

# AAPA 2019 Emergency Preparation And Response Seminar

Presented By:  
**Mitchell Parks**  
**BELFOR USA Group, Inc.**

November 14, 2019



# CARGILL CORN MILLING & REFINERY – CEDAR RAPIDS



VIEW OF FLOODED PLANT, FRIDAY, JUNE 13, 2008





## Documents – Vital Records





FARMACIAS  
DEL DR

Sn. Juan

PARADERO N°1  
BUSSES  
PUNTO DE PARTIDA:  
AV. 7 DE ABRIL N° 1000  
LÍNEAS: 101  
R. HUALPENAY  
F. HUERTO EL BOSQUE 9  
G. LAR-6  
A. SAL BARRIL 70-8  
S. BUENA LUCERNA 20,20-8  
H. VALPARAISO 21 0 11-8  
T. VAL UNIVERSO 1-8-8



Cessna 441

N9088P



Cyril E. King Airport





# Port Restoration Experience



Port of Galveston

Virgin Island Port Authority

Chilean Armada Concepcion

Chilean Armada Valparaiso

Port Of Savannah

Port of Pensacola

Port of Vancouver

22 Ports in Europe

4 Ports in Central and S America

5 Ports in Asia

2 Ports in Africa

# Ship Restoration Experience

- ▶ Oosthinder - Netherlands
- ▶ Flinterzee - Finland
- ▶ Thea-an - Netherlands
- ▶ Wind Song - Tahiti
- ▶ Winterset - Puerto Rico
- ▶ Aruba - Netherlands
- ▶ Don Andres – Curacao
- ▶ Loeres - Netherlands
- ▶ Morse – Belgium
- ▶ MV Nedloyd Nina - France
- ▶ MV Est - Scotland
- ▶ Seven Seas - France
- ▶ Joko V – Netherlands
- ▶ Star Princess - Germany/USA
- ▶ Atlantic Princess - Netherlands
- ▶ Southern Carrier - France
- ▶ Moana - Netherlands
- ▶ Sakhalin - South Korea
- ▶ Celtic Explorer – Rumania
- ▶ Vissersbank – Netherlands
- ▶ Marco Polo - Dubai
- ▶ Diamond Princess - Japan
- ▶ Traquais - Curacao
- ▶ MV Pascal Paoli - Netherlands
- ▶ Cosmos 1 - Netherlands
- ▶ Forte - Netherlands
- ▶ Westerdam - Italy

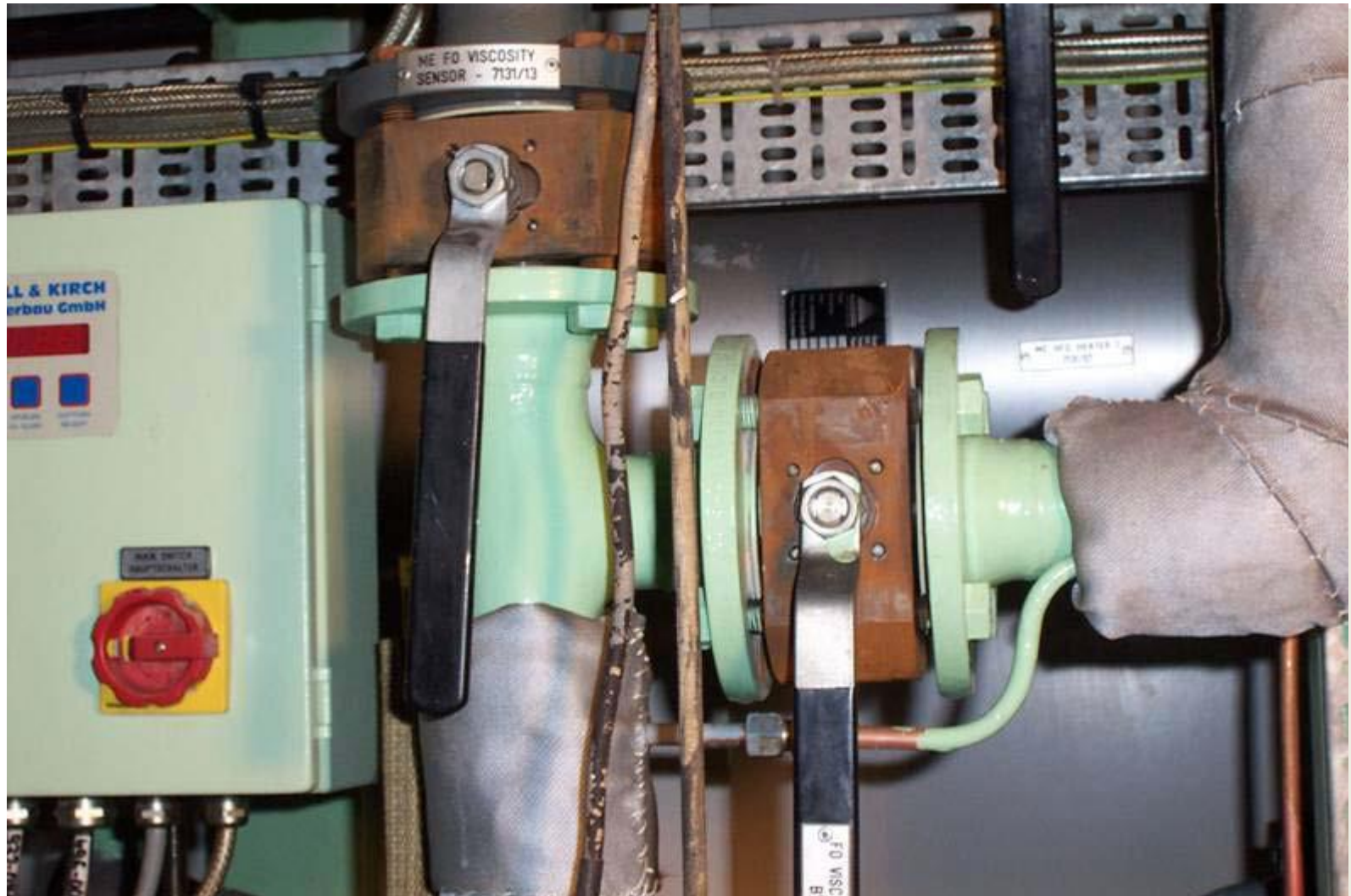
# Cruise Line Fire (In Cabin)



