



VERIFICATION REPORT

WIND POWER PROJECT IN TAMIL NADU BY GREEN INFRA RENEWABLE ENERGY LIMITED



South Asia

Document Prepared By

TÜV SÜD South Asia Pvt Ltd

Project Title	Wind Power Project in Tamil Nadu by Green Infra Renewable Energy Limited
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Summary:

TÜV SÜD South Asia Pvt. Ltd. has performed the second verification of the aforementioned VCS project activity. The verification is based on the currently valid documentation of the VCS and United Nations Framework Convention on Climate Change (UNFCCC).

The Verification has been conducted for the monitoring period 01/12/2019 to 31/01/2021.

The verification process includes three phases:

- Desk review of documents;
- Off-site audit and follow-up interviews with the relevant personnel;
- Resolution of outstanding issues and the issuance of final verification report and opinion.

The main purpose of this project activity is to generate clean form of electricity through renewable wind energy source. The project involves the implementation of 249.9 MW wind power project in Tamil Nadu state of India by Green Infra Renewable Energy Limited. (GIREL).

Project was fully commissioned on 08/10/2018.

A risk-based approach has been followed to perform this verification. In the course of verification, 2 Clarification Requests (CLs) and 1 Corrective Action Request (CAR) have been raised during the course of verification process and has been successfully closed. No Forward Action Request (FAR) was raised during this monitoring period.

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1 INTRODUCTION

1.1 Objective

TÜV SÜD has been commissioned by the aforementioned client to perform an independent verification assessment.

The objective of the verification work is to comply with the requirements of Verified Carbon Standards requirements. According to this assessment TÜV SÜD shall:

- Ensure that the project activity has been implemented and operated as per the registered PD, and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place,
- Ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable VCS and CDM VVS requirements,
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology,
- Evaluate the data recorded and stored as per the applicable requirements.
- Assessment of the sustainability monitoring parameters as per the VCS requirements

1.2 Scope and Criteria

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of VCS project activities, the scope is set by:

- VCS v4.0 requirements
- Clean Development Mechanism Validation And Verification Standard (VVS) for Project Activities v2.0
- Baselines and monitoring methodologies (including GHG inventories)
- Environmental issues relevant to the applicable sectoral scope
- Current technical and operational knowledge of the specific sectoral scope and information on best practice
- Stakeholder consultation and feedback

The verification process is not meant to provide any form of consulting for the project participant (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the project design.

1.3 Level of Assurance

The errors identified in the project are below the threshold limit of materiality and hence not material. The GHG emission reductions are calculated without material misstatements.

The VVB confirms that a reasonable level of assurance has been achieved during the verification process.

1.4 Summary Description of the Project

The project involves the installation of wind Power Project. The total capacity of the project is 249.9 MW, which involves operation of wind power projects in the state of Tamil Nadu of India. The details of the project locations are mentioned in the table below:

Name of Investor	Capacity (MW)	COD	Connection with Grid	State	Usage
Green Infra Renewable Energy Limited	249.9 MW	08/10/2018	Indian Grid	Tamil Nadu	Sale to State DISCOM

Geo-coordinates of all the WTGs involved in the project activity are included in Appendix-II.

The project activity has not been registered under any other GHG program at this moment.

The project is utilizing wind energy for generating clean electricity and selling it to grid which would have otherwise been generated through fossil fuel dominated power plants, contributing to reduction in specific emissions (emissions of pollutant) including GHG emissions and also reducing its dependence on fossil fuels for energy requirements.

The commissioning date of each phase is verified through the commissioning certificate. The verification team has also verified the latest photographs of all the equipment's (solar modules, inverters and transformers, energy meters) installed at site and SCADA monitoring system submitted by the project proponent. Based on the assessment of the documents, the assessment team is able to confirm that the project activity is fully functional and implemented as described in the registered VCS PD & MR.

2 VERIFICATIONPROCESS

2.1 Method and Criteria

The information provided by the project participants is assessed by applying the means of verification specified in the VCS v4, Toolkit and the VVS.

A competent assessment team is selected prior to the start of the verification. The team is selected to cover the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the VCS project activity. Additionally, a competent Technical Reviewer or Technical Reviewer Team is appointed to conduct checks on quality and completeness.

