

IN THIS ISSUE

JIMM Book Project 4

New Advisor 6

13th AGM & Seminar 7

Certification & Accreditation 8

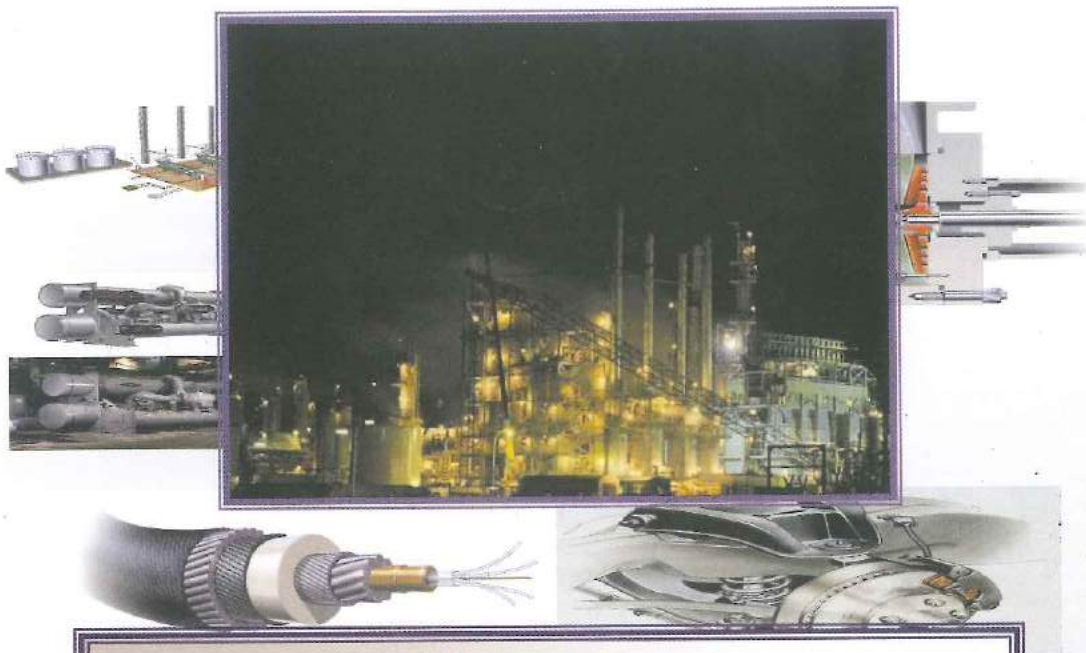
11th Scientific Conference of Electron Microscopy 9

Advanced Metallography and Microstructural Analysis 2003 Short Course 9

Study Visit to the Sarawak Oil Palm Mill 10

Insight of the Bakun Hydroelectric Power Project 11

Technical Visit Laku Water Treatment Plant 12



MAIN EVENT FOR 2004

4th International Materials Technology Conference & Exhibition IMTCE 2004

Theme : Initiatives and Innovations in Materials for Sustainable Development

**23RD – 26TH MARCH, 2004 ISTANA HOTEL,
KUALA LUMPUR, MALAYSIA
(PULL-OUT BROCHURE INSIDE)**

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Mr. Mazlan Mahidin

EXTERNAL AUDITORS (2003-2004)

Er & Associates

INSTITUTE OF MATERIALS, MALAYSIA

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Members can contact the respective Working Committee Chairman via e-mail for information on activities or general queries. Members who are interested to contribute their time to assist the committees can volunteer to become a Committee Member by writing to the respective Chairman. The IMM's vision lies in the commitment from its members.

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JIMM

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JOURNAL OF THE INSTITUTE OF MATERIALS MALAYSIA

The JIMM Book project was planned some two years ago, to serve a three-fold function, firstly to fulfill the JIMM mission as the forefront of materials research and expertise in Malaysia, secondly to serve as a vehicle as the technical outlet for the publications from JIMM members and thirdly to raise funds.

We are aware that the publications of specialist books is hardly the best way to raise funds but it will give us the best returns for investment in multifarious ways. The book project started with a theme: Advances in Materials Processing. Each contributor writes about his/her original research in an area of materials processing. The first volume contains eight chapters and concentrates mostly on polymers, metals and composites. The book is ready for launching and is in hardbound cover. Details of the book will soon be in our webpage, hopefully by the end of July 2003. The Editorial Board of Advances in Materials Processing Vol 1 are Prof Che Husna Azhari, Assoc Prof Dr Ahmad Kamal Ariffin and Dr Andananstuti Muchtar. All three are members of IMM and hail from The Faculty of Engineering, UKM. (photo enclosed).