# Cruise Line Fire (In Cabin)



# Corrosion To Ferrous Metals



# HVAC System



# Electrical Conduit





# Electronic Components



# Final Clean and Deodorization (Preparation For Passengers)



# Carnival Splendor



November 2010 – Being Towed Into San Diego Harbor

# Carnival Splendor



Relocated With Tug Boats To Tenth Avenue Terminal

# Tenth Avenue Terminal



# Staging Area and Portable Office



# The Process Begins



# Engine Room

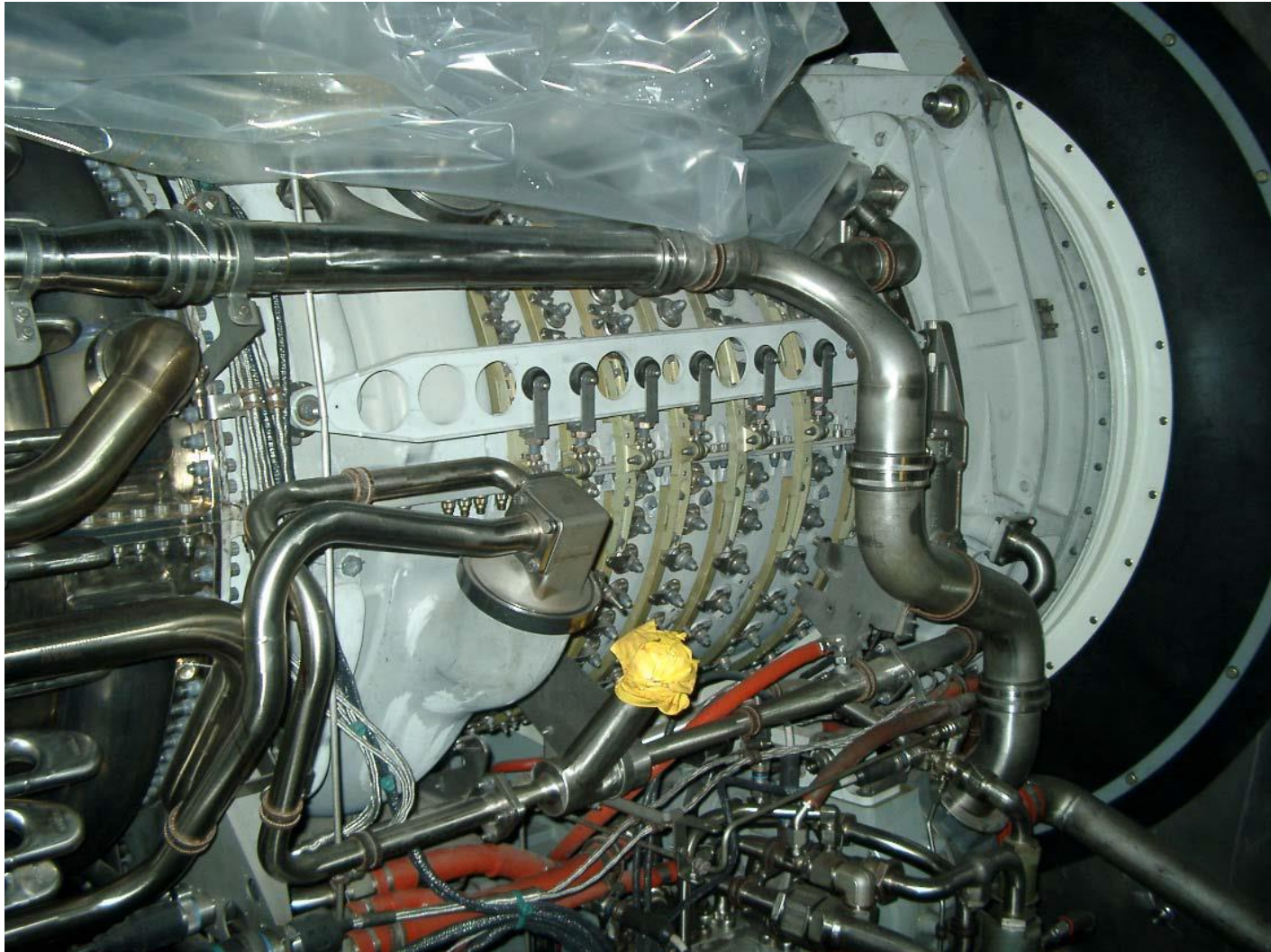




# Engine Valve Head Cover



# Ship Fire Restoration



# Cleaning Begins



# Cleaning Begins



# Ship Restoration



# Ship Restoration



# Ship Restoration



Generators On The Pier Supplied Power

# Ship Restoration



Satisfied Client



# Cargo Ship Restoration



- ▶ Levels – 13
- ▶ Capacity – 5,980 Cars

# Cargo Ship Restoration



# Cargo Ship Restoration

## Challenge

- ▶ Timeline - Ship Had To Be Back On The Sea In 6 Days
- ▶ Every Day In Harbor = \$75,000 Lost
- ▶ 22 Cars - Not Allowed To Leave Ship in Contaminated Status
- ▶ Approval of US Forces Needed – Part Military Vehicles
- ▶ Power and Water Supply
- ▶ Collection and Disposal of Big Amounts of Water and Cleaning Chemicals

# Cargo Ship Restoration

- ▶ 199 Cars Restored In 18 Hours



# Cargo Ship Restoration

- ▶ Project Duration - 6 Days
- ▶ Start 7:30 a.m. Sunday - Finished 3:30 a.m. Saturday
- ▶ \$2.3 Million - Value of Cars Lost Without Restoration
- ▶ \$56,000 – Restoration Costs of Cars
- ▶ Used and Disposed 1,466 Cubic Feet of Water

# Restoration of Semi-Submersible Drilling Rig SCARABEO 8 - Fire

**BELFOR**   
PROPERTY RESTORATION



# Replace vs. Restore?

# Replace vs. Restore?

- ▶ Cost of Restoration vs. Cost of Replacement
- ▶ Time of Restoration vs. Time of Replacement

