



2010 ANNUAL ACTIVITY AND MONITORING UPDATE

March 24, 2011



SUMITOMO METAL MINING Pogo LLC.



Discussion Summary

- **Monitoring**
- **2008 Audit Update**
- **Concurrent Reclamation**
- **Permitting**
- **Other**





Monitoring Results

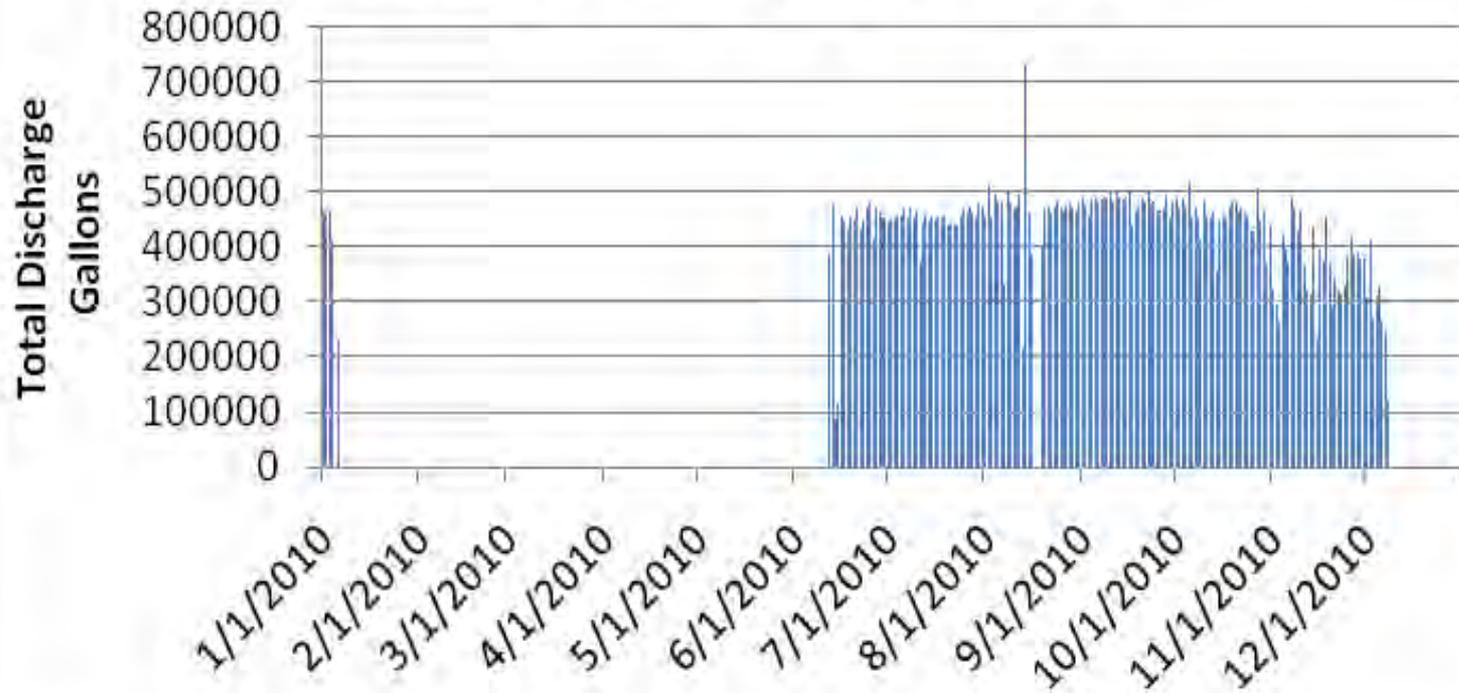


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79.4 Million Gallons Treated and Discharged

2010 Water Treatment Plant Outfall 011 Discharge to ORTW



Four surface water stations are monitored on the Goodpaster River.
2010 Results are all within Permit Limits.



Whole Effluent Toxicity Testing

- Annual Whole Effluent Toxicity Testing took place in June. Water being discharged into the Goodpaster River was sent to the lab for biological assay.
- Water fleas and Fat Head minnows were grown in different concentrations of effluent to see how it affected growth and death rates.



