

Pogo Gold Mine  
Fall 2009





# Update to the Agencies and Public April 8, 2010



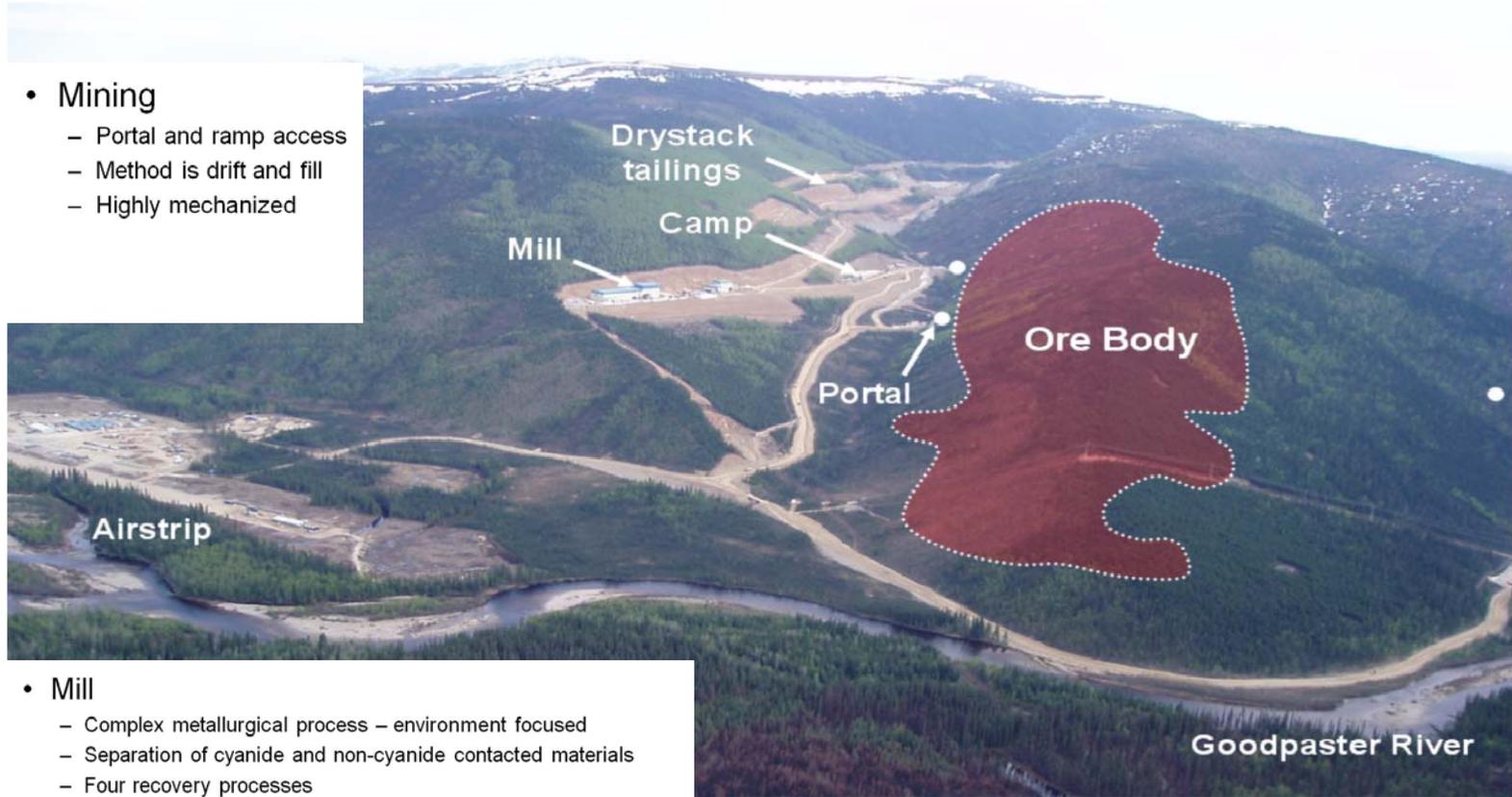
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# Pogo Layout

- Mining

- Portal and ramp access
- Method is drift and fill
- Highly mechanized



- Mill

- Complex metallurgical process – environment focused
- Separation of cyanide and non-cyanide contacted materials
- Four recovery processes
- Non-cyanide contacted material is separated and dry-stacked
- Cyanide contacted material detoxified and used as paste backfill

- Remote Camp

- Combination of various schedules to accommodate employees from Alaska and Lower 48



# 2009 Summary

- 2009 was an excellent year
  - Focused on continuous improvement
  - Met or exceeded the majority of the objectives set
- Of note:
  - Safer workplace - 73% decrease in reportable incidents since 2007
  - Minimal impact on the environment with a 42% reduction in reportable spills since 2007
  - Improved working and living conditions for our employees with a 48% reduction in manpower turnover since 2007
  - Since 2007 we have increased production by 142% in Mined tons, 130% in Milled tons and a 150% increase in gold production

