Kensington

Facing North East
Jualin

Mill & Lion’s Head Mountain – Facing North
Safety

- Three years without a Lost Time Accident (LTA)
- Weekly Safety Committee Meetings
- Daily workplace inspections utilizing the 5 point safety card system
- Daily pre-shift equipment inspections
- Employee Safety Committee
Avalanche Control Program

Sneaky, Gully, Triangle, & Alder Meadow North Avalanche Zones
Avalanche Control Program

Warning and Avoidance:
We use snowpack and weather observations as well as weather forecasts to generate daily forecast and travel restrictions.
Avalanche Control Program

Rescue program:

- Mine personal are issued and wear Recco belts
- On going rescue training
Tailings Treatment Facility - Dam Construction

- Installation of Zone D & F, 100-mil HDPE Liner, & Non-Woven Geo-textile Fabric
- Construction of Grout Trench
Tailings Treatment Facility – Grout Trench
Dam Construction

- Placed Dental Grout on bedrock
  - Seal-Off Graphitic Phyllite
  - Due to Foundation Material not Meeting the Hardness Criteria
• Construction of Stage 1 - Interim Spillway

<table>
<thead>
<tr>
<th>Key Elevations</th>
<th>Elev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1 Dam Crest</td>
<td>690 ft</td>
</tr>
<tr>
<td>Stage 1 Interim Spillway</td>
<td>684 ft</td>
</tr>
<tr>
<td>Spillway Invert</td>
<td></td>
</tr>
<tr>
<td>Normal Upper Operational Level</td>
<td>668 ft</td>
</tr>
</tbody>
</table>
• Completion of Pump-Back System
• Temporary Certificate to Operate A Dam issued in July
• Certificate to Operate Dam Issued on January 28th, 2011
Dam Construction– Placement of Low Permeability Fill/Tailings
Tailings/Reclaim Water Line Construction

Installation of Dual-Walled Tailings Conveyance Pipe-Line, Single Wall Reclaim Pipeline, Power Cable, & Fibre Optic Cable
Graphitic Phyllite Temporary Storage Construction

- Portion of Bio-Cell converted to storage site for Graphitic Phyllite

- Water collected on underliner in cell and conveyed to sump

- Collected water transported to temporary package water treatment plant at TTF for treatment

- Under Liner sealed to Top Liner

- Temporary Storage until 2014 at which time it will be encapsulated in paste tailings in an underground stope
Tailings Treatment Facility - Water Treatment Plant

- 1500 gpm Capacity
- Actiflo Clarifier
- Multimedia Filters
- Activated Carbon Filters
- Sludge Thickener/Filter Press
Comet Mine Water Treatment Plant

- Constructed new 1500 gpm Capacity Plant with similar Treatment Process as existing treatment plant
- Utilized Actiflo Clarifier
- Multimedia Filters
- Sludge Thickener/Filter Press
• 120 person -Man Camp and KDR Commissioned in March

• Assay Lab Commissioned in May and First Assays on June 5th
Surface Maintenance Shop

• Construction of a Surface Maintenance Shop
Wastewater Treatment Plant Expansion

- Installation of an additional bio-reactor treatment plant to increase overall system capacity to 10,000 gpd.

- New plant has capacity of 10,000 gpd and old plant has capacity of 5000 gpd for total capacity of 15,000 gpd
Coeur Alaska Ore Reserves EOY 2010

Proven and probable reserves:
- 5.9 million tons @ 0.24 opt – 1.4 million ounces
- Includes 10% external dilution and 93% ore recovery

Total mineral resource inclusive of reserves:
- 7.4 million tons @ 0.26 opt – 1.9 million ounces
- Undiluted, no ore losses
Mine Planning

Coeur Alaska Life of Mine Plan, 2010

• Based on resource and local, detailed geologic models.
• Coeur Alaska staff develop the mine plan.
• Mining method is mostly transverse and longitudinal longhole stoping with limited drift and fill in high grade, discrete shear veins.
• Production profile is 1250 tpd until 2021.
• Future mine plans will include narrow vein mining.
Existing and proposed development with longhole stopes

