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# Mining Through Erosion

Derrick Placek  
2014 Stormwater Workshop

# Overview

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- Who is BNI Coal?
- What kind of work do we do?
- How ESC stands in coal mining?
- Violations.....
- Failures



# WHO IS BNI COAL?



North Dakota Operations:

BNI Coal, Allete Renewable Resources, Inc, MP, Allete Clean Energy, and Rendfield Land Company, Inc.

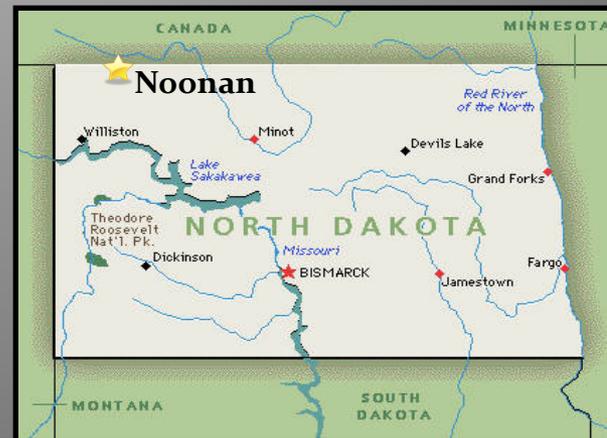


# BNI Coal – Early History

- Only remaining Native North Dakota Mining Company - started in 1930.
- There's a story behind the BNI name that reflects the foundation of the company.
- **B**aukol **N**oonan **I**ncorporated



Harris  
Baukol



Noonan, ND



# A DAY AT THE MINE

# A DAY AT THE MINE

Mining Direction 



Reclaimed Land



Pre-Mine

Re-spread  
Topsoil/Subsoil



Pre-strip topsoil and  
subsoil (grids)



