Excellence Award
Corporate Wide:
Vulcan Materials Company

February 22, 2013
Company Profile

• Vulcan is the nation’s largest producer of crushed stone, sand and gravel. We are also among the top 5 hot/warm asphalt paving mix manufacturers and among the top 10 of ready mix concrete producers in the country.

• We operate 301 mines and 122 ready mix concrete plants, 39 asphalt plants, and 40 other associated construction materials sites in 18 states, Mexico and the Bahamas.

• We currently have 6,830 employees and have 38 full time safety and health professionals and an army of supporters that all have high expectations when it comes to hearing conservation.

• Vulcan is a public company headquartered in Birmingham, Alabama and has been in business since 1958. Currently in the S&P 500.
Board of Director Oversight

Shareholders

Board of Directors

Board Safety, Health and Environmental (SHE) Committee
SHE Management Committee

CEO

Safety, Health and Environmental (SHE) Management Committee
Central Region S&H Staff

Terry Browning
Arduino Baugh
Mike Junkerman
Steve Perkins
Nanci Saucier
Rex Lindsey
Bill Huffman
Jason Schlee

Excellence Award

Vulcan Materials Company
East Region S&H Staff

Wayne Hemmerich  Ed Rider  Melanie Wood

Justin Burrage  Dusty Creed  Robert Hale  Gary Hinchy, Jr.

Dan Hopkins  Bryan Moore  Danny Teel  Andrew Wren
West Region S&H Staff

Cynthia Kirby

Tommy Ayala

Elysia Claudio

Steve Hopkins

Deb Hutchison

Sylvia Teran

Lee Travis

Biagio Ventura
Corporate S&H Staff

Kelly Bailey
Chad McDougal
John Peacock
Andrew Perkins
Typical Jobs at Vulcan Plants:

- Loader Operator
- Water Truck Driver
- Ready Mix Concrete Truck Driver
- Quality Control Tech
Typical Jobs at Vulcan Plants

Ready Mix Delivery Job

Hot Mix Asphalt Plant

Ready Mix Delivery Job
Typical Mining Sites
Why is Hearing Conservation Challenging in Our Industry?

• When you are making big rocks into little rocks it is complicated to do so quietly.

• Our workforce for the most part is not in a static factory environment and in some cases our customers control the work environment.

• The industry has diverse activities that warrant the need to use multiple types of controls and mitigation.

• Employees and management must be onboard for hearing conservation initiatives to work.
Overview of Vulcan’s Hearing Conservation Program

Roles and Responsibilities

- Corporate Occupational Health Office (COHO)
  - Select exposure monitoring equipment
  - Train and certify industrial hygiene samplers
  - Provide Regions with sampling reports and audiometric summary reports
  - Evaluate and select medical testing contractor
  - Analyze noise and hearing data for trends and develop Company-wide sampling plans
  - Provide technical assistance to operating Regions
Over View of Vulcan’s Hearing Conservation Program

Roles and Responsibilities

• Region Safety and Health Staff
  – Pass the Vulcan Industrial Hygiene (IH) sampling course
  – Conduct exposure assessments and communicate results to plants for dissemination to sampled employees
  – Provide training tools to plants
  – Provide assistance to plants in resolving over standard conditions (noise cases)
  – Annually review noise cases closed with personal protective equipment (PPE)
  – Perform hearing protection fit testing
  – Schedule audiometric testing with mobile contractor
  – Review plant sound level meter (SLM) testing results
  – Audit plant hearing conservation program
  – Evaluate testing clinics used in the HCP following COHO guidelines
  – Transmit baseline audiometric testing results for new hires to the Company’s medical contractor for periodic testing
  – Provide reviewing audiologist noise exposure information for possible recordable hearing loss cases
Over View of Vulcan’s Hearing Conservation Program

Roles and Responsibilities

• Facility management
  – Establish a plant SLM program
  – Facilitate and promote employee participation in audiometric testing and use of hearing protection
  – Resolve over standard conditions in a timely manner
  – Serve as an example for hearing protection use and participation in the HCP
  – Enforce compliance with the Company HCP
  – Provide sampled employees with exposure results
  – Post administrative noise controls and provide to affected employees