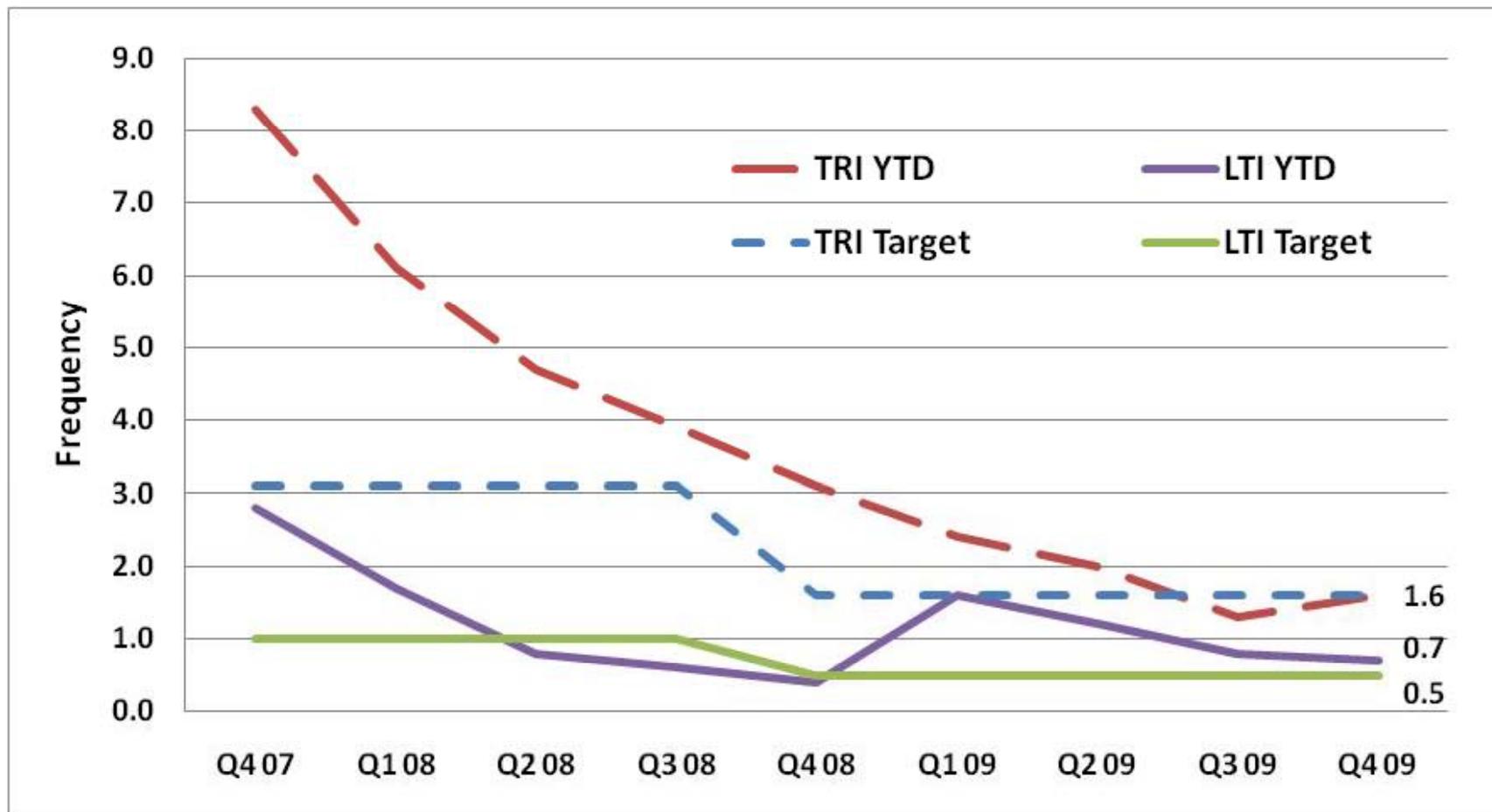


# 2009 Summary

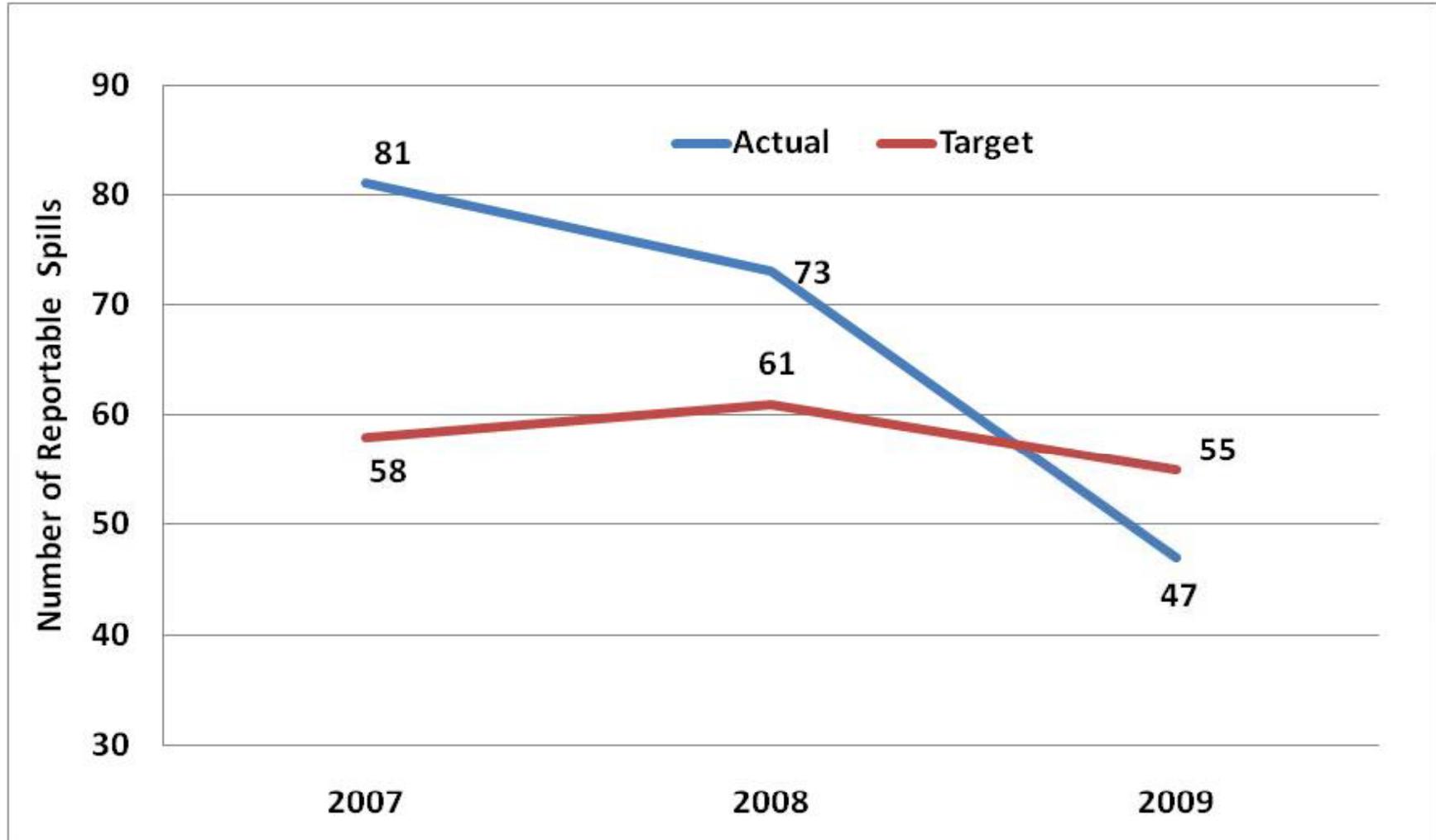
- We continue to evolve – our behavior, expectations and culture are changing
- We continue to strive in improving all aspects of our business
- We have a great operation, ore body, people and attitude  
- Pogo is well set up 2010 and beyond - we are optimistic about the future



