoral zones. The highest NPP in the study area in littoral zone was 2.04g/m^3/day and in the sub littoral zone was 1.5 g/m^3

Nekton

A total of 18 species of nektons were observed. Species like Anchovies, Carangids, Silver Bellies, Mackerels, Oil Sardine, Lesser Sardine,

- *Ophisthopterus sp.*, Barracuda, squid, crab, *Portunus* sp., Mullet, *Secuter* sp., and Ribbion fish, were observed in all the sampling zones. Other species with restricted distribution in the area were Parapenaeopsis stylifera, Catfish, Penaeid shrimps, Lutijanus, cuttlr fidh youg ones, star fish, string ray and *Anandontostoma* sps.

There are no turtle nesting beaches any where in the study area.



ENVIRONMENT IMPACT ASSESSMENT

CHAPTER – IV

ENVIRONMENT IMPACT ASSESSMENT

IMPACT IDENTIFICATION

The potential impacts on the environment from the development of VVM SEZ have been identified considering the nature and extent of the activities associated with the project implementation and operation as well as the present scenario of the environmental quality at the project site.

Impact prediction is an important component in Environmental Impact Assessment process. Several techniques and methodologies are in vogue for impact prediction on physical, biological and socio-economic components of environment.

Component wise identification of qualitative and also semi quantitative impacts of the activities in the proposed project have been carried out. A simplex Matrix method has been used to predict impacts of construction and operation phases of the project. Impacts are categorized as positive and negative in nature as also long term and short terms on a time scale.

The impacts are predicted with respect to receptor locations like villages (habitat), ecologically sensitive areas, etc. The contribution of proposed Heavy mineral processing Plants for Processing heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc., Sea Port, wind turbine and solar power plants, industries and social infrastructures are exhibited in the baseline environmental status presented in earlier chapter.

The proposed Product specific (Mineral based) Industrial activity would have short term impacts on varying environmental attributes such as air quality, water resources, solid waste generation, etc.,

The material handling, storage, movement of cargo and ship repairing yard, desalination Plant, have also been reflected in the baseline environmental quality.

Operations of port and associated utilities and Heavy mineral Processing plant will adopt Hi tech pollution abating preventive measures and maintain the environmental quality well within the prevailing national standards.

IMPACT PREDICTION AND ASSESSMENT DURING CONSTRUCTION PHASE

The construction phase of proposed VVM SEZ for Processing of heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc., Sea Port development, wind turbine and solar power plant shall be done phase-wise into stages., depending upon the industrial and other development in the SEZ. This phase generally involves activities like

- Construction facilities for Processing of heavy Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals cracking of monazite and production of Rare Earth Oxide, solvent extraction, magnets, Titanium Pigments, Synthetic Rutile, Slag, Scandinium etc in stage by stage.

- Construction of Power plant (wind turbine power, solar power altogether of 450 MW into stages).

- Sea Port and other related buildings for handling 4.5 million TPA cargo
- Repairing of ship facilities
- Construction of desalination Plant
- Construction of Transport Vehicle shed and workshop
- Fabrication workshop and maintenance workshop and industrial library Workers rest shed, canteen, dining hall, First aid Centre, smoking zone Statutory amenities buildings and play grounds
- Installation of water supply and sanitation and sewage systems
- Power Distribution System
- Telecom facilities
- Construction of factory buildings and warehouses
- Erection of civil structures, erection of new equipment and machinery, green belt development etc.

The construction phase would bring in immediate but short term changes on various components of environment near the proposed site. The likely changes on starting the constructional activity would be in the following areas :

During this phase the following activities are considered significant.

- Material loading and unloading and storage
- Dust / Particulate Emission
- Equipment Operation
- Gaseous emissions
- Solid Waste Generation
- Green Belt Development

The impact prediction studies involves both marine and terrestrial environment.

Construction Phase

Marine environmental impacts during the construction phase of the VVM captive sea port that would cater for raw materials and products may arise due to the following development operations:

a) Mobilization and de-mobilization of construction equipment

b) Dredging

c) Reclamation

d) Construction of breakwater

e) Driving of piles

f) Other miscellaneous activities such as mooring for navigational buoys, dumping of left over spoil, non-removal of discarded construction materials, etc.

The impact may potentially manifest in the form of

(i) changes in p hysical processes (bathymetry, circulation pattern, littoral transport as well as accretional and erosional trends),

(ii) deterioration in water quality and sediment texture,

(iii) destruction of biotic communities of localized subtidal and intertidal areas,

(iv) increase in noise level, and

(v) reduction in aesthetic quality.

(vi)

Environmental considerations have become a major significance to dredging and associated works. Generally, the environmental concerns associated with dredging are

i) potential water column effects associated with the re-suspension of sediments during dredging and

- ii) potential benthic effects due to se dimentation of the re-suspended material.

The main areas of influence include:

1. Release of contaminants
2. Physical disturbance
3. Depleted oxygen supplies
4. Spillage
5. Increased water turbidity and
6. Blanket cover to sea bed

Construction of dykes to regulate the flow of material has been proposed by VVM SEZ at the reclamation area. The material to be pumped will be mostly comprises coarse to medium sand with less quantity of silt. The silty clay material if used for the reclamation, the back wash containing clay will pose threat to the environment.

Physical Processes

Dredging and marine constructions are unlikely to result in gross changes in tide levels, current speeds and circulation pattern in the nearshore region (open ocean). Deepening of the channels for providing new openings can increase the current speeds in the interior segments due to increase in volume of water entering these inlets during flood tide. This may result in increase in erosion of inner bank segments destabilizing the nearshore vegetation. The numerical study shows that the flow velocity reduces after deepening of the harbour basin. The flow velocity north of the north breakwater also reduces from 0.3 m/s to 0.2 m/s. The reduction in velocity is only around the proposed structures. Dredging and construction of breakwater alter the sediment budget, sediment supply to the shoreline and topographic changes.

Water Quality

Primary Water Quality Criteria: The primary water quality criteria for marine coastal waters developed by the Central Pollution Control Board and used for the use classes under classification scheme based on designated-best uses are given below as Table 4.1. Since the developmental activities envisaged here are mainly port facilities, primary water quality criteria for SW IV water (for harbour waters) are taken into account in the present study.

Table 4.1 Primary water quality criteria for Class SW-IV waters

S.No	Parameter	Criteria	Remark
1	pH range	6.5 - 9.0	To minimise corrosive and scaling effect.
2	Dissolved Oxygen	3 mg/l or 40% saturation value,whichever is higher	Considering bio-degradation of oil and inhibition to oxygen production through photosynthesis
3	Colour and Odour	No visible colour or Offensive odour	None from reactive chemicals which may corrode paints / metallic surfaces.
4	Floating materials, oil and grease and scum (including Petroleum Products)	10 mg/l	Floating matter should be free from excessive living organism which may clog or coat operative parts of marine vessels / equipment.
5	Faecal Coliform	1000/100 ml (MPN)	Not exceeding 2000/100 ml in 20 percent of samples in the year and in 3 consecutive samples in monsoon months.
6	Biochemical Oxygen	5mg/l	To maintain water relatively

	Demand (5 days at 200C)		free from pollution caused by sewage and other decomposable wastes.

The observed concentrations of some of the primary water quality criteria for class IV waters (Harbour waters) during the observation period are compared with the limits prescribed by the CPCB and are given in Table 4.2. An examination of the above analysis indicates that the concentrations of those parameters were found to be within the prescribed limits and the water quality conditions do not pose any threat to the area under investigation.

Table 4.2 Primary water quality criteria for Class SW-IV waters and observed Concentrations

Characteristics	CPCB	Observed
pH	6.5 -9.0	7.9-8.3
Dissolved oxygen	3.0 mg/l	4.85-6.17 mg/l
BOD_5	5.0 mg/l	0.10-5.86 mg/l
Petroleum hydrocarbons	10.0 mg/l	BDL – 0.52 mg/l

Localized and temporary deterioration in water supply of near shore waters result due to dispersal of sediment during dredging, pile driving operations, point discharges from shore based settlements of work force and waste from barges and other construction machinery. Increased turbidity may result from disturbance and turbulence in the area of drag head, cutter head, bucket or blade. Subject to appropriate constraints these are generally not considered as serious problems.

Turbidity may also be caused by water draining from hoppers, containment areas

or reclamation sites. This may be more serious but is easily can be controlled. The sub-bottom strata in the project area consists of sand and silty sand. These sediments would generate fine suspended load when disturbed and may remain in suspension for a prolonged period under the influence of strong currents. This would be particularly significant during capital dredging operations.

There will not be much overflow from the reclamation area to the coastal waters, as the areas to be reclaimed will be surrounded by primary retaining bunds and are within the breakwaters. These bunds will have some dewatering sluices to enable return water (with the finer particles of the dredged soil) to return to the sea. The surface of the fill will be crowned and slope for drainage. All surface water will be collected and routed down the fill face in a manner that erosion of the reclamation fill be controlled and routed to appropriate drainage disposal points.

The discharges from ships and shore based sources if unchecked could introduce pathogens, BOD, Petroleum Hydro Carbon etc. to the coastal water which may degrade the water quality locally.

An overall assessment indicates that the water quality particularly in terms of an increase in turbidity and to a lesser extend with respect to pathogens, BOD, nutrients etc. would be influenced marginally and these perturbations would level out in due course termination of the construction phase. Hence, long term impact of construction activities on water quality of the project area is unlikely.

Sediment quality

The impact of construction activity on the sub tidal as well as intertidal sediment quality would be largely confined to the changes in the sediment texture. A considerable fraction of the fine grained excavated during dredging would not be

recovered. This sediment would be re-distributed over sub tidal and inter-tidal areas, which could alter the existing sediment texture particularly in regions prone to preferential deposition. The textural change however would be minor since most of the seabed sediments collected in the study area was mostly sandy. The concentrations of the trace metals in the sediments were within the threshold limits and no contamination was noticed in the bed sediments due to nearshore activities. The release of the domestic waste from land establishments of work force etc. can locally degrade the intertidal sediments by increasing BOD and population of pathogens. The impact however, would be minor and temporary and recovery would be quick when the sources of these wastes are terminated at the end of the construction phase.

Flora and fauna

The study area sustains fairly moderate biological productivity in terms of phytoplankton, zooplankton and benthos. The project activities will have effect on marine ecology during different phases of operation. During the construction phase the dredging will cause the destruction of the habitat at places in the harbour and nearshore regions. This will have both direct and indirect effect. Direct effect of this activity be seen in the death of fragile benthic organisms and the indirect effect will be in the form of changes in the circulation pattern and increase in suspended solid. Being a one time operation, any long term adverse impact is not envisaged. But bottom communities in the immediate periphery of activities will be disturbed/lost temporarily. The bottom communities along the north breakwater, south breakwater and in the harbour area will be disturbed during construction of port facilities. Bottom communities are expected to recolonise once the construction activities are completed.

Hectic construction activities in the intertidal and the subtidal areas would influence the local ecology. Negative impacts on intertidal and subtidal biota of degraded areas would be severe in this ecologically diverse habitat. The danger

of biota getting exposed to pollutants released from sediment pore water when the bed is disturbed is minimal since the sediments are free from gross contamination.

Phytoplankton: The damage to phytoplankton due to increase in turbidity would be minor, localized, temporary and reversible with the phytoplankton community structure recovering fully once the construction is completed. The increase in the concentration of oil and grease will lead to mortality of phytoplankton and zooplankton.

Zooplankton: The increase in suspended load may reduce the penetration of sunlight and affect photosynthetic activity. The low primary production will have effect on second trophic levels of zooplankton and benthos. A temporary and minor reduction in phytoplankton standing stock and an increase in turbidity is unlikely to produce measurable impact on zooplankton, although a localised and marginal change in community structure and population alterations may result.

Operational Phase

Environmental impact from vessels and ship traffic

During the operational phase there will be additional activities such as discharge of petroleum hydrocarbon and ship movement in the region. All these activities will directly or indirectly affect the life in the region including fish and fisheries.

Possible impacts on the environmental resources due to ship traffic are:

- Oil pollution from ship accidents.
- Ballast water.
- Illegal tank-washing.
- Ship grounding, physical damage of bottom community.

- Anchoring.
- Discharge of sewage from vessels.
- Discharge of solid waste.

Ship traffic poses a risk of oil pollution from the following sources:

- Small spills caused by the accidental or intentional release of oilcontaminated bilge or ballast-water from freighters.
- Minor spills caused by the release of bunker oil during terminal operations .
- Major spills caused by the rupture of a bunker oil tank in a bulk/cargo vessel

Collision, shipwreck of a bulk/cargo vessel

Marine environmental implications during routine operations at the port could be due to the following cases.

a) Escapement of cargo during loading/unloading operations.
b) Release of wastes generated from the ships including garbage, solid wastes, oily ballast and bilge water as well as sewage.
Chronic releases of such wastes in confined waters would lead to deterioration of the environmental quality. The cumulative effect of such perturbations may lead to modified ecosystems with the elimination of sensitive organisms and proliferation of a few opportunistic hardly species.

Marine Oil Spills

The various operations at port that can lead to the oil spill in sea are given below:

- Unloading of oil at jetty
- Discharging of oil through pipeline to oil storage facility
- Tanker accidents

Oil spill may vary from a small quantity from accidental spill to several thousands

of tonnes of oil during unexpected situations. However, it is required to have a fair understanding of the risks and probability of spills arising out of its operations and their consequences due to movement and landing along the coast. The extent of damage caused by an oil spill depends upon the quantity of oil spilled, type of oil involved in the spillage and the oceanographic and meteorological conditions prevailing in the location where the spill has occurred. When the oil spills in large quantity, it temporarily affects the air-sea interaction, thus preventing the entry of oxygen from the atmosphere. The first sets of organisms affected are the primary producers like phytoplankton, which are the basis of the marine food chain. The other free-swimming organisms such as fish larvae and fish also get affected. Further, when the oil sinks during the course of time, it affects the benthic organisms such as clams and mussels. The other amenities that are affected include mangrove forests and coral reefs.

Oil spills can also have a serious economic impact on coastal activities and resources of the sea. In most cases, such damage is temporary and is caused primarily by the physical properties of oil creating nuisance and hazardous conditions. The impact on marine life is compounded by toxicity and tainting effects resulting from the chemical composition of oil, as well as by the diversity and variability of biological systems and their sensitivity to oil pollution.

When oil is spilled at sea, it undergoes a number of physical and chemical changes, some of which lead to its disappearance from the sea surface, whilst others cause it to persist. Although spilt oil is eventually assimilated by the marine environment, the time involved depends upon such factors as the amount of oil spilled; its initial physical and chemical characteristics; the prevailing climatic and sea conditions and whether the oil remains at sea or is washed ashore.

A knowledge of the process involved, and how they interact to alter the nature and composition of the oil with time is valuable in preparing and implementing

contingency plan for oil spill response. On occasions, it may prove unnecessary to mount a clean-up response if it can be confidently predicted that the oil will drift away from vulnerable resources or dissipate naturally before reaching them. Often, however, an active response will be necessary, aimed either at accelerating the natural processes through the use of dispersants or limiting spreading by means of containment methods.

Risk of Ship Accidents

Ship collision, ship grounding, onboard fire, explosion etc. often lead to bulk releases of cargo and occasionally fuel, to the marine environment. The first two are relatively more frequent and invariably result from out of control ship movements. But the accidents involving ships are rare.

Bulk release of cargo can also result if a ship ground rupturing cargo holds. Channel length and its width are major factors controlling grounding. The ships are vulnerable to grounding in long and narrow channels particularly those, which have several bends. There are no sharp turns in the proposed navigational channel and hence the probability of grounding is less.

Extreme Events

Cyclones are associated with high-pressure gradients and consequent strong winds. These, in turn, generate storm surges. A storm surge is an abnormal rise of sea level near the coast caused by severe tropical cyclone; as a result, sea water inundates low lying areas of coastal regions, drowning human beings and live-stock, eroding beaches and embankments, destroying vegetation and reducing soil fertility. Wave action will be severe, causing damage to marine structures. Since the breakwater is a flexible structure, after the storm, the maintenance can be carried out.

Very strong winds may damage installations, dwellings, communication systems, resulting in loss of life and property. Heavy and prolonged rains due to cyclones may cause river floods and submergence of low-lying areas causing loss of life and property. Floods and coastal inundation due to storm surges pollute drinking water sources causing outbreak of epidemics.

IMPACT ON TERRESTRIAL ENVIRONMENT

Impacts during Construction Phase

During construction phase the activities related to land de-weeding, leveling of site and construction of related structures and installation of related equipment will have a slight impact on the environment.

Impact on Topography and Land Use

The topography within the project site is almost level with the grade level varying between -0.4-m to +0.4-m w.r.t. the MSL. The proposed plant area will be suitably elevated (from +1.5-m to 2.5-m above MSL) using the dredged material from port. Therefore, no major change in topography of the site is envisaged due to proposed plant erection.

The present land-use of the project site is waste land which would get transformed to industrial land after the project execution. The project land is own patta land of the developers which is contiguous and free from all encroachment in and around the proposed SEZ area. Apart from the change in land use pattern within the project site there will not be any adverse impact on the surrounding land use during the construction period.

Impact on Soil

The construction activities will result in loss of topsoil to some extent in the plant area. It is proposed to construct line drains for storm water to minimize the soil erosion. Apart from localized construction impacts at the plant site, no adverse impacts on soil in the surrounding area are anticipated.

Impact on Air Quality

The impact will be for short duration and confined within the project boundary and is expected to be negligible outside the plant boundaries. The impact will, however, be reversible, marginal and temporary in nature. Proper maintenance of vehicles and construction equipment will help in controlling the gaseous emissions. Water sprinkling on roads and construction site will prevent fugitive dust.

Impact on Water Quality

The construction will be more related to mechanical fabrication, assembly and erection; hence the water requirements would be meager. Temporary sanitation facilities (septictanks and soak pits) will be set-up for disposal of sanitary sewage generated by the work force like drivers etc. The overall impact on water environment during construction phase due to proposed project is likely to be short term and insignificant.

Impact on Noise Levels

The noise generation during construction phase will be temporary and will be restricted mostly to daytime. The noise control measures during construction phase include provision of acoustic enclosures around the equipment and regular maintenance of the equipment.

Impact on Terrestrial Ecology

The initial construction works at the project site involves land clearance. Greenbelt will be developed during construction to improve the aesthetic value in the area and to screen out the fugitive dust generated during construction. The removal of vegetation from the soil and loosening of the topsoil generally causes soil erosion. However, such impacts will be confined to the project site and will be minimized through paving and water sprinkling.

Impacts during Operational Phase

Impact on Land Use

The present land use of the area falls under waste land category, which would get converted to industrial category after the project execution. Hence, there is no impact on land use due to the proposed project during the operational phase.

Impact on Soil

Most of the impacts of Heavy mineral processing plant project on soils are restricted to the construction phase, which will get stabilized during operational phase. The impact on the topsoil will be confined to the proposed main plant area. The air borne fugitive dust from the plant is likely to be deposited on the topsoil in the immediate vicinity of the plant boundary.However, the fugitive emissions are likely to be controlled to a great extent through proposed control measures like highly efficient electrostatic precipitators.

Impact on Air Quality

The impact on air quality is assessed based on combined emissions of the proposed VVM SEZ project activities along with the present baseline data. Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter

- (RSPM),Sulphur dioxide (SO_2) and Oxides of Nitrogen (NOx) are important pollutants emitted by the proposed plants.

Prediction of impacts on air environment has been carried out by Industrial Source Complex [ISC3] dispersion model for simulations from point sources and results reveals that incremental values after baseline concentration are well within the norms as per National Ambient Air Quality (NAAQ) standards.

Impact of Traffic on Air Quality

The major pollutants expected from the traffic are Carbon monoxide and Oxides of Nitrogen. The incremental concentration due to the additional trucks has been computed by using CALINE4 line source model developed by California Department of Transportation. It has been assessed that the impact on the present ambient air quality will be negligible due to the additional traffic from the proposed SEZ project.

Impact on Water Resources and Water Quality

No ground water source will be tapped for meeting the water requirements during operation of proposed plants. The entire water requirement of the project will be met from the sea. Hence, no adverse impact on ground water sources is envisaged.

The wastewater generated in the plant area will be utilized in various activities such as greenbelt development and as service water. The balance treated wastewater will be disposed into sea at about 1.0-km from the shore. No discharge is envisaged into any surface river water bodies; hence, no impact is envisaged on surface river water quality.

The storm water in the project area will be collected through storm water drains and collected in the storm water tank. The stored storm water will be utilized in the plant operation resulting in conservation of fresh water.

The guard pond of the common effluent treatment system will be provided with proper lining to prevent seepage and avoid contamination of groundwater. Hence, the impact on the groundwater bodies is not envisaged.

Impact of Solid Wastes

The sludge from sewage treatment plant will be dried and used as manure for greenbelt maintenance. Canteen waste will be composted and used as manure for greenbelt maintenance.

With the implementation of the above precautionary measures, the impacts on the environment due to solid waste disposal are insignificant.

Impact on Occupational Health

There are no high noise producing equipments in the proposed SEZ plants. However, impacts on the working personnel are not expected to be significant on account of the high level of automation of the plant, which means that workers will be exposed for short duration only that too intermittently. Equipments will be provided with silencers. Workers will be provided with necessary protection devices eg., ear plugs, ear muffs etc.

Prediction of Impacts on Socio-Economics

The requirement of unskilled manpower will be met from nearby villages during construction and operation phase. The project will also help in generation of indirect employment apart from direct employment. This will be a positive

socio-economic development for the region. There will be a general upliftment of standard of living in the region.

Impacts on Public Health and Safety

The discharge of waste materials (stack emission, wastewater and solid wastes) from process operations is expected to be insignificant and may not have potential impact on public safety and health.

IMPACT ON FLORA AND FAUNA STATUS:

As the proposed project area is devoid of forest area, question of damage to forest land does not arise.

No biospheres, sanctuaries or national parks, etc. are situated near by and the area does not serve as breeding ground for any migratory fauna. Even the only significant feature namely Marine National Park comprising of 21 small islands is situated more than 100 kms North-east of the project site. Under these circumstances, the question of impact on any sensitive areas due to this project will not arise. At present the flora richness in the area is very limited, as shown in CHAPTER-III. In this almost barren area, green belt will be developed with plantation of Casuarina sp, Coconut etc. which will improve the floristic and fauna status of the area.

With regard to terrestrial flora / fauna, the proposed project operations will have no impact, as no effluent discharge arises from the activities into the terrestrial systems.

In view of adopting appropriate remedial measures to control environmental pollution and to confirm the pollution load with in standards, harmful impact due to the proposed project operations on flora and fauna will be very less.

IMPACT ON SAFETY

The Project Developer will enforce well planned systematic safety management practices in all its operations. A full -fledged safety officer will be employed to attend to all aspects and problems regarding safety. Accident reviews and monitoring will be done strictly and regularly to prevent accidents.

Provision of personal protective equipments for body, legs, eyes, face, arms etc. will be supplied. The list of personal protective equipments proposed to provide the workers by the proponent is given in table 4.3.

Table 4.3 List of Personal Protective Equipments

Protection for	Equipment	Protection against
Hand	a) Leather gloves	Cuts due to handling
	b) Asbestos gloves	Heat radiation
	c) Acid/Alkali proof rubber gloves	Burns due to chemical handling
	d) Electric resistance gloves	Electrical shock
	e) Canvas gloves	Contact with oil ad grease etc.
	f) Hand sleeves	Falling of hot slag
Leg	a) Leg – guard	Welding sparks striking by objects, fall of objects and stepping on
	b) Leather safety boots	
	c) Asbestos safety boots	Sharp or hot objects heat radiation, stepping hot or

		sharp objects
	d) Cum boots	Liquid splashing
Eye	a) Panorama goggles with clear plastic visor	Oil and paint splashes of dust and chips
	b) Leather mask goggles	Foreign bodies entering the eyes and smoke
	c) Spectacle type goggles with plain shatter	Foreign bodies entering the eyes and reflected arc rays
Head	a) Fiber Helmet	Fall of objects/hitting against objects during construction, maintenance etc.,
Ear	a) Ear plugs or muffs	High noise level
Nose	a) Dust respirators	Fine dust particles
	b) Light fume mask	Fine dust particles
	c) heavy fume mask	Acid fumes and vapor (0.1%)
	d) Canister gas mask	Toxic gases (0.1%) Acid fumes, vapors and gases (2.0%)

SIGNIFICANCE OF ENVIRONMETAL IMPACT MATRIX:

To compare the impact of implementing the production technology adopted in the proposed project with or without mitigatory measures on the socio-economic

attributes and environmental factors, it is necessary first to estimate the impact when no remedial measures are taken up. To understand the significance of such comparison Environmental Impact Matrix is followed. The basis of the method is given in the following paragraphs. Though this method is considered subjective, it will give a reasonable measure for assessment.

ENVIRONMENTAL IMPACT MATRIX :

The Environmental Impact due to the VVM SEZ operation and allied activities has been analyzed with the help of an impact matrix tabulated in the following page. In this Impact Matrix, environmental attributes have been indicated on rows and activities having impacts on the attributes area placed in columns.

Positive or negative signs are assigned to the impact values to show the beneficial aspects or adverse effects.

Impact value has been allocated as per following norms:

Appreciable Impact	:	-1
Significant Impact	:	-2
Major Impact	:	-3
Severe Impact	:	-4

+ Sign indicates beneficial effect

- Sign shows adverse effect

Apart from this, each activity has been assigned a value depending on its importance for protection and improvement of environment known as weightage of the activity. Ultimately, final assessment has been made according to the significance as discussed below:

SIGNIFICANCE OF ENVIRONMENTAL IMPACT MATRIX :

MATRIX VALUE S	SIGNIFICANCE
(-) 1000	No appreciable impact on environment
(-) 1000 – (-) 2000	Appreciable impact. Appropriate environmental mitigative measures required.
(-) 2000 – (-) 3000	Significant impact. Major Environmental Control measures required.
(-) 3000 – (-) 4000	Major impact. Project site / Production technology to be reviewed.
(-) 4000 – (-) 5000	Not suitable. Alternative site to be considered.

Environmental Impact Matrix without mitigatory measures worked out on the above basis is given in TABLE-4-4. It works out to +800 points. This places the project in the category of "No Appreciable Impact". However proper environment management plan will be created and necessary steps will be taken to check and control the environmental pollution that may arise due to operations. These control measures area discussed in the next chapter.

TABLE 4-4 ENVIRONMENTAL IMPACT MATRIX WITHOUT PROTECTIVE MEASURES

Environmental Parameters	Weightage	Plants Construction	Manufacturing and Processing Activities	Transportation	Green Belt	Community Development	Net Impact	Score
Land Use	125	-1	--	-1	+2	--	--	--
Ecology/Forest	150	--	--	--	+2	--	+2	+300
Air Quality	100	--	-1	-1	+1	--	-1	-100
Major Surface Water Course	75	--	--	--	--	--	--	--
Water Quality	100	--	--	--	--	--	--	--
Noise	75	--	--	-1	+1	--	--	--
Health	100	--	-1	-1	+1	--	-1	-100
Population Migration	50	+1	+1	+1	--	--	+3	+150
Employment	75	+1	+2	+1	--	--	+4	+300
Literacy	50	--	--	--	--	+2	+2	+100
Services	50	--	+1	+1	+1	--	+3	+150
Aesthetic Value	50	--	-1	--	+1	--	--	--
TOTAL								+800

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ENVIRONMENT MANAGEMENT PLAN

CHAPTER V

ENVIRONMENT MANAGEMENT PLAN

ENVIRONMENT MANAGEMENT POLICY

Although there shall not be any major environmental pollution from the developmental activities proposed by VVM SEZ, it proposes to make the SEZ highly environment friendly.

Common sewage treatment plants shall be provided to treat the sewage and the treated sewage water shall be recycled and reused within the SEZ premises.

No solid hazardous wastes generation has been envisaged from the VVM SEZ activities. Based on the nature of solid waste generation from the developmental activities in the SEZ, VVM shall implement appropriate solid waste management system. For the disposal of solid domestic waste, composting or disposal at approved MSW disposal facility or as per prevailing norms have been planned. The sludge from the CSTPs shall also be composted and used as manure within the SEZ premises. The small quantity of used / spent oil to be generated on the emergency operation of the DG sets shall be sent to MoEF approved recycler for suitable treatment and disposal.

Landscaping and green-belt have been planned within the entire SEZ to provide a major sink for any air, thermal and noise pollutions.

5.3 OBJECTIVES OF ENVIRONMENTAL MANAGEMENT PLAN

The main objectives in formulating this environmental management plan are:

- To treat all the pollutants viz. air, liquid, solid and, which contribute to the degradation of the environment, with appropriate technology.

- To comply with all regulations stipulated by the central / state pollution control boards related to liquid effluent, solid / hazardous wastes discharges as per water and environment pollution control laws / rules.
- To encourage support and conduct developmental work for the purpose of achieving environmental standards and to improve the methods of environmental management.
- To create good working conditions (devoid of air and noise pollution) for employees.
- To reduce fire and accident hazards.
- Perspective budgeting and allocation of funds for environment management expenditure.
- Continuous development and search for innovative technologies for a cleaner and better environment.

GENERAL

The various impacts likely to be caused on the existing environment due to proposed VVM SEZ project activities such as Construction of Port and other related buildings, wind turbine and solar power plant, desalination Plant, Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction and infrastructure on Air, Water, Soil, Noise, Socio – economic profiles, Land use, Flora and Fauna etc., have been discussed in the earlier Chapter. Prompt control measures have to be planned in advance so as to mitigate the effects of even marginal impacts and preserve the ecological quality of the project area within sustainable limits. These environmental control measures are discussed below:

5.1 LAND USE STATUS

As the VVM SEZ is to be developed in the own patta land already purchased for industrial use, there is no question of private or agricultural land spoilage.

5.2 SOCIO – ECONOMIC PROFILE

5.2.1 EMPLOYMENT ARENA

The proposed VVM SEZ project will provide employment opportunities to about 2500 persons during construction phase and 5750 persons during operation phase directly and more than 15,900 persons indirectly by way of transportation, trading etc. The state and central exchequers will be benefited financially through receipt of royalty and Foreign Exchange.

5.2.2 STAFF WELFARE SERVICE

The following facility will be provided for the staff

1) Well accomplished canteen
2) Provision of uniforms, shoes, protective equipment etc.
3) Well maintained park and club for recreational purpose
4) Departmental stores to meet the house hold requirement
5) About 100 -200 independent residential quarters for the employees

5.2.2 COMMUNITY WELFARE SERVICE

The VVM SEZ Project shall also extend the following welfare and community service to the people in the area.

1) Sports activity shall be given financial assistance
2) Cash awards have been given to meritorious school students
3) Free eye camp and medical camps shall be held in nearby villages

5.3 ENVIRONMETAL CONTROL MEASURES

5.3.1 AMBIENT AIR QUALITY

The existing level of Ambient Air Quality is given in CHAPTER III, which are found to be well within the limits prescribed by the CPCB for various parameters. However during the operational phase of the plant, it is likely that the air quality may be affected due to the process operation unless controlled.

As mentioned earlier the impact on air quality due to the proposed activities such as Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent extraction, Construction of Port and other related buildings, desalination Plant, wind turbine, solar power plant and infrastructure development operation will be minimal. The height and other parameters of the stack in the proposed Industries are designated as per statutory regulation and it will be strictly meet the stipulations of TNPCB and as such the emissions level will be within the prescribed limit.

5.4.2 CONTROL MEASURES FOR WATER QUALITY

The water quality data of the core and buffer zone villages is described in CHAPTER-III. The quality of the water is slightly brackish but confirm to the prescribed standards laid by CPCB and TNPCB. The proposed developmental activities such as Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent

extraction, Construction of sea Port and other related buildings, desalination Plant etc. will generate effluent. The effluent will be tretwater in Common Effluent Treatment Plant (CETP) facilities. The CETP will be built in modular and expandable manner. The treated effluent shall either be reused within SEZ premises or shall be discharged into the Gulf of Mannar with prior permission from the statutory bodies.

Due to the above reasons water regime in the area will not be affected by the project operations. Frequent water sampling and analysis will be carried out for monitoring water quality to ensure compliance with statutory limits.

5.4.3 CONTROL MEASURES FOR NOISE

The existing noise level in and around the proposed Porject Area have been monitored and are found to be well within the prescribed limits of TNPCB, as mentioned in CHAPTER III.

The following steps will be adopted to maintain the noise levels within the prescribed limits, during the plant operation stage.

1) Regular preventive maintenance of all equipments and machinery so as to reduce the frictional noises
2) Noise absorbing pads at foundations of vibrating equipments
3) Supply of ear muffs to workman exposed to high noise levels.
4) Plantation and green belt development in a large scale

5.4.4 CONTROL MEASURES FOR SOLID WASTE

The VVM SEZ project activties such as Processing of Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent

extraction, Construction of Port and other related buildings, desalination Plant, wind turbine, solar power plant etc. would generate solid wastes approx. 80 t/day that would be disposed as per the MSW guidelines.

The solid waste generated in the final stage of heavy mineral processing would be stored in storage tanks. It will be constructed as per the advice and norms of Atomic Energy Regulatory Board (AERB) in an isolated place with in SEZ area fenced with compound wall and fire fencing with lock and key system. The Uranium will be supplied to Govt., of India, Atomic Energy Department for using as fuel in their Nuclear Power plant. The Thorium will be disposed as per the advice of the AERB / Atomic Energy Department.

In view of the above factors, impact of solid waste is not envisaged to be adverse.

5.4.5 GREEN BELT DEVELOPMENT

The remarkable attributes of vegetation in arresting various pollution sources and increasing the ecological characteristics of any area is well known. Green cover helps to intercept incoming and out going radiation. Besides, it helps to block the harmful effects of soil erosion due to heavy precipitation. Winds are also arrested by trees, thus preventing wind erosion and propagation of dust, gaseous pollutants and noise.

The filtering capacity of trees for dust is 32 – 80 T/Ha. Noise level abatement to the tune of 20 to 30 decibles can be achieved by a green barrier of 50 m wide. Soils under green cover have thin organic matter and recirculation of nutrients. Green belt area soils in comparison with barren land soils have grater porosity and tend to encourage infiltration and absorption of water and to increase under ground supplies. Green belt reduce extremes of soil temperature partly by canopy action and partly by the action of green floor. One hectare of well wooded green belt is said to

absorb 3.7 tonnes of carbon – di – oxide per annum for its photosynthesis and emits two tones of oxygen thus cleaning the atmosphere of the obnoxious and harmful gases.

Well developed green belt will develop a favorable micro-climate to support different micro organisms in the soil and as a result of which soil quality will be improved further. In green belt birds nest may be introduced to encourage more birds in those areas.

The green belt development plan for a particular Industry mainly depends on

- Nature and extent of air pollution
- Sink capacity of the eco system
- Climatic factors
- Soil and water quality
- Specific site background

So based on the regional background, extend of pollution load, soil quality, rainfall temperature and human interactions, following plan have been suggested to develop green belt in and around the proposed VVM SEZ Premises.

The project authorities have chosen poly culture as their mode of green belt development and will plant varieties of plant species in and around the proposed project site. The selection of suitable plant species for green belt development is based upon the following criteria

- The plant should be fast growing
- The plant should have thick canopy cover
- Preferably perennial and ever green
- Having large leaf area index
- Resistant to specific air pollutants
- Should have maximum height
- Indigenous

- ❖ Should maintain ecological, land and hydrological balance of the region

Selected Suitable plants will be planted along the roads, around the plant, around the colony area etc. Tall and leafy trees like *Azdirachta indica*, *Polyalthia longifolia*, *Pomgamia glabrae* etc. will be developed in this area. Around Administrative office ornamental varieties like *Gulmohar*, *Peltaphorum*, *Jacarandah* will be planted with the back drop of lawns.

5.4.6 CONTROL MEASURES ON OCCUPATIONAL HEALTH SERVICES

Regular health monitoring of staff and workers will be carried out to detect any occupational diseases so as to ensure taking prompt remedial measures.

1) Medical surveillance is aimed at identifying the health status of a potentially exposed employee, so that effects occurring could be identified in the early stages and appropriate measures could be taken to prevent exposures and subsequent development of an occupational disease.

   A medical surveillance programme will be taken up in the unit after establishment to meet the requirements of factories Act and the suggestions of OSHA

5.4.7 CONTROL MEASURES ON SAFETY AND FIRE FIGHTING

Safety measures on melting vessels, storage tanks etc., will be done as per regulations. Safety Audit will be done regularly to find the problem areas with a view to take remedial measures immediately. Imparting safety

education and in – house and external training on safety aspects will be done periodically.

A good fire fighting code will be laid by the company for tackling any type of hazard. Sophisticated fire protection and control system will be installed in the plant.

5.4.8 ENVIRONMENTAL IMPACT MATRIX WITH PROTECTIVE MEASURES :

Remedial measures as suggested in the EMP are expected to improve the environmental conditions by suitably reducing the negative effects and giving positive impacts on some of the environmental attributes. The Environmental Impact Matrix was prepared giving comparative weight age due to adoption of mitigatory measures as detailed in this CHAPTER and are tabulated in Table 5-1. Based on the above said control measures, Environmental Impact Matrix without protective measures is improved in rating from +800 to + 1250. Thereby showing that the project will have a positive effect on an overall basis.

TABLE 5-1 ENVIRONMENTAL IMPACT MATRIX WITH PROTECTIVE MEASURES

Environmental Parameters	Weightage	Plants Construction	Manufacturing and Processing Activities	Transportation	Green Belt	Community Development	Net Impact	Score
Land Use	125	-1	--	-1	+2	--	--	--
Ecology/Forest	150	--	--	--	+2	--	+2	+300
Air Quality	100	--	--	-1	+1	--	--	--
Major Surface Water Course	75	--	--	--	--	--	--	--
Water Quality	100	--	--	--	--	--	--	--
Noise	75	--	--	--	+1	--	+1	+75
Health	100	--	--	--	+1	--	+1	+100
Population Migration	50	+1	+1	+1	--	--	+3	+150
Employment	75	+1	+2	+1	+1	--	+5	+375
Literacy	50	--	--	--	--	+2	+2	+100
Services	50	--	+1	+1	+1	--	+3	+150
Aesthetic Value	50	-1	--	--	+1	--	--	--
				TOTAL				+1250



IMPLEMENTATION OF MONITORING SYSTEM

CHAPTER – VI

IMPLEMENTATION OF MONITORING SYSTEM

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6.0 *GENERAL :*

In the earlier chapter, elaborate measures have been proposed to bring under control various adverse impacts likely to be caused by the proposed VVM SEZ project operations on account of possible environmental deterioration with respect to air and water qualities, noise levels, socio-economic factors, health status, safety aspects etc. In order to implement the control measures effectively, it is imperative that a multi-disciplinary approach involving dedicated participation from all concerned departments is essential. Regular, systematic and sustained programmed schedules for implementation and monitoring of various control measures are to be devised in advance with clear-cut guidelines for various concerned plants for keeping a continuous surveillance on the environmental quality of the area.

6.1 *STATUTORY FULFILMENT:*

The monitoring schedules will be planned to aim at regular and systematic study of various pollution levels with respect to air and water qualities, noise levels etc., to ensure that they conform to the standards laid down by the Environmental Protection Act and various Central and State Pollution

- Control Board limits. The various methodologies and frequency of studies of all environmental quality parameters should be as prescribed by MoEF and Tamil Nadu State Pollution Control Board.

  Whenever excess levels are noticed, prompt control measures will be immediately taken to bring the quality parameters within control.

  Socio-economic status with respect to occupational health, communication, welfare measures etc. should be reviewed at least once in 5 years to bring them on par with the population growth, social development etc. Occupational health monitoring will also be undertaken periodically as required by statues.

6.2 *ORGANISATIONAL SET-UP :*

The Senior Environmental Engineer/ Chemist at the project site will be directly responsible for various environmental activities connected with the plant operations These activities will be reviewed by the Managing Director and the Manager in charge of the project will correlate and oversee the environmental activities and propose effective implementation in consonance with the guidelines in the EMP. Organisation chart of the Environmental cell is given in Figure-6-1.

Environmental control measures will cover various factors such as land degradation, soil erosion, air, water and soil quality, noise level, afforestation measures, etc. as detailed in CHAPTER-V. As far as air, water and noise pollution are concerned, continuous monitoring has to be done either by private agencies or by the project authority, when Project operations get intensified. The State Government Officials should also be involved at appropriate stages of Environmental Control.

6.3 *MONITORING SCHEME :*

For Baseline Date collection on the existing environment with respect to air, water, noise and soil, the configuration and number of sampling stations and other details have been delineated in CHAPTER-III. As the project operations intensify, additional or different sets of stations for study of environmental quality parameters will have to be fixed as per actual requirements and prevailing conditions of environmental factors.

6.4 *ENVIRONMENTAL CONTROL COST:*

For recurring environmental works as a general norm, about 25 lakh per year will be provided towards environmental control cost to carry out effectively the necessary control measures described earlier in CHAPTER-V. Proper monitoring mechanisms described above will help to find out promptly any changes in pollution level from the limits prescribed and to take immediate remedial measures so that environmental and ecological attributes in the area do not deteriorate from standards.

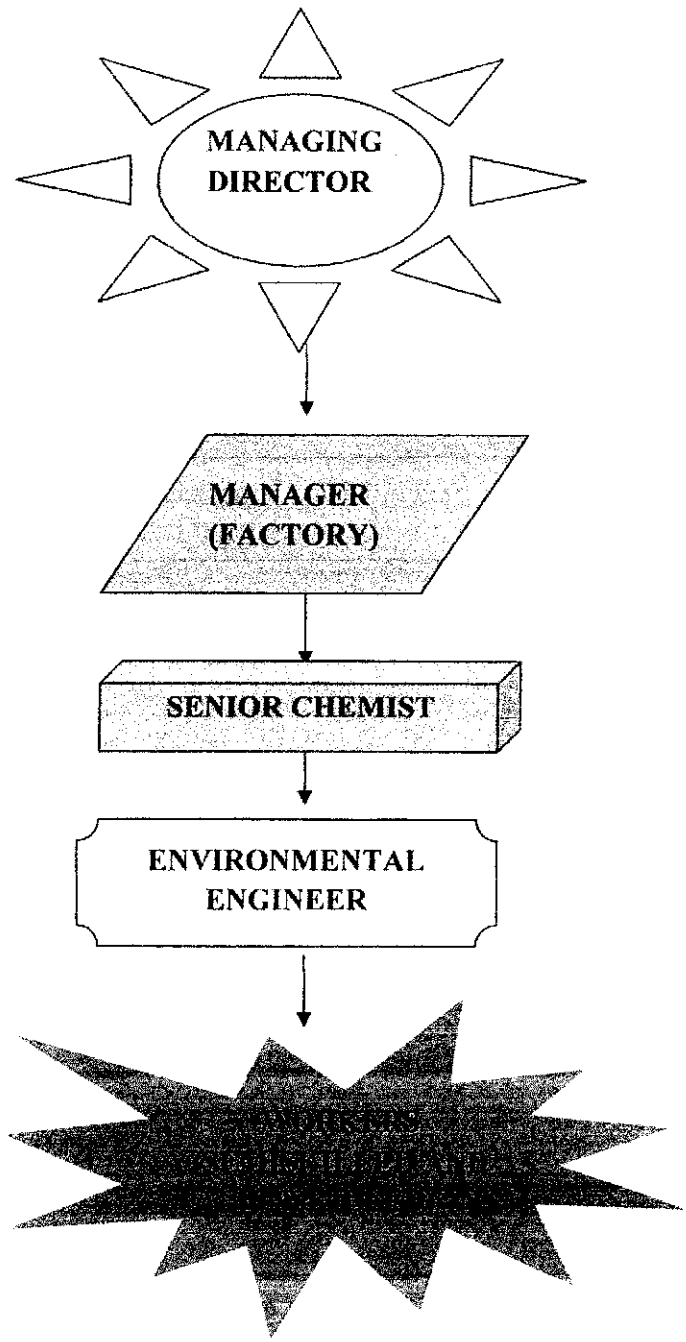
With the adoption of control measures listed in the report it can be ensured that industrial progress and environmental quality will go hand in hand without any harmful effects on human, flora and fauna and other ecological systems of the Core and Buffer zones.

Conclusion

As adequate environmental management system shall be provided, minimal adverse effect is expected from the proposed project. General trend of socio – economic environment due to the proposed SEZ is that it increases the population density within the area and in a few of the surrounding villages. This can be attributed to more job opportunities, direct and indirect, provided by the industry.

Thus, from both the economic as well as environmental point of view, the proposed VVM SEZ project is justified.

FIGURE 6-1 ORGANISATION CHART FOR ENVIRONMENTAL CONTROL



ANNEXURES

ANNEXURE I

LIST OF VVM SEZ APPLIED AREA IN THIRUVAMBALAPURAM VILLAGE, RADHAPURAM TALUK, TIRUNELVELI DISTRICT

SL.NO	SURVEY NO & SUBDIVISION NO	EXTENT		CLASSIFICATION
		AC – CENT	HEC - AIRES	
1	363/1A	2.00	0.81.0	RAYAT PUNJAI
2	363/1B	6.08	2.46.0	RAYAT PUNJAI
3	347/1	14.35	5.81.0	RAYAT PUNJAI
4	347/2	4.73	1.91.5	RAYAT PUNJAI
5	352/1	2.30	0.93.0	RAYAT PUNJAI
6	352/2	7.76	3.14.0	RAYAT PUNJAI
7	353/1	1.10	0.44.5	RAYAT PUNJAI
8	353/2	1.26	0.51.0	RAYAT PUNJAI
9	353/3	5.16	2.09.0	RAYAT PUNJAI
10	354/3	5.20	2.10.5	RAYAT PUNJAI
11	354/4	5.62	2.27.5	RAYAT PUNJAI
12	358/3A4	2.28	0.92.0	RAYAT PUNJAI
13	358/3A5	2.27	0.91.5	RAYAT PUNJAI
14	358/3A6	1.32	0.53.0	RAYAT PUNJAI
15	360	11.15	4.51.0	RAYAT PUNJAI
16	361	21.80	8.82.5	RAYAT PUNJAI
17	362/1	17.60	7.12.5	RAYAT PUNJAI
18	362/2	3.05	1.23.5	RAYAT PUNJAI
19	364	2.02	0.81.5	RAYAT PUNJAI
20	365	10.08	4.08.0	RAYAT PUNJAI
21	366	3.38	1.36.5	RAYAT PUNJAI
22	367/1	12.36	5.00.5	RAYAT PUNJAI

50	386	3.00	1 21 5	RAYAT PUNJAI
51	326/7	1 66	0.67.0	RAYAT PUNJAI
52	327/1	0.87	0.35.0	RAYAT PUNJAI
53	327/2	0.82	0 33 0	RAYAT PUNJAI
54	327/3	0.97	0.39 0	RAYAT PUNJAI
55	328/3B	7 80	3.15 5	RAYAT PUNJAI
56	329	7.33	2.96.5	RAYAT PUNJAI
57	330/1	1.68	0.68.0	RAYAT PUNJAI
58	330/2	1.26	0.51.0	RAYAT PUNJAI
59	330/3	1.24	0.50.0	RAYAT PUNJAI
60	332	6.94	2.81.0	RAYAT PUNJAI
61	333/1	1.08	0.43.5	RAYAT PUNJAI
62	333/10	3.48	1.41.5	RAYAT PUNJAI
63	333/11A	0 60	0 24 5	RAYAT PUNJAI
64	333/11B1	0.10	0.04.0	RAYAT PUNJAI
65	333/11B2	0.25	0.10.0	RAYAT PUNJAI
66	333/12	0.82	0. 33.5	RAYAT PUNJAI
67	333/13	0.82	0.33.5	RAYAT PUNJAI
68	333/2	0.41	0.16 5	RAYAT PUNJAI
69	333/3	2.02	0.82.0	RAYAT PUNJAI
70	333/4	0.76	0 31.0	RAYAT PUNJAI
71	333/5	0.77	0.31 0	RAYAT PUNJAI
72	333/6	2 40	0.97.0	RAYAT PUNJAI
73	333/7	1.04	0.42 0	RAYAT PUNJAI
74	333/8	1.01	0.40.5	RAYAT PUNJAI
75	335/1	4.69	1.90.0	RAYAT PUNJAI
76	335/2	4.69	1.90 0	RAYAT PUNJAI

77	338/1A1B	6.42	2.60 0	RAYAT PUNJAI
78	338/1A1C	1.50	0.61 0	RAYAT PUNJAI
79	338/1A2	0.35	0 14.0	RAYAT PUNJAI
80	338/1B	2.12	0 86.0	RAYAT PUNJAI
81	338/1C	0 69	0.28 0	RAYAT PUNJAI
82	338/1D	4.74	1.92.0	RAYAT PUNJAI
83	338/1E	11.09	4.49.0	RAYAT PUNJAI
84	338/1F	1.43	0.58.0	RAYAT PUNJAI
85	338/1G	0.42	0.17.0	RAYAT PUNJAI
86	338/2A	0.40	0.16.0	RAYAT PUNJAI
87	338/2B	2.79	1.13.0	RAYAT PUNJAI
88	338/3	1.00	0.40 5	RAYAT PUNJAI
89	339/1	0.07	0.03.0	RAYAT PUNJAI
90	339/2A	0.86	0.35.0	RAYAT PUNJAI
91	339/2B	0.42	0.17 0	RAYAT PUNJAI
92	339/2C	1.37	0.55.5	RAYAT PUNJAI
93	339/2D	0.43	0.17.0	RAYAT PUNJAI
94	339/3A	0.61	0.25.0	RAYAT PUNJAI
95	339/3B	0.44	0.18.0	RAYAT PUNJAI
96	339/3C	0.35	0.14 0	RAYAT PUNJAI
97	339/4	1.36	0.55 0	RAYAT PUNJAI
98	339/5	2.55	1.03.0	RAYAT PUNJAI
99	339/6	1.80	0.73.0	RAYAT PUNJAI
100	339/7	3.38	0.37 0	RAYAT PUNJAI
101	339/9	0.13	0.05.0	RAYAT PUNJAI
102	341/2A	0.19	0.08.0	RAYAT PUNJAI
103	341/2B	0.12	0.05.5	RAYAT PUNJAI

104	341/3	2.22	0.89.5	RAYAT PUNJAI
105	341/4A1	0.97	0.39.0	RAYAT PUNJAI
106	341/4A2	0 15	0 06.0	RAYAT PUNJAI
107	341/4B	0 42	0 17 0	RAYAT PUNJAI
108	341/4C	0.25	0.10.0	RAYAT PUNJAI
109	341/4D	0.45	0.18.0	RAYAT PUNJAI
110	343/1	1.19	0.48.0	RAYAT PUNJAI
111	343/2	6.45	2.61.0	RAYAT PUNJAI
112	343/3	6 26	2.53.0	RAYAT PUNJAI
113	343/4	1.48	0.60.0	RAYAT PUNJAI
114	344/1A	1.29	0.52.0	RAYAT PUNJAI
115	344/1B	3.58	1 45 0	RAYAT PUNJAI
116	344/2	1.43	0.58.0	RAYAT PUNJAI
117	344/3	2.35	0.95 0	RAYAT PUNJAI
118	344/4	2.45	0.99.0	RAYAT PUNJAI
119	346/1	11.56	4.68.0	RAYAT PUNJAI
120	346/2	3.46	1.40.0	RAYAT PUNJAI
124	345	2.42	0.98.0	RAYAT PUNJAI
125	348	11.34	4.60.0	RAYAT PUNJAI
126	349	16.14	6.53.5	RAYAT PUNJAI
127	354/1A	6.20	2.51.0	RAYAT PUNJAI
128	355/1	7.23	2.92.5	RAYAT PUNJAI
129	355/2	2.12	0.85 5	RAYAT PUNJAI
130	355/3	3.75	1.52.0	RAYAT PUNJAI
TOTAL		**411.67**	**166.66.5**	

Letter No.12988/MI(2)2010 Dated:

From:
Dr. N. Sundaradevan, I.A.S.,
Principal Secretary to Government

To.
The Director - SEZ,
Department of Commerce,
Ministry of Commerce and Industry, Government of India
Udyog Bhavan, New Delhi - 110 011.

Sir,

Sub: Industries - Application of M/s. V.V. Minerals (Exports) Pvt. Ltd. for Specific SEZ for Mineral and Mineral based products in Tiruvembalacuram Village, Radhapuram Taluk, Tirunelveli District - Recommending for grant of Formal Approval - Regarding.

Ref: 1. From Mr. S. Vaikundarajan, Managing Director, M/s. V.V. Minerals, Kovilkaranthattu, Tisayiyanvilai, Tirunelveli District, Letter dated.25.7.2009

2. From the Director, Tamilnadu Industrial Guidance & Export Promotion Bureau Letter No.SEZ/VV Minerals/09 dated:20.11.2009 & LetterNo.Dir/SEZ/2010, dated:

3. From the Commissioner of Geology & Mining, Chennai, Letter No. Rc.No.3556/MM7/2010, dated:

4. From Mr. S. Vaikundarajan, V.V. Minerals, Kovilkaranthattu, Tisayiyanvilai, Tirunelveli District, Letter dated:19.9.2011

I am directed to state that M/s. V.V. Minerals (Exports) Pvt. Ltd. have applied for sector specific SEZ for Mineral and Mineral based products in Tiruvembalacuram village, Radhapuram Taluk, Tirunelveli District.

2. The Director, Tamilnadu Industrial Guidance & Export Promotion Bureau in the letters second cited (copies enclosed) has reported the Annual Turnover of the Developer, Networth and Investment proposed in the SEZ.

3. About M/s. V.V. Minerals: M/s. V.V. Minerals is a family business started in the year 1994 by V. Mariappan and promoted by Mr. S. Vaikundarajan, Managing Partner, Mrs. Jagadeesan, Partner, Mr.

(1) The above lands are in legal possession of M/s. V.V.Mineral

(2) The land is contiguous (one piece of land)

(3) There are no private lands/ poramboke lands, water bodies, canals, roads, railway lines, temples etc. within the proposed SEZ site.

(4) The land is not under acquisition of any Government agency

(5) [illegible] land [illegible]

[illegible] Tamil Nadu [illegible] ... have also informed that ... [illegible] the mandatory requirement of 35% processing area ... the SEZ are outlined in the application. Copies of the ... M/s. V.V. Mineral, project report, revised/updated details of land ... the Map and the Certificate ... [illegible] Tahsildar, [illegible] Taluk, have been enclosed herewith.

The State Government have examined the proposal of M/s. V.V. Mineral along with the recommendations of the Tamil Nadu Industrial Guidance & Export Promotion Bureau and it is observed that the application of M/s. V.V. Mineral satisfies the requirements prescribed for networth/investment, land area etc. to establish the sector specific SEZ. Further, it is also informed that the [illegible] generate direct employment opportunities for [illegible] persons and indirect employment opportunities to 2000-3000 persons.

In the position mentioned above, the application of M/s. V.V. Mineral for setting up of a Sector Specific SEZ for Mineral and Mineral based [illegible] an extent of 106.66.5 Hectares of land at Thiruvembalapuram Village, [illegible] Taluk, Tirunelveli District is recommended to the Government of India, Ministry of Commerce & Industry for according Formal Approval.

Yours faithfully,

[signature]

for Principal Secretary to Government

Copy to:

The Development Commissioner,
MEPZ SEZ, Tambaram, Chennai-45

M/s. V.V. Mineral,
Keeraikaranthattu,
Tisaiyanvilai - 627 657
Tirunelveli District

APPENDIX I FORM I

APPENDIX –I

Application for Preliminary Environmental Clearance of

M/s V.V.Mineral Product Specific (Mineral Based) SEZ Project

[Vide Paragraph 6 of EIA Notification dated 14th September 2006 and Amendment dated 1st December 2009 vide S.O.3067 (E)]

FORM 1

(I) Basic Information

S.No	Item	Details
1	Name of the Project/s	M/s V.V.Mineral Product Specific (Mineral Based) SEZ Project
2	S.No. in the Schedule	7 (c)
3	Proposed capacity / area / length/ tonnage to be handled /command area / lease area / number of wells to be drilled	Proposed area : 166.66.5 Ha.
4	New / Expansion Modernization	New
5	Existing Capacity / Area etc	Not Applicable
6	Category of Project i.e. 'A' or 'B'	B
7	Does it attract the general condition? If yes, Please specify	Yes
8	Does it attract the specific condition? If yes, please specify	No

9	Location Plot / Survey / Khasra No. Village Tehsil District State	Thiruvambalapuram Enclosed as Annexure I Thiruvambalapuram Radhapuram Tirunelveli Tamil Nadu
10	Nearest railway station / airport along with distance in kms.	Railway station : Valliyoor (35km) Air Port : Tuticorin (100km)
11	Nearest Town, city, District, Headquarters along with distance in kms.	Nearest Town : Tisayanvillai (14km) District : Tirunelveli (87 km) Head Quarters : Tirunelveli
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	Village : Thiruvambalapuram Taluk : Radhapuram District : Tirunelveli State : Tamil Nadu Phone No. : 04637 273102
13	Name of the applicant	Thiru S. Vaikundarajan
14	Registered Address	
15	Address for correspondence : Name Designation (Owner/Partner/CEO) Address	 S.Vaikundarajan Managing Director V.V.Mineral Keeraikaranthattu Tisayanvillai

	Pin Code	627 657
	Telephone No.	04637 273102
	Fax No.	04637 272802
	E-mail	vaikundarajan@vvmineral.com
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet.	Not considered
17	Interlinked Projects	Not Applicable
18	Whether separate application of interlinked project has been submitted?	Not Applicable
19	If yes, date of submission	Not Applicable
20	If no, reason	Not Applicable
21	Whether the proposal involves approval / clearance under; if yes, details of the same and their status to be given.	
	(a) The Forest (Conservation) Act, 1980?	No
	(b) The Wildlife (Protection) Act, 1972?	No
	(c) The C.R.Z. Notification, 1991?	Yes. Since the project requires environmental clearance under EIA Notification, in terms of CRZ Notification, 2011 para 4(i)(b) clearance to be issued after getting recommendation of the State Coastal Zone Management Authority.