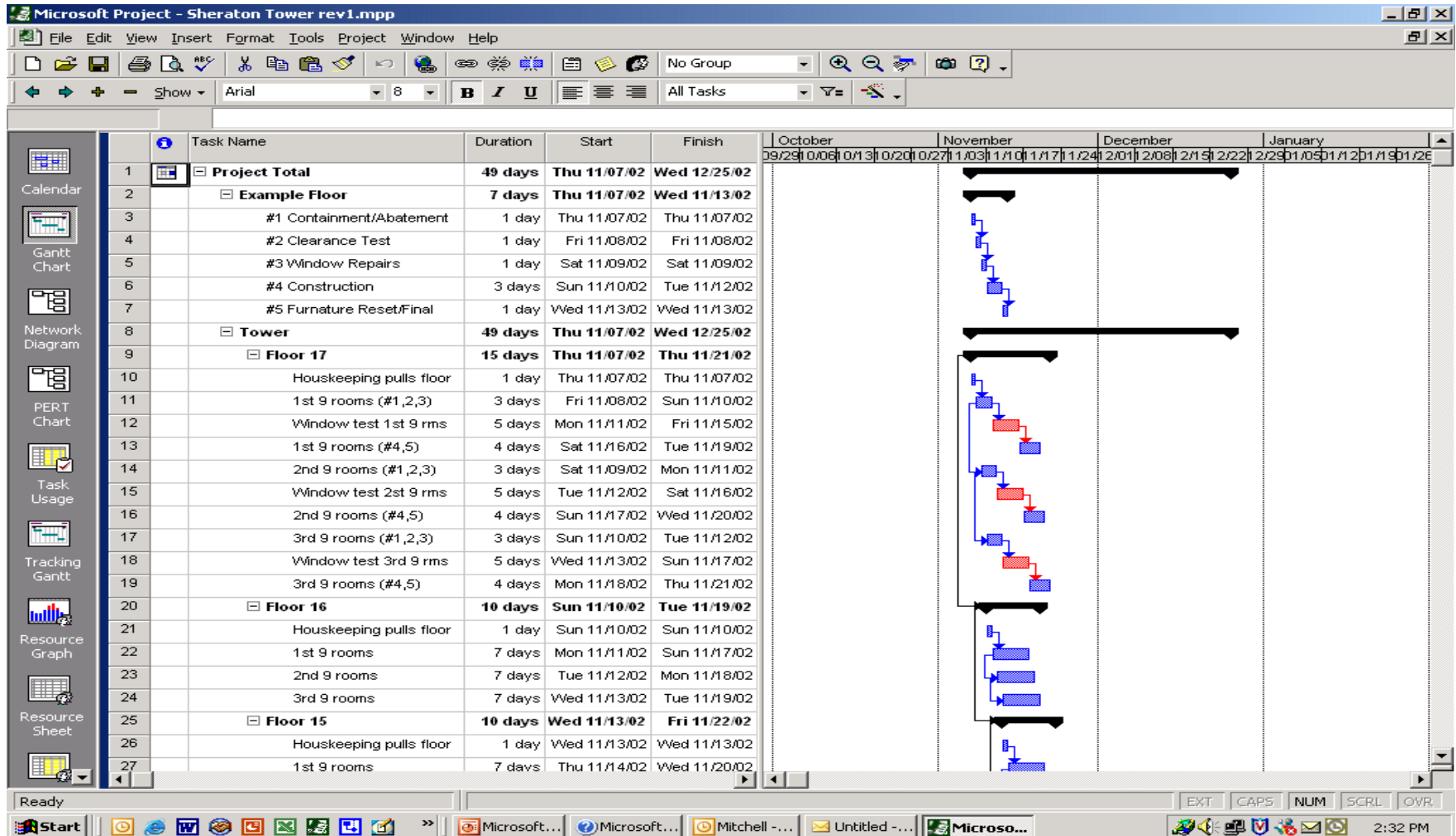


# Business Interruption

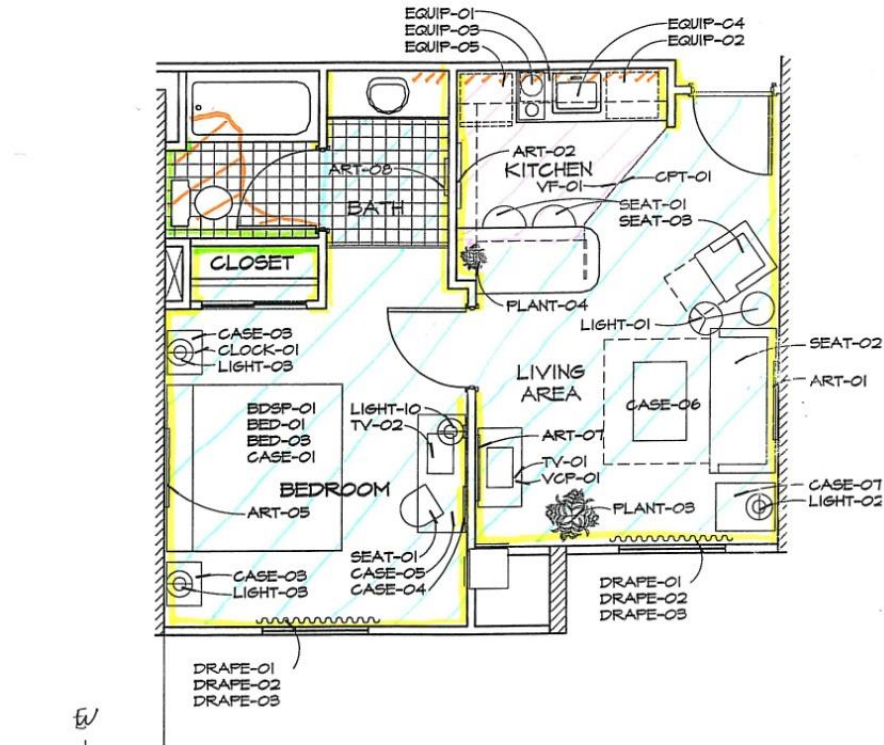
- ▶ Cost Per Day of BI or ALE
- ▶ Cost of Employees

# Documentation of Damage and Costs

# Project Schedule



# Moisture Map



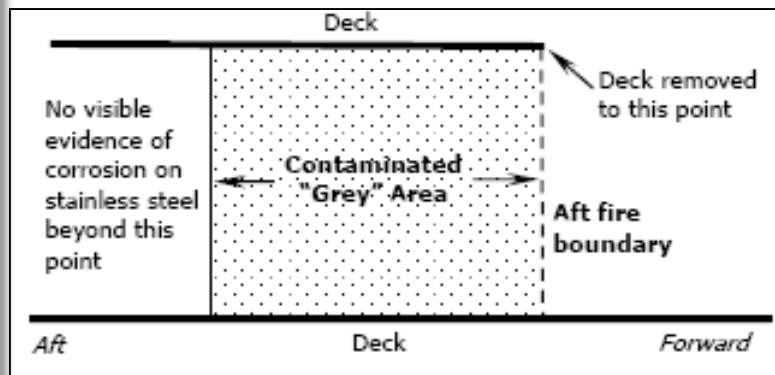
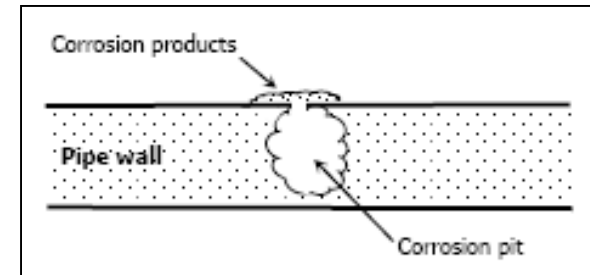
① KING SUITE #304 (94)  
1/4" = 1'-0"

Hardwood Floor Plugs	
Wax Floor	
Ceiling	
Carpet	
Wet Wall Below 2'	
Wet Wall Above 2'	

# Documentation – Damage/Costs

## Decontamination Plan

Deck	Port Grey Area		Starboard Grey Area	
	Aft Blast Limit	Aft Grey Boundary	Aft Blast Limit	Aft Grey Boundary
Deck 14	No blasting	F68	No blasting	F104
Deck 12	F84	F68	F108	F108
Deck 11	F80	F62	F108	F108
Deck 10	F80	F72	No blasting	F120
Deck 9	F96	F96	No blasting	F128
Deck 8	No blasting	F108	F140	F140



