

US EPA ARCHIVE DOCUMENT

PROPOSED RECORD OF DECISION AMENDMENT

ORONOGO-DUENWEG MINING BELT SITE

OPERABLE UNIT 1 - MINE AND MILL WASTE

JASPER COUNTY, MISSOURI

PUBLIC HEARING

Taken on Thursday, August 15, 2013, from 6:33 p.m. to 7:55 p.m., at Missouri Southern State University, in the City of Joplin, County of Jasper, State of Missouri, before

JILL A. RENFRO, C.C.R. 605,
a Certified Court Reporter and a Notary Public within and for the County of Newton, and State of Missouri.

U.S. ENVIRONMENTAL PROTECTION AGENCY - REGION 7

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Superfund

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12 E X H I B I T S

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1 BY DR. DRAKE: Let's go ahead and
2 kick this off tonight. My name is Dr. Dave
3 Drake. I'll be the hearing officer tonight.
4 We're here for the Oronogo-Duenweg Mining
5 Belt Sites Public Meeting for the ROD
6 amendments. And, any of you familiar with
7 the project, we did the first Record of
8 Decision back in 2004. So there's been quite
9 a lot of cleanup work that's gone on since
10 '04, and we've made a few changes to that old
11 2004 Record of Decision. So we're here
12 tonight to talk about those modifications,
13 and have a public meeting on the topic. And
14 your input is very important to us. That's
15 why we're here. We're very interested in
16 what you might have to say regarding these
17 changes on the cleanup decision here in
18 Jasper County. So that's the whole point of
19 tonight. So we're really encouraging
20 questions either after the presentation or
21 later on during the public comment period,
22 but that's the whole purpose. This is really
23 set up for you, for the public to do that.
24 I'll start by just announcing a few
25 people that are here tonight who have been

1 affiliated with the project. I saw Mr. Tony
2 Moore, who I hadn't seen for quite awhile,
3 with the Joplin Health Department. He's here
4 tonight. I'm sorry. The Jasper County
5 Health Department. I mixed him up with Dan
6 Pekarek who is here from the Joplin Health
7 Department. We have a member from the Jasper
8 County Task Force, Eric Ferrell, who is
9 present tonight. And we have a member of the
10 Missouri Department of Health and Social
11 Services who is here tonight. Lori
12 Harris-Franklin. So those are some outside
13 people from organizations that have been very
14 involved with the project who are here
15 tonight in some type of supporting role.
16 I'll just briefly introduce some of the EPA
17 people that are here. Your main contact
18 after this meeting for public comment
19 purposes is Debbie Kring. Debbie is right
20 here in the blue top. So Debbie is our
21 public affairs officer. She will handle all
22 comments, all of the inputs through the
23 duration of the comment period. So email
24 Debbie, speak to Debbie, just provide your
25 input to her. We also have Jane Kloeckner

1 here tonight. Jane is the long-time senior
2 regional counsel. She's an attorney working
3 on the project. Has been involved with it
4 for a number of years. Very, very well
5 versed in the topic and the subject. She's
6 dealt with it for quite some time. We have
7 Elizabeth Coffey over here in the corner.
8 Liz. She's assisting tonight. She's a
9 remedial project manager in the Superfund
10 Program who also works over on the Kansas
11 side, Cherokee County work. And we also have
12 Mr. Brian Burnett here visiting who manages
13 the Cherokee County Field Office, all the
14 work in Kansas. And I guess last, but not
15 least, we have the person who is going to be
16 doing all the talking tonight, the long-term
17 remedial project manager of the Jasper County
18 site. Many of you know him. He's been
19 around for many, many years. Very, very
20 experienced, knowledge project manager. He
21 has managed this project for many, many
22 years. Since the inception, really.
23 Basically since the inception. So Mark
24 Doolan is here. He'll be giving the
25 presentation.

1 Just one other housekeeping item
2 before Mark comes up. Let Mark finish his
3 presentation, go all the way through it, and
4 then when he's done we will have the question
5 and answer period. I'll probably remind you
6 again when we start the question and answer
7 period, we do have a court reporter here, so
8 we are recording all of this and making a
9 transcript. So when we get to the part of
10 the evening where we're doing the question
11 and answer, if you don't mind just to
12 announce your name, you know, clearly so the
13 court reporter can have that, and try to, you
14 know, ask your questions clearly so we can
15 record them all. That way it benefits
16 everyone. Everyone reading the transcript,
17 or involved with it, or us. You know, we can
18 really discern what the question really was,
19 and the answer. So it helps us all out a
20 little later on.