22	Whether there is any Government order / policy relevant / relating to the site?	No
23	Forest land involved (hectares)	None
24	Whether there is any litigation pending against the project and / or land in which the project is propose to be set up ? (a) Name of the Court (b) Case No. (c) Orders / directions of the Court, if any and its relevance with the proposed project.	No

(II) Activity

2. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Not applicable, since no land use classification is fixed for this land
1.2	Clearance of existing land, vegetation and buildings?	No	The proposed project is coming up on barren land which sustains some local shrubs, removal of the

			same will not add significantly towards environment.
1.3	Creation of new land uses?	Yes	Development of SEZ Project
1.4	Pre-construction investigations e.g. bore houses, soil testing?	No	-
1.5	Construction works?	Yes	Proposed to construct a Port facilities to handle 4.5 million TPA cargo. Power Plants viz., Wind Turbine and Solar power altogether to a total capacity of 450 MW into stages Heavy mineral processing plant for Minerals Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets,solvent extraction etc. Desalination Plant Ship repairing facilities

1.6	Demolition works?	No	-
1.7	Temporary sites used for construction works or housing of construction workers?	No	Local workers will be engaged
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	Proposed to install plants
1.9	Underground works including mining or tunneling?	No	-
1.10	Reclamation works?	No	-
1.11	Dredging?	No	-
1.12	Offshore structures?	No	-
1.13	Production and manufacturing processes?	Yes	Altogerther 450 MW Power generation from wind turbine and solar power energy Processing of Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals and production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of

			magnets, solvent extraction etc. at a rate of 0.095 million TPA (Tons Per Annum) with Hi Tech Ecofriendly Operation
1.14	Facilities for storage of goods or materials?	Yes	For the storage of processed minerals, different types of cargo
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Solid waste and Liquid effluent will be recycled and reused. Sludge from the sewage treatment plant and effluent treatment plant will be used for composting and used as maure for Green belts. The mineral wastes will be used for back filling of the mined out pits situated outside the SEZ.
1.16	Facilities for long term housing of operational workers?	No	Local Labors will be employed
1.17	New road, rail or sea traffic during construction or operation?	No	The existing road network is adequate. Port and other related facilities will be developed to handle 4.5 million TPA cargo

1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	-
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	-
1.20	New or diverted transmission lines or pipelines?	No	-
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	-
1.22	Stream crossings?	No	-
1.23	Abstraction or transfers of water form ground or surface waters?	No	-
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	-
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Materials will be transported through trucks with valid fitness certificate
1.26	Long-term dismantling or decommissioning or restoration works?	No	-
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	-
1.28	Influx of people to an area in either temporarily or permanently?	No	-

1.29	Introduction of alien species?	No	-
1.30	Loss of native species or genetic diversity?	No	-
1.31	Any other actions?	No	-

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	Land especially undeveloped or agricultural land (ha)	Yes	1.66.66.5 ha barren land Proposed for SEZ development
	Water (expected source & competing users) unit: KLD	Yes	100 MLD water from Desalination Plant will be used for all the Industrial activities proposed within the SEZ
	Minerals (MT)	Yes	By using the industrial heavy minerals mined from their own mining lease, Garnet, Ilmenite, Rutile, Zircon, Sillimanite and other associated heavy minerals are processed for the production of Rare Earth Oxide, Titanium Pigments, Synthetic Rutile, Slag, Scandinium, cracking of Monazite for production of magnets, solvent

			extraction etc. to a production capacity of 0.095 million TPA
	Construction material – stone, Aggregates, sand / soil (expected source – MT)	Yes	Bricks, sand, Cement, steel etc as per the requirement
	Forests and timber (source – MT)	No	-
	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Power demand of 250MW would be met at first from TNEB. Subsequently from the proposed VVM SEZ Power Plants. 10 DG sets each with 750 KVA capacity Fuel 2950 liters HSD/day 4150 litres FO/day
	Any other natural resources (use appropriate standard units)	No	-

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water	No	-

	supplies)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	-
3.3	Affect the welfare of people e.g. by changing living conditions?	No	-
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	-
3.5	Any other causes	No	-

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	-
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Daily 1.2 MLD toilet or sewage water is expected to discharge which will be treated in septic tank and soakpits
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	-
4.4	Other industrial process wastes	Yes	Daily 72 MLD effluent generation is expected which will be treated in Effluent

			Treatment Plant and the water will be recycled and reused
4.5	Surplus product	No	-
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Will be composted and used as manure for Green belt development within SEZ Premise
4.7	Construction or demolition wastes	No	-
4.8	Redundant machinery or equipment	No	-
4.9	Contaminated soils or other materials	No	-
4.10	Agricultural wastes	No	-
4.11	Other solid wastes	No	-

5.0 Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	To operate the DG set and dryer, 2950 liters HSD/day and 4150 litres FO/day is required. The ash content of HSD and Furnace oil is negligible. Due to the combustion of HSD and FO 0.25% and 4% sulphur respectively will be emitted.

5.2	Emissions from production processes	Yes	Heavy mineral Processing Plant Operation * All the operation units shall be provided with appropriate stacks / vents and air pollution control equipment for all the gaseous emissions. The efficiency of the air pollution control system in every stacks will be checked regularly. All the levels will be conform to the standards laid down by the Environmental Protection Act and various Central and State Pollution Control Board limits
5.3	Emissions from materials handling including storage or transport	No	-
5.4	Emissions from construction activities including plant and equipment	No	-
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	No	-
5.6	Emissions from incineration of waste	No	-
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	-
5.8	Emissions from any other sources	No	-

6 ✓ Generation of Noise and Vibration, and Emissions of Light and Heat.

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Leq. 62 -78 dB
6.2	From industrial or similar processes	Yes	Leq. 73-80 dB
6.3	From construction or demolition	No	-
6.4	From blasting or piling	No	-
6.5	From construction or operational traffic	Yes	Transport vehicle Leq. 65 – 72 dB
6.6	From lighting or cooling systems	No	-
6.7	From any other sources	No	-

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	-
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	-

7.3	By deposition of pollutants emitted to air into the land or into water	No	-
7.4	From any other sources	No	-
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	-

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	-
8.2	From any other causes	No	-
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	-

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the	No	-

	environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other	No No No No	- - - -
9.2	Lead to after-use of the site, which could have an impact on the environment	No	-
9.3	Set a precedent for later developments	No	-
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	-

III Environmental Sensitivity

S.No.	Areas	Name/Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	-
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains,	No	-

	forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	-
4	Inland, coastal, marine or underground waters	Yes	Gulf of Mannar
5	State, National boundaries	No	-
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	-
7	Defence installations	No	-
8	Densely populated or built-up area	No	-
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	No	
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	-
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	No	-
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No	-

(IV) Proposed Terms of Reference for EIA studies

1. Field studies pertaining to air, water and soil quality, noise level, micro-meteorology, ecology etc. over a period of one year (January 2011 – December 2011)
2. Survey / studies pertaining to socio-economic factors, land use pattern, flora and fauna, hydrological studies etc., covering an area of 10 km radius from the project site.
3. Compilation and analyses of data and preparation of the report including impact assessment, control measures, management plan, etc.

"I hereby given undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the date and information submitted in found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

Date :

Place :

Signature of the applicant

With Name and Full Address

(Project Proponent / Authorized Signatory)

APPENDIX IV FORM I

Annexure-IV

Form-I for seeking clearance for project attracting CRZ notification

Basic information:

Name of the Project : M/s V.V.Mineral Product Specific (Mineral Based) SEZ Project

Location or site alternatives under consideration : Thiruvambalapuram , Radhapuram Taluk, Tirunelveli District

Size of the Project (in terms of total area) : 166.66.5 Hect

CRZ Classification of the area : CRZ-I

Expected cost of the project : 870 Crores
(IN CRZ) 480 Crores.

Contact information : S.Vaikundarajan – Managing Director
V.V.Mineral
Keeraikaranthattu
Tisayanvillai 627 657
04637 273102

(II) Activity

1 Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, and the like)

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with Approximate quantities/rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Not applicable. Since no land use classification is fixed for this land
1.2	Details of CRZ classification as per the approved Coastal Zone Management Plan?	Yes	CRZ-I
1.3	Whether located in CRZ-I area?	Yes	SEZ development
1.4	The distance from the CRZ-I areas.		Within CRZ I
1.5	Whether located within the hazard zone as mapped by Ministry of Environment and Forests/National Disaster Management Authority?	No	-
1.6	Whether the area is prone to cyclone, tsunami, tidal surge, subduction, earthquake etc.?	No	-
1.7	Whether the area is prone for saltwater ingress?	No	-
1.8	Clearance of existing land, vegetation and buildings?	No	The area is barren land
1.9	Creation of new land uses?	Yes	SEZ development
1.10	Pre-construction investigations e.g. bore hole, soil testing?	No	-
1.11	Construction works?	Yes	Port facilities, ship repairing/breaking facilities

1.12	Demolition works?	No	-
1.13	Temporary sites used for construction works or housing of construction workers?	No	-
1.14	Above ground buildings,structures or earthworks including linear tructures, cut and fill or excavations	Yes	Installation for SEZ operation
1.15	Underground works including mining tunneling?	No	-
1.16	Reclamation works?	No	-
1.17	Dredging/reclamation/land filling/disposal of dredged material etc.?	No	-
1.18	Offshore structures?	No	-
1.19	Production and manufacturing processes?	No	-
1.20	Facilities for storage of goods or materials?	No	-
1.21	Facilities for treatment or disposal of solid waste or liquid effluents?	No	-
1.22	Facilities for long term housing of operational workers?	No	-
1.23	New road, rail or sea traffic during construction or operation?	Yes	Port and other related facilities
1.24	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	Yes	Port and other related facilities for handling 4.5 million TPA cargo
1.25	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	-

1.26	New or diverted transmission lines or pipelines?	No	-
1.27	Impoundment, damming, culverting, realigment or other changes to the hydrology of watercourses or aquifers?	No	-
1.28	Stream and river crossings?	No	-
1.29	Abstraction or transfers of water form ground or surface waters?	No	-
1.30	Changes in water bodies or the land surface affecting drainage or run-off?	No	-
1.31	Transport of personnel or materials for construction, operation or decommissioning?	Yes	For transporting goods, and rawmaterials to different plants in the SEZ
1.32	Long-term dismantling or decommissioning or restoration	No	-
1.33	Ongoing activity during decommissioning which could have an impact on the environment?	No	-
1.34	Influx of people to an area in temporarily or permanently?	No	-
1.35	Introduction of alien species?	No	-
1.36	Loss of native species or genetic diversity?	No	-
1.37	Any other actions?	No	-

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S. No.	Information/checklist confirmation	Yes/No	Details thereof(with Approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	Yes	166.66.5 Hect undeveloped land for erection of different plants
2.2	Water (expected source& competing users) unit: KLD	Yes	Sea water for Desalination Plant
2.3	Minerals (MT)	No	-
2.4	Construction material – stone, aggregates,sand/soil (expected source – MT)	No	-
2.5	Forests and timber (source – MT)	No	-
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	For operating plant and machineries
2.7	Any other natural resources (use appropriate standard units)	No	

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with Approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substancesor materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and	No	-

3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	-
3.3	Affect the welfare of people e.g. by changing living conditions?	No	-
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	-
3.5	Any other causes, that would affect local communities, fisherfolk,their livelihood, dwelling units of traditional local communities etc	No	-

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with Approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	-
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Domestic sewage and Industrial Effluent
4.3	Hazardous wastes (as per Hazardous Waste	No	-
4.4	Other industrial process wastes	No	-
4.5	Surplus product	No	-
4.6	Sewage sludge or other sludge from effluent	Yes	Used for composting
4.7	Construction or demolition wastes	No	-
4.8	Redundant machinery or equipment	No	-
4.9	Contaminated soils or other materials	No	-
4.10	Agricultural wastes	No	-
4.11	Other solid wastes	No	-

5 Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with Approximat quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Emission from Industries, generator and Vehicles with fitness certificate
5.2	Emissions from production processes	No	-
5.3	Emissions from materials handling including storage or transport	Yes	Emission from Vehicles with valid FC
5.4	Emissions from construction activities including plant and equipment	No	-
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust from handling Raw material in different Plants
5.6	Emissions from incineration of waste	No	-
5.7	Emissions from burning of waste in open air (e.g.slash materials, construction debris)	No	-
5.8	Emissions from any other sources	No	-

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S. No.	Information/Checklist confirmation	Yes/No	Details thereof(with approximate quantities/rates, wherever possible) with source of information data with source of information
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	From machinery and generator

6.2	From industrial or similar processes	Yes	-
6.3	From construction or demolition	No	-
6.4	From blasting or piling	No	-
6.5	From construction or operational traffic	No	-
6.6	From lighting or cooling systems	No	-
6.7	From any other sources	No	-

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater. coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with Approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	-
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	Domestic sewage discharge in sock pit. Industrial effluent recycled and reused
7.3	By deposition of pollutants emitted to air into the land or into water	No	-
7.4	From any other sources	No	-
7.5	Is there a risk of long term build up of pollutants	No	-

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling,use or productionof hazardous substances	No	-
8.2	From any other causes	No	-
8.3	Could the project be affected by natural disasters causing environmental damage (e.g., floods, earthquakes, landslides, cloudburst etc)?	No	-

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) housing development extractive industries supply industries others	Yes	Only positive impact

9.2	Lead to after-use of the site, which could have an impact on the environment	No	-
9.3	Set a precedent for later developments	No	-
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	-

III. Environmental Sensitivity

S.No.	Areas	Name/Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	-
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Within the CRZ area in CRZ-I
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	-
4	Inland, coastal, marine or underground waters	Yes	With in CRZ-I
5	State, National boundaries	No	-
6	Routes or facilities used by the public for access	No	-

7	Defense installations	No	-
8	Densely populated or built-up area	No	-
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	No	-
10	Areas containing important, high quality or scarce Resources (ground water resources surface	No	-
11	Areas already sbjected o pollution or Environmental damage. (those where existing legal environmental standards	No	-
12	Areas s usceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding	No	-

QUESTIONNAIRE

QUESTIONNAIRE TO BE SUBMITTED FOR NEW INDUSTRIAL ESTATES (IE)

A. GENERAL FEATURES

This information provides a profile of the estate to assist in identifying possible environmental issues.

- ***Industrial estate***

Name: .VVM Product Specific (Mineral based) SEZ Project.

Address: . Murugananthapuram, Kootankuzhi cross road, Thiruvambalapuram Village, Tamil Nadu, India.

Operations to start by Month - Year: .

The estimated period over which the VVM SEZ shall be commence its first operation within 3 years. All the proposed activities are effected in to stages.

- ***Contact person for environmental aspects***

Name: . . Dr.T.Anitha M.Sc. Ph.D. . . . . .

Function: . Environment Incharge. . . . . .

Phone: . 0461 2355166 . . . . . .

Fax: 0461 2357267. . . . . .

E-mail: anitha@vvmineral.com . . . . . .

- ***Ownership***
-

Public: . Not Apllicable.

Private: V.V .Mineral, Keeraikaranthattu, Tisayanvillai 627 657.

Public/private partnership: . Not Applicable.

- ***Scale of the project***

Total area of development (in hectares): 166.66.5 ha

Total number of units/companies proposed: Eighteen

Total number of workers (approximate): . . 8250

- ***Proposed land uses (Percentage of total area)***

Export processing zone . :36.0

General industrial zone . . .36.9

Commercial zone 9.0

Residential zone . . 0.6

Landscaped green areas .1.8

Undeveloped areas 5.7391

Roads. 1.56

Others (Social Amenities/Institutional) : 8.4

- ***Nature of the industries proposed in the IE***

	Number of Units	***Likely no. of workers***	***Production volume***
Port	One	2250	4.5 million TPA
Heavy Mineral processing	Twelve	4500	0.95 million TPA
Processing of Garnet			
Processing of Ilmenite			
Processing of Rutile			
Processing of Zircon			
Processing of Silimanite			
Rare Earth Oxide production Plant			
Titanium Pigments production Plant			
Syntheic Rutile production Plant			
Synthetic slag production Plant			
Scandinium Production Plant			
Cracing of Monazite Plant			
Solvent Extraction			
Energy generation	Two	750	450 MW
Wind Turbine			
Solar Power Energy			
Construction industry	One	500	------
Ship Repairing yard			
Desalination Plant	One	250	150 MLD
Others			

- *Service industries proposed in the IE*

- **Transport** . . Construction of Transport Vehicle shed and workshop

Warehousing . . For the storage of processed minerals, different types of cargo

Chemical storage – storage tanks for the solvents required for heavy mineral processing activities

Recycling - Solid waste composting yard

Waste treatment/disposal :.Sewage Treatment Plant and Effluent Treatment Plant

Laboratories . Quality check Laboratory and Environmental Laboratory

Information technology : Telecommunication network as per the demands

Banking, finance and insurance : Nationalised Bank

- ***Details of Environmental features*** ***On site Within 25 km radius***

Reserved Forests	- Nil
Vegetation/Tree cover	- Very sparse (since it is a rainshadow area with arid climate and poor rainfall)
Wetlands, swamps, mangroves	- Nil
Lakes	- Nil
Rivers and creeks	- Nambiyar River
Sea coast	- Gulf of Mannar
Protected Areas	- Nil
Places of tourist interests	- Nil

- ***List of the human habitations nearby***

Rural / urban area	Number of inhabitants	Distance (km)
Vijayapathy	9307	6
Parameshwarapuram	1673	5
Koodankulam	9023	9
Udayattur	3873	6
Kasthurirangapuram	2858	9
Karichithupudur	2347	6
Kuthankuzhi (Thiruvambalapuram)	700	1.5

- ***Transport links***

Bus . . Rameshwaram – Kanyakumari East Coast Road (1 km)

Train . Nil

Others . Not Applicable

INFRASTRUCTURE FACILITIES PROPOSED IN THE IE

This identifies a number of services and features that may be linked to environmental performance. *Who provides or is responsible for the following services, tools or actions?*

1 o- Industrial Estate Authority - **VVMineral**

2 o- Operational Units - **V.V.Mineral and their subsidaries**

3 o- Government Authority - **Nil**

4 o- Private Sector - **Nil**

5 o- Other(Please specify)

- ***Energy (also State requirement in K Cal)***

Centralized energy supply	450 MW or 215105162.5 K.Cal
Individual energy supply	-
Supply and recovery of waste heat (cogeneration)	-
District heating system	-
Energy from waste facility	-
Energy from renewable resources facility	450MW

- ***Water (also State requirement in KL)***

Municipal service	2.5 MLD
Tube wells	-
Treatment facilities (Desalination Plant)	100 MLD
Waste water disposal (Sewage)	1.2 MLD
Liquid waste disposal (Effluent)	70 MLD
Waste water recycling	53.1 MLD
Rain water harvesting	0.49 KLD

- ***Solid waste (in Metric Tons)***

Solid waste disposal @	80t/day
Composting of biological waste @	20t/day
Industrial liquid waste disposal @	26.55 MLD
Hazardous waste disposal	Nil
Waste exchange clearing house	Nil
Multi-material resource recovery	Nil

@ Including collection, storage & treatment

- *Transport (attach traffic risk assessment report)*

Traffic and transport management plan

Own transportation arrangement will be done for transportation of materials as well as staffs. For other exporters Cargo handling, private vehicles with valid fitness certificate and registration from the competent authority will be utilized

Management

Environmental monitoring

Various pollution levels with respect to air water and soil qualities, noise levels etc., were regularly monitored by the Project Authority to ensure that they conform to the standards laid down by the Environmental Protection Act and various Central and State Pollution Control Board limits

Effluent monitoring

The inlet and outlet effluent quality will be checked periodically. Common sewage will be treated in the Sewage Treatment facilities and the treated water shall be recycled and reused within the VVM SEZ premises.

The industrial effluents shall be treated in the common effluent treatment plants (CETP). Monitoring will be done to confirm that all the operation units within VVM SEZ send their industrial effluent conforming to the CETP inlet norms.

Air emission monitoring

All the proposed operation units shall provide appropriate stacks / vents and air pollution control equipment for all the gaseous emissions. The efficiency of the air pollution control system in every stacks will be checked regularly. All the levels will be conform to the standards laid down by the Environmental Protection Act and various Central and State Pollution Control Board limits

Environmental auditing

To study the effect of the Proposed project on Environment, different sets of stations will be selected within and outside the VVM SEZ premise for study of air, water, soil and noise quality parameters every month conform to the standards laid down by the Environmental Protection Act and various Central and State Pollution Control Board limits Half yearly report will be sent to the CPCB.

EMP & implementation of risk mitigation measures

Although there shall not be any major environmental pollution from the developmental activities proposed by VVM SEZ, it proposes to make the SEZ highly environment friendly.

Common sewage treatment plants shall be provided to treat the sewage and the treated sewage water shall be recycled and reused within the SEZ premises.

No solid hazardous wastes generation has been envisaged from the VVM SEZ activities. Based on the nature of solid waste generation from the developmental activities in the SEZ, VVM shall implement appropriate solid waste management system. For the disposal of solid domestic waste, composting have been planned. The sludge from the CSTPs shall also be composted and used as manure within the SEZ premises The small quantity of used / spent oil to be generated on the emergency operation of the DG sets shall be sent to MoEF approved recycler for suitable treatment and disposal.

Landscaping and green-belt have been planned within the entire SEZ to provide a major sink for any air, thermal and noise pollutions.

The proposed areas being leeward of the Ceylon land mass, is less prone to cyclones. From Mandapam to Cape Comorin, the east coast is considered as ecologically non-sensitive in view of the uniform features of the coastal configuration.

A full-fledged fire station shall be provided with all necessary fire fighting equipments. All buildings will be fitted with fire valve with a facility to fit fire hose.

Proper fire detection and alarm system shall be installed. For fast and effective communication, an advanced communication system shall also be installed. For proper handling and management of any eventuality, an Emergency Control Center shall be established. Emergency power supply shall be provided at all vulnerable points.

- First Aid cum dispensaries with the facilities of ambulance and staff nurses will be provided.

Environmental technology assessment

VVM SEZ will periodically update and implement the latest eco friendly technologies available to protect the environment.

Environmental training and education

Basic training will be provided to the freshly recruited employees. Orientation training for new or promoted officers will also be provided. Refresher course for all the technical people once in four years will be arranged to make them safety conscious and make them environmentally acquainted.

Emergency preparedness and response capability

Special training of first-aid and fire fighting by Loss Prevention Society shall also be arranged. Vocational training is imparted to all workers and supervisors as per statutes.

Finance and insurance services

An amount of Rs. 50 lakhs will been allotted as capital cost towards Environment Management Plan and recurring cost for the environmental facilities proposed by VVM SEZ works out to be Rs. 25 lakhs per year respectively.

- ***Miscellaneous***
-

Restoring natural features of the site : Not Applicable

Landscaping and gardening : Through out VVM SEZ project area greenbelt will be maintained at appropriate places into stages.

Analytical and laboratory services : World class quality check and Environmental laboratory will be constructed

Protection and security system	International Ship and Port Safety (ISPS) Code would be implemented Fire protection system will be designed as per standards prescribed by the National Fire Protection Association (NFPA)/ Tariff Advisory Committee of India.

MAIN STAKEHOLDERS

List of units requiring individual environmental clearance (in future) – Not Applicable since all the proposed activities are categorized as "Category B" since a single clearance is adequate.

Details of issues raised in the environmental public hearing - Not Applicable

Finance Arrangements –

Equity Capital (Rs. In Lakhs) : 37,600

Term Loan(Rs. In Lakhs) : 40,000

External Commercial Borrowing : Nil

ENVIRONMENTAL IMPACT ASSESSMENT – Appended on the EIA report

To cover

- ***Baseline Conditions***
- ***Impact Assessment including carrying capacity of the area***
- ***Social Impact Assessment including Rehabilitation Action Plan (if any)***
- ***Risk Assessment and Onsite and offsite Emergency Response Planning***
- ***Environmental Management Plan***
- ***Details of environmental parameters to be monitored (frequency and implementation agency)***

POTENTIAL ENVIRONMENTAL THREATS

This assessment is for the entire estate, not for individual units

- ***Areas of concern***

1. 'Imminent threats' to human health and/or the environment ('imminent' means high-risk threats that require immediate action to reduce risks and liabilities)

Threat	*Actions proposed to be taken*
. Such threat will not arise.	Not Applicable. . . . .

.2. Likely Environmental 'trouble spots'

Trouble spot	*Actions proposed to be taken*
. . . .Nil	. . . Not Applicable . . . . .

3. Major sources & quantities of wastes (solid, air, liquid) likely to be generated in the IE

Sources	*Inventory*	*Actions proposed to be taken*

Solid and liquid wastes generated will be recycled and reused

Habitat/wildlife

Issues of concern	*Action proposed to be taken*
Nil	Not Applicable

4. Potential sources of industrial accidents. explosions and fires. health and safety issues

Potential sources	*Actions proposed to be taken*
Nil	Not Applicable.

5. Sources of environmental threats in adjacent areas

Sources	*Action proposed to be taken*
Nil	Not Applicable..

(1011) SKETCH

VILLAGE

NO

NAME OF THE TALUK

VVM SEZ APPLIED AREA

RADHAPURAM TALUK

TIRUNELVELI DISTRICT

SCALE 1 : 75,000

NANGUNERI TALUK

SATTANKULAM TALUK
(THOOTHUKUDI DISTRICT)

THOVALA TALUK
(KANNIYAKUMARI DISTRICT)

AGASTHEESWARAM TALUK
(KANNIYAKUMARI DISTRICT)

GULF OF MANNAR

- Gulf of Mannar
- River
- Stations Selected For the Study

Note :- Based upon Survey of India map with the permission of the Surveyor General of India.

The responsibility for the correctness of internal details rests with the publisher.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

Verified and cleared as unrestricted publication by the Ministry of Defence Government of India in the letter No. 19 (27) 2002/D (GS-III) dated 2-7-2002

REFERENCE

- District boundary
- Taluk boundary
- Panchayat union boundary
- Village boundary
- Tahsildar's head quarters (tender lined thus)
- Panchayat union head quarters (under lined thus)
- National highways
- Major District roads
- Other District roads
- River with bridge and stream
- Railway line with station (Broad Gauge) B.G.
- Reserved Forest Area R.F.
- Tank
- Village Site
- Village No. and Name 21 PALAVUR

MAP. 5 STATIONS SELECTED FOR SOIL QUALITY MONITORING

g. No.36-D/2003 (Thiruvalluvar Aandu 2034) (C.S.O., 1 : 75,000) Revenue Department-500

Published by Thiru AJAY BHATTACHARYA, I. A. S.,
Special Commissioner and Director of Survey and Settlement, Chennai 5
Thiru R. THANGARAJAN, I.A.S.,
Additional Director of Survey and Land Records, (in-charge) Chennai
on behalf of the Government of Tamil Nadu 2003 (Thiruvalluvar Aandu 2034)

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RADHAPURAM TALUK

TIRUNELVELI DISTRICT

SCALE 1 : 75,000

NANGUNERI TALUK

SATTANKULAM TALUK
(THOOTHUKUDI DISTRICT)

THOVALA TALUK
(KANNIYAKUMARI DISTRICT)

AGASTHEESWARAM TALUK
(KANNIYAKUMARI DISTRICT)

GULF OF MANNAR

- Gulf of Mannar
- River
- Stations Selected for the Study

REFERENCE

District boundary	
Taluk boundary	
Panchayat union boundary	
Village boundary	
Taluk office / head quarters (under lined text)	
Panchayat union head qrs/trs (under lined thus)	
National highways	
Major District roads	
Other District roads	
River with bridge and stream	
Railway line with station (Broad Gauge)	B.G.
Reserved Forest Area	R.F.
Tank	
Village Site	
Village No. and Name	21 PALAVUR

Note :- Based upon Survey of India map with the permission of the Surveyor General of India.

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Verified and cleared as unrestricted publication by the Ministry of Defence Government of India vide its letter No. [illegible] dated 2-7-2002

MAP-8 STATIONS SELECTED FOR AMBIENT AIR QUALITY MONITORING

Reg. No. 50 – D/2003 (Thiruvalluvar Andu 2034) (C.S.O., 1 : 75,000) Revenue Department-500

Published by Thiru AJAY BHATTACHARYA, I. A. S.,
Special Commissioner and Director of Survey and Settlement, Chennai 5
Thiru R. THAMARAJAN, I.A.S.,
Additional Director of Survey and Land Records, (in-charge) Chennai
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Joint Director of Survey and Land Records,
of the Photo-Zinco Press, Central Survey Office, Chennai-5.
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RADHAPURAM TALUK

TIRUNELVELI DISTRICT

SCALE 1 : 75,000

NANGUNERI TALUK

SATTANKULAM TALUK
(THOOTHUKUDI DISTRICT)

THOVALA TALUK
(KANNIYAKUMARI DISTRICT)

AGASTHEESWARAM TALUK
(KANNIYAKUMARI DISTRICT)

GULF OF MANNAR

- Gulf Of Mannar
- River
- Stations Selected For the Study

REFERENCE

District boundary	
Taluk boundary	
Panchayat union boundary	
Village boundary	
Taluk office / head quarters (under lined thus)	
Panchayat union head quarters (under lined thus)	
National highways	
Major District roads	
Other District roads	
River with bridge and stream	
Railway line with station (Broad Gauge)	B.G.
Reserved Forest Area	R.F.
Tank	
Village Site	
Village No. and Name	31 PALAVUR

Note :- Based upon Survey of India map with the permission of the Surveyor General of India.

The responsibility for the correctness of internal details rests with the publisher.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

Verified and cleared as unrestricted publication by the Ministry of Defence Government of India in the letter No. 19 (89) 2002/D (GS) (O) dated 2-7-2002

MAP.3 STATIONS SELECTED FOR WATER QUALITY MONITORING

Reg. No. 36 - D/2003 (Thiruvalluvar Andu 2034) (C.S.O., 1 : 75,000) Revenue Department-500

Published by Thiru AJAY BHATTACHARYA I. A. S.,
Special Commissioner and Director of Survey and Settlement, Chennai &
Thiru R. THANARAJAN, I.A.S.,
Additional Director of Survey and Land Records, (in-charge) Chennai
on behalf of the Government of Tamil Nadu 2003 (Thiruvalluvar Andu 2034)

Printed and printed under the superintendence of
Thiru C. SUBRAMANIAM,
Joint Director of Survey and Land Records,
of the Photo-Zinco Press, Central Survey Office, Chennai-5.
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UNRESTRICTED

RADHAPURAM TALUK

TIRUNELVELI DISTRICT

SCALE 1 : 75,000

NANGUNERI TALUK

SATTANKULAM TALUK
(THOOTHUKUDI DISTRICT)

THOVALA TALUK
(KANNIYAKUMARI DISTRICT)

AGASTHEESWARAM TALUK
(KANNIYAKUMARI DISTRICT)

GULF OF MANNAR

- Gulf Of Mannar
- River
- Stations Selected For the Study

Note :- Based upon Survey of India map with the permission of the Surveyor General of India.

The responsibility for the correctness of internal details rests with the publisher.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

Verified and cleared as unrestricted publication by the Ministry of Defence Government of India in the letter No. 19 (574 2002/D (O) dated 2-7-2002.

REFERENCE

- District boundary
- Taluk boundary
- Panchayat union boundary
- Village boundary
- Taluk office (under lined thus)
- Panchayat union head quarters (under lined thus)
- National highways
- Major District roads
- Other District roads
- River with bridge and stream
- Railway line with station (Broad Gauge)
- Reserved Forest Area
- Tank
- Village Site
- Village No. and Name — 21 PALAVUR

MAP.4 STATIONS SELECTED FOR NOISE LEVEL MONITORING

Reg. No. 39 - D/2003 (Thiruvalluvar Aandu 2034) (C.S.O., 1 : 75,000) Revenue Department-500

Published by Thiru AJAY BHATTACHARYA, I. A. S.,
Special Commissioner and Director of Survey and Settlement, Chennai &
Thiru R. THIAGARAJAN, I.A.S.,
Additional Director of Survey and Land Records, (in-charge) Chennai
on behalf of the Government of Tamil Nadu 2003 (Thiruvalluvar Aandu 2034)

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Joint Director of Survey and Land Records,
at the Photo-Zinco Press, Central Survey Office, Chennai-5.
Price Rs. 12/- ©Government of India copyright 2003

AGENDA ITEM **Mining of rare minerals at Thrivambalapuram, village Tirunelveli district by V.V. Mineral, Tisaiyanvilai.**

M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district have applied for clearance under CRZ Notification 2011, for their proposed setting up of SEZ project at Thiruvambalapuram village, Rathapuram Taluk, Tirunvelveli district over a total extent of 166.66.5 hectares. The activities include construction of thermal power plant of 600 MW capacity, mineral separation plant, desalination plant, port, power plant (co-generation, solar and windmill), foreshore facilities such as intake and outfall pipelines for the drawal of sea water, transport vehicle shed, fabrication and maintenance of workshop, rare earth oxide plant, zircon power plant, titanium slag plant, synthetic rutile plant etc.,

2) The project sites are falling in CRZ-III, Inter tidal zone, CRZ-IV and outside CRZ areas. Total Project cost is Rs.870 crores and in CRZ Rs. 480 crores.

3) The applicant has submitted EIA report, application, maps etc., The DCZMA, Tirunvelveli district have recommended the project subject to the following specific conditions.

a) The unit shall construct facilities which are water front activities and permissible under CRZ Notification.

b) The unit shall provide adequate treatment facilities for waste water. No sewage / trade effluent shall be disposed into sea without adequate treatment.

c) The unit shall follow the guidelines / stipulations of the AERB in handling and disposal of radioactive materials such a Thorium, Uranium, Monosite, etc., obtained, if any during the processing of rare minerals.

4) As per CRZ Notification 2011, vide para 3 (i) setting up of industries is prohibited activities however those activities directly related to waterfront or directly needing foreshore facilities shall be constructed. As such foreshore facilities viz., construction of Port, desalination plant, wind mill, facilities for generating power by non-conventional power sources can be constructed in CRZ.

The other items viz., thermal power plant, mineral separation plant, common effluent treatment plant, fabrication workshops etc should not be constructed in CRZ areas and the same shall be shifted away from CRZ area.

5) As per CRZ Notification 2011, vide para 4 (ii) (f) (h) the above said activities requires clearance from the MoEF., GoI.

6) The Authority may consider.

MINUTES OF THE 72nd MEETING OF THE TAMIL NADU STATE COASTAL ZONE MANAGEMENT AUTHORITY HELD ON 07.06.2013

AGENDA ITEM NO.1: Confirmation of the Minutes of the 71st meeting of the Tamil Nadu State Coastal Zone Management Authority held on 20.02.2012.

The minutes of the 71st meeting of the Tamil Nadu State Coastal Zone Management Authority held on 20.02.2013 communicated in Letter No.P1/141/2013 dated 05.03.2013 of the Director of Environment, was confirmed.

AGENDA ITEM NO.2: Report on the follow up action taken in respect of decisions taken during the 71st meeting of the TNSCZMA.

The Member Secretary and the Chairman, TNSCZMA briefed the members about the action taken by the Department of Environment and by the Government, respectively, on the decisions taken during the 71st meeting of the Tamil Nadu State Coastal Zone Management authority held on 20.02.2013.

AGENDA ITEM NO.03 Proposed reclamation of 0.45 hectares of land for Auction platform at Chennai Fishing Harbour proposed by the Chennai Port Trust

The Authority resolved to recommend the proposals to Ministry of Environment and Forests, GOI for clearance subject to the following specific conditions:

a) There should not be any fish processing activity in the project site.

b) The Solid Wastes that will be generated in the project site should be disposed properly.

c) Adequate basic amenities such as such drinking water, toilet facilities shall be provided based on actual assessment.

d) Periodical monitoring should be carried out to ascertain the occurrence of coastal erosion/ coastal accretion. Adequate steps required to prevent erosion, mitigate the adverse impacts etc., shall be taken based on the extent of implications.

e) There should not be any extraction of ground water.

f) It should be ensured that there should not be any adverse impact on coastal eco-system due to the dredging and on the dumping of dredged materials. The composition and quality of materials to be used to reclaim the seaward side project area should be duly analysed and examined to prevent the presence of toxic content and furnish the reports to TNPCB for further action.

g) The clearance is only for the proposed reclamation of 0.45 hectares of the land for auction platform and the applicant should not carry out any other activity without the prior clearance of the competent Authority.

h) All activities should be in conformity with the provisions of the CRZ Notification 2011.

i) The proponent shall not undertake any activity, which is violative of the provisions of CRZ Notification 2011.

AGENDA ITEM NO:04 **Mining of heavy minerals at Karaichuthu Uvari, Tirunelveli district by M/s. Transworld Garnet India Private Limited,, Chennai.**

The Authority resolved to recommend the proposals to Ministry of Environment and Forests, GOI for clearance subject to the following specific conditions:

a) Before commencing the activity, the applicant shall obtain necessary mining lease from the Government. The unit shall adhere to the guidelines / stipulations / conditions of mining lease and shall follow the mining plan.

b) The unit shall not use any explosives for the mining. No blasting or drilling for mining shall be carried out.

c) the unit shall not use any machineries for mining except those permitted under mining rules.

d) The unit shall ensure that the mined area is refilled with the tailings.

e) The beach profile shall be monitored periodically with the maintenance of relevant records / measurements / details so as to take appropriate remedial action on the event of any adverse impacts.

f) There shall be no extraction of ground water

g) There should not be any sea water intrusion due to the project activities.

h) No road shall be formed in CRZ

i) No liquid or solid waste shall be generated and disposed off in CRZ.

j) The unit shall develop green belt within / outside mining area.

k) The unit shall not establish mineral separation plant / processing unit within CRZ areas.

l) The unit shall obtain consents, in appropriate stage, from the Tamil Nadu Pollution Control Board.

m) All activities should be in conformity with the provisions of the CRZ Notification 2011.

n) The proponent shall not undertake any activity, which is violative of the provisions of CRZ Notification 2011.

AGENDA ITEM NO:05 **Mining of rare minerals at Thrivambalapuram, village Tirunelveli district by V.V. Mineral, Tisaiyanvilai.**

As the documents furnished by the applicant were general in nature, the Authority resolved to request the applicant to produce the following documents, giving specific details, based on scientific studies, covering each and every activity viz., construction of Port, desalination plant, wind mills, facilities for generating power, thermal power plant, mineral separation plant, common effluent treatment plant, fabrication workshops etc., for which Clearance under CRZ Notification 2011 has been sought for, as indicated in para 4 (ii) of CRZ Notification 2011.

a) Consolidated detailed Project report covering all the aspects/ features.

b) Environmental Impact Assessment/ Environmental Management Plan on all the terrestrial activities proposed

c) Environmental Impact Assessment/ Environmental Management Plan on all the Marine activities proposed including modeling studies;

d) Disaster Management Report, Risk Assessment Report and Management Plan on all the activities proposed.

e) Map superimposing the locations of project features viz., power plant, Port, windmills, desalination plant, pipeline routings, mineral separation plant, common effluent treatment plants and other features duly.

AGENDA ITEM NO:06 **Re-construction of a dwelling house at Plot No.7, T.S. No. 1114part, 1128 part, 1139/2 part, 1139/3B part T.S. Ward No. 1, Block No.7 & 9, South Beach Road (Roach Colony), Thoothukkudi proposed by Thiru R. Arockia Joseph Kingston, Thoothukkudi.**

The Authority resolved to clear the proposal subject to the following specific conditions:

a) Planning permission should be obtained for the proposed constructions from the local authorities concerned.

b) There should not be any ground water extraction in CRZ.

c) Proper arrangements should be made for the disposal of solid wastes generated in the project area.

d) All activities should be in conformity with the provisions of the CRZ Notification 2011.

e) The proponent shall not undertake any activity, which is violative of the provisions of CRZ Notification 2011.

AGENDA ITEM NO:07 **Re-construction of a dwelling house at Door No. 25, 25A, T.S. No. 675/2B1, 675/2B2 of Thatchar street, T.S. Ward No. 5, Block No. 4, Thoothukkudi proposed by Dr. N. Mohideen Bathusa, Thoothukkudi.**

The Authority resolved to clear the proposal subject to the following specific conditions:

a) Planning permission should be obtained for the proposed constructions from the local authorities concerned

b) There should not be any ground water extraction in CRZ.

c) Proper arrangements should be made for the disposal of solid wastes generated in the project area.

d) All activities should be in conformity with the provisions of the CRZ Notification 2011.

e) The proponent shall not undertake any activity, which is violative of the provisions of CRZ Notification 2011.

AGENDA ITEM NO:08 **Periodical inspections to review and check the adherence of conditions imposed in the Environment Clearances - carrying out marine baseline studies - Expression of interest called for - report - Regarding.**

The Authority resolved to accept the suggestions of sub-committee to carryout marine baseline studies by the Institutions. During the discussion, Dr. B.R. Subramaninan, Member of TNSCZMA who is the Retired Project Director of ICMAM Project Directorate, Ministry of Earth Sciences, has suggested institutional arrangements for Coastal water monitoring for Tamil Nadu Coast. In this connection the Authority resolved to request Dr. B. R. Subramanian, to furnish a detailed report, on the methodologies to be followed while monitoring the activities of the approved projects.

.6.

AGENDA ITEM NO:09 **Any other issues with the permission of the Chair**

During the discussions, the Chairman has requested the Members of the Authority to suggest on the absolute minimum documents/ reports to be furnished by the project proponents to the Authority for the consideration of the Project.

Sd/-xxx
Dr. H. Malleshappa., I.F.S.
Member Secretary, TNSCZMA &
Director, Dept. of Environment,
Chennai -15

Sd/-xxx
Thiru Mohan Verghese Chunkath., I.A.S.,
Chairman, TNSCZMA and
Addl., Chief Secretary to Government,
Environment & Forests Dept., Chennai - 9.

DEPARTMENT OF ENVIRONMENT

From
D. H. Malleshappa,
~~Thiru Yogesh Dwivedi~~. I.F.S.,
Director of Environment,
Ground Floor, Panagal Buildings,
Saidapet, Chennai - 600 015

To
M/s. V.V. Minerals
Keeraikaranthattu
Tisayanvilai,
Tirunelveli district 627657.

==========

R.C No. P1/1898/2012 dated 21.06.2013

Sir,

Sub: Coastal Regulation Zone - SEZ Project at Thiruvambalapuram village, Rathapuram Taluk, Tirunvelveli district proposed by M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district for clearance under CRZ Notification 2011 - regarding.

Ref: Minutes of the 72nd meeting of the TamilNadu State Coastal Zone Management Authority held on 07.06.2013.

xxxx

With reference to the proposal referred in the subject, in the 72nd meeting held on 07.06.2013, the Tamil Nadu State Coastal Zone Management Authority resolved as follows:

"As the documents furnished by the applicant were general in nature, the Authority resolved to request the applicant to produce the following documents, giving specific details, based on scientific studies, covering each and every activity viz., construction of Port, desalination plant, wind mills, facilities for generating power, thermal power plant, mineral separation plant, common effluent treatment plant, fabrication workshops etc., for which Clearance under CRZ Notification 2011 has been sought for, as indicated in para 4 (ii) of CRZ Notification 2011.

a) Consolidated detailed Project report covering all the aspects/ features.

b) Environmental Impact Assessment/ Environmental Management Plan on all the terrestrial activities proposed.

c) Environmental Impact Assessment/ Environmental Management Plan on all the Marine activities on all the activities proposed including modeling studies;

d) Disaster Management Report, Risk Assessment Report and Management Plan on all the activities proposed.

e) Map superimposing the locations of project features viz., power plant, Port, windmills, desalination plant, pipeline routings, mineral separation plant, common effluent treatment plants and other features duly.

Yours faithfully,

Member Secretary,
Tamil Nadu State Coastal Zone Management Authority,
And Director of Environment

ABSTRACT

Mines and Minerals – Mining Lease – Garnet, Ilmenite and Rutile – Thoothukudi District – Formation of Special Team to inspect all the six lease areas of major minerals in Thoothukudi District – Orders – Issued.

Industries (MMD.1) Department

G.O. (Ms).No.156 **Dated: 8.8.2013**
Read:
விஜய ஆண்டு, ஆடி 23
திருவள்ளுவர் ஆண்டு 2044

1. From the Commissioner of Geology & Mining letter dated 8.8.2013 addressed to the Principal Secretary, Industries Department.

*****

ORDER:

The Commissioner of Geology & Mining in his letter first read above has informed that a report dated 6.8.2013 was received from the District Collector, Thoothukudi district informing that inspections of some of the leased areas for mining and minerals - Garnet, Ilmenite and Rutile in the district were undertaken and that instances of large scale illicit beach sand mining has been detected in respect of some of the mining leases granted in Thoothukudi district. The District Collector has also reported that detailed field inspections may be undertaken by Special Team consisting of the departments of Revenue, Police, Environment and Forests, Geology & Mining in connection with the illicit mining of beach minerals by various lessees.

The Commissioner, Geology & Mining has recommended that in view of the report of the District Collector, a Special Team may be formed by the Government consisting of officers from the departments of Revenue, Environment and Forests and Geology & Mining to inspect the mining in all the leased areas of Garnet, Ilmenite and Rutile in Thoothukudi District as per section 24 of the Mines and Minerals (Development and Regulation) Act, 1957. The Commissioner of Geology & Mining has recommended that till the completion of the inspection by the Special Team, mining operations in respect of these leases may be directed to be stopped to facilitate inspections. The Commissioner of Geology & Mining has also recommended that the Assistant Director (Mines), Thoothukudi may be directed to stop forthwith the issuance of permits to transport the minerals.

The Government after careful examination of the report and recommendation of the Commissioner of Geology & Mining directs as follows:

- A Special Team will be formed, headed by Thiru Gagandeep Singh Bedi, IAS, Secretary, Revenue Department to inspect and verify in terms of Section 24 of Mines and Minerals (Development and Regulation)Act, 1957, whether there is illicit mining by the 6 lessees of minerals - Garnet, Ilmenite and Rutile in Thoothukudi district. This team will also consist of officers from the departments of Revenue, Environment and Forests and Geology & Mining. The Team members will be nominated by the respective Secretaries to Government.

- This Special Team shall exercise all the powers enumerated in section 24 of Mines and Minerals (Development and Regulation) Act, 1957.

- The District Collector, Thoothukudi will issue proceedings directing all lessees of minerals - Garnet, Ilmenite and Rutile in Thoothukudi district to stop the mining operations pending completion of the inspections by the Special Team.

- The Assistant Director, (Mines) Thoothukudi is directed to stop issuance of transport permits to the six lessees till the inspections are completed.

The Special Team is directed to complete the inspections expeditiously and submit its report to the Government within a month.

(BY ORDER OF THE GOVERNOR)

SHEELA BALAKRISHNAN
CHIEF SECRETARY TO GOVERNMENT

To

The Additional Chief Secretary to Government,
Environment and Forests Department, Chennai-9.
The Principal Secretary to Government, Home Department, Chennai-9.
The Secretary to Government, Revenue Department, Chennai-9.
The Chairman, Tamil Nadu Pollution Control Board,
Chennai-15.
The Director General of Police, Chennai-4.
The Commissioner, Geology & Mining, Chennai-32.

The District Collector, Thoothukudi.

Copy to:
The Additional Chief Secretary to Government /
Commissioner of Revenue Administration, Chennai-5
The Additional Chief Secretary/ Secretary - I to Hon'ble
Chief Minister, Chennai-9.
The Principal Secretary/Secretary -II to Hon'ble Chief Minister, Chennai-9.
The Principal Secretary/ Secretary -III to Hon'ble Chief Minister, Chennai-9.
Special Personal Assistant to Minister (Industries), Chennai-9.
Special Personal Assistant to Minister (Revenue), Chennai-9.

SF/SC

//Forwarded by Order//

8.8.2013

SECTION OFFICER

ABSTRACT

Mines and Minerals – Mining Lease – Special Team to inspect the lease areas of major minerals like Garnet, Ilmenite and Rutile, etc. in Tirunelveli, Tiruchirapalli, Kanniyakumari and Madural Districts – Orders – Issued.

Industries (MMD.1) Department

G.O.(Ms).No.173 **Dated: 17.9.2013**

Read :

1. From the Commissioner of Geology and Mining letter dated 8.8.2013 addressed to the Principal Secretary, Industries Department.
2. G.O.Ms.No.156, Industries (MMD.1)Department, dated 8.8.2013
3. From the Commissioner of Geology and Mining letter dated 17.9.2013 addressed to the Principal Secretary, Industries Department.

*****

ORDER:

In the G.O. second read above a Special Team headed by Thiru Gagandeep Singh Bedi, IAS, Secretary, Revenue Department was constituted to inspect and verify in terms of Section 24 of Mines and Minerals (Development and Regulation) Act, 1957, whether there is illicit mining by the 6 lessees of minerals – Garnet, Ilmenite and Rutile in Thoothukudi District.

2. Now, the Commissioner of Geology & Mining in the reference third read above has informed that at present 52 leases in Tirunelveli District, 11 leases in Tiruchirappalli District, 6 leases in Kanniyakumari District and 2 leases in Madurai district totally 71 leases have been granted to private parties to mine major minerals like Garnet, Ilmenite, and Rutile, etc in Tamil Nadu. The Commissioner, Geology & Mining has requested that in order to have a comprehensive assessment of the mining of major minerals like Garnet, Ilmenite and Rutile, etc in Tamil Nadu, the Special Team headed by Thiru Gagandeep Singh Bedi, IAS, Secretary, Revenue Department constituted under G.O.Ms.No.156, Industries Department, dated 8.8.2013 may be directed to inspect leases granted to private parties in Tirunelveli, Tiruchirapalli, Kanniyakumari and Madural Districts also where the mining operations of major minerals like Garnet, Ilmenite and Rutile, etc are undertaken.

3. After careful examination of the recommendation of the Commissioner of Geology and Mining, in order to have a comprehensive assessment of the mining of major minerals like Garnet, Ilmenite and Rutile, etc in districts other than Thoothukudi the Government have decided as follows:

- The Special Team headed by Thiru Gagandeep Singh Bedi, IAS, Secretary, Revenue Department constituted in G.O.Ms.No.156, Industries Department, dated 8.8.2013 is directed to inspect and verify in terms of Section 24 of Mines and Minerals (Development and Regulation) Act, 1957, whether there is illicit mining of major minerals like Garnet, Ilmenite and

Rutile, etc. in leases granted to private parties in Tirunelveli, Tiruchirapalli, Kanniyakumari and Madurai Districts. The Special Team will also consist of officers from the departments of Revenue, Environment & Forests and Geology & Mining. The Team members will be nominated by the respective Secretaries to Government.

- This Special Team shall exercise all the powers enumerated in section 24 of Mines and Minerals (Development and Regulation) Act, 1957.
- The District Collectors of Tirunelveli, Tiruchirapalli, Kanniyakumari and Madurai will issue proceedings directing all private lessees of major minerals like Garnet, Ilmenite and Rutile, etc. in Tirunelveli, Tiruchirappalli, Kanniyakumari and Madurai Districts to immediately stop the mining operations pending completion of the inspections by the Special Team.
- The Assistant Directors, (Mines) Tirunelveli, Tiruchirapalli, Kanniyakumari and Madurai Districts are directed to stop immediately the issuance of transport permits of major minerals like Garnet, Ilmenite and Rutile, etc. with respect to the leases granted to private parties in the respective districts till the inspections are completed.

4. The Special Team is directed to complete the inspections and submit its report to the Government expeditiously.

(BY ORDER OF THE GOVERNOR)

SHEELA BALAKRISHNAN
CHIEF SECRETARY TO GOVERNMENT

To
The Additional Chief Secretary to Government, Environment and Forests Department, Chennai-9.
The Principal Secretary to Government, Home Department, Chennai-9.
The Secretary to Government, Revenue, Chennai-9.
The Chairman, TNPCB, Chennai-15.
The Director General of Police, Chennai-4.
The Commissioner, Geology and Mining, Chennai-32.
The District Collectors, Tirunelveli, Tiruchirappalli, Kanniyakumari and Madurai.
The Assistant Directors,(Mines) Tirunelveli, Tiruchirappalli, Kanniyakumari and Madurai Districts.