Area	Surface	Steel Structure	Out Fittings
Total Loss zone	All	Total replacement.	Total replacement.
"Dark Grey" Area	Ceiling and walls down 1 metre from ceiling.	Grit or water blasting.	All replaced, except: <input type="checkbox"/> piping protected by insulation (but insulation replaced).
	Walls below 1 metre from ceiling, and deck.	Specialist chemical cleaning & fresh water rinsing.	<input type="checkbox"/> Supports for cable hangers and pipes/ducts.  All insulation replaced.
"Light Grey" Area	All	Specialist chemical cleaning & fresh water rinsing.	Stainless steel pipes to be replaced. All insulation replaced.
			Other pipes, ducts, cabling to be retained.
Clean Area	All	Normal cleaning as per yard practice.	All retained.

## Project Summary – Invoice Book



# Summary Of Charges

REPORT CONDITIONS:

BELFOR	
Project #	2510-9-20029
Billable/Non-	Billable

Phase	Billing Category	Transaction Date	Classification / Item Description / Vendor Name	Name / Invoice #	Type of Hour /Unit	Rate	Data	
							Sum of Hours / Units Worked /Invoice Amount	Sum of Total without Markup
Skin Removal	Labor	5/5/2009	Project Coordinator	Parks, Mitchell	Regular	\$ 151.00	2.00	\$ 302.00
			Project Manager	Wood, Shawna	Regular	\$ 100.00	2.00	\$ 200.00
		5/6/2009	Project Estimator	Coleman, James	Regular	\$ 109.00	7.00	\$ 763.00
			Project Manager	Wood, Shawna	Regular	\$ 100.00	5.00	\$ 500.00
		5/7/2009	Project Estimator	Coleman, James	Regular	\$ 109.00	7.00	\$ 763.00
			Project Manager	Wood, Shawna	Regular	\$ 100.00	8.00	\$ 800.00
						Overtime	\$ 150.00	0.50
				Weber, Rudy	Regular	\$ 100.00	4.00	\$ 400.00
			Restoration Technician	Lee, Gary	Regular	\$ 50.00	5.50	\$ 275.00
				Lee, Patty	Regular	\$ 50.00	5.50	\$ 275.00
				Pingle, Kent	Regular	\$ 50.00	5.50	\$ 275.00
				Herzer, Greg	Regular	\$ 50.00	5.50	\$ 275.00
				Foster, John	Regular	\$ 50.00	5.50	\$ 275.00
				Anderson, Tracy	Regular	\$ 50.00	5.50	\$ 275.00
		Gilder, Will		Regular	\$ 50.00	5.50	\$ 275.00	
		Karnes, Steven		Regular	\$ 50.00	5.50	\$ 275.00	
		Carpenter		Dodd, Ronald	Regular	\$ 54.50	8.00	\$ 436.00
				House, Richie	Regular	\$ 54.50	8.00	\$ 436.00
			Lash, John	Regular	\$ 54.50	8.00	\$ 436.00	
			Marroquin, Javier	Regular	\$ 54.50	8.00	\$ 436.00	
			Perez, Horacio	Regular	\$ 54.50	8.00	\$ 436.00	
		5/8/2009	Project Manager	Weber, Rudy	Regular	\$ 100.00	8.00	\$ 800.00
					Overtime	\$ 150.00	5.00	\$ 750.00
			Project Auditor	Carter, Mark W.	Regular	\$ 54.50	2.00	\$ 109.00
			Restoration Technician	Bruno, John	Regular	\$ 50.00	8.00	\$ 400.00
					Overtime	\$ 75.00	3.50	\$ 262.50
			Gonzales, Jonathon	Regular	\$ 50.00	8.00	\$ 400.00	
				Overtime	\$ 75.00	8.00	\$ 600.00	
			Rahman, Khalid	Regular	\$ 50.00	8.00	\$ 400.00	
				Overtime	\$ 75.00	4.50	\$ 337.50	
			Flores, Luis	Regular	\$ 50.00	8.00	\$ 400.00	
				Overtime	\$ 75.00	5.00	\$ 375.00	
			Villegas, Angelina	Regular	\$ 50.00	8.00	\$ 400.00	
				Overtime	\$ 75.00	5.00	\$ 375.00	
			Carpenter	Dodd, Ronald	Regular	\$ 54.50	8.00	\$ 436.00
					Overtime	\$ 81.75	3.50	\$ 286.13
				House, Richie	Regular	\$ 54.50	8.00	\$ 436.00
					Overtime	\$ 81.75	3.50	\$ 286.13
				Peru, Horacio	Regular	\$ 54.50	8.00	\$ 436.00
Overtime	\$ 81.75				3.50	\$ 286.13		