For the second volume, the Chief Editor invites interested contributors to submit their abstracts as an indication of intent. Once sufficient numbers are obtained, about 9-10 contributors, a meeting will be convened to coordinate the topics.

JIMM

The last volume of the year 2002 came out early this year and the first volume for this year will be out in late July 2003. The second volume for the year, JIMM Vol 4 (2) will be out by the end of August, at the latest. Now that we have an Editorial Assistant our promise to make good rendering all articles on-line will be a reality.

“Chief Editor invites interested contributors to submit their abstracts as an indication of intent. Once sufficient numbers are obtained, about 9-10 contributors, a meeting will be convened to coordinate the topics”.

Our next project will be a special focus on papers submitted to ICATS 2003. Selected papers will be reviewed and published in JIMM. All papers culled from seminars organised in conjunction with IMM will be subjected to the same rigorous refereeing procedures as all papers submitted directly to the Chief Editor.

The JIMM too has seen developments with an International Editor line-up besides the internal Editors from our own IMM. The editors are, Prof Malcom Mackley, UK, Prof Craig Davies, UK, Prof Worsak Kanok-Nakulchai, Thailand, Prof S.C. Lim, Singapore, Prof Ibrahim Abdullah, Malaysia, Prof Radazali Othman, Malaysia and Prof Shinzo Kohjiya, Japan. The new line-up as well as the regular JIMM Editors include Ir Dr Samad Solbai, Dr. Teh Ser Kok, Dato' Dr Hj Mansor Salleh, Ir Ong Chong Hup and Assoc. Prof Mohd Fauzi Noor.

Editorial Assitant

The Publications Committee is delighted to announce the appointment of En. Noor Azman Che Murad as Editorial Assistant to assist the Publications Committee in all its Publications work. We hope that with this appointment, we will be in a better position to help you.



Editorial Board (from left): Assoc. Prof. Dr. Ahmad Kamal Ariffin, Prof. Che Husna Azhari and Dr. Andananstuti Muchtar



JIMM front cover

NOTES FOR AUTHORS

Submission

Manuscript (two copies) should be typed using double spacing on one side of an A4 paper and submitted in hard copy accompanied by a diskette in Word for Windows. Alternatively authors are encouraged to electronically submit articles to the Chief Editor at the e-mail address. Zip files are encouraged. Should the micrographs in the manuscript render to the files too large for electronic submission to the Chief Editor, kindly copy in a CD and send by regular post. Authors must clearly state the section they wish to place their contributions in, i.e. Regular Contributions, New Products, and Processes or Short Communications.

The typescript for the Regular Contributions should proceed in the order, title page, and name(s) of author(s) and address, abstract, text, nomenclature, references, acknowledgements and the appendices. Figures, photographs, micrographs and tables should be formatted into the text.

Title page

The title page should contain the name(s) of the author(s) and the establishment where the work was carried out as well as the place where the authors have since moved if they have a different permanent address.

Author's names should be named thus:

C.H Azhari¹ and M. Garwotok² and their affiliations are numbered in the superscript after their names.

¹Department of Mechanical and Materials Engineering, UKM

²Department of Materials Engineering, University of Technology Malaysia.

Abstract

All submissions must be accompanied by an abstract of not more than 150 words.

Keywords

A list of key words of not more than 10 words must be supplied with each submission. The keyword heading is italicized.

Text

Clear differentiation must exist between headings. Each major heading must be placed in the middle of the text and be given in capitals. Minor headings are not capitalized but are flush with the left margin and italicized. The order of the text should generally be **Abstract, Introduction, Experimental, Results, and Discussion, Conclusions, Nomenclature, Acknowledgements, References**. All equations should be written using Microsoft 2.0 or 3.0 Equations and Tables should be numbered serially 1,2,3 and so forth. Footnotes in the text are not encouraged. SI units should be used throughout.

Figures and photographs, including micrographs may be scanned and submitted in diskettes or electronically. Tables should be labeled on the top of the table and figures at the bottom. Should the scanned micrographs or photographs are not of printing quality the originals should submitted with the final draft.

The format for New Products and Process should follow that of the regular contributions. Submissions deemed for the Short Communications section should be

written in the style of an Extended Abstract, with the text having the order thus: Title, Author's name and affiliations, address, the main text, followed by the Acknowledgements and References

References

The references list should be typed single space, although separated from one another by an extra line of space. The reference are cited in the text as.

Author(s), Year and listed in the reference Section as

Journals :Author(s). Year. Title.

Journal. Vol(no); first page-last page.