Copy to:
The Additional Chief Secretary to Government / Commissioner of Revenue Administration, Chennai-5
The Additional Chief Secretary/ Secretary – I to Hon'ble Chief Minister, Chennai-9.
The Principal Secretary/Secretary -II to Hon'ble Chief Minister, Chennai-9.
The Principal Secretary/Secretary -III to Hon'ble Chief Minister Chennai-9.
Spl.PA to Minister (Industries), Chennai-9.
SF/SC

//FORWARDED BY ORDER//

17.9.2013
SECTION OFFICER

112.		343/3	2.53.0
113.		343/4	0.60.0
114.		344/1ए	0.52.0
115.		344/1बी	1.45.0
116.		344/2	0.58.0
117.		344/3	0.95.0
118.		344/4	0.99.0
119.		346/1	4.68.0
120.		346/2	1.40.0
121.		345	0.98.0
122.		348	4.60.0
123.		349	6.53.5
124.		354/1ए	2.51.0
125.		355/1	2.92.5
126.		355/2	0.85.5
127.		355/3	1.52.0
		कुल	**165.63.5 हेक्टेयर**

और यतः, विशेष आर्थिक जोन अधिनियम, 2005 (2005 का 28) की धारा 13 की उप–धारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, केन्द्र सरकार एतद्द्वारा उक्त अधिनियम की धारा 14 के प्रयोजनार्थ उपर्युक्त विशेष आर्थिक जोन के लिए एक समिति, जिसे अनुमोदन समिति कहा जाएगा, गठित करती है, जिसके अध्यक्ष और सदस्य निम्नानुसार हैं, अर्थात्:–

1.	विशेष आर्थिक जोन का विकास आयुक्त	अध्यक्ष, पदेन
2.	निदेशक अथवा उप–सचिव, भारत सरकार, वाणिज्य एवं उद्योग मंत्रालय, वाणिज्य विभाग या उसका नामिती जिसका स्तर अवर सचिव, भारत सरकार से कम नहीं होगा	सदस्य, पदेन
3.	विशेष आर्थिक जोन पर भू–भागीय क्षेत्राधिकार रखने वाला क्षेत्रीय संयुक्त विदेश व्यापार महानिदेशक	सदस्य, पदेन
4.	विशेष आर्थिक जोन पर भू–भागीय क्षेत्राधिकार रखने वाले सीमाशुल्क आयुक्त या केन्द्रीय उत्पाद शुल्क आयुक्त अथवा उनका नामिती जिसका स्तर संयुक्त आयुक्त से कम नहीं होगा	सदस्य, पदेन
5.	विशेष आर्थिक जोन पर भू–भागीय क्षेत्राधिकार रखने वाले आयकर आयुक्त अथवा उसका नामिती जिसका स्तर संयुक्त आयुक्त से कम नहीं होगा	सदस्य, पदेन
6.	निदेशक (बैंकिंग), वित्त मंत्रालय, बैंकिंग प्रभाग, भारत सरकार	सदस्य, पदेन
7.	राज्य सरकार द्वारा नामित किए जाने वाले दो अधिकारी जिनका स्तर संयुक्त सचिव से कम नहीं होगा	सदस्य, पदेन
8.	जोन के विकासकर्ता का प्रतिनिधि	विशेष आमंत्रिती

और यतः, विशेष आर्थिक जोन अधिनियम, 2005 (2005 का 28) की धारा 53 की उप–धारा (2) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, केन्द्र सरकार एतद्द्वारा दिनांक 16 दिसम्बर, 2013 को उस तारीख के रूप में निर्धारित करती है जिस तारीख से उपर्युक्त विशेष आर्थिक जोन को सीमा–शुल्क अधिनियम, 1962 (1962 का 52) की धारा 7 के अंतर्गत अंतर्देशीय कंटेनर डिपो माना जाएगा।

[फा. सं. एफ. 1/21/2009–एसईजेड]

राजीव अरोडा, संयुक्त सचिव

MINISTRY OF COMMERCE AND INDUSTRY

(Department of Commerce)

NOTIFICATION

New Delhi the 16th December, 2013

S. O. 3723(E).—Whereas, M/s. V. V. Mineral, a private organization, has proposed under Section 3 of the Special Economic Zones Act, 2005 (28 of 2005), (hereinafter referred to as the said Act), to set up a sector specific Special Economic Zone for Mineral and Mineral based products at Thiruvambalapuram Village, Radhapuram Taluk, Tirunelveli District in the State of Tamil Nadu;

And, Whereas, the Central Government is satisfied that requirements under sub-section (8) of Section 3 of the said Act, and other related requirements are fulfilled and it has granted letter of approval under sub-section (10) of Section 3 of the said Act for development, operation and maintenance of the above sector specific Special Economic Zone on 5th December, 2012;

Now, therefore, the Central Government, in exercise of the powers conferred by sub-section (1) of Section 4 of the Special Economic Zones Act, 2005 and in pursuance of rule 8 of the Special Economic Zones Rules, 2006, hereby notifies the following area at above location with survey numbers given below in the table, as a Special Economic Zone, namely :—

TABLE

S. No.	Name of Village	Survey Nos.	Area (in Hectares)
1.	Thiruvembalapuram	363/1A	0.81.0
2.		363/1B	2.46.0
3.		347/1	5.81.0
4.		347/2	1.91.5
5.		352/1	0.93.0
6.		352/2	3.14.0
7.		353/1	0.44.5
8.		353/2	0.51.0
9.		353/3	2.09.0
10.		354/3	2.10.5
11.		354/4	2.27.5
12.		358/3A4	0.92.0
13.		358/3A5	0.91.5
14.		358/3A6	0.53.0
15.		360	4.51.0
16.		361	8.82.5
17.		362/1	7.12.5
18.		362/2	1.23.5
19.		364	0.81.5
20.		365	4.08.0
21.		366	1.36.5
22.		367/1	5.00.5
23.		367/2	0.22.5
24.		368	1.59.5
25.		369/1	1.32.0
26.		369/2	2.97.5
27.		370	0.67.0
28.		371/1	1.06.0
29.		371/2	1.12.0
30.		372	0.89.5
31.		373	0.67.0
32.		374	0.10.5
33.		375	1.15.0
34.		376/1	0.79.0
35.		376/2	0.79.0
36.		376/3	0.79.0
37.		376/4	0.78.5
38.		377/1	0.57.5
39.		377/2	0.57.5
40.		377/3	0.57.5
41.		377/4	0.57.5
42.		378	0.42.0
43.		379	0.79.5
44.		380	0.89.5
45.		381/1	1.05.5
46.		381/2	2.85.0
47.		382/1	1.68.0
48.		382/2	0.83.5
49.		385	1.80.5
50.		386	1.21.5
51.		326/7	0.67.0
52.		327/1	0.35.0

53.		327/2	0.33.0
54.		327/3	0.39.0
55.		328/3B	3.15.5
56.		329	2.96.5
57.		330/1	0.68.0
58.		330/2	0.51.0
59.		330/3	0.50.0
60.		332	2.81.0
61.		333/1	0.43.5
62.		333/10	1.41.5
63.		333/11A	0.24.5
64.		333/11B1	0.04.0
65.		333/11B2	0.10.0
66.		333/12	0.33.5
67.		333/13	0.33.5
68.		333/2	0.16.5
69.		333/3	0.82.0
70.		333/4	0.31.0
71.		333/5	0.31.0
72.		333/6	0.97.0
73.		333/7	0.42.0
74.		333/8	0.40.5
75.		335/1	1.90.0
76.		335/2	1.90.0
77.		338/1A1B	2.60.0
78.		338/1A1C	0.61.0
79.		338/1A2	0.14.0
80.		338/1B	0.86.0
81.		338/1C	0.28.0
82.		338/1D	1.92.0
83.		338/1E	4.49.0
84.		338/1F	0.58.0
85.		338/1G	0.17.0
86.		338/2A	0.16.0
87.		338/2B	1.13.0
88.		338/3	0.40.5
89.		339/1	0.03.0
90.		339/2A	0.35.0
91.		339/2B	0.17.0
92.		339/2C	0.55.5
93.		339/2D	0.17.0
94.		339/3A	0.25.0
95.		339/3B	0.18.0
96.		339/3C	0.14.0
97.		339/4	0.55.0
98.		339/5	1.03.0
99.		339/6	0.73.0
100.		339/7	0.37.0
101.		333/9	0.05.0
102.		341/2A	0.08.0
103.		341/2B	0.05.5
104.		341/3	0.89.5
105.		341/4A1	0.39.0
106.		341/4A2	0.06.0
107.		341/4B	0.17.0
108.		341/4C	0.10.0
109.		341/4D	0.18.0

110.		343/1	0.48.0
111.		343/2	2.61.0
112.		343/3	2.53.0
113.		343/4	0.60.0
114.		344/1A	0.52.0
115.		344/1B	1.45.0
116.		344/2	0.58.0
117.		344/3	0.95.0
118.		344/4	0.99.0
119.		346/1	4.68.0
120.		346/2	1.40.0
121.		345	0.98.0
122.		348	4.60.0
123.		349	6.53.5
124.		354/1A	2.51.0
125.		355/1	2.92.5
126.		355/2	0.85.5
127.		355/3	1.52.0
		Total	**165.63.5**

And, therefore, the Central Government, in exercise of the powers conferred by sub-section (1) of Section 13 of the Special Economic Zones Act, 2005 (28 of 2005), hereby constitutes a Committee to be called the Approval Committee for the above Special Economic Zone for the purposes of Section 14 of the said Act, consisting of the following Chairperson and Members, namely:—

1.	Development Commissioner of the Special Economic Zone	Chairperson ex officio;
2.	Director or Deputy Secretary to the Government of India, Ministry of Commerce and Industry, Department of Commerce or his nominee not below the rank of Under Secretary to the Government of India	Member *ex officio;*
3.	Zonal Joint Director General of Foreign Trade having territorial jurisdiction over the Special Economic Zone	Member *ex officio;*
4.	Commissioner of Customs or Central Excise having territorial jurisdiction over the Special Economic Zone or his nominee not below the rank of Joint Commissioner	Member *ex officio;*
5.	Commissioner of Income Tax having territorial jurisdiction over the Special Economic Zone or his nominee not below the rank of Joint Commissioner	Member *ex officio;*
6.	Director (Banking) in the Ministry of Finance, Banking Division, Government of India	Member *ex officio;*
7.	Two officers, not below the rank of Joint Secretary, to be nominated by the State Government	Member *ex officio;*
8.	Representative of the Developer of the zone	Special invitee

And, therefore, the Central Government, in exercise of the powers conferred by sub-section (2) of Section 53 of the Special Economic Zones Act, 2005 (28 of 2005), hereby appoints the 16th day of December, 2013 as the date from which the above Special Economic Zone shall be deemed to be Inland Container Depot under Section 7 of the Customs Act, 1962 (52 of 1962).

[F. No. F.1/21/2009-SEZ]

RAJEEV ARORA, Jt. Secy.

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SPEED POST
RTI MATTER

No. J.12/1/2014-SEZ
Government of India
Ministry of Commerce & Industry
Department of Commerce
(SEZ Section)
***

Udyog Bhawan, New Delhi
Dated: 11th April, 2014

To,

Shri S. Vaikundarajan,
Keeraikaranthattu, Mahadevankulam,
P.O. Tisaiyanvailai (Via),
Distt. - Tirunelveli-627657
(Tamil Nadu)

Subject: - Application received from Shri S. Vaikundarajan, Tamil Nadu seeking information under RTI Act, 2005 in respect of M/s V.V Mineral (Mineral Based) SEZ, Tirunelveli Distt. Tamil Nadu.

Sir,

Kindly refer to your RTI application dated 03.02.2014 seeking information under RTI Act, 2005 on the subject cited above and to reply as under:-

S.No	Information sought	Reply
1	What are the other activities details in processing area to be carry out in V.V Mineral (Mineral Based) SEZ according to their application submitted with your department in column VIII (iii)(h) of the online application from Form-A as approved in your letter No. F.1/21/2009-SEZ dated 05.12.2012	Construction of Desalination plant, port and other related buildings, Power plant, Transport vehicle shed and workshop fabrication & maintenance workshop, Rare Earth oxide plant, Zircon powder plant, Titanium, Slag, Synthetic Rutile Plant etc.
2.	Whether any of the above said other activities have been refused by the authority, if yes, copy of the same may kindly be furnished.	No

2. In case you are not satisfied with the above information, you may prefer an appeal (First) to the Appellate Authority Shri Rajeev Arora, Joint Secretary, Room No. 162-B, Department of Commerce, Udyog Bhawan, New Delhi, within 30 days of issue of this letter.

Yours faithfully,

(S.S. Kumar)
Under Secretary & ACPIO
Tel: 011-23062496
E-mail: kumar.ss@nic.in

ABSTRACT

Industries - Mines and Minerals - Complaints relating to illegal mining of Beach Sand Minerals - Disposal of complaints - Constitution of Taluk Level - District Level Committees and Appellate Forum for prevention of Illegal Beach Sand mining / Transportation of Beach Sand minerals - Constituted - Orders - Issued.

Industries (MMD.1) Department

G.O. (Ms) No.179 Dated: 27.07.2015
மன்மத வருடம், ஆடி 11
திருவள்ளுவர் ஆண்டு 2046

Read:

1. G.O. (Ms.) No.140, Industries (MMC1) Department, dated 11.07.2008.
2. G.O.(Ms.) No.135, Industries (MMA1) Department, dated 13.11.2009.
3. G.O.(Ms.) No.27, Industries (MMC2) Department, dated 17.02.2015.

***

ORDER:

Thiru G. Victor Rajamanickam of Usilampatti Village, has filed a public interest litigation petition in W.P. No.1592 of 2015 before the Hon'ble High Court of Madras seeking a Writ of mandamus or any other appropriate writ or order or direction in the nature of a writ directing investigation by a Special Investigation Team to probe illegal beach sand mining in the coastal districts of Tamil Nadu and bring the offenders to justice.

2. While hearing the public interest litigation petition in W.P.No. 1592/2015 filed by Thiru.G.Victor Rajamanickam on 17.03.2015, the Hon'ble First Division Bench of Madras High Court has advised the State Government to frame Taluk Level, District Level and State Level Committees consisting of Government officials from various departments to look into the complaints on illegal beach sand mining and transportation of beach sand minerals for taking appropriate action by the authorities concerned.

3. As advised by the Hon'ble High Court, the Government have decided to constitute Taluk Level Committee and District Level Committee comprising of officials from various Departments as detailed below to look into the complaints on illegal Beach Sand mining and transportation of beach sand minerals and for taking appropriate action by the authorities concerned. Accordingly, Taluk Level and District Level Committees are constituted with the following officials.

I. Taluk Level Committee:-

1. Tahsildar - Convenor
2. Inspector of Police

3. Forest Official (Forest Range Officer)
4. A Representative of Department of Geology and Mining in the concerned District.
5. A representative of Regional Transport Office.
6. Revenue Inspectors and Village Administrative Officers concerned.
7. Assistant Engineer (PWD-WRD)
8. A representative of District Environmental Engineer's office, Tamil Nadu Pollution Control Board.

4. If any complaint petitions regarding illicit beach sand mining/ transportation of beach sand minerals are received, the Taluk level committee is directed to take appropriate action on the complaint petitions and dispose the said complaint petitions by passing suitable orders on the merits of the case within a period of 30 days from the date of receipt of the petition. The Taluk level committee meeting shall be conducted fortnightly.

5. Any person, if aggrieved by the orders passed by the Taluk level committee or if orders are not passed on the complaint petitions within the stipulated time by the Taluk level Committee, may prefer an appeal before the District level Committee within a period of 30 days.

II. District Level Committee:-

1. District Collector
2. Superintendent of Police
3. District Revenue Officer
4. Revenue Divisional Officers
5. Assistant Director/Deputy Director (Geology and Mining)- Convenor
6. Deputy / Assistant Superintendents of Police
7. District Forest Officer
8. Executive Engineer (PWD-WRD)
9. Regional Transport Officer
10. District Environmental Engineer, Tamil Nadu Pollution Control Board

6. The District Level Committee shall review the functioning of the Taluk Level Committee and may suggest suitable measures for prevention of illegal beach sand mining and transportation of beach sand minerals. The District level committee is also directed to take appropriate action on the appeal petitions filed against the orders and decisions taken by the Taluk Level Committee or Cases in which orders are not passed within the stipulated time and those cases which are referred to the District level committee shall be disposed according to merits of the case within a period of two months. The District level committee meeting shall be conducted every month.

7. The Government have also decided to constitute an Appellate Forum for hearing the appeals filed against the orders and decisions taken by the District Level Committee and on the cases referred to by the Government and the Courts in connection with illegal beach sand mining/transportation of beach sand minerals. Accordingly, an Appellate Forum is constituted with the following officials.

III. State Level Appellate Forum:

1.	Additional Chief Secretary to Government	Industries Department

2.	Principal Secretary to Government	Environment and Forests Department
3.	Principal Secretary to Government	Public Works Department
4.	Secretary to Government	Revenue Department
5.	Commissioner	Department of Geology and Mining-Convenor
6.	Additional Director General of Police (L&O)	Chennai
7.	Chairman, Tamil Nadu Pollution Control Board	Chennai
8.	Chief Engineer (General)	Public Works Department, WRD Chennai.
9.	Dr.M.Jayaprakash	Associate Professor Department of Applied Geology, University of Madras

8. Any person aggrieved by any order made by the District Level Committee or if orders are not passed on the complaint petitions within the stipulated time i.e. two months by the District Level Committee, an appeal may be preferred before the State Level Appellate Forum within a period of 30 days from the date of receipt of the orders passed by the District Level Committee.

9. The State Level Appellate Forum shall review the functioning of the District Level Committee, call for records and do all such activities that are necessary for prevention of illegal beach sand mining / transportation of the beach sand minerals and suo-motu enquire into any complaints referred to it by any of the Courts, Government and other agencies.

10. The State Appellate Forum shall meet at least once in every two months and may devise its further procedure for investigating the complaints for follow up. The State Appellate Forum may decide on the further modalities to be adopted for disposal of such appeals after the first meeting of the above constituted Forum.

11. The Commissioner of Geology and Mining will be the Convenor of the meeting.

(BY ORDER OF THE GOVERNOR)

C.V.SANKAR
ADDITIONAL CHIEF SECRETARY TO GOVERNMENT

To
Additional Chief Secretary to Government,
Industries Department, Chennai - 600 009.

Principal Secretary to Government,
Home & PE Department, Chennai – 600 009

Principal Secretary to Government,
Environment and Forests Department. Chennai -600 009.

Principal Secretary to Government,
Public Works Department, Chennai – 600 009

300

Secretary to Government,
Higher Education Department, Chennai-600 009.

Secretary to Government,
Revenue Department, Chennai-600 009

Commissioner of Geology and Mining,
Guindy,Chennai-600 032.

Additional Director General of Police,
(Law and Order).
O/o. The DGP, Chennai – 600 004.

Chairman,
Tamil Nadu Pollution Control Board, Guindy, Chennai – 600 032

Chief Engineer(General),
Public Works Department (WRD), Chennai.

Dr.M. Jayaprakash,
Associate Professor,
Department of Applied Geology,
Madras University, Chennai – 600 005.

Registrar, High Court, Chennai- 600 104.

Registrar, Madras University, Chennai - 600 005.

Copy to:
Private Secretary to Chief Secretary,
Secretariat, Chennai – 600 009

Private Secretary to Additional Chief Secretary,
Industries Department ;Secretariat, Chennai – 600 009

Special PA to Hon'ble Minister, Industries, Chennai-600 009

All District Collectors.

Industries (OP.II) Department , Chennai – 600 009
SF/SCs.

//Forwarded By Order//

22.7.2015
SECTION OFFICER

mmt 25.8.2015

IN THE HIGH COURT OF JUDICATURE AT MADRAS

(Civil Appellate Jurisdiction)

Wednesday, the Twelfth day of August Two Thousand Fifteen

COMMISSIONER OF GEOLOGY & MINING
07 SEP 2015
GUINDY CHENNAI-600 032

PRESENT

THE HON'BLE MR.SANJAY KISHAN KAUL THE CHIEF JUSTICE

and

THE HON'BLE MR JUSTICE T. S. SIVAGNANAM

MP Nos.1 & 2 of 2015

IN WA.Nos.1168 & 1169/2015

1 THE STATE OF TAMILNADU [1-3 PETITIONERS IN ALL THE PETITIONS]
REP BY THE SECRETARY TO GOVERNMENT,
INDUSRIES DEPARTMENT, FORT ST.GEORGE, CHENNAI

2 THE SPECIAL COMMITTEE APPOINTED
UNDER G.O.MS.NO.158, REP BY ITS CHAIRPERSON,
MR.GAGADEEP SINGH BEDI, IAD, FORT ST.GEORGE,
CHENNAI

3 MR.GAGANDEEP SINGH BEDI, IAS,
REVENUE SECRETARY TO GOVERNMENT, FORT ST.
GEORGE, CHENNAI

4 THE DISTRICT COLLECTOR [4-5 PETITIONERS IN MP.NO.1/2015
TIRUNELVELI DISTRICT IN WA.NO.1168/2015]

5 THE DISTRICT COLLECTOR,
TUTICORIN DISTRICT

THE STATE OF TAMIL NADU, [PETITIONER IN MP.NO.2/2015
REP.BY SECRETARY TO GOVERNMENT, IN WA.NO.1169/2015]
FORT ST. GEORGE, CHENNAI

THE COMMISSIONER OF GEOLOGY AND MINING, [PETITIONER IN MP.NO.2/2015
CHEPAUK, CHENNAI IN WA.NO.1169/2015]

Vs

1 TRANSWORD GARNET INDIA PVT.LTD [RESPONDENT IN MP.1/2015]
REP BY ITS GENERAL MANAGER, STEPHEN DAVI, IN WA.NO.1168/2015)
NO.34/46, MGR ROAD, KALAKSHETRA COLONY,
BESANT NAGAR, CHENNAI 90

2 D.DHAYA DEVADAS [2nd RESPONDENT IN ALL THE PETITIONS]

AW 0099390

302

V.V.MINERALS,A FIRM,
REP.BY MANAGING PARTNER,
MR.S.VAIKUNDARAJAN,
KEERAIKARANSTHATTU,
TISAIYANVILAI, TIRUNELVELI DISTRICT.

[RESPONDENT IN MP.2/2015
WA.NO.1169/2015]

Petition praying that in the circumstances stated therein and in the affidavit filed therewith the High Court will be pleased

(i) To grant stay the operation of the common order dated 29/07/2015 made in WP NO.16716 of 2014(in MP.No.1/2015) pending disposal of the above writ appeal(in WA.1168/2015)and

(ii) To grant stay the operation of the common order dated 29/07/2015 made in WP NO.19641 of 2014 (in MP.No.2/2015)pending disposal of the above writ appeal(in WA.1169/2015)respectively.

Order : These petitions coming on for orders upon perusing the petitions and the respective affidavits filed in support thereof and upon hearing the arguments of M/S.A.L.SOMAYAZEE,AG assisted by M/S.I.N.RAJAGOPALAN, SPL GOVT PLEADER on behalf of the petitioners in each the petitions and of M/S.SRINATH SRIDEVAN, Advocate for 1st Respondent and M/S.V.SELVARAJ, Advocate for 2nd Respondent in all the petitions the court made the following order:-

Notice which is accepted by Mr.Srinath Sridevan, learned counsel for respondent No.1 and Mr.V.Selvaraj, learned counsel for respondent No.2.

Reply, if any, be filed within three weeks.

Rejoinder, if any, be filed within two weeks thereafter.

Till the next date, the operation of the impugned order is stayed.

-sd/-
12/08/2015

/ TRUE COPY /

Sub-Assistant Registrar (Statistics / C.S.)
High Court, Madras - 600 104.

AW 0099391

TO
1 THE SECRETARY TO GOVERNMENT
THE STATE OF TAMILNADU INDUSRIES DEPARTMENT,
FORT ST.GEORGE, CHENNAI

2 THE CHAIRPERSON,
THE SPECIAL COMMITTEE APPOINTED
UNDER G.O.MS.NO.158, FORT ST.GEORGE,
CHENNAI

3 THE DISTRICT COLLECTOR
TIRUNELVELI DISTRICT

4 THE DISTRICT COLLECTOR
TUTICORIN DISTRICT

5 THE COMMISSIONER OF GEOLOGY AND MINING,
CHEPAUK, CHENNAI

+2C.C. to SPL GOVT PLEADER, Sr.Nos.12058 & 12059

Order

in

MP Nos.1 & 2 of 2015

IN WA.Nos.1168 & 1169/2015

Date :12/08/2015

From 26.2.2001 the Registry is issuing certified copies of the Interim Orders in this format
RA 17/08/2015

WP No.1592 of 2015

The Hon'ble The CHIEF JUSTICE
and
The Hon'ble Mrs Justice PUSHPA SATHYANARAYANA

G.Victor Rajamanickam
21, Shanthi Nagar, Pillayarpatti Post,
Thanjavur District.
Vs
Union of India,
Rep. by the Secreatry to Government,
Government of India, Ministry of Mines,
d Wing, 3rd Flr, Shastri Bhavan, New
Delhi-1. and 22 others.

The petitioner has affirmed an affidavit on 28.01.2016 tendering an unqualified apology for not disclosing the material facts which have been set out in the affidavit filed in support of the writ petition and seeks leave to withdraw from the proceedings.

2. We accept the unqualified apology, cautioning the petitioner to be careful in future and permit him to withdraw from the proceedings.

3. We would like to satisfy ourselves over the matter in issue and thus, direct the present writ petition to be converted into a suo-motu proceedings.

4. We would also like to implead the Companies viz., M/s.Southern Enterprises, M/s.Indian Garnet Sand Company Private Limited and M/s.Grace Minerals, represented by Mr.Dhaya Devadas, No.1/520, 7th street, Veerabadra Nagar, Mambakkam Main Road, Medavakkam, Chennai-600 100, which were being advised by the petitioner as respondent Nos.24 to 26.

5. Let notice issue to the newly impleaded respondent Nos.24 to 26, through Court process returnable on the next date with a direction that requisite counter-affidavits be filed within two weeks of service of the notice.

6. If any other respondent wants to file the counter-affidavits, let them file their counter-affidavits.

7. The learned Senior Counsel appearing for respondent Nos.8 and 22, on instruction states that there is no Monazite mining being carried on at all by the said respondents.

8. A three page note be kept ready for our assistance by the respondents.

9. Since the petitioner has now withdrawn from the proceedings, we appoint Dr.V.Suresh, Advocate (Cell No.9444231497 and Landline No.044-25352459) having office at Hussaina Manzil, 3rd Floor, New No.255, Old No.123, Angappa Naicken Street, Chennai-600100 as Amicus to assist us in this matter. A complete set of paper book be supplied to the learned Amicus by the Registry.

10. List on 15.03.2016.

[CJ] [P S N J]

28/01/2016

bbr

PHONE : OFF : 04637 - 273202
FAX : 04637 - 272802
FAC : 04637 - 273369
E-MAIL : vvmindia@vvmineral.com
WEBSITE : www.vvmineral.com

V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

27th April 2016

The Director of Environment &
Member Secretary-TNCZMA,
Panagal Building,
Saidapet,
Chennai-600 015.

Dear Sir,

Sub : Proposed Specific (Mineral based) SEZ including Captive (Minor) Port over an extent of 165.635 Ha at SF. No. Parts of 326, 327, 328, 329, 330, 332, 333, 335, 338, 339, 341, 343, 344, 345, 346, 347, 348, 349, 352, 353, 354, 355, 358, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 385 & 386, Thiruvambalapuram village, Radhapuram Taluk, Tirunelveli District, TN by M/s. V V Mineral-Clearance/Recommendations under CRZ Notification 2011-**Submission of Additional Details sought by the Authority** - reg..

Ref. : 1. Our Application for CRZ Clearance/Recommendations.
2. Letter R.C.No. P1/**1898/2012** dated 21.06.2012

We, **M/s. V V Mineral (VVM),** are India's largest Manufacturer and Exporter of Garnet & Ilmenite. VVM is the first private company in India holding granted license for Mining and Exporting of Ilmenite from the Government of India. VVM's annual output is about 7,00,000 tonnes of heavy minerals which include Garnet Abrasive, Ilmenite, Zircon, Rutile, Sillimanite and Leucoxene. At the global level, VVM is poised to rise to the position numero uno. Established in 1989, VVM has achieved significant market shares in Europe, Middle East, East Asia, Australia and the USA. VVM has been awarded 'Special Export Award'by the Government of India (Ministry of Commerce), CAPEXIL (Chemicals & Allied Products Export Promotion Council) consecutively for 21 years.

VVM has in its possession of a mining lease for 30 years for 40 km stretch of beach area. Also, VVM has 26 Mining Leases (MLs) in Thoothukudi, Tirunelveli and Kanniyakumari Districts and its Group Company M/s. Transworld Garnet India has 14 Mining Leases in Tiruneleveli District. As per approved Mining Plans, about 1.0 million tonnes per annum (1.0 MTPA) Ilmenite and 0.066 MTPA Rutile can be processed from the mined out minerals from these MLs. Additionally, Zircon, Silmanite and Monozite, etc. will be produced as Tailings. VVM wished to have all type of these Mineral based

PHONE : OFF : 04637 - 273207
FAX : 04637 - 272802
FAC : 04637 - 273369
E-MAIL : vvmindia@vvmineral.com
WEBSITE : www.vvmineral.com

V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA.

Industries under one roof near the MLs so as to produce value added products and to Export them.

Accordingly, VVM has proposed a **Special Economic Zone (SEZ) - Specific Mineral based SEZ** - over an extent of **166.665 Ha own Patta Lands at** Thiruvambalapuram Village, RadhapuramTaluk, Tirunelveli District, Tamil Nadu. The **VVM SEZ will have its own Captive Port** in the Gulf of Mannar adjacent to the SEZ Site. The **Specific (Mineral based) SEZ has been notified** by the Ministry of Commerce & Industry Gazette Notification S.O. No. 3723(E) dated 16.12.2013. The SEZ includes Mineral Processing Plants (Rare Earth Oxide Plant, Zircon Powder Plant, Titanium, Slag, Synthetic Rutile Plant, etc.), Desalination Plant, Port and other related Buildings (Administration Building, Custom House, Ware Houses, Container Terminal Yard, Weigh Bridge, Fuel Station, Fire Station, Cafeteria, Rest Houses, etc.), Power Plant (standby DG House), Transport Vehicle Shed. Workshop Fabrication & maintenance Workshop, etc.

In the total extent of 165.635 Ha of SEZ Area, about 87.755 Ha falls in in **Coastal regulation Zone (CRZ)-III Area** (Coastal Zone Management Plan of Tamil Nadu Sheet No. 29) and about 77.800 Ha falls in Non-CRZ Area. The High Tide Line (HTL) / Low Tide Line (LTL) demarcation, **CRZ Map**, has been prepared by the Institute of Remote Sensing (IRS), Anna University, Chennai. The SEZ Area in No Development Zone (NDZ; 0-200 m from HTL & 100 m from River Bank) and Development Zone (DZ; 200-500 m from HTL) and in Non-CRZ Area (>500 m from HTL) are as follows :

SEZ area in 0-200 m from HTL (NDZ)	:	23.995 Ha
SEZ area in 200-500 m from HTL (DZ)	:	63.760 Ha
SEZ Area in >500 m from HTL (Non-CRZ)	:	**77.880 Ha**
Total SEZ Area	:	**165.635 Ha**

There is **no National Park, Wildlife Sanctuary, Elephant Corridor, Reserved Forests, Mangrove, Archaeological/Historical Monument, etc.** within 10 km radius area from boundary. **Kudankulam Nuclear Power Plant** is located at a distance of 10.5 km in southwest from the SEZ boundary. There is no hillocks noticed in the study area. There is **no perennial stream or river** in the region. The **seasonal Nambiyar River** flows adjacent to the SEZ. Predominantly, **Gulf of Mannar** is the eastern boundary of the SEZ. The State Highway (SH)-176 (East Coast Road) runs adjacent to the SEZ in the west.

VVM will transport the heavy minerals from the MLs to the SEZ for further processing (cracking of Monozite) to produce Garnet Abrasive Grit, upgraded Ilmenite, Rare Earth

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Oxide, Titanium Pigments, Zircon Powder, etc. on stage by stage - **all industrial activities in the Non-CRZ Area**. The processed/value added products will be exported to the existing customers by Ship. The port named as **TVM Captive Minor Port** has been designed/commissioned by the Department of Ocean Engineering, IIT Madras and the DPR has been submitted.

There will be **no mining activity proposed within the SEZ** Area except the **excavated earth (predominantly heavy minerals of about 2.0 Million Tonnes) which will be stacked at a suitable site within the SEZ for future utilization** after obtaining all required Approvals from the Government.

The following activities are proposed Sector Specific SEZ Proposal :

- **Heavy Mineral Processing Plants** (Cracking of Monazite) for throughput Quantity will be 90,000 Tonnes per Annum (TPA) out of which 50,000 TPA of Rare Earth oxide production by processing Monazite and 40,000 TPA Titanium Pigment & Zirconium production by processing Ilmenite, in Non-CRZ Area.
- Standby DG House, Workshops, Rest Houses, Admin. Buildings, etc. in Non-CRZ Area.
- Common ETP of 100 KLD capacity in Non-CRZ Area.
- All weather **Captive Port of 4.90 MTPA cargo handling capacity** with all its Administrative Offices and other Infrastructures in CRZ Area.
- Desalination/RO plant of 700 KLD capacity in CRZ Area.
- 50 KLD Sewage Treatment Plant in CRZ Area.
- **Storage of excavated earth containing Heavy Minerals (about 2.0 Million Tonnes)** from Construction **in CRZ and Non-CRZ Areas** for future use after obtaining required Approvals from the Government.

The Port is proposed to be developed as a captive minor port including breakwaters, harbour basin, dredging and deep water berths. Based on the bathymetry (-) 15.0 m CD contour is available about 6.77 km normal to the shore line. The design vessel for the proposed port is 60,000 DWT. About 0.75 million cum of dredged material obtained from dredging approximately 1.50 m depth inside the harbour basin. Within the basin, **34.37 ha. of land size from shore will be reclaimed** and the top level is proposed as (+) 3.50 m CD.

The total Project Cost, including Captive Port, would be **Rs.960 crores**. A budget of Rs.4.50 crore has been earmarked as Capital Cost for Environmental Management Plan (EMP) and 0.50 Lakhs per Annum as EMP Operating Cost. Also, an amount of Rs.65 Lakhs per Annum will be earmarked towards Corporate Social Responsibility

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(CSR) Budget. The Project will be completed within 3 years period from the date of all required Statutory Clearances and Approvals.

The facilities that will be provided within the **Processing Zone** include :

Non-CRZ Area :

- Administrative Office (2,500 sq. m).
- Plots for Heavy Minerals Processing Plants-MPPs- (**3,000 sq. m Plots of 10 Nos.**) and proposed builtup area now for MPPs is 12,000 sq. m.
- Standby DG House for 2x1000 KVA DG Sets (150 sq. m).
- Custom House (300 sq. m).
- Weigh Bridge (50 sq. m).
- R&D and Testing labs (250 sq. m).
- Cafeteria with a food court (250 sq. m).
- Rest Houses (150 sq. m).
- Fuel Station (50 sq. m).
- Orientation / Training Center & Conference Halls (500 sq. m).
- Fire Station (200 sq. m).
- Occupational Health Centre (100 sq. m).
- Common Effluent Treatment Plants (900 sq. m).

CRZ Area :

- **Warehouses (5,000 sq. m-3 Nos.)**.
- Parking Bays (5,000 sq. m) for 50 cars & 200 Two-ws & 50 Trucks.
- Container Terminal Yard (5,000 sq. m) in the Reclaimed Port Area.
- Desalination Plant (1,800 sq. m).
- Sewage (900 sq. m).
- Walking Tracks, Play Grounds, etc. (4,000 sq. m).

In the future, a Township/Staff Quarters will be constructed in an earmarked Non-Processing Zone.

By considering the **existing CRZ Notification 2011 Norms**, FSA and FSI computations are as follows :

Plot Area between >500 m of HTL	:	7,78,800 sq.m
Plot Area between 200-500 m of HTL	:	6,37,600 sq.m
50% of Plot Area between 0-200 m of HTL	:	1,19,975 sq.m
Total Area for FSI calculation	:	**15,36,375 sq.m**

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Building Area	:	49,700 sq.m
Floor Space Area coverage	:	**3.23% (< 33%)**
Proposed Builtup Area	:	31,500 sq.m
Floor Space Index	:	**0.02 (<0.33)**

Thus, the **proposed construction activities will confirm the CRZ Notification 2011 and DTCP Norms**. The **buildings Height in CRZ Area will be <9.0 m. Green Belt will be developed in an extent of 16.68 Ha (10.07% coverage)** as per DTCP/SEZ development Norms. **OSR Land will be maintained by the Developer VVM** as per existing Norms for SEZ.

The setting up of SEZ in an area of <500 Ha (with development area <50 Ha) and housing one Category B Industry (Mineral Processing Plant) falls under **Category 'B' of Sl. No. 7(c)** and the Captive Port of <5 MTPA cargo handling capacity falls under **Category 'B' of Sl. No. 7(e)** of EIA Notification 2006 (as amended) and requires prior Environmental Clearance(EC) from the State EIA Authority.

The **Captive Port proposal and other activities viz. Desalination Plant and Common Effluent Treatment Plants fall in** the **CRZ-I B and CRZ IV Areas** which requires CRZ Clearance/Recommendations under the Coastal Regulation Zone (CRZ) Notification 2011. These are **permissible activities** under Paras/Cluases 4(f), 3(v)(a) and 8(i)(III)(iii)(h) of CRZ Notification 2011.

VVM has also applied for the Proposal's Environmental Clearance (EC) to the State EIA Authority – Tamil Nadu (SEIAA-TN) on 27.07.2012 under Schedule Sl. No. 2(b), 7(C), 7(e), 7(h) and 8(b) of EIA Notification 2006. The Proposal was appraised by the State Expert Appraisal Committee (SEAC)-Tamil Nadu in its 42nd Meeting held during 24-25.07.2013 and awarded the Terms of References (TORs) for preparation of the EIA Study vide Letter No. SEIAA/F.No.**1464/2013**/M-XLII/TOR-150/2013 dated 12.08.2013. VVM has decided to withdraw some of the Propasal components viz. Cogen./Thermal Power Plant, Mining & Buiding/Constructions and accordingly requested SEIAA to amend the awarded TORs. The request for TOR amendment was considered by SEAC in its 64th Meeting held on 20.03.2015 and sought additional informations vide Letter SEIAA/F.No.1464/2013/M-XLII/TOR-150/Amend/2015 dated 26.03.2015.

VVM has entrusted the EIA Study on M/s.Environmental System Consultants & Ambiente Lab Solutions Private Limited (Ensyscon), Chennai. The EIA Consultant has been accredited for the Sectors 1 (Mining), 9 (Cement Plants), 31 (Industrial Estates/SEZs), 33 (Ports & Harbours) and 38 (Building Construction Projects) and assessed for 4 (Thermal Power Plants) –Category 'A' by the National Accreditation

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Board for Education & Training (NABET), Quality Council of India (Sl. No. 58 in the List of Accredited EIA Consultants-8th March 2016). The EIA Report has been prepared as per the Standard Terms of References (TORs) devised by the Ministry of Environment, Forests and Climate Change (MoEF&CC) and as per generic structure proposed in the EIA Notification 2006.

VVM has applied to the Tamil Nadu State Coastal Management Authority (TNCZMA) for the Clearance/Recommendations under the CRZ Notification 2011 for the Proposal in June 2012. The Proposal has been deliberated by the Authority in its 72nd Meeting held on 07.06.2013 and sought additional details vide its Letter R.C.No. P1/1898/2012 dated 21.06.2012 which are being submitted now.

We shall be very thankful to you if you could kindly consider our submission favourably and forward the Recommendations/Clearance under CRZ Notification 2011 in obtaining the EC under EIA Notification 2006 from the State EIA Autority, we request.

Yours faithfully,

For V V Mineral

Authorised Signatory

Encl .: 1. CRZ Map prepared by IRS, Anna University, with Layout superimposed.
2. DPR for the Captive Port prepared by IIT-Madras.
3. EIA Report with Terrestrial & Marine Activities along with EMP, RA & DMP.

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KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

25th May 2016

The Director of Environment &
Member Secretary-TNCZMA,
Panagal Building,
Saidapet,
Chennai-600 015.

Dear Sir,

Sub : Proposed Specific (Mineral based) SEZ including Captive (Minor) Port over an extent of 165.635 Ha at SF. No. Parts of 326, 327, 328, 329, 330, 332, 333, 335, 338, 339, 341, 343, 344, 345, 346, 347, 348, 349, 352, 353, 354, 355, 358, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 385 & 386, Thiruvambalapuram village, Radhapuram Taluk, Tirunelveli District, TN by M/s. V V Mineral-Clearance/Recommendations under CRZ Notification 2011-**Submission of Updated Details sought by the Authority** - reg..

Ref. : 1. Our Application for CRZ Clearance/Recommendations.
2. Letter R.C.No. P1/**1898/2012** dated 21.06.2012.
3. Our submission on 27.04.2016.

We, **M/s. V V Mineral (VVM),** are India's largest Manufacturer and Exporter of Garnet & Ilmenite. VVM is the first private company in India holding granted license for Mining and Exporting of Ilmenite from the Government of India. VVM's annual output is about 7,00,000 tonnes of heavy minerals which include Garnet Abrasive, Ilmenite, Zircon, Rutile, Sillimanite and Leucoxene. At the global level, VVM is poised to rise to the position numero uno. Established in 1989, VVM has achieved significant market shares in Europe, Middle East, East Asia, Australia and the USA. VVM has been awarded 'Special Export Award'by the Government of India (Ministry of Commerce), CAPEXIL (Chemicals & Allied Products Export Promotion Council) consecutively for 21 years.

VVM has in its possession of a mining lease for 30 years for 40 km stretch of beach area. Also, VVM has 26 Mining Leases (MLs) in Thoothukudi, Tirunelveli and Kanniyakumari Districts and its Group Company M/s. Transworld Garnet India has 14 Mining Leases in Tiruneleveli District. As per approved Mining Plans, about 1.0 million tonnes per annum (1.0 MTPA) Ilmenite and 0.066 MTPA Rutile can be processed from the mined out minerals from these MLs. Additionally, Zircon, Silmanite and Monozite, etc. will be produced as Tailings. VVM wished to have all type of these Mineral based

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Industries under one roof near the MLs so as to produce value added products and to Export them.

Accordingly, VVM has proposed a **Special Economic Zone (SEZ) - Specific Mineral based SEZ** - over an extent of **166.665 Ha own Patta Lands at** Thiruvambalapuram Village, RadhapuramTaluk, Tirunelveli District, Tamil Nadu. The **VVM SEZ will have its own Captive Port** in the Gulf of Mannar adjacent to the SEZ Site. The **Specific (Mineral based) SEZ has been notified** by the Ministry of Commerce & Industry Gazette Notification S.O. No. 3723(E) dated 16.12.2013. The SEZ includes Mineral Processing Plants (Rare Earth Oxide Plant, Zircon Powder Plant, Titanium, Slag, Synthetic Rutile Plant, etc.), Port and other related Buildings (Administration Building, Custom House, Ware Houses, Container Terminal Yard, Weigh Bridge, Fuel Station, Fire Station, Cafeteria, Rest Houses, etc.), standby DG House, Transport Vehicle Shed, Fabrication & maintenance Workshop, etc.

In the total extent of 165.635 Ha of SEZ Area, about 87.755 Ha falls in in **Coastal regulation Zone (CRZ)-III Area** (Coastal Zone Management Plan of Tamil Nadu Sheet No. 29) and about 77.800 Ha falls in Non-CRZ Area. The High Tide Line (HTL) / Low Tide Line (LTL) demarcation, **CRZ Map**, has been prepared by the Institute of Remote Sensing (IRS), Anna University, Chennai. The SEZ Area in No Development Zone (NDZ; 0-200 m from HTL & 100 m from River Bank) and Development Zone (DZ; 200-500 m from HTL) and in Non-CRZ Area (>500 m from HTL) are as follows :

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SEZ Area in >500 m from HTL (Non-CRZ)	:	**77.880 Ha**
Total SEZ Area	:	**165.635 Ha**

There is **no National Park, Wildlife Sanctuary, Elephant Corridor, Reserved Forests, Mangrove, Archaeological/Historical Monument, etc.** within 10 km radius area from boundary. **Kudankulam Nuclear Power Plant** is located at a distance of 10.5 km in southwest from the SEZ boundary. There is no hillocks noticed in the study area. There is **no perennial stream or river** in the region. The **seasonal Nambiyar River** flows adjacent to the SEZ. Predominantly, **Gulf of Mannar** is the eastern boundary of the SEZ. The State Highway (SH)-176 (East Coast Road) runs adjacent to the SEZ in the west.

VVM will transport the heavy minerals from the MLs to the SEZ for further processing (cracking of Monozite) to produce Garnet Abrasive Grit, upgraded Ilmenite, Rare Earth Oxide, Titanium Pigments, Zircon Powder, etc. on stage by stage - **all industrial**

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activities in the Non-CRZ Area. The processed/value added products will be exported to the existing customers by Ship. The port named as **TVM Captive Minor Port** has been designed by the **Department of Ocean Engineering, IIT Madras** and the Report has been submitted.

There will be **no mining activity proposed within the SEZ** Area except the **excavated earth (predominantly heavy minerals of about 2.0 Million Tonnes) which will be stacked at a suitable site within the SEZ for future utilization** after obtaining all required Approvals from the Government.

The following activities are proposed Sector Specific SEZ Proposal :

- **Heavy Mineral Processing Plants** (Cracking of Monazite) for throughput Quantity will be 90,000 Tonnes per Annum (TPA) out of which 50,000 TPA of Rare Earth oxide production by processing Monazite and 40,000 TPA Titanium Pigment & Zirconium production by processing Ilmenite, in Non-CRZ Area.
- Standby DG House, Workshops, Rest Houses, Admin. Buildings, etc. in Non-CRZ Area.
- Common ETP of 100 KLD capacity & 50 KLD STP in Non-CRZ Area.
- All weather **Captive Port of 4.90 MTPA cargo handling capacity** with all its Administrative Offices and other Infrastructures in CRZ Area.
- **Storage of excavated earth containing Heavy Minerals (about 2.0 Million Tonnes)** from Construction Areas **in Non-CRZ Areas** for future use after obtaining required Approvals from the Government.

The Port is proposed to be developed as a captive minor port including breakwaters, harbour basin, dredging and deep water berths. Based on the bathymetry (-) 15.0 m CD contour is available about 6.77 km normal to the shore line. The design vessel for the proposed port is 60,000 DWT. About 0.75 million cum of dredged material obtained from dredging approximately 1.50 m depth inside the harbour basin. Within the basin, **34.37 Ha of land size from shore will be reclaimed** and the top level is proposed as (+) 3.50 m CD.
The total Project Cost, including Captive Port, would be **Rs.960.00 crores**. A budget of Rs.4.50 crore has been earmarked as Capital Cost for Environmental Management Plan (EMP) and 0.50 Lakhs per Annum as EMP Operating Cost. Also, an amount of Rs.65.00 Lakhs per Annum will be earmarked towards Corporate Social Responsibility (CSR) Budget. The Project will be completed within 3 years period from the date of all required Statutory Clearances and Approvals.

The facilities that will be provided within the **Processing Zone** include :

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Non-CRZ Area :

- Administrative Office (2,800 sq. m).
- Plots for Heavy Minerals Processing Plants-MPPs- **(3,000 sq. m Plots of 10 Nos.)** and proposed builtup area now for MPPs is 12,000 sq. m.
- Standby DG House for 2x1000 KVA DG Sets (150 sq. m).
- Custom House (1,300 sq. m).
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- Sewage Treatment Plants (900 sq. m).

CRZ Area :

- **Warehouses (5,000 sq. m-3 Nos.).**
- Parking Bays (5,000 sq. m) for 50 cars & 200 Two-ws & 50 Trucks.
- Container Terminal Yard (5,000 sq. m) in the Reclaimed Port Area.
- Walking Tracks, etc. (4,000 sq. m).

In the future, a Township/Staff Quarters will be constructed in an earmarked Non-Processing Zone outside the CRZ Area.

By considering the **existing CRZ Notification 2011 Norms**, FSA and FSI computations are as follows :

Plot Area between >500 m of HTL	:	7,79,700 sq.m
Plot Area between 200-500 m of HTL	:	6,37,600 sq.m
50% of Plot Area between 0-200 m of HTL	:	1,19,975 sq.m
Total Area for FSI calculation	:	**15,37,275 sq.m**
Building Area	:	65,600 sq.m
Floor Space Area coverage	:	**4.27% (< 33%)**
Proposed Builtup Area	:	31,500 sq.m
Floor Space Index	:	**0.02 (<0.33)**

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Thus, the **proposed construction activities are fully in outside CRZ Area and will confirm the CRZ Notification 2011 and DTCP Norms**. The **buildings Height in CRZ Area will be <9.0 m. Green Belt will be developed in an extent of 16.68 Ha (10.07% coverage)** as per DTCP/SEZ development Norms. **OSR Land will be maintained by the Developer VVM** as per existing Norms for SEZ.

The setting up of SEZ in an area of <500 Ha (with development area <50 Ha) and housing one Category B Industry (Mineral Processing Plant) falls under **Category 'B' of Sl. No. 7(c)** and the Captive Port of <5 MTPA cargo handling capacity falls under **Category 'B' of Sl. No. 7(e)** of EIA Notification 2006 (as amended) and requires prior Environmental Clearance(EC) from the State EIA Authority.

The **Captive Port proposal and other activities fall in the CRZ-I B and CRZ IV Areas** which requires CRZ Clearance/Recommendations under the Coastal Regulation Zone (CRZ) Notification 2011. These are **permissible activities** under Paras/Cluases 4(f), 3(v)(a) and 8(i)(III)(iii)(h) of CRZ Notification 2011.

VVM has also applied for the Proposal's Environmental Clearance (EC) to the State EIA Authority – Tamil Nadu (SEIAA-TN) on 27.07.2012 under Schedule Sl. No. 2(b), 7(C), 7(e), 7(h) and 8(b) of EIA Notification 2006. The Proposal was appraised by the State Expert Appraisal Committee (SEAC)-Tamil Nadu in its 42nd Meeting held during 24-25.07.2013 and awarded the Terms of References (TORs) for preparation of the EIA Study vide Letter No. SEIAA/F.No.**1464/2013**/M-XLII/TOR-150/2013 dated 12.08.2013. VVM has decided to withdraw some of the Propasal components viz. Cogen./Thermal Power Plant, Mining & Buiding/Constructions and accordingly requested SEIAA to amend the awarded TORs. The request for TOR amendment was considered by SEAC in its 64th Meeting held on 20.03.2015 and sought additional informations vide Letter SEIAA/F.No.1464/2013/M-XLII/TOR-150/Amend/2015 dated 26.03.2015.

VVM has entrusted the EIA Study on M/s.Environmental System Consultants & Ambiente Lab Solutions Private Limited (Ensyscon), Chennai. The EIA Consultant has been accredited for the Sectors 1 (Mining), 9 (Cement Plants), 31 (Industrial Estates/SEZs), 33 (Ports & Harbours) and 38 (Building Construction Projects) and assessed for 4 (Thermal Power Plants) –Category 'A' by the National Accreditation Board for Education & Training (NABET), Quality Council of India (Sl. No. 61 in the List of Accredited EIA Consultants-9th May 2016). The EIA Report has been prepared as per the Standard Terms of References (TORs) devised by the Ministry of Environment, Forests and Climate Change (MoEF&CC) and as per generic structure proposed in the EIA Notification 2006.

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Tirunelveli District, Tamil Nadu, INDIA

VVM has applied to the Tamil Nadu State Coastal Management Authority (TNCZMA) for the Clearance/Recommendations under the CRZ Notification 2011 for the Proposal in June 2012. The Proposal has been deliberated by the Authority in its 72nd Meeting held on 07.06.2013 and sought additional details vide its Letter R.C.No. P1/1898/2012 dated 21.06.2012 which have been updated and submitted to the Authority.

We shall be very thankful to you if you could kindly consider our submission favourably and forward the **Recommendations/Clearance under CRZ Notification 2011 for the CRZ Components of the Proposal in obtaining the EC under EIA Notification 2006** from the State EIA Authority, we request.

Yours faithfully,

For V V Mineral

S.

Authorised Signatory

Encl .: 1. CRZ Map prepared by IRS, Anna University, with Layout superimposed.
2. IIT-Madras Report on the Captive Port.
3. EIA Report with Terrestrial & Marine Activities along with EMP, RA & DMP.

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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No. 1716] NEW DELHI, MONDAY, JULY 11, 2016/ASADHA 20, 1938

खान मंत्रालय

अधिसूचना

नई दिल्ली, 11 जुलाई, 2016

का.आ. 2356(अ).- केन्द्रीय सरकार, खान और खनिज (विकास और विनियमन) अधिनियम, 1957 (1957 का 67) की धारा 11ग द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए अधिनियम की प्रथम अनुसूची में निम्नलिखित और संशोधन करती है, अर्थात् :-

प्रथम अनुसूची के भाग ख में प्रविष्टि 11 के पश्चात्, निम्नलिखित प्रविष्टि अंत: स्थापित की जाएगी, अर्थात् :-

"12. तटीय बालू खनिज, अर्थात्, टेरी या तटीय बालू में पाए गए लाभदायक भारी खनिज, जिनके अंतर्गत इलामेनाइट, रूटाइल, लियोकोक्सीन, गार्नेट, मोनाजाइट, जिर्कोन और सिलीमेनाइट भी हैं।"

[फा. सं. 1/16/2015-एम. VI]
आर. श्रीधरन, अपर सचिव

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 11th July, 2016

S.O. 2356(E).— In exercise of the powers conferred by section 11C of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following further amendments to the First Schedule of the Act, namely:–

In the First Schedule, in Part B, after entry 11, the following entry shall be inserted, namely:–

"12. **Beach sand minerals**, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite.".

[F. No.1/16/2015-M.VI]
R. SRIDHARAN, Addl. Secy.

3461 GI/2016

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THE FIRST SCHEDULE

[See section 4(3), 5(1), 7(2) , [1] [8(1),8A(1),10A,10B(1),10C(1), 11(1), 11B, 11C, 12A(1), and 17A(2A)]]

SPECIFIED MINERALS

PART A. Hydro carbons Energy Minerals

1. Coal and Lignite.

PART B. Atomic Minerals

1. Beryl and other beryllium-bearing minerals.
2. Lithium-bearing minerals.
3. Minerals of the "rare earths" group containing Uranium and Thorium.
4. Niobium-bearing minerals.
5. Phosphorites and other phosphatic ores containing Uranium.
6. Pitchblende and other Uranium ores.
7. [2][Titanium bearing minerals and ores (ilmenite, rutile and leucoxene)].
8. Tantalum-bearing minerals.
9. Uraniferous allanite, monazite and other thorium minerals.
10. Uranium bearing tailings left over from ores after extraction of copper and gold, ilmenite and other titanium ores.
11. [3][Zirconium bearing minerals and ores including zircon.]

[5][12 Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite.]

PART C. Metallic and Non-Metallic Minerals

1. Asbestos.
2. Bauxite.
3. Chrome ore.
4. Copper ore.
5. Gold.
6. Iron ore.
7. Lead.
8. [4][Omitted]
9. Manganese ore.
10. Precious stones.
11. Zinc.

---

[1] Substituted by MM (DR) Amendment Act, 2015, vide G.O.I. Ext. Part II, Section 1, No. 13, dated 27.03.2015 (No. 10 of 2015).

[2]Substituted by MM(RD) Amendment Act, 1999, Vide G.O.I Ext. Part II, Section I, No. 51, dated 20.12.1999 (No. 38 of 1999). [3] Ibid

[4]Omitted by MM(RD) Amendment Act, 1999, Vide G.O.I Ext. Part II, Section I, No. 51, dated 20.12.1999 (No. 38 of 1999). [5]Inserted by S.O. 2356 (E), dated 11.07.2016

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V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

001371

21st July 2016

The Director of Environment &
Member Secretary-TNCZMA,
Panagal Building,
Saidapet,
Chennai-600 015.

Dear Sir,

22 JUL 2016

Sub : Proposed Specific (Mineral based) SEZ including Captive (Minor) Port over an extent of 165.635 Ha at SF. No. Parts of 326, 327, 328, 329, 330, 332, 333, 335, 338, 339, 341, 343, 344, 345, 346, 347, 348, 349, 352, 353, 354, 355, 358, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 385 & 386, Thiruvambalapuram village, Radhapuram Taluk, Tirunelveli District, TN by M/s. V V Mineral- Clearance/Recommendations under CRZ Notification 2011 - **Submission of Updated Details and EIA Report as sought by the Authority** - reg..

Ref. :
1. Our Application to SEIAA-TN in June 2012.
2. Our Application for CRZ Clearance/Recommendations.
3. Letter R.C.No. P1/**1898/2012** dated 21.06.2012.
4. Awarded TORs videLetter No. SEIAA/F.No.**1464/2013**/M-XLII/TOR-150/2013 dated 12.08.2013
5. SEZ Notification S.O. No. 3723(E) dated 16.12.2013.
6. Our submissions on 27.04.2016 and 25.05.2016.

We, **M/s. V V Mineral (VVM),** have proposed a **Special Economic Zone (SEZ) - Specific Mineral based SEZ** - over an extent of **166.665 Ha own Patta Lands at** Thiruvambalapuram Village, RadhapuramTaluk, Tirunelveli District, Tamil Nadu. The **VVM SEZ will have its own Captive Port** in the Gulf of Mannar adjacent to the SEZ Site. The **Specific (Mineral based) SEZ has been notified** by the Ministry of Commerce & Industry Gazette Notification S.O. No. 3723(E) dated 16.12.2013.

The following activities are proposed Sector Specific SEZ Proposal :

- **Heavy Mineral Processing Plants** (Cracking of Monazite) for throughput Quantity will be 90,000 TPA out of which 50,000 MT of Rare Earth oxide and 40,000 MT Titanium Pigment and Zirconium products, in Non-CRZ Area.
- Standby DG House, Workshops, Rest Houses, Admin. Buildings, etc. in Non-CRZ Area.
- Common ETP of 100 KLD & STP 50 KLD capacity in Non-CRZ Area.
- **Storgae of excavated earth containing Heavy Minerals (about 2.0 Million Tonnes)** from Construction **in Non-CRZ Areas** for future use after obtaining required Approvals from the Government.
- All weather **Captive Port of 4.90 MTPA cargo handling capacity** with all its Administrative Offices and other Infrastructures in CRZ Area.

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V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

The Port is proposed to be developed as a captive minor port including breakwaters, harbour basin, dredging and deep water berths. About 0.75 million cum of dredged material obtained from dredging approximately 1.50 m depth inside the harbour basin. Within the basin, **34.37 ha. of land size from shore will be reclaimed** and the top level is proposed as (+) 3.50 m CD. The Port Proposal has been finalised by the **Department of Ocean Engineering, IIT Madras (IIT-M)**. The proposed port **is designed to handle about 4.90 MTPA** to import / export of minerals.

In the total extent of 165.635 Ha of SEZ Area, about 87.755 Ha falls in **Coastal regulation Zone (CRZ)-III Area** (Coastal Zone Management Plan of Tamil Nadu Sheet No. 29) and about 77.800 Ha falls in Non-CRZ Area. The High Tide Line (HTL) / Low Tide Line (LTL) demarcation, **CRZ Map**, has been prepared by the Institute of Remote Sensing (IRS), Anna University, Chennai and submitted. The SEZ Area in No Development Zone (NDZ; 0-200 m from HTL & 100 m from River Bank) and Development Zone (DZ; 200-500 m from HTL) and in Non-CRZ Area (>500 m from HTL) are as follows :

SEZ area in 0-200 m from HTL (NDZ)	:	23.995 Ha
SEZ area in 200-500 m from HTL (DZ)	:	63.760 Ha
SEZ Area in >500 m from HTL (Non-CRZ)	:	**77.880 Ha**
Total SEZ Area	:	**165.635 Ha**

The facilities that will be provided within the **Processing Zone** include :

Non-CRZ Area :

- Administrative Office (2,500 sq. m).
- Plots for Heavy Minerals Processing Plants-MPPs- **(3,000 sq. m Plots of 10 Nos.)** and proposed builtup area now for MPPs is 12,000 sq. m.
- Standby DG House for 2x1000 KVA DG Sets (150 sq. m).
- Custom House (300 sq. m).
- Weigh Bridge (50 sq. m).
- R&D and Testing labs (250 sq. m).
- Cafeteria with a food court (250 sq. m).
- Rest Houses (150 sq. m).
- Fuel Station (50 sq. m).
- Orientation / Training Center & Conference Halls (500 sq. m).
- Fire Station (200 sq. m).
- Occupational Health Centre (100 sq. m).
- Common Effluent Treatment Plants (900 sq. m).
- Sewage Treatment Plants (900 sq. m).

CRZ Area :

- **Warehouses (5,000 sq. m-3 Nos.).**
- Parking Bays (5,000 sq. m) for 50 cars & 200 Two-ws & 50 Trucks.

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KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

- Container Terminal Yard (5,000 sq. m) in the Reclaimed Port Area.
- Walking Tracks, etc. (4,000 sq. m).