# Crew Activity Sheet



## CREW ACTIVITY SHEET



DATE: 5/18/09 SAFETY FIRST - (PLEASE FILL IN TODAY'S TOPIC) \_\_\_\_\_

JOB NUMBER: 2510-9-20029 Area considered unsafe and evacuation routes

JOB NAME: \_\_\_\_\_

SHIFT: Thurs. 3

Wrist Band ID	NAME (Supervisor to fill in please print)	RATE CLASS	START TIME	STOP TIME	BREAK	TOTAL HOURS	SIGNATURE (must be actual employee at sign out only)	HOTEL ROOM #	PER DIEM per 24 hrs
	Wood, Shawna		8:00	4:30		8.5	[Signature]		
1	GARY LEE		11:00	4:30		5.5	[Signature]		
2	HATTI S. LEE		11:00	4:30		5.5	[Signature]		
3	D. KENT PINGEL		11:00	4:30		5.5	[Signature]		
4	Corey Hearce		11:00	4:30		5.5	[Signature]		
5	John R. Foster		11:00	4:30		5.5	[Signature]		
6	Tracy Anderson		11:00	4:30		5.5	[Signature]		
7	William Gilder		10:00	4:30		5.5	[Signature]		
8	Steven Barnes		11:00	4:30		5.5	[Signature]		
9	Kudy Weber		1:00	5:00		4.0	[Signature]		
10	John Bryno		8:00						

DESCRIPTION OF WORK PERFORMED: \_\_\_\_\_ Building: \_\_\_\_\_ Floor: \_\_\_\_\_ Room/Area: \_\_\_\_\_

Removed glass from practice field and some equipment from interior of practice facility (only in safe areas for access).

AA-Administrator  
 PA-Project Auditor  
 NPA-Assistant Project Mgr  
 HCS-Inspector & Safety Officer  
 PMS-Project Manager  
 PE-Project Estimator  
 GPS-Senior Project Mgr  
 PC-Project Coordinator

GL-Crewed Laborer  
 LTL-Temp Laborer  
 LP-Laborer/Preparer  
 RS-Restoration Tech  
 SR-Restoration Supervisor  
 OP-Operational Planner  
 TT-Trade Foreman  
 CR-Carpenter

CF-Carpenter Foreman  
 TL-Technician  
 TB-Technical Specialist  
 TT-Trade Technician  
 TS-Technical Support Engineer  
 DM-Documentation Manager  
 DPA-Design Project Auditor  
 DT-Design Technician

EM-Design Project Manager  
 EM-Design Estimator  
 MTA-Materials/Mobility Technician  
 MFT-Materials/Mobility Lead Technician  
 MDA-Materials/Mobility Equipment Director  
 MSA-Materials/Mobility Supervisor

Supervisor Signature \_\_\_\_\_

Project Manager Signature [Signature]



# BELFOR Services Overview

## BELFOR services

### Reconstruction

- 24-hour emergency response
- Site containment/temporary shoring
- Full-scale carpentry
- Construction defect reconstruction
- Repair or replacement of roofing
- Interior build out and finishes
- Complex installation and interior finishing
- High-rise reconstruction/restoration
- Historic reconstruction/restoration
- Complete electrical, mechanical and plumbing
- Complete exterior envelope



### Restoration

- Facility cleaning and decontamination
- Machinery and electronics restoration
- HVAC and duct restoration

### Drying

- Water extraction/dehumidification
- Intrusive investigation/demolition

### Machinery and electronics restoration

- Machinery/factory line implementation

### Document and median restoration

- Vacuum freeze drying
- Thermal freeze drying
- Molecular sieve
- Low vapour pressure dehumidification
- Microwave technology
- Irradiation

### Other

- Environmental services
- Consulting
- Fire protection (Europe)

BELFOR's Red Alert® program creates formalized relationships for future response

# **Effect of Contaminants in Soot On Electronic Components**

# Effect of Contaminants in Soot on Electronic Components

- ▶ Quick Test For Chlorides and PH
- ▶ Wipe Samples
- ▶ Specific Humidity's Interaction With Contaminants
- ▶ Short-Term Protection From Corrosion
- ▶ The Decontamination Process
- ▶ Wet Cleaning
- ▶ Modified Wet Cleaning
- ▶ Dry Cleaning
- ▶ Ultrasonic Cleaning
- ▶ Diagnostics

