TEST REPORT

Test Report Issued To:

MAGICRETE BUILDING SOLUTION PVT.LTD.

Division: NAVSARI,

BLOCK NO-188 B-190,192/1,, POST-ARAD,TAL-JALALPORE, NAVSARI, GUJARAT - 396475,

INDIA

Test Report No: M221121009/M221121009-11

Issue Date: 25-Feb-2023

Sample Booking/Receipt Date: 21-Nov-2022

Test Start Date: 03-Feb-2023

Test Completion Date: 05-Feb-2023



Customer Relationship Number M29086

Sample Description:

AAC WALL PANELS



Customer Reference No:

MAIL DT/21/11/2022, P.O.WO/ST/23/01698

Kind Attention: MOHAMMED ALI BADANE

E-Mail : ali.badane@magicrete.in Contact No: 2614003061

Sample Condition: Good

Sample Quantity (Approx): --- Nos Sample Size (Approx): *-*

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED



Report Issued By

ULR-TC631423000001908F

Authencity of report can be verified by mail at verification@spectrolab.in
This is a Digitally Signed Report and hence doesn't require Physical Signature

Legal Entity: Spectro Analytical Labs Private Limited (formerly Spectro Analytical Labs Limited), CIN: U74220DL1998PTC092698 (part of Eurofins Scientific SE)



Discipline: Mechanical Group: Building Materials

TEST REPORT FIRE RESISTANCE TEST OF CONSTRUCTION ASSEMBLIES

Test Sponsor:

MAGICRETE BUILDING SOLUTION PVT.LTD. BLOCK NO-188 B-190,192/1, POST-ARAD, TAL-JALALPORE, NAVSARI, GUJARAT, INDIA,396475,

Test Assembly: AAC WALL PANELS

Test Standards:

IS 3809:1979; Fire resistance test of structures .











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1. INTRODUCTION

Determination of the fire resistance of AAC WALL PANELS according to: IS 3809:1979; Fire resistance test of structures.

2. SPONSOR

Name: MAGICRETE BUILDING SOLUTION PVT.LTD.
Address: BLOCK NO-188 B-190,192/1, POST-ARAD,

TAL-JALALPORE, NAVSARI, GUJARAT,

INDIA,396475,

3. TESTING LABORATORY

Name: **Spectro Analytical Labs Private Limited**Address: S-1 GNEPIP, Surajpur Industrial Area

Kasna, Greater Noida, Phase – V Gautam Budha Nagar (U.P.)

Pin Code: 201308 Ph: 0120-2341251/52

4. DATE OF TEST

Installation Date: 03-02-2023 to 04-02-2023

Fire Test Date: 05-02-2023

The test has been witnessed by:

Name	Company
A. Rama Krishna	MAGICRETE BUILDING SOLUTION PVT.LTD.
Saurobh Nag	MAGICRETE BUILDING SOLUTION PVT.LTD







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5. CONSTRUCTION

5.1. General Description of the Assembly

The specimen consisted of 'Autoclaved Reinforced Cellular Concrete Wall Slabs' rigid supporting construction, fixed in place using mortar.

The overall dimensions of the test specimen were 600 mm x 3000mmx 100mm (w x h x thickness).

5.2. Supporting Construction

The test specimen was installed directly frame.

Magicrete - Magiclite ALC Wall Panels are used -

- 1. Magicrete Magiclite ALC Wall 100mm
- 2. Thin Bed Mortar- Magicbond
- 3. Fibre Mesh Tape
- 4. GI C-Channel (1 mm thick) Top 40 x 103 x 40
- 5. GI C-Channel (1 mm thick) Bottom 40 x 103 x 25
- 6. Dowel 100mm
- 7. Anchor Fastener
- 8. Fine Putty Magic Putty
- 9. Fire Retardant Single Component PU foam
- 10. Fire Rated Acrylic Sealant.
- 11. Acrylic Sealant

Note: All details given above are shared by test sponsor and only dimensions were verified by Spectro.