Example :Azhari, C.H. 2000. Morphology Property Relationship of polypropylene/polyamide blends. *J.Inst. Mat. Mal.* Vol 2(2); 9-25.

Books :Author(s). Year. Title.

Publisher. City.

Example :Mutsuddy, B.C and Ford, R.N 1995. Ceramic Injection Loding. Chapman and Hall. London.

Website: URL. Article's title. Date.

Example: <http://www.polymer-arch.com>. Failure of Plastics and Rubber Products. 17 June 2001.

Writers whose native language is not English are reminded to let a competent reader read their manuscripts before submission to expedite editorial work. The Chief Editor strongly recommends the reader to look at the grammar, idiomatic use of the language as well as style of the manuscript to reduce undue editing time.

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The JIMM is published twice a year in January and July. Original contributions are welcome. Articles of brevity are considered for publication in the Short Communications Section. New Products and Processes are considered in the section of the same name. Reviews and Overviews are only published upon invitation.

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IMM ADVISOR (2003 – 2006)

The IMM wishes to express its gratitude to Y. Bhg. Dato' Dr. Hj. Mohd. Mansor Hj. Salleh for his role as the IMM Advisor from March, 2000 to March, 2003. The IMM has appointed Y. Bhg. Dato' Dr. Mohd. Ariffin Aton as the IMM Advisor for the next 3-year term from March, 2003 to March, 2006.



From left to right: IMM Immediate Past President, Dr. Samad Solbai, IMM President, Dr. A. Rahim Mohd. Nor (standing), Y. Bhg. Dato' Dr. Mohd. Ariffin Aton, and Y. Bhg. Dato' Dr. Hj. Mohd. Mansor Hj. Salleh.



Dr. A. Rahim Mohd. Nor presenting a Certificate of Appreciation to Y. Bhg. Dato' Dr. Mohd. Mansor Hj. Salleh.



Y. Bhg. Dato' Dr. Mohd. Mansor Hj. Salleh handing over the IMM Advisor Medallion over to Y. Bhg. Dato' Dr. Mohd. Ariffin Aton.



Y. Bhg. Dato' Dr. Mohd. Ariffin Aton making his acceptance speech.



Front row (L-R) Dr. Samad, Dr. A. Rahim, Y. Bhg. Dato' Dr. Mohd. Mansor Hj. Salleh, Y. Bhg. Dato' Dr. Mohd. Ariffin Aton, Prof. Dr. Husna Azhari, Assoc. Prof. Dr. Esah Hamzah.

Back row (L-R) En. Johar Juhari, Haji Ghaliq Tham, Jr. Ong Chong Hup, En. Zainuddin Ishak, Mr. Kang Kim Ang, Jr. Chong Chien Fati and En. Mohd. Raziff Embi.

13th A.G.M. & SEMINAR

The IMM held its 13th Annual General Meeting on 27th March, 2003 at the Hyatt Regency Saujana Hotel, Subang Airport Road, Selangor D.E.

A Seminar on corrosion-related topics was held. A total of over 50 members and participants attended the seminar presented by Mr. Stuart Leong from CorrOcean, (Norway) and Mr. John Grapilia from Ionik Consultants, (Australia).

Mr. Stuart Leong presented a paper titled "Principles and Practical Applications of PSM (Field Signature Method) – the Non-Intrusive Corrosion Monitoring Technique" with interesting graphics and examples.

Mr. John Grapilia presented a paper titled "Experiences and Case Studies of Cathodic Protection Interference Effects of DC and AC Power Systems – Control and Mitigation" which was of great interest to owners and operators of buried pipelines and buried metallic facilities.

The seminar was jointly sponsored by Ionik Consultants/IP Kenny Sdn. Bhd. and CorrOcean Asia Pacific.



Mr. John Grapilia presenting his paper



Guests and participants in discussion during lunch

Minutes of 13th Annual General Meeting

The Minutes of 13th Annual General Meeting is available on the IMM website-www.iomm.org.my

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IMM CERTIFICATION AND ACCREDITATION COMMITTEE (C.A.C.)

Chairman : Assoc. Prof. Dr. Mohd. Kamal Harun (UiTM, Malacca Campus)

The C.A.C. was established to administer, control and monitor examinations and professional conduct amongst IMM certification schemes and accredited IMM specialists. The following Panels were formed under the C.A.C. :-

CERTIFICATION EXAMINATIONS PANEL (C.E.P.)

The C.E.P. was established to oversee the setting of examination questions and the control of all examinations conducted by the IMM. The terms of reference had been established and procedures have been put into place.