By considering the **existing CRZ Notification 2011 Norms**, FSA and FSI computations are as follows :

• Plot Area between >500 m of HTL	:	7,79,700 sq.m
• Plot Area between 200-500 m of HTL	:	6,37,600 sq.m
• 50% of Plot Area between 0-200 m of HTL	:	1,19,975 sq.m
Total Area for FSI calculation	:	**15,37,275 sq.m**
Building Area	:	65,600 sq.m
Floor Space Area coverage	:	**4.27% (< 33%)**
Proposed Builtup Area	:	31,500 sq.m
Floor Space Index	:	**0.02 (<0.33)**

Thus, the **proposed construction activities are fully in outside CRZ Area and will confirm the CRZ Notification 2011 and DTCP Norms.**

Green Belt will be developed in an extent of 16.68 Ha (10.07% coverage) as per DTCP/SEZ development Norms. **OSR Land will be maintained by the Developer VVM** as per existing Norms for SEZ.

There is **no National Park, Wildlife Sanctuary, Elephant Corridor, Reserved Forests, Mangrove, Archaeological/Historical Monument, etc.** within 10 km radius area from boundary. **Kudankulam Nuclear Power Plant** is located at a distance of 10.5 km in southwest from the SEZ boundary. There is no hillocks noticed in the study area. There is **no perennial stream or river** in the region. The **seasonal Nambiyar River** flows adjacent to the SEZ. Predominantly, **Gulf of Mannar** is the eastern boundary of the SEZ. The State Highway (SH)-176 (East Coast Road) runs adjacent to the SEZ in the west.

The total Project Cost, including Captive Port, would be **Rs.960.00 crores**. A budget of Rs.4.50 crore has been earmarked as Capital Cost for Environmental Management Plan (EMP) and 0.50 Lakhs per Annum as EMP Operating Cost. Also, an amount of Rs.65.00 Lakhs per Annum will be earmarked towards Corporate Social Responsibility (CSR) Budget. The Project will be completed within 3 years period from the date of all required Statutory Clearances and Approvals.

The setting up of SEZ in an area of <500 Ha (with development area <50 Ha) and housing one Category B Industry (Mineral Processing Plant) falls under **Category 'B' of Sl. No. 7(c)** and the Captive Port of <5 MTPA cargo handling capacity falls under **Category 'B' of Sl. No. 7(e)** of EIA Notification 2006 (as amended) and requires prior Environmental Clearance(EC) from the State EIA Authority.

The **Captive Port proposal and other activities fall in** the **CRZ-I B and CRZ IV Areas** which requires CRZ Clearance/Recommendations under the Coastal Regulation Zone (CRZ) Notification 2011. These are **permissible activities** under Paras/Cluases 4(f) and 3(v)(a) of CRZ Notification 2011.

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307

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V.V.MINERAL

KEERAIKARANTHATTU, TISAIYANVILAI - 627 657
Tirunelveli District, Tamil Nadu, INDIA

VVM has applied to the Tamil Nadu State Coastal Management Authority (TNCZMA) for the Clearance/Recommendations under the CRZ Notification 2011 for the Proposal in June 2012. The Proposal has been deliberated by the Authority in its 72nd Meeting held on 07.06.2013 and sought additional details vide its Letter R.C.No. P1/1898/2012 dated 21.06.2012 which have been updated and submitted to the Authority. We are herewith submitting 15 copies of the updated EIA Report for your kind perusal.

We shall be very thankful to you if you could kindly consider our Proposal in the forthcoming meeting and forward the **Recommendations/Clearance under CRZ Notification 2011 for the CRZ Components of the Proposal** to SEIAA **in obtaining the EC under EIA Notification 2006**, we request.

Yours faithfully,

For V V Mineral

S. [signature]

Authorised Signatory

Encl .: as stated above.

Copy of:

PROCEEDINGS OF THE MEMBER SECRETARY,
TAMIL NADU STATE COASTAL ZONE MANAGEMENT AUTHORITY
& DIRECTOR OF ENVIRONMENT, CHENNAI 600 015
PRESENT: DR. H. MALLESHAPPA., I.F.S.

Proc.No.P1/863/2016 dated 10.08.2016

Sub: Coastal Regulation Zone - SEZ Project at Thiruvambalapuram village, Rathapuram Taluk, Tirunvelveli district proposed by M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district for clearance under CRZ Notification 2011 - regarding.

Ref: 1.Application from M/s. V.V.Mineral, Tisaiyanvilai lr. No. nil dated 25.05.2016 and 21.07.2016.
2. Minutes of the 90th meeting of the Tamil Nadu State Coastal Zone Management Authority held on 03.08.2016.

ORDER:

M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district have applied for clearance under CRZ Notification 2011, for their proposed Specific (Mineral based) SEZ project including Captive (Minor) Port at Thrivambalapuram village, Radhapuram taluk, Tirunelveli district over an extent of 165.635 Ha in their own Patta Lands in SF. No. Parts of 326, 327, 328, 329, 330, 332, 333, 335, 338, 339, 341, 343, 344, 345, 346, 347, 348, 349, 352, 353, 354, 355, 358, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 385 & 386, at Thiruvambalapuram Village, RadhapuramTaluk, Tirunelveli District, Tamil Nadu. The VVM SEZ will have its own Captive Port in the Gulf of Mannar adjacent to the SEZ Site. The Specific (Mineral based) SEZ has been notified by the Ministry of Commerce & Industry Gazette Notification S.O. No. 3723(E) dated 16.12.2013.

2) In the total extent of 165.635 Ha of SEZ Area, about 87.755 Ha falls in in Coastal regulation Zone (CRZ)-III Area (Coastal Zone Management Plan of Tamil Nadu Sheet No. 29) and about 77.800 Ha falls in Non-CRZ Area. The High Tide Line (HTL) / Low Tide Line (LTL) demarcation, CRZ Map, has been prepared by the Institute of Remote Sensing (IRS), Anna University, Chennai. The SEZ Area in No Development Zone

.2.

(NDZ; 0-200 m from HTL & 100 m from River Bank) and Development Zone (DZ; 200-500 m from HTL) and in Non-CRZ Area (>500 m from HTL) are as follows :

SEZ area in 0-200 m from HTL (NDZ)	:	23.995 Ha
SEZ area in 200-500 m from HTL (DZ)	:	63.760 Ha
SEZ Area in >500 m from HTL (Non-CRZ)	:	77.880 Ha
Total SEZ Area	:	165.635 Ha

3) The applicant has indicated that there is no National Park, Wildlife Sanctuary, Elephant Corridor, Reserved Forests, Mangrove, Archaeological/Historical Monument, etc. within 10 km radius area from boundary. Kudankulam Nuclear Power Plant is located at a distance of 10.5 km in southwest from the SEZ boundary. There is no hillocks noticed in the study area. There is no perennial stream or river in the region. The seasonal Nambiyar River flows adjacent to the SEZ. Predominantly, Gulf of Mannar is the eastern boundary of the SEZ. The State Highway (SH)-176 (East Coast Road) runs adjacent to the SEZ in the west.

4) M/s. VVM will transport the heavy minerals from the MLs to the SEZ for further processing (cracking of Monozite) to produce Garnet Abrasive Grit, upgraded Ilmenite, Rare Earth Oxide, Titanium Pigments, Zircon Powder, etc. on stage by stage - all industrial activities in the Non-CRZ Area. The processed/value added products will be exported to the existing customers by Ship. The port named as TVM Captive Minor Port has been designed/commissioned by the Department of Ocean Engineering, IIT Madras and the DPR has been submitted.

5) There will be no mining activity proposed within the SEZ Area except the excavated earth (predominantly heavy minerals of about2.0 Million Tonnes) which will be stacked at a suitable site within the SEZ for future utilization after obtaining all required Statutory Approvals.

6) The following activities are proposed Sector Specific SEZ Proposal :

a) Heavy Mineral Processing Plants (Cracking of Monazite) for throughput Quantity will be 90,000 TPA out of which 50,000 MT of Rare Earth oxide and 40,000 MT Titanium Pigment and Zirconium products, in Non-CRZ Area.
b) Standby DG House, Workshops, Rest Houses, Admin. Buildings, custom house, weigh bridge, R&D Testing labs, cafeteria, rest houses, fuel station, orientation/training center, conference hall, fire station in Non-CRZ Area.
c) All weather Captive Port of 4.90 MTPA cargo handling capacity with all its Administrative Offices and other Infrastructures in CRZ Area.
d) Common ETP of 100 KLD capacity in Non-CRZ Area.
e) Sewage Treatment Plant of 50 KLD capacity in Non-CRZ Area.
f) Storage of excavated earth containing Heavy Minerals (2.0 Million Tonnes) from Construction in CRZ & Non-CRZ Areas for future use after obtaining required Statutory Approvals.

7) The Port is proposed to be developed as a captive minor port including breakwaters, harbour basin, dredging and deep water berths. Based on the bathymetry (-) 15.0 m CD contour is available about 6.77 km normal to the shore line. The design vessel for the proposed port is 60,000 DWT. About 0.75 million cum of dredged material obtained from dredging approximately 1.50 m depth inside the harbour basin. Within the basin, 34.37 ha. of land size from shore will be reclaimed and the top level is proposed as (+) 3.50 m CD.

8) The total Project Cost, including Captive Port, would be Rs.960 crores. A budget of Rs.4.50 crore has been earmarked as Capital Cost for Environmental Management Plan (EMP) and 0.50 Lakhs per Annum as EMP Operating Cost. Also, an amount of Rs.65 Lakhs per Annum will be earmarked towards Corporate Social Responsibility (CSR) Budget. The Project will be completed within 3 years period from the date of all required Statutory Clearances and Approvals.

9) The facilities that will be provided within the Processing Zone include :

Non-CRZ Area :

a. Administrative Office (2,800 sq. m).

b. Heavy Minerals Processing Plants-MPPs- (3,000 sq. m Plots of 10 Nos.) and proposed builtup area now for MPPs is 12,000 sq. m.
c. Standby DG House for 2x1000 KVA DG Sets (150 sq. m).
d. Custom House (300 sq. m).
e. Weigh Bridge (50 sq. m).
f. R&D and Testing labs (250 sq. m).
g. Cafeteria with a food court (250 sq. m).
h. Rest Houses (150 sq. m).
i. Fuel Station (50 sq. m).
j. Orientation / Training Center & Conference Halls (500 sq. m).
k. Fire Station (200 sq. m).
l. Occupational Health Centre (100 sq. m).
m. Common ETPs (900 sq.mt)
n. Sewage Treatment Plants (900 sq.mt)
o. Township/Staff Quarters will be constructed in an earmarked Non-Processing Zone, fully outside CRZ area and will confirm the DTCP Norms

CRZ Area :

a. Warehouses (5,000 sq. m-3 Nos.).
b. Parking Bays (5,000 sq. m) for 50 cars & 200 Two-ws & 50 Trucks.
c. Container Terminal Yard (5,000 sq. m) in the Reclaimed Port Area.
d. Walking Tracks, Play Grounds, etc. (4,000 sq. m).

10) The proposed Captive Port and other proposed constructions/ activities in CRZ area is falling in the CRZ-I B (inter tidal zone), CRZ-III and CRZ IV. These are permissible activities under Paras 3 (iv), 3(v)(a), (c)., 4 (i) (a), 8 III CRZ III (A) (iii) (a).

11) The proposal was placed before the 90th meeting of the Tamil Nadu State Coastal Zone Management Authority held on 03.08.2016 and the Authority has resolved to clear the proposal in respect of activities in CRZ areas.

12) Accordingly, as resolved in the 90th meeting of the State Coastal Zone Management Authority, Clearance is hereby issued under para 3 (iv), 3(v)(a), (c)., 4 (i) (a), 8 III CRZ III (A) (iii) (a). of CRZ Notification 2011 for the above project, in respect of activities falling in CRZ, subject to the following specific conditions:

a) There should not be any mining of rare minerals in the project site.

b) Shoreline evolution due to the littoral drift on either side of the project site, along the coast, should be monitored continuously through reputed institution and proper remedial action should be taken on the event of any adverse impacts.

c) The project activity should not affect the coastal ecosystem including marine flora and fauna. As the project area is located near to ecology sensitive features, the activities under Corporate Social Responsibility should be refined and addressed more effectively and the allocation should be given more for preserving ecology.

d) Untreated or partially treated wastewater should not be discharged into sea.

e) There shall not be any spillage of oil, petrol/diesel in the sea due to the construction activities or due to post construction activities.

f) Solid Waste generated should be properly disposed at outside CRZ areas & Solid Waste Management should be done as directed by Tamil Nadu Pollution Control Board

g) Only those activities and structures mentioned in the proposal should be constructed.

h) There should not be any extraction of ground water in CRZ area.

i) The Project should not in any way affect the fishing activities and also should not hinder the livelihood of the Fishermen.

j) As indicated in the project proposal the following items/ activities should be outside CRZ areas.

i) Heavy Mineral Processing Plants.
ii) Standby DG House, Workshops, Rest Houses, Admin. Buildings, custom house, weigh bridge, R&D Testing labs, cafeteria, fuel station, orientation/training center, conference hall, fire station, occupational health centre.
iii) Common Effluent Treatment Plant, Sewage Treatment Plant
iv) Administrative Office
v) Township / quarters.

k) Environmental Clearance under EIA Notification should be obtained from the SEIAA.

l) NoC from the Tamil Nadu Pollution Control Board should be obtained.

Sd/- Dr. H. Malleshappa.,
Member Secretary,
Tamil Nadu State Coastal Zone Management Authority
& Director of Environment

TO

M/s. V.V. Mineral, Keeraikaranthatu, Tisaiyanvilai, Tirunelveli District - 627 657.

Copy to :-

1. The Principal Secretary to Government, Environment and Forests Department, Secretariat, Chennai 600 009;

2. The District Collector/Chairman, District Coastal Zone Management Authority, Tirunelveli district.

3. The Member Secretary, SEIAA, No.1, Jeenis Road, Panagal building, Chennai 600 015.

/True copy/forwarded by order/

For Director of Environment

...001866

330

भारत सरकार / Govt. of India
परमाणु ऊर्जा विभाग
Department of Atomic Energy
सार्वजनिक उपक्रम / Public Sector Undertaking
व. वि. प. सभा / C. S. M. Marg
मुंबई / Mumbai - 400 001

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY ★ GUINDY, CHENNAI-15 ★ 03 OCT 2016

D.O. No. 3/10(42)/2016-PSU/12989 September 30, 2016

Sub: "Cracking of Monazite" by M/s. VV Minerals in SEZ, Triunelveli District.

Ref: a) M/s. VV Minerals File No. 543/2012 of SEIAA, Chennai
b) 27th and 42nd meetings of SEAC-Tamil Nadu
c) Agenda item no: 19 of 90th TNWCZMA meeting, dated: 3.8.2016

Dear Arulya Ji,

This has reference to the above referred proceedings by the Government of Tamil Nadu.

2. It has come to our notice that Ministry of Commerce vide S.O. 3723(E) dated 16.12.2013 have declared Special Economic Zone (SEZ) over an extent of 165.63.5 Ha in Tirunelveli District in favour of M/s. V.V. Minerals. It is a specific (Mineral based) SEZ project.

3. M/s V.V Minerals have submitted their application for environment clearance under EIA-2006 to SEIAA, Government of Tamil Nadu (File no: 543/2012 of SEIAA). The proposed activities to be carried out in the SEZ amongst others include **cracking of monazite**. Terms of Reference have already been issued against the above application in the 27th& 42nd meeting by the State Expert Appraisal Committee (SEAC), Govt. of Tamil Nadu.

4. The proposal of M/s. V.V. Minerals for construction of the said specific (mineral based) SEZ including captive (minor) port has been cleared by the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) in their 90th meeting held on 03.08.2016.

5. In the above backdrop, I would like to bring the following points to your kind notice:

01. Monazite is a Prescribed Substance declared under the Atomic Energy Act 1962, since it contains uranium and thorium. Cracking of monazite results in production of uranium used for strategic purposes while thorium is stored in engineered trenches for future use in the nuclear power programme of the country. Cracking of monazite also produces rare

earths which has strategic importance in the field of Defence, Space, DAE, etc.

02. Under the Industrial Policy Statement 1991, the mining and production of minerals classified as prescribed substances and specified in the Schedule to the Atomic Energy (Control of Production and Use) Order 1953 were included in the list of industries reserved for the public sector. Even though titanium bearing minerals (ilmenite, rutile and leucoxene) and zircon have since then been removed from the list of prescribed substances, monazite continues to be a prescribed substance considering its strategic importance.

03. Clause 5.1 h) of the Consolidated FDI Policy (Effective from June 07, 2016)stipulates that activities/sectors not open to private sector investment includes Atomic Energy.

04. Clause 3 of the Atomic Energy (Working of mines, minerals and handling of prescribed substances) Rules, 1984 under the Atomic Energy Act 1962 stipulates that no person shall mine, mill, process and/ or handle any ore mineral or other material from which any one or more of the prescribed substances can be extracted without obtaining a license from the licensing authority.

6. M/s V V Minerals does not possess any Permission or Licence for handling or processing of "Monazite" from Department of Atomic Energy. Seeking environment clearance for cracking of monazite under the blanket of SEZ will lead to statutory violation.

7. I request you to kindly look into the matter and do the needful.

with regards

Encl:-

1. SO 3723 (E) dated 16.12.2013
2. Minutes of 27th & 42nd meeting of SEAC
3. Minutes of 90th meeting of TNSCZMA

Yours sincerely,

(Sanjeev Sood)

Thiru Atulya Misra, I.A.S.
Chairman, TNSCZMA and
Principal Secretary to Government,
Environment & Forests Department,
Chennai – 9.

(3) 332

:3:

No.3/10(42)/2016-PSU/12989 September 30, 2016

Cc to:

Dr. P. Rama Mohana Rao, IAS,
The Chief Secretary to Government,
Govt. of Tamil Nadu,
Public Department Secretariat,
Chennai 600 009.

Dr. S. Kalyana Sundaram, IFS (Retired)
Chairman, SEIAA,
3rd Floor, PanagalMaligai,
No.1 Jeenis Road, Saidapet,
Chennai 600 015.

Dr. Guruprasad Mohapatra,
Joint Secretary, SEZ-Division,
Room No. 249, UdyogBhawan,
New Delhi 110011.

Dr. H. Malleshappa., IFS,
Member Secretary, TNSCZMA & SEIAA
Director, Dept. of Environment,
Panagal building, Saidapet,
Chennai – 15.

(Sanjeev Sood)
Joint Secretary (I&M)
Tel.No.022-22840309
E-mail : jsim@dae.gov.in

Copy of

PROCEEDINGS OF THE MEMBER SECRETARY,
TAMIL NADU STATE COASTAL ZONE MANAGEMENT AUTHORITY
& DIRECTOR OF ENVIRONMENT, CHENNAI 600 015
PRESENT: DR. H. MALLESHAPPA., I.F.S.

Proc.No.P1/1866/2016 dated 05.10.2016

Sub: Coastal Regulation Zone - SEZ Project at Thiruvambalapuram village, Rathapuram Taluk, Tirunvelveli district proposed by M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district - clearance issued under CRZ Notification 2011 - cancelled - orders issued.

Read: 1.Application from M/s. V.V.Mineral, Tisaiyanvilai lr. No. nil dated 25.05.2016 and 21.07.2016.
2. Minutes of the 90th meeting of the Tamil Nadu State Coastal Zone Management Authority held on 03.08.2016.
3. Proceedings of the Member Secretary, TNSCZMA No. P1/863/2016 dated 10.08.2016.
4. From the Joint Secretary (I&M)., Department of Atomic Energy, Mumbai letter D.O. No. 3/10(42)/2016-PSU/12989 dated 30.09.2016.
5. From the Principal Secretary to Government, Environment and Forests Department, Chennai lr. No. 22808/EC-3/2016-1 dated 03.10.2016.
6. Circulation agenda of the Tamil Nadu State Coastal Zone Management Authority dated 04.10.2016.

ORDER:

M/s. V.V. Mineral, Tisaiyanvilai Tirunelveli district have applied for clearance under CRZ Notification 2011, for their proposed Specific (Mineral based) SEZ project including Captive (Minor) Port at Thrivambalapuram village, Radhapuram taluk, Tirunelveli district.

2) The following activities are falling in CRZ besides proposed Captive Port.

a. Warehouses (5,000 sq. m-3 Nos.).
b. Parking Bays (5,000 sq. m) for 50 cars & 200 Two-ws & 50 Trucks.
c. Container Terminal Yard (5,000 sq. m) in the Reclaimed Port Area.
d. Walking Tracks, Play Grounds, etc. (4,000 sq. m).

3) The proposal was placed before the 90th meeting of the Tamil Nadu State Coastal Zone Management Authority held on 03.08.2016 and the Authority has resolved to clear the proposal, in respect of activities in CRZ areas. Accordingly Clearance under CRZ

Notification 2011, has been issued only for the activities which are falling in CRZ., subject to the conditions that there should not be any mining of rare minerals in the project site and Environmental Clearance under EIA Notification should be obtained from the SEIAA (as per para 4.2 (ii) (c)) among other conditions in Proc.No.P1/863/2016 dated 10.08.2016.

4) However, in the letter dated 30th September 2016, addressed to the Principal Secretary to Environment and Forests Department, Government of Tamil Nadu, the Joint Secretary (I&M)., Department of Atomic Energy, Mumbai has informed:

i) that the proposed activities to be carried out in the SEZ amongst others include cracking of Monazite. Monazite is a Prescribed Substance declared under the Atomic Energy Act 1962 since it contains Uranium and Thorium. Cracking of Monazite results in production of Uranium used for strategic purposes while Thorium is used in engineered trenches for future use in the nuclear power programme. Cracking of Monazite also produces rare earths which are strategic importance in the field of defence, space, DAE, etc...

ii) Under the industry policy statement 1991, the mining and production of minerals classified as prescribed substances and specified in the schedule to the atomic agency energy (control of production and use) order 1953 were included in the list of industries reserved for the public sector. Even though Titanium bearing minerals (Ilmenite, rutile and leucoxene) and zircon have since then been removed from the list of prescribed substances, monazite continues to be a prescribed substance considering its strategic importance.

iii) Clause 5.1 h) of the consolidate FDI policy (Effective from June 07, 2016) stipulates that activities/sectors not open to private sector investment includes Atomic Energy.

iv) Clause 3 of Atomic Energy (working of mines, minerals and handling of prescribed substances) Rules, 1984 under the Atomic Energy Act 1962 stipulates that no person shall mine, mill, process and/or handle any ore mineral or other material from which any one or more of the prescribed substances can be extracted without obtaining a license from the licensing authority.

v) The Joint Secretary (I&M) further informed that M/s. V.V. Minerals does not possess any permission or License for handling or processing of "Monazite" from Department of Atomic Energy seeking environmental clearance for cracking of monazite under the blanket of SEZ will lead to statutory violation.

5) In this connection it is informed that M/s. V.V. Mineral, while submitting the applications dated 27.04.2016,25.05.2016 and 21.07.2016 for CRZ clearance, has not revealed that the cracking of Monazite requires permission from the Department of Atomic Energy and hence cracking of monazite under the blanket of SEZ, without possessing any permission or License, will lead to statutory violation as mentioned above. The Department of Atomic Energy has stated that no person shall mine, mill, process and/or handle any ore mineral or other material from which any one or more of the prescribed substances can be extracted without obtaining a license from the licensing authority and Cracking of Monazite also produces rare earths which are strategic importance in the field of defence, space, DAE, etc. The applicant M/s. V.V. Mineral has suppressed this vital information while making the application to the Tamil Nadu State Coastal Zone Management Authority for CRZ Clearance.

6) The above fact have been placed before the Tamil Nadu State Coastal Zone Management Authority and the Authority, in view of above facts, on 04.10.2016, has resolved to cancel the Clearance issued by the Member Secretary, TNSCZMA in the Pro.No. P1/863/2016 dated 10.08.2016.

7) In the above said circumstances, as resolved by the TNSCZMA, the Clearance issued under CRZ Notification 2011, in the proceedings of the Member Secretary, TNSCZMA in No. P1/863/2016 dated 10.08.2016 is hereby cancelled.

Sd/- Dr. H. Malleshappa,
Member Secretary,
Tamil Nadu State Coastal Zone Management Authority
& Director of Environment

TO

M/s. V.V. Mineral, Keeraikaranthatu, Tisaiyanvilai, Tirunelveli District - 627 657.

Copy to :-

1. The Principal Secretary to Government, Environment and Forests Department, Secretariat, Chennai 600 009;

2. The District Collector/Chairman, District Coastal Zone Management Authority, Tirunelveli district.

3. The Member Secretary, SEIAA, No.1, Jeenis Road, Panagal building, Chennai 600 015.

4. Thiru Sanjeev Sood, Joint Secretary (I&M)., Department of Atomic Energy, Public Sector Undertaking, C.S.M. Marg, Mumbai - 400 001.

5. The Member Secretary, Tamil Nadu Pollution Control Board, Guindy, Chennai 600 032.

6. The Commissioner of Geology and Mining Department, Guindy, Chennai 600 032.

7. The Commissioner of Industries, Chepauk, Chennai 600 005

8. The Commissioner of Town and Country Planning , 807 Anna Salai, Chennai 600 002.

9. Dr. Guruprasad Mohapatra, joint Secretary, SEZ-Division, Room No. 249, UdyogBhawan, New Delhi 110 011.

/True copy/

For Director of Environment

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MINISTRY OF FINANCE :: DEPARTMENT OF REVENUE

OFFICE OF THE COMMISSIONER OF CUSTOMS

Custom House, New Harbour Estate, Tuticorin – 628 004
Tel: (0461) 2252655,2352633 / Fax: 2352019

C.No.VIII/48/31/2016 -SIIB

Date:- 05.10.2016

To,

The District Collector
Tirunelveli/ Tuticorin

04 NOV 2016

04 NOV 2016

Sub:- Illegal mining of Beach Minerals- Reg.

*****

Please refer to this office letter C.No VIII/48/31/2016 SIIB dated 29.07.2016 on the above subject of illegal mining of beach sand minerals by VV minerals and others.

2. In this connection this office has received a letter from Assistant Director, Geology and Mining, Thoothukudi dated 11.08.2016 giving details of stock position of various companies pertaining to various periods from the date of mining ban.

3. Since the allegations of the complainants were that the minerals were illegally exported, the matter was looked into by this office. The export details retrieved from EDI of beach sand minerals exported from Tuticorin port, for the last five years upto 10.09.2016 is furnished below from the date of mining up to 10.09.2016.

Sl. No	Name of the Exporter	Qty of Beach Minerals Exported in MTs							Total
		2012-13	2013-14	2013-14 (Up to 07.08.13)	2013-14 (from 08.08.13)	2014-15	2015-16	2016-17 Upto 10.09.16	
01	Industrial Mineral Company	0	0	0	0	0	0	0	0
02	V.V. Minerals	498455	457675	241488	216187	304945	273738	86587	1621400
03	Beach Minerals Company	1021	62104	3159	58945	152704	112865	71567	400261
04	Vetrivel Minerals (Exporting from SEZ, Nanguneri)	12510	10750	8750	2000	0	0	0	23260
05	Transworld Garnet India P Ltd,	61392	47154	24844	22310	52369	53312	25312	239539
06	Indian Ocean Garnet	21926	11964	6094	5870	1526	39320	23713	98449

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This office is not in a position to comment as to whether these goods were legally mined or not. This issue may be looked at your end, and the findings may be forwarded to this office.

4. It is also seen that, in the case of Sl.No. 3, of the above table, M/s Beach Minerals Company, the stock positions, year-wise and also as on the date of banning, are not given. The same may please be given to this office.

5. The details of export are also submitted for your information and necessary action, and any action taken in this regard may be informed to this office.

Yours faithfully,

7/10/16.

(VARUN RANGASWAMY)
ASSISTANT COMMISSIONER

Copy to : 1. Shri. S Krishna Mohan,
Assistant Director,
Geology and Mining,
Thoothukudi

भारत सरकार / Government of India
वित्त मंत्रालय : राजस्व विभाग/ Ministry of Finance : Department of Revenue
सीमा शुल्क आयुक्त का कार्यालय/ OFFICE OF THE COMMISSIONER OF CUSTOMS
सीमा शुल्क गृह, नयी हार्बर एस्टेट, तूतिकोरिन-628004 / CUSTOM HOUSE, NEW HARBOUR ESTATE, TUTICORIN - 628004
दूरभाष/ Tel: (0461) 235 2633/235 2655 फैक्स/ Fax : 235 2019

PUBLIC NOTICE NO. 50/2016

Subject : Export of Beach Sand Minerals – Reg.

...oo0oo...

Attention of Exporters, Customs Brokers, Custodians of Imported/Export Goods, Steamer Agents, officers of Customs and all others concerned are invited on the above subject.

2. The Assistant Director, Geology and Mining, Tuticorin has informed that the Govt. of Tamilnadu vide its G.O.Ms No. 156/8-08-2013 and G.O.Ms No. 173/17-09-2013, has directed to stop the mining operation of all private mining lessees issued for Beach Sand Minerals, pending completion of inspection by special team and to stop the transport permit with respect to the lessees granted to private parties.

3. Also, complaints are being received from various Beach Minerals Associations, Trade Unions and General Public regarding the eligibility for export of Beach Sand Minerals, in light of Ban imposed by the Government of Tamil Nadu vide G.O. GO.Ms No. 156/8-08-2013 and G.O Ms.No. 173/17-09-2013.

4. The District Collector, Tirunelveli, has forwarded minutes of the District Level Committee Meeting vide letter dated 9.12.2016, requesting this office to insist on certain documents issued by State authorities, before allowing the beach sand minerals for export.

5. In view of the above, it has been decided to verify the source of Beach Sand Minerals being sent for export. The necessary certificates/ documents viz., Certificate of legally mined minerals from the concerned District Collector/transport permits along with bulk permits, certifying the legal source of such Beach Sand Minerals brought to the Customs Area for export under Section 50 of the Customs Act, 1962 are required to be produced.

6. Accordingly, as an interim measure all the exporters of Beach Sand Minerals are hereby required to produce the aforesaid documentary proof obtained from competent authority.

-Sd-
(ASHOK)
COMMISSIONER

C.No. VIII/48/06/2016 - Cus. Pol.(PE)
Customs Policy Section,
Custom House, Tuticorin.
Date: 23.12.2016

To:
As per Mailing List I, II and III.
Notice Board.
EDI Section, Custom House, Tuticorin for uploading in the Website.
Copy Submitted to the Chief Commissioner of Customs (Preventive), Trichy.

Scanned by CamScanner

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Addl Affdvt
09 Dec 2016

IN THE HIGH COURT OF JUDICATURE AT MADRAS
(Special Original Jurisdiction)

W.P. No. 1592 of 2015

SUO MOTO PIL
REGISTRAR GENERAL
HIGH COURT
MADRAS

Petitioner

-Versus-

1. Union of India
   Represented by the Secretary to
   Government of India
   Ministry of Mines
   "D" Wing, 3rd Floor
   ShasthriBhavan
   New Delhi 110 001

2. The Secretary to Government
   Government of India
   Department of Atomic Energy
   AnushakthiBhawan
   C.S.M. Marg
   Mumbai 400 001

3. The Secretary to Government
   Government of India
   Ministry of Environment and Forest
   PariyavaranBhawan
   C.G.O. Complex
   Lodhi Road
   New Delhi 110 003

4. The Regional Controller of Mines
   Indian Bureau of Mines
   RajajiBhawan
   Chennai 600 090

5. The State of Tamil Nadu
   Represented by
   The Chief Secretary to Government
   Government of Tamil Nadu
   Fort St.George
   Chennai 600 009

6. The Secretary to Government
   Industries Department
   Government of Tamil Nadu
   Fort St.George
   Chennai 600 009

7. The Commissioner of Geology and Mining
   Government of Tamil Nadu
   Guindy
   Chennai 600 032
   Tamil Nadu

NOTARY
GOVT. OF INDIA

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.म. मार्ग/C.S.M. Marg,
मुंबई/Mumbai-400 001

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8. M/s V.V. Mineral
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District
Tamil Nadu

9. M/s Transworld Garnet India Pvt. Ltd.
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District

10. M/s Beach Mineral Sands Company
132, Tiruchendur Road
Kuttam 627 651
Tirunelveli District
Tamil Nadu

11. Mr. M. Ramesh
146, Palayamcottai Road
Tuticorin 628 003

12. M. K. Thankaraj,
49-A, Theppakkulam Street
Tuticorin 628 003
Tamil Nadu

13. M/s Industrial Mineral India Pvt. Ltd.
Raja Agency Business Complex
Madathur
Thoothukudi 620 008

14. M/s Vetrivel Minerals
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District
Tamil Nadu

15. M/s Industrial Mineral Company
No. 2, Harrington Road
K.R.M. Centre, 5th Floor
Chetpet
Chennai 600 031

16. M/s Beach Minerals Co. India Ltd.
133, Tiruchendur Road
Kuttam 627 651
Tirunelveli District
Tamil Nadu

17. M/s Beach Mineral Company Pvt. Ltd.
BMC House
32-2 Halls Road
Egmore
Chennai 600 008

18. M/s Beach Minerals Company
32-2, Halls Road
Egmore
Chennai 600 008
Tamil Nadu

19. M/s Balamurugan Company
32-2 Halls Road
Egmore
Chennai 600 008

T.S. Ravindran
Secretary
Government of India
Department of Atomic Energy
Chhatrapati Bhavan
C.S.M. Marg

20. M/s Indian Ocean Garnet Sands Co. Pvt. Ltd.
Tiruchendur Road
Navaladi
RadhapuramTaluk
Tirunelveli District 527 657

21. M/s Earth Mineral Resources Pvt. Ltd.
146 Palayamcottai Road
Tuticorin 628 003
Tamil Nadu

22. S. Vaikundarajan
Partner, V.V. Mineral
Keeraikaranthatu
RadhapuramTalulk
Tirunelveli District

23. ThiruGagandeep Singh Bedi I.A.S.
Secretary to Government
Revenue Department
Government of Tamil Nadu
Fort St.George
Chennai 600 009
Tamil Nadu ... Respondents

ADDITIONAL AFFIDAVIT FILED BY THE SECOND RESPONDENT

I, T.G. Raveendran, S/o (late) Shri P.Govinda Pisharody, Hindu, aged 54 years, residing at A-26, Hastinapur, Anushaktinagar, Mumbai 400 094 do hereby solemnly affirm and sincerely state as follows:

1. I am the Under Secretary to Government of India, Department of Atomic Energy, Anushakthi Bhawan, Mumbai 400 001, the second respondent of the case herein and I am well acquainted with the facts and circumstances of the case from the available records.

2. It is submitted that a detailed counter affidavit has already been filed in August 2015 in the above writ petition. Further, an additional affidavit was also filed in September 2016 in pursuance of the order dated 22.7.2016 passed in the said writ petition. This second additional affidavit is filed herein in pursuance to the hearing held on 21.11.2016 and order passed on the said day by this Hon'ble Court.

3. It is submitted that as regards monazite is concerned, the second respondent has elaborately furnished the importance of monazite under para 4(a) to (l) and the role of the second respondent for the purpose of grant of mining leases by the State Governments for mining beach sand minerals and the policy on monazite etc. under para 5 and 6 of the counter affidavit. In the additional affidavit filed by the second respondent in September 2016 pursuant to the order dated 22.7.2016 in respect of handling licenses and authorization for disposal/transfer of radioactive

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव / Under Secretary
भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
अणुशक्ति भवन / Anushakti Bhavan
छ.शि.म. मार्ग / C.S.M. Marg,
मुंबई / Mumbai-400 001

wastes, the second respondent had stated that no licenses were issued under the Atomic Energy (Working of the Mines, Minerals and Handling of Prescribed Substances) Rules 1984 to private parties including VV Minerals (Respondent 8). However, Handling Licenses were issued to VV Minerals (Respondent 8) under the Atomic Energy (Radiation Protection) Rules, 2004. Regarding the documents relating to permission/authorization granted to respondents for disposal/transfer of radioactive waste under the Atomic Energy (Safe Disposal of Radioactive Wastes) Rules 1987, it was stated that the "monazite" concentrates which are presently being stored does not qualify as "Wastes" and hence no authorization under the Atomic Energy (Safe Disposal of Radioactive Waste) Rules, 1987 were issued. It was also stated that necessary requirements for the safe storage have been included in the conditions of license issued under the Atomic Energy (Radiation Protection) Rules 2004. The said conditions are specified in the licenses issued to VV Minerals (Respondent 8) and copies furnished as mentioned in the typed set of documents filed along with the additional affidavit. Further as per the said order dated 22.7.2016, the second respondent also furnished the list of writ petitions, pending in respect of beach sand mining, filed by for and against the second respondent.

4. Regarding handling of monazite by private players like respondent 8, till 1998 before the introduction of the Policy on Exploitation of Beach Sand Minerals (BSM), all private players like Respondent 8 were allowed to produce Garnet and Sillimanite minerals only from the raw sand which was also containing prescribed substances like Ilmenite, Rutile, Leucoxene, Zircon and Monazite in different concentrations. All these seven minerals occur together in beach environment. After separation of Garnet and Sillimanite, the tailings containing other prescribed substances like Ilmenite, Rutile, Leucoxene, Zircon and Monazite were to be handed over to Indian Rare Earths Limited (IREL), a Government of India Company under the administrative control of the second respondent or as authorized by the second respondent. After the introduction of the said policy in the year 1998, all private players including respondent 8 were allowed to mine and win the prescribed substances like Ilmenite, Rutile, Leucoxene and Zircon, **except Monazite.** As mentioned above, the beach sand minerals include 'Prescribed Substances' as defined under Atomic Energy Act, 1962, and as such all beach sand mining players were required to obtain licence from the second respondent under the Atomic Energy (Working of Mines, Minerals and Handling of Prescribed Substances) Rules, 1984.

5. In 2007, when the said minerals viz. Ilmenite, Rutile, Leucoxene and Zircon were removed from the list of prescribed substances under Atomic Energy Act, 1962, there was no requirement for the beach sand mining players to obtain licence for these minerals. Further, as the other entry in the list of Prescribed Substances i.e. Monazite (which is radioactive) was not allowed to be mined out by private players, and was getting accumulated in the tailings of the BSM operators, the licencing procedures were oriented towards Radiological Safety and related issues under Atomic Energy (Radiation Protection) Rules, 2004. The State Governments, before granting mining lease in respect of these four minerals to beach sand mining players, have to obtain approval from the Ministry of Mines as per the provision of MMDR Act, 1957. As regards the

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.म. मार्ग/C.S.M. Marg,
मुंबई/Mumbai-400 001

second respondent is concerned, as a policy, it is not allowing any private beach sand mining players to produce monazite. However, after separation of other minerals like Ilmenite, Rutile, Leucoxene, Zircon, Garnet and Sillimanite, there will remain Monazite-rich concentrates/tailings. The Monazite-rich tailings after separation of all other minerals stated above, have to be stacked and preserved by the private players as per the guidelines and directives issued by the second respondent /AERB in this regard. Towards the same, the private players have to obtain licence under the Atomic Energy (Radiation Protection) Rules, 2004 for the purpose of handling of Monazite enriched tailings. The private players cannot separate the Monazite from the Monazite-rich tailings.

6. It is submitted that, there is a mandatory requirement for all beach sand minerals facilities to obtain a licence from AERB (Atomic Energy Regulatory Board) under Atomic Energy (Radiation Protection) Rules, 2004. These private beach sand mining facilities separate out the heavy minerals (other than Monazite) from the beach sands and in the process produce Monazite enriched tailings which are subject to licencing by AERB with reference to radiological safety and safe management of Monazite enriched tailings.

7. As regards respondent 8 is concerned, AERB has given licence for operation of seven Mineral Separation Plants located in Tirunelveli and Tuticorin districts of Tamil Nadu. The plants at Vallanvilai, Vaippar, Ponnarkulam, Keeraikaranthattu, Kanagappapuram produce Ilmenite and/or garnet and the tailings which are now slightly enriched in Monazite are transported to Zircon Wet Plant at Thiruvambalapuram in Tirunelveli District for further concentration. The heavy mineral concentrates with appreciable Monazite content obtained from Zircon Wet Plant, Thiruvambalapuram are then transported to respondent 8 company at Authoor in Tuticorin district for further recovery of other heavy minerals such as Rutile, Sillimanite, Zircon (other than Monazite). The Monazite enriched tailings from Authoor Plant is then transported to the designated Monazite tailings storage area at Thuruvambalapuram as per AERB's licence conditions. As the above said process involves transportation of the Monazite enriched tailings which is a radioactive material, through public domain, it requires a separate approval for transportation of radioactive material under Rule 3 of Atomic Energy (Radiation Protection) Rules 2004 which were issued to the respondent 8. ***It must be seen that permission for transport is issued for Monazite enriched tailings and not Monazite*** as none of the non-DAE units are permitted for production of Monazite as product.

8. The Respondent 8 have filed a writ petition numbered as WP No. 9183 of 2013 before the Madurai Bench of the Hon'ble High Court of Madras challenging the order dated 04.3.2013 passed by the second respondent rejecting the application of the Respondent 8 for cracking Monazite. The second respondent reiterates that no private players including respondent 8 are allowed to crack Monazite taking into consideration that to remove Monazite from the Monazite rich tailings results in highly radioactive thorium and uranium and are vulnerable to leaching.

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव / Under Secretary
भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
अणुशक्ति भवन / Anushakti Bhavan
छ.शि.म. मार्ग / C.S.M. Marg,
मुंबई / Mumbai-400 001

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Hence the second respondent is restricting the grant of licenses for such processing of Monazite only to fully owned Public Sector Undertaking (IREL) of the second respondent and considered not to be in public interest to open this activity to private sector beach sand mineral players like respondent 8 company.

9. As already stated supra, by natural occurrence, Monazite mineral will be present in the left out tailings after removal of other minerals like Ilmenite, Rutile, Zircon, Garnet etc. and the second respondent through AERB is regulating the monazite rich tailings by way of issuing licence under the Atomic Energy (Radiation Protection) Rules 2004 and carrying out annual inspection of the sites of the beach sand mining players including respondent 8 solely from radiological safety aspects. During the inspection, the radiation field at various locations of the mineral separation plants, mining sites, backfilled sites and storage sites of monazite enriched tailings are measured, the radiation exposure records are checked and recommendations to improve the radiation safety such as control of spillages, display of radiation caution boards etc are made. The inspection reports of Respondent no. 8 carried out since 2007 are attached as **Exhbit-R1 (A-H)**. The formal licensing of the beach sand minerals facilities under Atomic Energy (Radiation Protection) Rules, 2004 started in 2009 consequent to the gazette notification dated 24.4.2009. The annual health physics reports are since then submitted which give the estimate of the doses received by the workers, the radiation filed measurement at various locations, the monazite content in the tailings being stored/backfilled and quantity of monazite enriched tailings stored /backfilled as per license condition. The Annual Health Physics Reports since 2010 onwards are annexed as **Exhbit-R2 (A-F)**. As mentioned earlier, **AERB's regulatory control over these facilities is limited only to radiological safety and safe management of Monazite enriched tailings and AERB does not carry out invehtory checking of monazite enriched tailings.**

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
रेवा शक्ति भवन/Rewa Shakti Bhavan
डी.वी.एम. मार्ग/S.M. Marg.
मुंबई/Mumbai-400 001

346

10. It is submitted that the counter affidavit and the additional affidavit already filed by the second respondent may be read as part and parcel of this second additional affidavit as well.

टी.जी. रवीन्द्रन/T.G. Ravi...
अवर सचिव / Under Secre...
भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
अणुशक्ति भवन / Anushakti Bhavan
छ.शि.म. मार्ग / C.S.M. Marg,
मुंबई / Mumbai-400 001

Solemnly affirmed at Mumbai
On this 9th day of December 2016 and
Signed his name in my presence.

Before me

BEFORE ME

M. S. UPADHYAY
B.Com.,L.L.B.
ADVOCATE HIGH COURT &
NOTARY, GOVT. OF INDIA
H-7/028, KEDAR LOKPURAM,
POKHRAN ROAD No. 2, THANE (W)
Mob. No.: 9321329333, 9867778003

This document is noted at
Sr. No. 1115/16 Pg. 134
in the Notarial Register

E.9 DEC 2016

NOTARY M. S. UPADHYAY AREA THANE-MUMBAI Regd. No. 11127 Exp. Date 30.03.2020 GOVT. OF INDIA NOTARIAL

NOTARY M. S. UPADHYAY AREA THANE-MUMBAI Regd. No. 11127 Exp. Date 30.03.2020 GOVT. OF INDIA NOTARIAL

NOTARY M. S. UPADHYAY AREA THANE-MUMBAI Regd. No. 11127 Exp. Date 30.03.2020 GOVT. OF INDIA

EXHIBIT-P3

भारत सरकार
सीमाशुल्क आयुक्त का कार्यालय
सीमाशुल्क भवन, वालिंगडन आईलैंड, कोचीन- 682009
Fax: 0484-2668511
Website : www.cochincustoms.gov.in
e-mail : cochincus@vsnl.in
Complaint : Services

GOVERNMENT OF INDIA
OFFICE OF THE COMMISSIONER OF CUSTOMS
CUSTOM HOUSE, WILLARD, COCHIN- 682009
Phone : 0484-2668661 to 2668664
Telephone : 0484-2668771 to 2668776
Control Room : 0484-2668442
An ISO 15700 certified Custom House

F. No.C1/03/2016 IU Cus.

Dt. 29/12/2016

PUBLIC NOTICE (TRADE FACILITY) - 13/2016

विषय : समुद्र तटीय रेत के खनिजों का निर्यात - संबंधित।
Sub: Export of Beach Sand Minerals – Reg.

सभी सीमाशुल्क ब्रोकरों, निर्यातकों, आयातित/निर्यात वस्तुओं के संरक्षकों, स्टीमर एजेंट, सीमाशुल्क अधिकारियों और सभी अन्य संबंधितों का ध्यान उपर्युक्त विषय की ओर आकर्षित किया जाता है।

Attention of the Customs Brokers, Exporters, Custodians of Imported/Export Goods, Steamer Agents, officers of Customs and all other concerned are invited on the subject mentioned above.

2. तमिलनाडु सरकार द्वारा रोक लगाए जाने को ध्यान में रखते हुए समुद्र तटीय रेत के खनिजों के निर्यात के लिए पात्रता के संबंध में व्यापार संघों से अभ्यावेदन प्राप्त हो रहे हैं।

Representations are being received from Trade Associations regarding the eligibility for export of Beach Sand Minerals, in light of Ban imposed by the Government of Tamil Nadu.

3. तमिलनाडु सरकार ने अपने जी.ओ.एमएस सं. 156/8-08-2013 एवं जी.ओ.एमएस सं. 173/17-09-2013 के तहत सभी निजी खनन ठेकेदारों को समुद्र तटीय रेत के खनिजों के लिए जारी किए ठेकों के प्रचालन पर विशेष दल द्वारा निरीक्षण के पूरे होने तक रोक लगा दी है, और ठेकेदारों के संबंध में निजी पार्टियों को दिए गए परिवहन परमिट पर भी रोक लगा दी है।

The Govt. of Tamil Nadu vide its G.O.Ms No. 156/8-08-2013 and G.O.Ms No. 173/17-09-2013, has banned the mining operation of all private mining lessees issued for the Beach Sand Minerals, pending completion of inspection by special team and to stop the transport permit with respect to the lessees granted to private parties.

4. उपर्युक्त को ध्यान में रखते हुए, निर्यात के लिए भेजे जा रहे रेत के खनिजों के स्रोत की जांच करने का निर्णय लिया गया है। सीमाशुल्क अधिनियम, 1962 की धारा 50 के तहत निर्यात के लिए सीमाशुल्क क्षेत्र में लाए जाने वाले ऐसे समुद्रतटीय रेत के खनिजों के वैध स्रोत को प्रमाणित करने के लिए आवश्यक प्रमाणपत्र/दस्तावेज़ जैसे, संबंधित जिलाधीश से वैध रूप से खनन किए गए खनिजों संबंधी प्रमाणपत्र/थोक परमिट के साथ परिवहन परमिट, प्रस्तुत किए जाने आवश्यक हैं।

In view of the above, it has been decided to verify the source of beach Sand Minerals being sent for export. The necessary certificates/documents viz. Certificate of legally mined minerals from the concerned District Collector/transport permits along with bulk permits, certifying the legal source for such Beach Sand Minerals brought to the Customs Area for export under Section 50 of the Customs Act, 1962 are required to be produced.

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EXHIBIT-P3/2

5. अतएव अब अंतरिम उपाय के तौर पर निर्यातकों को सूचित किया जाता है कि वे संबंधित सक्षम प्राधिकारी से अपेक्षित दस्तावेजी प्रमाण प्राप्त करके प्रस्तुत करें।

Accordingly, as an interim measure all the exporters of Beach Sand Minerals are hereby required to produce the aforesaid documentary proof obtained from competent authority.

Sd/-

(डॉ. के. एन. राघवन DR.K.N.RAGHAVAN)
आयुक्त COMMISSIONER

//सत्यापित ATTESTED//

//बैजू डानियल BAIJU DANIEL//
मूल्यनिर्धारक (टैरिफ यूनिट)
APPRAISER (TARIFF UNIT)

प्रतिलिपि Copy to:

1. The Chief Commissioner's Office, Cochin
2. Commissioner's file/Addl. Commissioner/All DCs & ACs/Development Commissioner (CSEZ)/All Appraisers/
3. All Sections
4. EDI Section for uploading on Website of Cochin Customs
5. The Chairman, Cochin Port Trust
6. All CFSs
7. All Bank Managers as per list of authorized Banks w.e.f. 16.01.2012
8. The Cochin Custom House Agent's Association
9. Guard file
10. Notice Board

This is the true copy of document marked Exhibit P3 referred to in the Writ Petition

ADVOCATE

R2 10/1/2012 349

IN THE HIGH COURT OF JUDICATURE AT MADRAS
(Special Original Jurisdiction)

W.P. No. 1592 of 2015

SUO MOTO PIL
REGISTRAR GENERAL
HIGH COURT
MADRAS

Petitioner

-Versus-

1. Union of India
Represented by the Secretary to
Government of India
Ministry of Mines
"D" Wing, 3rd Floor
ShasthriBhavan
New Delhi 110 001

2. The Secretary to Government
Government of India
Department of Atomic Energy
AnushakthiBhawan
C.S.M. Marg
Mumbai 400 001

3. The Secretary to Government
Government of India
Ministry of Environment and Forest
PariyavaranBhawan
C.G.O. Complex
Lodhi Road
New Delhi 110 003

4. The Regional Controller of Mines
Indian Bureau of Mines
RajajiBhawan
Chennai 600 090

5. The State of Tamil Nadu
Represented by
The Chief Secretary to Government
Government of Tamil Nadu
Fort St.George
Chennai 600 009

6. The Secretary to Government
Industries Department
Government of Tamil Nadu
Fort St.George
Chennai 600 009

7. The Commissioner of Geology and Mining
Government of Tamil Nadu
Guindy
Chennai 600 032
Tamil Nadu

NOTARY R. S. KAKAD GREATER MUMBAI (MAHARASHTRA) Regd. No. 10320 Expiry Date 24-10-2018 GOVERNMENT OF INDIA

टी.जी. रवीन्द्रन/T.G. Raveendran
Under Secretary

Received in Office
10/1/2012

8. M/s V V. Mineral
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District
Tamil Nadu

9. M/s Transworld Garnet India Pvt. Ltd.
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District

10. M/s Beach Mineral Sands Company
132, Tiruchendur Road
Kuttam 627 651
Tirunelveli District
Tamil Nadu

11. Mr. M. Ramesh
146, Palayamcottai Road
Tuticorin 628 003

12. M. K. Thankaraj,
49-A, Theppakkulam Street
Tuticorin 628 003
Tamil Nadu

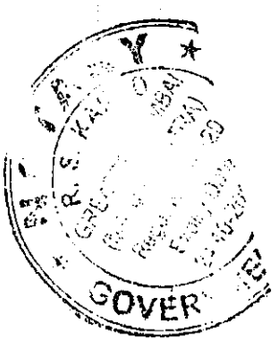
13. M/s Industrial Mineral India Pvt. Ltd.
Raja Agency Business Complex
Madathur
Thoothukudi 620 008

14. M/s Vetrivel Minerals
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District
Tamil Nadu

15. M/s Industrial Mineral Company
No. 2, Harrington Road
K.R.M. Centre, 5th Floor
Chetpet
Chennai 600 031

16. M/s Beach Minerals Co. India Ltd.
133, Tiruchendur Road
Kuttam 627 651
Tirunelveli District
Tamil Nadu

17. M/s Beach Mineral Company Pvt. Ltd.
BMC House
32-2 Halls Road
Egmore
Chennai 600 008



Secretary
Government of India
Department of Atomic Energy
Anushakti Bhavan
C.S.M. Marg,
मुंबई/Mumbai-400 001

18. M/s Beach Minerals Company
32-2, Halls Road
Egmore
Chennai 600 008
Tamil Nadu

19. M/s Balamurugan Company
32-2 Halls Road
Egmore
Chennai 600 008

20. M/s Indian Ocean Garnet Sands Co. Pvt. Ltd.
Tiruchendur Road
Navaladi
RadhapuramTaluk
Tirunelveli District 527 657

21. M/s Earth Mineral Resources Pvt. Ltd.
146 Palayamcottai Road
Tuticorin 628 003
Tamil Nadu

22. S. Vaikundarajan
Partner, V.V. Mineral
Keeraikaranthiatu
RadhapuramTalulk
Tirunelveli District

23. Thiru Gagandeep Singh Bedi I.A.S.
Secretary to Government
Revenue Department
Government of Tamil Nadu
Fort St.George
Chennai 600 009
Tamil Nadu ... Respondents

REPLY AFFIDAVIT FILED BY SECOND RESPONDENT

I, T.G. Raveendran, S/o (late) P. Govinda Pisharody, Hindu, aged 54 years, residing at A-26, Hastinapur, Anushaktinagar, Mumbai 400 094 do hereby solemnly affirm and sincerely state as follows:

1. I am the Under Secretary to Government of India, Department of Atomic Energy, Anushakthi Bhawan, Mumbai 400 001, the second respondent of the case herein and I am well acquainted with the facts and circumstances of the case from the available records.

2. It is submitted that the reply affidavit is filed herein in compliance of the direction passed in the order dated 21.11.2016 under para 9. Under the said para, respondents 8 and 22 viz. V.V. Minerals

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.म. मार्ग/C.S.M. Marg,
मुंबई/Mumbai-400 001

have been directed to furnish the requisite information as sought for by Amicus Curiae to the second respondent within two weeks and the second respondent in turn to file the necessary affidavit within two weeks thereafter.

3. It is submitted that Ld. Amicus Curiae in his status report dated 21.11.2016 has sought for several directions and under Para 42(9) of the same has called for information with regard to (i) estimated reserves of monazite, (ii) the concentration of monazite in the feed material, (iii) the percentage of recovery of monazite, (iv) annual quantity handled and the method and final disposal of tailings for each mine from 2007 onwards till date. In the order dated 21.11.2016 passed by the Hon'ble High Court, respondents 8 and 22 have been directed to furnish the said details to the second respondent. The respondents 8 and 22 have furnished the details to the second respondent vide their letter dated 04.12.2016 which was received by the second respondent on 08.12.2016. As the details furnished by the respondents 8 and 22 requires careful checking with the available records with the concerned Units of the second respondent, there has been some delay in furnishing the reply to the same. The second respondent crave leave of the Hon'ble High Court to kindly condone the delay in filing the reply affidavit.

4. The second respondent hereby submits comments on each of the following details as under:

(i) **Estimated reserves of Monazite** & (ii) **Concentration of Monazite in the feed material**

Under the above, the respondents 8 and 22 have stated that they have not carried out any estimation for monazite as they are not permitted to handle the same and hence no information has been furnished on the estimated reserves of Monazite. However, they have furnished the total quantity of monazite rich tailings for the period from 2007 to 2016 as 80,725.05 M.T.(page no. 16 & 17 of their letter dated 04.12.2016). The respondents further have stated that they have never personally assessed the Monazite content in the feed material but provided the data based on the AMD's (Atomic Minerals Directorate for Exploration and Research – a Unit of the second respondent) report of the second respondent and furnished the percentage of monazite content with respect to each of their mine numbering 34 specifically given in the tabular format (page nos. 9 to 13 of their letter dated 04.12.2016). Further in page number 14, they have furnished the total ROM (Run of Mine) collected from each of their mine numbering 34 (page no. 14 to 16).

To the above, the second respondent states that based on the above data furnished by the respondents 8 & 22; approx. quantity of monazite computed is furnished in the following tabular format.