The verification team performs first a desk review, followed by an on-site visit, which results in the formation of a draft report and a list of findings. The next step involves the evaluation of the findings through direct communication with the PPs and then finally the preparation of the verification report. This verification report and other supporting documents then undergo an internal quality control by the CB “Environment and energy” before submission to the VCS.

2.2 Document Review

The documents referred during the course of this verification are provided in Appendix 1.

2.3 Interviews

The VVB has not conducted the on-site inspection for this current monitoring period due to obligations imposed by COVID 19. However, the VVB has ensured that reasonable level of assurance has been achieved as per Verra regulations on the relaxation of mandatory site visits by the VVB due to Covid-19. The VVB has conducted telephonic interviews and video calls to discuss with the client regarding the data and documents pertaining to the current verification period. The interviews and discussions were conducted successfully.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Tyagi	Mayank	(Senior Manager) GIREL	07/04/2021	Plant technology and monitoring	Shailendra Kewat
2.	Kumar S	Selva	AGM – O & M	07/04/2021	Electricity Generation Records (monthly energy statements, Invoices)	Shailendra Kewat
2	Barve	Samarth	Infinite Solutions	07/04/2021	Monitoring	Shailendra Kewat

2.4 Site Inspections

Please see 2.3

2.5 Resolution of Findings

Table 1. CL from this verification

CL ID	01	Section no.		Date: 09/04/2021
Description of CL				
PP to provide supporting evidences for technical specification of WTGs				
Project participant response				Date: 14/05/2021
The Technical Specification of all WTGs has been submitted along with this submission.				
Documentation provided by project participant				
Technical Specification of all WTGs				
DOE assessment				Date: 15/05/2021
PP has provided the Technical Specification of all the WTGs in the project activity and found satisfactory.				
CL#1 Closed				

CL ID	02	Section no.		Date: 09/04/2021
Description of CL				
Calibration frequency of energy meters is mentioned as 5 years, however meters are calibrated, and the validity is shown as 2 years, Both calibration certificates are valid until 28/08/2019, which is not in the monitoring period as it starts from 01/12/2019 – certificate is not valid. PP to clarify and provide the valid certificates.				
Project participant response				Date: 14/05/2021

In accordance with article 7, clause (7.1.1) of the Power Purchase agreement (PPA) signed with state utility (TNEB), "The metering arrangements with facilities to record export and import of energy shall be provided in accordance with the Central Electricity Authority (Installation and Operation of meters) Regulations 2006. The periodicity of testing, checking, calibration etc. will be governed by the regulations issued by Central Electricity Authority (CEA) in this regard".

The national guidelines issued by the Central Electricity Authority, Ministry of Power, Government of India Notification No. 502/70/CEA/DP&D dated 17/03/2006(<http://www.cbip.org/MIR/1%20DATA/CEA%201.pdf>) which is considered as national standard, mentions that "All interface meters shall be tested at least once in five years."

Further, the meters shall be sealed by the state utility and that any meter seal shall be broken only by the representative of state utility whenever the metering systems is to be inspected, tested, adjusted, repaired or replaced. This confirms that the meters are sealed and in control of the state utility who calibrates/tests the meters.

Documentation provided by project participant

PPA

Copy of CEA Notification

DOE assessment

Date: 15/05/2021

PPA and CEA notification submitted. CL is closed

Table 2. CAR from this verification

CAR ID	01	Section no.	Date: 09/04/2021
Description of CAR			
Sec 5.1- Methodology version is wrongly mentioned			
Sec 5.4- ERs are less than the estimated ones, the reason mentioned in the MR is not relevant and it cannot be stated as acceptable by PP.			
Project participant response			Date: 14/05/2021
The Methodology Version in section 5.1 of the monitoring report is now made consistent in line with the registered VCS PD.			
The Section 5.4 of the monitoring report has been corrected in the revised monitoring report. Hence Revised Monitoring Report Version 2.0.			
Documentation provided by project participant			
Revised MR Version 2.0			

DOE assessment	Date: 15/05/2021
PP has updated the Sec5.1 and Sec 5.4 of the revised monitoring report version 2.0 and found ok. CAR #2 Closed	

Table 3. FAR from this verification

NA.

2.6 Eligibility for Validation Activities

Not applicable

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity is registered under VCS with reference number 1904. The project proponent has provided undertaking that it will not claim any GHG credits in any GHG program other than that under VERRA during the current monitoring period.