The C.E.P. currently oversees the examinations for the IMM Coatings Inspector Certification Scheme, The IMM Blaster & Painter Certification Scheme, and IMM Welding Inspector Certification Scheme.

PROFESSIONAL ACCREDITATIONS PANEL (P.A.P.)

The P.A.P. was established to oversee the registration and qualification of personnel for technical and professional accreditation by the IMM. The objective is to ensure that qualified personnel are accredited into the correct professional and technical trades. This also allows the industry to check on the qualification of the personnel engaged for work.

The P.A.P. currently oversees the registration and qualification of the following categories of professional and technical personnel :-

Professional Grades

- IMM Accredited Corrosion Specialist.
- IMM Accredited Cathodic Protection Specialist.
- IMM Accredited Coatings Specialist.
- IMM Accredited Corrosion Technologist.

Technician Grades

- IMM Certified Corrosion Technician.
- IMM Certified Cathodic Protection Technician.
- IMM Certified Coatings Technician.
- IMM-SIRIM Certified Welding Inspector.
- IMM Certified Coatings Inspector.
- IMM Certified Blaster & Painter.

Details on registration to above grades will be available from the C.A.C. upon request.

IMM CERTIFICATION AND MEMBERSHIP SUSTAINING REQUIREMENTS

- IMM BLASTER & PAINTER CERTIFICATION SCHEME
- IMM COATINGS INSPECTOR CERTIFICATION SCHEME
- IMM WELDING INSPECTOR CERTIFICATION SCHEME

All graduates of IMM certification schemes shall be certified for a period of five (5) years from the date of certification.

Re-certification requirements include the submission of the graduate's work experience over the 5-year certification period and Certificates of Attendance to at least 5 IMM courses. Graduates also have to show from their job records that they have not stopped work for more than the periods allowed for in their respective certification schemes.

Certification Cards shall be issued for periods of one year to five years based on the graduate's membership term with IMM. Graduates must register as an IMM member for 5 years to obtain a Certification Card valid for 5 years. Otherwise, the Certification Card shall be issued valid for one year only, and a new one issued the subsequent year when the graduate renews his IMM membership. This requirement is to enable the IMM to keep track of the whereabouts of the certificate holder because only IMM members will continue to receive the IMM Newsletters and notices from the IMM.

11th Scientific Conference of Electron Microscopy

IMM Southern Region Committee has successfully organized a two-day conference entitled "11th Scientific Conference of Electron Microscopy Society of Malaysia" on 17 and 18 December 2002 officiated by Professor Ir. Dr. Mohd Azraai b. Kassim, the Deputy Vice Chancellor (Development & Corporate Planning) UTM representing the Vice Chancellor. This conference which was held at the Eden Garden Hotel, Johor Bahru was jointly organized by The Electron Microscopy Society of Malaysia, Department of Materials Engineering (UTM) and IMM Southern Committee.

This is the second time since 1992 UTM was given the honour to host this annual event in conjunction with the Electron Microscopy Society of Malaysia (EMSM) 12th Annual General Meeting.

The conference received good response with 86 delegates from various organizations such as institutions of higher learning, research institutions and industries in Malaysia and Singapore.

A total of 74 technical papers were accepted for oral and poster presentations which were divided into two categories, namely Physical Science (Materials Science and Engineering) and Life Sciences (Biological and Medical). All papers presented were published in Journal of Institute of Malaysia (JIMM) and Annals of Microscopy for Physical and Life Sciences categories respectively. In conjunction with the conference, best poster and micrograph competitions were also held. Five distinguished invited speakers from Hong Kong, Singapore and Malaysia have delivered their talks with topics ranging from image analysis in materials science to cardiac diseases and immunosuppressive disease of poultry in Malaysia.

This conference has initiated and created a good networking among EMSM and IMM members and many are members of both societies. In order to entertain EMSM and IMM family members, a colouring contest for the children was also held near the conference venue.



Delegates during the Opening Ceremony at the Eden Garden Hotel, Johor Bahru, Johor

The prizes and contest materials were sponsored by Staedler (M) Bhd. The conference delegates had been invited to the conference dinner and was entertained with a cultural Malay dance sponsored by FEI Company and JEOL (Malaysia). Other sponsors of the conference include Hi-The Instruments, Ehsan Enterprise, CLMO Technology, TQR Engineering, Maslina Sdn. Bhd. and Rainbow Stationery.

Advanced Metallography and Microstructural Analysis 2003 Short Course

IMM Southern Region Committee has again successfully organized a Short Course on Advanced Metallography and Microstructural Analysis 2003. The course which has run for four consecutive years received encouraging response from the industries and other institutions.

