

**Alpha Coal West Inc**  
**AngloGold Ashanti (Colorado) Corp.**  
**Anglo American Metallurgical Coal**  
**ArcelorMittal Mines Canada**  
**Barrick Gold Corporation**  
**BHP Billiton Diamonds Inc.**  
**BHP BMA Coal Australia**  
**Canadian Natural Resources Ltd.**  
**Cliffs Natural Resources**  
**De Beers Canada Inc.**  
**Freeport McMoRan Copper & Gold**  
**Goldcorp Canada Ltd.**  
**Imperial Oil Ltd.**  
**Iron Ore Co. of Canada**  
**Kinross Gold Corporation**  
**KMC Mining Corporation**  
**Ledcor CMI**  
**Mitsubishi Development Pty Ltd**  
**Newmont Mining Corporation**



**SMART** Surface Mining Association  
 For Research & Technology

[www.smartmines.com](http://www.smartmines.com)

## SMART Meeting Minutes

**North American Construction**  
**NovaGold Resources Inc.**  
**Peabody Energy Corporation**  
**Prairie Mines & Royalty Ltd.**  
**Queens University**  
**Quadra FNX Mining Ltd**  
**Shell Canada Ltd.**  
**Sherritt Coal**  
**Suncor Energy**  
**Syncrude Canada Ltd.**  
**Teck Resources Limited**  
**Thiess Pty Ltd**  
**Total E&P Canada Ltd**  
**TransAlta Corporation**  
**University of Alberta**  
**University of Arizona**  
**University of British Columbia**  
**URS Corporation, Washington Div.**  
**Western Coal Corporation**

**Date: Friday October 14, 2011, Kearl Oil Sands Imperial Oil Resources, Met Place, 333 - 4th Ave. S.W. Calgary**

Steve Thornton (Kearl), Barry Osachuk (Kearl), Zoli Lukacs (KMC), Tom Demorest (Syncrude), Michelle Velez (Syncrude), John Thomas (Syncrude), Larry Clark (Newmont), Ben Scholz (Newmont), Chris Langmead (Suncor), Tim Joseph (U of A), Mike Lipsett (U of A), Sean Fancey (Coal Valley), Tim Skinner, Mike Di Marco (Teck Resources), Lyndon Chiasson (Teck Resources), Ken Martens (Prairie Mines), Luke Zelmer (Prairie Mines), Paul Graham (Shell), Mark Richards (Teck), Peter Wan (Teck), Rob Hall (UBC), Mark Bartlett (FMI), Richard Sivils (FMI), Brad Wood (De Beers), Andrea Sedgwick (TOTAL),

**Presenters: Stephen Alpers (acQuire Technology Solutions), Paul Johnston, Chris Sellathamby, Stephen Slupsky (Scanimetrix)**

Distribution List: (135 members)

Allan Michael	Fretheim Erica	Morin Gaston
Andrews Peter	Frizzle Rockie	Morris Kevin
Arn.Do	Gower Peter	Morrison Don
Audet Bruno	Graham Paul	Obaia Khaled
Baker Carla	Gray, Jim	Osachuk Barry
Ball Troy	Grayson John	Paterson Ric
Barnum Brad	Greene Todd	Peck Jon
Bartlett Mark	Rory Greyvensteyn	Penney Brian
Bauer Andrea	Hall Robert	Pritchard Ross
Boddy Allan	Hamagami Ronald	Purdy Dave
Bowling Mike	Hammel Dan	Radford Larry
Brans Jeremy	Hughes John	Richards Mark
Brian Drofysbyn	Huillery Quentin	Roberts Jeff
Brown Al	Hutton Malcolm	Rosenthal Scott
Butcher Bruce	Ing Andrew	Ross Craig
Carter Andrew	Isidoro Tony	Rosser Jeff
Carter Jeffrey	Javid Salar	Sagmoen Wayne
Chiasson Lyndon	Jerrels Bob	Scholz Ben
Chiovelli, Stefano	Joseph Tim	Scott Andrew
Clark Larry	Jungkind Ron	Sedgwick Andrea
Coetzee George	Keane Joe	Seppala Vicki
Colbourne Tom	Kehler Tyler	Simpson Matt
Coriveau David	Kennedy Jim	Sivils Richard
Cox Jim	Kenworthy S.	Skinner Tim
Cronin Peter	Klemke, Dan	Snodgress Dan
Daggitt Randy	Kneller Bryan	Stokes Andrew
Damori Bernie	Knight Andrew	Sykes M.
Damours Mathieu	Krall Clayton	Thomas, John
Daneshmend L.	Langmead Chris	Thompson Dale
Davis Robert	Lipsett Mike	Thornton Steve
Day Joel	Leclerc N.	Timm Rolf
DeLongchamp Steve	Little Steve	Townley Lloyd
Demorest Tom	Ludik Ben	Tucker Gene
Desrosiers Yves	Lukacs Zoltan	Tyler Duncan
Dessureault Sean	MaClean Jeff	Vandergaag
Di Marco Michael	Makus Lyle	Stefan
Dirk Craig	Martens Ken	Velez Michelle
Dirk Robert	Mawhinney D.	Wenger Kevin
Donald Bruce	McArdle Dermont	Williams Peter
Dufek Jonathan	McClure Dave	Willmer Terry
Edwards Brian	Mcleod Sterling	Winkel Gord
Fancey Sean	Meier Troy	Wood Brad
Ferguson Ken	Melnyk Lydell	Woolley Brad
Flemming Al	Miller Tracy	Yakemchuk Kirby
Foley Kevin	Morash Ed	Zelmer Luke
		Zelter Tim