• Employees
  – Use exposure controls provided
  – Protect hearing on and off the job
  – Report noise hazards to supervision
  – Reduce exposure to noise 14 hours prior to audiometric testing
Over View of Vulcan’s Hearing Conservation Program

Roles and Responsibilities

• Audiometric Testing Provider
  – Conduct testing meeting all OSHA criteria for procedures and equipment
  – Provide CAOHC trained technicians
  – Provide a licensed audiologist to review audiograms
  – Provide the employee with documented test results
  – Provide COHO with audiometric testing results and summaries
  – When possible, audiologist will determine work-relatedness of recordable hearing losses.
Our Goal:
Protect hearing by keeping exposures to less than 85 dBA to the employee’s ears by:

• Performing noise exposure assessments and employee notification of results
• Identifying areas and jobs for noise reduction
• Installation of feasible engineering and/or administrative controls. Where not feasible strict enforcement of personal hearing protection is implemented
• High quality audiometric testing and follow-up
• Employee education and motivation
• Assessing exposure and hearing trends of cohorts
Vulcan Materials Company
Industrial Hygiene Noise Sampling Strategies
1980 - 2013
Vulcan’s Sampling Strategies
In the Beginning….

• 1979 – Examination of available government exposure data

• 1980 – 81 – Industrial Health Project
  – Highest potentially exposed to dust and noise
  – Employee audiograms, chest x-rays and pulmonary function tests

• 1982 – 89 – Targeted Sampling
  – Highest potentially exposed to dust and noise
  – Acquisition sampling (initiated in 1985)

• 1990 – 92 – Case Closing Sampling

• 1993 – Random Sampling
Vulcan’s Noise Sampling Strategies

- **1995** – Formal statistical analysis of exposure data
  - Developed a computerized graphical statistical analysis of the dust and noise data.
  - Utilized Sigma Plot to prioritize which plants and jobs to sample based on randomized dust and noise sampling data collected 1993-1995.
Vulcan’s Noise Sampling Strategies

• 1995 – 2005
  – Prioritizing Sampling Using Sigma Plot Distributions
  – Using 3 Sampling Strategies Concurrently
    • Targeted
    • Case Closing
    • Random

• 2005 – The Question – Sampling Too Much or Too Little?
Vulcan’s Noise Sampling Strategies

• 2006 – Third Party Review of IH Sampling Program
  – Analyze and evaluate Vulcan’s exposure monitoring program

  – Make recommendations to improve the validity of exposure assessments and optimize sampling efforts so exposure determinations will be made with a high level of confidence with the least number of samples
Vulcan’s Implementation Plan 2007-2008

• Similar Exposure Groups (SEGs) were developed and noise and dust exposure data (2000-06) were analyzed.

• Classified the SEGs and plant-job combinations into the American Industrial Hygiene Association (AIHA) exposure categories.

• Developed 2008-2009 sampling plans based on the AIHA categorization of specific plant-job combinations and SEGs.

• Trained health and safety certified samplers on the basics of exposure assessments.

• Incorporated Bayesian Data Analysis for incoming data to assess control effectiveness and to classify plant-job AIHA categories in real time.
AIHA Exposure Categories

<table>
<thead>
<tr>
<th>AIHA Categories</th>
<th>Sev. Ratio Range</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trivial</td>
<td>&lt;0.01</td>
<td></td>
</tr>
<tr>
<td>Highly-Controlled</td>
<td>0.01 ≤ 0.10</td>
<td></td>
</tr>
<tr>
<td>Well-Controlled</td>
<td>0.10 ≤ 0.50</td>
<td>0.4</td>
</tr>
<tr>
<td>Controlled</td>
<td>0.50 ≤ 1</td>
<td></td>
</tr>
<tr>
<td>Poorly-Controlled</td>
<td>&gt;1</td>
<td></td>
</tr>
</tbody>
</table>
Vulcan’s Similar Exposure Groups (SEG)

SEG is a group of workers having the same general range of exposure because of the similarity and frequency of the tasks they perform, the materials and processes with which they work and the degree of exposure control in place.