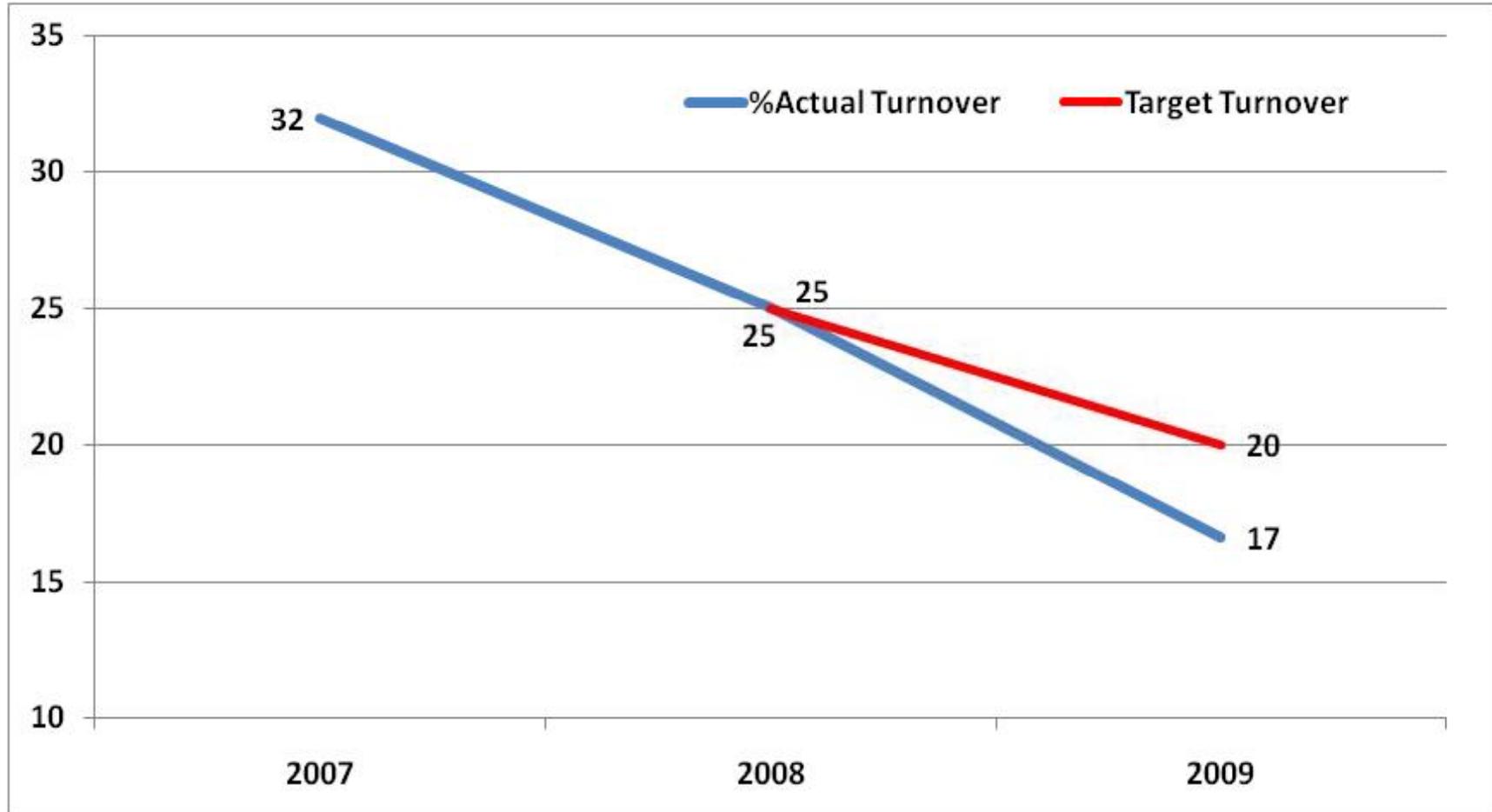
# Safety Performance



# Environmental Performance