Ceriodaphnia dubia



Pimephales promelas



Results show no significant effects from Pogo Mine discharge to growth or death rate of aquatic organisms.



Fish Tissue Sampling in late September 2010



- Chinook salmon fry are collected annually and analyzed for metals content.
- 15 fish are collected in minnow traps upstream and 15 downstream of the mine.



Salmon fry are also measured, genetic samples taken for the Fish & Game Department and extra salmon fry are released back into the river.



Catch of the Day!

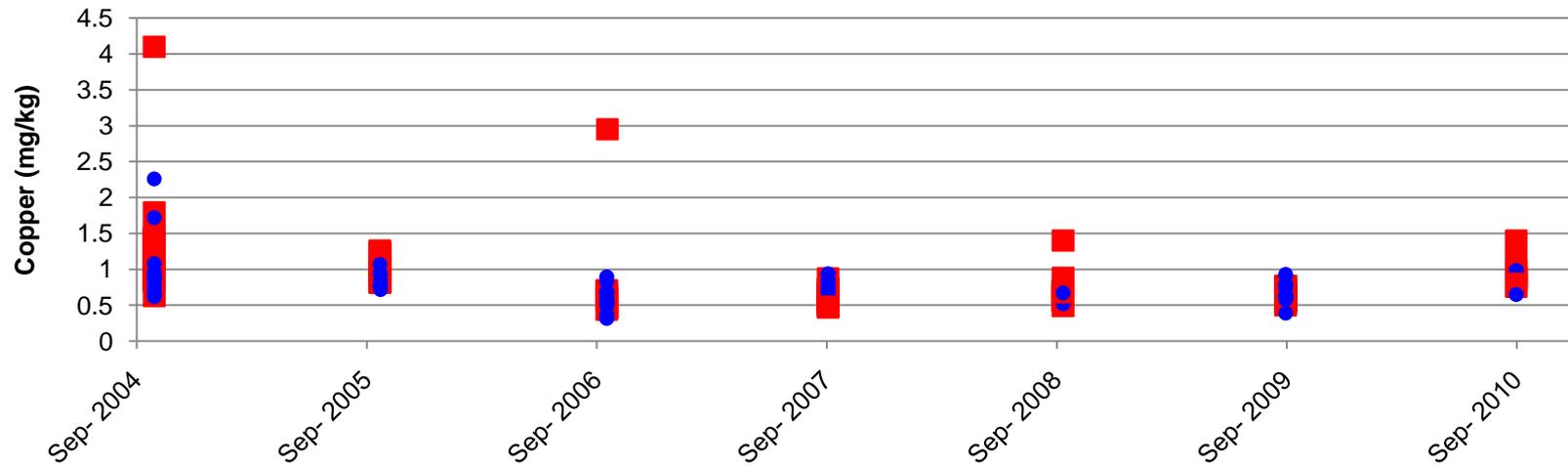


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Fish Tissue Sampling Results

Fish Tissue Values over time for Copper (mg/kg)