Vulcan’s SEGs are based on rock type or product, job title and exposure potential within each Region:

<table>
<thead>
<tr>
<th>Non-Booth</th>
<th>Drill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Booth</td>
<td>Rail Road</td>
</tr>
<tr>
<td>Primary Crusher</td>
<td>Underground</td>
</tr>
<tr>
<td>Mobile Equipment</td>
<td>Office</td>
</tr>
<tr>
<td>Shop</td>
<td>Baghouse</td>
</tr>
<tr>
<td>Lab</td>
<td>Miscellaneous</td>
</tr>
</tbody>
</table>
Industrial hygiene monitoring for noise

- All dosimeters integrate noise levels between 80 – 140 dBA with a 5 dB exchange rate
- Personal sample duration must span at least 2/3 of the work shift unless being collected on specific tasks
- Noise dose is extrapolated up to cover unsampled work shift time
- Exposure limits are adjusted downward for shifts longer than 8 hours
- All personal dosimeters require three dose checks during the sampling day to better understand contributions of noise.
- Hearing protection is required when noise levels reach 85 dBA or higher
- Noise cases are opened when the time-weighted average exposure dose is 76% or higher
Industrial hygiene monitoring for noise

• Mobile equipment cabs are annually tested with a SLM at high idle and those 85 dBA or higher require posting for hearing protection to operate.

• Plants must be surveyed with the plant’s SLM every other year to determine areas that are 85 or higher so that they can be posted for hearing protection required.

• Noise cases closed with PPE are reviewed annually and have the affected employees fit tested for ear plug use and their Personal Attenuation Rating (PAR) determined.
Vulcan’s Industrial Hygiene Exposure Results
1980 - 2012
*2012 sampling level reduced due to economic down turn and company restructuring
Company Noise Exposures 1980-2012

TARGETED SAMPLING---------------CASES---------------------RANDOM, TARGET, AND CASES-------------TARGET & CASES & RANDOM

Percent Overstandard

Year

80  82  84  86  88  90  92  94  96  98  00  02  04  06  08  10  12
Overstandard: Noise Exposures, Hearing Protection Use, and Hearing Loss
Examining 85/3 Exposures
2010-2012 Data

Percent Overstandard

<table>
<thead>
<tr>
<th>Category</th>
<th>0 dB</th>
<th>3 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Booth Jobs</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Mobile Cabs</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Non Booth Jobs</td>
<td>11</td>
<td>74</td>
</tr>
</tbody>
</table>
Case Opening and Closing Process

Noise Controls
Case Opening and Closing Process
Case Opening

• Opening a Case
  – TWA exposure on a representative noise sample equals or exceeds 76% of the allowable exposure limit.
    • Employee(s) in the job/task are required to wear hearing protection to reduce the exposure to less than 85 dB while controls are being installed. (Open-PPE Case)

  – Exposure cases are identified by Corporate Occupational Health Office.

  – Case closing form is generated and transmitted to the appropriate sampler.
Case Evaluation and Tracking

• Case Evaluation
  – Likely conditions that created the elevated exposure are identified by the sampler and recorded on the Case Closing Form.
  – The facility personnel, with support from Safety and Health, determines the feasibility of engineering controls.
  – Feasible engineering and/or administrative controls are implemented.

• Case Tracking
  – Cases are tracked via internal IHIMS and a report can be generated showing all open cases and duration of each case.
  – Percentage of cases opened and closed are presented to upper management via quarterly and year-end reports.
We Always try to Engineer The Problem out First

• Examples of engineering controls
  – Insulation
  – Rubber lined chutes
  – Door and window seals
  – Floor mats
  – Video cameras to allow remote operation
  – Air conditioners
  – Sound proof booths
  – Double pane windows
  – Noise barriers
  – Distance (example-sharpening drill bits using a long air hose)
Examples of engineering controls
Examples of engineering controls
Examples of engineering controls
Examples of engineering controls

• Enclosed cabs/booths
• Climate control in cabs/booths
• Equipment manufactured with noise controls
Examples of Engineering Controls
Examples of Engineering Controls
Case Closing

- After feasible engineering and/or administrative controls are implemented and two (2) consecutive samples (collected on different days or shifts) show the exposure to be below 76% of the allowable limit, the Open-PPE case can be “Closed” with proper control documentation and approval by the Corporate Occupational Health Office.
Case Closing (continued)

- Cases relying on administrative procedures/work practices or personal protective equipment require the signatures of the affected employee(s), plant and area operations management, regional safety and health personnel, and corporate IH approval.