Current mining areas

To Jualin Portal

To Comet Portal

2050 Level
Paste Backfill Plant

Current construction activity

Paste Plant currently Planned for Operation in December of 2011
Mine Activities in 2010

Mine Development and Production

• Ramped up UG workforce
• Ore production started in earnest in 3rd Qtr. with both stoping and cut & fill.
  • Drove approx. 8,200 ft of equiv. drift
  • Mined approx. 166,000 tons of ore
  • Mined approx. 102,000 tons of development rock
• Completed upgraded ventilation system end 3rd Qtr. including portal heaters, main fans, booster fans, and Comet air doors
  • Increased ventilation from approximately 100,000 cfm to 375,000 cfm
Mine Activities in 2010

Core Drilling in 2010

• Total of 76,770 feet of underground core drilling was completed between March and December of 2010

• The development drilling was comprised of 130 drill holes and 55,130 feet
  • This program was assessed in the up-ramp and down-ramp with drill stations in the 910, 990, 1065, 1210, and 1290 mine levels

• The exploration drill program included 47 drill holes and 21,539 feet.

• There was no drilling completed from the surface in 2010.
Mine Activities in 2010

Mine Development and Production

• Focused on completion of infrastructure projects
  • Completed upgraded ventilation system end 3rd Qtr. including portal heaters, main fans, and booster fans
  • Paste plant excavation 73% by EOY, completed end 1st Qtr. 2011
  • Shotcrete, concrete, and cranes installed in main UG shop.
Mill Operations

- Mill Capacity: ~450,500 tpy
- Reserve Grade (diluted): 0.244 opt
- Gold Recovery: 93% - 95%
- Concentrate Produced: ~48 tpd
- Concentrate Grade: ~9 opt
Mill Operations

- Full Production of Mill Facility began in July 2010
- First Gold Concentrate was produced in July 2010
- Approximately 177,048 tons of ore was processed through mill facility in 2010
- Approximately 4,215 tons of concentrate shipped to an off-site refinery
- Approximately 43,119 ounces of gold contained in the 4,215 tons
Treatment Plant Performance

Operations

- Tod Thurber – Supervisor
- Rick Saulnier – Sr. Operator
- Larry Akaran – Operator
- Phil Walker - Operator
- Brent McEwen – Operator
- John Ashenfelter – Operator
- Clark Mondich – Operator
- Curt Jones – Sr. Operator
- Gary Barnette – Sr. Operator
Comet Mine Water Treatment
Plant Performance

• Approximately 313 Million Gallons Treated without a Permit Threshold Exceedence

• Three Permit Threshold Exceedences in 2010
  • One Ammonia Exceedence in September (ramp-up of mining operations)
  • Two Iron Exceedences: (1-daily max & 1-monthly avg.) in December as a result of valve closure in the gravity effluent line in which residual solids were collected in the composite sample through the sample line.
Temporary Package Water Treatment Plant at TTF

- Rotating Cylinder Treatment System (RCTS)
- Lime/Flocculant Addition
- Automated System
- Flows average 5–15 gpm
Plant Performance

- Potable Water System operated without a Water Quality Exceedence in 2009

- Sewer Treatment Plant had two BOD Permit Threshold Exceedences in 2010. One was determined to be lab inaccuracy and second is also believed to be inaccuracy.
Compliance/Permitting

- Revised Reclamation Plan & Integrated Waste Management Plan - submitted on April 2, 2010
- Several Building Permits – MWTP Expansion, TTF-WTP, Surface Warehouse

Jualin Mine – Lower Camp
Compliance/Permitting

- Air Quality Permit Modification Application(s)
  - Include a 6\textsuperscript{th} and 7\textsuperscript{th} standby generator for back-up in order to operate 5 continuous units;
  - Include alternate fuel source for portal heaters; and
  - Include Alternate Mine Exhaust – Intake Jualin and Exhaust Comet
Compliance/Permitting