21 So, with that, Mark, if you want to
22 come up, go ahead and start.

23 BY MR. DOOLAN: Thanks, Dave.

24 Everybody still hear me okay with this mic?

25 Bill, in the back, can you hear me all right?

1 Good. So as Dave sort of said already, we
2 signed our original Record of Decision back
3 in 2004 for what we call Operable Unit 1,
4 which is mine waste cleanup of the
5 Oronogo-Duenweg Mining Belt Site. And we
6 need to make some changes to that, so we're
7 here tonight to present those changes to the
8 public. This, as Dave said, is an
9 opportunity for you to provide us comments or
10 ask questions. You can do that here tonight,
11 continue to do that through the comment
12 period.

13 Just a quick site history. Most of
14 you probably know as much of this as I do,
15 but the Jasper County site into the
16 Oronogo-Duenweg Mining Belt Site is part of
17 the Tri-State Mining District. The district
18 itself covers about two hundred and fifty -
19 or twenty-five hundred square miles in
20 Missouri, Kansas, and Oklahoma. Lead and
21 zinc has occurred in this district starting
22 clear back in the 1850s, continued all the
23 way up, at least I think on the Oklahoma
24 side, up to the 1970s. The best estimates
25 that we have is there was at least a hundred

1 and sixty million tons of crude ore produced.
2 That's not waste. That's just the ore that
3 went to the smelter for process. Tremendous
4 amount of materials come out of this
5 district. During its hay day it's my
6 understanding that the Tri-State District was
7 one of the largest lead producers in the
8 entire world

9 The Jasper County site itself covers
10 two hundred and seventy square miles. We now
11 estimate, and one of the reasons we're here
12 tonight is because the volumes have gone up.
13 We estimate that there's at least fourteen
14 million tons of waste residing on the site,
15 and it's covering about eleven thousand
16 acres. Those mining wastes, and the soils,
17 and the ground water, surface water, ponds,
18 streams, were all contaminated with heavy
19 metals, primarily cadmium, lead, and zinc,
20 where they're causing a risk to human health
21 and the environment.

22 The waste is located in about eleven,
23 what we call designated areas. Here is a map
24 of the site. The extreme northern end up
25 there is the Neck/Alba/Purcell area, all the

1 way down to Oronogo, Webb City, Carterville,
2 and Prosperity, and then actually clear down
3 into the Wildwood Ranch area down in the
4 southwest corner of the site, which actually
5 extends into Newton County a little bit.

6 Just to talk a little bit about the
7 site risk and why EPA is here to even do
8 cleanup; clear back in the early '90s we did
9 some blood lead studies in Jasper County, and
10 determined that at least fourteen percent of
11 the children throughout the county had high
12 blood lead, and in some instances, especially
13 around the central part of Joplin, some of
14 the areas we know were as high as thirty
15 percent of children with lead poison.

16 There was also lead and cadmium in
17 private drinking water wells. The studies
18 that we did indicated that there was a number
19 of wells, especially on the eastern side of
20 the site, where people weren't hooked up or
21 didn't have availability to public water, and
22 they were drinking out of private wells,
23 those wells were contaminated. There is
24 metals in the surface water streams above our
25 federal criteria that are safe for aquatic

1 life. And then, of course, there was metals
2 in the soils and mind waste that are not safe
3 for people to be living on or to be
4 recreating on.

5 Talk a little bit about some of the
6 cleanup actions that we've already done.
7 We've been working on the site - or I've been
8 working on the site for twenty years now. I
9 think some of us - I think Jane even predates
10 me. So the site has been around awhile.
11 There has been a tremendous amount of work
12 already done. Operable Units 2 and 3 in the
13 site are what we call our residential soils.
14 Operable Unit 2 was residential soils and
15 smelter area around the central part of
16 Joplin. Operable Unit 3 was mind waste that
17 - or residential yards that were located out
18 of the mining areas. We actually completed
19 that cleanup clear back in 2002, and we
20 remediated approximately twenty-six hundred
21 residential properties.