- Administrative controls for noise exposures require that the controls be posted on the employee bulletin board and be provided in writing to affected employees.

- Where engineering and administrative controls are found to be infeasible, the case can be closed by PPE (Closed-PPE Case).
Closed-PPE Case Review

- We are in the process of quantitatively fit testing (Integrafit) all jobs/tasks that are Closed-PPE.
- All Closed-PPE cases are reviewed annually for engineering controls that may have become feasible and to verify employees are wearing appropriate PPE.
- A status report of Closed-PPE cases is sent by the Regional Safety and Health Department to the Corporate Occupational Health Office at the end of each year.
Case Closing Example – RMC Truck

- The Ready-mix trucks are rear dispensing units which are designed with concrete flow controls on the rear platform of the truck and inside the cab.

- Operators would operate flow controls on rear of truck to prevent over-pouring of material into concrete forms on the job-site and to ensure quality of material.
Case Closing Example – RMC Truck

• The cab flow control could not be used due to the need for the operator to watch the concrete pour.

• Operating the controls from the rear of the truck caused the operator to be over 76% of the allowable limit.
Case Closing Example – RMC Truck

• To reduce the noise exposure to the operator, the following controls were implemented:
  – A removable camera was installed on the concrete chute; and
  – A video display was mounted inside the cab of the truck

• The system allow the operator to utilize the in-cab controls and see the pouring of material from the chute, thus increasing distance from exposure and reducing the operator’s exposure to noise.
## Case Closing Example – RMC Truck

Results of control implementation

<table>
<thead>
<tr>
<th>Ready-Mix Concrete Truck #</th>
<th>Original Sample Severity Ratio</th>
<th>Re-Test Severity Ratio</th>
<th>Reduction in Severity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>54059</td>
<td>0.979</td>
<td>0.464</td>
<td>53%</td>
</tr>
<tr>
<td>54962</td>
<td>1.007</td>
<td>0.472</td>
<td>53%</td>
</tr>
<tr>
<td>54755</td>
<td>0.912</td>
<td>0.591</td>
<td>35%</td>
</tr>
<tr>
<td>54954</td>
<td>0.998</td>
<td>0.747</td>
<td>25%</td>
</tr>
</tbody>
</table>
Also decreased chance of injury at customer jobsites
Audiometric Monitoring

Background

• All production employees are required to be tested
• Primarily utilize mobile van testing
• Same provider for over 27 years
• Very high voluntary participation
• Written policies for
  – Legal requirements
  – Guidance for implementation
  – Audit
• Audiograms since 1976
• Supervised by Audiologist
Audiometric Testing Requirements

OSHA criteria are followed for audiometric tests

Audiometers and procedures must meet:
- ANSI S3.6 Specifications for Audiometers
- OSHA requirements
  - Audiometric testing booths to control ambient noise
  - Equipment calibration

Audiometric technicians must:
- be certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC)
Mobile Van Testing

- Regions schedule van trip
- Plants are notified before visit
- Employees notified of audiogram date
- Paperwork is completed before van arrives
- Audiograms are taken
- Results provided in writing at the time of test
- Regulatory compliant re-testing
Post Annual Testing
Abnormal Test Results Follow Up

- Company guidance document
- Mobile van provider audiologist evaluation
- Occupational Audiologist/ENT
- Reporting procedures specified
Our Keys to High Employee Participation

• No charge to employees
• Voluntary but well supported
• Promote the program as a benefit
• Qualified & experienced medical testing contractor
• Promoted as a non-invasive test
• We make it easy to participate
Individual Audiogram Report:

- Shows baseline and current audiogram
- Graphic depiction of hearing
- Results of hearing test
- This report is given to the employee at the time of the audiogram
Individual Audiogram Summary Report:

- Shows all audiograms
- Answers to screening questions and notes from audiologist if any exist
Statistical Summary Graphic Report:

- Shows number of tests, type of tests, number of employees
- STS, Recordable/Reportable, Early Warning Shift
- Hearing type pie chart
- ISO 1964 Audiometer Standard Classifications
- High Frequency Loss Criteria: average in 3k, 4k, & 6k: Normal <27, Mild >27 & <41, Moderate >41 & <71, Severe >71 & <90, Profound >90 dBHL
- Speech Range Loss Criteria: average in 500, 1k, 2k, & 3K: Normal <27, Mild >27 & <36, Moderate >36 & <71, Severe >71 & <90, Profound >90 dBHL
New Employee Orientation

• All new employees receive classroom and on the job training.