T.G. Raveendran
Under Secretary
Government of India
Department of Atomic Energy
Anushakti Bhavan
C.S.M. Marg,
Mumbai-400 001

Production data of ROM and grade of Monazite in different ML areas as per the information provided by respondents 8 & 22 viz. M/s V.V. Mineral vide letter dated 04.12.2016					
Sl. No.	G.O/ Proc. No/ Date/ Village & Extent	AMD Exploration Details / Period of Investigation	% of monazite	Total ROM collected from the mine from 2007 till date	Approx. quantity of monazite (MT) (computed by R2)
1	36.42 Ha	1983-84	0.0513	1214000	622.8
2	2.49.0 Ha	1983-84	0.0513	347000	178.0
3	4.51.0 Ha	1983-84	0.03	470000	141.0
4	4.80.0 Ha	1983-84	0.03	455000	136.5
5	2.47.0 Ha	1983-84	0.0513	177000	90.8
6	5.00.0 Ha	1983-84	0.03	385000	115.5
7	2.29.0 Ha	1983-84	0.0513	150300	77.1
8	3.38.0 Ha	1983-84	0.0513	556000	285.2
9	5.00.0 Ha	1983-84	0.03	252000	75.6
10	4.09.5 Ha	1977-78	0.11	412300	453.5
11	3.78.5 Ha	1977-78	0.11	300000	330.0
12	4.06.5 Ha	1983-84	0.0513	691000	354.5
13	0.96.0 Ha	1983-84	0.0513	88000	45.1
14	4.00.0 Ha	1983-84	0.0513	90000	46.2
15	3.01.5 Ha	1983-84	0.0513	78000	40.0
16	2.03.0 Ha	1977-78	0.11	170000	187.0
17	1.15.5 Ha	1983-84	0.03	142000	42.6
18	121.41 Ha	1983-84	0 03	270000	81.0
19	3.08.5 Ha	1977-78	0.11	220000	242.0
20	2.22.5 Ha	1977-78	0.11	228000	250.8
21	3.07.9 Ha	1977-78	0.11	256500	282.2
22	0.70.0 Ha	1997-98	1.39	6000	83.4
23	2.42.0 Ha	1997-98	1.39	32000	444.8
24	4.06.0 Ha	1991	0.02	654000	130.8
25	4.77.5 Ha	1977-78	0.11	140000	154.0
26	9.00.0 Ha	1983-84	0.03	690000	207.0
27	0.83.0 Ha	1983-84	0.0513	146000	74.9

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.म. मार्ग/C.S.M. Marg,
मुंबई/Mumbai-400 001

28	2.19.0 Ha	1983-84	0.0513	79000	40.5
29	3.35.8 Ha	1977-78	0.11	145000	159.5
30	3.70.5 Ha	1977-78	0.11	136000	149.6
31	3.47.0 Ha	1983-84	0.0513	292000	149.8
32	4.98.0 Ha	1983-84	0.03	360000	108.0
33	7.86.5 Ha	1983-84	0.0513	146000	74.9
34	36.66.5 Ha	1991	0.02	110000	22.0
	Total			**9888100**	**5876.6**

Further to the above, the respondents 8 & 22 have furnished the quantity of tailings and percentage of monazite in the said tailings in page number 16 and 17 of their letter dated 04.12.2016 as under:

Quantity of Monazite rich tailings stored			
Year	Quantity of tailings in Te	% of monazite in tailings	Total quantity of monazite (MT) (computed by R2)
2007	2397.5	23.04	552.4
2008	4167.5	22.84	951.9
2009	4681.5	23.97	1122.2
2010	4433	30.28	1342.3
2011	4406.55	30.84	1359.0
2012	10964	31.98	3506.3
2013	10995	28.05	3084.1
2014	15262	30.17	4604.5
2015	13643	29.26	3991.9
2016	9775	30.15	2947.2
Total	**80725.05**		**23461.7**

It is submitted that the data provided by the said respondents 8 & 22 regarding concentration of monazite in the feed material is in accordance with the information submitted to AERB (Atomic

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.म. मार्ग/C.S.M. Marg,
मुंबई/Mumbai-400 001

Energy Regulatory Board -constituent wing of the second respondent) in their licence applications and periodical Health Physics Report. However, AERB does not carry out any independent assessment of the monazite content in raw material. AERB ensures that the radiation level prevailing in the mining areas does not get enhanced due to backfilling the mined out sites, which are verified during inspections. However, regarding the total quantity of ROM furnished by the respondents 8 & 22, they may be put to strict proof for the same and further the State Government may also confirm the correctness of the total ROM quantity.

Based on the data furnished by the respondents, it is seen that the data on grade of monazite in the mining lease areas with reference to AMD's reports vis-à-vis the monazite resources is computed as **5876 M.T.** covering 34 mining lease areas of the respondents 8 & 22 whereas the total quantity of monazite computed based on the data submitted by the respondents 8 & 22 regarding quantity of tailings from 2007 to 2016 is **23,461 M.T. Hence there is a mismatch as seen from the above regarding computed monazite resource. Hence the respondents 8 & 22 have to clarify on the same. However, regarding the total quantity of ROM furnished by the respondents 8 & 22, they may be put to strict proof for the same. Further the state Government and Indian Bureau of Mines (IBM) may also confirm the correctness of the total ROM quantity.**

(iii) Percentage of Recovery of Monazite

Under the above, the respondents 8 & 22 have stated that they do not recover any monazite in any of their processes and do not recover, extract, store or export monazite. Further they have stated that they have never done so and store only monazite rich tailings in a trench and hence there is no recovery of monazite.

To the above, it is submitted that the second respondent does not have any information of recovery of monazite by the said respondents 8 & 2. As already stated in our previous counter affidavit and additional second affidavit, as a Policy decision, the second respondent has not permitted any private players like respondents 8 & 22 to crack monazite. However, the said respondents may be put to strict proof of the same.

(iv) Method and Annual quantity handled and disposal of tailings from each mine from 2007 till date.

Under the above, the respondents 8 and 22 have furnished the ROM (Run of Mine) details of each of their mines numbering 34, totalling 98,88,100 MT (ninety eight lakhs eighty eight thousand one

टी.जी. रवीन्द्रन/T.G. Raveendran
अवर सचिव/Under Secretary
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
अणुशक्ति भवन/Anushakti Bhavan
छ.शि.मा./C.S.M. Marg,
मुंबई/Mumbai-400 001

hundred only). Further they have also furnished the quantity of tailings as 80,725.05 MT and the corresponding percentage of monazite rich tailings from 2007 to 2016.

Regarding disposal of tailings, they have furnished the method of handling of minerals and separation of tailings in para 2(c)(i) to (vi) – page no. 7 of their letter dated 04.12.2016.

To the above, as regards the method of disposal of tailings as provided by them is concerned, it is submitted that the same is in accordance with the recommendations of AERB a regulatory Body under Government of India. However, with regard to quantity of monazite enrich tailings stored, AERB has data only from 2010 onwards as the formal licensing under Atomic Energy (Radiation Protection) Rules, 2004 was started in 2009 consequent to the Gazette Notification. ~~A copy each of the Annual Health Physics reports submitted by them to AERB is filed herewith~~. The data provided by them on the quantity of monazite enriched tailings stored since 2010 is in agreement with the data furnished in the Health Physics report. However, it may kindly be seen that AERB does not carry out any material accounting of the tailings. The role of AERB is limited only to radiological safety considerations which include availability of AERB approved Radiological Safety Officer, periodic radiological monitoring of the workplace and assessment of radiological exposure due to handling and storage of monazite enriched tailings.

Replr

5. It is submitted that the counter affidavit, additional affidavit, second additional affidavit already filed by the second respondent may be read as part and parcel of this reply affidavit as well.

6. It is submitted that the delay in filing the reply affidavit is neither willful, wanton nor deliberate. The delay is purely on account of above said bonafide reasons and not on any other reasons. Hence it is prayed that the delay in filing this reply affidavit may be condoned and the affidavit be taken on record and thereby render justice.

श्री. टी.जी. रवेंद्रन/T.G. Ravendran
Under Secretary
Government of India
Atomic Energy Regulatory Board
C.R.I.
मुंबई/Mumbai

Solemnly affirmed at Mumbai
on this 5th day of January 2017 and
signed his name in my presence.

NOTARY R. S. KAKAD GREATER MUMBAI (MAHARASHTRA) Regd. No. 10320 Expiry Date 24-10-2018 GOVERNMENT OF INDIA

BEFORE ME

BEFORE ME

R. S. KAKAD
B.A., LL.M., A.D.R.
ADVOCATE HIGH COURT &
NOTARY GOVT. OF INDIA
26/1823, 1st FLR., SAMADHAN CHS. LTD.
ABHYUDAYA NAGAR, KALCHOWKI,
MUMBAI - 400 033

5 JAN 2017

NOTARIAL NOTARIAL NOTARIAL

This document is noted
at Serial No. 35 of 2017
in the Notarial Register No. 1

IN THE HIGH COURT OF JUDICATURE AT MADRAS

(Special Original Jurisdiction)

Friday, the Twenty Seventh day of January Two Thousand Seventeen

PRESENT

THE HON'BLE MR.SANJAY KISHAN KAUL THE CHIEF JUSTICE

and

THE HON'BLE MR.JUSTICE M.SUNDAR

WP(MD) Nos.19755, 19778, 19715 & 19716 of 2016

C.CHANDRESAN [PETITIONER IN WP (MD)19755/2016]
MANAGING PARTNER,
M/S.INDUSTRIAL MINERAL COMPANY,
NO.7, M.L.THERI ROAD,
KEERAIKARAN THATTU,
MAHADAVENKULAM, THISAYANVILAI POST,
RADHAPURAM TALUK, TIRUNELVELI DISTRICT.

M/S.BEACH MINERAL COMPANY [PETITIONER IN WP (MD)19778/2016]
PRIVATE LTD, 132, TIRUCHENDUR ROAD
KUTTAM, RADHAPURAM TALUK,
TIRUNELVELI DISRICT,
REP BY ITS MANAGER M.K.BHAZITH.

M/S.TRANSWORLD GARNET [PETITIONER IN WP (MD)19715/2016]
INDIA PRIVATE LIMITED
REP BY ITS GENERAL MANAGER,
STEPHEN DAVID,
KARICHUTHU UVARI,
RADHAPURAM TALUK,
TIRUNELVELI DISTRICT.

M/S.V.V.MINERAL [PETITIONER IN WP (MD)19716/2016]
REP BY ITS MANAGER
C.SAKTHI GANAPATHI
KEERAIKARANTHATTU (VIA)
THISAYANVILAI-627 657
TIRUNELVELI DISTRICT.

1. THE DISTRICT COLLECTOR [1 & 2 RESPONDENTS IN WP (MD)19755/2016]
TIRUNELVELI DISTRICT.

2. THE BLOCK DEVELOPMENT OFFICER
RADHAPURAM PANCHAYATH UNION,
RADHAPURAM, TIRUNELVELI DISTRICT.

1 THE INSPECTOR OF PANCHAYAT [1 & 2 RESPONDENTS
HE DISTRICT COLLECTOR, IN WP (MD)19778/2016]
TIRUNELVELI DISTRICT.

THE COMMISSIONER,
RADHAPURAM PANCHAYATH UNION,
ADHAPURAM, TIRUNELVELI DISTRICT.

THE INSPECTOR OF PANCHAYAT [1 TO 3 RESPONDENTS
THE DISTRICT COLLECTOR, IN WP (MD)19715/2016]
TIRUNELVELI DISTRICT.

THE COMMISSIONER,
OF PANCHAYAT UNION,
ADHAPURAM, TIRUNELVELI DISTRICT.

THE BLOCK DEVELOPMENT OFFICER,
RADHAPURAM, TIRUNELVELI DISTRICT.

THE INSPECTOR OF PANCHAYAT [1 TO 4 RESPONDENTS
THE DISTRICT COLLECTOR, IN WP (MD)19716/2016]
TIRUNELVELI DISTRICT.

THE COMMISSIONER,
OF PANCHAYAT UNION,
ADHAPURAM, TIRUNELVELI DISTRICT.

COMMISSIONER OF PANCHAYAT UNION,
VALLIYOOR, TIRUNELVELI DISTRICT.

3 THE BLOCK DEVELOPMENT OFFICER,
ADHAPURAM, TIRUNELVELI DISTRICT.

Writ Petitions under article 226 of the Constitutions of India praying that in these circumstances stated therein and in the respective affidavits filed therewith the High Court will be pleased to

(i)issue a Writ of Certiorarified Mandamus or any other writ or direction in the nature of writ of Certiorarified Mandamus and calling for the records relating to proceedings in ROC A8/3999/2016 dated 4.10.2016 on the file of the District Collector, Tirunelveli, 1st respondent herein in respect of the Mineral Separation Plants of M/s.Industrial Mineral Company Ltd, in SF No.167/1A2B, 167/1A3A, 227/3B1C, 3B2C, 230/1C, 231/1,2,3 231/1,2,3, 151/2,3,4,5A,151/1A1, 1A1A, 151/1A1BA at Vijayapathy Village, Radhapuram Taluk, Tirunelveli District and quash the same (in WP (MD)19755/2016):

(ii)issue a Writ of Certiorario or any other appropriate writ or order or direction in the nature of writ by calling the records relating to the impugned order passed by the 1st Respondent made in Roc.A8/3999/2016, dated 04.10.2016 and quash the same (in WP(MD). 19778/2016);

(iii)issue a Writ of Certiorari or any other order, direction in the nature of a Writ of Certiorari to call for the records on the file of the 1st Respondent relating to the impugned order bearing No.A8/3999/2016 dated 04.10.2016, quash the same (in WP(MD). 19715/2016) and

(iv)issue a Writ of Certiorari or any other order, direction in the nature of a Writ of Certiorari to call for the records on the file of the 1st Respondent relating to the impugned order bearing No.A8/3999/2016 dated 04.10.2016, quash the same (in WP (MD).19716/2016) respectively.

Order :These petitions coming on for orders upon perusing the petitions and the respective affidavits filed in support thereof and upon hearing the arguments of M/S.S.SIVA THILAKAR Advocate for the petitioner in (WP(MD)19755/2016); and of M/S.M.SURESHKUMAR Advocate for the petitioner in (WP(MD)19778/2016); and of M/S.SRINATHA SRIDEVAN Advocate for the petitioner in (WP(MD)19715 & 19716/2016)and of MR.R.MUTHUKUMARASAMY ADVOCATE GENERAL Assisted by MR.M.K.SUBRAMANIAN GOVT.PLEADER & MR.T.N.RAJAGOPALAN SPL.GOVT.PLEADER on behalf of the Respondents in all the petitions the court made the following order:-

The learned counsel for the petitioners seek further time to file rejoinder. List on 9.2.2017.

2. We modify the interim orders to the extent that the same would not entitle the petitioners to run the units in the meantime.

3. We may note that despite the aforesaid order, the learned counsel for the petitioners continue to make elaborate submissions on the consequences of the unit not working. It is, however, the stand of the learned Advocate General that in most of the cases actually licenses do not exist and the so-called renewal has been obtained in collusion, because the substratum is first the license before the renewal can take place. In one of the cases, it is his contention that though the licence exists, it is for a 85 HP machine, while at site were found erected machines of over 300 HP.

4. It is sought to be contended by the learned counsel for the petitioners that they have licenses and are willing to produce them before the District Collector. It is also their say that they had not paid renewal charges, except as claimed by the petitioner in

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W.P.(MD)No.19715 of 2016, and they are willing to pay the same.

5. It is agreed that in this behalf the petitioners may approach the District Collector with all the material which is with them in respect of holding a valid license and it is for the Collector to examine the same. If they hold a valid license and the issue is limited to the payment of renewal fee, the same would naturally be examined by the District Collector. We give liberty to the Collector to permit functioning of the units, in case he finds that the original license is there and renewal fee is paid up to date or tendered.

-sd/-
27/01/2017

/ TRUE COPY /

For V.L.R. Chandran 31.1.17
Sub Assistant Registrar (Statistics / C.S.)
High Court, Madras - 600 104.

TO

1 THE DISTRICT COLLECTOR
TIRUNELVELI DISTRICT.

2 THE BLOCK DEVELOPMENT OFFICER
RADHAPURAM PANCHAYATH UNION, RADHAPURAM,
TIRUNELVELI DISTRICT.

3 THE INSPECTOR OF PANCHAYAT
AND THE DISTRICT COLLECTOR
TIRUNELVELI DISTRICT, TIRUNELVELI.

4 THE COMMISSIONER,
RADHAPURAM PANCHAYATH UNION,
RADHAPURAM, TIRUNELVELI DISTRICT.

5 THE COMMISSIONER OF PANCHAYAT UNION,
VALLIYOOR, TIRUNELVELI DISTRICT.

C.C. to M/S.S.SIVA THILAKAR Advocate on payment of necessary charges

C.C. to M/S.M.SURESHKUMAR Advocate on payment of necessary charges

Cv 0036275

C.C. to M/S.SRINATHA SRIDEVAN Advocate on payment of necessary charges

The Government Pleader, High Court, Madras - 104.

The Special Government Pleader, High Court, Madras - 104.

Order

in

WP(MD).19755, 19778, 19715 & 19716/2016

Date :27/01/2017

From 26.2.2001 the Registry is issuing certified copies of the Interim Orders in this format
VS 30.01.2017 (I.T)

Cv 0036276

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IN THE HIGH COURT OF JUDICATURE AT MADRAS

DATED: 09.02.2017

CORAM :

The Hon'ble MR.SANJAY KISHAN KAUL, CHIEF JUSTICE

AND

The Hon'ble MR.JUSTICE M.SUNDAR

W.P. (MD) Nos.19716 of 2016

M/s.V.V.Mineral,
Rep. By its Manager, C.Sakthi Ganapathi. .. Petitioner

-vs-

1.The Inspector of Panchayat
(District Collector),
Tirunelveli.

2.Commissioner of Panchayat Union,
Radhapuram, Tirunelveli District.

3.Commissioner of Panchayat Union,
Valliyoor, Tirunelveli District.

4.The Block Development Officer
Radhapuram, Tirunelveli District. ..
Respondents

Petition filed under Article 226 of the Constitution of India praying for issue of Writ of Certiorari to call for the records on the file of the 1st respondent relating to the impugned order bearing No.A8/3999/2016, dated 04.10.2016 and quash the same.

For Petitioner : Mr.Srinath Sridevan

For Respondents : Mr.R.Muthukumarasamy
Adv. General, assisted by
Mr.M.K.Subramanian,Govt. Pleader
and Mr.T.N.Rajagopalan, Spl.G.P.

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* * * * *

ORDER

(Order of the Court was made by The Hon'ble Chief Justice)

Learned counsel for the petitioner states that the running licence issued to him could not be located to be produced before the Collector, but since then he has located it and is available now.

2.On hearing the learned counsel for parties, it is agreed that the petitioner will file a fresh application before the Panchayat Council, (at present, the Commissioner) and a decision will be taken in respect of the same within a period of three (3) weeks from the date of the application. Needless to say that the consideration of the application will be as per the rules and regulations governing such application and as per the prevalent law.

Writ petition is, accordingly, disposed of in the aforesaid terms. No costs.

(S.K.K., CJ.) (M.S., J.)
09.02.2017

Index : Yes/No
Website : Yes/No

sra

To

1.The Inspector of Panchayat
(District Collector),
Tirunelveli.

2.Commissioner of Panchayat Union,
Radhapuram, Tirunelveli District.

3.Commissioner of Panchayat Union,
Valliyoor, Tirunelveli District.

4.The Block Development Officer
Radhapuram, Tirunelveli District.

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The Hon'ble Chief Justice
and
M.Sundar, J.

(sra)

W.P.(MD) No.19716 of 2016

09.02.2017
http://www.judis.nic.in

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15 APR 2017

ABSTRACT

Industries – W.P.No.1592 of 2015 filed by Thiru G. Victor Rajamanickam and W.A.Nos.1168 and 1169 of 2015 filed by the Government of Tamil Nadu – Interim orders passed by the Hon'ble First Bench of Madras High Court on 11.1.2017 – Formation of Special Team for estimation of the stock of Beach Sand Minerals kept in various places in Thoothukudi, Tirunelveli and Kanniyakumari Districts – Appointment of Thiru.Satyabrata Sahoo, I.A.S., in the place of Thiru Mahesan Kasirajan, I.A.S., as Head of Special Team – Orders – Issued.

Industries (MMD.1) Department

G.O.(Ms) No.41

Dated:7.4.2017
திருவள்ளுவர் ஆண்டு 2048,
துன்முகி வருடம் பங்குனி 25ம் நாள்

Read:

1. Orders of Hon'ble High Court of Madras dated 28.1.2016 in W.P.No.1592 of 2015 filed by Thiru G.Victor Rajamanickam.
2. Orders of Hon'ble High Court of Madras dated 11.1.2017 in W.P.No.1592 of 2015 and in W.A.Nos.1168 and 1169 of 2015 filed by the Government.
3. G.O.(Ms) No.29 Industries (MMD.1) Department dated 25.3.2017.
4. From Thiru Mahesan Kasirajan, I.A.S., Commissioner of Sugar, letter dated 31.3.2017

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ORDER:

In the Government order third read above, orders were issued among others for the appointment of Thiru Mahesan Kasirajan, I.A.S., Commissioner of Sugar as head of Special Team for assessment of stocks

(R.T.O

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of Beach Sand Minerals in various places of Thoothukudi, Tirunelveli and Kanniyakumari Districts under section 23 (B), 24 of Mines and Minerals (Development and Regulation) Act,1957 in accordance with the orders of Hon'ble High Court of Madras dated 11.1.2017 in W..No.1592 of 2015 and in W.A.Nos.1168 and 1169 of 2015.

2. In the letter fourth read above, Thiru Mahesan Kasirajan, I.A.S., has stated of certain personal reasons for his inability to effectively take up this assignment.

3. The Government, after careful examination, decided to relieve Thiru Mahesan Kasirajan, I.A.S., as head of Special Team constituted in the Government orders third read above and hereby nominates Thiru Satyabrata Sahoo, I.A.S., Chairman and Managing Director, Tamil Nadu Industrial Investment Corporation (TIIC), Chennai (Batch:1997) in the place of Thiru Mahesan Kasirajan, I.A.S., Commissioner of Sugar. Thiru Satyabrata Sahoo, I.A.S., Chairman and Managing Director, Tamil Nadu Industrial Investment Corporation will hereafter undertake the assessment of stocks of Beach Sand Minerals in various places of Thoothukudi, Tirunelveli and Kanniyakumari Districts under section 23 (B), 24 of Mines and Minerals (Development and Regulation) Act, 1957 as the Head of Special Team constituted in the Government orders third read above.

(BY THE ORDER OF GOVERNOR)

ATULYA MISRA
PRINCIPAL SECRETARY TO GOVERNMENT

To
Thiru Satyabrata Sahoo, I.A.S.,
Chairman and Managing Director ,
Tamil Nadu Industrial Investment Corporation,
692, Anna Salai, Nandanam,
Chennai - 600 035.

Thiru Mahesan Kasirajan, I.A.S.,
Commissioner of Sugar,
690, Anna Salai,
Chennai - 600 035

The Secretary,
Ministry of Mines,
Government of India,
Shastri Bhawan, Dr. Rajendra Prasad Road, New Delhi - 110 001.

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The Secretary,
Department of Atomic Energy,
Anushakti Bhavan, Chatrapati Shivaji Maharaj Marg,
Mumbai - 400 001.

The Principal Secretary/Commissioner of Survey and Settlement,
Chepauk, Chennai - 600 005.

The Chief Commissioner of Customs and Excise and Service Tax,
26/1, Mahatma Gandhi Road,
Chennai - 600 032.

The Director General of Police, Chennai 600 004.

The Commissioner of Geology and Mining, Guindy, Chennai - 32

Shri Ramesh Kumar,
Head, Beach Sand and Off-shore Investigations,
Mining Regulatory, AMD, Begumpet, Hyderabad - 500 016.

Shri Soumen Sinha,
Scientific Officer - F,
Atomic Energy Regulatory Board,
Department of Atomic Energy,
Anushakti Bhavan, Chhatrapati Shivaji Maharaj Marg, Mumbai - 400 001.

The District Collector, Tirunelveli

The District Collector, Thoothukudi,

The District Collector, Kanniykumari.

The Assistant Commissioner of Customs,
Tuticorin/ Tirunelveli Districts.

// Forwarded by order //

Section Officer

7/4/17

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8	VIJAYAPATHI	3	All 3 belong to V.V. Minerals	1	0.05	1,000
9	THIRUVAMBALAPURAM	3	All 3 belong to V.V. Minerals	1	26.26	4,81,300
10	THIRUVAMBALAPURAM, VIJAYAPATHI & KOODANKULAM	1	V.V.Minerals	1	13.61	2,21,148
TOTAL		**52**	**0**	**38**	**412.99**	**90,29,838**

LESSEE-WISE DETAILS OF ILLICIT MINING IN TIRUNELVELI DISTRICT

NAME OF THE LESSEE	VILLAGES INVOLVED	NO. OF LEASES GIVEN	NO. OF LEASES WHERE ILLICIT MINING	EXTENT OF ILLICIT MINING (Acres)	QUANTITY OF ILLICIT MINING (MT)
BEACH SAND MINERALS COMPANY	KUTTAM	9	8	65.43	24,73,575
TRANS WORLD GARNET PVT. LTD.,	KARAISUTHU UVARI	14	12	94.75	21,80,484
V.V. MINERALS	KARAISUTHU UVARI, KARAISUTHU PUDUR, LEVINJIPURAM, IRUKKANTHURAI, KOODANKULAM, CHETTIKULAM, VIJAYAPATHI & THIRUVEMBALAPURAM	27	17	183.73	33,62,799
K. THANGARAJ	KARAISUTHU PUDUR	1	1	4.74	76,800
M. RAMESH	KARAISUTHU PUDUR	1	1	64.34	9,36,180
TOTAL		**52**	**38**	**412.99**	**90,29,838**

SUMMARY OF ILLICIT MINING IN KANNIYAKUMARI DISTRICT			
SL. NO.	NAME OF THE VILLAGE	EXTENT OF ILLICIT MINING (ACRES)	QUANTITYOF ILLICITLY MINERAL MINED (MT)
1	LEASE-1, AZHAGAPPAPURAM	0.75	8,110
2	LEASE-2, AZHAGAPPAPURAM	2.42	39,116
3	LEASE-3, KANNIYAKUMARI	0.88	7,190
TOTAL		4.05 ✓	54,446 ✓

3. FINDINGS OF THE TUTICORIN/THOOTHUKUDI REPORT

3.47 The Special Team concludes that the instances of illicit mining have been noticed in 3 out of the 6 leases. For the remaining 3 sites, there are instances of the lessees getting transport permits without doing mining of BSM so as to use these elsewhere and possibly in areas of illicit mining.

3.48 Transport Permits have been issued for a total of Rs 8,46,500 MT for the 6 lease sites in Thoothukudi. Illicit mining has been noticed over a total area o 66.18 Ha to a extent of 10,29,955 MT.

3.49 The mining lease in Vaippar I village has also been granted with license to mine and handle monazite mineral. However, the records for the monazite separated and stored is not available.

3.50 Lease holders have not fully reported turnover to the Commercial Department.

SUMMARY OF ILLICIT MINING IN THOOTHUKUDI DISTRICT			
S.NO.	NAME OF LESSEE/VILLAGE	AREA ILLICITLY MINED (HA)	QUANTITY (MT)
1.	VV MINERALS/VAIPPAR	32.47.5	5,58,450
2.	INDUSTRIES MINERALS (P) LTD/ VEMBAR/PERIYASAMYPURAM	0.99	12.875
3.	INDIA GARNET SANDS CO. LTD/PADUGAPATTU	32.71.5	4,58,630
	TOTAL	66.18	10,29,955

XI. REPORT 10: JOINT INSPECTION REPORT OF MINING LEASEHOLD AREAS OF TIRUNELVELI, KANYAKUMARI AND THOOTHUKUDI FROM 24.04.2015 TO 27.04.2015 BY REGIONAL OFFICE OF MINISTRY OF ENVIRONMENT

3.51 This inspection was conducted pursuant to directions by the Director of Environment and Forest, Government of India, New Delhi. This report has recorded that V. V. Minerals has complied with all requirements of MMDR Act and Rules and indulged in no illegal mining and has also complied with Environmental Clearances.

3.52 It is pertinent to point out that the Principal Secretary to the Government of Tamil Nadu in his counter dated December 2016 has categorically stated that this report has not been authorised by the Government and hence it should not be taken on record.

3.53 The Government of Tamil Nadu has stated that it could not have been possible for the Joint Inspection team to have conducted a detailed study on illicit mining of Beach Sand Minerals in 4 days. It is stated that the government does not accept this report as they have already constituted a special team headed by Mr.Gagandeep Singh Bedi IAS and the report has also been submitted to the Court. The counter has also pointed out that the findings of the Joint Inspection team that the mining lessees have obtained licenses from AERB and mining has been carried out as per approved mining plans is not supported by any documents. The Report has stated that all royalty has been

Assessment on the Monazite Tailings stored in Tirunelveli and Thoothukudi Districts:

In compliance to the orders passed by the Hon'ble First Bench of Madras High Court on 02.11.2017 in the Suo – Motu PIL W.P.No. 1592 of 2015 etc batch cases, a joint inspection was carried out by the officials of Atomic Minerals Directorate, Hyderabad and Indian Bureau of Mines, Chennai in the presence of officials of Atomic Energy Regulatory Board, Mumbai and Second Level Team Heads for assessment of Monazite enriched tailings said to be stored in the following areas and for collection of samples through Auger drilling.

Sl. No	Name of the Lessee / Others	Village	Taluk	District	Date of Inspections Conducted
1.	Tvl. V.V.Mineral	Tiruvembala puram	Radhapuram	Tirunelveli	08.11.2017 & 09.11.2017
2.	Tvl. Beach Minerals Sands Company	Kuttam	Radhapuram	Tirunelveli	09.11.2017 & 10.11.2017
3.	Tvl. Beach Minerals Sands Company	Arasoor	Sathankulam	Thoothukudi	10.11.2017
4.	Tvl. Miracle Sands and Chemicals	Mapillai oorani	Thoothukudi	Thoothukudi	10.11.2017
5.	Tvl. Miracle Sands and Metals	Mela Arasaradi	Ottapidaram	Thoothukudi	10.11.2017

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2) The designated site wherein the reported Monazite tailings said to be stored in Thiruvambalapuram Village was inspected by a team of officials from the Atomic Minerals Directorate, Hyderabad, Indian Bureau of Mines, Chennai, Atomic Energy Regulatory Board, Mumbai along with the State and District officials on 08.11.2017 & 09.11.2017. The representatives of the Lessee company / Plant owner were also present at the time of joint inspection. Auger drilling was carried out in the designated site at Thiruvambalapuram Village and 10 bore holes were made in the site for collection of samples said to be enriched with Monazite tailings. A total number of 42 samples have been collected from the 10 bore holes made in the designated site at Tiruvembalapuram Village. As requested by the lessee company in their letter dated. 08.11.2017, ¼th of the portion of samples collected from each bore holes were handed over to the representative of the lessee company in the presence of the officials and the same has been videographed.

3) Another joint inspection was carried out in Kuttam Village on 09.11.2017 & 10.11.2017 and the designated site located in S.F.No.670 wherein the reported Monazite tailing said to be stored was identified and only one sample was collected from the area in the presence of the representative of the Lessee company / Plant owner.

As requested by the representative of the Lessee company, a portion of the sample has been handed over to him. All the 43 samples collected by the AMD from the above said designated sites have been sent for chemical analysis by the Atomic Minerals Directorate.

4) Another joint inspection was carried out in Arasoor, Mappilaioorani and Meia Arasadi Villages in Thoothukudi Districts on 10.11.2017 and the designated sites wherein the reported Monazite tailing said to be stored by Tvl. Beach Minerals Sands Company, Tvl. Miracle Sands and Chemicals and Tvl. Miracle Sands and Metals were identified and seven samples were collected from the areas in the presence of the representative of the Lessee company / Plant owner. A portion of the sample collected from each site has been handed over to the representative of the Lessee company / Plant owner. All the 7 samples collected by the AMD from the above said designated sites have been sent for chemical analysis by the Atomic Minerals Directorate.

5) Thiru.K.Ramesh Kumar, Scientific Officer – H+, Head, Beach Sand and Offshore Investigations Group, Atomic Minerals Directorate, Hyderabad in letter No.AMD-1/14/2017- BSI dated: 24.11.2017 furnished report on the chemical analysis of the 50 samples collected

from the designated sites wherein reported Monazite enriched tailings are stored in Tirunelveli and Thoothukudi Districts.

A. Monazite tailings stored at Thiruvembalapuram Site

The report submitted by AMD reveals that the Thiruvembalapuram site of Tvl.V.V.Minerals measures 217m length and 69m width separated from the surrounding area by a stone wall. Drilling was carried out by hand auger and Conrad Bunka on a grid of approximately 80m length and 20m width. A total number of 10 bore holes were drilled to an average depth of 4.10m and 42 samples at each 1m of drilling depth were generated. Monazite equivalent analysis for each of the 42 samples was carried out and the bore hole average has been computed. The details are as follows.

S.No	Bore Hole No.	No.of. Samples	Average Percent Monazite equivalent
1	TVBM/BH/1	5	**23.47**
2	TVBM/BH/2	5	**25.80**
3	TVBM/BH/3	4	**10.56**
4	TVBM/BH/4	3	**21.33**
5	TVBM/BH/5	3	**0.26**
6	TVBM/BH/6	4	**21.00**
7	TVBM/BH/7	5	**17.20**
8	TVBM/BH/8	5	**15.25**
9	TVBM/BH/9	4	**18.06**
10	TVBM/BH/10	4	**21.78**
	Average		**17.47**

The report further reveals that the tonnage of materials at the site is computed as 1,35,135 metric tonnes (217 x 67 x 4.10 x 2.267) containing **23,608 metric tonnes of monazite** at an average grade of 17.47 %.

B. Monazite tailings stored at Kuttam Site

The report reveals that Kuttam site of Tvl. Beach Minerals sands company is a trench type structure with dimensions of 8m length, 2.2m width and 1.9m depth. One auger hole upto 1.90m depth was drilled and one bore hole composite sample generated has been designated as TTK/MT/KTM/1 and analysed and having **0.6% monazite equivalent.**

C. Monazite tailings stored at Arasoor Site

The report reveals that Arasoor site of Tvl.Beach Minerals sand company is a well like structure measuring 6.6 m length, 5.8m width and 11m depth. 11 bags of 2 tonnes each are stored in the site and a composite samples from 11 bags were generated and the sample designated as TTK/MT/ASR/1 analysed is having 0.46 % monazite equivalent. Based on this the monazite content in the 11 Bags would be 0.10 metric tonnes.

D. **Monazite tailings stored at Mappillaioorani Site**

a) The report reveals that the Mappillaioorani site of Tvl.Miracle Sands and Chemicals has monazite tailings at two places. One site is a trench like structure measuring 12m length, 3.7m width and 3m depth. Samples were collected and designated as TTK/MT/MAPO/PIT and analysed and having **7.8% monazite equivalent**. This trench has 75 metric tonnes material which translates to **5.85 metric tonnes monazite.**

b) The other site is open heap having dimensions of 8m length, 2m width and 2m height and the samples generated has been designated as TTK/MT/MAPO/OH1 analysed and having **5.5% monazite equivalent.** This dump has 160 metric tonnes material which translates to **8.80 metric tonnes monazite.**

E. **Monazite tailings stored at Mela Arasaradi Site**

The report reveals that Monazite tailings are stored at two locations at Mela Arasaradi site of Tvl. Miracle Sands and Chemicals. One site (northern side dump) is having 16m length, 13m width and 2m depth and other site (southern side dump) is having 19m length, 11m width and 2m depth. One auger hole each was drilled in the dumps and two samples from each holes were collected in northern

side dump and designated as TTK/MT/MELA/BH1/1 and TTK/MT/MELA/BH1/2 analysed and having **5.0 % and 16.0% monazite equivalent** respectively. The samples collected from the southern side dump are designated as TTK/MT/MELA/BH2/1 and TTK/MT/MELA/BH2/2 and analysed and having **3.90% and 4.80 monazite equivalent.**

6) Meanwhile, Tvl.V.V.Mineral filed W.P.No. 29826/2017 before the Hon'ble Madras High Court with a prayer to issue an interim direction directing the 3rd Respondent (Special Team Head) to take samples of minerals at the petitioner's mineral site at Thiruvambalapuram in Tirunelveli District in the presence of the petitioner and to draw 3 samples wherever samples are taken and seal the samples in the petitioner's presence, and have all such samples sealed with the counter signature of the representatives of the petitioner and to hand over one counter sample to the petitioner, and one to the respondent, while retaining one sample with the 3rd respondent and send the sample for testing.

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Super-Checks and Collection of samples in the Monazite enriched tailings storage areas:-

7) It was decided to make Super-checks inspection in the designated areas wherein, the reported Monazite enriched tailings are stored in Tirunelveli and Thoothukudi Districts. Accordingly, a joint inspection was carried out by the Special Team Head in the designated areas on 18.12.2017 & 19.12.2017 at Thiruvambalapuram and Kuttam Villages in Radhapuram Taluk, Tirunelveli District along with the officials of Atomic Minerals Directorate, Indian Bureau of Mines, Atomic Energy Regulatory Board, Geology and Mining, Revenue and Survey Departments.

8) The designated site at Thiruvambalapuram Village wherein Monazite enriched tailings stored by Tvl. V.V.Mineral was inspected on 18.12.2017 & 19.12.2017 and 14 Auger Bore holes were made by the officials of Atomic Minerals Directorate in the designated site and a total number of 59 samples have been collected. Each sample has been separated into five portions and counter signatures were obtained from the representative of the company and the officials of Central and State Government. One portion of the sample collected from all the 59 samples have been handed over to the representative

of Tvl. V.V.Mineral at the designated site on 19.12.2017 in the presence of the State and Central Government Officials. Two portions of all the 59 samples (118) have been handed over to the representatives of the Atomic Minerals Directorate for chemical analysis. Further, the remaining two portions of 59 samples (118) have been handed over to the Deputy Director of Geology and Mining, Tirunelveli for future and record purpose.

9) The designated site wherein Monazite enriched tailings said to be stored by Tvl.Beach Minerals Sands Company in Kuttam Village was inspected on 19.12.2017 and one sample has been collected by the officials of Atomic Minerals Directorate by Auger Drilling. The sample has been separated into five parts and one portion of the sample has been handed over to the representative of Tvl.Beach Minerals Sands Company and two portions have been handed over to Atomic Minerals Directorate for chemical analysis. Further, the remaining two portions have been handed over to the Deputy Director of Geology and Mining for record purpose.

10) The designated site wherein Monazite enriched tailings said to be stored by Tvl.Beach Minerals Sands Company at a dry unused open well in Arasoor Village was inspected on 19.12.2017 and one sample was collected from the 11 bags kept in that area. Further, two samples

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were collected at the Monazite tailing storage areas of Tvl. Miracles Sand and Chemicals at Mappillaioorani on 20.11.2017. Further, four samples were collected at the Monazite talling storage areas of Tvl. Miracles Sands and Metals at Mela Arasadi village of Ottapidam Village, Thoothukudi District on 20.11.2017. Each sample has been separated into five portions and counter signatures were obtained from the representative of the company and the officials of Central and State Government. One portion of the sample collected from all the 7 samples were handed over to the representatives of the respective companies at the designated site on 19.12.2017 & ~~20.11.2017~~ 20.12.2017 in the presence of the State and Central Government Officials. Two portions of all the 7 samples were handed over to the representatives of the Atomic Minerals Directorate for chemical analysis. Further, the remaining two portions were handed over to the Deputy Director of Geology and Mining, Thoothukudi for future and record purpose.

11. Thiru.K.Ramesh Kumar, Scientific Officer - H+, Regional Director, South Central Region, Atomic Minerals Directorate for Exploration and Research in his letter No. AMD-1/14/2017-BSOI dated 12.03.2018 has furnished report on the analytical results of the samples collected at the time of super checks made from 18.12.2017 to ~~20.17.2017~~ 20.12.2017 in Tirunelveli and Thoothukudi Districts. A copy of report dt.12.3.18 received from the AMD is enclosed in Annexure-XXXXI

A. Monazite tailings stored at Thiruvembalapuram Site

The report submitted by AMD on the Monazite tailings samples collected at the time of super checks reveals that a total number of 14 bore holes were drilled upto depth of 3.5m to 5.0m and 59 samples generated. The Monazite equivalent analysis for each of the 59 samples was carried out as per the standard procedure and the bore hole average was computed. The details are as follows.

S.No	Bore Hole No.	No.of. Samples	Average Percent Monazite equivalent
1	TNV/MT/TVBM/BH/11	6	18.55
2	TNV/MT/TVBM/BH/12	5	25.20
3	TNV/MT/TVBM/BH/13	4	4.77
4	TNV/MT/TVBM/BH/14	3	0.19
5	TNV/MT/TVBM/BH/15	4	19.45
6	TNV/MT/TVBM/BH/16	4	17.75
7	TNV/MT/TVBM/BH/17	5	14.40
8	TNV/MT/TVBM/BH/18	4	13.57
9	TNV/MT/TVBM/BH/19	4	21.29
10	TNV/MT/TVBM/BH/20	4	15.03
11	TNV/MT/TVBM/BH/21	4	12.97
12	TNV/MT/TVBM/BH/22	5	26.82
13	TNV/MT/TVBM/BH/23	4	29.50
14	TNV/MT/TVBM/BH/24	3	21.33
	Average		**17.20**

The report further reveals that the super check samples confirmed the earlier results and the tonnage of Monazite at the site is estimated to be similar to the earlier reported quantum of **23,608 metric tonnes of monazite.**

B. Monazite tailings stored at Kuttam Site

The report reveals that one bore hole composite sample generated and designated as TNV/MT/KTM/2 and analysed and having **0.72% Monazite equivalent.**

C. Monazite tailings stored at Arasoor Site

The report reveals that, one representative sample from the 11 bags stored in the Arasoor site was generated and the sample designated as TTK/MT/ASR/2 analysed and having 0.39% Monazite equivalent.

D. Monazite tailings stored at Mappillaioorani Site

The report reveals that one sample was generated and designated as TTK/MT/MAPO/PIT/2 analysed and having **7.1% monazite equivalent**. Another sample was generated in a open head dump and designated as TTK/MT/MAPO/OH/2 analysed and having **7.0% monazite equivalent.**

E. Monazite tailings stored at Mela Arasaradi Site

The report reveals that two samples were generated from the Northern Dump and designated as TTK/MT/MELA/BH3/1 and TTK/MT/MELA/BH3/2 analysed and having 12% and 14% Monazite equivalent respectively. The two samples generated from the southern Dump were designated as TTK/MT/MELA/BH4/1 and TTK/MT/MELA/BH4/2 analysed and having **5.5% and 3.33% monazite equivalent** respectively.

Comparative Statement of Analytical Reports.

A comparison of the analytical results of samples collected from the Monazite enriched tailings during the Phase – I (from 8.11.2017 to 10.11.2017) and Phase – II (from 18.12.2017 to 20.12.2017) in Tirunelveli and Thoothukudi Districts are tabulated as follows.

S.No	Area	Analytical Results of samples collected Phase – I		Analytical Results of samples collected Phase – II	
		Avg. % Monazite equivalent	No. of Samples	Avg. % Monazite equivalent	No. of Samples
1	Thiruvembalapuram	17.47	42	17.20	59
2	Kuttam	0.60	1	0.72	1
3	Arasoor	0.46	1	0.39	1
4	Mappillaioorani	7.80	1	7.10	1
		5.50	1	7.00	1
5	Mela Arasaradi	5.00	2	12.00	2
		16.00	2	14.00	2

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The report reveals that the analytical results of the Monazite enriched tailings collected during the Phase – I and Phase – II (Super checks) are similar and the estimated quantum of Monazite at the above said designated sites are also of similar tonnage.

Accounting for Monazite tailings

a. As per Rule 3 of Atomic Energy (Working of Mines, Minerals and Handling of Prescribed Substances) Rules, 1984, No person shall mine, mill, process and / or handle any ore, Mineral or other materials from which one or more of the prescribed substances can be extracted without obtaining a license under the Rules.

b. According to the license conditions, records of quantity and Monazite content of the raw material, product and Monazite enriched tailings shall be maintained by the Mining companies.

c. Tvl. V.V.Minerals in their letter dated 18.8.2017 addressed to the District Collector, Tirunelveli stated that the details of

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Monazite rich tailing stored in Thiruvembalapuram (Authoor Plant Tailings Storage Yard) is **80,725 metric tonnes which contain Monazite and other heavy minerals and silica waste etc.,** They have further stated that prior to 2007, they produced Garnet and Ilmenite only and did not generate any Monazite rich tailings.

d. The AMD report on the analysis of the samples collected from the Monazite enriched tailings stored at Thiruvembalapuram site in Tirunelveli District reveals that the tonnage of materials at the site is computed to be **1,35,135 metric tonnes containing 23,608 metric tonnes of Monazite** at an average grade of 17.47% in Phase – I and 17.20% in Phase – II.

e. Thus the variation in the quantum of Monazite enriched tailings declared by the plant owner and the quantity assessed by the Atomic Minerals Directorate requires clarification from the Plant owner and as well from the Atomic Minerals Directorate.

f. With regard to the monazite enriched tailing stored at Arasoor, Kuttam, Mappiliaioorani and Mela Arasaradi sites, the Plant owners concerned and the Atomic Minerals

Directorate are required to furnish clarifications whether the Plant owners have obtained license under Rule 3 of the Atomic Energy (Radiation Protection) Rules, 2004 from the Department of Atomic Energy or not.

g. The authorities at AERB need to be look into the fact as to why monazite equivalent of such low concentration (e.g. 0.72% at Kuttam and 0.39% at Arasoor) need to be kept in these specific sites. Has this concentration of the monazite equivalent changed over the years because of any pilferage? Were they being properly inspected in a timely manner? Is there possibility of its being transported out without the knowledge of AERB or the authorities concerned?

h. Proper supervision by State Mines Department, AMD, Indian Bureau of Mines and AERB is a must to prevent any kind of illegality.

Findings of the Special Team:-

i. The total quantum of beach sand minerals stored by the Plant owners / Lease holders at various places in Tirunelveli,

Thoothukudi and Kanniyakumari Districts as assessed by the Special Team are furnished as follows:-

Sl.No	Districts	Quantum of minerals stocked (in M.T.)
1.	Tirunelveli	1,37,45,644
2.	Thoothukudi	12,09,423
3.	Kanniyakumari	5,93,613
	Total	**1,55,48,680**

ii. Whereas, the total quantum of beach sand minerals declared as stocks by the Plant owners/Lease holders in respect of the three districts are furnished as follows:-

Sl.No	Districts	Quantum of minerals declared as stocks (in M.T.)
1.	Tirunelveli	64,59,624
2.	Thoothukudi	13,91,810
3.	Kanniyakumari	7,07,300
	Total	**85,58,734**

iii. Thus, there is a massive difference to the tune of **69,89,946 MTs** between the quantum of Beach Sand Minerals assessed by the Special Team and the quantum of Beach Sand Minerals declared as stocks by the Plant owners/Lease holders

in respect of the three districts. Hence, issues related to mining, transportation of minerals and their storage require appropriate supervision. A proper system may be devised.

iv. The report submitted by AMD on the **percent Monazite equivalent** analysis of the samples collected at the time of preliminary assessments from the Godowns / Dump locations / processing plants / mining area in respect of the three Districts reveal that 87 out of 177 samples are having more than 0.25% of Monazite equivalent. During the period up to 2007, the upper limit of "*Monazite equivalent*" in export sample was 0.25%. Issues of radiation safety need to be better supervised and well-regulated.

v. The report submitted by AMD on the **percent Monazite equivalent** analysis of the samples collected at the time of super-check assessments from the Godowns / Dump locations / processing plants / mining area in respect of Tirunelveli and Thoothukudi Districts reveal that 31 out of 43 samples are having more than 0.25% of Monazite equivalent.

vi. Thus, the reports of the AMD reveal that 118 (87+31) out of 220 (177+43) samples collected record more than 0.25% of Monazite equivalent i.e. 53% of samples record more than

0.25% Monazite equivalent. This further strengthens the need to have proper and regular monitoring of radiation safety standards.

vii. The reports of the AMD further reveals that a number of finished products like Garnet, Ilmenite, Zircon etc., contain other mineral as well, in proportions of 10 to 25 %.

viii. The reports further reveals that a number of finished mineral stocks contain Monazite / Monazite equivalent much above the notified reference value. Hence, exporting and trading of all beach minerals need specific supervision especially at port levels from where they are exported. Export of monazite / monazite equivalent need proper supervision at all levels in view of its radioactive nature. Proper regulation of export of minerals containing monazite / monazite equivalents will be appropriate in view of the radioactive content of the minerals which in turn might have a bearing on the National Security, if the products fall into wrong hands.

IN THE HIGH COURT OF KERALA AT ERNAKULAM

PRESENT:

THE HONOURABLE MR. JUSTICE SHAJI P.CHALY

THURSDAY, THE 26TH DAY OF JULY 2018 / 4TH SRAVANA, 1940

WP(C).No. 650 of 2017

PETITIONER:

M/S.V.V. MINERAL
KEERAIKARANTHATTU, TISAYANVILAI VILLAGE,
THIRUNELVELI DISTRICT, TAMIL NADU,
REPRESENTED BY ITS MANAGER,
MR.C. SAKTHI GANAPATHY.

BY SRI.JOSEPH KODIANTHARA (SENIOR ADVOCATE)
ADVS.SRI.V.ABRAHAM MARKOS
SRI.ABRAHAM JOSEPH MARKOS
SRI.ISAAC THOMAS
SRI.HARAN THOMAS GEORGE
SRI.GOVIND VIJAYAKUMARAN NAIR

RESPONDENT(S):

1. THE ASSISTANT COMMISSIONER OF CUSTOMS(SHB),
OFFICE OF THE COMMISSIONER OF CUSTOMS,
CUSTOM HOUSE, WILLINGDON ISLAND,
COCHIN-682009.

2. THE COMMISSIONER OF CUSTOMS,
CUSTOM HOUSE, WILLINGDON ISLAND,
COCHIN-682009.

3. THE DISTRICT COLLECTOR,
THIRUNELVELI DISTRICT, TIRUNELVELI,
TAMIL NADU-627009.

R1 & R2 BY SREELAL N. WARRIER, SC
R3 BY SRI.MANI SANKAR, ADDL.ADVOCATE GENERAL-IV, TAMIL NADU STATE
ADV.SRI.K.R.RAJKUMAR

THIS WRIT PETITION (CIVIL) HAVING BEEN FINALLY HEARD
ON 13-07-2018, THE COURT ON 26-07-2018 DELIVERED
THE FOLLOWING:

mbr/

WP(C).No. 650 of 2017 (E)

APPENDIX

PETITIONERS' EXHIBITS:

EXHIBIT P1	TRUE COPY OF ORDER DATED 09-11-2016 PASSED BY THE 3RD RESPONDENT.
EXHIBIT P1(A)	TRUE COPY OF ORDER 11-11-2016 PASSED BY THE MADRAS HIGH COURT, MADURAI BENCH IN W.P.(MD)NOS.19755 OF 2016 AND CONNECTED CASES.
EXHIBIT P2	TRUE COPY OF LETTER F.NO.SHB/MISC/51/2016 CUS. DATED 21-12-2016 ISSUED BY THE 1ST RESPONDENT TO THE PETITIONER.
EXHIBIT P3	TRUE COPY OF THE TRADE FACILITY-13/2016 F.NO.C1/03/2016 TU CUS. DATED 22-12-2016 OF THE 2ND RESPONDENT.
EXHIBIT P4	TRUE COPY OF LETTER DATED 10-10-2016 ISSUED BY THE MINISTRY OF MINES, GOVERNMENT OF INDIA TO THE MANAGING PARTNER OF THE PETITIONER UNDER RIGHT TO INFORMATION ACT.
EXHIBIT P5	TRUE COPY OF SHIPPING BILL.
EXHIBIT P6	TRUE COPY OF THE DECISION IN STATE OF TAMIL NADU VS. M.P.P. KAVERY CHETTY, REPORTED IN (1995) 2 SCC 402.
EXHIBIT P7	TRUE COPY OF THE DECISION IN K.T. VARGHESE & ORS. VS. STATE OF KERALA & ORS.
EXHIBIT P8	TRUE COPY OF THE LETTER DATED 26.5.1988 ISSUED BY THE INDUSTRIES (M2) DEPARTMENT, GOVERNMENT OF TAMIL NADU.
EXHIBIT P9	TRUE COPIES OF RELEVANT PAGES OF APPROVED PLANS AND MODIFIED PLANS FOR THE YEARS 2001.
EXHIBIT P10	TRUE COPY OF THE LETTER DATED 29.3.1996 ISSUED BY THE MINISTRY OF MINES, GOVERNMENT OF INDIA.
EXHIBIT P11	TRUE COPIES OF THE STATEMENTS SHOWING THE TRANSPORT TO THE EOUS WITH RELEVANT PERMIT NUMBERS AND QUANTITIES ETC.
EXHIBIT P12	TRUE COPY OF THE UNSTARRED QUESTION NO.1086 WHICH WAS ANSWERED ON 2.3.2015 IN THE PARLIAMENT.
EXHIBIT P13	TRUE COPY OF THE MINUTES OF RQP DATED 20.12.2008.
EXHIBIT P14	TRUE COPY OF A COMPLAINT DATED 22.12.2016 RECEIVED FROM THE CEO OF AMPECO GMBH, GERMANY.
EXHIBIT P15	TRUE COPY OF CIRCULAR NO.49/CUS/04 DATED 2.9.2004 ISSUED BY THE MINISTRY OF FINANCE.
EXHIBIT P16	TRUE COPY OF CIRCULAR F.NO.450/66/2009-CUS.IV DATED 8.7.2010.

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EXHIBIT P17	TRUE COPY OF STATEMENT OF THE PETITIONER.
EXHIBIT P18	TRUE COPY OF THE LETTER DATED 17.2.2018 SENT BY THE PETITIONER TO THE 2ND RESPONDENT ALONG WITH ENCLOSURE.
EXHIBIT P19	TRUE COPY OF THE ACKNOWLEDGMENT DATED 19.2.2018 FROM THE 2ND RESPONDENT.
EXHIBIT P20	TRUE COPY OF LETTER DATED 19.2.2018 ISSUED BY THE PETITIONER'S AGENTS TO THE 1ST RESPONDENT.
EXHIBIT P21	TRUE COPY OF THE LETTER DATED 14.3.2018 RECEIVED BY THE PETITIONER FROM THE ASSISTANT COMMISSIONER (SIIB) CUSTOMS HOUSE, COCHIN.
EXHIBIT P22A	TRUE COPY OF INVOICE DATED 23.4.2014.
EXHIBIT P22B	TRUE COPY OF CENTRAL EXCISE INVOICE DATED 23.4.2014.
EXHIBIT P22C	TRUE COPY OF LEDGER ACCOUNT FOR THE MONTH OF SEPTEMBER, 2014 WITH RESPECT TO SEMI-PROCESSED GARNET RECEIVED FROM TRANSWORLD GARNET INDIA PVT. LTD., SRIKAKULAM UNIT.
EXHIBIT P22D	TRUE COPY OF LEDGER ACCOUNT FOR THE MONTH OF MARCH, 2015 WITH RESPECT TO SEMI-PROCESSED GARNET RECEIVED FROM TRANSWORLD GARNET INDIA PVT. LTD., SRIKAKULAM UNIT.
EXHIBIT P22E	TRUE COPY OF INVOICE DATED 28.2.2015.
EXHIBIT P22F	TRUE COPY OF STATEMENT SHOWING GARNET BOUGHT FROM SRIKAKULAM FOR THE PETITIONER.
EXHIBIT P23	TRUE COPY OF THE LETTER DATED 28.12.2016 ISSUED BY THE PETITIONER TO THE 2ND RESPONDENT COMMISSIONER OF CUSTOMS, COCHIN.
EXHIBIT P23A	TRUE COPY OF THE LETTER DATED 1.2.2017 ISSUED BY THE PETITIONER TO THE ASSISTANT COMMISSIONER OF CUSTOMS, COCHIN.
EXHIBIT P24	TRUE COPY OF THE CLARIFICATION NO.15161/MMD1/2017-1 DATED 16.2.2018 ISSUED BY THE INDUSTRIES DEPARTMENT, SECRETARIAT, CHENNAI UNDER RTI ACT IN TAMIL ALONG WITH ENGLISH TRANSLATION.
EXHIBIT P25	TRUE COPY OF THE LETTER NO.15053/MMD.1/2017-1 DATED 16.2.2018 ISSUED BY THE INDUSTRIES DEPARTMENT, SECRETARIAT, CHENNAI TO THE PETITIONER.
EXHIBIT P26	TRUE COPY OF THE APPLICATION DATED 30.10.2017 FILED BY THE PETITIONER UNDER THE RTI ACT IN TAMIL ALONG WITH ENGLISH TRANSLATION.
EXHIBIT P27	TRUE COPY OF THE REPLY DATED 6.11.2017 ISSUED BY THE INDUSTRIES DEPARTMENT, SECRETARIAT, CHENNAI IN TAMIL ALONG WITH ENGLISH TRANSLATION.