## **Introductions and Agenda Review:**

Zoli Lukacs welcomed the SMART member representatives and thanked Kearnl Oil Sands Imperial Oil Resources for hosting our meeting.



SMART Agenda for  
Oct 14, 2011 Calgary

## **Action Log Review**

Action to Post photos of specialized stands, work platforms, temporary and/or permanent handrail systems on SMART web site no longer an action. This item will not be pursued any longer.

Other action items were incorporated into the agenda topics.

## **Company Profile-Newmont Mining Corporation (Larry Clark)**

Larry provided a company overview of Newmont Mining Corporation. His presentation is attached.



Newmont Mining Corporation for SMART Oct 2011.mdi

## **Truck Shovel User Group update (Steve Thornton)**

Genesee has agreed to host the next meeting on November 16 with a mine tour on November 17, 2011. Attendees wishing to take the mine tour on November 17 will have to provide their own transportation to the Genesee mine. Meeting will follow the usual format and ask that each attending Mine or Contractor bring a twenty to thirty minute presentation to share with the group. The presentation should cover a Safety topic, a Production topic, and a Maintenance topic.

Meeting Location: Days Inn & Suites West Edmonton, 10010 - 179A Street

Date: November 16, 2011

Time: 8:00AM - 4:00PM

## **Detection of Faults for Off-Road Haul Truck Tires (Mike Lipsett, University of Alberta)**

Mike Lipsett discussed the project "Detection of Faults for Off-Road Haul Truck Tires" currently in progress at the University of Alberta. The Project Objectives are:

- To determine the specifications and requirements of the fault detection system of off-road trucks tires
- To study the feasibility of a non-contact method for extracting features from the surfaces of tires
- To test of candidate monitoring techniques at a laboratory scale
- Applicability of the fault detection system under field conditions.
- 



U of A  
Tire\_CM\_SMART\_Oct

There is a need for improved information from the LTUG. Zoli will prepare a template for Tire Information Sharing to support U of A Tire Project. Tim Skinner will provide Mike Lipsett with a contact for nano technology.

## **Deflating Large Tire and Rim Assemblies (Tim Joseph)**

Tim provided a presentation and discussion related to the requirement to deflate both tires in the rear position prior to doing any service. Tim also showed the rapid rise in temperatures that can occur.

Tim Joseph will draft a recommendation on behalf of SMART related to tire service work. The recommendation will be provided to SMART members for comment and signed by Gord Winkel, SMART Chair.

Tim Joseph and Mike Lipsett will provide a recommendation on what R&D could be undertaken with regard to the Rate of Heat & Pressure Build Up in Tire / Rim assemblies.

## **2012 SMART Learning Seminar (Tim Joseph)**

The next Learning Seminar will be Saturday May 5th, 2012, before the Annual CIM in Edmonton. The SMART meeting is Sunday May 6th, and the Annual CIM is May 7th to 10th, 2012.

Theme of the Learning Seminar will be "Low Hanging Fruit". Tim indicated approximately 20 presentations of 20 minutes each will be required. Presentations will provide new and different solutions that have been implemented at our Mine Sites. Tim will prepare short e-mail for distribution to request presentations. Please contact Tim to offer any ideas, help and suggestions.