22 Operable Unit 4 is our groundwater
23 operable unit. As I mentioned, you know, we
24 determined that there was a lot of private
25 wells that were being consumed from that were

1 contaminated. We ended up running over a
2 hundred miles of public water supply,
3 primarily in the Heritage Acres, Prosperity,
4 Cartersville, Duenweg area. And then we had
5 at least four homes that it just wasn't
6 economically feasible to get a public water
7 supply line to, so we installed a deep well
8 for those folks to get them clean water.

9 Operable Unit 1 is what we're here
10 talking about tonight. That's our cleanup of
11 the mining waste. We began the actual
12 cleanup in 2007, and so far we've cleaned up
13 over eighteen hundred acres, and we've got
14 about six million cubic yards of waste that
15 has been remediated. So we've made pretty
16 good progress. Obviously have a long way to
17 go, but we've got a good start.

18 During the cleanup that we've been
19 conducting though for the past six years now
20 we've learned a few lessons. We always do -
21 you know, we've made our best engineering
22 judgment when we signed our Record of
23 Decision, and then you get out in the field
24 and you determine that things change. So
25 that's what we're here to talk about tonight,

1 is what those changes are.

2 I'll show you just a little bit about
3 some of the work we've done. This is a big
4 ole pit in Carterville. It's an old mining
5 subsidence pit that was pretty much a trash
6 dump. It was a real eyesore for the
7 community. That's what it looked like prior
8 to 2007. This is what it looks like today.
9 I think I took this picture early spring, so
10 the grass hadn't greened up real good yet,
11 but you can tell it's quite different.

12 These are some big ole chat piles
13 that are kind of west of - southwest of Webb
14 City a little bit. The scale is a little
15 deceiving. I'm standing on top of a huge
16 pile when I took this. About a hundred and
17 fifty feet in the air. The piles you see in
18 front of you are at least a hundred feet
19 tall. So any of you familiar with those
20 piles, I think you will remember how big they
21 were. That's kind of what it looks like now.
22 So we've been doing a lot of work.

23 We've also been putting up
24 tributaries. This is what's known as Ben's
25 Branch. It was kind of an old miner's ditch.

1 It starts down around Prosperity, and it
2 runs between Carterville and Webb City, and
3 goes into Center Creek. For years and years
4 and years it's been dumping metals
5 contamination into Center Creek and causing a
6 real problem. You can see the chat piles in
7 the background behind the old dead trees
8 there. You can see the chat actually on the
9 banks in the foreground. So as you can
10 imagine, every time we would get a flood
11 event coming down Ben's Branch, all that
12 material was going straight into Center
13 Creek. This is what it looks like now.
14 Unfortunately, the day I took this we got
15 about a four inch rain, so the water looks a
16 little bit cloudy, but I can tell you that
17 it's clean. That's just silt coming down
18 there. The boulders there are just - this is
19 just upstream from the bridge between
20 Carterville and Webb City, so that's just
21 kind of erosion feature to keep the flood
22 waters from washing the bridge out.

23 So a lot of native plants are coming
24 back in. You can see the new Willows that
25 are growing, all the grass that's coming in.

1 So we've cleaned up probably close to four
2 miles of Ben's Branch now. We think we've
3 made a real good improvement so far in Center
4 Creek just by doing that.

5 I want to go back a little bit and
6 talk about what the actual 2004 ROD said so
7 that you can remember what it is that we said
8 we were going to do. I'll just run through
9 these individual items.

10 The source of the material, obviously
11 we were going to excavate and remove all the
12 mining waste and the affected contaminated
13 soils. We were going to dig up the sediments
14 in the tributaries. For example, Ben's
15 Branch that we talked about just a second
16 ago. And then we were going to dispose of
17 all of those materials in the subsidence
18 pits. We were going to look for the
19 collapsed mines that were full of water, and
20 projections in that Record of Decision, we
21 would put all the waste into those mine pits.
22 And then once they were completely filled,
23 put a clay cap over them and vegetate them.

24 In the areas that have been excavated
25 we go in and re-contour those, make sure

1 there's proper drainage. And then we have
2 some areas we call vegetated chat and
3 transition zones. These are areas where
4 they're not a big pile, it's just a thin
5 layer of chat over the native soil. Maybe a
6 foot or so. Or the native soils that are
7 next to the chat piles. Our original 2004
8 ROD said we would try to deep-till those and
9 mix it to reduce the metals concentrations
10 and put down biosolids, which is a fancy word
11 for wastewater treatment plant sludges.
12 Basically that adds organic material to the
13 soil, and the phosphate chemicals that we
14 find in these wastewater treatment plant
15 sludges also provide a treatment effect to
16 the metals. So that was our projection in
17 2004.