The short course was conducted on 9 to 10 April 2003 at the new Material Engineering Laboratory, Universiti Teknologi Malaysia, in Skudai, Johor. 25 elected participants from institutions of higher learning and industries such as Aero-Composite, Antara Steel, Petronas, MFI, Durabon, KUKUM, KUTM, UPM, UM, KUITTHO, UIA, UPSI, and UTM have participated in the 2-day short course.

The short course was jointly organised by UTM and CLMO Sdn Bhd with Mr. Rene Hoeg from Buehler, Hong Kong as the main speaker and UTM academic and technical staff as the facilitators. Similar course will be conducted next year and will be limited to 25 participants only.



From left: Assoc. Prof. Dr. Ali Ouradjini (facilitator), Assoc. Prof. Dr. Esah Hamzah, Prof. Dr. AVALUDDIN M. SHAHAROUN (Dep. Dean Faculty of Mech. Eng., UTM), Mr. Rene Hoeg (Buehler) and Mr. Henry Heng (CLMO Tech)



Participants and guests after opening ceremony at the new Materials Eng. Laboratory, UTM Johor.

Participants during the workshop session in the new Materials Engineering Laboratory, UTM.



Study visit to the Sarawak Oil Palm Mill (SOP)

Reported by Puan Maimunah Ismail, Chairman Sarawak Committee

A delegation from The Institute of Materials, Malaysia (IMM), Sarawak Committee led by the Chairman, Puan Maimunah Ismail visited the Sarawak Oil Palm Mill at Lambir, Miri on Saturday, 14th June 2003. The children of the committee members also came as part of early exposure and learning to appreciate materials and impact on the environment. This visit is one of their Social cum Study activities for the year.

It was interesting to note that every part of the Oil Palm have many interesting uses from the most required Palm Oil to fertilizer, soil enhancer, and the energy to run the mill. This is an example of how materials re-utilization certainly helps effort in preserving the environment.

The IMM Sarawak committee delegates were received upon arrival by Sarawak Oil Palm representatives; Teresa Ting and Mr. Philip Cheng. A briefing on oil palm processing was presented followed by a tour of the production plant. The visit was welcomed by the SOP representatives as it gave SOP workers a chance to foster closer rapport with members of the public. They told the visitors that the handling and usage of oil palm by-product was a very interesting part of oil palm processing.

Sarawak Oil Palm Industry representative thanked IMM Sarawak Committee for visiting SOP and showing their interest in the oil palm processing and manufacturing aspects. The visit, they said was an indication to show

their interest in the oil palm manufacturing technology and production. Mr. Ting hope that IMM Sarawak Committee, has to some extent acquired some understanding on oil palm materials, production, and its usage within the industry.

Puan Maimunah, on behalf of IMM thanked the SOP Management for receiving IMM Sarawak Committee and for their warm hospitality.



Mr. Philip Cheng giving technical briefing on oil palm processing to the IMM committee members and delegates



Group photo after the visit

SARAWAK ACTIVITIES CALENDER 2003

| COURSE NAME | DATES | LOCATION |
|--|-------------|----------|
| IMM-CSWIP 3.0 Visual Welding Inspector | 13-15 Feb | Miri |
| IMM-CSWIP 3.1 Welding Inspector | 17-22 Feb. | Miri |
| | June | Labuan |
| | September | Kuching |
| | December | Bintulu |
| IMM Coatings Inspector Course | 22-25 March | Miri |
| | 17-20 May | Miri |
| | 2-5 October | Miri |
| IMM Corrosion Awareness Course | July | Miri |

Insight of the Bakun Hydroelectric Power Project

Reported by Ir. Dr. Edwin Jong, Chairman Welding Committee (East Malaysia)



The Bakun Hydroelectric Power (HEP) Project is one of the biggest hydropower projects ever undertaken in Malaysia, with an estimated power generating capacity of 2,400 MW. The Bakun HEP Reservoir will be constructed on the Balui River, approximately 37 kilometres upstream of Belaga in the state of Sarawak. The Balui River drains an area of approximately 14,750 km² at the proposed dam site, and the reservoir inundated an area of 695 km².

