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## **Title**

MINING PHOSPHORUS

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## Alan Toth J284B – Thesis Materials MINING PHOSPHORUS

### **Abstract:**

This film explores the subject of phosphate mining in Florida. Phosphate rock is our main source of phosphorus, one of the most critical elements in modern agriculture. The world is dependent on phosphate-based fertilizers to grow enough food, but the practice of mining phosphate produces significant environmental concerns, including literal mountains of toxic waste byproduct.

These environmental concerns embroil a small town in North Florida, where one man wants to mine for phosphate near a residential area and neighbors fight to stop him. The potential phosphate mine reveals the struggle in rural Florida between individual rights and the health concerns of an entire community.

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# **Script:**

# SCENE 1 – INTRO

SCENE I – INTRO	
LS EXT – Wetland in Florida	MUSIC – Country blues
LS EXT – Birds in tall tree in wetland	& AMBI – Birds and other wetland sounds.
CU EXT- Alligator in wetland	LAURA: When most people think of Florida
CU EXT- Bird in tree	they probably imagine wetlands and beaches, but there's a lot more going on there than most people realize.
MS INT– Laura Newberry interview	LAURA: Florida started as this dream of paradise, and it's interesting to see what has become of the middle of the state.
LS EXT – Aerial of Central Florida river.	
MS EXT – Phosphate mining protestors. A sign reading "Say No to Phosphate Mining" in foreground.	
MS EXT – A roadside sign reading "No Phosphate Mine in Bradford"	
MS INT – Jim Tatum interview.	JIM: There's nothing more destructive to the Earth and the environment than mining phosphate.
MS EXT – Dragline digging into the earth LS EXT – Dragline pivoting, spreading dust.	phosphate.
MS INT – Courtney Snyder interview.	COURTNEY: This isn't the place to put a phosphate mine. You don't put mines near neighborhoods.
LS EXT – Phosphate falling from conveyer onto huge pile	neignoornoods.
MS INT – Jack Hazen interview.	JACK: They can't stop us from mining.
LS EXT – Aerial over phosphate strip mine.	LAURA: I had no clue that my hometown was so important for so long when it comes to phosphate mining.
TITLE	phosphate mining.

# SCENE 2 – ACT 1 – Meet Jack Hazen who wants to mine his land

SCENE 2 – ACT 1 – Meet Jack Hazen who w	vants to mine his land
LS EXT – Main street in small town in	MUSIC – Country blues
Bradford County Florida	&
LS EXT – Decrepit House LWR 3 <sup>RD</sup> – Bradford County	AMBI – Cicadas and other rural sounds.
MS EXT – Cows grazing	
MS EXT – Cow looking up at camera	
LS EXT – Drive leading to Jack Hazen's house.	
LS EXT – Jack Hazen rocking on porch.	
CU EXT – Jack Hazen rocking on porch. LWR 3 <sup>RD</sup> – Jack Hazen	JACK [VO]: Well, I was born here on this property in 1933.
MS EXT – Jack Hazen interview.	JACK: My father owned it, and my grandfather owned it before him.
LS EXT – Jack Hazen's land.	MUSIC – Country blues & AMBI – Cicadas and other rural sounds.
MS EXT – Jack Hazen interview.	JACK: Well, I had a hard time determining whether I would mine this property or not.
LS EXT – Shots of abandoned buildings in Bradford county.	JACK [VO]: This county, and the adjoining county that this phosphate's in is poor counties, and I came to the conclusion that we would work roughly 200 people in this process. A tremendous economic impact on these two counties.
MS EXT – Jack Hazen interview.	JACK: That is the only reason, I decided to phosphate this land.
MS EXT – Laura Newberry sitting on porch with Jack Hazen.  MS INT – Laura Newberry Interview.	LAURA: Jack Hazen owns a lot of land in Bradford County, very beautiful, lots of oak trees, grazing cattle, and he has a lot of phosphate on his land, and he wants to mine
WIS INT — Laura Newberry Interview.	phosphate on his land, and he wants to mine it.