18 For overflowing shafts which drain to
19 the streams we had planned on flooding those.
20 We would also build diversion structures to
21 prevent any surface water from discharging
22 into mine openings.

23 The Thoms Pit is a rather large pit
24 that's over off of Fir Road on the western
25 side of the site. It was a combination

1 lead-zinc mine, and also a coal mine.
2 Because of the coal it's got a real low pH
3 problem, it's got an acid problem, metals.
4 So our original 2004 ROD talked about doing
5 some studies there to see if we could
6 neutralize that pit, get the pH up to neutral
7 or basic, so that we could use it for
8 disposal. Those studies have not been done
9 yet. It's still in the plans.

10 And then the non-engineering type
11 actions we were going to do is to try to
12 implement the institution of control plan
13 that would - number one, would dictate how
14 the repositories are managed for development.
15 And we would also - the 2004 ROD also
16 specified that we would develop a building
17 ordinance through the county. That has been
18 done thanks to the county commissioners. We
19 now have a nice institution control where the
20 people come in and want to build in the mined
21 area there's sampling that's required, and if
22 soils are contaminated above our action
23 levels the county has established for the
24 area - well, the county and the city of
25 Joplin, then remediation is required.

1 We've also continued to fund the
2 health education program. When we started
3 doing the yard cleanup back in the mid '90s
4 we began funding the Jasper County Health
5 Department to do education throughout the
6 county. We thought that was very important
7 that we educate people on how to protect
8 children from exposure to lead and cadmium
9 during the cleanup. We've also proposed in
10 2004 that we would develop a monitoring
11 program to assess the improvement in the
12 stream and the sediment quality as cleanup
13 progresses. That is underway. And then we
14 would be developing an operation and
15 maintenance plant that defines how we're
16 going to take care of these repositories in
17 the imaginary future, however long that's
18 going to be.

19 So that's kind of what the 2004 ROD
20 said we were going to do. Almost all of
21 those things we are doing currently, or have
22 been doing for the last six years. Some of
23 them have been accomplished completely, like
24 the institution and controls program, and the
25 building ordinance, those sorts of things.

1 The monitoring systems are ongoing.

2 What I want to talk about tonight is
3 the changes that we're going to be making to
4 that remedy. There's basically five changes.
5 Number one, we would like - we need to let
6 you know what's happened to the volume and
7 the costs on the site. We're going to talk
8 about how we construct the repositories.
9 We're going to talk about the use of
10 biosolids and deep-tilling. Talk about what
11 our new sediment cleanup levels are that
12 we're proposing. And then we're going to
13 talk about what we're doing in what is - in
14 what the city of Joplin refers to as the
15 expedited debris removal area, which is the
16 tornado zone.

17 First of all, when we were doing the
18 studies clear back in the 1990s most of those
19 studies were done by mining companies with
20 oversight from PRPs. Quite frankly, we did
21 not go out and sample every single pile. We
22 just did a general sampling across the site
23 to determine the amount of information we
24 needed to appoint risk assessments and make
25 some engineering decisions on what needed to

1 be done. The mining company's estimated that
2 there was about seven million cubic yards of
3 waste on site, covering about, oh, six or
4 seven thousand acres. When we went out to do
5 the actual design for our cleanup our design
6 contractor went out with a backhoe and dug
7 two test pits every acre throughout the
8 entire site. Did very extensive aerial
9 surveys using lidar, where it's airborne.
10 It's an airborne survey that gives you very
11 accurate contours of the ground. Combined
12 that with the test pits, and we were able to
13 determine it was not seven million cubic
14 yards of waste on the site, there was
15 fourteen million cubic yards of waste on the
16 site. So it's double what we projected it
17 was.

18 The original estimate in the ROD
19 based on that seven million cubic yards was
20 about fifty-nine million dollars. Of course,
21 that was clear back in 2004. We've had a lot
22 of inflation since then, as you well know.
23 The cost has doubled. So we're now
24 projecting that the cleanup cost for the mine
25 wastes themselves is going to be

1 approximately, and this is a best guess at
2 this point, about a hundred and sixty-eight
3 million dollars. It's, you know, more than a
4 hundred million dollars more than what we had
5 planned on spending. But look at it this
6 way. The cost for cleaning up each cubic
7 yard in the original estimate was eight
8 dollars a cubic yard. We're now at about
9 twelve dollars a cubic yard, even given six
10 years' or seven years' worth of inflation.
11 Well, nine years' worth of inflation. That's
12 not too bad. So we think we're still very
13 cost effective even though the cost has gone
14 up so high.