● Upstream

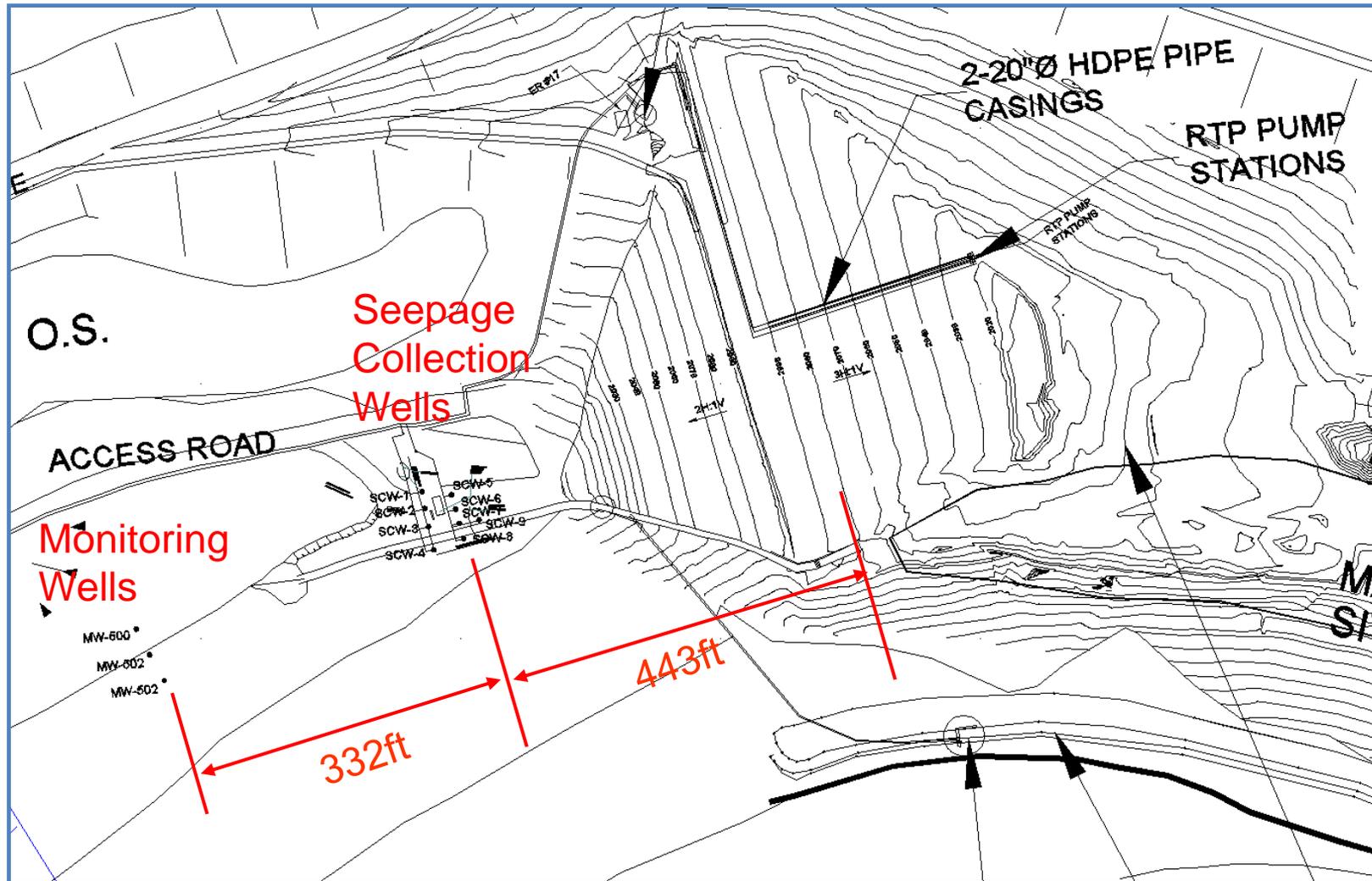
■ Downstream

Mill began production in 2006.

Pogo did not start discharging until 2007.



Hydrogeological study of the RTP Area



View of RTP from above DSTF



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Rhodamine dye was added to the RTP on September 14, 2010.