• Hearing conservation is one element within the training plan for new employees.
Workplace Signage

• Signage is posted in all areas, including mobile equipment, where noise levels are at or above 85 dBA.

• Signage is routinely audited through the sound level meter program.
Audiometric testing/training

• Annual audiometric testing is conducted at Vulcan facilities.

• Employees view the audiometric testing process as an employee benefit.

• Employees are trained to avoid noise exposure for 14 hours before audiogram

• Each Region handles audiometric testing differently, but a majority do the following:
  – On the day of audiometric testing, a safety meeting is held to discuss Vulcan’s hearing conservation program.
  – During the meeting, employees are refreshed on how to interpret their audiograms.
Toolbox Talks

Hearing Protection

Hearing Protectors can be very effective but only if they fit properly and are worn correctly. The more carefully you select and wear hearing protectors, the higher your protection will be.

NOTE: Although labeled Noise Reduction Ratings (NRRs) typically range from 20-35 decibels, in practice the protection that normally can be achieved is about 10-20 decibels.

Types of Hearing Protectors

- **Formable Plugs**
  - Slowly roll and compress foam plugs into a very thin cylinder.
  - Reach around the head to pull the ear outward and upward during insertion.
  - Write compressed, insert plug well into the ear canal.

- **Premolded Plugs**
  - Reach around the back of your head and pull outward and upward on the ear.
  - Insert the plug until you feel it seating.

**Ear Plug Fitting Tip**

- Press firmly cupped hands over your ears while listening to a steady noise.
- With properly fitted plugs the noise levels should be about the same whether or not the ears are covered.

- **Semi-Insert Device**
  - Hold the large ends of the pods and swivel to direct the tips into the ear canal openings.
  - Firmly push and wiggle the pods into the canals until a snug seal is obtained.
  - Pulling on the outer ear while pushing on the pods will be helpful to most wearers.

- **Muffs**
  - Muffs must fully enclose the ears to seal against the head.
  - Adjust the headband so cushions exert even pressure around the ears to get the best noise reduction.
  - Pull hair back and out from beneath the cushions.
  - Don’t store pens, wear caps or safety glasses under the cushions.

Information and pictures taken from:

An Earful of Sound Advice About Hearing Protection (3M, EAR)
Berger, E; Royster, I; Royster, L

Do Yourself a Favor – Save your Hearing

- Noise doesn’t stop after leaving the workplace, and neither does the need for hearing protection.
- Be aware of noise situations so you can protect yourself and enjoy a lifetime of good hearing.
Training While Noise Monitoring

• Personal dosimetry monitoring
  – Employees are engaged in the process and understand the importance of monitoring.
  – Dose is checked 3 times during the shift to share exposure information with the sampled employee.
  – If there is a Vulcan overstandard, the employee is engaged in the evaluation and implementation of controls.
  – At the end of each monitoring shift, employees are given written results of their exposure.

• Sound Level Meter (SLM) Surveys
  – Facility personnel conduct noise surveys and determine, if controls need to be implemented and they track to conclusion.

• Ear plug quantitative fit testing
Employee Feedback

• Employees are held accountable for wearing hearing protection.

• One-on-one reinforcement of expectations through contact with their supervisor and peers is an invaluable coaching aspect of training.
Annual Refresher Training

- Employees are required to have annual SHE refresher training.

- Hearing conservation is one element of the training plan.
Training

- Interventions are successful because they are:
  - One-on-one
  - Informative
  - Benefits vs. compliance driven
  - Sustained
  - Reinforced
  - Measured
Selecting Hearing Protection

- Diverse Tasks
- Personal Preference
- Fit
- Vendor Availability
- Cost
- Adequate Protection
- MSHA/OSHA Regulations
- Required at 85 dBA
Why Fit Test Hearing Protection?

- A shoe store that only carried one size of shoe won’t be in business long. Like your feet, ear canals come in different sizes.