- **Toxic Release Inventory (TRI) Reporting:**
  - Implementation of Spreadsheet model developed for site
  - Form R submittals for Ammonia, Naphthalene, 1, 2, 4-Trimethylbenzene, and Xylene
  - Ammonia utilized in generator Selective Catalytic Reduction (SCR) systems
  - Additional chemicals reported as a result of quantity of diesel fuel usage at the site – primarily in the generators.
Environmental Management Plan:

- Comprehensive Plan developed that describes site environmental compliance
- Provided to site managers and department heads
- Rolled-out and Reviewed during weekly environmental committee meetings
  - Lists of Permits and Plans
  - Site Specific Guidelines
  - Waste Management
  - Hazardous Waste & Materials Management
  - Monitoring Requirements
  - Water Quality Data Management
Recycling Program

- Plastic Bottles
- Aluminum Cans
- Office Paper
- Scrap Metal
- Batteries
- Printer Cartridges
- Cardboard
Completion of the Population of Intelex System

INTELEX Software – further developing the Environmental Management System (EMS); Permit tracking system.

INTELEX modules include…

• Policy
• Objective and Targets
• Monitoring and Measurement
• Legal and Other Requirements
• Training and Awareness
• Audits
• Document Control
• Meeting Manager
Environmental Key Performance Indicators

Key Performance Indicators (KPI’s) are monthly monitoring system which provide a way to identify areas for improvement.

• Such as: number of exceedences, training hours, materials recycled etc.…

KPI’s:

• Number of permit exceedences – 6 in 2010; 3 new WTP’s commissioned in 2010.

• Gallons of Mine Water Treated since last exceedence – 167 MG in 2008 & 438 MG in 2009 & 313 MG in 2010

• Training – 40 hrs in 2008 & 115 hrs in 2009 & 500 hrs in 2010
Environmental Key Performance Indicators

- Spills – 21 in 2010
- 8 spills were result of overflow of Sewer Treatment Plant as a result of the use of concentrated soap at the site.
Environmental Committee

Meets Weekly to Discuss
- Compliance and Permitting Issues
- Spills & Corrective Action
- Recognition – Quarterly Awards
- Environmental Management System
- Training
- Key Performance Indicators
- Design and Operating Plans
- Drills and Table Top Exercises
- Incidents of Noncompliance
Transportation Plan

• Primary mode of transportation during 2010 was MV Majestic Fjord (operated by Goldbelt)
• MV St. Nadezhda also utilized for Echo Cove during low tides
• Helicopters still used on an as-needed basis (weather)
Transportation Plan

- Echo Cove Trial Run conducted in the Spring of 2010 (March 21st – May 7th).
- Echo Cove departure for marine travel during winter months of 2010
- Yankee Cove during spring/summer/fall 2010
Transportation Plan

Slate Creek Cove Dock
Standard Operating Guideline for Eulachon Spawning Season

• Marine mammal/vessel encounters to be recorded and reported.
• Mutual agreement of 2-3 wk “eulachon spawning season” during which time:
  • No fueling within Berners Bay.
  • “Marine Observer” to accompany crew vessel.
  • No more than 2-3 vessel trips/day.
  • Vessel speed reduced to 13 knots within bay.
  • Reduce fuel shipments by stocking up on fuel prior to eulachon season.
  • Limit barging of concentrate and shipments of chemicals.
  • Adjust routing to avoid fish congregations.
Marine Mammal Monitoring

- 68 marine mammal surveys were conducted from the crew transportation boat running from Echo Cove to Slate Cove between March 29 and May 4, 2010.
- Marine mammal activity near Slate Cove increased substantially during the first week of April and the “eulachon spawning season” was adopted from April 12th to May 4th when activity declined again.
- The eulachon run occurred much earlier in 2010 than 2009 with historic records showing eulachon arriving in Berners Bay usually in late April and early May.
- The three week restrictions were placed at the right time in 2010 to cover the greatest marine mammal activity.
- Up to 160 sea lions, 6 humpback whales, 110 Harbor seals and 6 orca were observed in Berners Bay at one time.
- There were no marine mammal encounters in 2010.
General