# Quick Test – Chlorides and PH



# Wipe Samples



# Wet Cleaning



# Dry Cleaning

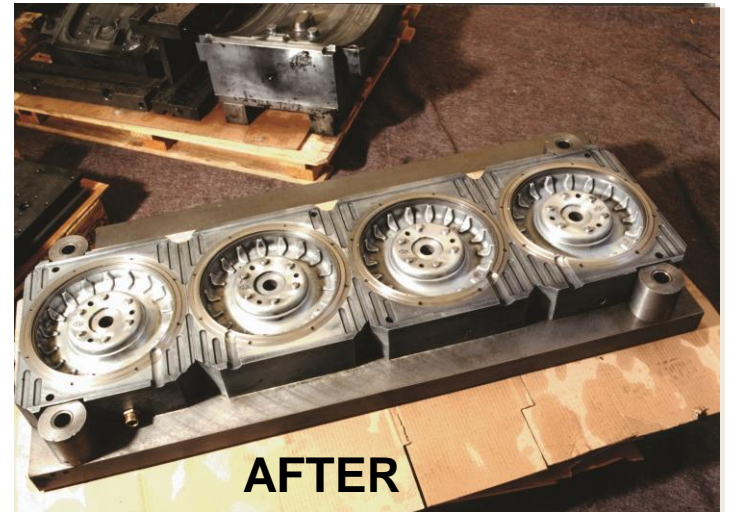
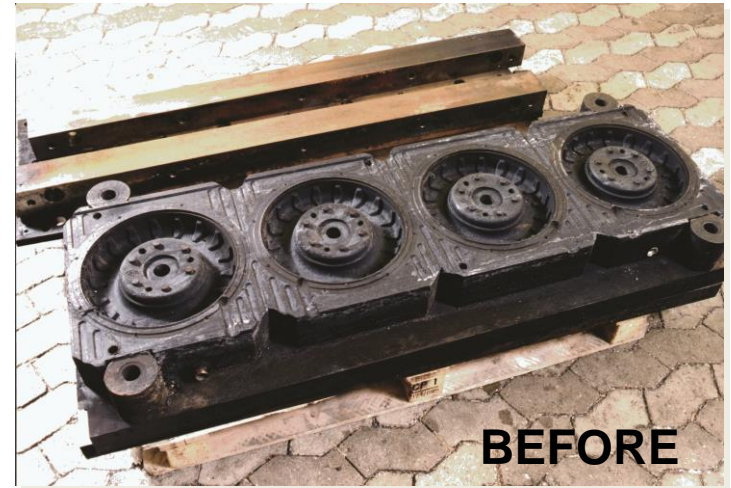


# Ultrasonic Cleaning





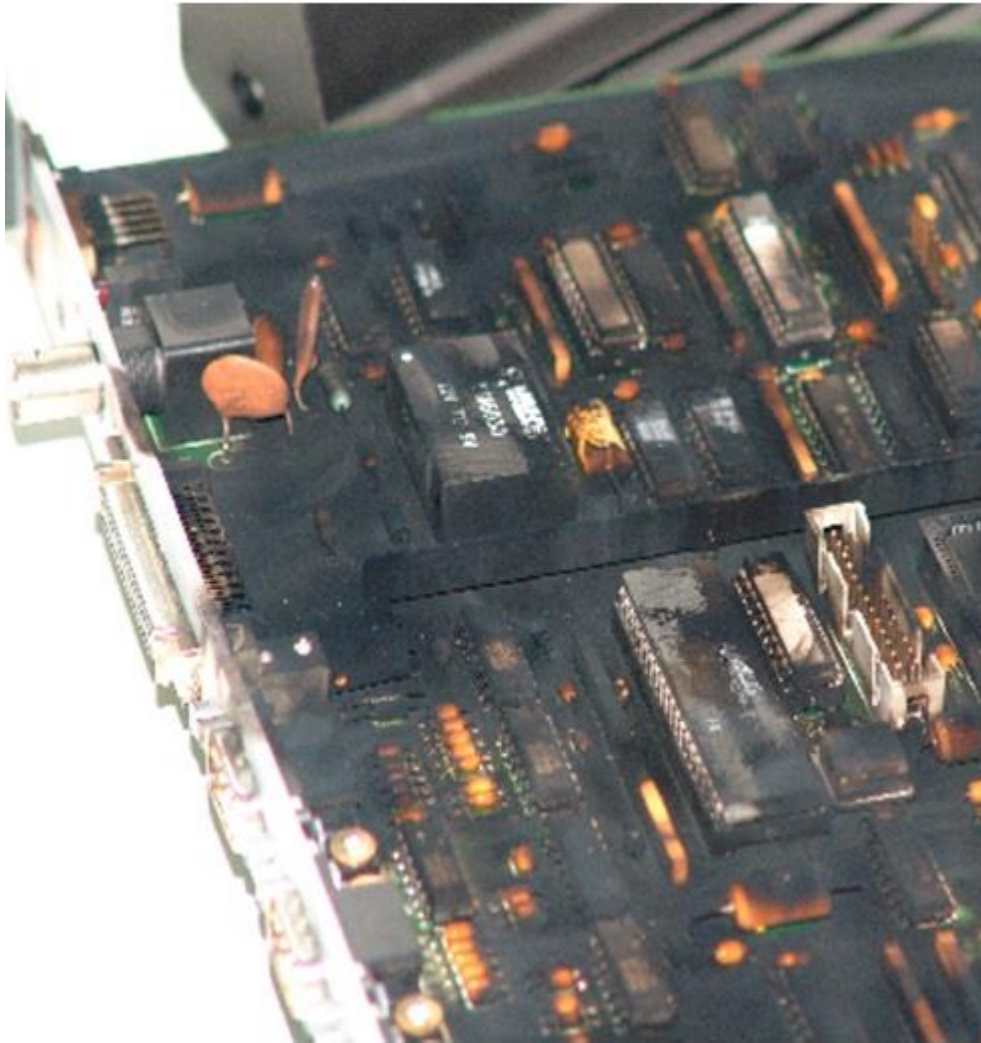
# Ultrasonic Cleaning



# Diagnostics



# Before and After



# Decontaminating Structural Components

# Decontaminating Structural Components

- ▶ Cross Contamination
- ▶ Corrosion of Metal Surfaces
- ▶ Soft Surfaces
- ▶ Wood Components
- ▶ Odor Control