15 Now I want to focus on what we're
16 doing with the repositories. As I said when
17 I described what the 2004 ROD said, we
18 envisioned that we would put all the wastes
19 in the mine subsidence pits. When we had
20 gone out and done the designs in the area
21 what we found out was there's not enough pit
22 space available to hold that fourteen million
23 cubic yards. We do have some very large pits
24 that we are filling, like the old one under
25 the circle and the big pit at King Jack Park,

1 but we still do not have enough repository
2 space or enough mine pit space to take all of
3 the waste. So we're really put in a position
4 now where we have to design above ground
5 repositories. We would like to put it all
6 below ground, but it just isn't going to fit.
7 So we're trying to design repositories to
8 take municipal land use into account. For
9 example, there's an old abandoned wastewater
10 treatment plant in between Carterville and
11 Webb City where Carterville used to send the
12 material to or all their waste to. It was
13 abandoned. They were under order to close
14 it. We have actually gone in and took that
15 over. We completely filled it up and added
16 about thirty feet in height to it, and now we
17 have about a forty acre great big flat field
18 that Webb City is going use for a sports
19 complex. So even though we're building above
20 ground repositories, we're trying to keep
21 those kind of ideas in mind. We've built a
22 number of new roadways through Webb City.
23 Where we needed to build a repository the
24 City was interested in a road, so we brought
25 the waste in and basically made a long

1 straight repository that they later came in
2 and put gravel and asphalt on, and now the
3 city has got a new road and we've got a waste
4 encapsulating. So those are the kind of
5 things that we're trying to come up with when
6 we're building these above ground
7 repositories.

8 The other thing we want to let you
9 know is that we have a repository out off of
10 17th Street. Webb City calls it 17th Street,
11 in Prosperity it's called Elm. It's just
12 immediately east of Highway 249. And that
13 was our repository where we placed all the
14 waste from the residential yard cleanup.
15 That repository has remained open for
16 developers and builders to use. If they're
17 going in and building a new home in a
18 contaminated area they've got a place to take
19 their contaminated soil to. We have opened a
20 new repository. Now it's out on the state
21 line, north of 7th Street on Malang, about a
22 quarter of a mile on the Farmers Chemical
23 gypsum pile. That's an old waste pile that
24 needed to be closed anyway. So we're going
25 to put mine waste and contaminated soil on

1 it, and then eventually when it's full we'll
2 cap that pile. In the meantime it can be
3 used for developers and builders to dispose
4 of their contaminated soils for building new
5 residential structures.

6 The city is using it right now for
7 most of - well, for all of the soil they're
8 removing in the tornado zone, they're
9 remediating houses, and the county
10 coordinates with other developers that want
11 to dispose of soil as well.

12 Talk a little bit about the use of
13 biosolids. As I said, in the 2004 ROD we
14 specified that in these thin chat areas we
15 were going to go in and get big discs and try
16 to till up the soil and add some biosolids to
17 it to reduce the toxicity of the metals. We
18 thought that would save us a lot of money
19 over excavating and disposing of the
20 material. Once we started the cleanup we had
21 a contractor go out and get a big three foot
22 diameter multi-disc implement that the use up
23 in northern Missouri plowing under sand when
24 the rivers flood. And we worked and worked
25 and worked and worked, and we could not get

1 the concentrations down low enough to meet
2 our action levels. It's just the
3 deep-tilling just didn't work.

4 The other problem we had with
5 biosolids is the only thing that's really
6 available in this part of the state are what
7 are known as Class B sludges. Those are
8 sludges that are not composted. They
9 basically come right out of the lagoon or
10 right out of the treatment plant, and they're
11 semi-dried, but they're not - they've not
12 been treated, and the odor is horrendous. So
13 if we tried to use those in the areas that
14 we're cleaning up near residences I don't
15 think my phone would ever stop ringing.

16 We just don't have the material
17 available that we need, or at least suitable
18 material that we can use, and so tonight
19 we're proposing that we - that the EPA is
20 actually going to eliminate the use of
21 biosolids and eliminate the deep-tilling for
22 the site.