6. SPECIMEN VERIFICATION

6.1. Specimen Definition

The testing laboratory has not been involved in the selection of the specimen.

6.2. Specimen Installation

Installation of the specimen: MAGICRETE BUILDING SOLUTION PVT.LTD.
Supporting Construction: Spectro Analytical Labs Private Limited







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7. METHOD OF TEST

7.1. Verification of the Test Specimen

The construction has been verified by testing laboratory, based on a detailed survey and with the technical information supplied by sponsor of the test. Spectro was not involved in the selection of the materials.

7.2. Conditioning

The specimen was stored in ambient conditions.

8. FIRE TEST

8.1. Conditions and Test Situation

Autoclaved Reinforced Cellular Concrete Wall Slabs was directly installed in metal frame.

8.2. Measurements

The time-temperature curves have been controlled using nine thermocouples distributed evenly in the furnace.

The furnace thermocouples were placed at 150 mm from the exposed face of the specimen and this distance has been maintained throughout the entire test duration.

The ambient temperature at the commencement of the test was 21.4 °C.

The pressure in the furnace was controlled at 10 Pa with the pressure probe positioned at 1.55 m from the furnace floor. The pressure condition is in accordance with paragraph 3.2 of IS 3809:1979.

Unexposed face temperature was measured and recorded.







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9. OBSERVATIONS

9.1. Pre -Test Observations

The specimen was found satisfactory and fit to be tested.

9.2. Test Observations

Time (in Minute)	Observations
0	Start of test
5	No Change in physical appearance
15	No Change in physical appearance
30	No Change in physical appearance
60	No Change in physical appearance
90	No Change in physical appearance
120	No Change in physical appearance
150	No Change in physical appearance
180	End of test.

9.3. After-Test Observations

9.3.1. Unexposed face observations

The specimen was intact.

9.3.2. Exposed face observations

There was no sign of any such damage like holes and gaps.

10. SUMMARY OF RESULTS

The Autoclaved Reinforced Cellular Concrete Wall Slabs has been evaluated in accordance with IS: 3809-1979.

The requirement of the standard was satisfied for:

INTEGRITY 180 minutes



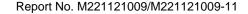




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11. PERFORMANCE CRITERIA as per IS 3809-1979

11.1 Integrity Performance:

- **6.2.3.1** For elements of structure such as walls and floors which have the function of separating two parts of a building, the presence and formation in the test specimen of cracks, holes or other openings through which flames or hot gases can pass so as to cause initial integrity failure occur.
- 6.2.3.2 Initial integrity failure shall be 'deemed to have occurred when the cotton pad referred to in is ignited or when sustained flaming, having a duration of at least 10 seconds, appears on the unexposed face of the test element.
- 6.2.3.3 Ultimate integrity failure shall be deemed to have occurred when collapse of the specimen takes place.

Failure of the test construction to maintain integrity shall be deemed to have occurred when collapsed, sustained flaming for more than 10 seconds on the unexposed face, ignition or glowing of cotton pad when applied or permitting the penetration of gap gauges.

12. LIMITATION The results only relate to the behavior of the specimen of the element of construction under the particular conditions of test; they are not intended to be the sole criteria of accessing the potential fire performance of the element in use nor do they reflect the actual behavior in fires.







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APPENDIX A - DESCRIPTION OF SPECIMEN

Overall

Туре	Autoclaved Reinforced Cellular Concrete Wall Slabs	
Dimensions	3000 x 600 mm	
Evidence of Survey Information supplied by the sponsor and partially verified by SPECTRO		







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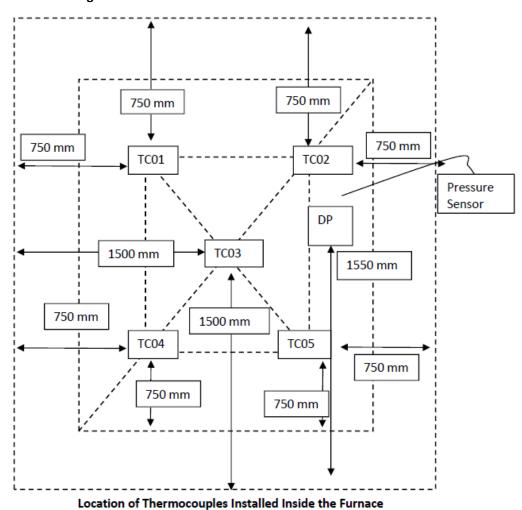
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TEST REPORT