Wellness Program

Our Vision

The Coeur Alaska Wellness program will be a valuable and recognized resource for Kensington employees in achieving healthier lifestyles.
Program Overview

• **Personal Wellness Profile – Clinical data and health survey**
  - Awareness allows you to become more proactive about your health and wellness

• **Incentives and Events**
  - Reasons to get involved (Klondike Team)

• **Communication**
  - Stay informed

• **Wellness Program Opportunities**
  - Employees take advantage of our awesome opportunities our program offers.
2010 Water Quality
Water Quality- Summary of QA/QC

QA/QC Monitoring Data Review:

- Field Blind Duplicate Comparison
- Review of Monitoring Data Collected
  - Laboratory Data
  - Field Data
- Variance Analysis Reports
  - Identify Potential Outliers
- Overall Completeness Review
Water Quality- Monitoring Locations

- **Outfalls**
  - 001 (Active)
  - 002 (Started 12/10)
  - 003 (Halted)

- **Receiving Waters**
  - Sherman Creek
  - Slate Creek
  - Johnson Creek
Monitoring Sites

Water Quality & Aquatic Resources
In general, monitoring results in 2010 indicate...

- Water quality in the area of the project is very good
Water Quality- Receiving Waters

Project Area receiving waters generally...

- Have peak water temperature in August or September
- Have mildly basic pH
- Are at or near oxygen saturation
- Are generally soft (in most cases <100ppm hardness, excluding SH113 and SH103)
- Contain low levels of sulfate (<10ppm, excluding Sherman Creek)
- Have low concentrations of dissolved metals
- Have seasonal fluctuation of conductivity with peak in winter
Water Quality – Sherman Creek

ALUMINUM, Dissolved

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Sherman Creek

IRON, Dissolved

Sherman Creek

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Johnson Creek

ALUMINUM, Dissolved

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Johnson Creek

IRON, Dissolved

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Slate Creek

ALUMINUM, Dissolved

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Slate Creek

IRON, Dissolved

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Sherman Creek

IRON, Dissolved

Sherman Creek

Figures from Volume 2: Water Quality 2009 in the NPDES Annual Report
Water Quality - Outfall 001

Mine Water Treatment Plant
On the whole, Outfall 001 effluent discharges...

- Follow seasonal cyclic trends for temperature and dissolved oxygen
- Typically have very low levels of turbidity
- Contain total recoverable metals mostly at or only slightly above detection limits
- Are monitored for constituents that are typically well under permitted limits
Water Quality – Outfall 001

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Outfall 001

AMMONIA as N

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Outfall 001

ALUMINUM, Total Recoverable

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
COPPER - Total Recoverable

001 EFFLUENT

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Outfall 001

IRON, Total Recoverable

001 EFFLUENT

Figures from Volume 2: Water Quality 2010 in the NPDES Annual Report
Water Quality – Outfall 002

- Tailings Treatment Facility construction was completed in Third Quarter of 2010

- Tailings Treatment Facility Water Treatment Facility began discharging in December of 2010
Aquatic resource monitoring includes toxicity testing of stream sediment, benthic invertebrate surveys, resident fish population estimates, counts of out-migrating salmon fry and returning adult salmon, analysis of spawning gravel quality, and aquatic vegetation surveys.

Wildlife monitoring conducted around Slate Lakes basin.

Marine mammal monitoring conducted in Berners Bay.

Bears at Sherman Creek
Lower reaches below barriers are anadromous (used by salmon).
SEDIMENT MONITORING

Fine sediment was collected from Sherman Creek, lower Slate Creek and lower Johnson Creek in August 2010.