3.2 Methodology Deviations

NA

3.3 Project Description Deviations

There is no deviation with respect to the project activity during the current monitoring period.

3.4 Grouped Project

NA

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project involves the installation of wind Power Project. The total capacity of the project is 249.9 MW, which involves operation of wind power projects in the state of Tamil Nadu of India. The details of the project locations are mentioned in the table below:

Name of Investor	Capacity (MW)	COD	Connection with Grid	State	Usage
Green Infra Renewable Energy Limited	249.9 MW	08/10/2018	Indian Grid	Tamil Nadu	Sale to State DISCOM

The project is utilizing wind energy for generating clean electricity for supplying to grid which would have otherwise been generated through fossil fuel dominated power plants, contributing to reduction in specific emissions (emissions of pollutant) including GHG emissions and also reducing its dependence on fossil fuels for energy requirements.

The audit team has checked the commissioning certificate to confirm the location and the implementation of the project and found 249.9 MW was commissioned on 08/10/2018.

This Wind power project will reduce the GHG emissions generated by the current generation energy mix in India's Power Grid, which is dominated by fossil fuel-based grid connected power plants. The power generated through the project activity being supplied to Indian grid through a contractual arrangement (PPA). The technical specification of the project activity equipment's has been checked through the photographs of all the equipment's installed at site and are found to be consistent with the mentioned under section 3.1 of MR. The current status of the project activity is verified through the screen shots of SCADA system, indicating the real-time generation data and hence it is confirmed that the project is fully functioning.

Monitoring parameters:

Means of verification	Referring to VCS v4 and p.360, p.361, p.363 and p.364 of CDM VVS PA, v2.0, the below tables provide a summary on the verification of each monitoring parameter listed in the registered monitoring plan.
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	Data / Parameter:	EG _{PJ, y}
	Data unit:	MWh
	Description:	Electricity supplied to Grid
	Source of data used:	Deviation Settlement Account statement issued by SRPC
	Means of verification/Comments:	Electricity exported by the project to the grid at project site switch yard is the actual generation recorded and monitored by the metering system installed at the project site switch yard. The metering system comprises of special energy meters (SEMs) installed at the power station, for each generating units. These are connected via transmission lines of 220 kV, having its own SEM meter (main meter and check meter). In case, anyone transmission line is not in service than complete load will be shifted to other transmission line which is in operation. Verification team has checked the SRPC account statement for monthly generation values of each WTG to check net generation and same has been cross verified with sales invoices raised by PP.
	Cross-check	Electricity Sales invoices submitted
Compliance with the calibration frequency requirements for measuring instruments As per the registered monitoring plan, the meters are to be calibrated in every five years and same has been confirmed by cross-checking the calibration records. The details of the calibration of meters are given in the table below.		
Conclusion	The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. All parameters were monitored and determined as per the registered monitoring plan. Referring to p.360, p.361, p.363 and p.364 of CDM VVS PA, v2.0, VVB confirms through video call and telephonic interviews and from the document review, the actual monitoring system complies with the registered monitoring plan. The substantiation of this conformity on information flow for these parameters	

	including the values in the monitoring reports is reported in the above section. During the verification, all relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method, the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. After appropriate corrections, carried out by the project participant, it is confirmed that all monitoring parameters have been measured / determined without material misstatements and are in line with all applicable standards and relevant requirements. All parameters required to be monitored are recorded at the intervals required by the registered monitoring plan and the applied methodology. On the basis of review of source and nature of available evidences and records, the verification team confirms the quality of evidence for emission reduction provided is sufficient as per CDM VVS PA, v2.0.
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Calibration of the meters

Energy billing meter installed at the 220/33KV Substation, Chandragin, Tamil Nadu and all WTGs are connected to the mentioned substation.

Meter Sl. No.	Make	Class	Meter Make	Calibration date	Due date for Calibration
NP3285A (Main Meter)	Secure	0.2 s	L & T	25/09/2018	24/09/2023
NP3286A (Check Meter)	Secure	0.2 s	L & T	25/09/2018	24/09/2023

4.2 Safeguards

4.2.1 No Net Harm

The project do not have any negative environmental impacts.

4.2.2 Local Stakeholder Consultation

Local stakeholder consultation has been conducted at the time of project registration. As confirmed by PP during interviews, for on-going stakeholders communication, PP has maintained feedback/complaint register at the site office. Local stakeholders can anytime lodge their grievances if any in the register over the operational life time of the project.