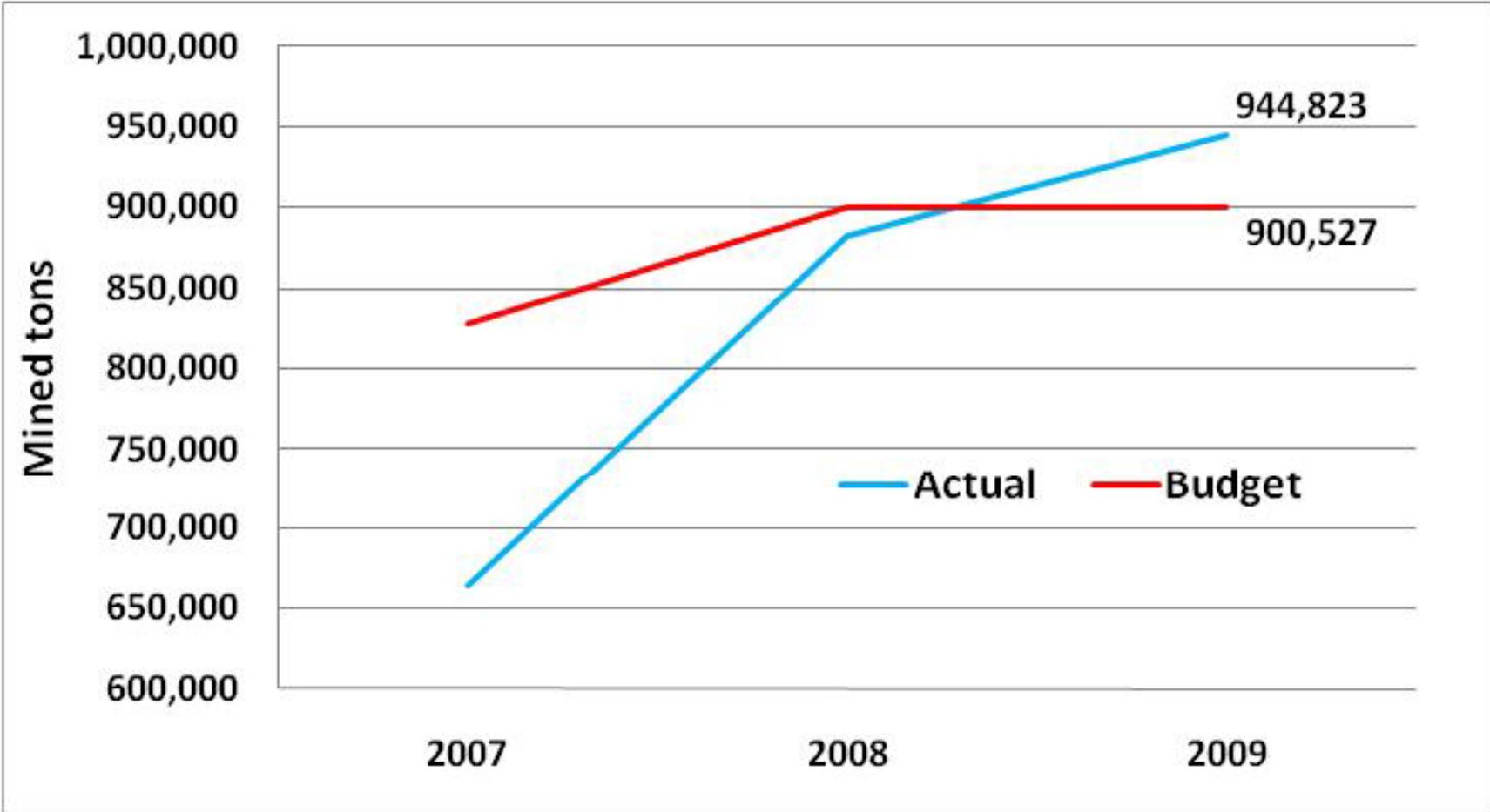
# Manpower Turnover



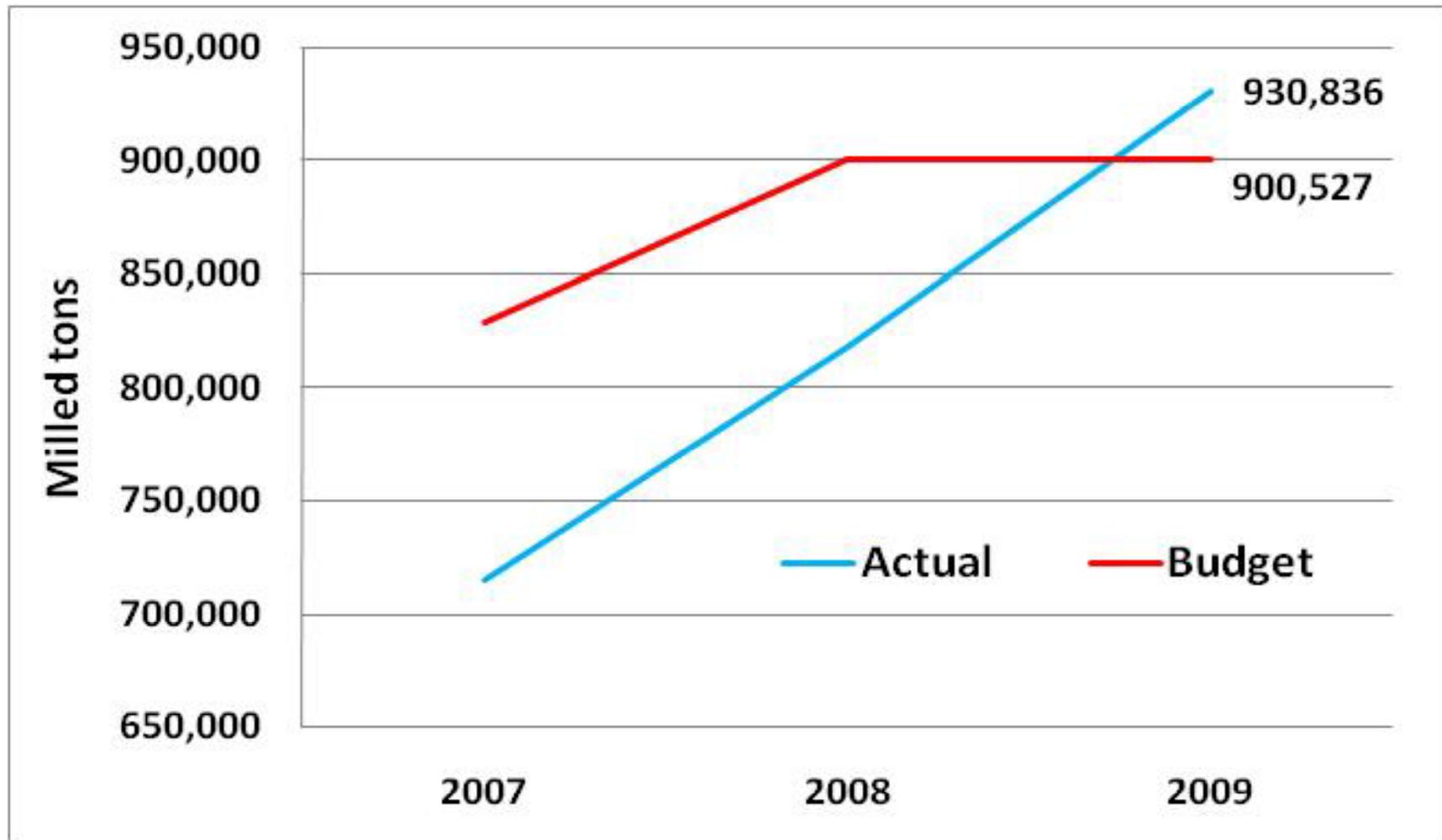