- We fit test hearing protection to find hearing protection that works best for you!
INTEGRAfit is an integrated hardware/software system designed to accurately measure how much real-world hearing protection a worker receives and tell you if it is enough. Based upon Real Ear Attenuation at Threshold method. Hughson-Westlake procedure.
PAR and Effective Protection Level (EPL)

Calculation of Personal Attenuation Rating:
\[ \text{PAR} = \text{dB HL Earplugs Out} - \text{dB HL Earplugs In} \]

Calculation of Effective Protection Level:
\[ \text{EPL} = \text{TWA} - \text{PAR} \]

EN458 Criteria:
- If EPL > 85, then Under-protection
- If EPL < 70, then Over-protection
HPD Fit-Test Process

- Employee is given a Personal Attenuation Rating (PAR). Which shows how well the hearing protection is working for them.
Uses for HPD Fit-Testing

- Training
- Standard Threshold Shifts
- Reportable/Recordable Hearing Losses
- Designated Future Standard Threshold Shifts
- Closed PPE Cases
DEALING WITH DATA
HOW IT IS PROCESSED AND MANAGED

IN-HOUSE CUSTOM SOFTWARE
Field Sampler Login

![Image of VMC - Sampler Login window with Sampler Number 297, Username Andrew Perkins, Division Corporate, Version 5.7, Date 09/08/2008]
Field Sampler Main Menu
Industrial Hygiene Information Management System (IHIMS) Houses Industrial Hygiene Data

IHIMS Main Menu - Microsoft Access

VMC IHIMS

- Monitoring Functions
- Mobile Equipment Survey Functions
- IHIMS Exposure Analysis Reports
- Base Data Refresh
- Monitoring Form
- Support Table Maintenance

Updated: 06/06/11
### IHIMS Report Criteria Screen

The screenshot shows a user interface for selecting criteria for a report. The interface includes fields for various criteria such as Division, Plant, Sample Dates, Exp Zone, Job Code, State, Substances, Region, Area, Sample Class, Sample Strategy, Sample Time, Severity Ratio, Representative, Job Exposure Cls., Mobile Equip Job, and Product Type. The interface also includes options to select the range or to choose "ALL" for each criterion. The interface allows users to preview the report or reset the criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Selection Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Plant</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Sample Dates</td>
<td>1/1/80, Thru: 08/03/12, 01/01/80 for All</td>
</tr>
<tr>
<td>Exp Zone</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Job Code</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>State</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Substances</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Region</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Area</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Sample Class</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Sample Strategy</td>
<td>C, T, R, X, N or ALL</td>
</tr>
<tr>
<td>Sample Time</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Severity Ratio</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
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<tr>
<td>Representative</td>
<td>ALL, Thru: ALL, Enter Range or &quot;ALL&quot;</td>
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<tr>
<td>Job Exposure Cls.</td>
<td>ALL</td>
</tr>
<tr>
<td>Mobile Equip Job</td>
<td>ALL, Y, N or &quot;ALL&quot;</td>
</tr>
<tr>
<td>Product Type</td>
<td>ALL</td>
</tr>
</tbody>
</table>

The interface also includes options to view SSN, select a report type, and preview or reset the report criteria.
IHIMS Job Exposure History Report

Job Exposure History Report

Division: FR
Plant Code: PRM
Plant Name: PERRY READY MIX

Date: 07/28/13
Job Title: BATCH OPERATOR
Manufacturer: CATERPILLAR

Sample Number: 000009
Sound Pressure Level (dBA): 80.250 dBA

Sample Number: 000010
Sound Pressure Level (dBC): 80.484 dBC

Sample Number: 000011
Noise: 80.250 dBA

Friday, August 30, 2012
2:08:20 PM
IHIMS Personal Exposure History Chart

Personal Exposure History Chart - Microsoft Access

Division: FF
Substance: 000100 NOISE

<table>
<thead>
<tr>
<th>Date</th>
<th>Plant Name</th>
<th>Sample Number</th>
<th>PUR</th>
<th>Day Ratio</th>
<th>Shift Time</th>
<th>Shift Adjusted Exposure Limit</th>
<th>Exposure Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/28/12</td>
<td>PERRY READY MIX</td>
<td>6.0</td>
<td>4</td>
<td>0.982</td>
<td>480</td>
<td>80.000 481A</td>
<td>71.617 481A</td>
</tr>
</tbody>
</table>