WP(C).No. 650 of 2017 (E)

RESPONDENTS' EXHIBITS:

EXHIBIT R3A	TRUE COPY OF THE MINUTES OF THE DISTRICT LEVEL COMMITTEE MEETING OF PREVENTION OF ILLEGAL BEACH SAND MINING AND TRANSPORTATION OF BEACH SAND MINERALS HELD ON 18.10.2016 AND 9.11.2016 AT COLLECTORATE TIRUNELVELI.
EXHIBIT R3B	TRUE COPY OF THE VIDE LETTER NO.M3/40365/2015, DATED 19.12.2016 ISSUED BY 3RD RESPONDENT.
EXHIBIT R3C	TRUE COPY OF THE VIDE LETTER NO.M3/40365/2015, DATED 21.12.2016 ISSUED BY 3RD RESPONDENT.
EXHIBIT R3D	TRUE COPY OF THE MINUTES OF THE DISTRICT LEVEL COMMITTEE MEETING OF PREVENTION OF ILLEGAL BEACH SAND MINING AND TRANSPORTATION OF BEACH SAND MINERALS HELD ON 14.2.2017 AT COLLECTORATE TIRUNELVELI.
EXHIBIT R3E	GOVERNMENT LETTER (D)NO.121, INDUSTRIES DEPARTMENT DATED 13.6.2000.
EXHIBIT R3F	EXTRACT OF RULE 3 OF TAMIL NADU PREVENTION OF ILLEGAL MINING TRANSPORTATION AND STORAGE OF MINERALS AND MINERAL DEALERS RULES, 2011.
EXHIBIT R3G	GO.(MS)NO.173, INDUSTRIES (MMDI) DEPARTMENT DATED 17.9.2013.
EXHIBIT R3H	GO.(MS)NO.179, INDUSTRIES (MMDI) DEPARTMENT DATED 27.7.2015.
EXHIBIT R3I	FINAL ORDER NO.40/2017 TO 42/2017 DATED 21.2.2017 PASSED BY THE REVISIONARY AUTHORITY, GOVERNMENT OF INDIA.
EXHIBIT R3J	GO(MS)NO.41 INDUSTRIES (MMDI) DEPARTMENT DATED 7.4.2017.
EXHIBIT R3K	COPY OF STATUS REPORT AND MEMO FILED BY THE AMICUS CURIAE ON 20.6.2017 BEFORE THE HON'BLE FIRST BENCH OF MADRAS HIGH COURT.
EXHIBIT R3L	COPY OF REPORT FILED BY THE AMICUS CURIAE ON 20.6.2017 BEFORE THE HON'BLE FIRST BENCH OF MADRAS HIGH COURT.
EXHIBIT R3M	COPY OF TAMIL NADU GOVERNMENT GAZETTE NOTIFICATION EXTRA-ORDINARY ISSUE NO.29, DATED 25.1.2011.
EXHIBIT R3N	COPY OF THE MINUTES OF THE MEETING HELD UNDER THE CHAIRMANSHIP OF THE SPECIAL TEAM HEAD ON 30.10.17 & 31.10.17 AT CHENNAI.
EXHIBIT R3(O)	COPY OF ORDERS PASSED BY THE HONOURABLE FIRST BENCH OF MADRAS HIGH COURT DATED 02.11.17 TO THE SUO MOTU PIL WP NO.1592 OF 2015 AND CONNECTED MATTERS.
EXHIBIT R3P	COPY OF G.O.(D).NO.45, INDUSTRIES (E1) DEPARTMENT DATED 21.3.2017.

WP(C).No. 650 of 2017 (E)

EXHIBIT R3Q	COPY OF REPORT FILED BY MR.SATYABRATA SAHOO, IAS, SPECIAL TEAM HEAD, ON THE ASSESSMENT OF BEACH SAND MINERALS STOCKED IN THOOTHUKUDI, TIRUNELVELI AND KANNIYAKUMARI DISTRICTS.
EXHIBIT R3R	COPY OF ORDER PASSED BY THE HON'BLE DIVISION BENCH OF MADRAS HIGH COURT DATED 24.4.2018 IN THE SUO-MOTU PIL WP.NO.1592 OF 2015 AND CONNECTED MATTERS.

/TRUE COPY/

P.S.TO JUDGE

mbr/
28.07.2018.

SHAJI P. CHALY, J.

W.P.(C) No.650 of 2017

Dated this the 26th day of July, 2018

JUDGMENT

This writ petition is filed by the petitioner seeking to quash Exts.P2 and P3 dated 21.12.2016 and 22.12.2016 issued by the 1st and 2nd respondents, directing the petitioner to produce necessary certificates/documents viz., certificate of legally mined minerals from the concerned District Collector/transport permits along with bulk permits, certifying the legal source of such Beach Sand Minerals brought to the Customs Area for export, under Section 50 of the Customs Act, 1962, and intimating the petitioner that it has been decided to verify the source, Beach Sand Minerals being sent for export, and requiring the petitioner to produce necessary documents secured from competent authority, respectively. Material facts required for the consideration of reliefs sought for in the writ petition are as follows:

2. Petitioner is a registered Partnership Firm established to carry on the business of separation and processing of beach sand minerals. The 1st and 2nd

respondents are the jurisdictional authorities at the Cochin Port, amenable to the jurisdiction of this Court. The 3rd respondent is the District Collector, Tirunelveli, who has addressed a letter to the Port authorities which was acted upon by the Customs Authorities. According to the petitioner, the query raised by the Customs Authorities on account of the same is illegal and without jurisdiction, attempting to interfere with free export of the petitioner's goods through the Cochin Port. Petitioner has been exporting its finished products (in the present case, 'natural garnet') through the Ports in Tamil Nadu, Andhra and Kerala.

3. In this writ petition, petitioner is challenging pre-export restrictions/obligations sought to be imposed by the 1st and 2nd respondents, apparently at the behest of the 3rd respondent, which obligations/restrictions are completely without jurisdiction and extremely prejudicial, and if allowed to be implemented, will affect international free trade. The obligations/restrictions are also completely against the provisions of the Customs Act and the Foreign Trade Policy, which alone govern exports.

4. It is submitted, petitioner applied for and obtained all necessary approvals for the purpose of commencement of its business under the relevant laws. In order to establish Export Oriented Units (EOU), petitioner floated one more Partnership Firm viz., M/s. V.V. Mineral 100% EOU with Registration No.45 of 1999 EOU for better administration and clarity. Two plants have been set up in order to process the minerals in various places of Tirunelveli, Kanyakumari, Tuticorin, Districts in the State of Tamil Nadu. For the purpose of EOU operations, petitioner got its plants classified as 'bonded warehouse' under the provisions of the Customs Act, 1962. Petitioner has been the principal producer of beach minerals in the whole of the country having more than 25 valid mining leases. Petitioner has set up an integrated Beach Sand Mining and Garnet production facility in the districts of Tirunelveli, Tuticorin and Kanyakumari, expending crores of rupees and the Unit of Tirunelveli is operating successfully for more than 20 years. In short, petitioner is a fully functional mining and mineral processing unit, engaged in the field of mining of beach sand minerals, and has established a prosperous undertaking, employing hundreds of workmen and

earning valuable foreign exchange and royalties, without sacrificing regulatory compliance. It is also submitted that, the beach sand minerals which are the subject of the leases of the petitioner are 'replenishable' minerals, since it is regenerated by natural forces, such as wind and tide.

5. Pursuant to various allegations raised with respect to illegal mining in the State of Tamil Nadu, the State has ordered stoppage of mining operations since 08.08.2013 until the inspection by Revenue Secretary is completed. However, units like the petitioner had created huge stocks of inventories of minerals over the years. These minerals had been mined lawfully, transported to the processing plants (with proper transport permits), processed (with proper mining lease), and royalty fully paid (with proper receipts and challans), and such minerals were then stored in bonded warehouses properly licensed under the Customs Act. According to the petitioner, these are stocks of inventories which had been generated with foresight over the years, creating buffer for future demands. Therefore, since royalty has been fully paid on these minerals, the title to these minerals vests in the petitioner.

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6. However, the 3rd respondent passed Ext.P1 order dated 09.11.2016, essentially minutes of a District Level Committee Meeting, requiring to stop the factory operations of the petitioner and certain other operators, which led to a series of writ petitions before the Madurai Bench of the Madras High Court. It is the case of the petitioner that, Ext.P1 reveals that the entire basis of the said order is a wrong assumption by the 3rd respondent that the extraction of minerals by the petitioner, beyond the projected reserves, tantamount to illegal mining. It is also submitted that, the 3rd respondent is under the impression that if any stocks of minerals are found beyond the projected reserves set forth in the mining plans, such stocks are "illegally mined". Therefore, Ext.P1 order cannot be sustained under law. The Madurai Bench of the Madras High Court, as per Ext.P1(a) order dated 11.11.2016, directed to maintain '*status quo*'. It is also stated that, Ext.P1 order is challenged by the petitioner in Revision before the Mines Tribunal and the said Revision Application is also pending.

7. While so, petitioner had moved about 3107 MT of Natural Garnet from its 100% EOU and other units for export through Cochin Port. Preceding such export, the goods have

been warehoused in private bonded warehouses duly licensed by the Customs Authorities. Out of the said quantity, 140 MT was thereafter cleared from the warehouses and exported on 17.12.2016. The remaining quantity lying in the warehouse is scheduled to be exported forthwith.

8. In the meanwhile, petitioner is served with Exts.P2 and P3 communications by the 1st and 2nd respondents. The case of the petitioner is that, the Port Authorities have nothing to do with the same. On enquiry with the 1st and 2nd respondents, it is informed that they have received a letter from the 3rd respondent that export of minerals such as Garnet should not be permitted without producing valid transport permits. Therefore, it is submitted that, Exts.P2 and P3 are completely lacking in jurisdiction, and if allowed to operate, will have serious irreparable and far-reaching prejudicial consequences to free trade internationally.

9. The said submission is based on the contention that export of goods out of the country is principally governed by the provisions of the Customs Act, 1962 read with the Foreign Trade Policy (currently for the years 2015 to 2020), framed under the Foreign Trade (Development and Regulation) Act,

1992. According to the petitioner, going by the provisions of the Customs Act and allied Regulations and Policies, the action now initiated by the 1st and 2nd respondents can never be sustained under law. It is also stated that, the issue with respect to the export is clarified by the Government of India as per Ext.P4 letter dated 10.10.2016. It is reiterated that all the procurement of raw material by the petitioner is under valid transport permit obtained from the Assistant Director of Geology prior to August, 2013. However, there is no law which mandates transport permit thereafter from the petitioner's factory/100% EOU for export.

10. That apart, as per Sec.3(1) of the Foreign Trade (Development and Regulation) Act, the Central Government may by order published in the Official Gazette, make provision for the development and regulation of foreign trade for facilitating imports and increasing exports. According to Sec.3(2), the Central Government may also, by order published in the Official Gazette, make provision for prohibiting, restricting or otherwise regulating, in all cases or in specified classes of cases and subject to such exemptions, if any, as may be made by or under the order, the import or

export of goods. According to Sec.3(3), all goods to which any order under sub-section (2) applies shall be deemed to be goods the import or export of which has been prohibited under Sec.11 of the Customs Act, 1962, and all the provisions of that Act shall have effect accordingly. Therefore, according to the petitioner, this will establish that for regulating or imposing conditions, it is mandatory that the Central Government should pass order and publish in the Gazette. According to sub-section (4) of Sec.3, no permit or licence shall be necessary for export. The Central Government as per Sec.5, formulates and announces by notification in the official gazette, the Foreign Trade Policy.

11. Accordingly, the Central Government notified the Foreign Trade Policy for the years 2015 to 2020, and as per para 1.03, Chapter 1A of Foreign Trade Policy, the Director General of Foreign Trade by means of public notice notified the Hand Book of procedures including appendixes etc., laying down the procedures to be followed by the exporters or importers. The sum and substance of the contention advanced by the petitioner is that, in accordance with the Foreign Trade Policy launched by the Government of India, no other authority

is vested with any power to interdict or create fetter for export of the products in accordance with the Foreign Trade Policy.

12. So also, it is submitted that, Garnet and Ilmenite and for that matter the other minerals normally exported by the petitioner are freely exportable and no condition whatsoever is imposed under the EXIM Policy or Indian Trade Classification Appendix with respect to such export. These are, in any case, neither prohibited nor restricted goods, and there is any condition imposed to be specified in the export save and except the mandatory documents mentioned under the Foreign Trade Policy. Therefore, according to the petitioner, it is quite obvious that the 1st and 2nd respondents have acted at the behest of a letter issued by the 3rd respondent District Collector, who has absolutely no jurisdiction to issue such a direction pertaining to exports, and any such direction cannot even be looked into, leave alone implemented by the 1st and 2nd respondents, while exercising the powers under the Customs Act, read with Foreign Trade Development Act and the Foreign Trade Policy, all of which unequivocally show that no such restrictions can be imposed. These are the background facts projected by the petitioner in the writ

petition in order to secure the reliefs specified above.

13. Third respondent has filed a detailed counter affidavit, refuting the allegations and claims and demands raised by the petitioner. Among other contentions, it is stated that, the writ petition is not maintainable before this Court, since the cause of action for filing the writ petition arise out of the decision taken by the District Level Committee on prevention of illegal beach sand mining and transportation of beach sand minerals during the meeting held on 09.11.2016 at Tirunelveli District, State of Tamil Nadu.

14. It is further submitted that, a total number of 52 mining leases have been granted to private persons in *patta* and Government puramboke lands for mining raw sand, Garnet, Ilmenite, Rutile, Zircon, Sillimanite etc., in Tirunelveli District. The Government of Tamil Nadu, as per an order dated 08.08.2013, issued orders forming a Special Team headed by the Secretary, Revenue Department to inspect and verify in terms of Sec.24 of Mines and Minerals (Development and Regulation) Act, 1957, to identify as to whether there is illicit mining by the lessees of beach sand minerals in Tuticorin District. Accordingly, orders were issued to conduct the

inspection.

15. That apart, the State of Tamil Nadu further directed the District Collectors of Tirunelveli, Tiruchirapalli, Kanyakumari and Madurai Districts to stop the mining operations pending completion of the inspections by the Special Team. Further, the Assistant Directors (Mines) of the above specified districts were also directed to stop immediately the issuance of transport permits for Garnet, Ilmenite, Rutile etc. etc., with respect to the leases granted to private parties in the respective Districts till the inspections are completed. As directed by the State Government, the Industries Department stopped the mining operations for raw sand and beach sand minerals, such as, Garnet, Ilmenite, Rutile, Zircon, Sillimanite etc. etc. in Tirunelveli and other Districts, and the transport permits were also stopped from the month of September 2013, onwards. The orders passed by the Government stopping the mining operations of beach sand minerals and issuance of transport permits, for the beach sand minerals are very much in force even now, and the connected writ appeals filed by he State Government are pending before the Madras High Court.

16. Above all, as per a Government Order dated 27.07.2015, the State Government have constituted District Level and Taluk Level Committees to look into the complaints on illegal beach sand mining and transportation of beach sand minerals, and for taking appropriate action by the authorities concerned, and the District Level Committee headed by the 3rd respondent is periodically reviewing the functioning of the Taluk Level Committee by suggesting suitable measures for prevention of illegal mining and transportation of beach sand minerals.

17. It is further submitted that, the details of quantum of raw sand and processed minerals permitted by the office of the Assistant Director of Geology and Mining, Tirunelveli for transportation from 2000-2001 to 2013-2014, the royalty remitted by the lessees for the said periods and the actual quantum of processed minerals transported (both local sale and export) by all the beach mineral sand lessees were compared with the total quantum of raw sand, garnet, ilmenite, rutile, zircon, sillimanite etc. etc. permitted in the approved mining plan/scheme of mining for the relevant periods and it reveals that all the beach sand mineral, lessees

have unlawfully mined and transported a huge quantum of beach sand minerals during the period from 2000-01 to 2015-16.

18. Further, it reveals that the entire quantum of processed minerals/semi-processed minerals and raw sand said to be available with all the beach sand mineral, lessees in their pre-concentration plants, separation plants and other storing places, are illegally mined, illegally transported and illegally stored one by contravening the provisions of Section 4(1) & 4(1-A) of the Mines and Minerals (Development and Regulation) Act, 1957. The details of production of raw sand and processed minerals as furnished by the petitioner company before the Taluk Level Committee for the period from 2000-01 to 2016-17 were verified with the mining lease-wise transport permits issued to the petitioner company for raw sand, garnet, rutile etc. etc. with reference to the quantum of such minerals as permitted under the Approved Mining plan / Approved Scheme of Mining for the period from 2000-01 to 2007-08, and it reveals that the petitioner company have unlawfully mined and transported a huge quantum of raw sand, garnet, ilmenite etc. etc.

19. Likewise, for the period 2008-09 to 2012-13, petitioner unlawfully mined and transported huge quantum of raw sand, garnet, ilmenite etc. etc., the details of which are furnished hereunder:

Sl.No.	Mineral	Quantum of minerals unlawfully mined and transported from 2000-01 to 2007-08. (In Metric Tonnes)
1	Raw sand	9,82,088
2	Garnet	1,91,077.72
3	Ilmenite	5,04,617.444
4	Rutile	1350
5	Zircon	3500

Sl.No.	Mineral	Quantum of minerals unlawfully mined and transported from 2008-09 to 2012-13. (In Metric Tonnes)
1	Raw sand	14,04,692
2	Garnet	1,53,731
3	Ilmenite	5,97,539
4	Rutile	62078
5	Zircon	41756
6	Sillimanite	40700
7	Leucoxene	2650

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20. Therefore, according to the 3rd respondent, after the stopping of mining operations, during the years 2014-15 and 2015-16, petitioner has unlawfully transported a quantum of 9,65,948.8 metric tonnes of beach sand minerals. The above findings of the District Level Committee on prevention of illegal beach sand mining and transportation of beach sand minerals have been communicated to the petitioner as per its order dated 09.11.2016.

21. Further, it is submitted that the royalty accounts settled by the then District Collector, Tirunelveli in the proceedings dated 30.09.2012 in respect of the petitioner company for the quantum of raw sand transported for the period from 2008-09 to 2011-12 reveals that the *ad-valorem* values for the year-wise quantum of garnet, ilmenite, rutile etc. etc. exported by the petitioner company for the period from 2008-09 to 2011-12 were not properly arrived at separately for computation of royalty for the quantum of such minerals exported as stipulated under Rule 64-D of Mineral Concession Rules, 1960. Therefore, the entire settlement of royalty accounts for the quantum of raw sand transported for the period from 2008-09 to 2011-12 are to be treated as null

and void. The deviations detected by the District Level Committee in the settlement of royalty accounts have been communicated to the petitioner company by the 3rd respondent as per letter dated 20.02.2017. In view of the large scale violations detected in the transportation of raw sand and beach sand minerals by all the lessees, including the petitioner herein, for the period from 2000-2001 to 2015-2016 and all the beach sand mineral lessees are not having stock of legally mined minerals, it was resolved to request the Customs Authorities concerned to insist for the production of transport permits along with bulk permits or certificate of legally mined minerals obtained from the District Collector concerned, before allowing export of beach sand minerals.

22. It was also noticed by the authorities that the petitioner and other similarly situated persons were making attempts for export of beach sand minerals through the ports situated outside the State of Tamil Nadu, and therefore, the Port Authorities of Cochin, New Mangalore and Vizagapattinam have been requested by the 3rd respondent that the lessees cum illegal miners have no *locus standi* for export of beach sand minerals without valid transport permits issued by Deputy

Director/Assistant Director of Geology and Mining concerned, and no export of beach sand minerals can be allowed in the absence of such permits by any competent authority. It was accordingly that respondents 1 and 2 have insisted the petitioner for production of necessary permits for transportation of the minerals. Therefore, it is submitted that, the source information is sought for as per Exts.P2 and P3 by virtue of the powers conferred under Sec.50 of the Customs Act, 1962. Accordingly, as an interim measure, all the exporters of beach sand minerals were required to produce the documentary proof obtained from the competent authority.

23. Further, it is stated that, as per the orders issued by the State Government dated 08.08.2013 and 17.09.2013, all transport permits for raw sand, semi-processed minerals and processed minerals were stopped by the authorities concerned. No stay has been granted against the said Government Orders. When the lessees filed writ petitions against the Special Team inspections headed by the Revenue Secretary, and the connected writ appeals filed by the State Government are pending consideration before the Madras High Court. It is also submitted during the course of arguments that the writ

petitions that were pending before the Madurai Bench of the High Court are all transferred now to the principal seat of the High Court and is being heard together.

24. Ext.R3(a) is the minutes of the District Level Committee meeting on prevention of illegal beach sand mining and transportation of beach sand minerals for the period from 18.10.2016 and 09.11.2016. In view of stoppage of mining operations and issuance of transport permits by the State Government from the month of September 2013, and in view of the findings of the District Level Committee that all quantum of processed and un-processed minerals said to be available with the private beach sand mineral lessees are illegally mined, illegally transported and illegally stored one, the Customs Authorities, Cochin have been requested by the 3rd respondent to insist for production of transport permits along with bulk permits or certificate of legally mined minerals from the District Collector concerned, before allowing export of beach sand minerals. It was accordingly that the queries were made by the Customs Authorities.

25. That apart, it is submitted that, the Madras High Court by order dated 27.01.2017 in W.P.(MD) Nos.19755 and

other connected cases, modified the interim orders to the extent that it would not entitle the petitioners to run the units in the meantime. Other contentions with respect to the submissions made in the writ petition that the minerals are replenishable are all disputed. The statistics of unlawfully mined minerals from the year 2000-01 to 2007-08 and from 2008-09 to 2012-13 provided are already extracted above.

26. It is also pointed out that, the petitioner company has filed Writ Petition No.19716/2016 before the Madurai Bench of the Madras High Court, seeking a prayer to issue a writ of certiorari or any other order, direction in the nature of a writ of certiorari to call for the records on the files of the District Collector, Tirunelveli, relating to the impugned order dated 04.10.2016 and to quash the same. The said writ petition is now transferred to the Principal Bench of the Madras High Court by order dated 27.01.2017. The petitioner is also prevented to run the units in the meantime by modifying the interim order.

27. Exts.R3(b) and R3(c) are the communications issued by the 3rd respondent to the Chairman, Cochin Port Trust and the Principal Commissioner of Central Excise

respectively, with respect to the prohibition created and orders issued restricting mining and transportation of beach sand and the minerals derived from the same. That apart, it is submitted that, the State Government had stopped the mining operations for beach sand minerals and issuance of transport permits from September, 2013, to facilitate the inspection of the Special Team headed by the Revenue Secretary. Ext.R3(d) is the minutes of the District Level Committee meeting on prevention of illegal beach sand mining, and transportation of beach sand minerals held on 14.02.2017 shows the extent of stock of beach sand minerals illegally mined. Other contentions are also raised with respect to the illegalities committed by the petitioner, persuading the 3rd respondent, on behalf of the State of Tamil Nadu to issue communication, in order to protect the wealth of the nation as well as the State. Other restrictions are also imposed as per the orders of the Industries Department dated 13.06.2000 for transportation of beach sand from the mining area to the plants etc. etc.

28. That apart, vehicles loaded with illegally mined beach sand minerals were seized by the Sub-Collector, Tirunelveli on 11.08.2016 and an FIR is registered. The

documents produced by the 3rd respondent along with the counter affidavit reveal the orders issued by the State Government as per the Mines and Minerals (Development and Regulation) Act as well as the Tamil Nadu Prevention of illegal mining, Transportation and storage Rules, 2011. According to the 3rd respondent, all the orders are issued in accordance with the powers conferred under MMDR Act as well as the Tamil Nadu Rules, 2011. However, the foundational contention advanced by the petitioner is that there is no violation of any law so as to prohibit the goods from being exported in accordance with the provisions of the Customs Act, Foreign Trade Regulation Act, and the Foreign Trade Policy in vogue.

29. Reply affidavits and additional counter affidavits are also filed by the respective parties, producing various documents, also enumerating the details with respect to statements and counter statements made by the respective parties. I am of the considered opinion that, such details furnished by the respective parties intrinsically traversing through the mining done and minerals extracted, stocks made etc. etc., in minute details are not at all necessary so as to consider the reliefs sought for by the petitioner in the writ

petition.

30. I also make it clear that, even though various contentions are raised by the petitioner by producing documents along with the reply affidavits as well as additional affidavits, they are not transforming themselves into pleadings, since no amendment is made to the writ petition and the reliefs sought for against the respondents are based on alleged illegality in Exts.P2 and P3. It is also made clear that, no reliefs are sought for by the petitioner against the action of the Government of Tamil Nadu, issuing various orders stopping the mining operations, transportation etc. etc.

31. I have heard learned Senior Counsel for the petitioner Sri. Joseph Kodianthara, assisted by Sri. Isaac Thomas and Sri. Haran Thomas George for petitioner, the Additional Advocate General of Tamil Nadu, Sri. C. Manishankhar, assisted by Sri. T.N. Rajagopalan, Government Pleader and Sri.K. Krishnamoorthy, Government Advocate along with Sri. Rajkumar K.R., for the 3rd respondent, and also the learned Standing Counsel appearing for 1st and 2nd respondents, Sri. Sreelal N. Warrier. Perused the documents on record and the pleadings put forth by the respective parties.

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32. The facts submitted by the respective parties are very bulky and traversing through various aspects of mining, separation of minerals, stocking of the same, transportation, illegality with respect to stocking of the same, pre-export etc. etc. The paramount contention advanced by learned Senior Counsel for the petitioner is based on Sec.2(33) of the Customs Act, 1962, which is dealing with "prohibited goods" to mean; "any goods the import or export of which is subject to any prohibition under this Act or any other law for the time being in force but does not include any such goods in respect of which the conditions subject to which the goods are permitted to be imported or exported, have been complied with". So also, Sec.11 dealing with powers of Central Government to prohibit by notification, the export of any goods. Section 11H(a) defines "illegal export" to mean; the export of any goods in contravention of the provisions of this Act or any other law for the time being in force.

33. "Specified goods" are defined under Sec.11H(e) to mean; goods of any description specified in the notification issued under section 11-I in relation to a specified area.

Therefore, according to the learned Senior Counsel, Sections 11-I to 11L impose various restrictions with respect to the specified goods. However, garnet is neither specified nor is there any restriction or prohibition imposed for the export of garnet. That apart, it is submitted that, as provided under Sec.50 of the Customs Act, dealing with entry of goods for exportation, the exporter of any goods shall make entry thereof by presenting (electronically) to the proper officer in the case of goods to be exported in a vessel or aircraft, a shipping bill, and in the case of goods to be exported by land, a bill of export in the prescribed form. The proviso to sub-section (1) of Sec.50 enables the Principal Commissioner of Customs or Commissioner of Customs to make any entry to be presented in any other manner if the electronic entry is not feasible.

34. It is further submitted that, as per sub-section (2) of Sec.50, the exporter of any goods, while presenting a shipping bill or bill of export, shall at the foot thereof make and subscribe to a declaration as to the truth of its contents. Therefore, the only requirement with respect to such goods which are freely exportable is the shipping bill with invoice,

and packing list must be presented to the proper officer of customs prior to the export. In sum and substance, the contention advanced by the learned Senior Counsel is that, law mandates that the exporter need not produce transport permits or documents to show the legal source of material sought to be exported so long as no such obligation or restriction is imposed either under the Customs Act or in the Foreign Trade (Development and Regulation) Act and the Foreign Trade Policy. Other contentions which are discussed while narrating the facts in respect of the provisions of Foreign Trade (Development and Regulation) Act, Foreign Trade Policy and the Customs Act are also put forth by the learned Senior Counsel to canvass the proposition that the action of the respondents 1 and 2, insisting for production of source of minerals and transportation permits cannot be sustained under law.

35. On the other hand, learned Additional Advocate General appearing for the 3rd respondent has taken me through the pleadings in the counter affidavit *in extenso*, the documents produced, the law applicable, enabling the 3rd respondent or the State of Tamil Nadu to issue notifications

and other orders preventing illegal beach sand mining, transportation of the same, stocking the same etc. etc.

36. The paramount contention advanced is that, ultimately if it is found that the action of 1st and 2nd respondents issuing Exts.P2 and P3 are in order, the challenge made by the petitioner under a feeble manner against the power of the State of Tamil Nadu to make legislation is a subject matter outside the writ jurisdiction of this Court. Learned Additional Advocate General has invited my attention to Ext.P1 minutes of the meeting produced by the petitioner and submitted that, the District Level Committee in its meeting held on 18.10.2016 and 09.11.2016 have taken the decision on the basis of notification issued by the State Government mentioned in the narration of facts and the said authority is vested with ample powers in accordance with Sec.24 of the Mines and Minerals (Development and Regulation) Act, 1957 as also the provisions of the Tamil Nadu Rules, 2011.

37. 'Minerals' is defined under the Tamil Nadu Prevention of Illegal Mining, Transportation and Storage of Minerals and Mineral Dealers Rules, 2011 [hereinafter called, 'the Rules, 2011'] as "all minerals and minor minerals except

sand". 'Transport permit' is defined to mean; a permit issued by the permit issuing officer, and 'transit pass' is defined to mean; a pass issued by the concerned Deputy Director for lawful transportation of any mineral by a carrier from the place of stockyard or from the lease area by the registree under the rules. So also, Rule 3 creates a prohibition, by which, no person shall transport or cause to be transported any mineral by any carrier from the place of raising or from the place of stockyard or from one place to another without having a valid transit pass. Sub-rule (2) stipulates that, no person other than the mineral dealer shall store or cause to be stored any mineral at any place for the purposes of sale or consumption. Sub-rule (3) stipulates that, no mineral dealer shall store any mineral other than the place specified in the registration certificate granted under the Rules.

38. Rule 4 deals with grant of registration and its renewal, by which, every mineral dealer and any person desirous of being registered as a mineral dealer under the Rules shall apply to the District Collector concerned, through the Deputy Director in Form-A along with application fee etc.

Rule 5 deals with processing of application by the District Collector and Rule 6 deals with transport permit and transit pass, by which, it is stipulated that, no person shall transport or otherwise remove or carry away any mineral from any place without obtaining a transit pass from the Deputy Director. Any person desiring such passes should file an application before the Deputy Director in Form-F, duly specifying all the particulars prescribed therein. Rule 11 enables any person aggrieved to prefer appeal and Rule 12 enables any aggrieved person to prefer a revision.

39. Learned Additional Advocate General has also brought to my attention the notification issued by the Government of India, Ministry of Mines dated 11.07.2016, issued under Sec.11(c) of the Mines and Minerals (Development and Regulation) Act, 1957, by which, in the First Schedule in Part-B, after entry 11, entry 12 is inserted, viz., Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite. Therefore, according to the learned Additional Advocate General, as the matter stands today, the said notification is in force and

garnet, which is the subject matter of export attempted to be made by the petitioner is "specified mineral" in accordance with the notification issued by the Government of India.

40. Now, the predominant contention advanced by learned Senior Counsel for the petitioner is that, since the goods processed by the petitioner for export are 100% EOU, products stocked in Customs bonded warehouses are governed by the provisions of Foreign Trade Policy, 2015-2020 and the Foreign Trade Regulation, by which, petitioner is liable to produce only those documents which were specified during the discussion of export of the goods and respondents 1 and 2 are duty bound to facilitate export, when the petitioner produces such documents, enabling the petitioner to export the goods.

41. It is also the contention advanced by learned Senior Counsel that the notifications and orders issued by the State of Tamil Nadu and officers functioning under the said State cannot be termed as law as is envisaged under Sec.11H of the Customs Act, 1962, which is dealing with illegal export. "Illegal export" is defined to mean; the export of any goods in contravention of the provisions of the Customs Act or any other law for the time being in force". The definition contained

under Sec.2(33) for 'prohibited goods' is *pari materia* with the aforesaid provision, by which, it means, any prohibited goods under the Customs Act or any other law for the time being in force and the sole exclusion made thereunder is, it will not include any such goods in respect of which the conditions subject to which the goods are permitted to be imported or exported, have been complied with.

42. The foundational contention advanced by the learned Senior Counsel is that, "law" so far as an export is concerned, will not take in the provisions of the MMDR Act, the Regulations thereunder or any other law made by the State Government or any other orders passed by the Central Government or the State Government, other than the law that is enabling the petitioner and other exporters to export the goods.

43. However, learned Additional Advocate General submitted that, the provisions of the MMDR Act and the Rules made by the State of Tamil Nadu and the orders issued thereunder are all "law" made, and therefore, the prohibition created under Sec.11H of the Customs Act, 1962 will come into play and the 1st and 2nd respondents were legally correct in

requiring the petitioner to disclose the source of collection of raw materials leading to the minerals that were sought to be exported through the Cochin Port. It is also pointed out that, the entire orders were issued by the State Government in accordance with the powers conferred on the Government and the said authorities as per the provisions of MMDR Act, 1957 and the Rules, 2011. Therefore, it is a "law" applicable and relevant to the provisions of the Customs Act. So also, it is pointed out that, the garnet sought to be exported by the petitioner is 'specified mineral' in accordance with the notification issued by the Union of India dated 11.07.2016 and included as entry No.12. Therefore, the contention advanced by the petitioner that Exts.P2 and P3 are illegal, cannot be sustained under law.

44. So also, learned Standing Counsel appearing for the 1st and 2nd respondents pointed out that, power is conferred on such authority by virtue of the notification issued by the Government of India, Ministry of Commerce and Industry published in the Gazette of India Extraordinary Part-II, Section-3, Sub Section (ii) dated 04.06.2015 issued under Sec.5 of the Foreign Trade (Development and Regulation) Act,

1992, as amended from time to time, read with paragraph 1.02 of Foreign Trade Policy 2015-2020, the Central Government has made amendments in the Foreign Trade Policy 2015-20, which has come into force with effect from 01.04.2015. Paragraph 2.06 is amended, which deals with mandatory documents for export/import of goods from/into India, clause (a) deals with mandatory documents required for export of goods from India, they are: (1) Bill of Lading/Airway Bill/Lorry Receipt/Railway Receipt/Postal Receipt; (2) Commercial Invoice cum Packing List; and (3) Shipping Bill/Bill of Export. As per clause (c) of paragraph 2.06, for export or import of specific goods or category of goods, which are subject to any restrictions/policy conditions or require NOC or product specific compliances under any statute, the regulatory authority concerned may notify additional documents for purposes of export or import. Clause (d) specifies that, in specific cases of export or import, the regulatory authority concerned may electronically or in writing seek additional documents or information, as deemed necessary to ensure legal compliance.

45. Further, my attention was invited to Sec.51 of the Customs Act, dealing with clearance of goods for exportation, which stipulates that, where the proper officer is satisfied that any goods entered for export are not prohibited goods and the exporter has paid the duty, if any, assessed thereon and any charges payable under the Customs Act in respect of the same, the proper officer may make an order permitting clearance and loading of the goods for exportation. My attention was also invited to Sec.141 of the Customs Act, which deals with conveyances and goods in a customs area subject to control of officers of customs, where it is stipulated that, all the conveyances and goods in a customs area shall, for the purpose of enforcing the provisions of the Act, be subject to the control of officers of customs, and the imported or export goods may be received, stored, delivered, despatched or otherwise handled in a customs area in such manner as may be prescribed and the responsibilities of persons engaged in the aforesaid activities shall be such as may be prescribed. Therefore, according to the learned Standing Counsel appearing for the Customs, respondents 1 and 2 are vested with ample powers to issue Exs.P2 and P3.

46. I have evaluated the rival submissions made across the Bar and perused the pleadings and the documents on record.

47. The discussion made above would make it clear that the sole question to be considered is, whether Exts.P2 and P3 issued by respondents 1 and 2 are in accordance with law and in accordance with the provisions of the Customs Act, Foreign Trade (Development & Regulation) Act and the Foreign Trade Policy, specified above. It is evident from the provisions of the Customs Act itself that, it is not only the provisions of the Customs Act that are to be taken care of while exporting goods, but the Act itself takes care of other prohibitory laws, like MMDR Act, 1957, the Tamil Nadu Prevention of Illegal Mining, Transportation and Storage of Minerals and Mineral Dealers Rules, 2011. Therefore, the contention advanced by learned Senior Counsel for the petitioner that, so far as an export is concerned, the law that is to be taken into account is only the provisions of the Customs Act, the Foreign Trade Policy and the Foreign Trade (Development & Regulation) Act cannot be sustained at all. Therefore, "any other law" that is prescribed under Sec.2(33) as well as Sec.11H of the Customs

Act, 1962, will also taken in any other prohibitory law.

48. In my considered opinion, if the intention of the Parliament was only the law relating to export as specified above, it should have been made specific in the Customs Act. Having not done so, and taking into account the provisions of MMDR Act, 1957, it is patent and clear, a harmonious and co-ordinated action is envisioned in the matter of providing mining lease, despite the fact that the Central Government is vested with powers for making Rules. It is also clear from the provisions thereunder, the entire operations are regulated, controlled and managed by the State Government. Apart from the same, a harmonious relationship is existing by and between the Union and the States, in accordance with the Federal principles. It is also clear, there is mutual respect for the laws made by the Central as well as the State Governments, unless there is clear transgression in the area of legislation, as contemplated under the Constitution of India. Moreover, the insistence made by the Customs officers is not with respect to garnet as is sought to be exported by the petitioner. The only question raised was source of minerals. Learned Senior Counsel for the petitioner submitted, all the

activities of the petitioner are in accordance with law, and after securing necessary mining permit, and transportation permit. If that is the situation, I am at a loss to understand why the petitioner is hesitant to produce such documents before respondents 1 and 2, which will facilitate the export, as is requested by the petitioner. It is not only the orders that are passed by the State of Tamil Nadu that are in vogue, the Rules, 2011 and MMDR Act, 1957 enables the State Government as well as the officers authorized thereunder to regulate, the mining operations within the State, issue transport permits between the mining area and the stockyard as well as to other areas.

49. Moreover, the Black's Law Dictionary, Ninth Edition defines "law" to mean; "(1) The regime that orders human activities and relations through systematic application of the force of politically organized society, or through social pressure, backed by force, in such a society; the legal system; and (2) The aggregate of legislation, judicial precedents, and accepted legal principles; the body of authoritative grounds of judicial and administrative action; esp., the body of rules, standards, and principles that the courts of a particular

jurisdiction apply in deciding controversies brought before them". The Chambers Concise Dictionary, Deluxe Edition, defines "law" in the following manner: "a rule of action established by authority; a statute, the rules of a community or state; jurisprudence; established usage; that which is lawful; the whole body of persons connected professionally with the law; litigation; a rule or code in any department of action, such as morality, art, honour, arms (including heraldry), a game; a theoretical principle extracted from practice or observation; a statement or formula expressing the constant order of certain phenomena".

50. Learned Senior Counsel for the petitioner has invited my attention to the judgment of the apex court in '***Om Prakash Bhatia v. Commissioner of Customs, Delhi***' [2003 (155) E.L.T 423 (S.C)] and the judgment of the High Court of Delhi in '***D.G. Exports v. Union of India***' [2015 (319) E.L.T 276 (Del.)], to canvass the proposition that there can be no restriction as to export of any item, unless it is expressly provided under the Foreign Trade Policy or any law in force. In my considered opinion, the said judgments are rendered on the basis of factual circumstances involved in the said case and

the facts on the case at hand are entirely different from the subject issues raised thereunder.

51. Learned Additional Advocate General has invited my attention to the judgment of the apex court in '***Common Cause v. Union of India and Others***' [(2017) 9 SCC 499], and a Full Bench judgment of this Court in '***Prakash Nayak v. The District Collector, Kasaragod and Others***' [2016 (4) KLT 102 (FB)], dealing with transportation of goods to Kerala, when there was a prohibition made by the State of Karnataka with respect to the goods transported viz., ordinary sand, and held that, once it is found that minerals include minor minerals, and that the subject matter of dispute is not in fact covered by the Sand Act in Kerala, or the Minor Mineral Concession Rules in Kerala, the prosecution procedure including seizure and arrest as provided under the MMDR Act, will have to be followed.

52. Taking into account all these aspects, I am of the considered opinion that, the Customs Authorities have issued Exts.P2 and P3 in accordance with the powers conferred on them under the Customs Act, the notifications issued by the Government of India specified above under the provisions of

Foreign Trade Policy, 2015-2020 read along with Sec.5 of the Foreign Trade (Development & Regulation) Act.

53. Upshot of the above discussion is, there is no case made out by the petitioner, justifying interference of this Court under Article 226 of the Constitution of India, there being no illegality, arbitrariness, or unfairness on the part of respondents 1 and 2 in issuing Exts.P2 and P3. However, I make it clear that, if the petitioner is able to produce the necessary documents as is required in Exts.P2 and P3, it is for the Customs Authorities to consider the same in accordance with law.

54. The writ petition is dismissed with the aforesaid observations. It is also made clear, all other questions of fact and law raised in the writ petition concerning the illegality of the orders issued by the State of Tamil Nadu and the consequential action taken by the 3rd respondent are all left open, since I am of the considered opinion that, they are not questions to be considered by this Court, for want of territorial jurisdiction.

Sd/-
SHAJI P. CHALY
JUDGE

St/-21.07.2018

Standard Operating Procedure (SOP) towards export policy of Beach Sand Minerals (BSM) in terms of Notification No. 26/2015-2020 dated 21.8.2018 published by Directorate General of Foreign Trade (DGFT), Ministry of Commerce, Govt. of India and published in the Gazette of India Extraordinary Part-II, Section-3, Sub - Section (ii)

Directorate General of Foreign Trade, Department of Commerce, Ministry of Commerce and Industry, Govt. of India issued Notification no: 26/2015-2020, New Delhi dated: 21.8.2018 – on export policy on Beach Sand Minerals (BSM) in Chapter 26 of Schedule 2 of ITC(HS) classification of export and import items 2018.

Export of Beach Sand Minerals - Ilmenite, Rutile, Leucoxene (Titanium bearing minerals under HSN 2614 0010, 2614 0020, 2614 0031, 2614 0039, 2614 0090), Zircon (HSN 2615), Monazite (under HSN 2612 1000, 2612 2000), Sillimanite (under HSN 2508 5031, 2508 5032, 25085039) and Garnet (HSN 2513 2030), vide the above notification have been brought under State Trading Enterprise and shall be canalised through M/s Indian Rare Earths Limited (IREL), a Government of India Undertaking. BSM permitted anywhere in the export policy will now be regulated in terms of policy under Sl. No: 98A of Chapter 26 of Schedule 2 Export policy.

Towards implementing canalisation of BSM as per the above notification, interim Standard Operating Procedure (SOP) was issued on 6th September 2018. The said SOP is amended to align with the extant policies and shall come in force with immediate effect for canalisation of export of BSM through IREL:

STANDARD OPERATING PROCEDURES :

1) All the exports of Beach Sand Minerals (BSM) to be canalised through M/s Indian Rare Earths Limited (IREL) w.e.f. 21.8.2018.
2) BSM producers / sellers desirous of exporting the Beach sand minerals shall provide Know Your Customer (KYC) documents to IREL for getting empanelled as supplier for export of BSM. The list of documents for KYC purpose is given below:
    - Application for registration (in the prescribed form) (Annexure – I)
    - A profile of the Company / firm, copy of Partnership Deed/Articles & Memorandum of Association, list of Partners/Directors and copy of their Permanent Account Number (PAN) Card, Ministry of Corporate Affairs (MCA) identity. Copies of passport.
    - Copy of Goods & Service Tax (GST) Registration.
    - Board Resolution / Letter from the partners authorizing all or any one of the directors/partners to sign the documents
    - Specimen Signature of the partners/directors/proprietor duly attested by the Bank

- Copy of PAN of Company
- Copy of Annual reports along with audited balance sheet and Profit & Loss Account for immediately preceding 3(three) financial years.
- Copy of income-tax returns for the immediate previous year.
- Import Export Code (IEC) Number, if any
- A letter from the Banker indicating the performance and creditworthiness of the Company/firm and also indicating the tenure of relationship.
- Undertaking stating that the director(s)/owner or proprietor or partner (as the case may be), is/are not convicted by a Court of Law for offences involving moral turpitude in relation to its business dealings with the Government and/or any other public sector enterprises, during the last five years.
- Undertaking stating that the business dealings has not been banned or suspended by Government of India, any Government authority connected with the line of minerals business or any of the Public Sector Undertaking (PSU) under Government.
- Any other document as deemed fit by Government of India.

(The above list of documents is exhaustive but not limited, as IREL may call for additional documents depending upon the situation).

3) The BSM producers / sellers shall have the option of extending facilitation in identification of foreign buyers for their material.
4) BSM producers / sellers desirous of exporting the Beach sand minerals shall furnish the following documents at least 30 days prior to export activity to IREL for necessary verification:
    a) Name of the mineral
    b) Letter of intent containing information pertaining to the mineral viz. quantity, quality (specification), name of the foreign buyer, price, tentative laycan (bulk shipment)/date of shipment (containerised shipment), port of loading, port of discharge, etc.
5) IREL will do due diligence of the foreign buyer through Indian Mission in the foreign buyer's country under intimation to External Relations (ER) Division of DAE. After satisfactory due diligence, further action on canalisation shall be undertaken. This

will be a one time exercise, and once the due diligence of the foreign buyer is done, the same shall be taken into consideration for future exports through canalisation. IREL may have the due diligence redone at periodic interval, if the situation so warrants.

6) Once the due diligence is done, IREL will enter into back to back contracts with the foreign buyer for FOB export of the mineral and with the respective BSM producer/seller for supply of the mineral to be exported. Multiple shipments may be made against one back to back contract between IREL and the respective BSM producer/seller and IREL and the foreign buyer as per the agreed terms and conditions of supply.

7) Upon receipt of the duly signed contract from the BSM producers / sellers(desirous of exporting BSM) for supply of the BSM under reference to IREL, duly signed contract for export of the BSM under reference from foreign buyer and payment from the foreign buyer, IREL shall ask the BSM producers / sellers to produce the following documents for necessary verification before shifting the material to the designated port for export:

   a) Monazite Test Certificate (MTC) issued by Atomic Minerals Directorate for Exploration & Research (AMD) for such consignment.
   b) All the relevant documents / permits / certificates as required for export of the said consignment
   c) Report of Petrological & Chemical Analysis of the mineral or any other analysis as deemed fit, duly certified by an Inspection agency registered under Export Inspection Council, Ministry of Commerce, Govt. of India(EIC) for quality inspection of minerals/DAE laboratory/NABL accredited laboratory.
   d) Certificate of Origin issued by authority designate
   e) Letter of indemnity – indemnifying IREL against any claims for non- receipt of export proceeds from the foreign buyer.
   f) Royalty payment receipt issued by State Government in case of BSM producers
   g) Purchase order / invoice copy in support of quantity of mineral purchased in case of any sellers

h) Copies of valid Environment Clearance(s) and Consent to Operate(CTO) documents issued by authority designate in case of BSM producers in order to ascertain the permissible production limits.

i) Copy of the licence issued by Atomic Energy Regulatory Board (AERB) under the Atomic Energy (Radiation Protection) Rules 2004 in case of BSM producers.

j) IBM Registration details of the BSM Producers/sellers as per Rule 45 of Mineral Conservation & Development Rules (MCDR)-2017.

k) Copy of latest Monthly Returns submitted under Rule 45 of MCDR – 2017.

l) Undertaking stating statutory compliances with respect to atomic minerals as applicable have been complied by the company.

m) End User Certificate from the buyer.

n) Any other document as deemed fit by Government of India.

(The above list of documents is exhaustive but not limited, as IREL may call for additional documents depending upon the situation).

(In order to ensure expeditious export, BSM producers / sellers may furnish these documents at the time of entering into an agreement with IREL for supply of BSM for export)

8) Sampling and analysis

Bulk Shipments

a) BSM producers / sellers shall make available the material to be exported at port prior to loading for sampling and analysis by IREL / Agency nominated by IREL. IREL/Agency nominated by IREL will draw seven representative samples, two each for the foreign buyer, IREL and BSM producers / sellers and one for independent agency, in presence of representative of BSM producers / sellers.

b) IREL shall have the representative sample analysed to verify the petrological & chemical analysis reports furnished by the BSM producers / sellers and also check the radioactivity levels.

Containerized Shipments

a) BSM producers / sellers shall make available the material to be exported prior to stuffing and sealing of each container at CFS for sampling and analysis by IREL / Agency nominated by IREL. IREL/Agency nominated by IREL will draw seven representative samples, two each for the foreign buyer, IREL and BSM producers / sellers and one for independent agency, in presence of representative of BSM producers / sellers. Thereafter, the container(s) shall be sealed by the Customs Department in the presence of IREL and BSM producers / sellers.

b) IREL shall have the representative sample analysed to verify the petrological & chemical analysis reports furnished by the BSM producers / sellers and also check the radioactivity levels.

9) Upon successful completion of exports, IREL shall remit payment for the BSM supplied by the BSM producers / sellers by deducting duties/taxes, all the expenses incurred by IREL for shipment of the material after receiving the same at Port of despatch and 3% of FOB value from the net amount received from the foreign buyer against the said consignment to cover canalisation expenses. The flow diagram for payment routing in accordance with back to back contracts between IREL & overseas buyer and IREL & BSM producers / suppliers is attached as Annexure - II

10) All contracts / agreements between IREL and foreign buyer for export of BSM shall be on advance payment basis / Letter of Credit.

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Annexure - I

REGISTRATION FORM for KYC

CANALISATION OF BEACH SAND MINERALS (BSM) THROUGH INDIAN RARE EARTHS LIMITED (IREL).

A) Applicant profile	
1. Name of BSM Producer / Seller	
2. List of the names & addresses of all associates, subsidiaries & holding companies (if any)	
3. Office & Corresponding Address	
4. Factory Address	
5. Telephone	
6. e-mail	
7. Website	
8. Year of Establishment	
9. Name of the load port / ports for export	
B) Company/ firm profile	
1. Type of ownership	Individual / Partnership / Others (Pl. Specify)
2. BSM Producer / Seller	
3. Nature of Company	NSIC / MSME/ Others (Pl. Specify)
C) Enclose Valid Documentary proof	
1. Copy of partnership Deed 2. Articles & Memorandum of Association 3. List of partners / Directors 4. Copy of their PAN card, 5. Copy of Passport, 6. MCA identity	(Yes /No) Remarks: (Yes /No) Remarks: (Yes/No) Remarks: (Yes/No) Remarks: (Yes/No) Remarks: (Yes/No) Remarks:
7. Copy of GST Number	(Yes/No) Remarks:
8. Board resolution / Letter from partners authorizing all or any one of the directors / partners to sign the documents	(Yes/No) Remarks:
9. Specimen signature of the partners / directors/ proprietor / duly attested by the Bank.	(Yes/No) Remarks:
10. Copy of PAN of Company.	(Yes/No) Remarks:
11. Copy of Import Export Code (IEC) certificate / Number, if any	(Yes/No) Remarks:
D) Financial Competence (Enclose Valid Documentary proof)	
1. Copy of Annual reports along with audited balance sheet and profit & loss account for preceding 3 (three) financial years.	(Yes/No) Remarks:
2. Copy of Income tax returns for the immediate previous year.	(Yes/No) Remarks:

3. Banker letter indicating the performance and credit worthiness of the company / Firm and also indicating tenure of relationship.	(Yes/No) Remarks:
4. Undertakings: a) Stating that the director(s) / owner or proprietor or partner (as the case may be) is not convicted by a Court of Law for offences involving moral turpitude in relation to its business dealings with the Government or any other public sector enterprises, during last five years. b) Stating that the business dealings has not been banned or suspended by Government of India, any Government authority connected with the line of minerals business or any of the PSU under Government. 5. Any other document as deemed fit by Government of India	(Yes/No) Remarks: (Yes/No) Remarks:

Declaration: I / we declare and confirm that all information and attachments submitted in this application are true and correct. I / we are aware that any false information provided herein will result in the rejection of my / our application and cancellation of any registration granted.

Place:
Date:

Authorised Signatory with Name and Designation
(Official seal of the company/firm)

- All documents submitted are to be self- certified by Authorised Signatory along name with official seal.

FOR OFFICE USE ONLY

KYC Acknowledgement no.:

Name of BSM Producer / Seller :

Total number of documents received---------- ,

Documents are checked and recommended for Registration.

(Name and Signature)
(Incharge Canalization,)
---------- Zone.

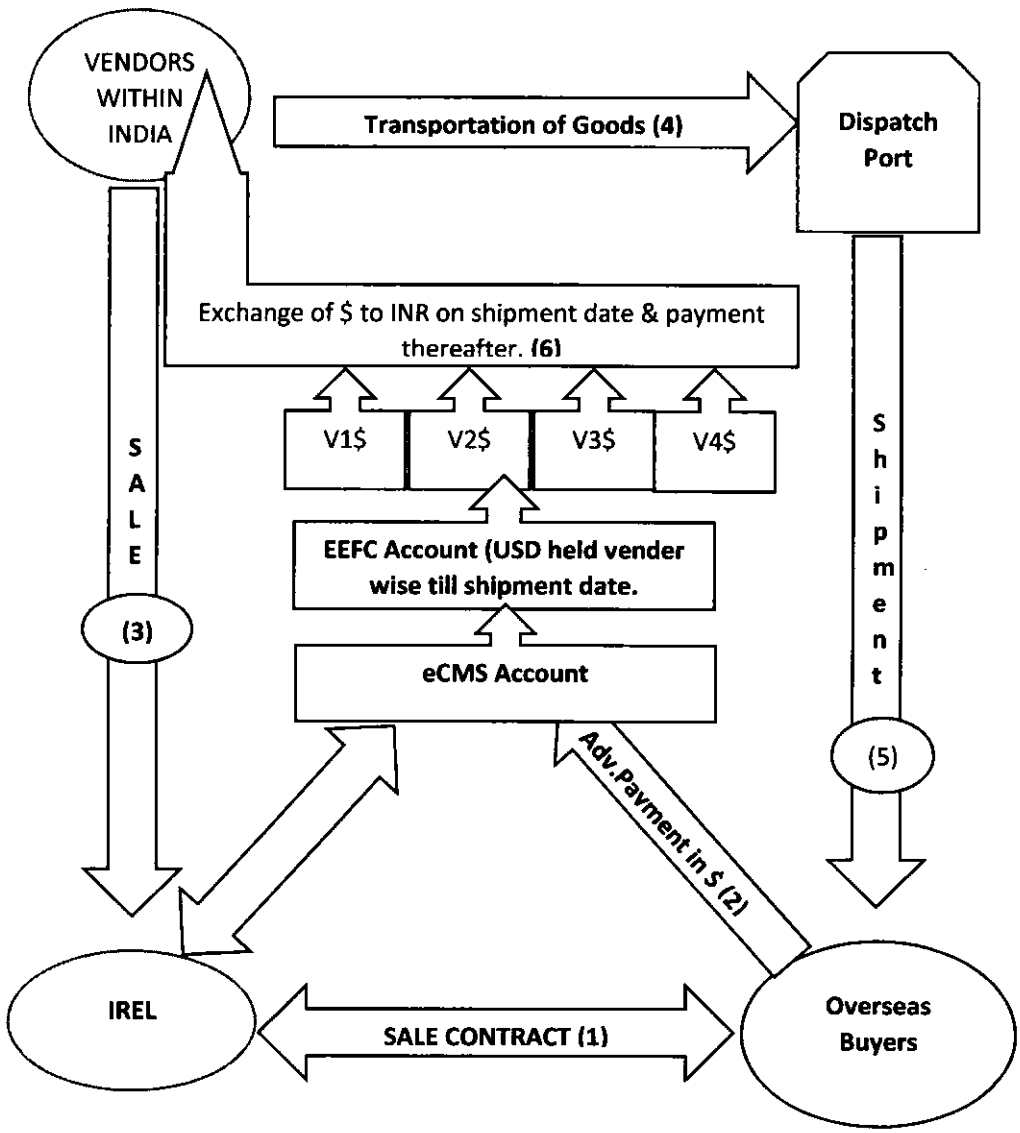
KYC Registration Number ---------- is allotted to M/s----------.

(Name and Signature)
Nodal Officer, Canalization.

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Annexure - II

FLOW CHART OF CANALIZATION



IN THE HIGH COURT OF KERALA AT ERNAKULAM

PRESENT

THE HONOURABLE THE CHIEF JUSTICE MR.HRISHIKESH ROY

&

THE HONOURABLE MR. JUSTICE RAJA VIJAYARAGHAVAN V

MONDAY, THE 3RD DAY OF SEPTEMBER 2018/12TH BHADRA, 1940

WA.No. 1724 of 2018

AGAINST THE JUDGMENT IN W.P.(C) No.650/2017 DT.26.7.2018

APPELLANT/PETITIONER:

M/S. V.V. MINERAL
KEERAIKARANTHATTHU,
TISAYANVILAI VILLAGE,
TIRUNELVELI DISTRICT,
TAMIL NADU,
REPRESENTED BY ITS MANAGER,
MR.C.SAKTHI GANAPATHY

BY ADV.SRI.JOSEPH KODIYANTHARA (SR.)
ADV.SRI. V. ABRAHAM MARKOS

RESPONDENT/S:

1 THE ASSISTANT COMMISSIONER OF CUSTOMS (SHB)
OFFICE OF THE COMMISSIONER OF CUSTOMS, CUSTOM HOUSE,
WILLINGDON ISLAND, COCHIN-682009

2 THE COMMISSIONER OF CUSTOMS,
CUSTOMS HOUSE,WILLINGDON ISLAND,
COCHIN-682 009

3 THE DISTRICT COLLECTOR,
TIRUNELVELI DISTRICT,TIRUNELVELI,
TAMIL NADU -627009

BY ADVS.
R3 BY SRI.C.MANISANKAR, ADDL.ADVOCATE GENERAL,
TAMIL NADU
R3 BY SRI.T.N.RAJAGOPALAN, GOVT. PLEADER/
STATE ATTORNEY, TAMIL NADU.
R1 & R2 BY ADV. SRI.SREELAL WARRIAR, SC
R3 BY ADV.SRI.RAJKUMAR K.R.