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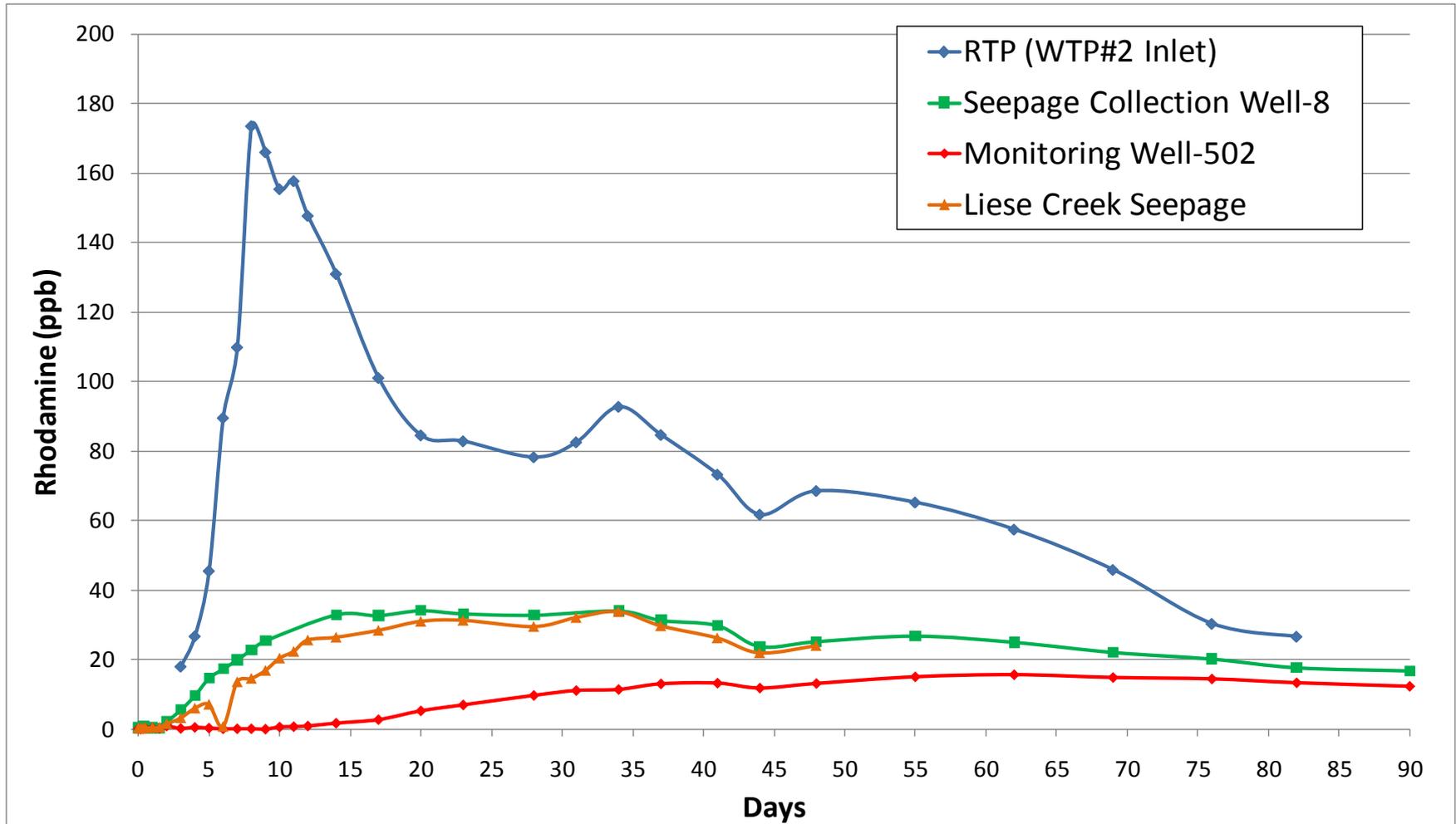
Samples were collected downstream of the RTP at approximately 25 locations.



- The first day there were four complete rounds of sampling at all 25 locations.
- Sampling was conducted twice a week during October.
- Samples were checked for Rhodamine concentration.
- Test terminated on Dec 13