APPENDIX B - Drawings



Back wall of Furnace







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Required Time - Temperature Data

Time (Minutes)	Temperature(^o C)
5	556
10	658
15	718
30	821
60	925
90	986
120	1029
180	1090

Acceptable Variation corresponding to required value Permissible variations in Temperature

For first 10 minute of test $\pm 15\%$ For 10 - 30 minute of test $\pm 10\%$ Above 30 minutes of test $\pm 5\%$

Required Pressure of furnace

Linear pressure gradient of 10 Pa per 1000 mm height. The pressure inside the furnace at the top shall not exceed 15 Pascal at any time after 10 Minutes of Start of test.

Permissible variation in Pressure

After 10 minutes of test: ± 5 Pascal







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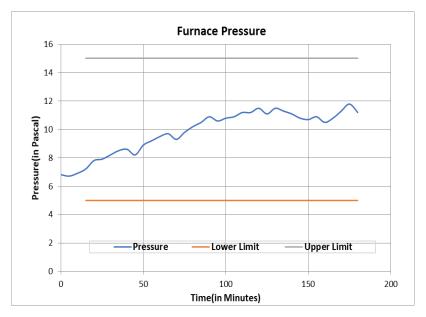
Authorised Signatory

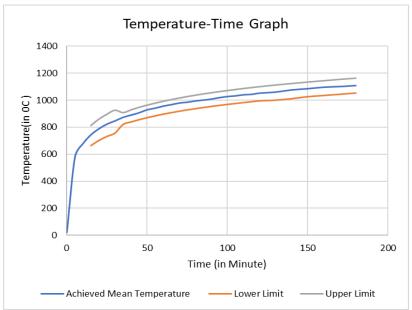
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TEST REPORT

APPENDIX C- Graphs







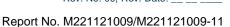




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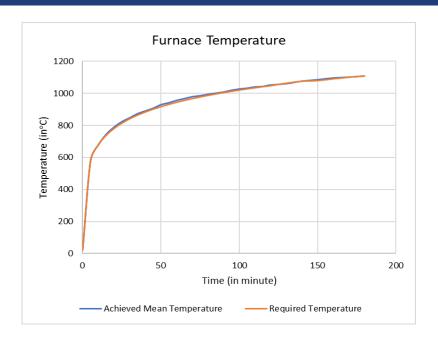
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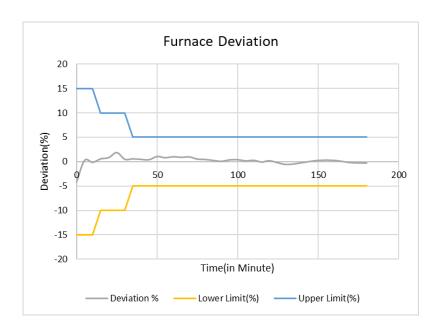
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TEST REPORT

Sample Before Test









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TEST REPORT

Sample After Test











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Report No. M221121009/M221121009-11

General Terms & Conditions

pectro Analytical Labs Private Limited (formerly Spectro Analytical Labs Limited) undertakes to provide service to its customer subject to the terms & conditions mentioned her

- subsequent orders. Each order accepted by ES will be treated as a separate contract between ES and the customer.