On 22nd March 2003, Ir. Dr. Edwin Jong led The IMM Welding Committee, East Malaysia team consisting of Mr. Alan Chee from Sarawak Shell Bhd, Mr. Benedict Ong from Syarikat Weld Fokus, Mr. Pui Voon Poh & Mr. Reduan Bujang from B.I.G Industrial Gas Sdn. Bhd, Mr. Tee Kim Tsew & Mr. Masri Bin Laiman from Lott Inspection Sdn. Bhd and Foo Lan Tein from Sarku Engineering Sdn. Bhd on an official technical visit to the Bakun Hydroelectric Power (HEP) Project site. We embarked the journey at 0615 hrs from Miri and fi-

"When completed will be at a 205-metre-high Concrete Face Rockfill Dam (CFRD), with a length of crest of 740 metres, a base width of 560 metres and a crest width of 12 metres"

nally arrived at Bakun Hydroelectric Power Project site around 1030 hrs. We were warmly welcome by the Site Management team with some refreshment.

The Senior Project Manager Mr. Sim together with the project veteran Mr. Vong as depicted in Figure-1 gave a very

detail presentation how they started the project, the unpredictable difficulties that have encountered on the completed construction of the Cofferdam. They have also touched on the Bakun Dam design and the major civil and construction work of the original design was scheduled to commence in early May 2003. This work is undertaken by its main contractor Malaysian-China Joint Venture (MCH JV) for the civil work portion valued at RM1.8 billion.

This technical visit to the Bakun Hydroelectric Power (HEP) Project, gave the team some valuable insight into the Bakun Cofferdam construction of the three concrete diversion lines. Also mentioned during the presentation of the Bakun Dam is that the Dam when completed will be at a 205-metre-high Concrete Face Rockfill Dam (CFRD), with a length of crest of 740 metres, a base width of 560 metres and a crest width of 12 metres. This makes it one of the highest rockfill dams in the world. It will flood 69,640 hectares of land, an area bigger than Singapore.

We were driven to the site at various locations. Again, we were given the pre- and post-construction briefing, solutions being tackled during the construction especially before and during the construction of cofferdam as depicted in Figures 2, 3 & 4. We really appreciated that the site team treated us to a healthy "kampong" lunch that we could not easily experience after returning to the hectic city life.

Lastly, we expressed our appreciation for their hospitality by presenting our IMM Newsletter to the Site Team Representative, Mr. Sim as shown in Figure-5 and also share the objectives of our learned organization – Institute of Materials Malaysia who can provide them with technical expertise especially relating to materials and welding technology. We finally departed from the site around 1530 hrs.



Technical Visit

Laku Water Treatment Plant at Lambir, Miri, Sarawak

Reported by Ir. Dr. Edwin Jong, Chairman Welding Committee (East Malaysia)

Introduction

IMM Welding Committee (East Malaysia) has a series of plans in promoting the objectives and mission of Institute Of Materials, Malaysia (IMM) amongst the local community within East Malaysia including Sarawak, Sabah and W.P. Labuan. One of the prime strategies is to organize technical visits to local government agencies and large private sectors within the Oil & Gas, Marine, Civil and Construction Industries so that we are able to introduce IMM to them. Congruently, we are also able to recruit new members who are interested in materials and welding engineering from these sectors of the industries. Most importantly, we can raise some awareness in welding technologies and quality in welding workmanship in the Civil and Construction industries.

Technical Visit Lambir Laku Water Treatment Plant

The Second Technical Visit of this year was organised on 17th May 2003. The IMM Welding Committee (East Malaysia) team consisted of the following seven committee members had visited the Lambir Laku Water Treatment Plant that is located about 20 km from Miri Town:-

- Dr. Edwin Jong & Mr. Alan Chee both from Sarawak Shell Bhd,
- Mr. Tan Chin Joo from Velosi (M) Sdn Bhd,
- Mr. Pui Voon Poh from B.I.G Industrial Gas Sdn. Bhd,
- Mr. Chung Min Kuan from Eastern Oxygen Industries,
- Mr. Masri Bin Laiman from Lott Inspection Sdn. Bhd, and
- Mr. Foo Lan Tein from Sarku Engineering Sdn. Bhd

Journey to the Plant

We started our journey from Miri Town at 0830 hrs and very soon arrived at Lambir Water Treatment Plant at 0910 hrs. On our arriving, we were warmly welcome by the Laku's Site / Production Team headed by Mr. Lim Lian Hin (Head of

Production), Kuo Eng Kiong (Executive Engineer), Wong Ing Kwong (Production Supervisor) and other senior officers.