The following is a list of previous seminars:

15. 2012 - "Low Hanging Fruit"
14. 2010 - safe healthy mining Innovations: people & practice
13. 2009 - "better strategies with fewer resources ... "
12. 2008 - "Learning from the best" in operations and systems integration
11. 2006 - '06 Equipment Evolutions
10. 2005 - Managing Risk in a Changing Mining Environment
9. 2003 - Maintenance, Operations and \$\$
8. 2002 - Solutions for Better Health, Safety and Environment
7. 2001 - Large Heavy Haulers 'Is Bigger Better"
6. 2000 - Information Needs of the Mining Industry
5. 2000 - Computer Mine Planning Workshop
4. 1998 - Large Haulage Truck Transportation
3. 1997 - Mine Maintenance
2. 1996 - Wireless Communication and Data Handling
1. 1995 - Global Positioning Systems in Mining

## **SMART Technical Session at the Annual CIM in Edmonton in 2012 (Chris Langmead - Suncor)**

Chris Langmead is the chair for a session on safety solutions, in the Operations and Maintenance stream of the technical program. It is planned to be a panel type session. This is very much a work in progress with more details to follow.

## **Scanimetrix- Strain measurement, wireless monitoring, bolt tensions**

Representatives from Scanimetrix provided an overview of their firms work with respect to :  
Enabling your organization to more effectively: Measure, Manage, Predict, Plan, resulting in time and cost saving while minimizing lost revenues and production downtime. The presentation is attached.



scanimetrix\_smart\_  
2011handout.pdf

## **Discussion of SMART Experience with Collision Avoidance and Fatigue Monitoring (Mark Richards)**

Mark Richards led a discussion on SMART experience with Collision Avoidance and Fatigue Monitoring. Items discussed included:

- Truck Spotting and Proximity
- Self Spotting- camera technology with lines to spot on view.
- Clean up and haul truck interaction
- PVC pipe around the shovel swing radius (hoola hoop)
- Buggy whips with different color light on shovel so in rear view mirror can tell what you are looking at.
- Use of GPS and need for good coverage especially in deep mines.
- Small hand held devices that you can take from Large equipment to light vehicles to shift buses

## **Large Tire User Group Update (Tom Demorest)**

The most recent LTUG meeting was October 17, 2011 to 19th in Bloomington. Troy Meier is the elected chair of LTUG.

Monday October 17th Bridgestone Bloomington Plant tour.

Tuesday October 18th Site Presentations and discussion.

Wednesday October 19th Manufacturer's presentation day invitations pending (Michelin, Bridgestone, Titan, Goodyear and Yokohama)

Thursday October 20th, Caterpillar plant tour.

## **Geoscientific Information Management (Stephen Alpers, acQuire Technology Solutions Canada Ltd)**

Stephen provided an overview of his firms Business processes, and Geoscientific Information Management Solution (GIMS). His presentation is attached:



GIMS SMART -  
October 2011 v0 3.pr

## **Surface Mining Standards & Guidelines Committee update (Tim Skinner)**

Tim provided an overview of the Organizational Charter in terms of Structure, Staffing, and Funding as well as the go forward plans for Organizational development, Marketing & Communication. The position description for the Technical Director position is now being prepared. Tim's presentation is attached:



CIM Surface Mining  
Standards OrgPlan pr

Tim also provided copies of the attached document: Surface Mining Society of the CIM Surface Mining Standards and Guidelines Committee Charter for review and discussion:



Draft Charter -  
Surface Mining Societ

Tim indicated that another session similar to the Vancouver Summit will be planned and could be held in February during the SME in Seattle. More to come.

## **Items for Information Sharing - (SMART Members)**

Information Sharing continues to be a successful item. Many topics have been shared. Attached is a list of all items covered with the Information Sharing topic. New topics can be initiated at any time. Contact Tom Demorest with your topic idea for sharing.

1. Equipment Top 10 downtime Reasons (Shovels, Trucks, Dozers, Loaders)	2002
2. Communication and Safety Meetings (On site / Off site, agenda, frequency)	2002
3. Mining Organization Structure	2003
4. Shift Change and Coffee Breaks	2007
5. Equipment Replacement Strategy (Truck and Shovel Life)	2004
6. Support Equipment Requirements	2004
7. Top Safety Items	2005
8. Engine Life Tier 1	2005
9. Key Research Items	2007
10. Heavy Hauler Fueling	2006
11. Shovel PM Strategy	2006
12. Lockout Procedures	2007
13. Fatigue Management	2007
14. Collision Avoidance	2008
15. Diesel Additive	2008
16. Lightening	2008
17. Fire Suppression	2008
18. Washbays	2008
19. Shovel De-Decking	2008
20. Mine Equipment Re-Fueling (updated)	2009
21. Update to Equipment Replacement Strategy (item 5)	2009
22. Integrating New Equipment (Technology Committee)	2010
23. GIS Geographical Information Systems	2010
24. Tire Pressure Monitoring	2011
25. Maintenance Process & Efficiencies (Consultant used)	2011

Future topics suggested for information sharing include:

Tire Performance Information

Wireless Communications

## **The New SMART Web Site (Sean Fancey)**

Sean Fancey reviewed the new design he completed for our SMART Web Site. The location is [www.smartmines.com](http://www.smartmines.com). Meeting minutes will now also be available on the SMART Web Site.