Tracer Test – Rhodamine Concentrations

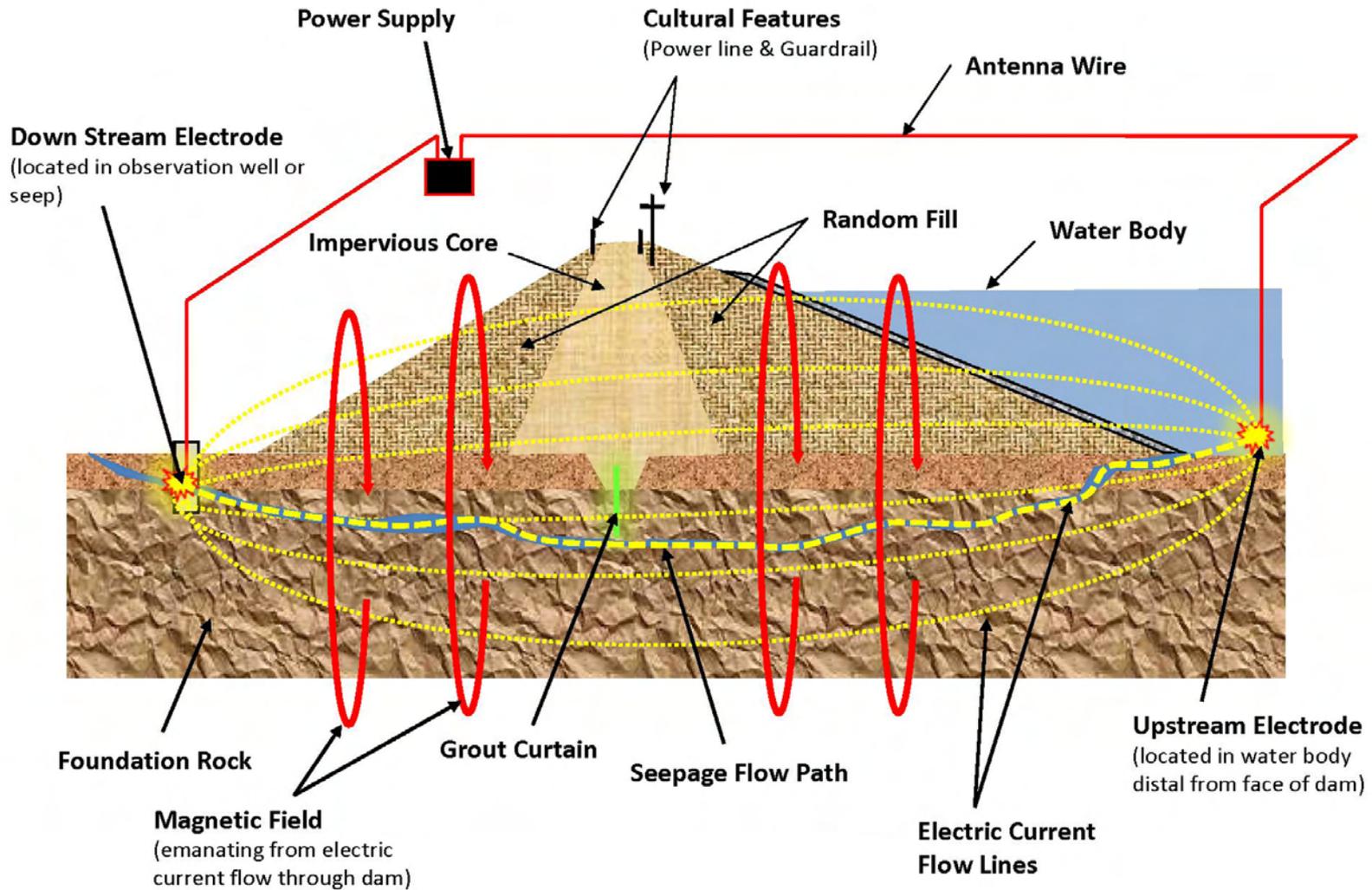


Hydrogeological study of the RTP Area

- Tracer Test shows that seepage collection system needs to be improved.
- Hydro-Geophysical survey planned in 2011
 - Find the dominant flow path of seepage
- Mitigation measures in 2012
 - Additional wells?
 - Additional grout curtain?



Conceptual Geophysical Survey





2008 Audit Update



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New Secondary Containments



CIP Tails Storage Tank Containment



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1690 Portal Containment (arrow points to Paste Line)



CIP Tailings Slurry and Backfill Dilution Water pipelines



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Concurrent Reclamation



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Lower Camp Demolition



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Permitting



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State Permits Renewal

State Permits include:

- **ADNR: Plan of Operations**
- ADEC: Waste Disposal Permit

Pogo Already Submitted:

- **Updated Reclamation Costs Agreed to on 9/13/10**
- Updated Plan of Operations submitted on 12/29/10 and 3/10/11
- **Updated Monitoring Plan submitted on 2/2/11**