# Moisture Instruments



# Thermographic Inspection



# Injection Drying





# Temporary Climate & Humidity Control



# Tulane University Libraries



# Odor Removal

# Deodorization



# SHRINK WRAP



# ENVIRONMENTAL SERVICES

- ❶ Asbestos Abatement
- ❶ Hazardous Material Handling
  - Lab Pack
  - Chemical Spills
  - Bio Hazards
  - Infectious Waste
- ❶ Radiological Handling
- ❶ Lead Paint Removal



# Mold Remediation



# DOCUMENT RESTORATION



- Audio Tapes
- Blueprints
- Books
- Compact Discs
- Data Files
- Diskettes
- Documents
- Drawings
- Files
- Film
- Laser Discs
- Library Materials
- Magazines
- Magnetic Media
- Manuscripts
- Maps
- Microfiche
- Microfilm
- Negatives
- Paintings
- Parchment
- Photographs
- Plans
- Slides
- Transparencies
- Vellum
- Video Tapes
- Vital Records
- Whiteprints
- X-Rays



# Document Restoration

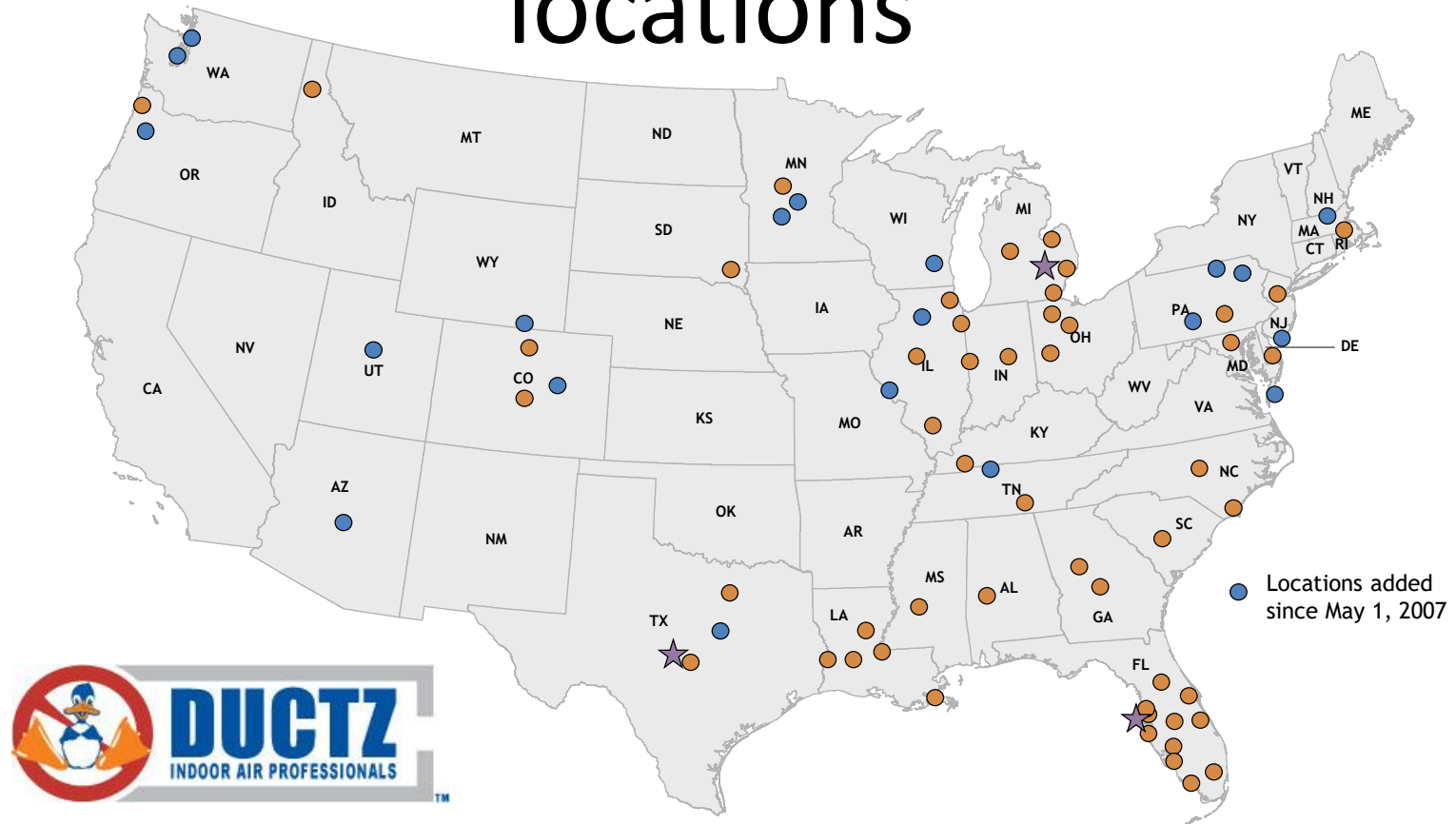


# DOCUMENT RESTORATION

## THE COMPANY TO KEEP ON FILE



# Business Update — Vertical integration: Current DUCTZ locations



80 territories in 30 states

# SOOT REMOVAL FILM



**BELFOR RED ALERT®**

**BELFOR**   
PROPERTY **RESTORATION**



**Priority Response  
Program**

# Tulane - Initial Staffing



**QUESTIONS**