## **Next SMART Meeting**

Sunday May 6th, 2012 in Edmonton. Details to follow.

## **EMESRT Update, Oilsands & SMART Involvement (John Thomas)**

John highlighted the following “Safety Moment”: Important to review procedures, etc as soon as possible with new hires, for example procedures for Tire Fires.

John provided an update on the work of EMESRT:

The Earth Moving Equipment Safety Round Table (EMESRT) was formally established in 2006 by six global mining companies to establish a process of engagement between Original Equipment Manufacturers (OEMs) and mining customers. Member companies in 2011 are Anglo American, Barrick, BHP Billiton, Centennial Coal, Collahuasi, Newcrest, Newmont, Peabody, Rio Tinto, Sasol, Suncor, Syncrude, Vale, and Xstrata.

An Advisory committee meeting was recently held in Vancouver

- reviewed possible compression and update to the D.P. list
- accelerate the development of an “EMESRT” procurement document
- creation of a vision statement and milestones for the future
- plans for another round of OEM visits
- plans for Mine Expo attendance in 2012

We continue to recruit: -all companies will be the benefactors of the work of EMESRT; however, our ability to influence (the OEM) is enhanced by the number of companies represented irrespective of their size.

### EMESRT Vision

A global industry free of fatalities, injuries and occupational illnesses associated with operating and maintaining exploration and mining equipment.

### EMESRT Objectives

Reducing risk related to equipment operation and maintenance  
Understanding each other better  
Working together toward a common goal

### EMESRT Purpose

Accelerate development and adoption of leading practice designs to minimize the risk to Health and Safety through a process of Original Equipment Manufacturers, Contractors and end user engagement.

### EMESRT Approach

Engage marketing to influence product development  
Establish a critical mass to influence marketing  
Define “problems” rather than stipulate “solutions”.  
Help the OEM designers develop their solutions  
Critique solutions

### EMESRT Call to Action

We will/do:  
Listen, consider and value OEM contributions  
Provide information on industry practices to OEMs  
Assist end users with achievement of H&S goals through sharing leading practice  
Include consideration of international regulatory philosophies and standards.

### EMESRT Will Not:

Discuss anything of an anti-trust nature  
Share OEM confidential information  
Provide approval for OEM or third party design  
Impose adoption of solutions on member company sites  
Include OEMs in the membership of EMESRT

ACTION LOG - October 14, 2011

DATE OF ACTION		NAME	DESCRIPTION	DATE REQ'D
May 22, 2011	Agenda Item	Gord Winkel SMART Members	Synergy with SMART and CMIC in the areas of identifying the key initiatives for R&D work was discussed. SMART can provide ideas and direction for targeted research for CMIC consideration to take the lead on in advancement. At the next SMART meeting, we will use some time to discuss further.	May 6, 2012
Oct. 14, 2011	Action Item	Steve Thornton	Steve is preparing a charter for the TSUG that he will bring to a SMART meeting for review.	May 6, 2012
Oct. 14, 2011	Action Item	Zoli Lukas	Prepare a template for Tire Information Sharing to support U of A Tire Project.	May 6, 2012
Oct. 14, 2011	Action Item	Tim Skinner	Tim to provide Mike Lipsett with a contact for nano technology.	May 6, 2012
Oct. 14, 2011	Action Item	Tim Skinner	SMART Mining Industry Technology Standards for Mobile Mining. Charter Document for firms to use to get funding and strategy for receiving funds is completed. Tim will prepare a cover letter for firms to use to request funding.	May 6, 2012
Oct. 14, 2011	Action Item	Tim Skinner	Tim will provide the current information he has for Industry Definitions and also provide a "Data Summary Table".	May 6, 2012
Oct. 14, 2011	Action Item	Tim Skinner	Planning for the next Standards Summit meeting.	May 6, 2012
Oct. 14, 2011	Action Item	Tim Joseph	Draft a recommendation on behalf of SMART related to tire service work.	May 6, 2012
Oct. 14, 2011	Action Item	Tim Joseph Mike Lipsett	Provide a recommendation on what R&D could be undertaken with regard to the Rate of Heat & Pressure Build Up in Tire / Rim assemblies	May 6, 2012
Oct. 14, 2011	Action Item	Tim Joseph	Next Learning Seminar planned for 2012 Approximately 20 presentations of 20 minutes each will be required. Presentations will provide new and different solutions that have been implemented at our Mine Sites. Tim will prepare short e-mail for distribution to request presentations.	By end of November 2011