LS EXT – Jack Hazen's land.	JACK: Last of this month, we'll turn them bulls out with the cows.
MS INT – Land passing by as seen through pick-up truck window.	LAURA: Are those the loud bulls that were yelping earlier.
CU INT – Jack Hazen driving.	JACK: Yeah, and them over yonder are the ones that was hollerin'.
LS EXT – Cattle in field on Hazen's property.	
MS EXT – Jack Hazen and Laura Newberry from reverse, looking pointing at wooded areas.	JACK: There won't be anything mined beyond that pine timber.
MS EXT – Jack Hazen in profile looking at land.	JACK: What we're mining is what you see, land like what you see here, and putting it back into production.
LS EXT – Jack Hazen and Laura Newberry chatting in profile on Hazen's land.	
MS EXT – Jack Hazen interview.	JACK: Well, phosphate is an essential I guess you couldn't call it a vitamin, I guess a mineral, that you have got to have to sustain life. No life can exist without phosphate.

### SCENE 3 – ACT 1 – PHOSPHORUS

LS EXT – (Archival film) Rocket blasting off into space.

MS EXT – (Archival film) Rocket housing being cast off and falling into atmosphere.

LS EXT – (Archival film) Florida seen from space.

LS EXT – (Archival) The earth growing smaller in frame as the word "Phosphorus" appears.

MS INT – Mark Kubinec interview. LWR 3<sup>rd</sup> – "Mark Kubinec, Chemist"

MS INT – (Archival) UC Berkeley chemist igniting a phosphorus oxide reaction that glows brightly.

CU EXT – (Archival) Time-lapse of plant growing.

LS EXT – (Archival) Heavy tractor cutting wheat.

LS EXT – (Archival) Dragline digging up phosphate, dumping phosphate. Phosphate falling down a conveyer. Men grabbing handfuls of phosphate and inspecting it.

MS INT – Mark Kubinec interview.

GRAPHIC – LARGE PHOSPHATE RESERVES: Florida, Morocco, Iraq, China. NAR: From Florida's moon port at Cape Kennedy, space-age explorers have been reaching out,

NAR: Looking for keys to a better future for man.

NAR: Meanwhile, we already know that here in Florida we have one of the most important elements needed to sustain life on Earth.

NAR: Its name is phosphorus.

MUSIC – Fast country mandolins and guitars.

MARK: Phosphorus is an element. When you combine phosphorus with oxygen, that becomes phosphate.

MARK: It's very beneficial for plant growth. It's ubiquitous in fertilizer.

MARK: Agricultural production in the United States, couldn't exist without these phosphate fertilizers. We're dependent on phosphate.

MARK: It's mined by finding these areas where there's phosphate in the rock.

MARK: It's very much like oil production because there is a limit to how much phosphate is on the earth, and there's a limit to who has the best phosphate resources.

SCENE 4 – ACT 1 – A Neighbor opposes the mine MS INT – Courtney Snyder interview. COURTNEY: Nobody wants a phosphate mine here. LAURA: Why? COURTNEY: Well, you've got the dust. I guess you could call it radioactive dust because of the radon and whatever else is found in the ore, where the phosphate is found. You've got all the dust, and I'm 100 MS INT – Courtney's daughter pictures. vards away from the borderline of the MS INT – Courtney Snyder interview. proposed property, and my daughter has asthma, so I can't do with the dust, because of my daughter. MUSIC – Slow plucking of acoustic guitar, GRAPHIC – State of Florida zooming in to Bradford and Union Counties, zooming in not much melody. further to reveal phosphate mining area. NAR: Hazen's proposed mine includes land owned by four families spread across two counties, Bradford County and Union County. Some neighborhoods in Union County are completely surrounded by proposed mining areas. COURTNEY: Now we're getting into this MS INT – Courtney Snyder driving. dirt road here that cuts through the center of LS EXT – Dirt road that cuts through mining the mining property. property. LS EXT – House surrounded by mine. MS EXT – Courtney Snyder outside house COURTNEY: That's part of the mining next to mining lands. property owned by the Pritchett family. Back there, and on that side there. It's close. It's very close to people's homes. Between the LS EXT – Adjacent mining property. house and the fence, maybe five feet, five ten MS EXT – Courtney Snyder outside house feet. next to mining lands. MS INT – Courtney Snyder driving into COURTNEY: The cemetery's back here. All cemetery. of this is landlocked. I mean, my grandfather and my uncle are buried out here, and I don't

want to come out here and look around and see 360 degrees around a phosphate mine.