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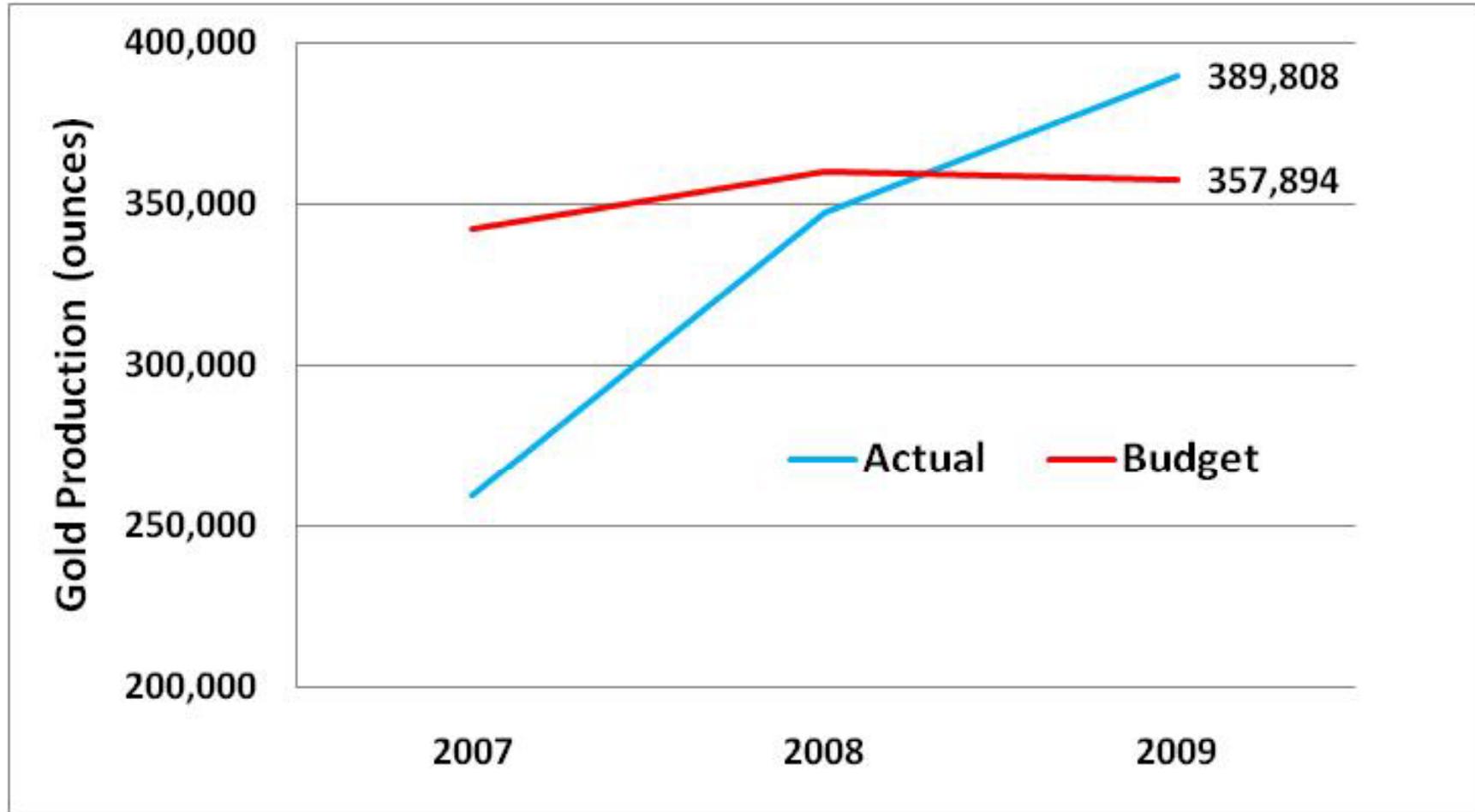
# Mined tons