10-day whole sediment toxicity tests on the amphipod *Hyalella azteca*, and the midge *Chironomus tentans*.

Both Amphipod and Midge survival was high in sediment from all sites and not significantly different from controls.

Survival of Amphipod has generally been higher than that of Midge since 2005.

<table>
<thead>
<tr>
<th>Survival %</th>
<th>Midge</th>
<th>Amphipod</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Chironomus</em></td>
<td>77.5</td>
<td>96.25</td>
</tr>
<tr>
<td>Sherman Creek</td>
<td>75</td>
<td>91.25</td>
</tr>
<tr>
<td><em>Hyalella</em></td>
<td>82.5</td>
<td>91.50</td>
</tr>
<tr>
<td>Slate Creek</td>
<td>70</td>
<td>81.25</td>
</tr>
<tr>
<td>Lab sediment</td>
<td>66.25</td>
<td>100.0</td>
</tr>
<tr>
<td>Sand control</td>
<td>66.25</td>
<td>100.0</td>
</tr>
</tbody>
</table>
• Samples were collected in March and April of 2010 during construction activity at the TTF. Samples were collected using a fine mesh net with 12x12 inch frame (Surber sampler) from two reaches of Lower Sherman and Lower Sweeny and one reach near Middle Slate and Middle Johnson.

• The number of EPT taxa, Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddis flies), was examined as these groups are the most sensitive to pollution.

• The mean number of taxa (20.7) was significantly higher in Johnson Creek than all other sites.

• Total number of taxa in all streams was similar to previous years.

• Densities in Johnson Creek were significantly higher than all other sites except Reach 1 of Sherman at 4800 invertebrates per m².

• Diversity was highest at Johnson Creek and lowest at Sherman and Sweeny Creek in 2010. Sherman and Sweeny Creeks both had lower diversity due to high numbers of a few dominant species.

RESIDENT FISH POPULATION

- Snorkeling and electro-fishing surveys were conducted between July 22\textsuperscript{nd} & August 17\textsuperscript{th} in lower, middle and upper reaches of Sherman, Johnson and Slate Creeks.

- Dolly Varden were found in all stream reaches, while cutthroat trout were only present in the lower stream reaches, below barrier falls.

- Dolly Varden numbers for 2010 appear to be much higher in Lower Slate Creek and Johnson Creek than previous years.

- Dolly Varden numbers in Sherman Creek have held fairly steady since 2007.

- Dolly and Cutthroat condition factor (length/weight ratio) appeared relatively high and not significantly different from previous years at all sites.
ANADROMOUS FISH MONITORING: OUTMIGRATING FRY 2010

- Fyke nets with 1/8 inch mesh used to trap out-migrating pink salmon fry at each creek March thru May.
- A sample of 150 fry is marked with dye every 3–4 days. Marked fish are released upstream of the trap; The % of marked fish re-captured is used to determine the total number of fry migrating out to sea.
- Overall freshwater survival of pink salmon from egg to fry, even in highly productive streams, commonly reaches only 10–20%. The egg to fry survival rate at Johnson and Slate Creek is well above this range while Sherman is at the upper percentile of the range.
- Indicates Healthy Streams!!!

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</thead>
<tbody>
<tr>
<td>Sherman</td>
<td>337,907</td>
<td>1030</td>
<td>1.5-2.1 mil</td>
<td>16-22%</td>
</tr>
<tr>
<td>Johnson</td>
<td>1,276,904</td>
<td>2984</td>
<td>4.5-6.0 mil</td>
<td>21-29%</td>
</tr>
<tr>
<td>Slate</td>
<td>165,498</td>
<td>419</td>
<td>628-837 K</td>
<td>20-26%</td>
</tr>
</tbody>
</table>
Adult pink salmon were counted weekly in the lower reaches of Sherman, Johnson and Slate Creeks between July 22 and September 15, 2010. In South-East Alaska, even-year pink salmon populations are generally larger than odd-year populations. In general, 2010 appears to have had a strong return, inhibited by low flow at Johnson Creek.