MS EXT – Courtney tending to family plot. LS EXT – Laura and Courtney standing around family plot. CU EXT – Old weathered graves.

LS EXT – Courtney and Laura walking through cemetery.

LAURA: Is this a family plot?
COURTNEY: Yes it's a family plot. I don't think everybody in the family will choose to be buried here.

SCENE 5 – ACT 1 – The river and environment in danger	
LS EXT – Santa Fe River surrounded by	MUSIC – Slow plucking of acoustic guitar,
foliage and woods.	not much melody.
LS EXT– Jim Tatum kayaking.	JIM: I love the river, and I don't want to see it
MS EXT- Jim Tatum kayaking.	destroyed.
MS INT – Jim Tatum interview.	JIM: I live on the river and what happens in Bradford and Union County will affect my river, or could affect my river.
GRAPHIC – Proposed mine with river flowing through.	NAR: A small river flows through the proposed mining area and empties into the Santa Fe River.
LS EXT – River water flowing.	
MS INT – Jim Tatum interview.	JIM: I think it was 1997, they had a spill in the north shore of the Alafia River. The spill
LS EXT (Archival) – Boxes of dead fish are collected.	killed millions of fish wildlife crabs.
LS EXT (Archival) – Fertilizer wastewater flowing.	LAURA: In 1997, 50 Million Gallons of wastewater from a phosphate fertilizer plant spilled into the Alafia River. That sort of wastewater is almost as acidic as battery acid,
LS EXT (Archival) – People in boats collecting dead fish.	and it killed almost everything. More than a million fish for fifty miles downstream.
MS INT – Jim Tatum interview.	JIM: If something such as that were to happen in Bradford/Union County it would come down here and destroy this river at least for decades. And, they'll say, "we're sorry, we didn't mean to," but my river's gone. It's not their river it's everybody's river.
LS EXT – Jim in kayak paddling up to shore.	LAURA: That spill happened in a place called Polk County, which is where I grew up, actually.

SCENE 6 – ACT 2 – Welcome to Polk County, the center of phosphate mining in Florida

· ·	, the center of phosphate mining in Florida
LS EXT – (Archival film) Black and white	NAR: This is Polk County, geographic and
film, aerial footage over Polk County,	population center of fabulous, sunny Florida.
Florida.	
LS EXT – (Archival film) Family drives convertible car into dragline bucket.	NAR: Polk County leads the world in the production of phosphate. Phosphate, is marketed around the world to enrich the soil for agricultural purposes.
LS EXT – (Archival film) Family in car watching dragline bucket rise into the air.	NAR: Polk County alone produces more than 70% of the phosphate mined in the United States. Massive draglines are used to strip the earth, so that the phosphate rock can be excavated.
LS EXT – (Archival film) Family standing and watching phosphate mining operations.	Polk, is truly an imperial county, a cosmopolitan population, thriving industries with many job opportunities. All symbols of good living in imperial Polk County.

SCENE 7 – ACT 2 – Polk County, Laura's hometown

SCEIVE / MC12 Tolk County, Eaula's no	
LS EXT – Downtown Mulberry facing	MUSIC – Twangy blues guitar.
railroad crossing. Train passes by.	
ramoud crossing. Train passes by.	
LS EXT – Shot of Phosphate Blvd sign as	
train passes by.	
LS EXT – Horse pasture as train passes by.	LAURA: Polk County is located in Central
	I
LS EXT – Sand hill cranes in horse pasture.	Florida between Tampa and Orlando, and It's
LS EXT – Laura feeding horse.	a largely rural county. The largest city is
	Lakeland, my hometown, but the rest of the
MS INT – Laura Newberry interview.	county is very small. There's a big focus on
The first Education Series interview.	, , ,
	church and family. In many ways it's a nice
	place to grow up, but if you're in any way
	different it can be tough, very conservative.
	[
I C EVT Dhosphoto being shipped in train	I ALID A. The phosphote mining industry has
LS EXT – Phosphate being shipped in train	LAURA: The phosphate mining industry has
cars.	its fingers in so many things in Polk County.
	And I was just completely blind to it.