07/28/2012
IHIMS Bayesian Statistical Analysis Report
## IHIMS Sampling Plan Report SEG Tab

<table>
<thead>
<tr>
<th>Div</th>
<th>SEG</th>
<th>Rock Type</th>
<th>Job Type</th>
<th># of Samples</th>
<th>Min</th>
<th>Max</th>
<th>Med</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Geo Mean</th>
<th>GSD</th>
<th>95th   Test</th>
<th>AIHA Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO</td>
<td>NONBOOTH</td>
<td>CEMENT</td>
<td>CONVEYOR ATTENDANT</td>
<td>4</td>
<td>0.251</td>
<td>0.743</td>
<td>0.498</td>
<td>0.496</td>
<td>0.204</td>
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<td>1.578</td>
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IHIMS Case Management Screen
Innovations
GPS Noise Tracking With GIS

- Utilization of new technology for hearing conservation applications.

- Initiative to evaluate where Ready-mix Truck drivers are getting their exposures throughout a delivery cycle.
GPS Noise Tracking example
GPS Noise Tracking

• Still working on limitations of data comparison between GPS units and dosimeter.

• Great tool to use “one-on-one” with the driver to show where exposures are occurring and identify anything they are doing while driving that could impact hearing.

• Looking at utilizing personal GPS units on individuals within our larger facilities who frequent multiple areas to determine where noise exposures are occurring and to educate the worker.
What is the IH sampling Certification Course?

• Must pass this course before you can conduct IH sampling
• Week long course with class, hands-on training and field work
• Attendees have extremely varying S&H backgrounds
• Includes in the field coaching and instruction
• Course is designed to provide detailed knowledge of Company IH programs/processes
What is the IH sampling Certification Course?

- Hands on with type of equipment sampler will be using
- Primary focus Respirable Dust, Noise and Welding Fumes
- Normally small groups of 4 to 10 persons
- Class emphasizes becoming familiar with Company field manuals and practicing sampling techniques.
- Instructors are certified samplers with IH experience and CIH
Industrial Hygiene Sampling Certification Course

• Classroom Information
  – Health Effects
  – Regulatory Standards
  – Resources available to samplers
  – Concentration Calculations
  – Sampling Procedures/Methods
  – Bayesian Analysis
Industrial Hygiene Sampling Certification Course

• Field Instructions
  – Calibration
  – Dust Sampling
  – Noise Sampling
  – Observations
  – Note Taking
  – Interaction With Employees
Industrial Hygiene Sampling Certification Course

• After The Course
  – Course work graded
  – Certificates awarded
  – Samples analyzed & feedback provided
  – Mentoring in the field
  – Coaching
Fertile Ground for Future Initiatives

• Company structure helps ensure initiatives have strong support and innovation is encouraged.

• Leaders in the company understand and value hearing conservation as a core business initiative.

• Safety and Health process not static, it is viewed with a continuous improvement mindset.

• Safe-In-Sound application and review process helped incubate good ideas to better the program.
Future plans

• Possibility of having audiograms and hearing protection validation housed in one integrated system

• Connect Vulcan’s IH data (IHIMS), audiograms, hearing protection validation systems

• Use of bar coding to improve audiometric testing and recordkeeping procedures

• Add 8000 Hz to audiogram process

• Create more advanced system to better measure ongoing hearing conservation effectiveness
Lessons Learned

• During the Safe-In-Sound application process we looked over our processes with a different mind set and identified ideas for improvements

• The time spent with the Safe-In-Sound assessment team hearing conservation experts during the site-visit provided a unique opportunity to get extremely valuable feedback

• The Safe-In-Sound process expanded our hearing conservation resource network

• We are always glad to benchmark with others to help share the lessons we have learned
Significance of the Award

• We feel very privileged to receive the Safe-In-Sound award.

• The Safe-In-Sound award is an outstanding testament to Vulcan’s long standing passion for doing the right things in our occupational health program.

• Winning the Safe-In-Sound award helps us show the value of going beyond the minimum in a hearing conservation program.

• With the great ideas that have been identified during the Safe-In-Sound process our staff is up to the challenge of always pushing to make Vulcan’s Hearing Conservation Program better.
Contact Information:

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