23 Focus now a little bit on our
24 sediment cleanup numbers. When we signed the
25 ROD in 2004 our ecological risk assessors

1 went to the literature and determined by
2 looking at old toxicity studies that had been
3 formed across the country, or for a fact,
4 throughout the world, looking at what types
5 of concentrations would cause toxicity to
6 aquatic organisms. We developed the sediment
7 cleanup numbers for our site, and they were
8 two parts per million cadmium, seventy parts
9 per million lead, and two hundred and fifty
10 parts per million zinc.

11 Once we got working down at the site
12 we got - we formed a partnership with the
13 U.S. Geological Survey, their biological
14 services division in Columbia, Missouri.
15 They've got some highly skilled contractors
16 that help them. And we did a very extensive
17 toxicity study throughout not Jasper County,
18 but the whole tri-state area. We took
19 samples from about two hundred and sixty
20 locations throughout Jasper County, Cherokee
21 County, Newton County, and down into Ottawa
22 County, Oklahoma. We collected numerous five
23 gallon buckets full of sediment throughout
24 the entire district, sent those to the
25 laboratory in Columbia, and did very

1 extensive, very long-term toxicity studies on
2 actual organisms used in sediments on the
3 site. And the result of all of that is that
4 we've now developed new cleanup criteria for
5 the site. They're not quite as stringent, is
6 what the literature might indicate, because
7 of the different chemistries and components
8 of the sediments on the site. So we're now
9 proposing adopting these, and that is
10 seventeen parts per million cadmium as
11 opposed to two, two hundred and nineteen
12 parts per million lead instead of seventy,
13 and two thousand nine hundred and forty-nine
14 parts per million zinc instead of two hundred
15 and fifty. So the expense that we went to to
16 do all these studies has been a little bit
17 beneficial to us that we were actually able
18 to increase the cleanup levels, which doesn't
19 happen very often.

20 The last issue I want to talk about
21 is the debris removal area. All of you that
22 live in Joplin know the devastation that
23 happened on May 22, 2011. I think the
24 estimates that I get from the city is there
25 was over seven thousand residences that were

1 destroyed, and probably another three
2 thousand businesses. I was here, I know,
3 seven days after that tornado, and I didn't
4 recognize the place, and I had been working
5 here for twenty years. So I know what you
6 all went through. The problem with it is a
7 lot of that area had been tested when we did
8 the yard cleanup, and unbeknownst to us, a
9 lot of the area was underlined by mining
10 waste that was contaminated, but as people
11 developed back in the '20s and '30s, even
12 more recently, they have brought in topsoil
13 to establish residential yards, so the
14 testing we did in that area indicated that it
15 was all clean, they met our action levels.
16 And just because of the devastation of the
17 tornado, the debris blowing around, the
18 removal of the debris, unfortunately - and
19 rebuilding activities by putting in new
20 foundations and things, some of those - quite
21 a number of those yards are - now have lead
22 cadmium levels above our action levels. So
23 they need to be remediated.

24 We have - we consider the easiest way
25 to do that is to provide money directly to

1 the city of Joplin. So we are proposing at
2 this point that that's what we continue
3 doing, is EPA provides funding to Joplin.
4 They've hired staff, and they have a very
5 efficient program going on, and getting a
6 really good cost from the contractors, and
7 doing a wonderful job, quite frankly, of
8 cleaning up these properties as people come
9 in and rebuild on these lots. So EPA is
10 proposing that we continue to do that. We
11 don't know the exact costs because all of the
12 lots haven't been sampled yet, but the
13 projection that we're getting from the health
14 department is probably somewhere in the
15 neighborhood of about twenty million dollars
16 when it's all said and done. If you add that
17 to the hundred and sixty-eight million that I
18 just told you about on the mine waste, we're
19 now looking at a hundred and eighty-eight
20 million dollar project as opposed to our
21 sixty million dollar project. So,
22 unfortunately, things have really gotten
23 expensive.

24 Just so in case you don't know, most
25 of you probably do, that's an outline of the

1 EDR. It extends from the Wildwood Ranch area
2 out at Central City Road and 32nd Street, all
3 the way on the east side of the city of
4 Duquesne. Obviously the tornado went further
5 than that. My understanding is it went all
6 the way down into Diamond. But the
7 destruction area that we're dealing with is
8 over to the city of Duquesne, and from
9 roughly 32nd Street on the south up to about
10 15th on the north, and obviously that varies.
11 You can see the red outline there on the
12 map.

