

## Letter from the General Manager

The Pend Oreille Operations is the largest business and employer in Pend Oreille County (Washington State). In this capacity, the Operation has the responsibility to ensure that it impacts the community in a positive and forward-looking manner. The mine was permitted subsequent to a non-contested Environmental Impact Statement (EIS). Much of the success of the mine's start-up is attributable to the development of the Selkirk Community Teck Cominco Planners (SCTCP), a group of local leaders who developed and implemented a community action plan to ensure that the opening and operation of the mine would not have adverse impacts on the local economy. Specifically, principles of sustainability were embodied into community plans to ensure that the "boom and bust" pattern resulting from past practices was not repeated.

We regret to report that in January of 2007, a fatality occurred when a contractor's employee was installing bolt and wire support in an underground workplace, and was struck by falling rock. Our condolences have been extended to the employee's family. As a follow-up to this unfortunate incident, we have taken thorough measures to conduct an investigation, and use the knowledge gained from the investigation to prevent similar incidents from recurring in the future. While the fatality was a major setback for the mine, the Underground Operations group, the largest employee group at the mine, completed the year at 202,847 person-hours without a single LTI.

We have had some noteworthy environmental successes this year. Employing a novel bioreactive process, the Operation achieved lower oxygen saturation in treated water; this resulted in the lowest lead levels since pre-production operation.

We also made significant investments in the local community in 2007, including: the donation of a new ambulance to the local Fire District and a \$40,000 contribution to the Cutter Theater as part of an endowment for the arts. Continued support to other important community programs included: the Special Olympics, Boy Scouts, 4H, and the Selkirk Humanities Foundation.

Mark Brown General Manager

## Overview of Operation/Facility

Located in northeast Washington State, Pend Oreille Operations is an underground zinc/lead mine with on-surface ore processing facilities. The mine is 100% owned by Teck Cominco American Incorporated. At the end of 2007, the Operation employed approximately 200 people. The site facilities comprise: underground mine workings, mill/processing buildings, a concentrate load-out building and a double-lined tailings disposal facility. The mine uses the "room and pillar" mining technique. This method involves removing ore in a honey combed network of underground rooms up to 30 feet in width and 70 feet in height.

#### **Goals and Objectives**

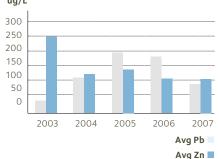
In the first quarter of 2006, the Operation reported two non-compliance issues for elevated lead levels in discharge water, and spent the balance of that year working to identify the source/causes of the elevated levels. Development of a circuit that re-inoculated the sulphate-reducing bacteria process and several feed design changes to achieve lower oxygen saturation in the water to be treated resulted in 2007 lead levels being the lowest since pre-production operation. There were no reportable non-compliance issues or spills in 2007.

The Operation currently uses a "hard copy" (non-computerized) format for its Environmental Management System (EMS). The goal was that the Environmental Management Information System (EMIS), an electronic format for the EMS, be installed and operational in 2007. Development work for the EMIS began in 2007, however was not completely operational by year-end. The Accident and Investigation portion of the EMIS is expected to be operational in 2008, with further database population through the year.

## **Environmental Programs**

A passive water treatment system was developed to treat mine discharge water collected at the underground headings and discharged to the Pend Oreille River. The sulphur-reducing bacteria (SRB) treatment is designed to reduce zinc and lead concentrations in the discharge water. The system was first operational in the summer of 2003. In 2007, we saw the lowest average yearly zinc values and the second-lowest yearly lead values since operational start-up occurred. The graph below illustrates the trend of the average annual lead and zinc concentrations since 2003.

## Average annual lead and zinc concentrations since 2003 ug/L



## Safety and Health

As indicated above, the Operation had one fatality in 2007. The fatality occurred while a contractor's employee and a co-worker were installing rock bolts using a mobile roof bolter. Rock bolts and welded wire mesh are the primary means of ground support; the miners were installing a mesh panel when a very large rock fell, striking the contract employee and fatally injuring him.

While the fatality was a major setback, the Underground Operations group completed a full year of no Lost Time Injuries (LTI) in 2007. The Underground Operations is the largest employee group at the mine, and completed the year at 202,847 man hours without a single LTI.

