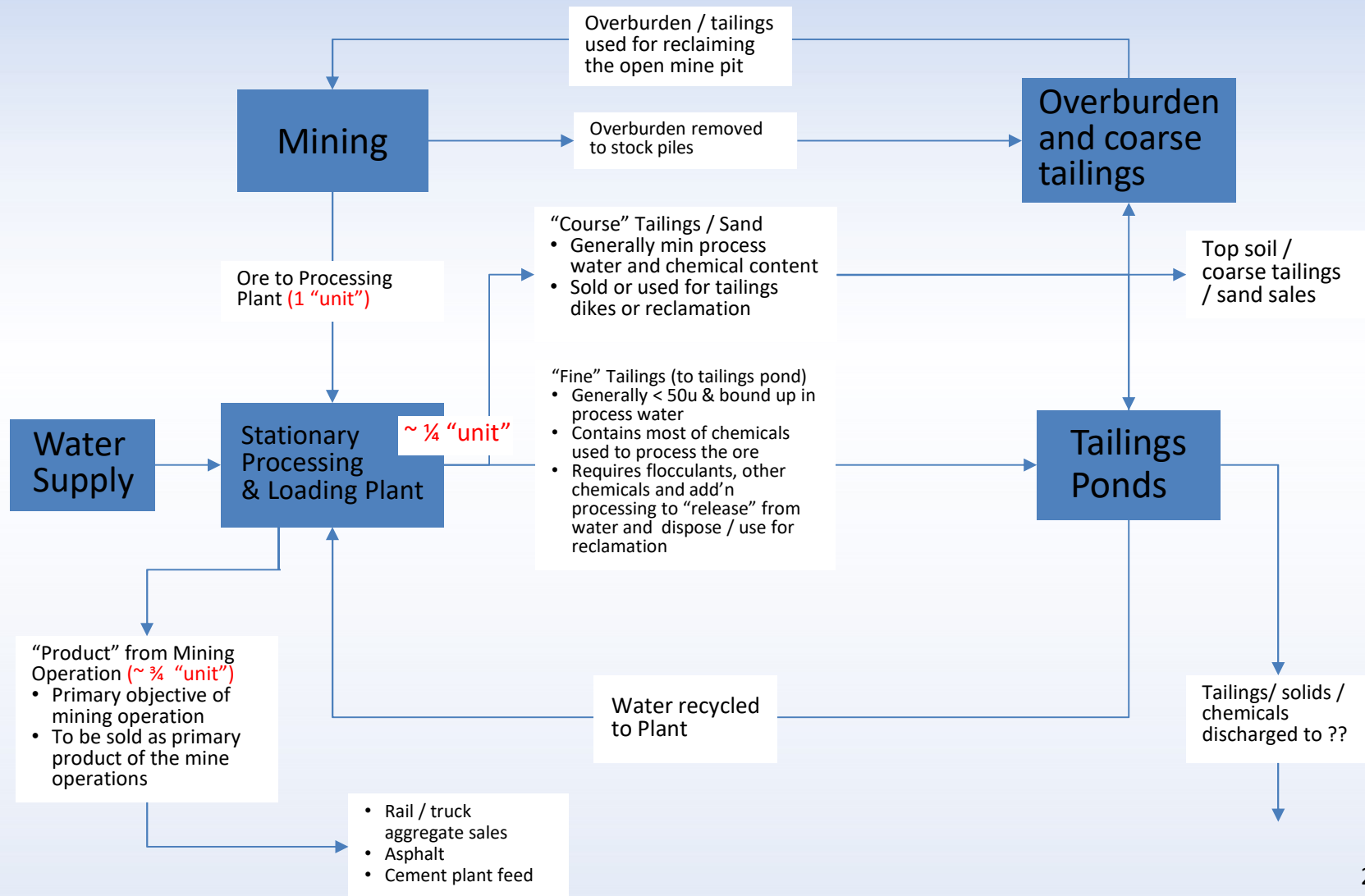
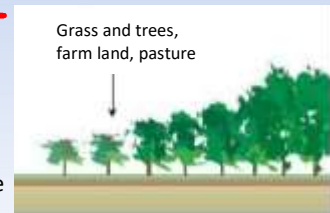


Surface Mining Basics



Regulatory Coverage



Mining

Overburden to stock piles

Stock Piles

Site Reclamation

- Vegetation and tree removal
- Overburden removal
- Drilling and blasting
- Mobile mining equipment - overburden moving & ore loading

- Reclamation plans unknown
- Desired: "Restore the surface to a trafficable landscape with topography similar to original land form"

Not Covered by TCEQ Permit

Ore Transport

Crusher

Crushed Material Handling

Water to tailings ponds

- Haul Trucks
- Haul road & maintenance equipment

- Truck unloading to hoppers
- Primary and secondary crushing
- Screening
- Scrubber / Washing
- Conveying
- Surge pile
- Water spray

- Enclosed tunnel
- Conveying
- Screens
- Water spray

TCEQ Permit Coverage

Water to plant

Water Supply (wells)

Water recycle to plant

Tailings Ponds

Tailings/ solids / chemicals discharged to ??