 2.3 Any logistic service off-site of the laboratory must be paid in full, unless it has been cancelled or modified by the customer at least forty eight hours (48) in advance for collection services, ninety six (96) hours in advance for sampling services and one (1)

- 3. Price and Terms of Payment
 3.1 If the acknowledgment of an order does not state otherwise, ES* prices apply "ex works", excluding packaging, which is charged separately, Any additional cost or disbursement (e.g. incurred by ES in connection with the order) must be paid by the customer.
 3.2 Prices are exclusive of all applicable taxes (GST or Other taxes) and are based on tariffs in force at the day of the remittence of the offer to the customer. Applicable taxes are those in force at the date of invoicing.
 3.3 Unless specifically agreed on thermise by ES in its acceptance of an order, payment of all invoices is due strictly which certain 30 days of the invoice date. Any dispute about invoices must be raised within 30 days of the invoice sets within 30 days of the invoice s initial examination is that an analysis or production is impossible or is possible only under more difficult conditions than originally anticipated ± for example, because the samples or materials have been interspersed with foreign materials or substances that were not reported by the customer or are degraded ± ES shall be entitled to terminate or interrupt the order and the customer shall bear costs incurred by ES to that point.
- 1.42. The customer must ensure, and hereby warrants, that no sample poses any danger, inducting on its site, during transportation, in the laboratory or otherwise to ES premises, instruments, personnel or representatives. It is the customer's responsibility to insure compliance with hazardous waste regulations, including any known or suspected toxic or other contaminant that may be present in the sample and its likely level of contamination as well as the risks to ES premises, instruments, personnel or representatives about sample health and safety concerns, including any known or suspect doxic or other contaminant that may be present in the sample and its likely level of contamination as well as the risks to ES premises, instruments, personnel or representatives related to the contamination. The customer shall be responsible for, and indemnifies ES against, all costs, damages, liabilities and injuries that may be caused to or incurred by ES or its personnel or representatives including on the sampling site, during the transportation or in the laboratory by the customer's sample or by sampling site conditions. The customer shall be all extraordinary costs for adequate disposal of hazardous waste resulting from the sample, whether or not described as hazardous waste. At ES' request, the customer must provide ES with the exact composition of the samples.

- customer shall bear all extraordinary costs for adequate disposal of hazardous waste resulting from the sample, whether or not described as hazardous waste. At ES' request, the customer must provide ES with the exact composition of the samples.

 5. Property fights on Sample Material and Sample Storage

 5.1 All samples become the property of ES to the extent necessary for the performance of the order. Unless the customer pays for storage, ES will alway no obligation or liability for samples sent to ES for storage, including samples requiring refrigeration however ES retains the sample for three months. If the customer pays for further storage, ES will alway commercially reasonable steps to store the samples, according to professional practice.

 5.2 Sample will be destroyed after one month from the date of release of test report unless specified by regulatory or ES and the customer have agreed in writing on the terms of ES' retention of the sample. ES also can dispose of or destroy the samples after the agreed upon retention period, without further notice and at customer's cost, should an extra cost for ES arise to comply with any regulation (for example, with respect to disposal of hazardous waste). If the customer requests the return of unneeded sample material, ES will return them to the customer, at the customer's cost and risk.
- 5.3 The sample description is not verified in all cases and is given "as described by customer". Sample not drawn by us and analysis conducted on "as received bases". Unless specified otherwise
- 5.4 Lab retain the copy of report for 2 years from the date of release of test report or instructed by customer or any regulatory requirement and authenticity of test report can be verified within 2 years by sending mail at verification@spectrolab.in

6. Delivery Dates, Turnaround Time

- 6. Delivery Dates, Turnaround Time
 6. Delivery Dates and furnaround times are estimates and do not constitute a commitment by ES. Nevertheless, ES shall make commercially reasonable efforts to meet its estimated deadlines.
 6.2 Results are generally sent by email and/or by mail, or via other electronic means, to the attention of the persons indicated by the customer in the order, promptly after the analysis is completed.
 7. Transfer of Property
 7.1 Title in any analysis results, products, equipment, software or similar supplied by ES to the customer will remain with ES until all invoices in respect thereof have been paid by the customer in full, and until such full payment, the customer shall have no property rights or other rights to use them. In addition, even if ES has accepted and begun to fulfil an order, ES has the right at any lime stop processing that order and to stop doing any work for a customer if that customer is late in paying any amount due to ES, whether for that or any other corder.
 7.2 Even after payment in full by the customer, ES shall retain the right to store, use and publish all analysis results in an anonymous form which does not identify the customer.