During current monitoring period no grievance was received. Thus, assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate."

4.3 AFOLU-Specific Safeguards

Not applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The assessment of data and the calculation of baseline emission reduction in the MR and the ER excel sheet have been verified as per the following set of supporting documents: 1. Export and Import data 2. SRPC account statement 3. VER spreadsheets 4. Sales Invoices
Conclusion	Calculations applied formulae and method for calculation of baseline emission are in accordance with the registered monitoring plan and are in line with the requirements of the applied methodology.

Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan
Conclusion	Project emissions are zero as per the requirement of the methodology and registered VCS PD.

Calculation of leakage GHG emissions

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan
Conclusion	Leakage emissions are not applicable according to the applied methodology and registered VCS PD.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	No lack of evidence and missing data were detected during this monitoring period. All values as per the monitoring plan were crosschecked by the verification team against basic monitored data and the calculations were found to be correct. The verification team confirms that all assumptions, emission factors and default values have been correctly justified. All the emission factors, application of maximum permissible errors and default values are explicitly mentioned in the monitoring report. Hence the VVB confirms that the methods and formulae used to obtain the emissions are appropriate. No reporting risks have been identified for the data reported. Troubleshooting procedure, maintenance and calibration of monitoring equipment, monitoring measurements and reporting, record handling and maintenance, reviewing monitored data are available at the plant. All the monitored data are archived partially in electronic and paper form. The data will be kept for the whole crediting period and 2 years after the last crediting period thereby meeting the requirement of the monitoring plan.
Conclusion	The formulae and the methods referred in the MR and the emission reduction calculation spread sheet comply with the methods described in the registered PDD. No lack of evidence and missing data were detected during this monitoring period. All values as per the monitoring plan were crosschecked by the verification team against basic monitored data and the GHG emission calculation is found correct. TUV SUD confirms that all assumptions, emission factors and default values have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report. Calculations applied formulae and method for calculation of GHG emission are in accordance with the registered monitoring plan and

are in line with the requirements of VCS, the applied methodology and p. 372, p.373 of CDM VVS PA ver 2.0.

4.6 Non-Permanence Risk Analysis

Not applicable.

5 VERIFICATION CONCLUSION

The VVB confirms that

- The development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- The project is operated as planned and described in the project design document approved by the EB;
- The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- The monitoring system is in place and generates GHG emission reductions data;
- The monitoring plan in Monitoring Report is as per the PD and monitoring plan approved by the VCS;
- The approved monitoring plan in the approved PD is as per the applied methodology;
- There is an audit trail that contains the evidence and records that validate the stated figures.

Based on the information we have seen and evaluated, we confirm that the project activity achieved the verified amount of reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the project activity

Verification period: From 01 December 2019 to 31 January 2021.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2019	58,555	0	0	58,555
2020	697,972	0	0	697,972
2021	50,458	0	0	50,458
Total	806,985	0	0	806,985

APPENDIX 1: DOCUMENTS REVIEWED

No	Author	Title	References to the document
1	UNFCCC	CDM VVS for PA v2.0	
2	UNFCCC	ACM0002 – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, Version 19	-
3	Verra	VCS Standard v4.0	-
4	Infinite Solutions	VCS MR – Version 2.0(Final)	14/05/2021
5	Infinite Solutions	ER Calculation sheet Version 1(Final)	01/04/2021
6	Solar Energy Corporation of India Ltd.	Commissioning Certificates for 249.9 MW wind plant	08/10/2018
7	Measurematic India.	Calibration test certificates for main and check meters	25/09/2018
8	Southern Regional Power Committee (SRPC)	JMR/share certificate for 249.9 MW wind power plant.	2019,2020 and 2021
9	Google Earth	GPS coordinates for WTGs	
10	Infinite	Site photographs of WTGs and energy meters	