Pogo Still Updating:

- **Reclamation and Closure Plan, target 4/1**
- Quality Assurance Project Plan, target 4/1
- **DSTF Construction and Maintenance Manual, target 4/30**



Reclamation Cost Update

Phase	Major Activities
1yr Holding	Agency will proceed the bid process for reclamation
Phase I	Exploration
Phase II Operation	Remove Upper Exploration Camp Move waste rock from lower camp to dry stack
Phase III Mine Closure	Underground mine closure Major closure activities except RTP Dam
Phase IV Water Treatment	Monitoring and treatment of RTP water (10 years)
Phase IV Reclamation	RTP Dam is breached and reclaimed Access road/Power Line are dismantled
Phase V Post Closure	Groundwater, storm water, surface water monitoring (up to 20 years) Remove remaining facilities via winter road

- Updated every 5 yrs
- Current update increases Bond for Mine from \$23M to **\$44.43M**
- Bond for ROW slightly increases from \$4.5M to **\$4.81M**
- **Interim Approval by ADNR on 3/9/11**



Right of Way Permit Renewal

Pogo Already Submitted:

- Access Road/Transmission Line Reclamation and Closure Cost agreed to on 1/12/11.
- As-built Survey Drawings submitted on 12/17/10.
 - Agency comments received on 2/18/11.
 - Final Drawings will be submitted by 3/31/11.



APDES Permit



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APDES Permit

- **Renewal application submitted to EPA in 2008.**
- **EPA and Pogo entered into a Compliance Order By Consent (COBC) on Jan. 13, 2010. It expired on September 30, 2010.**
- **Pogo's Water Characterization Study was submitted to EPA on March 1, 2010.**
- **NPDES permit limits at Outfall 001 for WAD CN: 4.3 ppb monthly average and 8.5 ppb daily max.**
- **New APDES Permit contains a site specific ML for WAD CN at 20 ppb.**
- **EPA went out to 30-day public notice with Draft NPDES Permit on Oct 25, 2010. ADEC issued on March 10, 2011 and is effective May 1.**



APDES Permit

- Other minor changes in permit
 - Reduced effluent standards/monitoring requirements for parameters historically well below effluent limits:

Arsenic
Manganese
Nickel
Total Dissolved Solids
Sulfates

Pogo believes that the low level WAD Cyanide exceedances were due to limitations of the laboratory method.





Other



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No Hunting/Fishing Policy

- Pogo has a written, strictly enforced, No Hunting and No Fishing Policy.
 - **This policy applies to employees and all contractors working for Pogo.**
 - Onsite Security monitors roads, bridges and river access points.
- **Extra Security is posted on the Pogo Access Road during hunting season to keep hunters off the road.**



No Access Policy



Signs are posted along the river.



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Toxic Release Inventory Reporting

For reporting Year 2009 Pogo submitted 19 TRI Forms:

Form R > 1 Million lbs	Form A < 1 Million lbs
Antimony Compounds	Napthalene
Arsenic Compounds	Nitric Acid
Chromium Compounds	Nitroglycerin
Cobalt Compounds	Xylene (mixed isomers)
Copper Compounds	
Cyanide Compounds	
Hydrogen Cyanide	
Lead Compounds*	
Manganese Compounds	
Mercury Compounds*	
Nickel Compounds	
Nitrate Compounds	
Propylene	
Vanadium Compounds	
Zinc Compounds	

* Special Category

Each Form R Includes:

- Maximum amount on site
- Quantity released to the environment (Air, Water, Land)
- Amounts transferred offsite for waste disposal
- Amounts recycled
- Estimated amounts for the next two years for possible source reduction

All TRI information is posted on the EPA website and is quickly and easily available to the public



Toxic Release Inventory Reporting

- For reporting year 2009 a TRI expert identified problems, provided training and helped develop a new TRI management system.
- On July 21, 2010 a letter of Voluntary Disclosure was submitted to the EPA for possible reporting errors from previous years.
 - EPA self-auditing provisions minimize or negate possible fines for incorrect reporting if corrected within 60 days.
 - Pogo submitted revised Form Rs for RY 2006, 2007, and 2008 on September 21, 2010.