Steep waterfalls at each creek restrict salmon spawning area; Sherman Creek has a barrier to fish migration only 360m from the mouth, whereas the Johnson Creek falls are 1.3km from the mouth.

Number of Pink Salmon 2010:
- Sherman: 1,750
- Johnson: 2,114
- Slate: 3,000
At each stream, core samples of spawning gravel are passed through sieves to separate into size classes. The volume of gravel in each size class is measured using water displacement. Fine material is measured using Imhoff cones.

Fine sediment can affect oxygen transport to incubating embryos within the gravel. The coarser the material the higher the survival of salmon embryos. The higher the geometric mean, the better survival of salmon embryos.

Geometric Mean was similar to previous years indicating little change in spawning gravel quality over time.

Sherman and Slate had similar gravel composition, while Johnson had smaller gravel.
A visual survey of in-stream vegetation was carried out in the lower and middle reaches of Sherman, Johnson, and Slate Creeks in July and August of 2010 during resident fish surveys.

Johnson and Slate Creeks have relatively small substrate with very little aquatic vegetation. Periodic high flows in these steep, coastal streams are likely to disturb the substrate and restrict aquatic plant growth.

Lower Sherman Creek has green algae on the substrate. Algae can pose a threat as it can use up oxygen at night, depleting the amount available to fish, but Sherman is fast flowing, cold water with high O2, so this seems unlikely.
Wildlife Monitoring: Slate Lakes

- Wildlife Monitoring conducted in 2010 in accordance with Terrestrial Wildlife Monitoring Plan.

- 21 x 50m transects around the Slate Lakes basin. Monitored weekly for wildlife sign eg. Scat, tracks.

- Motion-sensor cameras also record activity on game trails.

Figure 4: Wildlife transect camera locations in the Slate Lakes Basin.
One of the most significant uses of the area is by Canada geese near Spectacle Lake in summer.

Figure 9: Waterfowl: 19 Canada geese, July 24 (A); Red-throated loon, Spectacle Lake, July 24 (B); Geese near access road (C); Canada goose Spectacle; (D) Greater yellowlegs appeared to be nesting (E); Blue-winged teal observed in May (F).
Wildlife Monitoring: Slate Lakes

- Moose and bears appeared to frequent the area as often in 2010 as they did in 2006 and 2007.
Planned Activities in 2011

Mine Development and Production

• Continue up and down ramp extensions

• Continue ore production from stopes and cut & fill.
  • Drive approx. 16,000 ft of equiv. drift
  • Mine approx. 450,000 tons of ore

• Completion of remaining infrastructure projects
  • Paste backfill mixing and delivery system
  • Commission and begin use of main UG shop.
850 Level Maintenance Facility

18,000 ft² of workshop, service, and warehouse space. 25 and 10 ton cranes.
Power Generation

Five Independent, 1.75Mw (each) Diesel Powered Generators; with a sixth gen-set being commissioned in June of 2011.
Tailings Treatment Facility

- Finalize Emergency Action Plan, Construction Reports, Geotechnical Reports, Operation & Maintenance Manual
- Construct Liner Protection System (log/pipe boom)
- Upgrade Reclaim Barge and Access
Tailings Treatment Facility

- Tailings Line Discharge Upgrade (bubbler system)
- 3rd Party Inspection of Facility
- On-going Monitoring of Facility
- Possible Kick-Off Design and Permitting of Phase 2 Embankment
Potable Water System

- Expand Capacity of Treatment Plant from 6 gpm to 14 gpm
- Add additional storage tanks. (5000 gal to 11,000 gal.)
- Expand Influent pump
Permits/Plans

- Receive Final APDES Permit for the site
- Integrated Waste Management Permit
- Finalize Updated Reclamation Plan
Planned Activities in 2011

• Construct Surface Dry Facility

• Construct Surface Warehouse Facility
Thank-You