Updates on Remedial Programs at the GE Hudson Falls Plant Site and GE Fort Edward Plant Site

USEPA Community Advisory Group Meeting
September 11, 2008

Division of Environmental Remediation
New York State Department of
Environmental Conservation

GE Hudson Falls Plant Site

Tunnel Drain Collection System
Construction Status Update

Remedial Program
GE Hudson Falls Plant Site

- Record of Decision (ROD) - issued March 16, 2004
- Ongoing work includes construction of the Tunnel Drain Collection System to prevent migration of PCB oil and contaminated groundwater from the bedrock beneath the site to the river

Tunnel Drain Collection System

- Construction began in August 2007
- Four phases – shaft excavation, tunnel excavation, drain installation, tunnel fit-out

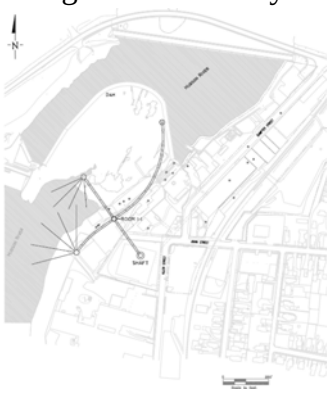
TDCS Status

- Vertical shaft completed in March 2008
- Tunnel excavation nearly complete; likely completion by October 2008
- Phase 3 contractor work plan to be submitted

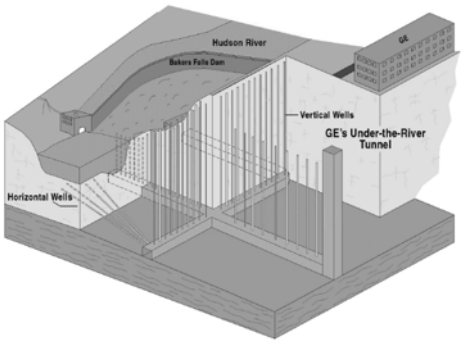
Tunnel Realignment

- After evaluating geotechnical monitoring requirements in the vicinity of the Bakers Falls Dam during tunnel excavation, a realignment of the tunnel system was developed.
- The revised tunnel layout was approved by NYSDEC in June 2008.

