

The background is a dark teal color. It features several decorative elements: a large teal circle in the bottom-left corner, a medium teal circle in the top-right, a smaller teal circle in the bottom-right, and a red vertical rectangle in the top-right corner.

# Aggregate Quality Testing Criteria

# Initial Quality Approval

- ▶ Source
- ▶ Ledge -Pit Footage
- ▶ Production Method
- ▶ Product

# Initial Quality Approval Coarse Aggregate

- ▶ 6 Samples
- ▶ Spaced over a period of time or production
- ▶ All samples must pass

**NO RESAMPLES**

# Initial Quality Approval

## Coarse Aggregate - Failures

- ▶ 1 or more failures - **material fails**
  - ▶ reevaluation only after significant production change and/or ledge footage change (approved by CBM)

# Production Changes

- ▶ Crusher Change
  - ▶ Impact
  - ▶ Compression
- ▶ Crusher RPM Speed
- ▶ Log Washer
- ▶ Scalping Change
- ▶ Other Beneficiation Processes

# Ledge Footage Changes

- ▶ Decrease Ledge Footage
  - ▶ Problem area identified

# Initial Quality Approval

## Coarse Aggregate - Failures

- ▶ 1 or more failures - **material fails**
  - ▶ reevaluation only after significant production change and/or ledge footage change (approved by CBM)
  - ▶ District feels sample is Non-representative

# Non-representative Samples

- ▶ **NO SUCH THING AS A FLYER**
- ▶ Production Change
- ▶ Wrong Ledge
- ▶ Localized Geological Area
  - ▶ Fault Zone
  - ▶ Clay Seam
- ▶ Contact CBM



# Initial Quality Approval

## Coarse Aggregate - Borderline Samples

- ▶ If 2 or more samples borderline
  - ▶ Additional mini-series (at least)
- ▶ If only 1 sample is borderline
  - ▶ BMPR will decide on additional mini-series based on results

# Borderline Samples *Soundness*

Quality	Limit	Borderline	Failing
A	15	13.5-15.4	>15.5
B	15	13.5-15.4	>15.5
C	20	18.5-20.4	>20.5
D	25	23.5-25.4	>25.5

# Borderline Samples

## *LA Abrasion*

Quality	Limit	Borderline	Failing
A	40	38.5-40.4	>40.5
B	40	38.5-40.4	>40.5
C	40	38.5-40.4	>40.5
D	45	43.5-45.4	>45.5

# Borderline Samples

## *Deleterious Count - Other*

Quality	Limit	Borderline	Failing
A	4.0	3.5-4.0	>4.1
B	2.0	1.5-2.0	>2.1
C	2.0	1.5-2.0	>2.1
D	N/A	N/A	N/A

# Borderline Samples

*Deleterious Count – Soft % Unsound*

Quality	Limit	Borderline	Failing
A	4.0	3.5-4.0	>4.1
B	6.0	5.0-6.0	>6.1
C	8.0	7.0-8.0	>8.1
D	N/A	N/A	N/A

# Borderline Samples

## *Deleterious Count - Total*

Quality	Limit	Borderline	Failing
A	5.0	4.0-5.0	>5.1
B	6.0	5.0-6.0	>6.1
C	10.0	9.0-10.0	>10.1
D	N/A	N/A	N/A

# Initial Quality Approval

## Fine Aggregate & Rip Rap

- ▶ 3 Samples
- ▶ Spaced over a period of time or production
- ▶ All samples must pass

**NO RESAMPLES**

# Initial Quality Approval

## Fine Aggregate & Rip Rap- Failures

- ▶ 1 or more failures - **material fails**
  - ▶ reevaluation only after significant production change and/or ledge footage change (approved by CBM)
  - ▶ District feels sample is Non-representative



# Initial Quality Approval

## Fine Aggregate & Rip Rap – Borderline Samples

- ▶ Series extended to 6 samples
- ▶ Follow same approval procedure as Coarse Aggregate

# Borderline Samples *Soundness*

Quality	Limit	Borderline	Failing
A	10	8.5-10.4	>10.5
B	15	13.5-15.4	>15.5
C	20	18.5-20.4	>20.5

# Borderline Samples *Deleterious Count – Clay Lumps*

Quality	Limit	Borderline	Failing
A	1.0	0.8-1.0	>1.1
B	3.0	2.5-3.0	>3.1
C	N/A	N/A	N/A

# Borderline Samples

*Deleterious Count – Coal, Lignite,  
Shells*

Quality	Limit	Borderline	Failing
A	1.0	0.8-1.0	>1.1
B	3.0	2.5-3.0	>3.1
C	N/A	N/A	N/A

# Borderline Samples

## *Deleterious Count – Conglomerate*

<b>Quality</b>	<b>Limit</b>	<b>Borderline</b>	<b>Failing</b>
A	3.0	2.5-3.0	>3.1
B	3.0	2.5-3.0	>3.1
C	N/A	N/A	N/A

# Borderline Samples

## *Deleterious Count – Total*

Quality	Limit	Borderline	Failing
A	3.0	2.5-3.0	>3.1
B	5.0	4.5-5.0	>5.1
C	N/A	N/A	N/A



# Annual Quality Testing Coarse & Fine Aggregate

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- Minimum 1 sample per year
  - Product
  - Ledge-Pit Footage
  - Production
- District to establish timeline
- Approved Products
  - No Failures
  - No Borderlines

# Annual Quality Testing Failing Samples

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- 2 immediate resamples
  - If both samples pass
    - Possible increased testing frequency

**Increased testing frequency with any failures – Contact CBM to discuss**



# Annual Quality Testing

## Failing Samples

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- 2 immediate resamples
  - If either sample fails
    - Stockpile deemed Non-acceptable
    - Inspector contacts QC Manager & CBM to discuss corrective action



# Corrective Action

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- Production Changes
- Ledge-Pit Footage Changes



# Annual Quality Testing Borderline Samples

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- Immediate Resample
  - If resample fails
    - Go to failure response
  - If resample is borderline
    - Contact CBM



# THANK YOU

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QUESTIONS?