Dragline Bench

Spoil



Stock Pile



Clean Water Diversion

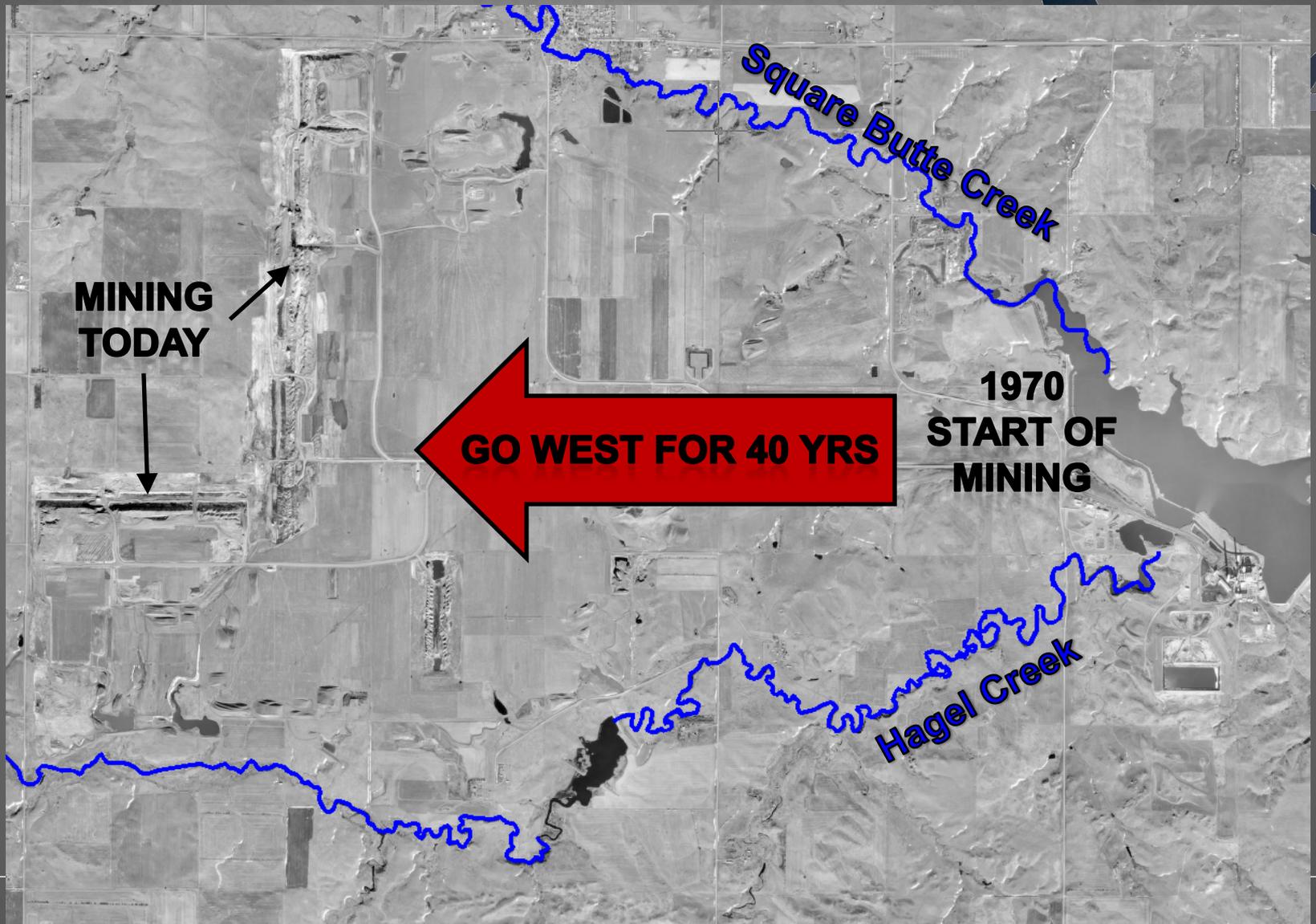


# Permit Additions Required to Execute the Long Range Mine Plan



- ❑ BNCR-1101 (Area C Mine Area)
  - ❑ 8,359.72 acres
- ❑ BNCR-9401 (Haul Road/Ash Cell)
  - ❑ 180.13 acres
- ❑ BNCR-8106 (Bypass)
  - ❑ 5.55 acres
- ❑ BNCR-9702 (Proposed Sec. 20)
  - ❑ 640 to 800 acres
- ❑ Currently Permitted Acres
  - ❑ 9,727.8 acres
- ❑ Submitted Additions
  - ❑ 8,545.40 acres
- ❑ Proposed Total Permitted Acres in 2013
  - ❑ **19,000** ± acres

# BNI Coal – Mineplan History





# Erosion/Sediment Control

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What's Your Perception?

# Is it this?



B

# Or is it this?



# Mining Regulation



## ■ Who regulates mining?

- OSM
- MSHA
- EPA
- ND PSC
- ND Health Department
- COE
- BLM
- USFWS
- ND Game and Fish
- State Historical Society
- Multiple others

# Potential Risk....

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- 160 Acres removed- Pre Mine Conditions (TS/SS)
- 240 Acres reclaimed – Post Mine
- 400 Acres “Open”
- Start and Finishing Projects (seasonal conditions)
  1. Stream Crossing
  2. Seeding times/ Mulch Crimp