SCENE 8 – ACT 2 – Phosphate mining from above, vast environmental destruction MS EXT – Ed Golly pulls small aircraft out LAURA: If you want to see what phosphate mining has done to the land in Central Florida of hanger. you have to get up into the air. MUSIC-Building tempo from blues guitar. ED: Just give it a good whack, it's unlocked. MS EXT – Ed Golly opening plane doors. There you go. CU INT – Ed Golly in pilot's seat starting up ED: All clear. plane. AMBI: Engine coughs and sputters. CU INT – Ed Golly's hands on control panel adjusting engine. LS INT – Runway passing by as plane takes AMBI: Engine noise increasing. off. LS INT – Odd shaped lakes seen through ANDY: Laura, all those rectangular water plane window. forms off to the right, those are all related to the mines. CU INT – Laura holding camera and shooting footage through plane window. LS INT – Weird water areas caused by ED: This looks like a berm under us, and look mining as seen through plane window. they got a boat ramp, there's some boats in here. CU INT – Ed Golly looking at mined areas ANDY: Yeah, they fish, they call it pit fishing. Don't you want to take home some through window. pit fish to share with your family? CU INT –Laura turning in plane to shoot LAURA: When I saw the phosphate mines something else. when we were in that plane, I was really taken aback by how it just looks like a giant claw has just gashed into the earth over and over LS INT – Strip mining as seen from plane. again. CU INT – Andy Mele looking at mined areas ANDY: And here's the fertilizer plant, AKA through window. the acid plant. CU INT – Laura and passengers looking out LAURA: Phosphogypsum stacks also known window. as gypstacks are mountains of waste left over from fertilizer production. Some of that waste is radon and uranium. The EPA says that it's LS INT – Phosphogypsum stack passing by

too radioactive to be buried so it's piled in

these stacks.

as seen through window.

LS EXT – Phosphogypsum stack seen from ground level.  LS EXT – Pan across closer view of phosphogypsum stack.	LAURA: There are 25 of these things in Florida and they're some of the highest points in the state.
LS INT – Sinkhole on phosphogypsum stack passes by.	ANDY: Here we are at the sinkhole Laura. There's your sinkhole. Wow. Looking down into hell.
LS EXT – Sinkhole photo.	LAURA: In August of 2016 this huge sinkhole opened up on a gypstack in Mulberry and hundreds of millions gallons of wastewater drained right into the aquifer.
LS EXT – Sinkhole seen through airplane window.	LAURA: And unfortunately this isn't the first time this has happened. Another sinkhole opened up on the same gypstack in 2004.
LS EXT – Sinkhole seen through airplane window.	

# **SCENE 9 – ACT 2 – Mosaic**

LS EXT – Various Mosaic Signs LAURA: The company responsible for the sinkhole spill is called Mosaic, and it kept the sinkhole a secret for two weeks, only admitting to the spill after local news reported it. EXT – (Archival Mosaic Commercial) Field MOSAIC VO: We give farmers the science to produce more crops at a lower cost. of wheat transitions into shots of a harvest and a tractor working a field. MOSAIC VO: Our promise is to always take MS EXT – (Archival Mosaic Commercial) our commitment to the environment seriously. Woman scatters seeds in a wetland. MS EXT – (Archival Mosaic Commercial) MOSAIC VO: Our 3000 Florida employees work hard to bring food to your table, every Mosaic group photo and baskets of produce. single day, and we work just as hard to keep the natural beauty of Florida, Florida. GRAPHIC – (Archival Mosaic Commercial) Mosaic logo and slogan, "We help the world grow the food it needs".

SCENE 10 – ACT 2 – New Wales neighbor believes her well-water was contaminated

LS EXT – Kristy Simpson's house and land.
LWR 3RD – Lithia Florida.

MS EXT – Kristy Simpson's boots next to horse hoofs.

KRISTY: I've been here since June of 2004, but I moved out about five months ago, because I can't even take a shower, the water smells like kerosene.

KRISTY: The water comes from the well. And Mosaic is five, six miles that way and all

MS EXT – Kristy Simpson brushing her horse.

MS EXT – Kristy Simpson interview.

MS EXT – Kristy Simpson filling horse trough.