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Extras

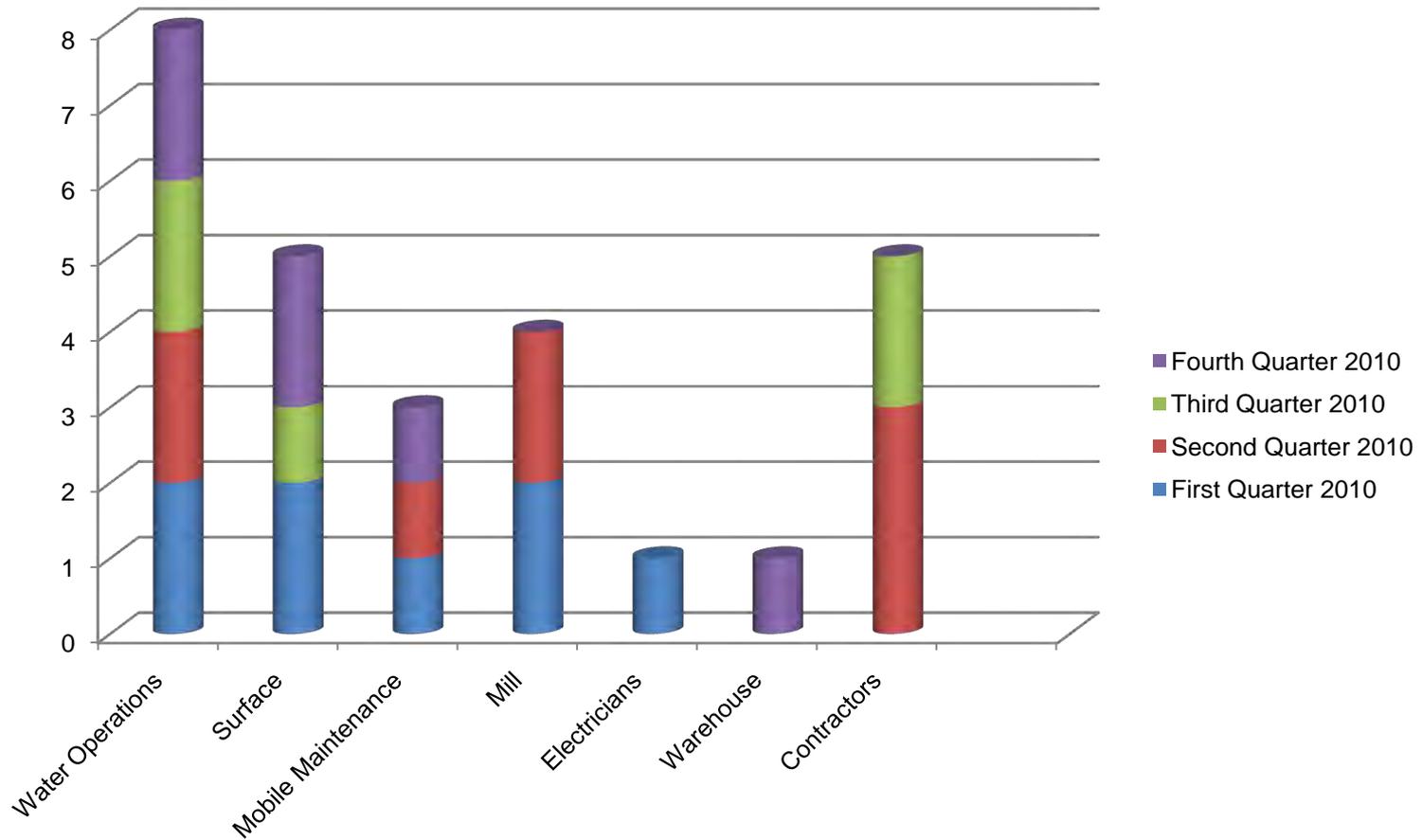


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Pogo Spills YTD

Pogo Mine Spills by Department 2010 (Total Spills - 27)



Off-River Treatment Works

Treated Effluent from WTP#2