APPENDIX – 2: GEOCOORDINATES OF WTGS

SL. No	Name of Investor	Turbine ID	Latitude N	Longitude E
1.	Green Infra Renewable Energy Limited	KME011	8° 58" 15.31"	77° 59' 24.10"
2.		KME029	8° 59" 03.20"	77° 59' 46.18"
3.		KUM102	8° 58" 03.63"	77° 58' 47.67"
4.		KIIM104	8° 58" 43.08"	77° 59' 47.98"
5.		KUM267	8° 58" 28.14"	77° 59' 01.82"
6.		MAN106	8° 50" 11.63"	77° 59' 17.99"
7.		MANI08	8° 50" 38.04"	77° 59' 05.65"
8.		MMS076	8° 51" 00.39"	77° 59' 53.46"
9.		MNS086	8° 49" 18.40"	77° 59' 42.85"
10.		MNS090	8° 51" 36.58"	77° 59' 42.80"
11.		MMS095	8° 51" 25.17"	77° 59' 11.02"
12.		MMS097	8° 50" 12.85"	77° 58' 43.42"
13.		MNS099	8° 49" 32.77"	77° 59' 01.99"
14.		MMS100	8° 49" 03.33"	77° 59' 07.86"
15.		MMS103	8° 47" 43.39"	77° 59' 52.87"
16.		MMS105	8° 47" 38.79"	77° 59' 01.64"
17.		MMS120	8° 47" 15.50"	77° 59' 57.60"
18.		OTA031	8° 53" 03.28"	77° 58' 43.08"
19.		OTA038	8° 53" 50.31"	77° 58' 08.26"
20.		GTA067	8° 55" 51.51"	77° 58' 32.50"
21.		OTA112	8° 57" 06.12"	77° 59' 00.90"

22.		OTA114	8° 57" 42.21"	77° 58' 57.10"
23.		OTA120	8° 54" 11.14"	77° 58' 58.19"
24.		OTA121	8° 54" 12.12"	77° 59' 47.16"
25.		OTA132	8° 56" 23.64"	77° 58' 28.22"
26.		KME044	8° 56" 55.44"	78° 02' 08.45"
27.		KUM128	8° 57" 05.92"	78° 01' 00.63"
28.		KUM159	8° 57" 17.60"	78° 02' 06.15"
29.		KUM162	8° 55" 56.68"	78° 03' 23.14"
30.		KUM164	8° 56" 47.66"	78° 02' 52.31"
31.		KUM165	8° 57" 12.98"	78° 02' 55.51"
32.		KUM166	8° 57" 29.15"	78° 02' 47.79"
33.		KUM211	8° 57" 42.11"	78° 03' 30.17"
34.		KUM212	8° 56" 36.86"	78° 04' 43.40"
35.		KUM214	8° 56" 51.57"	78° 03' 38.33"
36.		KUM215	8° 56" 21.71"	78° 04' 02.61"
37.		KUM216	8° 56" 46.77"	78° 04' 12.51"
38.		KUM21S	8° 57" 38.28"	78° 04' 45.04"
39.		KUM249	8° 58" 09.48"	78° 05' 48.41"
40.		KUM250	8° 57" 31.54"	78° 05' 22.18"
41.		MAN113	8° 48" 24.99"	78° 00' 17.31"
42.		MNS041	8° 48" 24.29"	78° 02' 30.48"
43.		MNS042	8° 48" 41.57"	78° 02' 03.46"
44.		MNS052	8° 51" 42.92"	78° 01' 00.38"
45.		MMS054	8° 50" 12.27"	78° 01' 18.11"
46.		MMS056	8° 50" 38.03"	78° 01' 18.98"
47.		MMS060	8° 48" 52.30"	78° 01' 34.80"
48.		MMS061	8° 48" 05.85"	78° 03' 00.34"
49.		MMS062	8° 48" 19.66"	78° 01' 57.07"
50.		MMS065	8° 48" 30.51"	78° 00' 49.27"
51.		MMS067	8° 49" 12.16"	78° 00' 44.20"
52.		MMS070	8° 50" 16.07"	78° 00' 41.36"
53.		MMS071	8° 50" 50.66"	78° 00' 40.00"
54.		MMS073	8° 47" 49.58"	78° 03' 10.64"
55.		MMS075	8° 51" 18.96"	78° 00' 08.16"
56.		MMS082	8° 47" 30.43"	78° 00' 22.46"
57.		MMS085	8° 47" 34.29"	78° 01' 11.01"
58.		MMS106	8° 49" 42.79"	78° 00' 19.20"
59.		MMS111	8° 47" 17.83"	78° 01' 01.72"
60.		OTA020	8° 56" 29.86"	78° 02' 51.90"
61.		OTA026	8° 55" 01.46"	78° 02' 22.36"
62.		OTA027	8° 54" 58.93"	78° 03' 27.53"
63.		OTA046	8° 54" 14.91"	78° 02' 32.54"
64.		OTA050	8° 54" 32.46"	78° 02' 14.19"