MS EXT – Kristy Simpson with horses.

MS EXT – Kristy Simpson interview.

And Mosaic is five, six miles that way and all the water flows this way.

KRISTY: About two weeks after the sinkhole happened there was an episode, a couple episodes where I just had to hit the shower door to get out. I felt like I was in a gas chamber, that's the only thing I can explain, and literally retching.

KRISTY: Mosaic said they contained it, they pumped the water out, but how could they have pumped all that out, when it got into the aquifer.

KRISTY: I was deciding what I'm going to do with the house, either selling it or, I had an estimate for a water purification system and it's \$15000 and it's enough to cover my household and the horses. And, it takes up a whole stall it's so big. But like the guy said, "one thing's for sure, the water's not going to get any better."

### SCENE 11 – ACT 3 – Hazen and activists at odds.

LS EXT – Water on Jack Hazen's land. LAURA: Jack Hazen knows all about these LWR 3<sup>RD</sup> – Bradford County incidents in Polk County, but he says that his company HPS Enterprises will be different. MS EXT – Sandpiper standing in water. MS EXT – Jack Hazen Interview. JACK: I'm telling you, this is a clean operation. MS EXT – Protestor holding anti mining sign JACK: And of course these in front of Bradford County Courthouse, pan environmentalists, they fight this stuff, but to numerous protestors standing outside. they lose. CU EXT – Protestor holding sign, "Next Flint COURTNEY: They're the four richest Mich. You can't drink money." families in the area that own this property and want to mine, and a lot of us are just regular people working paycheck to paycheck. MS INT – Courtney Snyder interview. COURTNEY: It's intimidating to know that because they can afford these really expensive attorneys and only god knows what else.

# SCENE 12 – ACT 3 – The activists meet

CU INT – "Say No to Phosphate Mining" sign in window.

MS INT – CAPM meeting in progress

MS INT – About ten members of CAPM assembled around table.

CU INT – Merilee speaking to group.

MS INT – Courtney reacting.

MS INT – Merilee in reverse speaking to group.

MS INT – Courtney.

MERILEE: The number one thing that I think that needs to happen is you guys have to contact your commissioners like they've been doing.

MERILEE: In Union County, the family that owns HPS has been meeting with each commissioner privately.

WOMAN OFF CAMERA: What commissioner should we approach?

COURTNEY: All of them.

SCENE 13 – ACT 3 – Petitioning the commissioners

MS INT – Laura Newberry interview.

MS INT – County Commissioners of Bradford County.

MS INT – Activist speaking to County commissioners.

LS INT – (cell phone video) Bradford County Commissioners Chamber. Commissioners at front of room, pan to a scuffle. Jack Hazen and a younger man standing in front of activist. A crows surrounds them. Sheriff and deputies keep them apart. Sheriff eventually grabs activist from his chair and pulls him out.

LS INT – (cell phone video) Out in hallway, sheriff and deputy have activist pushed up against wall, pan to Jack Hazen in hallway.

MS INT – County Commissioners speaking

LAURA: As passionate as these two sides are the people that actually make the decision here are the county commissioners of Bradford and Union Counties.

ACTIVIST: I heard Mr. Hazen told you not to listen to us because we are activists and outsiders. That's what he said. We live here too.

ACTIVIST: Building a mine next to our homes would make our properties worthless, and would ruin the investment that so many of us have spent our lifetimes working toward.

ACTIVIST: Nobody wants it, the people don't want it, the people that elected you, don't want it.

LAURA: At one county meeting, Jack Hazen and others from his mining company confronted an activist who spoke against the mine. The local sheriff removed the activist from the meeting.

WOMAN: You should be pulling that guy out there. He started it.

JACK: Go back to Wisconsin, or wherever.

LAURA: Despite the public outcry, the county commissioners voted to hire a consultant to advise them on how to proceed with the mining permit.

CHAIR: All those in favor of hiring let it known by saying aye.

COMMISSIONERS: (In unison) Aye.

CHAIR: All those opposed? ... Motion carries 5 to 0.

SCENE 14 – ACT 3 – County seems likely to approve mine.

MS EXT – Bradford County sign in front of New River.

MS EXT – Jim prepping his kayak.