Details of Presentation

After having exchanged our greetings in their main hall, the Site / Production Team invited us to their Conference Room where we (IMM Welding Committee) with the aid of Power-Point Presentation were able to clearly introduce Institute of Materials Malaysia (IMM) and her set-up in relation to Welding Committee, especially on our main tasks and objectives. Dr. Edwin Jong, the IMM Welding Committee Chairman (East Malaysia) first thanked the Laku Management Site Team for warm reception and kicked off by presenting the first slide showing "Greeting from IMM Welding Committee (East Malaysia)". The presentation pack included the relationship between IOM³, UK and IMM, brief introduc-

"We can raise some awareness in welding technologies and quality in welding workmanship in the Civil and Construction industries"

tion on IMM and her set-up, IMM Welding Committee (East Malaysia) Theme - "What can we offer to our Community?" especially on Materials Engineering and Welding Technology and Consultancy". His presentation also included the highlights of the recent Asia-Pacific Welding Standardization Forum (AWSF), and AWSF Welding Steering Committee.

After his presentation, a technical presentation of one of the latest advanced Non-Destructive Testing (NDT) - Computed Radiography was also presented to them as a technical sharing session by one of our IMM Welding Committee members (East Malaysia) Mr. Masri Bin Laiman of Lott Inspection Sdn Bhd. This technique can indeed assist them to arrest cracks, leaks and



other hidden defects on their heavy-duty plastic and concrete-reinforced water pipelines.

At the end of our presentation, an interesting open dialogue session with Laku Management Production team was also generated - they had shown great interests with IMM approach and the NDT technique introduced. After having more than half an hour of an open dialogue session we were invited to a "makan kecil" refreshment before proceeding to a site education tour as planned.

Site Education Tour to the Plant

Soon after our refreshment, we were also invited for an education tour to the Lambir Water Treatment Plant. Starting point is the raw water supply intake, that is the upstream of the water treatment plant where water is pump from the Sungai Liku to the Treatment Plant Split Chambers. Water treatment including chemicals, like hydrated lime (for pH adjustment), Aluminium Sulphate and sometimes Polymeric Coagulant are added for the coagulation process at the Flocculation Tank. The floc becomes bigger, heavier and will form settled floc and sink to the bottom, separating it from the water. Only clean, clear water will flow into the filter. Filtration is to remove any suspended solid including fine flocs that are carried over and accumulated from sedimentation tanks to produce clear sparkling water. After the filter process, chemical such as Liquid Chlorine is added for disinfections, Hydrated Lime is for pH adjustment (7.5), Sodium Silico Fluoride is for prevention of dental caries. After that the treated water will be stored in the clear water well and then distributed to the customer by pumping it out to the water main reticulation system.



A side view of the Plant - Treatment Area



Some of the apparatus and records being used in the treatment plant



An interesting open dialogue session with Laku Management Team was in progress



IMM Welding Committee Chairman (East Malaysia), Ir. Dr. Edwin Jong (standing) was presenting IMM Welding Committee to Laku Production Management Team.



A group photo showing the souvenir presentation from IMM Welding Committee Chairman, Ir. Dr. Edwin Jong (3rd from front left) to Mr. Lim Lian Hin (4th from front right), Head of Production of Laku Management Sdn Bhd.

Welding Inspector Qualification Examination

Reported by Hj. Ghalib Tham, Alternate Chairman Welding Committee (West Malaysia)

Welding Inspector qualification examination based on IMM Doc 1 was held on 18th of June 2003. Nine candidates took the test under the supervision of officers from IMM and SIRIM Berhad. A panel from IMM and SIRIM Berhad will evaluate the examination papers before submitting them to the IMM Certification and Accreditation Committee.

The examination stressed the importance of technology, ethics, practical inspection, documentation and interpretation based on welding codes. This WI Programme has been designed such that those who passed this examination will be able to serve the welding industry immediately. Certification endorsed by IMM and SIRIM Berhad will be awarded to the successful candidate who have passed the eye acuity test conducted by a qualified eye specialist.