# Milled tons



# Gold Production



# Of Interest in 2009

- Celebrated 1,000,000 ounce production milestone in October
- Teck sold their 40% share of Pogo to Sumitomo Metal Mining and Sumitomo Corporation
  - SMM is the current Operator
  - has been a smooth transition
  - first part of transition completed – moving through senior personnel changes



# 2010 Summary

- 2010 focused on being proactive in all aspects of our business
  - Continuous improvement remains a cornerstone of the business
- Emphasis on safety and environmental performance improvements
  - Continue to focus on culture and behavior change
  - ISO 14001 certification



# 2010 Summary

- Number of initiatives aimed at improving working and living conditions on Site
  - Objective is to continue reducing turnover
- Production forecast at +385,000 ounces
- Solid exploration plan – near mine and claim



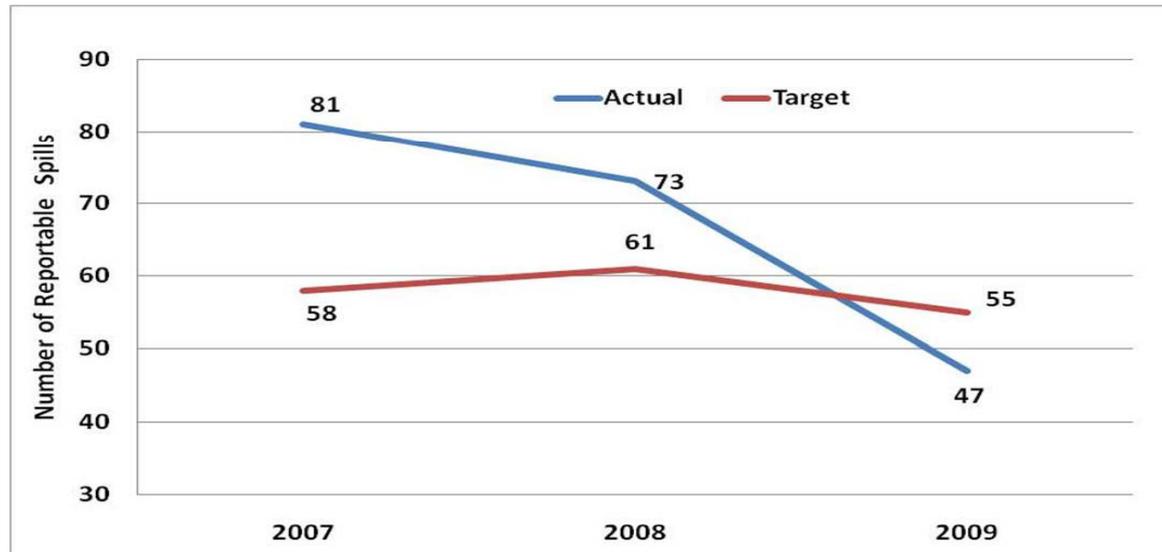
# 2009 Environment Summary



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# Spill Management



- 42% reduction in Reportable spills since 2007
  - In 2009, 64% < 10 gallons, 49% < 5 gallons
  - Investigate all incidents to prevent reoccurrence
  - Ongoing upgrades to processes and equipment
  - Training of employees and contractors



# Water Management

- Main aim is to reduce the amount of discharge to the Goodpaster River
- New underground sump and water re-cycle system installed
  - Need for external RTP water reduced by close to 100% (150 gpm)
  - Mine water is pumped into underground settling sumps, water is filtered and then pumped back into the underground system for reuse
  - Solids from sump combined with paste in backfilled stopes



# Water Management

- Reduced water usage by underground equipment
  - Installed radiator hydraulic coolers on the drills and bolters versus the original water cooled systems
- Minimizing ground water inflow
  - Cement grouting ahead of development and stoping to reduce ground water inflow; primary areas are near the Liese Creek and Graphite faults
- Maximize underground water usage in the Mill
  - Increased water treatment plant capacity to meet the Mill make-up water needs
- Reduce RTP seepage through grouting



# Underground Mine Sump

Cleaning of Sump



Sump in Operation



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# Underground Recycle System

Sand Filters



2-50 hp Pump



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# Access Road

- Placed security guard at TAPS for caribou and moose hunting season; no incidents
- Road maintenance throughout the year
- Resurfaced access road with crushed rock (from material site 18); Mile 28 to Mile 49
  - Phase I of a multi-year program
- Erosion control
- Additional guardrails / barricades



# Surface Water Monitoring

- Goodpaster River – surface water samples were collected and analyzed for the required parameters. No adverse trends were observed.
- Fish Tissue – tissue samples from juvenile Chinook salmon were collected and analyzed. No adverse trends were observed
- WET Testing – All monitoring results were within the limits and conditions set forth in the NPDES Permit



# Treated Effluent Monitoring

- Outfall 011
  - All monitoring results were within the limits and conditions set forth in the NPDES Permit
- Outfall 002
  - All monitoring results were within the limits and conditions set forth in the NPDES Permit
  - Sewage Treatment Plant – 100% compliance



# Treated Effluent Monitoring

- Outfall 001
  - 8 exceedances of the daily maximum (8.5  $\mu\text{g/L}$ ) for weak acid dissociable (WAD) cyanide and 4 exceedances of the monthly average (4.3  $\mu\text{g/L}$ ) for WAD cyanide
  - SMM Pogo entered into a Compliance Order By Consent (COBC) with the USEPA on January 13, 2010 to investigate the root cause(s) of the reported exceedances and to provide recommendations to improve water management to ensure compliance with the NPDES Permit