MS EXT – Jim dragging kayak to river.

MS EXT – Jim interview next to river.

LS EXT – Sun and treetops passing overhead. LS EXT – Trees and shore passing by as paddle dips into river

LS EXT – Jim Tatum kayaking in New River.

MS INT – Courtney Snyder interview.

MS EXT – Abandoned storefronts in Bradford County

LS EXT – Hazen Street sign.

MS EXT – Truck passing by abandoned store with a "No Phosphate" sign.

MS EXT – Jack Hazen interview.

JIM: I'm very concerned that the Bradford County Commission will eventually approve the application from HPS, because I know many of the commissioners feel that this will bring jobs and money to the county.

JIM: Education is the most important thing we can do to help people understand what the threat is. This will destroy Bradford County, it will destroy its attraction as a rural paradise.

LAURA: What will you do if they do start mining across the street?

COURTNEY: I'd probably move. I cannot, if they get the permits, I cannot in good conscience keep my children that close.

JACK: They can't stop us from mining, because we got property rights, and ya can't give em up, just because somebody says, "We're not going to let you mine." Well, you don't really understand, you don't govern what I can do with my land. When people start governing what I can do with my land, we're in bad shape, in this country.

# CONCLUSION

CONCECTION	
LS EXT – Aerial rising slowly over	LAURA: A few public servants in North
phosphogypsum stack.	Florida will soon have to determine whether
	one man's property rights outweigh the
	concerns of the entire community.
	LAURA: One thing's for sure, we need phosphate, and those gypstacks in my home town are going to get even taller.
CREDITS	

### **Treatment:**

### **Synopsis:**

Do the rights of the individual outweigh the concerns of an entire community? That is the question surrounding phosphate mining in Florida. Phosphate is a critical ingredient in fertilizer, which is essential for producing enough food for an ever increasing population, but toxic waste produced by phosphate mining is seriously affecting Florida. Jack Hazen, a farmer in North Florida, wants to mine for phosphate on his land, but his neighbors, concerned about the toxic by-products of phosphate mining vow to stop him. Both sides square off at a county commissioners meeting in Florida, where the future of phosphate mining is decided by a few public servants.

### Story:

Phosphorus, the most critical element in modern agriculture, has been largely acquired through phosphate rock mining in Florida for over a century, but Florida's phosphate supply is not infinite.

Jack Hazen, whose family has lived on a farm in North Florida for five generations, has discovered a new supply of phosphate on his land that could extend Florida's phosphate supply.

All that stands between Hazen and the phosphate is a county mining permit, but this simple formality has lately become extremely complicated.

Local residents like Courtney Snyder vow to stop Hazen before he can begin. Snyder's single-wide trailer is right across the street from land that Hazen hopes to mine. Snyder's daughter has asthma, and her concern about dust from a strip mining operation right next door transforms this stay-at-home mom into an environmental activist.

Journalist Laura Newberry speaks to both sides of this budding controversy. Her reporting leads her back to her own home town in Polk County, where phosphate has been mined for over a century. Phosphate processing produced literal mountains of toxic waste in Polk County, and accidental spills poisoned entire rivers.

Jack Hazen tells Laura that his phosphate mine will be different. He's mining his own land, and he promises that such accidents will never happen at his phosphate mine. Activists like Courtney Snyder don't buy it. They protest in front of the local courthouse, and speak out against the mine permit at county meetings. At some public hearings, the two sides nearly come to blows.

The ultimate decision will be soon made by the local board of county commissioners, who have already made a few tentative steps toward approving the mine.

### **Characters:**

Jack Hazen is a farmer from Bradford County, Florida.

Courtney Snyder is a stay-at-home mom who lives across the street from the proposed mine. Jim Tatum is an environmental activist.

Kristy Simpson is a mortgage broker whose well was affected by a phosphate spill. Laura Newberry is a reporter from the main phosphate mining area of Florida.

### **Materials:**

MINING PHOSPHORUS uses traditional sit-down interviews as well as in-situ interviews. It includes live action scenes with all characters. Aerial shots of phosphate mines and phosphogypsum stacks provide context.

### Theme:

This film asks whether the rights of the individual outweigh the environmental concerns of an entire community.