- 8. Limited Warranties and responsibilities
 8.1 Orders are handled in the conditions available to ES in accordance with the current state of technology and methods developed and generally applied by ES and the results may not always be 100% exact and/or relevant. Analyses, interpretations, sments, consulting work and conclusions are prepared with a commercially reasonable degree of care but ES cannot guarantee that these will always be correct or absolute. This limited warranty expires three months after the delivery date of the samp knowledgement of the order does not specifically state otherwise. In all cases, the customer must independently verify the validity of any results, interpretations, assessments and conclusions supplied by ES, if it wishes to rely on the same in respect of natters of importance and shall do so at its own risk.
- 8.2 Each testing report relates exclusively to the sample analyzed by ES. If ES has not expressly been mandated and paid for the definition of the sampling plan (including which samples of which raw materials and finished products and at which frequent should be analyzed) and the definition of the precise range of analysis to be performed or if the customer has not followed ES recommendations, ES shall not bear any responsibility if the sampling plan and/or the range of analysis to be performed prove to be
- 8.3 The customer is responsible for the proper delivery of samples sent to ES for examination/analyses or materials sent for production. Unless otherwise specifically agreed in writing by ES, ES accepts no responsibility for any loss or damage, which may occur
- 8.3 The customer is responsible for the proper delivery of samples sent to ES for examination/analyses or materials sent for production. Unless otherwise specifically agreed in writing by ES, ES accepts no responsibility for any loss or damage, which may occur to any sample in transar to 1 or any facility or site where logistics services are being delivered. The outsomer will at all times be lable for the security, packaging and insurance of the sample from its dispatch until it is delivered by the offices or the laboratories of ES. ES will use commercially reasonable care in handling and storing samples, but ES shall not be held responsible for any loss or destruction of samples even after their receipt at its laboratories.

 8.4 The customer warrants and represents to ES that all samples sent to ES for analysis are safe and in a stable condition and undertakes to indemnifty ES for any losses, injuries, claims and costs which ES, or its personnel, may suffer as a result of any sample not being in a safe or stable condition, notwithstanding that the customer may have given an indication on the sample or any order form of any perceived problem with the sample. The customer must always inform ES in writing prior to shipment and label the packaging, samples and/ or containers appropriately; if the samples are dangerous or otherwise of a hazardous nature.

 8.5 Unless explicitly agreed in writing by all parties, the contractual relationship shall be exclusively between the customer and ES. There shall be no third party beneficiary or collateral warranty relating to any order and the customer shall indemnify and hold ES hammless from and against any and all third party claims in any way relating to the order by the customer.

 8.6 The result given on the test report refer only to tested samples and application parameters.

- its about the test report should be communicated in writing within 7 days of the issue of the report

9. Limitation of Liability

- 9. Limitation of Liability
 9.1 Except to the extent that such limitations are not permitted or void under applicable law: (a) ES (together with its workers, office clerks, employees, representatives, managers, officers, directors, agents and consultants and all ES partners and affiliates, the "ES Indemnifying Partiess) shall be liable only for the proven direct and immediate damage caused by the ES Indemnifying Party's willful misconduct in connection with the performance of an order and then, only if ES has received written notice thereof not later than six (6) months after the date of the customer's knowledge of the relevant claim (unlesses any longer period is prescribed under applicable law and cannot be contractually limited), and (b) in all cases (whether arising under contract, tort, negligence, strict liability, through indemnification or otherwise), the ES Indemnifying Parties liability per claim or series of related dains, and the customer's exclusive remedy, with respect to ES' services which fall under these Terms and Conditions, shall be limited to the lesser of (i) the direct and immediate loss or damage caused by the ES Indemnifying Party's willful misconduct in connection with the performance of the order and (ii) Invoice amount ES actually received from the customer in relation to the order subject to maximum of Rs 1 and Riverses Cova Lav.)
- gr (i) the arrest and immensate loss or damage caused by the Es Indemnifying Party swill insconduct in connection with the performance of the order and (ii) invoice amount Es actually received from the customer in relation to the order suppert to first flat (Rupees One Lac)
 9.2 The ES Indemnifying Parties shall not be liable for any indirect, direct or consequential loss or damage (including but not limited to, loss of business, profits, goodwill, and business opportunities or similar) incurred by the customer or by a flat or damage (including the state of t