THIS WRIT APPEAL HAVING COME UP FOR ADMISSION ON 03.09.2018, THE COURT ON THE SAME DAY DELIVERED THE FOLLOWING:

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JUDGMENT

Hrishikesh Roy, C.J.

Heard Sri. Joeseph Kodiyanthara, the learned senior counsel for the appellant/writ petitioner. The 3rd respondent is represented by Sri. C. Manisankar, the learned Additional Advocate General, Tamil Nadu, duly assisted by the learned Government Pleader, Sri.T.N.Rajagopalan and Sri.K.Krishnamoorthy. The Customs Authorities are represented by Sri. Sreelal Warrier, the learned counsel.

2. The appellant is the writ petitioner. He challenges the judgment dated 26.7.2018 whereby W.P.(C) No.650 of 2017 was dismissed by the learned Single Judge. The challenge before the writ court was to the Exts.P2 and P3 orders of the Commissioner of Customs, Cochin, whereby the exporter was directed to produce the certificate/documents to show the legitimacy of the source for *Beach Sand Minerals and Natural Garnet* brought to Cochin Port for export by the writ petitioner. The insistence on verification of the source of the exportable material was in the backdrop of the 2013 ban on mining operation for *Beach Sand Minerals* imposed by the Tamil Nadu Government. The authorities felt that the *Beach Sand Minerals* out of which *Natural Garnet* is produced by the petitioner, was illegally sourced and transported to Kerala for export.

3. For the sake of convenience, the parties are referred to as they have appeared before the writ court. The petitioner is a registered Partnership Firm

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carrying on the business of separation and processing of *Beach Sand Minerals*. The 3rd respondent is the District Collector of Tirunelveli, Tamil Nadu, who has addressed a letter to the Cochin Port Authorities, which was acted upon and on that basis, the Exts.P2 and P3 communication was issued requiring the exporter to satisfy that the *Beach Sand Minerals* exported by them, is legally mined and is sourced through legal process. The petitioner contended that the restriction on export imposed by the Custom Authorities at the behest of the 3rd respondent, is wholly without jurisdiction and it impinges the right of the petitioner to freely export the mineral and Garnet.

4. The learned Senior counsel, Sri.Joseph Kodiyanthara, submits that the petitioner has sourced the *Beach Sand Mineral* from legitimate source and have produced Garnet out of it and the said item is permitted to be freely exported, under the current policy of the Government. Accordingly, he argues that the restriction imposed on a freely exportable item should have been quashed by the learned Single Judge. The petitioner contends that the Custom Authorities at Cochin Port should not have acted on the direction issued by the Deputy Collector, Thirunelveli as *Natural Garnet* is a freely exportable item. The learned counsel refers to the relevant provisions of the *Customs Act, 1962* to argue that the restriction on export of the item, cannot be permitted by law. The petitioner had moved around 3107 MT of *Natural Garnet* through the Cochin Port. The balance quantity of the exportable item is now lying in the warehouse and they are scheduled for export.

5. The Deputy Commissioner, Thirunelveli, Tamil Nadu, on the other hand, averred that the petitioner was indulging in large scale illegal mining and

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therefore, the Tamil Nadu Government had to step in to prevent such illegal activities. This led to filing of a series of writ petitions before the Madurai Bench of the Madras High Court. The case of the Deputy Commissioner is that the petitioner had extracted minerals beyond the projected reserves and this tantamount to illegal mining. The Madurai Bench of the Madras High Court had passed a status quo order on 11.11.2016 as per Ext.P1(a). But Ext.P1 order is challenged by the petitioner in Revision before the Mines Tribunal and the said Revision Application is pending. It is the specific case of the 3rd respondent that the petitioner had resorted to illegal mining and transportation of huge quantities of raw sand, garnet and other products and the details of the minerals unlawfully mined during the period from 2000-2001 to 2015 -2016 have also been mentioned in the counter affidavit filed by the respondent. To prevent such unlawful mining and transportation, the ban order was imposed in 2013 by the Tamil Nadu Government.

6. The learned Additional Advocate General Tamil Nadu, Sri.Manisankar, contends that there is no cause of action for filing the writ petition in the Kerala High Court as the impugned exhibits were based on the decision taken by a Tamil Nadu officer, enforcing prevention of illegal *Beach Sand Minerals* mining and transportation thereof. The respondents contend that large scale illegal Mining was noticed in the Tuticorin and other Districts of Tamil Nadu and steps were taken for stopping the illegal operations and issuance of Transit Passes for transportation of Garnet and other products. It is projected that the State Government have constituted District Level and Taluk Level Committees to look into the complaints of illegal mining of Beach Sand and transportation thereof, so that the violators can be penalised.

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7. What can be seen from the impugned judgment is that the Madras High Court has prohibited the petitioner from operating their units and the resultant challenge in W.P.(MD) Nos.19755 and other connected petitions are being heard on a day -to-day basis in the Principal Bench of the Madras High Court. It is also relevant to mention that even while the ban was in force, the petitioner had exported *Beach Sand Minerals* out of the Cochin Port, without securing valid Transit Permits and that is why, they are now required to certify the source of the exported minerals.

8. *The Customs Act, 1962* defines "prohibited goods" as also "illegal exports" and, of course, neither *Beach Sand Mineral* nor *Garnet* is one of the prohibited items, under the Customs Act. But *Rule 3* of the *Tamil Nadu Prevention of Illegal Mining, Transportation and Storage of Minerals and Mineral Dealers Rules, 2011* places ban on exploitation of minerals and minor minerals except sand and no person is entitled to transport or cause to be transported any mineral, without having valid Transit Pass. That apart, *Section 4(1A)* of the *Mines and Minerals (Development and Regulation) Act, 1957* (for short *'MMDR Act'*) prohibits transportation or storage any mineral, except in accordance with the provisions of this Act and the rules made thereunder.

9. What follows from the above narration is that while exporting, the exporter not only has to be concerned with the *Customs Act* but he must also adhere to other prohibitory laws like the *MMDR Act, The Tamil Nadu Prevention of Illegal Mining, Transportation and Storage of Minerals and Mineral Dealers Rules, 2011*. Merely because export of a particular product is permitted freely under the *Foreign Trade Policy* and the *Foreign Trade (Development and Regulation) Act*, the export of

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any item in violation of other prohibitory laws, cannot be permitted by court.

10. In any case, it is not a case of total ban on export imposed by the authorities but when the exporter is able to satisfy the legal source of the mineral to be exported, he is at liberty to export them. In fact, it is the specific case of the learned counsel for the petitioner that all the items awaiting for export have been sourced through legal operations. If that be the case, if the petitioner can satisfy the authorities about the legitimate source of the minerals, they can carry on with their export activities without any hindrance.

11. We find that the learned single Judge has considered all the above aspects and noted that the custom authorities have issued Exts. P2 and P3 orders in accordance with the powers conferred upon them, under the *Customs Act* as also the notification issued under the *Foreign Trade Policy read with* the *Foreign Trade (Development and Regulation) Act*. Therefore, the court concluded that there is no illegality in the issuance of Exts. P2 and P3 orders and the petitioner is at liberty to export his goods, as soon as he is able to satisfy the authorities on the legal source, of the exported minerals.

12. At this stage, it is necessary for us to take note of two judgments relied on by the petitioner's counsel. In *Om Prakash Bhattia v. Commissioner of Customs, Delhi [2003 (155) E.L.T. 423 (S.C.)*, the Supreme Court was considering restriction on export of goods, where proper valuation of the exported goods was insisted upon, to enable free export. In *D.G.Exports v. Union of India [2015 (319) E.L.T. 267 (Del.)*, the Delhi High Court was considering restriction on export of bullet-

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proof vests, which were considered to be restricted items in the nature of military stores. The facts in the two cited cases are entirely different and in our considered opinion, they do not be apply to the situation in the present case.

13. After due consideration of the rival submissions, we do not find any infirmity with the reasoning and the conclusions drawn by the learned single Judge and accordingly, the writ appeal stands dismissed.

Sd/-
HRISHIKESH ROY
CHIEF JUSTICE

Sd/-
RAJA VIJAYARAGHAVAN. V.
JUDGE

ps/3/9/18

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P.S. TO JUDGE

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MODIFIED CHART of Consolidated Table showing total quantum of unlawfully mined minerals, Lessee Wise after incorporating data provided by V.V. Mineral (ref: pg. 11 AC- Vol. 1 - Annexure)																			
S.No	Lessee	No of Leases Granted	Total quantum of minerals transported (in Metric Tonnes)							Total quantum of minerals unlawfully transported (in Metric Tonnes)							Actual production as reported in the Annual Returns		
			Raw Sand	Garnet	Ilmenite	Rutile	Zircon	Sillimanite	Leucoxene	Raw Sand	Garnet	Ilmenite	Rutile	Zircon	Sillimanite	Leucoxene	ROM	Garnet	Ilmenite
1	V.V.Mineral	34	9771100	2117200	2920027	30050	46700	45200	4200	4577330	1087829	2123202	20502	46556	45200	4200	7680052	1798361	776392
2	Transworld Garnet India Pvt. Ltd.	16	2183670	185150	-	-	-	200	-	1479028	100849	-	-	-	200	-	2422431	-	-
3	Beach Mineral Sands Company and Beach Mineral Company Pvt Ltd	10	2339100	875500	462945	-	500	-	-	1546619	614018	247972		500	-	-	2298365	280925	-
4	M.Ramesh	1	607000	256050	13000	-	-	-	-	544200	228819	13000	-	-	-	-	86175	17400	-
5	K.Thankaraj	1	667000	263455	-	-	-	-	-	623221	249973	-	-	-	-	-	200430	-	-
6	Industrial Mineral India Pvt Ltd	1	110000	18000	34000	3000	-	-	-	69999	15304	23894	2894	-	-	-	-	-	-
7	Indian Garnet Sand Company Pvt Ltd.	1	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		64	15678070	3715355	3429972	33050	47200	45400	4200	8840397	2296792	2408068	23396	47056	45400	4200	12687453	2096686	776392

1. Out of total quantum of 1,56,78070 (1.56 Crores) MTs of Raw Sand mined and transported, 88,40,397 (88.40 Lakhs) MTs is unlawful
2. Out of total quantum of 37,15,355 (37.15 Lakhs) MTs of Garnet mined and transported, 22,96,792 (22.96 Lakhs) MTs is unlawful
3. Out of total quantum of 34,29,972 (34.29 Lakhs) MTs of Ilmenite mined and transported, 24,08,068 (24.08 Lakhs) MTs is unlawful
4. Out of total quantum of 33,050 MTs of Rutile mined and transported, 23,396 MTs is unlawful
5. Out of total quantum of 47,200 MTs of Zircon mined and transported, 47,056 MTs is unlawful
6. Out of total quantum of 45,400 MTs of Sillimanite mined and transported, 45,400 MTs is unlawful
7. Out of total quantum of 4,200 MTs of Leucoxene mined and transported, 4,200 MTs is unlawful

SOURCE:

1. Data of IBM, AMD and Districct Mines Office
2. Data submitted by V.V. Mineral to Taluk Level Committee

Part B: Company-wise Analysis

1. Analysis of Stocks of M/s VV Minerals, R-8/22

17. As regards the stock found with M/s V.V. Minerals during the inspection by the Special Team, the report states that as against the declared quantity of stock of 42,11,032.85 MT, the Special Team found a total of 38,77,391.005 MT of stock. This amount was in turn divided as follows:

Category	Quantity (in MTs)
Raw Sand	30,36,290.685
Semi-processed sand	7,23,034.62
Semi-processed mineral enriched with Ilmenite	400.05
Garnet	69,609.25
Ilmenite	44,253.098
Zircon	2,994.7
Rutile	809.3
Total	38,77,391.005

(Source: Page 32, Special Team Head Report).

18. As previously stated, the above figures do not seem to reflect the quantification of the stock by minerals, based on the results of the mineralogical analysis. We therefore turn our attention to a detailed analysis stock-wise and mineral wise, based on the mineralogical analysis report submitted by AMD.

Quantity of Monazite that can be obtained from samples classified as 'Processed Minerals'

19. In all, out of 19 samples classified as Processed Minerals, 5 samples were found to have monazite content > 0.25% Monazite equivalent, the prescribed threshold value as stipulated by AMD, beyond which exports were not permitted.

20. The 5 samples are those having Sample Numbers TTk/ 2, TTk/ 3, and TTk/ 4 stocked in Mullakadu and TTk/38, TTk/ 39 stocked in Semdamangalam are containing Monazite content more than the prescribed concentration of 0.25% Monazite equivalent.

21. The total quantum of processed Ilmenite (TTk/ 2) stored in Mullakadu by VV Minerals is assessed as 7255.08 metric tons. The total heavy minerals concentrates in the stock is 98.832%. Ilmenite is having a concentration of 95.88% and Garnet is having 1.25%. Whereas, Monazite is having a concentration of 0.7040%. It reveals that 69,569 metric tonnes of Ilmenite and 911 metric tonnes of Garnet are found in the stock. Significantly, the quantity amounts to 510.7878 metric tonnes of Monazite.

22. The total quantum of processed Rutile (TTk/ 3) stored in Mullakadu by VV Minerals is assessed as 809.25 metric tons. The total heavy minerals concentrates in the stock is 99.048%. Rutile is having a concentration of 92.4180% and Zircon is having 2.2720%. Whereas, Monazite is having a concentration of 3.7580%. It reveals that 747.8927 metric tonnes of Rutile and 18.3862 metric tonnes of Zircon are found in the stock. Significantly, the stock is having a quantum of 30.4116 metric tonnes of Monazite.

23. The total quantum of processed Zircon (TTk/ 4) stored in Mullakadu by VV Minerals is assessed as 2635.65 metric tons. The total heavy minerals concentrates in the stock is 98.374%. Zircon is having a concentration of 91.7180%, Silimanite is having 0.3560% and Rutile is having 0.7750%. Whereas, Monazite is having a concentration of 4.8280%. It reveals that 2417.36 metric tonnes of Zircon, 20.4263 metric tonnes of Rutile, and 9.3829 metric tonnes of Silimanite are found in the stock. Significantly, the stock is having a quantum of 127.2492 metric tonnes of Monazite.

24. The total quantum of processed Zircon (TTk/ 39) stored in Sendamangalam by VV Minerals is assessed as 359 metric tons. The total heavy minerals concentrates in the stock is 99.016%. Zircon is having a concentration of 93.4520% and Silimanite is having 3.1880%. Whereas, Monazite is having a concentration of 0.9440 %. It reveals that 335.4927 metric tonnes of Zircon and 11.4449 metric tonnes Silimanite are found in the stock. Significantly, the stock is having a quantum of 3.3890 metric tonnes of Monazite.

25. To sum up, in all, a total quantity of 671.83 metric tonnes of Monazite can be derived from the above stocks of processed minerals.

Total Monazite that can be extracted from Processed Mineral Samples > 0.25% Monazite Equivalent

Sl. No	Sample No.	Village	Processed Mineral	Total Stock (In MTs)	Monazite %	Monazite quantity (In MTs)
1	TTk 02	Mullakadu	Ilmenite	72,555.08	0.704	510.79
2	TTk 03	Mullakadu	Rutile	809.25	3.758	30.41
3	TTk 04	Mullakadu	Zircon	2635.65	4.828	127.25
4	TTk 39	Semda-mangalam	Zircon	359	0.944	3.389
				Total Monazite		671.839

Source: Mineralogical data submitted by AMD

Analysis of samples classified as raw sand but with presence of heavy minerals quantities above normal levels

26. Of all the samples taken from M/s VV Minerals from its stock yards in all the three districts, about 19 samples were categorised as 'Raw Sand' stocks based on the fact that these samples were found to contain < 30% THM content. Interestingly, of these 19 samples, 5 samples were found to be different in the sense that while the THM % was < 30%, other heavy minerals like Rutile, Zircon, Leucoxene, Monazite, Silimanite were found in substantial proportion of more than 10% in these stocks. This indicates that the stock was not raw sand, but perhaps was actually 'tailings' or in other words, residual sands after extraction of garnet and Ilmenite. The samples therefore ought to be rightfully considered as Semi-processed Minerals and not as raw sand. The following 5 samples so identified are all drawn from stocks in Tirunelveli District: TNV 31, 32, 39, 51, 63.

27. It is interesting to note that in 4 out of these 5 samples, the monazite content is > 0.25 % Monazite Equivalent. These are Samples Number TNV 31, 39, 51 and 63.

28. A total quantity of 5, 201.66 MTs of monazite can be extracted from these stocks as shown below:

Total Monazite that can be extracted from select Raw Sand Samples > 0.25% Monazite Equivalent

Sl. No.	Sample No.	Village	Total Stock (In MTs)	Monazite %	Monazite quantity (In MTs)
1	TNV 31	Tiruvambalapuram	8,41,167.9	0.56	4,713.06
2	TNV 39	Tiruvambalapuram	14,069.1	1.26	176.66
3	TNV 51	Irukkanthurai	5,166	0.31	15.98
4	TNV 63	Levinjipuram	1,02,764.77	0.288	295.96
			Total Monazite		5,201.66

Source: Mineralogical data submitted by AMD

Status of Stocks Declared by mining company and as estimated by Special Team: Are they raw sand mined before or after ban in September, 2013?

29. A crucial question that needs to be addressed is whether the quantity of stocks found by the Special Team, amounting to 38.77 lakh tonnes, are stocks remaining from the balance stocks available with the company in September 2013 when the ban was imposed or whether the stocks were illegally mined after the impositions of the ban during the period September 2013 to end 2016.

30. To study this question, it is necessary to examine the declaration of stocks as provided by the company before different authorities. There are 3 types of information that is relevant to be examined:

(i) In the Counter filed by Respondent -2, DAE, dated 10th January, 2017, it is stated that the Company had submitted information to DAE in pursuance to the directions in the present proceedings, to have mined a total quantity of raw sand - ROM – from all the 34 mining leasehold areas, of 98,88,100 metric tonnes during the period 2007 - 16. The point to be noted is that this figure of 98.88 lakh tonnes has been provided by R8/22 in several places, and can therefore be taken to be the figure of ROM mined by the company.

(ii) The same company (i.e. R8 and 22) has submitted a detailed chart showing the total ROM mined and transported between 2000-2001 to 2013-14 (upto September 2013), the quantity sold as exports and local sales, waste sand, 'Total ROM quantity transported on payment of Advance Royalty' and the '*Balance available quantity of royalty suffered ROM*' available in VV Mineral processing plants as of 2015 - 16. This was submitted to the Taluk-level committee, which was enquiring into the complaint of illegal extraction and transportation of BSM (See Table). The figures in a nutshell are as follows:

Category		**Total Quantity (in Metric Tonnes – MTs)**
Total ROM quantity transported on payment of Advance Royalty		98, 80, 600
Total Sales	56,59,688.22	
Waste	1,12,000.00	
Grand Total (sales + waste)	57,71,688.22	57,71,688.22
Balance available quantity of ROM (as of 2013-14, when Ban was imposed)		50,74,860.58
Balance available quantity of ROM (as of 2015-16)		41,08,911.78

Source: Abstract submitted by M/s VV Minerals to Taluka Level Committee in 2016.

(iii) In the declaration made by R8/22 to the Special Team in 2017, it was disclosed that they had a stock of 42.11 lakh tonnes.

The crucial question to analyse here is about the status of this stock of raw sand, as to whether it was mined before the ban was imposed in September, 2013, or if it can be held to be illegally mined between September, 2013 – end 2016 when all mining and transportation

operations came to a halt pursuant to this Hon'ble Court taking notice of the issue.

31. An analysis of the details provided in the Abstract filed before the Taluka Level Committee reveals that there are only two possible analysis of the data submitted:

a) Explanation A: If we are to consider that the 'Balance Quantity of ROM' of 41,08,811.78 MTs is correct, then the following calculation becomes relevant:

As against a Total ROM of 98, 80, 600 MTs transported:

A: Total ROM processed:	57,71,688.22 MTs
B: Total yield of BSM: (Exports+Local)	56,59,688.22 MTs
C: Recovery % of THM: B/A x100	98.41%

Recovery % of 98% is totally unknown and is totally unsubstantiated by available literature and AMD benchmarks as also approved Mining Plans / Scheme of Mining.

b) Explanation B: If the recovery % of THM as a proportion of Total ROM transported is considered as correct, then the following calculation emerges:

A: Total ROM Transported:	98,80,600 MTs
B: Total BSM sold / produced:	56,59,688.22 MTs
C: Recovery % - B/A x100:	58.41 %.

There are 2 issues to be kept in mind at this juncture:

(a) The recovery of 58.41% THM from ROM is very high and not supported from available literature nor are they supported by reference to approved Mining Plans / Scheme of Mining of the company concerned.

(b) It needs to be pointed out that the break up of the 56.59 lakh MTs of Minerals sold has not been provided in terms

of the constituent heavy minerals like Garnet, Ilmenite, Rutile, Silimanite, Leucoxene and Zircon. The absence of information of the various heavy minerals sold is a major constraint, as it becomes difficult to evaluate the total ROM required to process to obtain different BSMs.

(c) Be that as it may, even if we assume that the Minerals sold was of the same product, then to produce 56.59 Lakh MTs of processed minerals capable of being sold, at least 3 times to quantity of Raw Sand (ROM) will be required. In other words, a minimum quantity of 1.6 to 2.00 Crore M. Tonnes of raw sand would be required to be processed to produce 56.59 Lakh MTs of minerals. This quantity is not only not reflected in the Abstract, but also completely exposes the Abstract as not being a true picture of facts.

(d) Very importantly, the sand left behind after processing for minerals, can only be waste sand and cannot be treated as raw sand available for fresh mineral processing.

32. Thus, in any which way we examine the Abstract, it is clear that the table does not reflect the true facts. More importantly, the figure depicted as 'Balance available quantity of ROM' cannot be treated as ROM remaining in balance after processing.

33. The implication of this finding is that the declaration made in the abstract of Balance ROM available since 2013-14 onwards, cannot be treated as raw sand but as waste sand. Consequently, the figure of 41,08,911 MTs of ROM shown in the Abstract is either

(i) waste shown wrongly as ROM; or

(ii) ROM mined after the ban period, in which case it is illegal.

34. It is possible to demonstrate that the calculation adopted in the Abstract provided by the Mining Company is flawed and an attempt to obfuscate facts using simplistic calculation. This can be done by considering the data for any one year.

35. As a case in example, we may take the figures for the year 2011-12 and 2012-13, which shows the following:

A: Balance ROM as on 31.3.2012:	36,80,126.62 MT
B: Tot. ROM transported during 2012-13:	16,44,000 MT
C: Total ROM (A + B):	53,24,126.62 MT
D: Qty ROM Processed:	5,50,349.91 MT
E: Qty Minerals sold in 2012-13:	5,50,349.91 MT
F: Qty Waste:	NIL
G: B/c ROM in 2012-13 (C-E):	47,73,776.71 MT

36. What is to be noted is that to produce 5,50,349.91 MT of BSM which is sold, a minimum of 3 times quantum of raw sand would be required to be processed. After processing, that sand is no longer raw sand but is waste and cannot be shown as raw sand.

37. Curiously, using sophistry, the company does a simple calculation to state that the balance ROM is 47.73 lakh tonnes, which is impossible and will have to be dismissed as an unreal figure.

38. Put differently, we can depict the calculation in the following manner:

Raw sand (-) Raw Sand = Raw sand.

Processed Mineral (-) Processed Mineral = Processed Mineral

Raw Sand (-) Processed Mineral CANNOT be Raw sand.

39. The above calculation is just an illustration to show how the table is not only flawed but also fraudulent. The same method of calculation is used in the entire table. This method of analysis is adopted by the company for all the years between 2000 – 01 to 2015 – 16.

40. Stocks Found by Special Team is Illegally Mined: In light of the above, the finding of the Special Committee that there is a total quantity of 38.77 lakh MT of stock including 30.36 lakh MT of raw sand can only imply that this stock was mined illegally, including after the ban period imposed in September 2013.

Analysis of the inspection of the Monazite tailings yard in Tiruvambalapuram village, Tirunelveli district:

41. The Sahoo committee Report highlights the fact that the inspection of the Monazite tailings yard at Tiruvambalapuram carried out by the

team lead by the specialist group AMD, found a quantity of 1,35,135 MT of Monazite enriched tailings at an average grade of about 17.2%-17.47%, amounting to a total of 23,608 MT of Monazite. Though the total figure of 1,35,135 MT of Monazite tailings differs substantially from the quantity of tailings declared by the company (80,725 MT of Monazite tailings with other heavy minerals and Silica waste), the total quantum of Monazite varies only slightly. Only the expert agencies and the company can explain the discrepancy in the total amount of tailings found. However, considering that the total quantity of pure Monazite calculated by AMD as highlighted in his reply affidavit dated 10.01.2017 of 23,461.7 MT viz. the present finding of 23,608 tonnes, the discrepancy is not too high.

42. A much more critical point is the fact of the quantum of ROM (raw sand) that is required to produce 23,461 or 23,608 MT of Monazite. Using a very rough calculation, it was already highlighted in the 1st report of the Amicus Curiae filed before this Court on 20th June, 2017, that a total quantity of ROM amounting to between 4.6 to 4.9 Cr tonnes of raw sand will be required to produce 23,462 tonnes of Monazite. None of the respondents so far have controverted this figure.

43. In this background, the crucial point to be highlighted is the fact that while the total amount of raw sand declared by R8/22 to have been mined between 2000-01 to 2013-14 is only 98.88 lakh tonnes. Monazite tailings indicate a massive amount of 4.6 to 4.9 Cr tons of raw sand having to be required to be mined. All this therefore indicates a huge discrepancy between factual records of transportation, declarations made by the company as to the extent of ROM mined and the actual fact as disclosed from the Monazite tailings.

44. Adding complexity to this is the fact that the report of the Special Team indicates that a quantity of 671.89 metric tonnes of Monazite can be extracted from the processed minerals kept packed in bags in Tuticorin with Monazite content between 0.7% to 4.8% (See Table above). Using the same calculation method, a much higher proportion of raw sand (ROM) would be required to produce 667.4 metric tonnes of pure

Monazite. Using the same mode of calculation, about 13 lakh tonnes of raw sand would be required to produce 671 MT of Monazite.

Total Quantity of Monazite that can be extracted from Stocks available with M/s VV Minerals which are > 0.25% Monazite Equivalent.

44. If one was to calculate the total quantity of Monazite contained in all the various stocks of the company, (including raw sand, semi-processed and processed minerals) which are greater than 0.25% Monazite equivalent, we get a figure of about 15,000 MT of Monazite.

45. In other words, apart from the 23,608 MT of Monazite available in the Monazite tailings yard, a quantity of 15,000 MT of Monazite can be extracted from the stocks of M/s VV Minerals, adding to a total of 38,608 MT approximately of Monazite. Using the same backward calculation, this will require a figure upwards of 6.00 to 7.00 Cr tonnes of ROM (raw sand) must have been mined.

46. To summarize the findings, the following are the key points:

(i) The total quantity of stock found to belong to M/s VV Minerals as reported in the Sahoo Committee Report of 38.77 lakh tonnes is totally illegal.

(ii) The total quantity of Monazite available in the processed minerals is 671 MT.

(iii) The total quantity of Monazite available in the stocks of the company amounts to approximately 15,000 MT.

(iv) The total quantum of Monazite available in the Monazite tailings stored in the designated site at Thirvambalapuram village is 23,608 MT as found by AMD.

(v) A total quantity of over 4.6 Cr tonnes of raw sand is required to produce 23,608 MTs of Monazite. How and where this was obtained or how such a massive mining could be covered up is a matter that is required to be inquired into by specialised agencies competent to undertake such an investigation.

(vi) If to the stock of 23, 608 MTs of Monazite, a further quantity of 15,000 MTs of monazite that can be extracted from all the stocks of the company is added, a total figure of 38, 608 MTs of Monazite

merges. As explained before, this, in turn, would require a quantity of over 6 to 7 crore tonnes of raw sand (ROM).

2. Analysis of Stocks of M/s Transworld Garnet India Pvt. Ltd, R-9

47. The Report of the Special Team in respect of stocks of raw sand and minerals processed by M/s Transworld Garnet has reported that as against a declared quantity of 17,75,761 MT of stock, the quantity estimated by the Second Level Teams is 16,30,724.5 MTs. A more detailed breakup of this figure is provided by the Special Team in the following Table:

SL. No.	Category	Quantity (in MTs)
1	Raw Sand	15,21,713.5
2	Semi processed sand	1,02,870
3	Garnet	6140.86
	Total	16,30,724.36

Source: Sahoo Committee Report, page 32

48. It is necessary to point out that Transworld Garnet India Pvt. Ltd. has been granted 14 mining leases for mining garnet in Tirunelveli district and 2 mining leases for mining garnet in Thoothukudi district. They do not have any mining lease for mining Ilmenite and other BSMs.

49. While so, one of the samples relating to Processed Mineral, viz., TTk 15, relating to sample taken in Kootudankadu village in Thoothukudi district, found THM concentration of 98.472% in a stock of 6140.86 MT quantity. It is reported that this processed mineral is a finished product kept in bags for sale.

50. In this sample, Garnet concentration was found to be 91.95 % amounting to 5646.76 MTs of garnet.

51. Very interestingly, this same sample also contains 6.5 % of Ilmenite amounting to 399.16 MTs of Ilmenite. In other words there was a substantial quantity of Ilmenite in the stock which is said to be mainly Garnet.

RESPONDENT COMPANY WISE MONAZITE PERCENTAGE MORE THAN 0.25% IN THE MINERAL STOCKED IN THREE DISTRICT

Minerals	V/V.Minerals				BMC				IMC				Transworld				IOGS			
	<0.25%	Quantity	>0.25 %	Quantity	<0.25%	Quantity	>0.25 %	Quantity	<0.25%	Quantity	>0.25 %	Quantity	<0.25%	Quantity	>0.25 %	Quantity	<0.25%	Quantity	>0.25 %	Quantity
Raw sand	13	2242.02	9	5267.93	1	9334.99	0	0	3	811.69	2	127.92	2	2719.3	0	0	1	48.35	1	152.84
Semi processed	9	10.7	33	6755.85	2	61.3	3	3765.75	3	496.83	5	2682.1	0	0	1	265.41	2	4.21	12	1441.62
Processed	14	51.85	5	671.99	5	0.46	3	15.23	7	4.13	0	0	1	0.24	0	0	1	0.35	1	91.6
	36	2304.57	47	12695.77	8	9396.75	6	3780.98	13	1312.65	7	2810	3	2719.54	1	265.41	4	52.91	14	1686.06
	83		15000.34		14		13177.73		20		4122.65		4		2984.95		18		1738.97	

M. SATHYANARAYANAN,J.,
AND
N. SESHASAYEE,J.,

(Order of the Court was made by M. SATHYANARAYANAN, J.,)

Arguments in this batch of cases are going on since 09.07.2018 and Dr.V. Suresh, learned Amicus Curiae, is in the midst of making his submissions.

2. When the learned Amicus Curiae started making his submissions, Mr.Srinath Sridevan, learned counsel appearing for the Respondents No.8 and 22 viz., M/s V.V. Mineral (R.8) and Mr.S. Vaikundarajan (R.22) would submit that the scope of present suo-motu proceedings in W.P.No.1592 of 2015 pertains only to "Monozite". However, the said submission is strongly opposed by Dr.V. Suresh, learned Amicus Curiae as well as Mr.Selvaraj, who appears for one of the respondents viz.Dhaya Devadas (R.26) in the suo-motu writ petition.

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3. Therefore, the issue, to be decided is, whether the present suo-motu writ petition covers only one of the Beach Sand Minerals namely "Monozite".

4. A Perusal of the materials placed before this Court would disclosed the following facts:

5. W.P.(MD)Nos.5549 of 2007, 14399 of 2011, 14400 of 2011 and 1233 of 2012 came to be filed and all the writ petitions were disposed of by Common Order dated 12.12.2013. In the writ petition in W.P.(MD)No. 1233 of 2012, filed by Mr.Dhaya Daradas, one of the respondents in the suo-motu writ petition, the prayer was for issuance of a writ of mandamus directing enquiry into massive illegal beach sand mining in Tamil Nadu.

6. The Division bench of this Court has taken note of the fact that the Government of Tamil Nadu issued G.O.Ms.No.156, Industries Department dated 08.08.2013, formed a Special Team, headed by Thiru.Gangandeep Singh Bedi, I.A.S., Secretary, Revenue Department to inspect leases granted to private parties for mining major minerals

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like "garnet, ilmenite and rutile etc., so as to have a comprehensive assessment of the mining of major minerals.

7. The Division Bench has also taken note of the said fact and observed as follows:

" In such circumstances, in view of the fact that a committee of experts, under the Chairmanship of Mr.Gangandeep Singh Bedi, Secretary, Revenue Department, has been constituted by the State Government to examine, investigate and to file a report after physical verification of the mining sites in question, we find it appropriate to permit the petitioner in the writ petitions, including those who are wanting to implead themselves in the writ petitions, to submit their representations to Mr.Gangandeep Singh Bedi, the Chairman of the Committee, along with necessary documents, if any, within fifteen days from today. It is also made clear that it would also be open to the private respondents, who are parties herein, to submit their representations to the Chairman of the Committee, within the time specified above. On receipt of such representations, the Committee

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concerned shall examine the issues, by making necessary enquiries and investigate and if necessary, by serving appropriate notices on the parties concerned, and file a report before the State Government for necessary action, as expeditiously as possible.

In such circumstances, in view of the fact that the parties concerned have been given the liberty to place all the relevant materials before the Committee of experts, constituted by the State Government, we are not inclined to make any observations, with regard to the validity and correctness of the claims and counter-claims made by the parties before this Court. It would be left to the Committee concerned to check and to verify such claims, if necessary, by providing an opportunity of hearing to the parties concerned and to file its report before the State Government, as directed by this Court, by this order. On receipt of such report it is for the State Government to take appropriate steps and to pass necessary orders, as it finds fit and necessary, in accordance with law".

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8. M/s V.V. Mineral and M/s Transworld Garnet India Pvt Lt filed Writ Petitions in W.P.Nos.16716 and 19641 of 2014. Both the Writ Petitions were taken together for hearing and the learned Single Judge of this Court displaced Mr.Gangandeep Singh Bedi from the Chairmanship of the Committee and appointed Mr.Vinod Kumar Sharma, (former Judge of High Court of Punjab and Haryana) and the retired Judge of this Court as the Chair-person of the Committee only insofar as the Petitioners in WP Nos.16716 and 19641 of 2014.

9. Aggrieved by the above said order, Mr.Dhaya Devadas filed Writ Appeals in W.A.Nos.1220 and 1221 of 2015 and the State Government filed Writ Appeals in W.A.Nos.1168 and 1169 of 2015 and the writ appeals have been entertained and are pending.

10. It is to be pointed out at this juncture that a perusal of the order in both the writ petitions would disclose that findings have been given as to the alleged illegal mining and admittedly the Special Committee headed by Mr.Gangandeep Singh Bedi I.A.S., has prepared the Report and the copies of the same, have also been furnished to the respective learned counsel appearing for the parties.

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11. Insofar the suo-motu Public Interest Litigation is concerned, originally it was filed by G.Victor Rajamanickam and by order dated 28.12.2016, the petitioner had withdrawn the proceedings and the Writ Petition, filed by him, was treated as suo-motu Public Interest Litigation by this Court.

12. The Writ Petition, originally filed by G. Victor Rajamanickam came up for hearing on 23.01.2015 and it was represented on behalf of the petitioner that he confines his relief to what he claims to be unauthorised beach sand mining of monozite mineral, which is not capable of being mined, unless permission is granted by the Central Government. Therefore, notices were ordered to the respondents. Subsequently, the same was converted as suo-motu Public Interest Litigation by this Court by order dated 28.01.2016.

सत्यमेव जयते

13. The Hon'ble First Bench of this Court (Hon'ble Mr.Jusice Sanjay Kishan Kaul, as the then C.J., and Hon'ble Mrs.Justice Pushpa Sathyanarayana) by Order dated 28.01.2016 had appointed Dr.V. Suresh, as Amicus Curiae to assist in this mater and thereafter,

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the learned Amicus Curiae filed memos, seeking certain directions.

14. When the writ petition came up for hearing on 21.11.2016, the learned Amicus Curiae emphasized that post 2013, the mining was prohibited and transport licenses not issued and therefore, there could be no issue of even mining of other beach sand minerals and he also submits that the export of Garnet and Ilmenite specially from the port of Tuticorin is a matter of concern as to where these minerals are actually coming from.

15. The First Bench has taken note of the submissions made by the learned Amicus Curiae and issued direction for impleadment of parties i.e., (i) Commissioner of Customs and Central Excise, Thoothukudi Port (ii) Regional Commissioner of Customs and Central Excise, Chennai and (iii) Chairman, VO Chidambaranar Port Trust, Thoothukudi with a further direction to amend the cause title.

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16. The matter came up for hearing on 27.03.2017 and an Order has been passed and the relevant portion of the order, is extracted hereunder:

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" 4. It is pointed out that through out coastal area of Tamil Nadu, beach sand mineral by low tide and high tide sea ways, will produce different minerals, viz., Garnet, Ilemenite, Rutile, Sillimanite and Monazite and other high valued minerals. Of which, Monazite, a prescribed substance – mineral, coming under the purview of Atomic Minerals Department. Being high value mineral and a natural wealth, it should be preserved and should not be leased out without proper approval of Atomic Minerals Directorate (AMD) and the Indian Bureau of Mines (IBM). The said mineral has to be isolated from crude form of sand mining and it can be best utilized in atomic power generation and manufacturing of Uranium and other types of heavy materials. In fact, by order dated 22.07.2016, this Court has taken note of the aspect of monozite mining and observed that it is for the Central Government to take a policy facilitating the utilisation of monozite mine, however, so far, no such policy had been brought. The learned Additional Solicitor General would submit that the

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Central Government alone has the right to grant permission for Monozite mining and as on date, no such permission was granted. Having regard to the high value of the mineral Monozite, which is a rare metal and considered as quite valuable and could be used as a replacement for Uranium in nuclear power generation, the Central Government has to take a policy decision and regulate the mining of the same. The learned Amicus Curiae would submit that while mining beach sand for minerals all along the coastal area of Tamil Nadu in respect of above said four Districts, it is very difficult to differentiate and isolate the Monozite mineral from among other minerals, such as, Garnet, Ilmenite, Rutile, Sillimanite etc., unless a scientific research by the Experts in the field.

5. In the light of the above discussion, we feel it appropriate to pass the following:

i) The Special Team constituted by the State Government vide G.O.No.29 dated 25.05.2017, is directed to send the requisite Experts from Atomic Minerals Directorate (AMD) for Exploration and Research,

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Hyderabad and the Indian Bureau of Mines (IBM), Chennai to the coastal area of the above said four Districts to collect the samples

of raw material from sand mining and make an assessment of the availability of mineral Monozite and submit a comprehensive report;

ii) The Central Government shall take effective steps as a policy decision and regulate the process of mining and restrict the license in respect of Monozite;

iii) In view of the fact that despite the ban imposed, it is reported that still there was illicit mining, while extending the State wise already granted, the Special Team is directed to direct the special squads comprising of Police, Revenue, Mining and other departments, which being formed pursuant to Letter dated 25.03.2017 of the State Government, to frequently conduct patrolling of sea shore area to detect and stop mining of beach sand across the coastal districts of Tamil Nadu and take stringent action against those who involved in illicit mining.

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iv) The Assistant Commissioners of Customs, Tuticorin and Chennai (impleaded as party respondents vide order dated 21.11.2016) are directed to furnish the details of quantity of

Monozite and other beach minerals, viz., Garnet, Ilemenite, Rutile, Sillimanite, Zircon, etc., that were exported and their values, years wise from 2006 to till date.

v) It is made clear that since the mining activities have been temporarily banned, the Central and State Government shall not insist upon the payment of royalty for the present;"

17. *In pursuant to the order dated 27.03.2017, originally Mr.Kasirajan, I.A.S was appointed and subsequently, he was replaced by Mr.Satya Bratta Sahu, I.A.S and he has conducted an enquiry and submitted a detailed Report and a copy of the said Report was also directed to be furnished to the respective learned counsel appearing for the parties and they have also been furnished with copies of such report.*

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18. The prayer in W.P.No.1592 of 2015, which was converted into a suo-motu Public Interest Litigation, is for issuance of a writ of mandamus directing investigation by a special investigation team to probe illegal beach sand mining in the coastal districts of Tamil Nadu and to bring the offenders to justice as this Hon'bel Court may deem fit.

19. In the light of the fact that the common order dated 12.12.2013 passed in W.P.(MD)Nos.5549 of 2007, 14399 of 2011, 14400 of 2011 and 1233 of 2012 and the order passed by the Division Bench of this Court dated 29.07.2015 in W.P.Nos.19616 and 19641 of 2014 did not conclude the proceedings as to the alleged illegal sand mining coupled with the fact that the in the light of the aforesaid orders, which have been extracted above, this Court is of the considered view that the scope of suo-motu Public Interest Litigation covers not only "Monozite" but also all other Beach Sand Minerals especially with regard to the alleged illegal mining, transportation and other alleged activities.

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20. It is also to be pointed at this juncture that the submissions made by the learned Amicus-Curiae is in respect of all the Beach Sand Minerals and in the light of the doubt expressed by Mr.Srinath Sridevan, learned counsel, this Court is constrained to pass the present order for clarification.

21. Thus, this Court makes it clear that Suo-motu Public Interest Litigation covers all Beach Sand Minerals, pertains to alleged unauthorised/illegal extraction of minerals, transportation and other associated alleged illegal or unlawful activities.

Post the matter on 30.01.2019 at 2.15 p.m.

(M.S.N.J.,) (N.S.S.J.,)
21.01.2019

sr

Note: Registry is directed to upload the order in website and parties are at liberty to file certified copy of the order and it shall be paid subject to payment of necessary charges.

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M. SATHYANARAYANAN,J.,
AND
N. SESHASAYEE,J.,

sr

W.P.No.1512 of 2015

21-01-2019

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MINISTRY OF MINES

NOTIFICATION

New Delhi, the 19th February, 2019

G.S.R. 126(E).— In exercise of the powers conferred under section 11B of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules to amend the Atomic Minerals Concession Rules, 2016, namely:-

1. (1) These rules may be called the Atomic Minerals Concession (Amendment) Rules, 2019.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Atomic Minerals Concession Rules, 2016 (hereinafter referred to as the said rules), in rule 2, in sub-rule (1), in clause (m), for the words "to be specified and notified by the Department from time to time", the words "as specified" shall be substituted.

3. In the said rules, for rule 36, the following rule shall be substituted, namely:-

"**36. Power of the Central Government to amend Schedule A.–** The Central Government may, in consultation with the Department, by notification in the Official Gazette, amend **Schedule A** so as to amend the threshold value, as may be specified in the notification.".

[F. No. 1/1/2019-M.VI]

NIRANJAN KUMAR SINGH, Jt. Secy.

Note: The Atomic Mineral Concession Rules, 2016 were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide notification number G.S.R. 677(E), dated 11th July, 2016.

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भारत का राजपत्र
The Gazette of India

EXTRAORDINARY

II— — (i)

PART II—Section 3—Sub-section (i)

PUBLISHED BY AUTHORITY

No. 118] NEW DELHI, WEDNESDAY, FEBRUARY 20, 2019/PHALGUNA 1, 1940

खान मंत्रालय

अधिसूचना

नई दिल्ली, 20 फ़रवरी, 2019

सा.का.नि. 134(अ) ~~केन्द्रीय सरकार, खान और खनिज (विकास और विनियमन) अधिनियम, 1957~~ (1957 का 67) की धारा 11ख और परमाणु खनिज रियायत नियम, 2016 के नियम 36 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, परमाणु खनिज रियायत नियम, 2016 में और संशोधन करने के लिए निम्नलिखित संशोधन करती है, अर्थात् :—

2. (1) इन नियमों का संक्षिप्त नाम परमाणु खनिज रियायत (द्वितीय संशोधन) नियम, 2019 है।

(2) ये राजपत्र में उनके प्रकाशन की तारीख को प्रवृत्त होंगे ।

3. परमाणु खनिज रियायत नियम, 2016 में अनुसूची क, के स्थान पर निम्नलिखित अनुसूची रखी जाएगी, अर्थात:-

अनुसूची क

परमाणु खनिजों के लिए प्रारंभिक मूल्य की विशिष्टियां

[नियम 2(1) (ड) और नियम 36 देखिए]

1.	बेरिल और अन्य बेरिलियमधारी खनिज	शैल का 0.1% BeO(1000 पी.पी.एम. BeO) या उत्खनित सामग्री में बेरिल 10 कि.ग्रा./टन
2.	लीथियमधारी खनिज	ब्राइन (200 पी.पी.एम. Li, अर्थात् Li 200 ग्रा./ टन के सिवाय, अयस्क में 0.5%(5000 पी.पी.एम.) Li_2O
3.	'दुर्लभ मृदा' समूह के खनिज, जिनमें	अयस्क में 60 पी.पी.एम. U_3O_8 और/या 250 पी.पी.एम. ThO_2

	यूरेनियम और थोरियम अंतर्विष्ट है	
4.	नायोबियमधारी खनिज	अयस्क में 100 पी.पी.एम.$(Nb+Ta)_2O_5$(100 ग्रा./टन)
5.	फास्फोराइट और अन्य फास्फेटी अयस्क, जिनमें यूरेनियम अंतर्विष्ट है	अयस्क में 60 पी.पी.एम. U_3O_8
6.	पिचब्लैंड और अन्य यूरेनियम अयस्क	अयस्क में 60 पी.पी.एम. U_3O_8, सिवाय झारखंड में सिंहभूम शीयर क्षेत्र में, जहां कि थ्रेशहोल्ड वैल्यू अयस्क में 150 पी.पी.एम. U_3O_8,होगा
7.	टाइटेनियमधारी खनिज और अयस्क (इल्मेनाइट, रुटाइल और लियोकोक्सीन)	कठोर शैल में पाए जाने वाले टाइटेनियमधारी खनिजों की दशा में, शैल में 60 पी.पी.एम. U_3O_8 और/या 250 पी.पी.एम. ThO_2 बीच सैंड मिनरलस और अन्य जमा निक्षेपों में मोनाज़ाइट से सहयुक्त पाए जाने वाले टाइटेनियमधारी खनिजों की दशा में, मोनाजाइट श्रेणी कुछ भी होते हुए, उपर्युक्त अनुसार थ्रेशहोल्ड (अर्थात कुल भारी खनिजों में मोनाजाइट का थ्रेशहोल्ड 0.00% है) अधिसूचित किया जाता है।
8.	टेन्टेलमधारी खनिज	अयस्क में 100 पी.पी.एम.$(Nb+Ta)_2O_5$ (100 ग्रा./टन)
9.	यूरेनीफेरस ऐलैनाइट, मोनेज़ाइट और अन्य थोरियम खनिज	60 पी.पी.एम. U_3O_8 और/या 250 पी.पी.एम. ThO_2 बीच सैंड मिनरलस और अन्य जमा निक्षेपों में मोनाज़ाइट से सहयुक्त पाए जाने वाले खनिजों की दशा में, मोनाजाइट श्रेणी कुछ भी होते हुए, उपर्युक्त अनुसार थ्रेशहोल्ड (अर्थात कुल भारी खनिजों में मोनाजाइट का थ्रेशहोल्ड 0.00% है) अधिसूचित किया जाता है।
10.	तांबा और स्वर्ण के निष्कर्षण के पश्चात् अयस्कों के बचे हुए यूरेनियमधारी अवशिष्ट, इल्मेनाइट और अन्य टाइटेनियम अयस्क)	60 पी.पी.एम. U_3O_8 और/या 250 पी.पी.एम. ThO_2
11.	जिर्कोनियम, जिसमें जिर्कोन सहित खनिज और अयस्क होते हैं।	बीच सैंड मिनरलस और अन्य जमा निक्षेपों में मोनाज़ाइट से सहयुक्त पाए जाने वाले जिरकोनियमधारी खनिजों की दशा में, मोनाजाइट श्रेणी कुछ भी होते हुए, उपर्युक्त अनुसार थ्रेशहोल्ड (अर्थात कुल भारी खनिजों में मोनाजाइट का थ्रेशहोल्ड 0.00% है) अधिसूचित किया जाता है। अन्य दशाओं में, जिर्कोन, जिसमें 200 पी.पी.एम. से कम हफनियम अंतर्विष्ट है।
12.	बालू तट खनिज अर्थात टेरी या तटीय बालू में पाये जाने वाले किफायती भारी खनिज जिसमे इल्मेनाइट, रूटाइल, ल्यूकोक्सीन, गारने, मोनोजाइट, जिर्कोन तथा सिलिमेनाइट शामिल है।	बीच सैंड मिनरलस और अन्य जमा निक्षेपों में मोनाज़ाइट से सहयुक्त पाए जाने वाले खनिजों की दशा में, मोनाजाइट श्रेणी कुछ भी होते हुए, उपर्युक्त अनुसार थ्रेशहोल्ड (अर्थात कुल भारी खनिजों में मोनाजाइट का थ्रेशहोल्ड 0.00% है) अधिसूचित किया जाता है।

[फा.सं. 1/1/2019-एम.VI]

निरंजन कुमार सिंह, संयुक्त सचिव

नोट : परमाणु खनिज रियायत नियम, 2016 अधिसूचना संख्या. सा.का.नि. 677(अ), तारीख 11 जुलाई, 2016 द्वारा भारत के राजपत्र, असाधारण, भाग , खंड 3, उपखंड (i) में प्रकाशित किए गए थे और अधिसूचना संख्या सा.का.नि. 126 (अ) तारीख 19 फरवरी, 2019 के द्वारा अंतिम बार संशोधित किए गए।

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 20th February, 2019

G.S.R. 134(E).—In exercise of the powers conferred under Section 11B of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) and rule 36 of the Atomic Minerals Concession Rules, 2016, the Central Government hereby makes the following amendments further to amend the Atomic Minerals Concession Rules, 2016, namely:-

2. (1) These rules may be called the Atomic Minerals Concession (Second Amendment) Rules, 2019.

(2) They shall come into force on the date of their publication in the Official Gazette.

3. In the Atomic Minerals Concession Rules, 2016, for Schedule A, the following Schedule shall be substituted, namely:-

1.	Beryl and other beryllium - bearing minerals	0.1% BeO (1000 ppm BeO) of the rock or 10kg/tonne Beryl in excavated material.
2.	Lithium bearing minerals	0.5% (5000 ppm) Li_2O in ore, except brine (200 ppm Li, i.e. 200 g/tonne Li).
3.	Minerals of the 'rare earths' group containing uranium and thorium	60 ppm U_3O_8 and/or 250 ppm ThO_2 in ore.
4.	Niobium-bearing minerals	100 ppm $(Nb+Ta)_2 O_5$ (100 g/tonne) in ore.
5.	Phosphorites and other phosphatic ores containing uranium	60 ppm U_3O_8 in ore.
6.	Pitchblende and other uranium ores	60 ppm U_3O_8 in ore, except in Singhbhum Shear zone in Jharkhand where the threshold value will be 150 ppm U_3O_8 in ore.
7.	Titanium bearing minerals and ores (ilmenite, rutile and leucoxene)	In case of titanium-bearing minerals occurring in hard rock, 60 ppm U_3O_8 and/or 250 ppm ThO_2 in the rock. All cases of titanium-bearing minerals occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.
8.	Tantalum-bearing minerals	100 ppm $(Ta+Nb)_2 O_5$ (100 g/tonne) in ore.
9.	Uraniferousallanite, monazite and other thorium minerals	60 ppm U_3O_8 and/or 250 ppm ThO_2 All cases of Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.

10.	Uranium bearing tailings left over from ores after extraction of copper and gold, ilmenite and other titanium ores.	60 ppm U_3O_8 and/or 250 ppm ThO_2.
11.	Zirconium bearing minerals and ores including zircon.	All cases of zirconium -bearing minerals occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade. In other cases, zircon containing less than 2000 ppm of Hafnium.
12.	Beach Sand Minerals i.e. economic heavy minerals found in the teri or beach sand, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite.	All cases of Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.

[F. No. 1/1/2019-M.VI]

NIRANJAN KUMAR SINGH, Jt. Secy.

The Atomic Mineral Concession Rules, 2016 were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide notification number G.S.R. 677(E), dated 11th July, 2016 and last amended vide notification number G.S.R No.126 (E) dated the 19 February, 2019.

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Confidential

F. No. 1/1/2019-M.VI

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Government of India
Ministry of Mines

Shastri Bhawan, New Delhi
Dated: 1st March, 2019

ORDER

Subject: Premature termination of all mineral concessions of Beach Sand Minerals found in the teri or beach sand, held by private companies, under the provisions of Section 4A(1) of the MMDR Act, 1957 -reg.

Whereas in exercise of the powers conferred under Section 11B of the Mines and Minerals (Development and Regulation) Act, 1957, the Central Government has amended the Atomic Minerals Concession Rules (AMCR), 2016 vide G.S.R. 126(E) dated 19th February, 2019 called the Atomic Minerals Concession (Amendment) Rules, 2019.

2. Whereas in exercise of the powers conferred under Section 11B of the Mines and Minerals (Development and Regulation) Act, 1957 and Rule 36 of the AMCR, 2016, the Central Government has amended AMCR, 2016 vide G.S.R. 134(E) dated 20th February, 2019 called the Atomic Minerals Concession (Second Amendment) Rules, 2019.

3. Whereas the Schedule A of the AMCR, 2016 prescribing the particulars of threshold value for atomic minerals has been substituted by the Second Amendment to AMCR, 2016 vide G.S.R. 134(E) dated 20th February, 2019, and the threshold values for:

i. Titanium bearing minerals and ores (Ilmenite, Rutile and Leucoxene):
ii. Uraniferousallanite, monazite and other thorium minerals:
iii. Zirconium bearing minerals and ores including zircon:
iv. Beach Sand Minerals i.e. economic heavy minerals found in the teri or beach sand, which include Ilmenite, Rutile, Leucoxene, Garnet, Monazite, Zircon and Silimanite:

occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.

5. Ilmenite, Rutile, Leucoxene, Monazite, Zircon, Silimanite and Garnet occur together as a group of associated minerals with varying concentrations in beach sands and other placer deposits. With the development of latest technologies, Monazite & Zircon available in association with beach sand minerals are used for strategic and hi-tech

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applications. Zircon, the main mineral of zirconium, is the most important ore of the rare element, Hafnium. Monazite is a mineral comprising rare earths and Thorium. Monazite found in the country has a high percentage of rare earth, Neodymium. In addition to various other industrial applications of Beach Sand Minerals. Zirconium alloys & Hafnium, Rare Earth alloys & compounds and Thorium have extensive applications in Atomic Energy, Defence and Space sectors for various strategic purposes in the country.

6. Zirconium, Hafnium and Thorium are very important strategic elements for the on-going Nuclear power installations and 3rd stage Nuclear Power Programme in the Country. Monazite being the primary source of Thorium and Rare Earth, occurring in association with Beach Sand Minerals, any loss or leakage of Monazite or Zircon due to mineral processing or handling of Beach Sand Minerals will be significant loss to the country affecting the National Security.

7. Ilmenite, Rutile and Leucoxene are Titaniferrous minerals. Titanium sponge is known for its high strength and low weight, making it ideal material for aircraft manufacturing including fighter aircraft. The material is also used in nuclear plants, engine parts, ocean platforms, reactors and heat exchangers.

8. Whereas in the view of protecting and conserving the critical elements viz: Rare Earths, Thorium, Zirconium and Hafnium occurring in Beach Sand Minerals towards meeting the future strategic needs, the Central Government is of the opinion that it is expedient to regulate the mines & mineral development and conservation of Beach Sand Mineral resources.

9. Whereas in the view of the amendment made to Schedule A of AMCR 2016 under G.S.R. 134(E) dated 20th February, 2019, all the existing mineral concessions of the Beach Sand Minerals are above threshold. Rule 5(1) of AMCR 2016, prescribes that where the grade of atomic minerals is equal to or above the threshold value, the mining lease can invariably be granted to a Government company or corporation owned by the Government only.

10. Whereas in view of the facts and circumstances above, in exercise of the powers conferred under Section 4A(1) of the Mines and Minerals (Development and Regulation) Act, 1957, the Central Government, after consultation with the State Governments decides that it is expedient in the interest of regulation of mines and minerals development and conservation of mineral resources to terminate all the existing mineral concessions of Beach Sand Minerals held by private person / company in the country. Hence, the State Governments are requested to take necessary action as per provisions of Section 4A(1) and 4A(3) of the MMDR Act, 1957.

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11. The Beach Sand Minerals mineral concessions held by a Government company or corporation owned or controlled by the Government and which are not in contravention of any of the provisions of the Minerals (Development and Regulation) Act, 1957 and the rules framed thereunder shall continue.

12. Henceforth, any mineral concession of Beach Sand Minerals shall be granted to a "Government company or corporation owned or controlled by the Government" under the provisions of the Atomic Minerals Concession Rules, 2016.