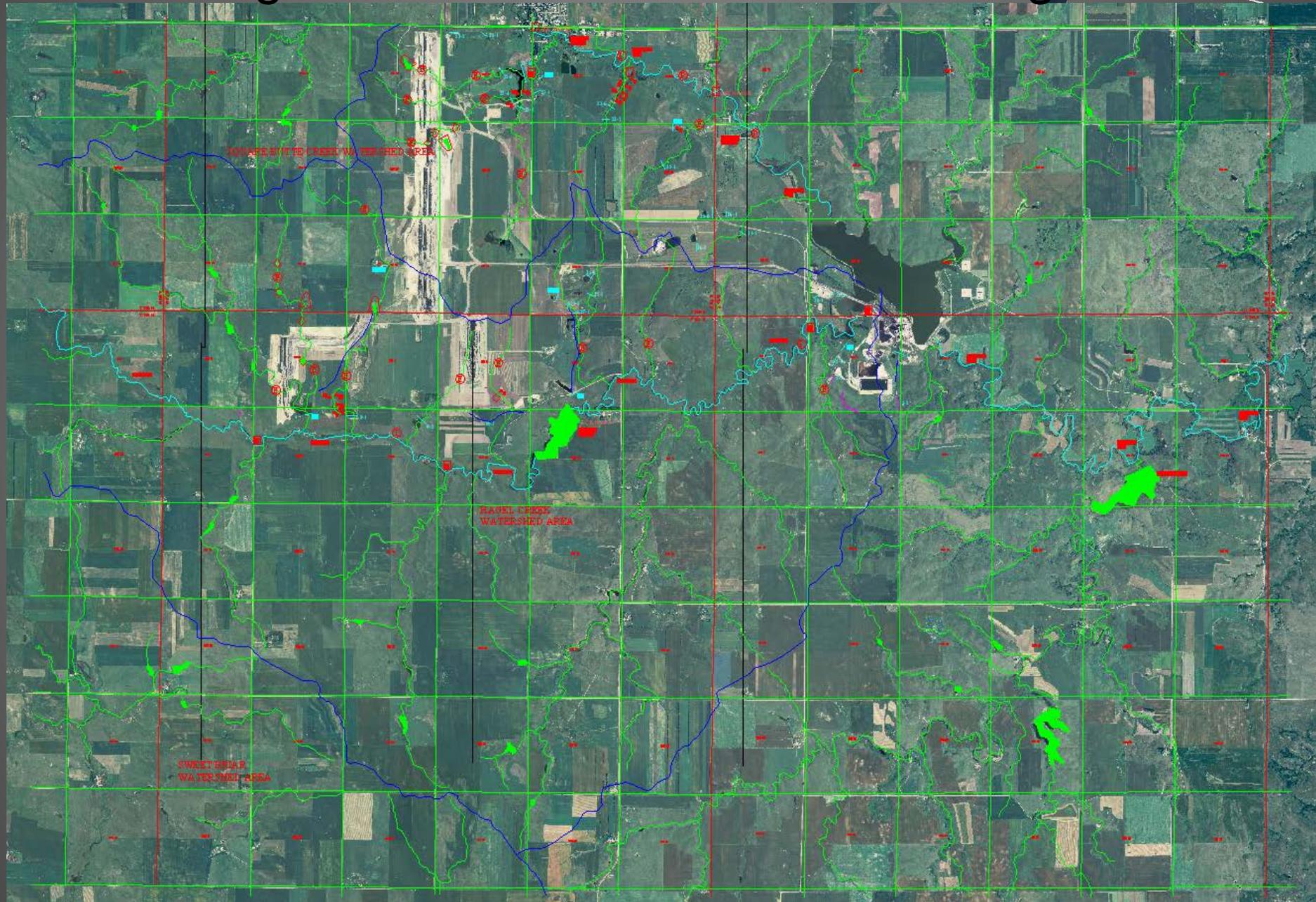
# Operational Flow

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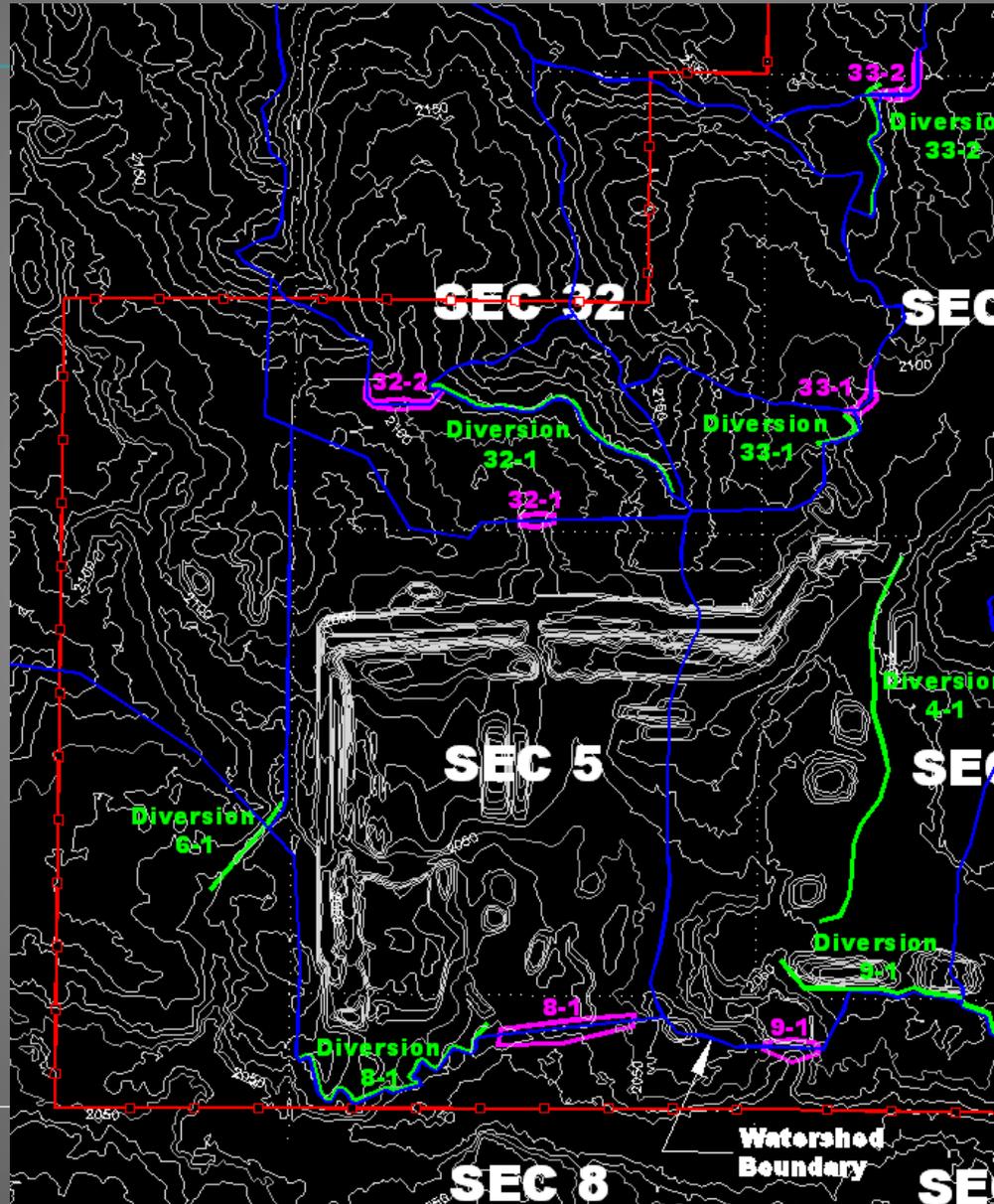


- Design-have game plan
- Install-know contours, materials
- Maintain-keep up to date, clean outs
- Ownership of everyone involved
- Design team needs to see site...not just Google!

# Design Phase-Surface Water Handling Plan



# Surface Water Handling Plan





Think outside the box...compaction

Employ appropriate tools for job



Or this either.....



# NDAC 69-05.2-16-04 Standards

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- All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, must be passed through a sedimentation pond, a series of sedimentation ponds, or other sediment control measures before leaving the permit area.