Slurry to sand plant

Truck and Railcar Loading

Storm water Discharge

- Conveying
- Screens
- Loading hoppers
- Trucks & rail cars

- 5,000 tons/hour; 6,000,000 tons/year max
- 24/7 operation
- 40-60 acres mined (to base of approx. 50 ft. ore body) per year
- A section of land (640 ac) mined out in 13-15 years

Mine Regulations

RECOMMENDATION

- State of Texas develop comprehensive legislation and regulations governing open-pit aggregate mines. Use best practices from SMCRA and Texas lignite regulations

COMPONENTS

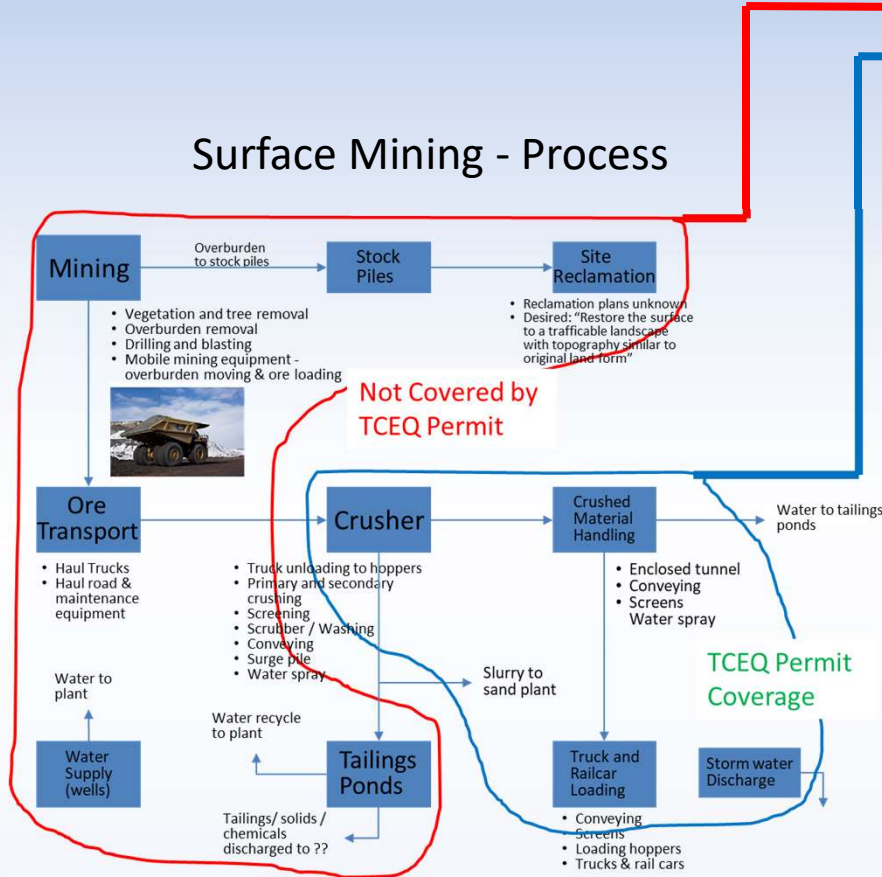
- Long-range mining plan to facilitate infrastructure planning
- Reclamation plans, including plans for overburden removal, storage and management, managing tailings ponds and restoring the surface to a “trafficable landscape with topography similar to original land form”
- Comprehensive area-wide air emissions modeling and meaningful monitoring to ensure compliance
- Detailed review of individual plant water requirements and planned water sources
- Detailed review of potential for surface and groundwater contamination
- Aggregate & product transportation to market(s) plan
- Management of noise and light trespass

SURFACE MINING REGULATIONS COMPARISON

Area	Texas			Colorado	Wyoming
	Lignite Coal	Uranium	Aggregate	Aggregate	Aggregate
Overburden removal and storage	Y	Y	N	Y	Y
Surety Bonds for mining and reclamation	Y	Y	N	Y	Y
Blasting and mining	Y	Y	N	Y	Y
Ore transport to stationary mining facilities	Y	Y	N	Y	Y
Stationary mining facilities	Y	Y	Y	Y	Y
Crushed material handling	Y	Y	Y	Y	Y
Material loading	Y	Y	Y	Y	Y
Tailings ponds	Y	Y	N	Y	Y
Site Reclamation	Y	Y	N	Y	Y
Water supply and use	Y	Y	N	Y	Y
Storm water runoff	Y	Y	Y	Y	Y
Product transportation	Y	Y	N	Y	Y
Regulated by	RRC	RRC	TCEQ	Air Pollution Control Div	Dept of Environ. Quality

Open-pit Mining Management Skillsets

Surface Mining - Process



Area	Skillset in place to manage?	
	TCEQ	TRRC
Long-range Mine Planning	No	Yes
Reclamation plans, including plans overburden removal, storage and management; reclaiming tailings ponds and contemporaneous reclamation of the surface to a trafficable landscape with topography similar to original land form	No	Yes
Bonding for reclamation	No	Yes
Comprehensive area-wide air emissions modeling and meaningful monitoring to ensure compliance	No, partial only	No
Detailed review of individual plant water requirements and planned water sources	No	Yes
Stormwater runoff	Yes	Yes
Groundwater contamination	No	Yes
Transportation and infrastructure plans	No	??
Noise and light trespass	No	??