13. This Order issues with the approval of the competent authority.

1.3.2019

(Dr. Niranjan Kumar Singh)
Joint Secretary to the Government of India
Ministry of Mines

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F. No. 1/1/2019-M.VI
Government of India
Ministry of Mines

New Delhi, Dated 22nd March, 2019

To,

i. Principal Secretary/Secretary,
In-charge of Mining Department,
Of all State Governments (as per list)

ii. Director, Department of Mines & Geology,
Of all State Governments (as per list)

Subject: Premature termination of all mineral concessions of Beach Sand Minerals found in the teri or beach sand, held by private companies, under the provisions of Section 4A(1) of the MMDR Act, 1957 -reg.

Sir,

In pursuance to the discussion on 22th February, 2019 between stakeholder Departments and State Governments regarding the regulation of mining leases of Beach Sand Minerals in onshore area in view of the Notification No. G.S.R. 134(E) dated 20th February, 2019. Ministry of Mines issued the order (copy enclosed) in exercise of the powers conferred under Section 4A(1) of the Mines and Minerals (Development and Regulation) Act, 1957 on 1st March, 2019 requesting the State Government for necessary action as per provisions of Section 4A(1) and 4A(3) of the MMDR Act, 1957.

2. In view of the importance of the matter, it is requested that expeditious action may be taken by the State Governments and the action taken report in this regard may be sent to Ministry of Mines at the earliest.

Encl: I

Yours faithfully,

(Dr. Veena Kumari Dermal)
Director
Phone-011- 23388345
Email- veena.kumarid@gov.in

Copy to:

i. Secretary (DAE)
ii. Controller General (IBM)
iii. Director General (GSI)
iv. Chairman (AERB)
v. Director (AMD)
vi. CCOM (IBM)

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Annexure-8

THIRU.N.MURUGANANDAM, I.A.S.,
PRINCIPAL SECRETARY TO GOVERNMENT

Industries (MMD.1) Department,
Secretariat, Chennai-600 009.
Phone : 044-2567 1383
Fax : 044-2567 0822
E-mail : indsec@tn.gov.in

Letter No.7326/MMD.2/2019, Dated:28.06.2019

Show Cause Notice

Sub: Industries Department - Mines and Minerals – Major Minerals - Beach Sand Minerals – Tirunelveli District - Radhapuram Taluk – Irukkanthurai Village - S.F.No.545 (Eastern Part) – Over an extent of 5.00.0 hectares of Patta land – Mining lease granted to Tvl.V.V.Mineral – Atomic Minerals Concession Rules, 2016 framed – Threshold value prescribed for Atomic Minerals – Atomic Minerals Concession (Second Amendment) Rules, 2019 – Threshold value amended - Premature Termination of existing Mining Leases – Decision taken by the Central Government under Section 4A(1) of the MM(DR) Act, 1957 – Issue of Show Cause Notice – Explanation called for – Regarding.

Ref:
1. Proceedings of the Director of Geology and Mining in Rc.No.6393/MM7/2000, dated 17.03.2004.
2. CGM Proceedings Rc.No.6611/MM7/2011, dated 01.12.2012.
3. Ministry of Mines, Government of India Notification G.S.R. 677(E), dated 11.07.2016.
4. Orders of the Hon'ble Division Bench of Madras High Court dated 27.03.2017 and 21.01.2019 in Suo-Motu PIL W.P.No.1592 of 2015 and the connected matters.
5. Ministry of Mines, Government of India, Notification G.S.R. 126(E), dated 19.02.2019.
6. Ministry of Mines, Government of India, Notification G.S.R. 134(E), dated 20.02.2019.
7. Ministry of Mines, Government of India, Order in F.No.1/1/2019-M.VI, dated 01.03.2019.

*****

In the reference 1st cited, Tvl.V.V.Mineral have been granted with a mining lease for mining Garnet, Ilmenite and Rutile over an extent of 5.00.0 hectares of Patta lands in S.F.No.545 (Eastern Part) of Irukkanthurai Village, Radhapuram Taluk, Tirunelveli District for a period of 20 years under the provisions of the Mines and Minerals (Development

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and Regulations) Act, 1957 and the Mineral Concession Rules, 1960. The lease deed was executed on 11.04.2005.

2. In the reference 2nd cited, orders were issued for inclusion of Sillimanite, Leucoxene, Zircon and Monazite in the mining lease granted to Tvl.V.V.Mineral in the subject area vide Proceedings of the Director of Geology and Mining in Rc.No.6393/MM7/2000, dated 17.03.2004.

3. The Ministry of Mines, Government of India vide Notification S.O.No.2356(E), dated 11.07.2016 made amendment to Part-B, "Atomic Minerals" in the First Schedule of Mines and Minerals (Development and Regulation) Act, 1957 by which a new entry, viz. No.12 was added which provided as follows:-

> "12. Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite."

4. The Ministry of Mines, Government of India vide Notification G.S.R. 677(E), dated 11.07.2016 framed the Atomic Minerals Concession Rules, 2016 which came into force on 11.07.2016. According to Rule 2(1)(b) of Atomic Minerals Concession Rules, 2016, "atomic minerals" means minerals specified in Part-B of the First Schedule to the Act; and as per Rule 2(1)(C) of AMCR, 2016, "Beach Sand Minerals" means economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite. As per Rule 2(1) (m) of AMCR, 2016 "threshold value" means the grade of atomic mineral, specified as percentage of weight of the prescribed substances contained in the ore, to be specified and notified by the Department from time to time in Schedule A as the threshold value for the particular atomic mineral occurring as such or in association with one or more minerals. Whereas, Schedule A of Atomic Minerals Concession Rules, 2016, prescribes particulars of threshold value for atomic minerals. The threshold value was prescribed as 0.75% Monazite in Total Heavy Minerals, in the case of Zirconium bearing minerals and ores, including Zircon occurring in Beach Sand Minerals in association with Monazite.

5. Rule 3(1) of AMCR, 2016 stipulates that these rules shall apply only to mineral concessions relating to atomic minerals occurring as such or in association with one or more other minerals, provided the grade of such atomic minerals is equal to or more than the threshold value. As per Rule 3(2) of AMCR, 2016, Mineral Concessions relating to Atomic Minerals, where the grade of atomic minerals contained in the ore is less than the threshold value will be governed by the provisions of Minerals

(Other than Atomic and Hydrocarbons Energy Minerals) Concession Rules, 2016 in force. As per Rule 4 (5)(b) of AMCR, 2016, if the grade of atomic minerals is equal to or above the threshold value, then a mining lease shall be granted by the State Government only in accordance with these rules. Granting of mineral concessions relating to atomic minerals to a Government Company or Corporation owned or controlled by the Government are governed by the provisions of Rule 3(1), 4 (5) (b), 5 and 6 of AMCR, 2016.

6. Whereas, in exercise of the powers conferred under Section 11B of the Mines and Minerals (Development and Regulation) Act, 1957 and Rule 36 of the AMCR, 2016, the Central Government has amended AMCR, 2016 vide G.S.R. 134(E) dated 20th February, 2019 called the Atomic Minerals Concession (Second Amendment) Rules, 2019. Whereas, the Schedule A of the AMCR, 2016 prescribing the particulars of threshold value for atomic minerals has been substituted by the Second Amendment to AMCR, 2016 vide G.S.R. 134(E) dated 20th February, 2019, and the threshold values for:

(i) Titanium bearing minerals and ores (Ilmenite, Rutile and Leucoxene);

(ii) Uraniferousallanite, monazite and other thorium minerals;

(iii) Zirconium bearing minerals and ores including zircon;

(iv) Beach Sand Minerals i.e. economic heavy minerals found in the teri or beach sand, which include Ilmenite, Rutile, Leucoxene, Garnet, Monazite, Zircon and Sillimanite;

occurring in Beach Sand Minerals and other placer deposits in association with monazite are notified as above threshold (i.e. the threshold is 0.00% monazite in Total Heavy Minerals), irrespective of monazite grade.

7. In view of the above amendment made to Schedule A of Atomic Minerals Concession Rules, 2016, all the existing Mineral Concessions of Beach Sand Minerals are above the threshold value. As a consequence of the amended threshold value, mining operations for Beach Sand Minerals and other Placer Deposits can only be carried out by Central Government/State Government Companies/Corporations owned or controlled by it as stipulated under Rule 3(1), 4(5)(b), 5 and 6 of the Atomic Minerals Concession Rules, 2016.

8. Whereas, Ilmenite, Rutile, Leucoxene, Monazite, Zircon, Sillimanite and Garnet occur as a group of associated minerals with varying concentration in Beach Sands and other placer deposits, the Central Government is of the opinion that Monazite being the primary

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source of Thorium and Rare Earth, occurring in association with Beach Sand Minerals, any loss or leakage of Monazite or Zircon due to mineral processing or handling of Beach Sand Minerals will be significant loss to the Country, besides affecting National Security. In view of protecting and conserving the critical elements viz. Rare Earths, Thorium, Zirconium and Hafnium occurring in Beach Sand Minerals towards meeting the future strategic needs, the Central Government is of the opinion that it is expedient to regulate the mines & mineral development and conservation of Beach Sand Mineral resources.

9. In view of the facts and circumstances stated above, in exercise of the powers conferred under Section 4A(1) of the Mines and Minerals (Development and Regulation) Act, 1957, the Central Government, after consultation with the State Governments decided vide order dated 01.03.2019, that it is expedient in the interest of regulation of mines and minerals development and conservation of mineral resources to prematurely terminate all the existing mineral concessions of Beach Sand Minerals held by private persons/companies in the Country and directed the State Government to take necessary action as per provisions of Section 4A(1) and 4A(3) of MM(DR) Act, 1957, vide reference 7th cited.

10. The Suo-Motu PIL W.P.No.1592 of 2015 filed by the Registrar General, Madras High Court in connection with illegal mining of Beach Sand Minerals is pending before the Hon'ble Division Bench of Madras High Court. The Hon'ble Division Bench of Madras High Court, by its order dated 27.03.2017 in the Suo-Motu PIL W.P.No.1592 of 2015 ordered that the Central Government shall take effective steps as a policy decision and regulate the process of mining and restrict the licence in respect of Monazite. The Hon'ble Division Bench of Madras High Court by order dated 21.01.2019 in the Suo-Motu PIL W.P.No.1592 of 2015 made it clear that Suo-Motu Public Interest Litigation covers all Beach Sand Minerals, pertains to alleged unauthorized/Illegal extraction of minerals, transportation and other associated alleged illegal or unlawful activities.

11. Under the circumstances stated above, you are hereby directed to show cause as to why the mining lease granted in favour of Tvl.V.V.Mineral for mining Garnet, Ilmenite, Rutile, Sillimanite, Luecoxene, Zircon and Monazite over an extent of 5.00.0 hectares of Patta lands in S.F. No. 545 (Eastern Part) of Irukkanthurai Village, Radhapuram Taluk, Tirunelveli District, vide reference 1st and 2nd cited should not be prematurely terminated, under Section 4A(1) of the MM(DR) Act, 1957 and to send your explanation within 15 days from the date of receipt of this notice.

12. As prescribed u/s 4A(3) of the MM(DR) Act, 1957, opportunity of hearing is to be offered and accordingly, you are hereby directed to appear in person before the undersigned on **22.07.2019** at **05.30** P.M. failing which it will be construed that you have no remarks to offer and the matter will be decided based on the available records.

13. Copies of Notifications dated 19.02.2019 and 20.02.2019 along with a copy of Order in F.No.1/1/2019-M.VI, dated 01.03.2019 of the Ministry of Mines, Government of India are enclosed for your reference.

14. The receipt of this notice may be acknowledged by return of post.

(N.MURUGANANDAM)
PRINCIPAL SECRETARY TO GOVERNMENT

To

Tvl. V.V. Mineral
Keeraikaranthattu,
Tisayanvillai,
Tirunelveli District-627657 (w.e.).

Copy to:

1. The Director of Geology and Mining, Chennai – 32.
2. The District Collector, Tirunelveli.
3. The Director, Atomic Minerals Directorate, Begumpet, Hyderabad.
4. The Regional Controller of Mines, IBM, Chennai.

ITEM NO.7 COURT NO.1 SECTION XII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Petition(s) for Special Leave to Appeal (C) No.10498/2019

(Arising out of impugned final judgment and order dated 21-01-2019 in WP No. 1592/2015 passed by the High Court of Judicature at Madras)

M/S V.V. MINERAL & ANR. Petitioner(s)

VERSUS

UNION OF INDIA & ORS. Respondent(s)

(For interim relief)

WITH S.L.P.(C) No.10669/2019 (XII)
(For interim relief)
S.L.P.(C) No.11776/2019 (XII)
(For interim relief)
Diary No.13631/2019 (XII)
(With appln.(s) for permission to file SLP, exemption from filing c/c of the impugned judgment and interim relief)

Date : 04-07-2019 These petitions were called on for hearing today.

CORAM :
HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE DEEPAK GUPTA

For Petitioner(s) Mr. Mukul Rohatgi, Sr. Adv.
Mr. Sidharth Luthra, Sr. Adv.
Mr. Guru Krishna Kumar, Sr. Adv.
Mr. S.L.M. Bharathi, Adv.
Mr. Udayaditya Banerjee, AOR
Ms. Ayushi Sharma, Adv.

Mr. V.K. Shukla, Sr. Adv.
Ms. Parul Shukla, AOR

Validity unknown
Digitally signed by CHETAN KUMAR
Date: 2019.07.04 17:04:08 IST
Reason:

For Respondent(s) Mr. K.K. Venugopal, AG
Ms. Narmada Sampath, AAG
Mr. M. Yogesh Kanna, AOR
Mr. S. Partha Sarathi, Adv.

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UPON hearing the counsel the Court made the following

O R D E R

Permission to file the special leave petition is granted.

We have heard Shri Mukul Rohatgi, learned senior counsel for the petitioners and Shri K.K. Venugopal, learned Attorney General for the State of Tamil Nadu.

The limited prayer made on behalf of the petitioners is that the Writ Petition No.1592 of 2015, in which the present impugned order has been passed, be heard with the connected matters i.e. Writ Appeal Nos.1168, 1169, 1220 and 1221 of 2015 and the cases be disposed of at the earliest, preferably within a time frame of four weeks.

Shri Rohatgi, learned senior counsel has further submitted that an interim prayer for transportation of the legally mined minerals prior to 2013 may be permitted to be urged before the High Court. Shri Venugopal, learned Attorney General has no objection to the same.

In view of the aforesaid, we request the High Court to dispose of the writ petition along with the connected matters, as mentioned above, as expeditiously as its business would permit and in the event it becomes so necessary, the petitioners should also be permitted to urge the interim relief, terms of which have been noted above. The contentions that may be open in law to the State of Tamil Nadu may be urged before the High Court.

We further request the Chief Justice of the Madras High Court to make the designated Bench available for hearing of the matter.

With the aforesaid, the special leave petitions are disposed of.

Pending application(s), if any, stand disposed of.

(Chetan Kumar)
A.R.-cum-P.S.

(Anand Prakash)
Court Master

ITEM NO.59 COURT NO.1 SECTION XII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

M.A.No.1406/2019 in SLP(C)No.10498/2019

M/S V.V. MINERAL & ANR. Petitioner(s)

VERSUS

UNION OF INDIA & ORS. Respondent(s)
(For directions)

Date : 02-08-2019 This matter was called on for hearing today.

CORAM :
HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE DEEPAK GUPTA

For Petitioner(s) Mr. Mukul Rohatgi,Sr.Adv.
Mr. S. Elambharati,Adv.
Mr. Udayaditya Banerjee,AOR
Mr. Turai,Adv.
Ms. Devanshi,Adv.

For Respondent(s) Mr. K.K. Venugopal,AG
Mr. Narmada Sampath,Adv.(AAG)
Mr. M. Yogesh Kanna,AOR
Ms. Mega Aggarwal,Adv.
Mr. S. Partha Sarathi,Adv.
Mr. Raja Rajeshwaran,Adv.

UPON hearing the counsel the Court made the following
O R D E R

We have heard learned counsel for the parties.

The Chief Justice of the High Court would be at liberty to ensure that the two Judges, who are on the Bench hearing the matter, sit either in Madras or in Madurai, as may be convenient.

Miscellaneous application stands disposed of.

Validity unknown
Digitally signed by SARITA PUROHIT
Date: 2019.08.08 13:40:25 IST
Reason:

(Anand Prakash)
Branch Officer

(Sarita Purohit)
AR-cum-PS

Part - C - Chart - 1

Consolidated Summary of Royalty & Cost of Minerals due to be recovered from BSM lessees

Sl. No.	Name of the Lessee / Plant owner	Part - C - Chart - 2 (Pre-ban Period)		Part - C - Chart - 3 (Post-ban Period)		Total (Part - C - Charts 2+3)
		Royalty due to be recovered for the quantum of BSM unlawfully mined and transported from 2000-01 to 2013-14 (in Rs.) (See Part - C - Chart # 2 series)	Cost of Mineral due to be recovered for the quantum of BSM unlawfully mined and transported from 2000-01 to 2013-14 (in Rs.) (See Part - C - Chart # 2 series)	Royalty due to be recovered for Illegal export of BSM from 2014 to 2016 (in Rs.) (See Part - C - Chart # 3 series)	Cost of Mineral due to be recovered for Illegal export of BSM from 2014 to 2016 (in Rs.) (See Part - C - Chart # 3 series)	Total due to be recovered for Unlawful / Illegal export of BSM from 2000-01 to 2016-17 (upto Nov,16) (in Rs.)
1	2	3	4	5	6	7
1	Tvl. V.V. Mineral **(R8, R22)**	59,51,22,388	26,08,56,00,977	30,04,94,387	8,82,99,58,451	35,81,11,76,202
2	Tvl. Transworld Garnet India(P) Ltd., **(R 9)**	8,20,59,515	2,73,55,95,248	7,56,09,210	1,89,02,30,255	4,78,34,94,227
3	Tvl. Industrial Mineral India (P) Ltd., **(R13)**	1,77,78,196	80,73,91,147	-	-	82,51,69,343
4	Tvl. Beach Mineral Sands Company and their sister companies & Tvl. Beach Mineral Company (P) Ltd., **(R10, R16, R18, R19), (R 17)**	12,87,44,976	4,83,17,23,470	11,67,89,797	4,13,97,22,974	9,21,69,81,216
5	IOGS Group (M.Ramesh **(R 11)** & K.Thangaraj **(R 12)**)	9,02,13,258	2,92,34,51,109	7,35,79,698	1,83,94,92,447	4,92,67,36,512
6	Tvl. Industrial Mineral Company **(R15)**	-	-	7,18,38,180	2,68,90,28,153	2,76,08,66,333
	Total	**91,39,18,332**	**37,38,37,61,951**	**63,83,11,272**	**19,38,84,32,280**	**58,32,44,23,835**
				Total in Crore Rupees		**5,832.44**

Source:

AC.Vol.1 Annexure, AC.Vol.5, 11 & 12

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Part - C - Chart - 2 series (a - f)

Consolidated Summary of Royalty and Cost of Mineral due arrived by BSM transported by the Lessees

Royalty and Cost of Mineral to be recovered from the Leaseholders / Plant owners for Unlawful / Illegal Transport of BSM from 2000-01 to 2013-14 (Pre Ban Period - Period when transport permits were issued)

				Part - A	Part - B	Part - C	
Sl. No.	Name of the Lessee / Plant owner	Period	Quantum of BSM unlawfully transported (in MT)	Royalty due to be recovered for unlawful transport of BSM (in Rs.)	Cost of Mineral due to be recovered for BSM unlawfully transported (in Rs.)	Royalty and Cost of Mineral due to be recovered for BSM unlawfully transported (in Rs.) [5 + 6]	Reference
1	2	3	4	5	6	7	8
1	Tvl. V.V. Mineral **(R8, R22)**	2000-01 to 2013-14	33,27,489	59,51,22,388	26,08,56,00,977	26,68,07,23,364	Part - C - Chart - 2 a
2	Tvl. Transworld Garnet India(P) Ltd., **(R 9)**	2000-01 to 2013-14	6,14,786	8,20,59,515	2,73,55,95,248	2,81,76,54,762	Part - C- Chart -2 b-i & 2 b-ii
3	Tvl. Industrial Mineral India (P) Ltd., **(R13)**	2011-12 to 2013-14	42,092	1,77,78,196	80,73,91,147	82,51,69,343	Part - C - Chart - 2 c
4	Tvl. Beach Mineral Sands Company **(R10)** & Tvl. Beach Mineral Company (P) Ltd., **(R 17)**	2001-02 to 2012-13	8,65,503	12,87,44,976	4,83,17,23,470	4,96,04,68,446	Part - C - Chart - 2 d
5	Thiru. M. Ramesh **(R 11)**	2000-01 to 2012-13	2,41,819	3,66,59,701	1,13,83,32,533	1,17,49,92,234	Part - C - Chart - 2 e
6	Thiru. K. Thangaraj **(R 12)**	2001-02 to 2012-13	2,49,973	5,35,53,557	1,78,51,18,576	1,83,86,72,133	Part - C - Chart - 2 f
Total			**53,41,662**	**91,39,18,332**	**37,38,37,61,951**	**38,29,76,80,283**	
				Total in Crore Rupees		**3,829.77**	

Source:
AC.Vol.1 Annexure, AC.Vol. 11 & 12

Part - C - Chart - 3 series (a - e)

Consolidated Summary of Royalty and Cost of Mineral due arrived for BSM exported by the Lessees / Plant Owners

Royalty and Cost of Mineral to be recovered for Illegal Export of BSM from 2014 to 2016 (Post Ban Period)							
Sl. No	**Lessee / Plant owners**	**Period**	**Total quantum of BSM illegally exported after Ban (in MT)**	**Royalty due for the quantum of BSM illegally exported after Ban (in Rs.)**	**Cost of Mineral due for the quantum of BSM illegally exported after Ban (Sale value realised as per Customs data) (in Rs.)**	**Total due for the quantum of BSM illegally exported after Ban (in Rs.) ((5) + (6))**	**Reference**
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
1	V.V. Mineral **(R8, R22)**	2014 to 2016	7,70,200	30,04,94,387	8,82,99,58,451	9,13,04,52,838	Part - C - Chart - 3 a
2	Transworld Garnet India (P) Ltd., **(R 9)**	2014 to 2016	1,45,705	7,56,09,210	1,89,02,30,255	1,96,58,39,465	Part - C - Chart - 3 b
3	Beach Minerals Sands Company & their sister concerns **(R10, R16, R18, R19)**	2014 to 2016	4,23,261	11,67,89,797	4,13,97,22,974	4,25,65,12,771	Part - C - Chart - 3 c
4	Indian Ocean Garnet Sands Company and Indian Ocean Garnet Sands Company (P) Ltd., (M.Ramesh **(R 11)** & K.Thangaraj **(R 12)**)	2014 to 2016	1,38,122.71	7,35,79,698	1,83,94,92,447	1,91,30,72,145	Part - C - Chart - 3 d
5	Industrial Mineral Company **(R15)**	2014 to 2016	2,84,536	7,18,38,180	2,68,90,28,153	2,76,08,66,333	Part - C - Chart - 3 e
	Total		**17,61,824**	**63,83,11,272**	**19,38,84,32,280**	**20,02,67,43,552**	
				Total in Crore Rupees		**2,002.67**	

Source:

1 Customs data - AC vol-5

BEFORE THE MADURAI BENCH OF MADRAS HIGH COURT

DATED: 26.09.2019

CORAM:

THE HONOURABLE MR.JUSTICE M.GOVINDARAJ

W.P.(MD) No.2671 and 9183 of 2013

M/s.V.V.Minerals
through its Managing Partner,
S.Vaikundarajan
Keeraikaranthattu,
Thisaiyanvilai
Tirunelveli District. ... Petitioner in both W.Ps

vs.

The Secretary,
Government of India,
Department of Atomic Energy,
Anusakthi Bhavan,
C.S.M.Marg
Mumbai. ... Respondent in both W.Ps

PRAYER in W.P.(MD).No.2671/2019: Writ Petition filed under Article 226 of the Constitution of India for issuance of Writ of Mandamus directing the respondent to consider the petitioner's application in accordance with law and to pass suitable order in the application of the petitioner dated 27.08.2012 in accordance with the existing rules and regulations within a time stipulated by this Hon'ble Court.

http://www.judis.nic.in

PRAYER in W.P.(MD).No.9183/2019: Writ Petition filed under Article 226 of the Constitution of India for issuance of Writ of Certiorarified Mandamus calling for the records relating to the Department of Atomic Energy Letter No.7/3(10)/2011-PSU/3156 dated 04.03.2013 of the Department of Atomic Energy and quash the same and direct the respondent to grant the license for cracking monazite in the petitioner's application dated 27.08.2012 and pass appropriate orders in the circumstance of the case.

For Petitioner : Mr.V.Lakshmi Narayanan for
Mr.R.Manivannan

For Respondents : Mrs.L.Victoria Gowri
Central Govt. Senior Panel Counsel
(In both W.Ps)

COMMON ORDER

W.P.(MD).No.2671 of 2013 has been filed to direct the respondent to consider the petitioner's application in accordance with law and to pass suitable order in the application of the petitioner dated 27.08.2012 in accordance with the existing rules and regulations.

W.P.(MD).No.9183 of 2013 has been filed, challenging the letter issued by the Department of Atomic Energy in Letter No.7/3(10)/2011-PSU/3156 dated 04.03.2013 and quash the same.

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2.According to the petitioner, they are carrying on trade in minor minerals and he applied for grant of license for producing Rare Earth Oxides by cracking monozite. While processing the monoxide, the by-products of monozite i.e Uranium and Thorium will be handed over by the petitioner to the respondent. The process will be monitored by the Officer of the respondent and the petitioner was instructed to pay salary to those Officers and technical Staff. An application was made by the petitioner for getting proper permission/license from the Atomic Energy and Regulatory Board for the aforesaid purpose, but it was rejected by the authorities by way of the impugned order dated 04.03.2013. The said rejection order was confirmed in the appeal preferred by the petitioner, citing the pendency of writ petition before this Court (i.e W.P.(MD).No.2671/2013).

3.The learned counsel for the petitioner would contend that as per the notification issued by the respondent, dated 16.12.2013, the Government has accorded permission to the petitioner to set up a special economic zone. Therefore, according to him, petitioner's application could be considered in accordance with the above development.

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4.The learned counsel for the respondent would contend that as per the latest notification, dated 20.10.2009, the Central Government made some amendments in the earlier notification, dated 25.07.1991. According to the same, the Central Government alone has the right to grant any permission for monozite mining. Therefore, there is no question of granting permission to the petitioner for dealing with monozite.

5.As contended by the respondent, as per the notification issued by the Ministry of Industry dated 25.07.1991, all the materials relating to atomic energy were reserved for public sector. Later, the Government has issued a subsequent notification dated 19.10.2009, wherein, the atomic energy was categorized as under :

> In Schedule-I of the said notification, for item numbers 2 and item number 7 of the entries relating thereto, the following item number and entries shall be substituted namely....
>
> 1.**Atomic Energy**:
>
> (1)Production and separation or enrichment of special fissionable material as follows:
>
> i)Plutonium-239

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ii)Uranium 233, Uranium enriched to the isotopes 235 or 233

iii)Neptunium

iv)Any material containing one or more of the foregoing and

v)Such other fissionable material determined by the Government of India from time to time

2)**Production of following substances or materials:**

i)Heavy water

ii)Tritium

iii)Radium-226

iv)Inriched Bottom (10B) and

iv)Alpha emitting radio nuclids having half life of 10 days or more

3)**Operation of the following facilities**:

....."

6.After this notification, the petitioner has submitted his application in Form A, dated 27.08.2012 and he sought for processing Rare Earth oxides Plant and Zircon Power Plant. This request was acceded by the Ministry of

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Commerce Industry by notification dated 16.12.2013 permitting the petitioner to set up a Special Economic Zone for Mineral and Mineral based products in Thiruvambalpuram Village, Radhapuram Taluk, Tirunelveli. However, the respondent has rejected the request of the petitioner on 04.03.2013. para 5 of the said order reads as under:

> "5.While Monozite is a very stable beach sand mineral, and can be left in nature of stored indefinitely without degradation or leaching, the process of cracking of Monozite to remove rare-earth bearing compounds results in highly radioactive thorium and uranium in chemical forms that are chemically active and are vulnerable to leaching and loss on prolonged storage. Production of separated radio-active chemical forms of uranium and thorium, through the processing/cracking of monazite, in quantities unrelated to and much more than those required to meet the needs of the atomic energy programme/application of the country gives rise to substantial risks of loss, leakage and seepage of these separated radio-active chemical forms of uranium and thorium in the process of transportation, handing and storage. The risks due to radiation, to the general public, in an unchecked and commercially-motivated processing/cracking of monazite for extracting mixed

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rare earth chlorides/compounds are too high and completely avoidable. In these circumstances, the Department of Atomic Energy, under the provisions of Atomic Energy Act, 1962, and the Atomic Energy (Working of Mines, Minerals and Handing of Prescribed Substances) Rules 1984, and the Government of India's overall policies for industrial development, is restricting the grant of licenses for such processing of monazite only to fully-owned Public Sector Undertakings of the Government of India. Lastly, in view of the foregoing discussion and statutory provisions, it is considered not to be in public interest to open this activity to private sector."

7.According to the petitioner, in view of the approval granted to him by the Union of India vide notification dated 16.12.2013, the authorities can have a relook on the issue and pass appropriate orders and in that event of passing an order by the respondent, as per the latest rules and regulations, within a limited time frame specified by this Court, he will restrict his prayer to that effect.

8.It is no doubt that the Government is the ultimate authority to take a policy decision as to whether permit the radioactive materials in chemical

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form of thorium and uranium to be stored by the public sector or private sector.

9.The impact of the impugned order reveals that the materials which the petitioner sought to break and segregate are radioactive materials and even a slightest negligence would cause hazardous effects on lakhs and lakhs of people. Therefore, in a sensitive matter like this, it is fit and proper that the concerned authority should take a decision.

10.The petitioner submits that he will abide himself as per the relevant statutes and on compliance of the undertaking given by the petitioner that he will get permission from the Atomic Energy Regulatory Board, Ministry of Commerce and Industries and Ministry of Mines should consider the representation of the petitioner in the light of the latest notifications and pass orders. It is made clear that this order of this Court will not be an impediment to consider all the relevant aspects and take a decision either to accept or reject the same or to modify its previous orders as expeditiously as possible preferably, not later than 6 months from the date of receipt of a copy of this order. In the process, the petitioner shall be given an opportunity of personal hearing to put forward all the materials.

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11.In view of the above discussion, a direction is given to the respondent to consider the application of the petitioner, dated 27.08.2012, in the light of all the relevant materials and pass appropriate orders in accordance with law.

12.In the result, both the writ petitions are disposed of. No costs.

26.09.2019

Index : Yes / No
Internet: Yes / No
vs
To:
The Secretary,
Government of India,
Department of Atomic Energy,
Anusakthi Bhavan,
C.S.M.Marg
Mumbai.

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M.GOVINDARAJ,J.

VS

W.P.(MD) Nos.2671 and 9183 of 2013

26.09.2019

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IN THE HIGH COURT OF JUDICATURE AT MADRAS, MADURAI BENCH
(SPECIAL ORIGINAL JURISDICTION)

W.P. (MD). 3188 of 2020

S. Vaikundarajan,
Son of A.S.V. Subbiah Nadar,
Managing Partner
V.V.Mineral,
17C, Keeraikaranthattu,
Tisaiyanvilai, Tirunelveli District. ....Petitioner

Versus

The State of Tamil Nadu
Represented by its Principal Secretary to Govt.,
Industries (MMD.2) Department,
Secretariat, Fort St. George,
Chennai-600 009. ...Respondent

AFFIDAVIT OF S. VAIKUNDARAJAN

I, S. Vaikundarajan, Son of A.S.V.Subbiah Nadar, Hindu, aged about 65 years, residing at 17C, Keeraikaranthattu, Tisaiyanvilai, Tirunelveli District, now at Madurai, do hereby solemnly affirm and sincerely state as follows: -

1. I am the petitioner. I am well acquainted with the facts and circumstances of the case. I have filed this petition seeking for a writ in the nature of a WRIT OF CERTIORARIFIED MANDAMUS or any other appropriate writ or direction to call for the records on the file of the respondent in letter No.7336/MMD.II/2019-2, dated 31.01.2020 and quash the same as illegal, incompetent and without jurisdiction and to further direct the respondent to furnish the documents sought for by the petitioner in and by way of his letter dated 01.08.2019 and for consequential orders.
2. I am the Managing Partner of a partnership firm - M/s.V.V.Minerals. This firm has been granted with mining leases for the purpose of mining garnet, Ilmenite, rutile and other beach sand minerals. The said lease was granted under the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 (hereinafter referred to as MMDR Act, 1957) and Mineral Concession Rules, 1960 (hereinafter referred to as MCR, 1960).
3. I state that the petitioner has been carrying on the business and has invested several crores of rupees in creating infrastructure and installing

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machinery required for separation of the minerals. The firm has not only been selling the minerals in the local market but has also concentrating on export of the minerals.

4. The contribution of the firm has recognised by CAPEXIL. This is a non-profit making organization, setup in March 1958, by the Ministry of Commerce, Government of India. It is an organisation which promotes export of Chemical and Allied Products from India. The group won the CAPEXIL *"Special Export Award"* consecutively for 21 years from 1990 – 1991 to 2009 – 2010. It secured the *"Top Export Award"* for the year 2101- 2011. As recently as in September of 2019, Shri. Piyush Goyal, the Minister of Commerce and industries handed the award to the petitioner for the highest exporter of processed minerals for the fiscal year, 2015 – 2016 and 2016 – 2017.

5. Apart from this recognition from the Union of India, the petitioner won the Best Exporter award from the Indian Chamber of commerce and Industry – Tuticorin consecutively for 12 years from 2000 onwards. The National Productivity council awarded the "National Productivity Award" to the petitioner in 2000. It is pertinent to note here that the award was handed over by His Excellency the President of India, Shri. K.R. Narayanan. For the high standards maintained by the firm, the prestigious "MADITSSIA – VISVESWARAYA" award was conferred on the firm. The firm has developed high technological tools and it has been certified by TUV for maintain ISO 9001-2008, ISO 14001, OHSAS 18001 IN April, 2011. The EPCES (Export Promotion council for EOU's and SEZ's) yet again a unit under the Ministry of Commerce and Industry, Government of India conferred the best exporter award on the firm. Last week, V.V. Minerals contribution in the field of mineral separation and export was recognised by the prestigious Berkshire Media Pvt Limited. It has been selected as *"India's Best Company of the year 2020"*. The award is to be presented on 5th of April, 2020 at The Leela Hotel, Mumbai.

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6. The aforesaid awards will certify that to the hard work and dedication of its partners, employees and staff. The petitioner has been earning vital foreign income for the country. Apart from this, the petitioner has been employing about 4750 persons in its activities directly. Apart from this, due to the downstream effect of the business, more than 15000 persons are gainfully employed. The growth of the group instead of earning appreciation from its peers, increased angst and resulted in unfounded propaganda against it. This led to repeated filing of complaints and cases before the courts. Though the respondent had rejected several complaints made against the group, a few vested and disgruntled elements moved this Hon'ble Court by way of a writ petition. The petitioner was forced to withdraw from the writ petition. As of now, that petition has been converted into a *Suo motu* proceeding and the same is pending. The petitioner has placed all the records before the court to satisfy it that all is well with the firm and the allegations are borne out by professional jealousy and other unworthy motives. Be that as it may, the same are not germane for the present writ petition.

7. I state that the cause of action of this writ petition is a showcause notice issued by the respondent on 28.06.2019. This show cause notice seeks to invoke the powers vested in the respondent under Section 4A of the MMDR Act. In the said notice, the respondent had stated that the Ministry of Mines, Government of India in Notification No.S.O.2356 (E), dated 11.07.2016 had amended the ISchedule of the MMDR Act, 1957. By this amendment, beach sand minerals were included as atomic minerals. During that time, the threshold of monazite was prescribed as 0.75%. It further stated that in the exercise of the power under Section 11A of MMDR Act and Rule 36 of the Atomic Mineral Concession Rule 2016 the Central Government amended the threshold limit of monazite and reduced it to 0.00%. This was titled as Atomic Mineral Concessions (Second Amendment) Rules, 2019. This amendment came into force on 20.02.2019.

8. It was also stated that as the Central Government is of the opinion that handling of monazite might lead to significant loss to the country that is

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expedient to regulate the beach sand mineral resources. It was further alleged that a consultation was taken place on 01.03.2019 between the Central Government and the State Government and that any exercise of powers conferred under section 4-A(1), it directed the State Government to take necessary action under section 4-A(1) and 4-A(3) of the MMDR Act. After referring to these proceedings, the show cause notice was issued as to why the lease should not be prematurely terminated.

9. I state that when the notice was issued, I was hospitalised. This fact was brought to the notice of the respondent and a few days' time for filing a reply was sought for. Immediately on recovery, a reply was sent on 01.08.2019. I informed the respondent that I spent several Crores of rupees on creating infrastructure and that if the show cause notice is confirmed, it will be proprietary and penal. Inter alia, I raised the following grounds : -

I. While a copy of the amendments referred to in the show cause notice and the letter sent to all the State Governments by the Director of Ministry (Mines) and the Joint Secretary to Government of India had been enclosed, the other documents had been withheld.

II. I sought for : -

a) details of discussions made,

b) who were the stake holders department / state governments who had participated in the discussion held on 22.02.2019 and the notes thereon,

c) letter of the Central Government calling for discussion (c) agenda for the discussion and

d) the reply given by the State of Tamilnadu together with connected records.

I sought for these details as Section 4-A having disastrous and deleterious consequences. Without these details, I pointed out that no effective reply can be given to the show cause notice.

e) I also stated that the amendments and Rules do not have retrospective effect.

f) though the notice fixed about loss to the Central Government, it does not utter a single sentence as to how these minerals were wasted during processing and handling.

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g) I further stated that M/s. V.V. Mineral is scrupulously adhering to the handling of monazite and that there is no loss of monazite at our end.

h) I pointed out that the show cause notice seemed more like of direction from the Central Government rather than as a need to conserve and regulate beach sand mining

i) As Section 4-A demands a consultation between the State and Central Governments, I wanted to peruse the same before giving reply.

j) I also pointed out that reference to Suo Motu W.P. 1592 of 2015 has no relevance to Section 4A and orders of court have no role to play when it comes to the power to be exercised under Section 4A,

k) If the intention is to protect monazite, thorium and other radioactive substances, then the mining activities relating to limestone, Granite, Tin, Iron Ore, Lignite, Coal have to be cancelled

l) Under the guise of the regulation, Government cannot prohibit activities. I also showed the primary use of the several minerals referred to therein.

m) I also stated that there cannot be a generalized order under Section 4A but each lease has to be considered on its merits.

n) I further stated that when the Government of India has permitted the export of the minerals it shows that nothing seen for premature termination.

While undertaking to give a detailed reply, I requested the respondent to provide me with the following details : -

"1. The details of the discussion took place on 22.2.2019 in the ministry of Mines, Government of India and also the details of the stakeholder department/ state government who participated in it.

2. The Letter sent by the Central Government to the TamilNadu Government and the copy of the agenda for the discussion that was mentioned in the notice.

3. The Copy of the reply given by the TamilNadu Government in response to the agenda of the Central Government that was mentioned in the notice with regard to the discussion.

4. To submit the above said reply to the discussion dated 22.2.2019, the Tamil Nadu Government received order through a circulation note and with regard to that the order issued by the Government and the notification regarding the same made in the official gazette.

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5. On the basis of this, to furnish the copy of the record note that contains the conclusion of the discussion made on 22.2.2019 by Ministry of Mines, Government of India.

6. Data as to how monazite and zircon is wasted during its mining, processing and handling."

I crave leave of this Hon'ble Court to consider the interim reply given by the petitioner as part and parcel of this affidavit.

10. On this basis, I had requested the respondent to give those documents and also being an expropriatory with disastrous conveniences, unless the documents relied upon by the respondent are perused, I would not be in a position to effectively respond to the same. Further, the respondent is not the authority, who can initiate and conclude the proceeding under Section 4A (1) of the MMDR Act. It is the Central Government and not the State Government which can invoke the power under Section 4A (1). As per that provision, it is the Central Government which should first consult the State Government and thereafter, hear the parties as required under Section 4A (3), apply its mind to the circumstances of each lease. If thereafter, it comes to the conclusion that the lease should be terminated, then it should request the State Government. Curiously enough, the State Government has usurped the power of the Central Government and had issued the notice. It is for that purpose that the petitioner had sought for the documents. To that end, I had also made a request to the Central Government seeking for documents connected with the show cause notice.

11. As per the statute, I am entitled to give a response to the show cause notice. The section itself contemplates an opportunity to the affected parties. A notice is entitled to state as his objection that condition precedent for invocation of Section 4A have not been complied with. This can be deciphered only from the documents. If the same are not given, the purpose of hearing the petitioner would be only be illusionary.

12. I state that this interim reply was sent on 01.08.2019 and received by the respondent. I did not hear from the respondent for over 6 months. To my shock and surprise, I received the impugned order whereby the respondent

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has taken a decision that since the disclosure of the same is prohibited under the Right to Information Act, 2005, he will not furnish me the copies of the documents sought for. It is this order also challenging in this Writ Petition.

13. I state that no other alternative or efficacious remedy than to approach this Hon'ble Court invoking jurisdiction under Article 226 of the Constitution of India on the following

GROUNDS

A. That the order of the respondent is ex-facie illegal, untenable, arbitrary and violative of Article 14 and 19 of the Constitution of India and Section 4-A of the Mines and Minerals Condition and Regulation Act, 1957.

B. That the respondent ought to have seen the issuance of a show cause notice and receipt of the reply is not an empty formality. It is governed by the statute and the purpose of the notice is for objections on the proposed action.

C. The issuance of the show cause notice implies that the objections sought for should be effective and the opportunity granted should not be rendered illusory. It is the duty of the authority to furnish documents that he refers to in the show cause notice. By withholding the documents, the basis on which the show cause notice has been issued,the very purpose of the parliament brining in reasonable opportunity to show cause is being defeated.

D. That the respondent should have seen the petitioner is not a third party to the proceeding but has vested right by virtue of the lease executed in his favour. He has a right to make an objection and this is a right granted to him by Section 4A. If the documents are withheld, the petitioner will be totally in dark as to why action is being initiated.

E. That the respondent should have seen that notice under Section 4-A is independent in nature and not nature of class action. The reasons given for each notice defends and therefore each notice for each of the State is

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entitled to copy of the documents relied upon before respondent to the show cause notice.

F. That the respondent does not have the option to withheld documents on its discretion and called upon the petitioner to fight a battle after tying his hands.

G. The petitioner is entitled to know if the consultation had actually taken place and if the consultation was with the appropriate departments. Failure to comply with the conditions of Section 4A renders the entire proceeding void. The petitioner suspects that it is for that reason that the respondent is refusing to disclose the documents sought for.

H. That the respondent should have seen that the Right to Information Act, 2005 has absolutely no relevance in the present case as the petitioner is not third-party seeking documents but affected party, who is entitled to know the reason and basis for which notice has been issued under Section 4-A.

I. That the impugned order suffers from the vice of non-application of mind. When show cause notice is issued under Section 4A and the petitioner has sought for documents that the respondent has relied upon, it is perverse to apply the right to information act to the petitioner.

J. That the respondent should have seen that the petitioner has not sought for information under the RTI Act but as a person aggrieved by the proposed action. To read the provisions of the Right to information Act to interpret the MMDR Act and rules is per illegal. It reflects the predetermined nature of the respondent not to give documents at any costs.

14. I state that after rejected the request for the documents, the respondent has posted the matter for inquiry to 20.02.2020. If the respondent is permitted to proceed with the enquiry without furnishing the documents, the very purpose of the enquiry would be vitiated. Unless the petitioner needs reason for which invocation of Section 4-A of the MMDR Act, he will be seriously prejudiced and totally handicapped from giving reply. This has already been

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stated in the interim reply. The documents sought for are as per the provisions of the Act itself.

15. In the aforesaid reasons, it is humbly prayed that this Hon'ble Court may be pleased to grant STAY of all further proceedings pursuant to the impugned order of the respondent in letter No.7336/MMD-2/2019-2 dated 31.1.2020, pending the Writ Petition and thus render justice.

16. For the aforesaid reasons, it is humbly prayed that this Hon'ble Court may be pleased to issue a Writ or direction or order, more in the nature of a WRIT OF CERTIORARIFIED MANDAMUS calling for the records of the ~~first~~ respondent in letter No.7336/MMD-2/2019-2, dated 31.1.2020 and pass such further or other orders as this Hon'ble Court may deem fit and proper in the facts and circumstances of the case and thus render justice.

quash the same and provide relevant documents as sought for by the petitioner in Reply dtd. 1/8/19

Solemnly affirmed at Madurai
on this the 10th day of February
2020 and signed his name
in my presence.

Before me

Advocate: Madurai

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IN THE HIGH COURT OF JUDICATURE AT MADRAS, MADURAI BENCH
(SPECIAL ORIGINAL JURISDICTION)

W.P. (MD). of 2020

S. Vaikundarajan,
Son of A.S.V. Subbiah Nadar,
Managing Partner
V.V.Mineral,
17C, Keeraikaranthattu,
Tisaiyanvilai, Tirunelveli District.

....Petitioner

Versus

The State of Tamil Nadu
Represented by its Principal Secretary to Govt.,
Industries (MMD.1) Department,
Secretariat, Fort St. George,
Chennai-600 009.

...Respondent

WRIT PETITION

The address for service of all notices and processes on the petitioners is that of their counsel M/s. KINGSLY SOLOMON J, K.ARAVINTHA BHARATHI & P.P. ALWIN BALAN at 14 A, Ram Nagar, Uthangudi, Madurai- 625 107.

The address for service of all notices and processes on the respondents is the same as stated above in the cause title.

For the reasons stated in the accompanying affidavit, the petitioners herein prays that this Hon'ble Court may be pleased to issue a Writ or direction or order, more in the nature of a WRIT OF CERTIORARIFIED MANDAMUS calling for the records of the first respondent in letter No.7336/MMD-2/2019-2, dated 31.1.2020 and pass such further or other orders as this Hon'ble Court may deem fit and proper in the facts and circumstances of the case and thus render justice.

Dated at Chennai on this the 10th day of February, 2020.

Counsel for Petitioner.

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BEFORE THE MADURAI BENCH OF MADRAS HIGH COURT

DATED : **17.03.2020**

CORAM:

THE HONOURABLE MR.JUSTICE C.V.KARTHIKEYAN

W.P(MD)Nos.3178, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3191 and 3193 of 2020
and
W.M.P(MD).Nos.2702, 2704, 2705, 2706, 2708, 2707, 2709, 2710, 2711, 2712, 2713 and 2714 of 2020

W.P(MD).No.3178 of 2020

S.Vaikundarajan ... Petitioner

Vs.

The State of Tamil Nadu,
rep., by its Principal Secretary to Government,
Industries (MMD.2) Department,
Secretariat, Fort St.George,
Chennai 600 009. .. Respondent

PRAYER: Writ Petition is filed under Article 226 of the Constitution of India praying for the issuance of a Writ of Certiorarified Mandamus, to call for the records of the respondent in letter No.7261/MMD-2/2019-2 dated 31.01.2020 and quash the same and provide the relevant documents as sought for by the petitioner in reply dated 01.08.2019.

For Petitioner : Mr.Kingsly Solomon J.
For Respondent : Mrs.J.Padmavathidevi
Special Government Pleader

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COMMON ORDER

These Writ petitions have been filed in the nature of Certiorarified Mandamus seeking a direction to call for the records of the respondent namely the Principal Secretary to Government Industries (MMD.2) Department of the State of Tamil Nadu in letter No.7261/MMD-2/2019-2, dated 31.01.2020 and set aside the same.

2.In all these writ petitions, the impugned order is dated 31.01.2010. The only difference is that orders were passed with respect to separate mining leases, which, according to the learned counsel for the petitioner, are still subsisting. Originally, the petitioner was issued with a show cause notice dated 28.06.2019. This show cause notice was issued with respect to the mining leases under the provisions of the Atomic Minerals Concession Rules, 2016, and Atomic Mineral Construction (Second Amendment) Rules 2019, whereby, the respondent namely the Principal Secretary to the Government, after stating out various reasons, called upon the petitioner herein to appear in person on a particular date, namely 22.07.2019 at 05.30 pm., failing which, it was stated that it will be presumed that the petitioner has no remarks to offer.

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3.The show cause notice, issued as stated above, under Section 4A(1) of the Mines and Minerals (Development and Regulation) Act 1957, had stated that the Central Government after consultation with the State Government had decided by order dated 01.03.2019 to regulate quarrying mines and minerals and to conserve minerals resources and therefore, to prematurely terminate all existing mineral concessions of Beach Sand Minerals held by private persons/companies in the country and had therefore, directed the State Government to take necessary action in accordance with Section 4A(1) and 4A(3) of Mines and Minerals (Development and Regulation) Act 1957. It was also mentioned in the notice, which is actually a show cause notice, that a *suo motu* Public Interest Litigation (PIL) in W.P.No.1592 of 2015 had been filed by the Registrar General, Madras High Court in connection with illegal mining of Beach Sand Minerals and the said PIL is still pending before a Division Bench of the Madras High Court. It had also been observed that the said Division Bench by order dated 27.03.2017 had ordered that the Central Government should take effective steps as a policy decision and regulate the process of mining and restrict the license in respect of the mineral Monazite. It was also stated that the order of the Division Bench related to and also covered Beach

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Sand Minerals and particularly to unauthorised/illegal extraction of minerals, transportation and other associated alleged illegal and unlawful activities.

4.In the show cause notice, it has been stated that the writ petitioner herein has been indulging in such alleged unauthorised/illegal extraction of minerals, transportation and other associated alleged illegal and unlawful activities. Under these circumstances, by the show cause notice, the petitioner was directed to answer as to why the mining leases granted in favour of the petitioner Tvl.V.V.Mineral for mining garnet sand over an extent of 1.15.5 hectares of patta lands in S.F.No.1041/3 of Koodangulam Village, Rathapuram Taluk, Tirunelveli District, should not be prematurely terminated under Section 4A (1) of the Mines and Minerals (Development and Regulation) Act 1957. Similar notices were issued to all subsisting mining leases in favour of the petitioner. The only difference, as stated by the learned Special Government Pleader, is that the survey numbers alone were different. The petitioner was called upon to give an explanation within 15 days. A further opportunity of personal hearing was granted. The petitioner was directed to appear in person on 22.07.2019. Today it is 17.03.2020. The petitioner has neither replied to the show cause notice nor had he appeared in person before the respondent.

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5.The learned counsel for the petitioner states that he has given a representation seeking copies of documents as a precondition for appearance. He had sent a representation on 22.07.2019, which has been issued by the Manager, namely K.Nithya Kalyani and had sought for as many as four documents. It had been stated that all the above are missing along with Government of India, Director letter dated 01.03.2018 or Joint Secretary order dated 01.03.2019 and since the said documents were not furnished by the State Government along with the show cause notice and since the notices were issued based on directions issued by the Ministry of Mines, copies of the documents were sought as being essential to reply to the show cause notices.

6.In reply to such request, the present impugned orders were passed. In the impugned orders dated 31.01.2020, the Principal Secretary to Government has stated that the notices were issued to the petitioner seeking reply and also offering personal hearing and it was further noted that the petitioner had not appeared and had also not replied to the show cause notice, but had sought certain documents to be provided. It was thereafter, stated that the request for provision of documents has been examined by the Government and it was stated that the requisite documents were confidential in nature and

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disclosure of the documents were prohibited under Section 8(1)(a) of the Right To Information Act 2005. A further opportunity for appearance was given and the date was fixed on 21.02.2020 at 04.30 pm.

7.The learned counsel for the petitioner claim that the documents sought were neither confidential nor prohibited documents.

8.However, in the representation given on 22.07.2019 seeking copies of the said documents, the reasons as to why those documents were required by the petitioner has not been stated. As stated, the petitioner has not answered the show cause notice. The Manager by name K.Nithya Kalyani had answered the show cause notice and had sought for copies of the documents. It has not been stated in what manner the petitioner is prejudiced by non furnishing of such documents. The relevancy of such documents have not been stated.

9.It is also not known why provision of these documents can be stated to be a prerequisite or precondition even for personal appearance. The petitioner can very well appear in person before the respondent and explain to him the relevancy of the documents. He neither appeared before the respondent

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nor had he replied to the show cause notice, but states that unless the copies of the documents are given, he would neither appear nor give reply. The conduct of the petitioner has to be condemned.

10.The petitioner, if he is not involved in any illegal unlawful activities as stated in the show cause notice, should have, with due respect to the petitioner, or to whatever organisation he is running, appeared before the respondent. The rule of law is applicable to every individual. The rule of law states that if notice is issued for appearance, there is a duty cast on the petitioner to appear before the respondent. Therefore, I have no hesitation in upholding the impugned orders in the writ petitions in Letter Nos.7261/MMD. 2/2019-2, 7320/MMD.2/2019-2, 7323/MMD.2/2019-2, 7321/MMD.2/2019-2, 7331/MMD.2/2019-2, 7325/MMD.2/2019-2, 7326/MMD.2/2019-2, 7322/MMD.2/2019-2, 7336/MMD.2/2019-2, 7329/MMD-2/2019-2, 7337/MMD.2/2019-3 and 7340/MMD.2/2019-3 all dated 31.01.2020 respectively.

11.The petitioner is directed to appear before the respondent in person. The respondent is also directed to issue a fresh show cause notice

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fixing a date and time for appearance of the petitioner. On that particular date and time, the petitioner should appear and he may explain relevancy of the documents which he seeks and thereafter, the respondent may hear the petitioner with respect to the averments in the show cause notice and proceed further. If the petitioner does not properly respond, the respondent is at liberty to cancel any license of any mineral activity whether they are subsisting or not. The respondent may issue a fresh show cause notice on or before 27.03.2020 fixing a date and time for appearance of the petitioner and if the petitioner does not appear and once again communicates seeking postponement of the hearing, the respondent is at liberty to proceed further to cancel the license of whatever mining license has been leased to the petitioner.

12.It is a wonder how these writ petitions were filed before this Court when *suo motu* W.P.No.1592 of 2015 is under active and continuous consideration of a Hon'ble Division Bench at the Principal Seat.

13.With the above directions, these Writ Petitions are dismissed with costs of Rs.10,000/- (Rupees Ten Thousand only) for each writ petition totally Rs.1,20,000/- (Rupees One Lakh and Twenty Thousand only). Connected Miscellaneous Petitions are dismissed.

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14.The petitioner is directed to pay a sum of Rs.30,000/- (Rupees Thirty Thousand only) to the Dean, Government General Hospital, Thoothukudi, a sum of Rs.30,000/-(Rupees Thirty Thousand only) to the Dean, Government Hospital, Tirunelveli, a sum of Rs.30,000/-(Rupees Thirty Thousand only) to the Dean, Government Hospital, Sivagangai and a sum of Rs.30,000/- (Rupees Thirty Thousand only)to the Dean, Government Medical Hospital, Madurai, totally Rs.1,20,000/-(Rupees One Lakh and Twenty Thousand only) for filing these writ petitions before this Court, when *suo motu* W.P.No.1592 of 2015 is pending before the Principal Bench and for delaying the progress of enquiry based on the show cause notices, seeking documents and not explaining the necessity or relevancy of the document in his representation. The costs are to be used by the Deans of the respective Medical Hospitals for treatment of poor patients. It is hoped that atleast few patients would benefit by such amount. The costs should be paid on or before 27.03.2020.

17.03.2020

Index : Yes / No
Internet : Yes / No
rmk

Note : (1)Copy of the order to be marked Registrar (Judicial), Madras High Court for placing the order before the Hon'ble Division Bench, which is dealing with W.P.No.1592 of 2015. ...(pto)

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(2) The learned counsel for the petitioner may address a letter to Registrar (Judicial) for reporting compliance. If no such letter is received by 31.03.2020, Registrar (Judicial) may circulate a note for consideration on 01.04.2020 so that further orders for recovery of costs may be passed.

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C.V.KARTHIKEYAN.J,

rmk

W.P(MD)Nos.3178, 3181, 3182, 3183, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3191 and 3193 of 2020

17.03.2020

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https://www.aerb.gov.in/images/PDF/nfcflijuly2020.pdf

Validity of Licence for Nuclear Fuel Cycle Facilities

UCIL facilities	Validity of license
Bagjata mine	June 30, 2025
Banduhurang mine	June 30, 2021
Jaduguda mine	January 31, 2023
Bhatin mine	April 30,2023
Mohuldih mine	October 31, 2024
Narwapahar mine	March 31, 2023
Tummalapalle mine	February 28, 2023
Turamdih mine	December 31, 2023
Jaduguda mill	December 31, 2020
Turamdih mill	February 28, 2021
Tummalapalle mill	June 30, 2021

IREL facilities	Validity of license
IREL, Chavara	August 31, 2024
IREL, Manavalakurichi	August 31, 2024
MSP, IREL, OSCOM	August 31, 2024
MoPP, IREL, OSCOM	April 30, 2021
IREL, Udyogamandal	November 30, 2023

NFC facilities	Validity of license
NFC, Hyderabad	August 31, 2022
Zirconium Complex (ZC), Pazhayakayal	June 30, 2021