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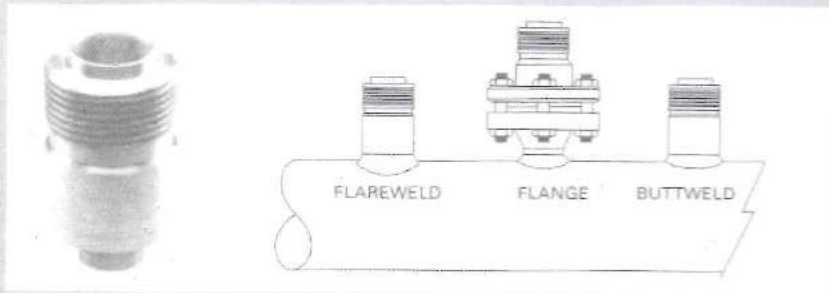
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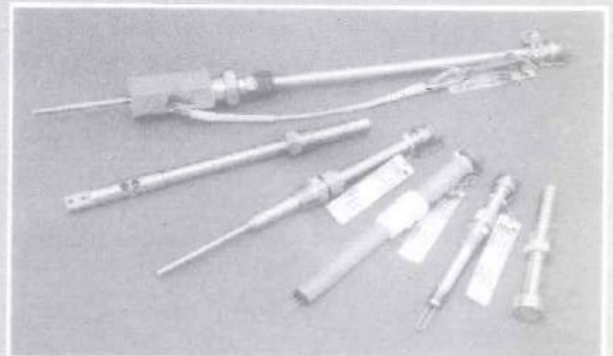
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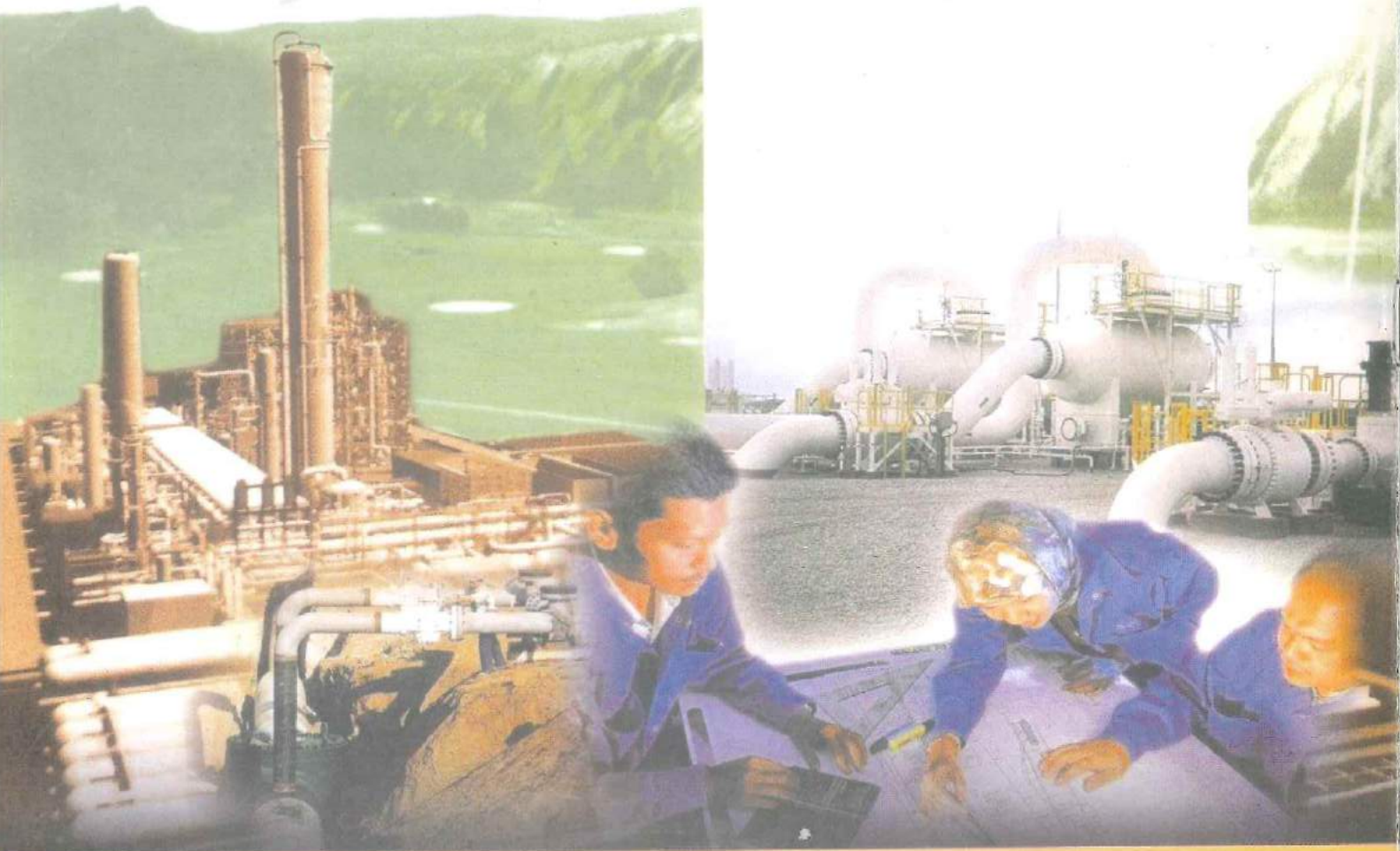


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