under or services or products or software provided pursuant to these Terms and Conditions, accept to the detent that the ES Indemnifying Parties are required to bear them according to these Terms and Conditions, and by placing an order the customer agree provide that indemnification.

10. Repeated Analysis

Objections to test results can be made within thirty (30) days after the customer receives the results. However, unless it would appear that the repeated analysis do not match those of the first one, the customer shall bear the costs of the repeated testing or review. Furthermore, a repeated analysis will be possible only if ES has a sufficient amount of the original sample on hand when it receives the customer's objection. Otherwise the customer will be required to pay all costs, including sampling, transportation, analytical and disposal costs for the repeat analysis. No retest request will be accepted after return of tested sample.

- ors, damages or other problems caused by events or circumstances which are unforeseen or beyond ES' reasonable control, or which result from compliance with governmental requests, laws and regulations
- 12. Confidentiality & Processing of Customer Data
- 12. CS shall be entitled to save and process personal or commercial data received from the customer in any way, no matter whether such data stem from the customer directly or from a third party and shall use commercially reasonable efforts to keep such data confidential, in compliance with applicable law.

 12.2 ES shall use commercially reasonable efforts to keep all analysis results and service reports confidential, subject to ES' rights set forth in clause 7.2 and the right to use them in order to demonstrate its entitlement to payment for services rendered.

 12.3 Analysis results are prepared and supplied exclusively for the use of the customer and should not be divulged to a third party for any purposes without the prior written agreement of ES. In addition, the customer is required to maintain secrecy concerning all services provided by ES and their results as well as the composition of products and software delivered by ES. Analysis results are not to be publicly discolored or exploited without the prior written consent of ES. Even if such written cons
- Indemnified Parties may incur as a result of such divulgence or any such third party reliance.

 12.4 Test report certificate shall not be reproduced except in full, without written permission of laboratory
- 12.5 Test report certificate shall not be reproduced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in adverting media, without written permission of laboratory
- 13. Disclaimer and Miscellaneous
 13. IALL TERMS, CONDITIONS AND WARRANTIES (INCLUDING ANY IMPLIED WARRANTY AS TO MERCHANTABLE QUALITY OR FITNESS FOR A PARTICULAR PURPOSE) AS TO THE MANNER, QUALITY AND TIMING OF THE TESTING
 SERVICE AND RESULTS, EQUIPMENT, PRODUCTS OR SOFTWARE SUPPLIED BY ES ARE EXCLUDED TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW. THE WARRANTIES, OBLIGATIONS AND LIABIUTIES OF ES CONTAINED IN
 THESE TERMS AND CONDITIONS ARE EXCLUSIVE.
 13.2 These Terms and Conditions may be modified in writing from time to time by ES and orders will be governed by the most recent version of these Terms and Conditions that is in effect at the time ES accepts the order.
 13.3 Should a count valve, limit or hold to be invalid, diegal or unefforceable any part of these Terms and Conditions that it is in effect at the time ES accepts the order.
 13.4 Failure by either ES or the customer to exercise the rights under these Terms and Conditions shall not constitute a waiver or forfeiture of such rights.

- 14. Governing Law/ Jurisdiction
- 14.1 The construction, validity and performance of these Terms and Conditions shall be governed by the laws and the commercial courts of Delhi Jurisdiction, Delhi State, India in which the registered office of the ES company which accepted the order in question is located (including in cases involving multiple counsels for the defense or third-party respondents), which shall have exclusive jurisdiction.

* End of Report *