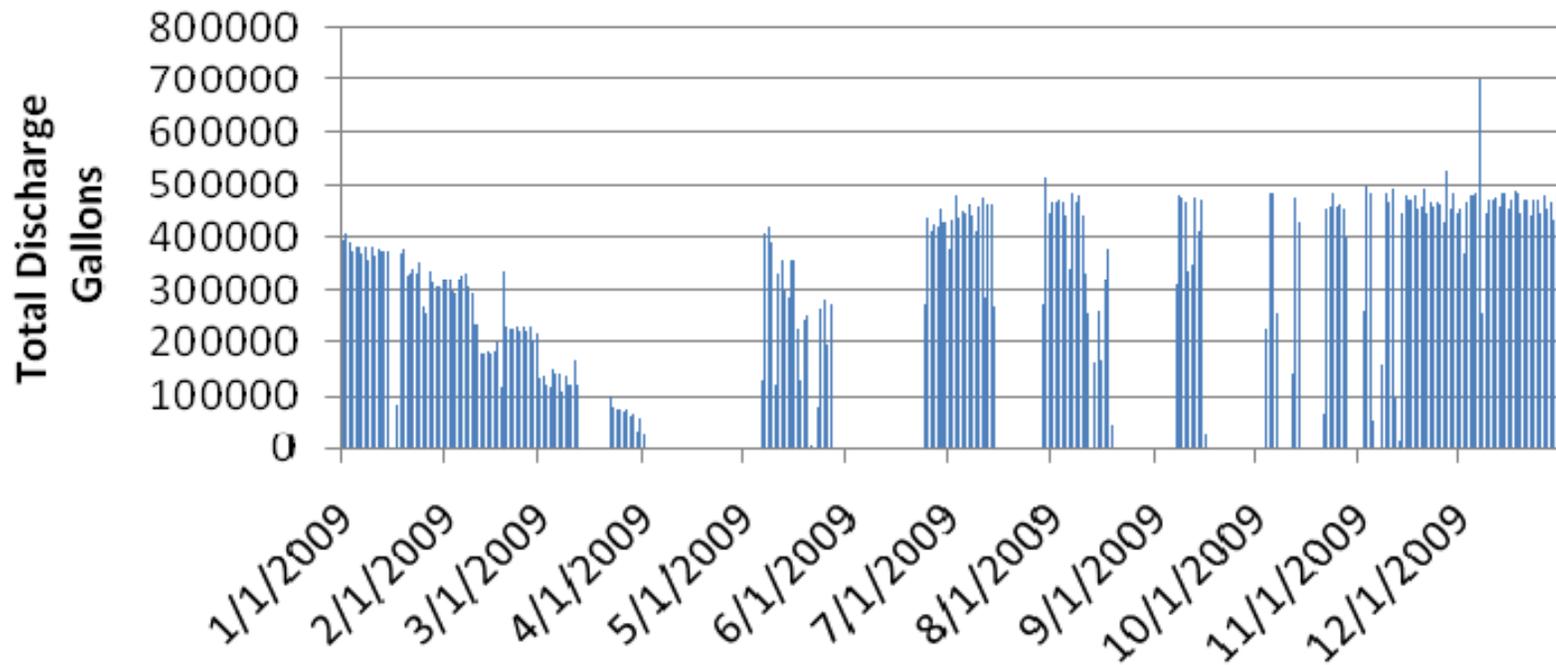
# Treated Effluent Monitoring

- Outfall 001
  - Pursuant to the COBC, SMM Pogo submitted a Water Characterization Study to the USEPA on March 1, 2010
  - Pogo retained a Cyanide expert, Dr. Terry Mudder, to aid in the investigation. The findings from this investigation are incorporated in the above Study.
  - The Study summarized the measures implemented to improve water management, outlining potential problems with analytical sampling and providing recommendations to address the reported exceedances



# Discharge to ORTW

## 2009 Water Treatment Plant Outfall 011 Discharge to ORTW



# Groundwater Monitoring

- A small pool of water formed below the RTP seepage collection system
  - Conductivity similar to that of the RTP water.
  - A pump was placed in the small pool and the water returned to the seepage collection system.
  - The seep stopped flowing in December.
  - Pogo drew down the RTP level to minimize overall seepage



# Groundwater Monitoring

- Samples collected from the three Monitoring Wells below the RTP in August, November and December 2009 indicated chloride, sodium and nitrate above trigger concentrations
- Continue to monitor



# Pogo RTP

July 2008



January 2010



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# Pogo Drystack

January 2009



January 2010



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# Of Interest

- Engineering design for spill containment at the mill was completed; construction in 2010
- New 78 person lower Camp constructed to replace the old “construction” camp
- New surface disturbance limited to footprint expansion at the Dry Stack and Liese Creek diversion outfall
- Environmental Management System implemented



# 2010 Environment Summary



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# Permitting Activities

- Permits submitted in 2009; received administration extensions. Final approval in 2010
- Renew ADNR Pogo Mine Mill site Lease ADL416949
- Renew ADNR Plan of Operations Approval F20039500 – Completed April 2009
- ADEC Waste Disposal Permit 0131-BA002
- ADEC Non-domestic Wastewater Disposal Permit 2004-DB0070



# Water Management

- Work with USEPA on wrapping up the COBC
- A third party hydrogeologist will be consulted to delineate ground water contours below the RTP dam and study current and future underground ground water inflow rates.
- Continue to minimize underground water inflow by cement grouting
- Upgrade RTP seepage wells / pumps as required



# Site Projects

- Spill containment detailed engineering and construction at the mill and 1690 portal
- Additional shotcrete work in the Liese Creek diversion ditch
- Underground green waste rock will be crushed and used for underground road bed and for winter graveling of surface roads
- Implement the recommendations from the Water Characterization Study



# Site Projects

- Dry stack shell construction
- RTP dam inspection
- ISO 14001 EMS Certification
  - All requirements in place
  - Final details being addressed before application



# Access Road

- Erosion control in select areas
- Resurface access road with crushed rock (from material site 18); from Mile 0 to Mile 28
- Apply calcium chloride from Mile 0 to Mile 49
- Place security guard at TAPS during caribou and moose hunting season
- Install barriers (block or berms)
- Engineer ice flow solution at Mile 4 and Mile 43
- Archeology work and Road survey planned



# QUESTIONS?



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