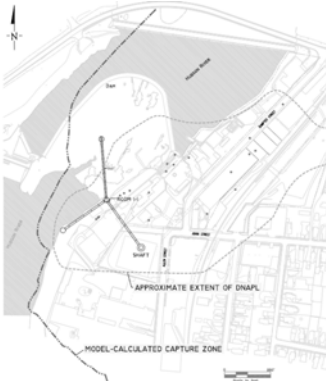
Designed Tunnel Layout



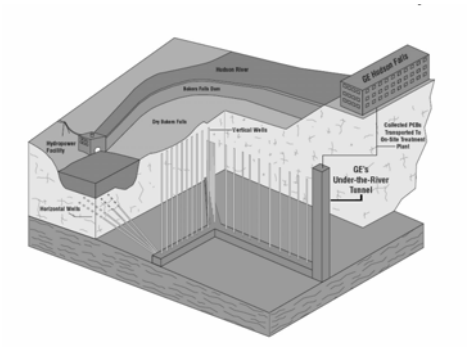
Designed Tunnel Layout



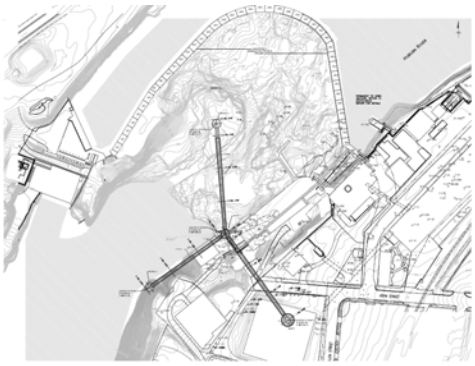
Final Tunnel Layout



Final Tunnel Layout

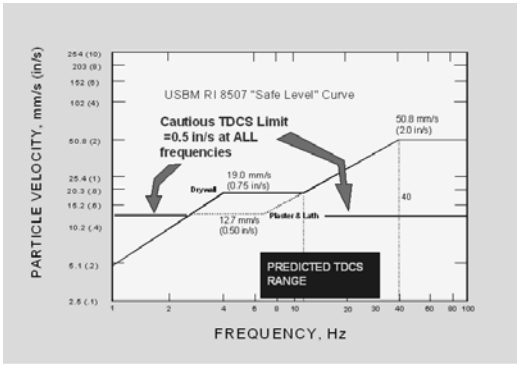


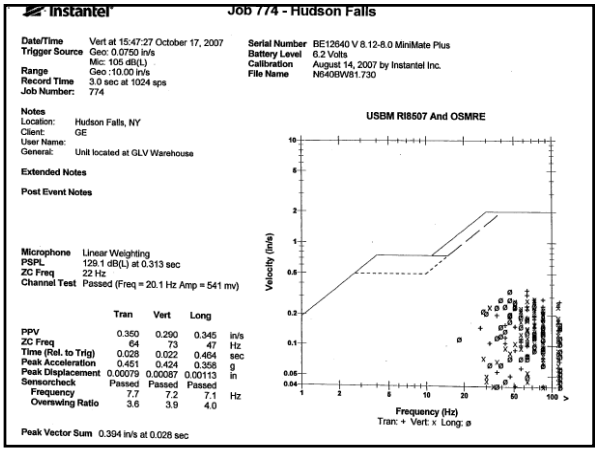
Current Progress of Tunnel Excavation



Blasting Program

- Ground vibration and blast overpressure monitoring are being done to measure the impacts of blasting
- Nearby structures, including the Bakers Falls dam, are being monitored (survey of established control points after each blast) to measure impacts, if any, of blasting




Instantel

Job 774 - Hudson Falls

Date/Time	Vert at 15:47:27 October 17, 2007	**Serial Number**	BE12640 V 8.12-8.0 MiniMate Plus
Trigger Source	Geo: 0.0750 in/s	**Battery Level**	6.2 Volts
	Mic: 105 dB(L)	**Calibration**	August 14, 2007 by Instantel Inc.
Range	Geo :10.00 in/s	**File Name**	N640BW81.730
Record Time	3.0 sec at 1024 sps		
Job Number:	774		

Notes
Location: Hudson Falls, NY
Client: GE
User Name:
General: Unit located at GLV Warehouse

Extended Notes

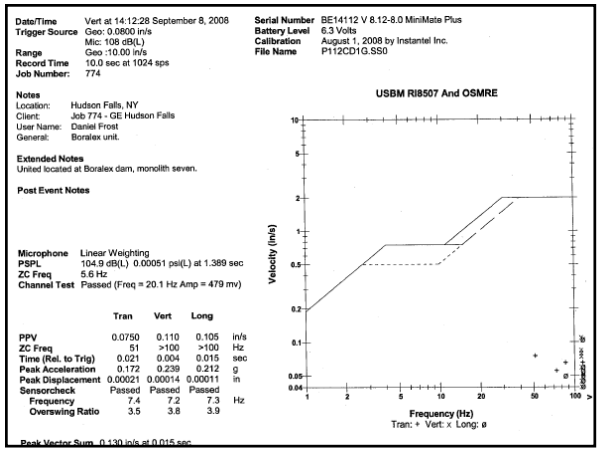
Post Event Notes

Microphone Linear Weighting
PSPL 129.1 dB(L) at 0.313 sec
ZC Freq 22 Hz
Channel Test Passed (Freq = 20.1 Hz Amp = 541 mv)

	Tran	Vert	Long	
PPV	0.350	0.290	0.345	in/s
ZC Freq	64	73	47	Hz
Time (Rel. to Trig)	0.028	0.022	0.464	sec
Peak Acceleration	0.451	0.424	0.358	g
Peak Displacement	0.00079	0.00087	0.00113	in
Sensorcheck	Passed	Passed	Passed	
Frequency	7.7	7.2	7.1	Hz
Overswing Ratio	3.6	3.9	4.0	

Peak Vector Sum 0.394 in/s at 0.028 sec

USBM RI8507 And OSMRE


Date/Time	Vert at 14:12:28 September 8, 2008	**Serial Number**	BE14112 V 8.12-8.0 MiniMate Plus
Trigger Source	Geo: 0.0800 in/s	**Battery Level**	6.3 Volts
	Mic: 108 dB(L)	**Calibration**	August 1, 2008 by Instantel Inc.
Range	Geo :10.00 in/s	**File Name**	P112CD1G.SS0
Record Time	10.0 sec at 1024 sps		
Job Number:	774		

Notes
Location: Hudson Falls, NY
Client: Job 774 - GE Hudson Falls
User Name: Daniel Frost
General: Boralex unit.

Extended Notes
United located at Boralex dam, monolith seven.