The Pend Oreille Operations has revised its training and recruitment requirements to increase surface fire and Emergency Medical Technician (EMT) efficiency. Training includes the services of, and joint emergency exercises with, Pend Oreille County Fire District #2 personnel. In 2007, a 100-hour basic fire fighting training course was conducted; eleven individuals successfully completed the training and are now certified as Washington State Basic Fire Fighters. Fire District #2 also participates in EMT continuing education as required by Washington State.

The community benefits from this joint training program, as some of the firefighters and EMTs employed at Pend Oreille Operations have become volunteer emergency response personnel within local town and county emergency departments.

## **Tailings Management**

Construction work for the final lift of Tailings Disposal Facility (TDF) #3 was completed in 2007. TDF #3 is double-lined with a "geonet" layer between the two liners. The geonet allows any inner liner leakage to flow to the leakage collection sump where it is pumped back into the facility. The capacity of the facility has doubled, with a final capacity of 8,700,000 tons of tailings.

During the fourth quarter of 2007, two holes emerged in the inner liner. The first hole resulted when a discharge line failed, causing the pipe fitting to strike the liner. The second was a tear caused by weather-related expansion and contraction that weakened the liner. Repairs were made and the facility leak detection system returned to normal operating levels. The double-lined system worked as designed, and there were no releases to the environment.

#### **Reclamation and Closure**

TDFs #1 and #2 are remnants of previous mining operations conducted 30 years prior to the start-up of the current Pend Oreille Operations. These facilities are located adjacent to the active mining area. Teck Cominco Washington Incorporated has entered into a voluntary remediation program of the two facilities with the Washington State Department of Ecology. A remediation investigation/feasibility study (RI/FS) of the facilities was completed by TCAI and submitted to Ecology during the year. Pend Oreille mine staff have participated in the RI/FS process, and will be involved in the remediation program.

There are currently no reclamation activities within the property. The existing closure plan is scheduled for review in 2008.

### **Conservation, Biodiversity Initiatives**

The 1.5-acre Frog Creek Wetland is adjacent to the surface facilities. Frog Creek is the nearest drainage to TDF #3, and feeds the Frog Creek Wetland. A baseline assessment to characterize the soils, hydrology and vegetation was completed before startup. Wetland monitoring to compare existing conditions to the baseline conditions is conducted every 3 years. Based upon the results of the 2006 monitoring, no substantive changes in the soils, hydrology or vegetation of the Frog Creek Wetlands are apparent. The next wetland assessment is scheduled in 2009.

## Community Outreach, Engagement, Dialogue

The Selkirk Community Teck Cominco
Planners (SCTCP) committee was developed
prior to mine start-up to create dialogue
and involve the local community in the
development, operation and eventual closure
of the Operations. The committee includes
members of the community that participate
in dialogue with the Operation's General
Manager. These meetings with the community
have continued during the operational phase
and are held as necessary. In addition, Pend
Oreille Operations is represented during the
monthly meetings of the Metaline Chamber
of Commerce as a means for additional
engagement with the local community.

## Community Development/ Good Neighbor Practices

A new ambulance was donated by the Operation to the local Fire District #2. Fire District #2 is the only agency in North Pend Oreille County that is licensed to transport patients.

The Cutter Theater received a \$40,000 contribution from the Pend Oreille Mine as part of an endowment for the arts. The Cutter Theater is the primary promoter of the development of the performing arts, visual arts and humanities within the northern part of the county. The endowment will help support continuing cultural programs that the theater provides at a lower cost than would otherwise be possible.

The Pend Oreille Mine has continued to support other community programs including: the Special Olympics, Boy Scouts, Selkirk Humanities Foundation, civil groups and county fair, to name a few. Employees of the mine have also participated in the community through school functions, civic groups and local government activities.

# **Emergency Preparedness and Risk Management**

In January 2007, a corporate Emergency Response program review was conducted. The resulting report identified that surface fire response was limited, and the report recommended that the mine recruit surface firefighting members. During the fourth quarter of 2007, the mine conducted a 100-hour basic firefighting training and eleven individuals from the surface operations successfully completed the course. The training was provided by Fire District #2 personnel.

The review also recommended that joint training be conducted with the local fire district. During the basic firefighting training, Pend Oreille Mine surface fire members trained in coordination with Fire District #2, and other regional agencies, in two "live-burn" exercises. The Pend Oreille Mine and Fire District #2 have planned future joint firefighting training exercises.