65.		OTA052	8° 55" 14.21"	78° 01' 57.60"
66.		OTA053	8° 55" 47.24"	78° 02' 33.20"
67.		OTA055	8° 56" 34.17"	78° 02' 17.36"
68.		OTA064	8° 55" 09.64"	78° 02' 52.09"
69.		OTA069	8° 53" 51.50"	78° 02' 00.65"
70.		OTA075	8° 54" 55.49"	78° 00' 45.44"
71.		OTA092	8° 54" 02.36"	78° 00' 23.15"
72.		OTA093	8° 53" 36.66"	78° 00' 37.42"
73.		OTA095	8° 51" 49.15"	78° 00' 13.41"
74.		OTA099	8° 52" 20.10"	78° 00' 08.64"
75.		OTA100	8° 53" 03.66"	78° 00' 10.09"
76.		OTA106	8° 54" 52.06"	78° 00' 08.03"
77.		OTE011	8° 50" 48.54"	78° 03' 02.78"
78.		OTE019	8° 52" 06.30"	78° 02' 46.39"
79.		OTE021	8° 51" 38.16"	78° 03' 09.61"
80.		OTE037	8° 52" 49.71"	78° 03' 30.01"
81.		OTE041	8° 53" 08.90"	78° 03' 34.65"
82.		OTE047	8° 51" 16.05"	78° 04' 41.90"
83.		OTE059	8° 51" 36.88"	78° 04' 47.09"
84.		OTE061	8° 52" 37.51"	78° 04' 43.93"
85.		OTE064	8° 53" 20.02"	78° 04' 16.09"
86.		OTE075	8° 53" 58.22"	78° 04' 39.40"
87.		OTE076	8° 53" 42.89"	78° 04' 57.93"
88.		OTE077	8° 53" 02.86"	78° 05' 15.45"
89.		OTE081	8° 52" 36.62"	78° 05' 41.10"
90.		OTE082	8° 52" 04.65"	78° 05' 50.25"
91.		OTE099	8° 55" 20.34"	78° 04' 52.06"
92.		OTE101	8° 55" 58.58"	78° 06' 55.86"
93.		OTE102	8° 53" 51.10"	78° 06' 31.79"
94.		OTE103	8° 53" 25.35"	78° 06' 53.58"
95.		OTE112	8° 53" 07.12"	78° 07' 33.62"
96.		OTE113	8° 53" 25.30"	78° 07' 42.18"
97.		OTE115	8° 54" 25.20"	78° 06' 55.30"
98.		OTE118	8° 54" 49.74"	78° 06' 15.24"
99.		OTE120	8° 55" 33.93"	78° 06' 22.32"
100.		OTE121	8° 55" 52.05"	78° 06' 19.17"
101.		OTE135	8° 57" 25.98"	78° 06' 40.50"
102.		QTE136	8° 57" 11.87"	78° 06' 53.50"
103.		OTE137	8° 56" 49.55"	78° 06' 52.20"
104.		OTE138	8° 56" 01.68"	78° 07' 18.22"
105.		OTE140	8° 55" 31.48"	78° 07' 28.73"
106.		OTE141	8° 55" 10.22"	78° 07' 16.50"
107.		OTE142	8° 55" 05.97"	78° 07' 56.01"

108.		OTE151	8° 56" 43.08"	78° 09' 03.09"
109.		OTE153	8° 55" 58.45"	78° 08' 19.87"
110.		OTE155	8° 56" 37.34"	78° 07' 24.13"
111.		OTE157	8° 57" 08.58"	78° 07' 56.23"
112.		OTE158	8° 57" 44.31"	78° 07' 12.67"
113.		OTE163	8° 57" 15.35"	78° 08' 29.93"
114.		OTE164	8° 57" 02.20"	78° 08' 49.79"
115.		OTE165	8° 56" 21.97"	78° 08' 58.28"
116.		OTE166	8° 55" 28.72"	78° 09' 30.72"
117.		OTE172	8° 56" 26.94"	78° 09' 32.13"
118.		OTE173	8° 56" 36.76"	78° 08' 31.97"
119.		OTE174	8° 56" 42.84"	78° 09' 47.84"