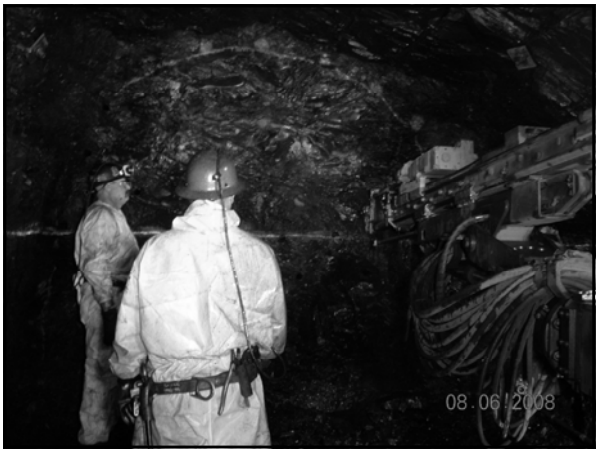
Post Event Notes

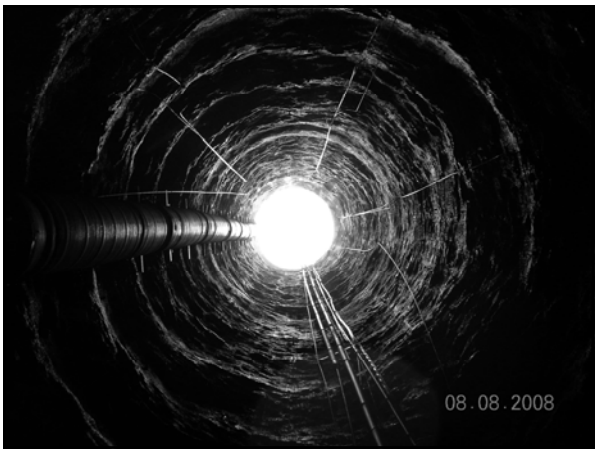
Microphone Linear Weighting
PSPL 104.9 dB(L) 0.00051 psi(L) at 1.389 sec
ZC Freq 5.6 Hz
Channel Test Passed (Freq = 20.1 Hz Amp = 479 mv)

	Tran	Vert	Long	
PPV	0.0750	0.110	0.105	in/s
ZC Freq	51	>100	>100	Hz
Time (Rel. to Trig)	0.021	0.004	0.015	sec
Peak Acceleration	0.172	0.239	0.212	g
Peak Displacement	0.00021	0.00014	0.00011	in
Sensorcheck	Passed	Passed	Passed	
Frequency	7.4	7.2	7.3	Hz
Overswing Ratio	3.5	3.8	3.9	

Peak Vector Sum 0.130 in/s at 0.015 sec

USBM RI8507 And OSMRE





Community Protection

- Air monitoring is being performed during all intrusive activities
- Dust monitoring during all operations
- PCB monitoring during operations once contractor was excavating in portions of the rock which could contain PCB DNAPL

Air Quality and Mitigation

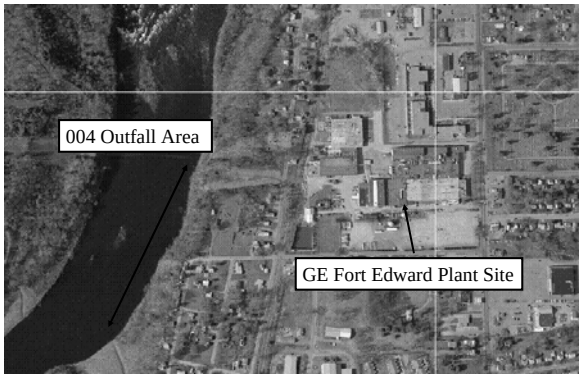
- Over the course of construction, mitigation measures were implemented to limit potential for PCB concentrations to exceed project criteria
- Mitigation measures included covering and watering spoils piles, and limiting activities during periods of high temperatures
- Mitigation measures were successful in limiting exceedances of project criteria

Next Steps

- Phase 3 (Drain Installation) Work Plan – October 2008
- Phase 3 Implementation – starting this fall, five months duration scheduled
- Phase 4 (Tunnel Fit Out) Work Plan – early 2009
- Phase 4 Implementation – 2009, six months duration scheduled

GE Fort Edward Plant Site

Investigation of PCB oil in bedrock associated with the former 004 outfall area



Bedrock Investigation 004 Outfall Area

- Initial Bedrock Investigations – 2003, during implementation of Operable Unit 4 remedy
- Preliminary Investigations – 2005
- Remedial Investigation – starting in 2007

Ongoing Remedial Investigation (RI)

- GE currently implementing the RI with State oversight
- The objective of the investigation is to delineate the extent of PCB oil in bedrock

Investigation Work

- Monitoring wells have been installed at a number of locations in the vicinity of the former outfall structure, and to the south and east
- All wells are being cored; each identified discrete open horizon was evaluated for well completion
- Rock core samples are sent to lab for rapid turn around PCB analyses

Investigation Work

- Wells bailed / developed to check for DNAPL presence
- Groundwater samples collected for rapid turn around PCB and VOC analyses
- Some well locations adjusted in the field in response to initial investigation results
- Additional well locations / depths continue to be added

Findings To Date

- PCB DNAPL identified at depth (> 200 feet) in vicinity of former outfall structure and to the south
- PCB DNAPL vertical or horizontal extent not yet delineated
- Discrete fractures in bedrock found to contain PCB in rock core samples

Next Steps

- The overall scale at which the investigation is being performed continues to be modified; the PCB oil in bedrock is not limited to the immediate vicinity of the former outfall
- The next targeted stratigraphic interval is the upper Glens Falls limestone unit; ~ 300 ft depth

Next Steps

- Additional monitoring wells are being installed this fall to the south, and west (across the river)
- DNAPL bail-down tests will also be performed to evaluate the potential for oil recovery from existing wells

For More Information

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