Joint annual reviews of surface and underground fire control systems are conducted with our insurer. Quarterly inspections are conducted by the Mine Safety and Health Administration (MSHA) and by the department of Ecology. The Pend Oreille Mine is a full member of Central Mine Rescue

#### **Human Resources**

A wellness program called Club Health is available to all employees at the mine. The program provides free health screening for employees and their spouses, and provides access to the Club Health web site, which provides wellness tips and strategies. The Pend Oreille Mine also participates in Teck Cominco's Olympic/Paralympic employee participation programs. The mine has benefited from weight loss programs, health seminars and fitness activities, as a result of this program.

A summer student program offers a work program during summer and holiday seasons for employee dependents that are in, or entering, college.

		2007	200	)6	2005	
Health & Safety Statistics						<u>-</u>
Total Recordable Incident Frequency		4.56	3.8	3	6.86	•
Fatalities	<b></b>	1		0	0	
Lost Time Incidents		2		2	9	-
LTI Frequency		0.76	0.9	6	4.41	•
LTI Severity	•	2,283.98	11.9	7	64.72	•
Permit Compliance						-
Number of Excursions		0		2	4	
% Compliance Water	•	100%				
% Compliance Air		100%				-
Reportable Spills						
Number		0		0	0	
Volume (L)		0				
Weight (kg)		0				
Average Concentrations in Effluent (mg/L)						Permitted*
Zinc		0.1065	0.099	0	0.1220	0.440
Lead		0.0826	0.172	0	0.1770	0.200
Cadmium		< 0.002	< 0.00	)2	< 0.002	0.0221
Stream Water Quality - Downstream of Discharge (mg/L)						Avg. upstream
Zinc		< 0.0075	< 0.007	75	< 0.005	< 0.005
Lead		< 0.010	< 0.01	0	< 0.010	< 0.005
Energy Use						
Electricity (TJ)		171	15	7	158	
Fuel (TJ)		31	2	24	30	
Carbon Energy Intensity in Product (GJ/t)		0.95	0.6	51	0.57	
Energy Intensity in Product (GJ/t)		6.14	4.6	4	3.55	
GHG Emissions						
CO2 equivalents (kt) (Direct)		2.4	1.	.9	2.3	
CO2 equivalents (kt) (Indirect) (1)		1.0				
CO2 equivalents (kt) (Total)		3.3				•
Carbon intensity in Product (t/t) (Direct)	•	0.07	0.0	)5	0.04	-
Carbon intensity in Product (t/t) (Total)		0.10				
Production - Metal Contained in Concentrate (000 tonnes)						-
Lead		5		5	8	
Zinc		29	3	34	45	•

		2007	2006	2005
Recycling				
Total solid material (tonnes)		10.8	1.1	1.2
Total liquid materials (m³)		24.1	95.8	27.0
Total items counted (count)		164	201	362
Managed Waste				
Total waste rock ('000 tonnes)	<b>&gt;</b>	0.3	3.0	
Total tailings dry ('000 tonnes)	<b>&gt;</b>	581.3	481.9	
Total solid non-haz. material to landfill (tonnes)		123.4	162.8	
Water Conservation				
Total groundwater withdrawal (m³/yr)		914,558	831,983	
Total surface water withdrawal (m³/yr)		0	0	
Total volume of water recycled/reused (m³/yr)		1,509,410	1,414,268	
Total percentage water recycled/reused %		165	170	
Reclamation				
New reclamation for the year (ha)		0		
Reclaimed to date (ha)	-	0	0	0
Land to be reclaimed (ha)	<b></b>	55	35	n/a
Trees/shrubs planted (count)	<b>&gt;</b>	0	0	0

n/a = not available

(1) Greenhouse gas (GHG)  $\rm CO_2e$  emissions for electricity use for Pend Oreille is calculated using the BC emissions factor  $(in the \ Mining \ Association \ of \ Canada \ (MAC) \ GHG \ calculation \ spreadsheet) \ since \ Washington \ and \ BC \ use \ mainly \ hydroelectricity.$ 

Deloitte & Touche LLP reviewed selected environmental, health and safety data in the 2007 Sustainability Report. Their Independent Reviewers' Report is available on page 54. Only performance data with the following symbol



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