# NDAC 69-05.2-16-08(1)(c)

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- Requires mine operators to use appropriate sediment control measures to minimize erosion to the extent possible

# Pond Removal



# Pond Removal



Multiple BMPs in series

Bale checks, Rock checks,  
Erosion Blanket, Silt Fence...



# Pond Removal

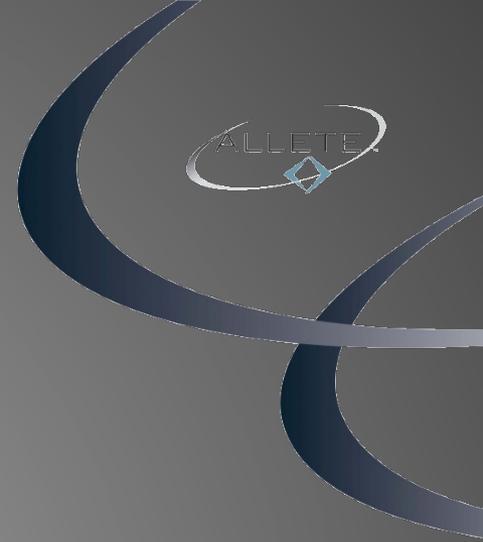


Timing of project  
(not ideal)

# Spring Time



# Spring Time



# Current



# TRENDS of NOV

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- 20 Total NOV issued from 2002 to all ND coal mining companies
- Of those 18 were for ESC problems (90%)
- “failure to maintain”
- “failure to install”
- Average fine \$1500 (not true cost)

# Past NOV at BNI



- 2007- deposition of sediment on un-stripped drainage.



# NOV



## ■ 2010- culverts



# Culverts NOV, cont



# Culverts NOV, cont



# Culverts NOV, cont



# Culverts NOV, cont



# NOV



- 2013- adjacent ownership



# Cont.,



# Inspection Date:



# Remediation Fix



Immediate fix, within 24 hours!

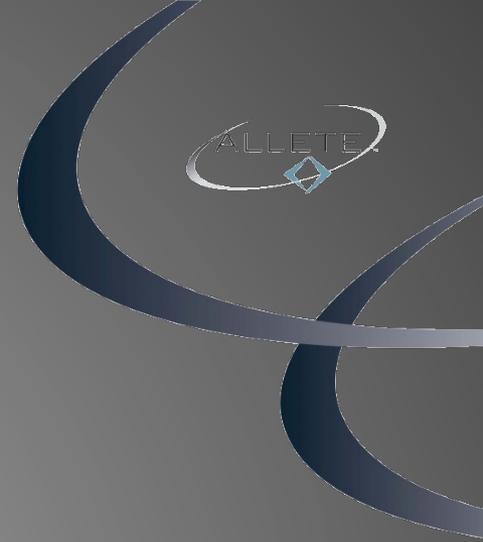


# Long Term Fix



# Failures





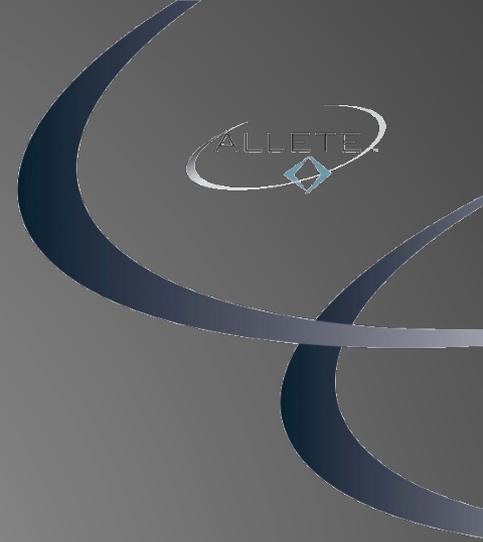
## Farming Management Conditions







Short Cuts= Disaster later



05/20/2013 10:14



05/20/2013 10:15



# STOP EROSION PROCESS BEFORE SEDIMENT CONTROL IS NEEDED

# Thank You from All of Us at BNI Coal