13 So that's the changes that we're
14 proposing. Just like when we signed the
15 original Record of Decision, we have a set of
16 nine criteria that we assess all of our
17 proposed actions against. We're required to
18 do that with any changes that we make, too.
19 So I'm just going to spend a few minutes here
20 and run through each one of these nine
21 criteria and tell you whether or not any of
22 them have changed.

23 The first two, and most important,
24 and we're not allowed to select a remedy that
25 doesn't meet these two criteria, these first

1 two, is the overall protection of human
2 health and environment, and compliance with
3 ARARs. And that's an acronym that stands for
4 Appropriate Relative -

5 BY MS. KLOECKNER: Applicable.

6 BY MR. DOOLAN: Applicable. I got
7 tongue-tied. Requirements. Basically it's
8 all the laws that govern hazardous waste.
9 And I can tell you that all of these changes
10 that we're proposing don't change the effect
11 on human health at all, and all of the
12 changes still comply with all of the ARARs.

13 The other thing - the other two that
14 we look at are short-term and long-term
15 effectiveness. And there really are no
16 adverse effects with any of these changes to
17 either of the long-term or the effectiveness
18 - or the short-term effectiveness and
19 remedies that we're proposing.

20 We also look at the - are required to
21 look at the reduction in toxicity, mobility,
22 or volume through treatment. When we did the
23 2004 ROD the actual addition of biosolids was
24 considered a treatment. We're sort of
25 eliminating that now. So, in fact, we're

1 being more protective by not doing a
2 treatment, but actually doing removal of the
3 material. So we obviously are still
4 complying with this requirement.

5 Implementability is just what it
6 sounds like. Whether or not it's possible to
7 even implement the remedy. And all of these
8 changes are certainly easy to do.

9 Cost effectiveness I touched on a
10 little bit. The costs have gone up
11 significantly, as I've reported to you, but
12 if you look at the cost per cubic yard, given
13 the last nine years of inflation, I still
14 think we're doing pretty good. We're at
15 about \$12.00 a cubic yard as opposed to \$9.00
16 or \$8.00 a cubic yard, but when we signed the
17 2004 Record of Decision diesel fuel was about
18 ninety cents a gallon, and it's about four
19 bucks a gallon right now. So I think we've
20 actually improved our cleanup ability. I
21 think the costs are still - well, they're
22 certainly still cost effective for what we're
23 doing even though the costs have gone up.

24 The last two that we look at is state
25 acceptance and community acceptance. State,

1 Missouri Department of Natural Resources has
2 reviewed all of these proposals. There's no
3 one here from the DNR tonight, but I got
4 their assurance on the phone that they've
5 concurred, and actually signed off on our
6 proposal. So MDNR is in agreement with what
7 we're proposing tonight. And then, of
8 course, community acceptance is you. That's
9 why we're here tonight. We want your
10 comments. We want your questions. We will
11 accept those through the public comment
12 period, and then we will assess all of the
13 comments that we receive, and make a
14 determination on whether or not the public is
15 buying into the proposal, and we'll make a
16 final decision. Assuming that the public
17 does agree, we'll issue a final ROD amendment
18 probably sometime towards the end of
19 September.

20 So as I just said, the public comment
21 part of - comment period, excuse me, started
22 back on August 7th, and it's going to extend
23 through the 6th of September. You can - we
24 have what's called an administrative record,
25 which is basically the document that we

1 brought a few copies tonight if you want a
2 copy of it. I guess some of you I see have
3 picked it up. The other thing that is in the
4 administrative record is the toxicity studies
5 that we've performed that helped us to
6 establish what the new cleanup - sediment
7 cleanup levels out to be. Feel free to go
8 look at those. All combined it's eight
9 hundred pages. It will put you to sleep in a
10 heartbeat, but you're welcome to go review it
11 if you would like. And then the results of
12 our deep-tilling study is also in the
13 administrative record, and those are found at
14 the Joplin Public Library and the Webb City
15 Public Library. And if you want to make a
16 trip to Kansas City, you can come to our
17 offices in Lenexa, Kansas and review it there
18 also. When you - if you want to go to the
19 Joplin Library it is in the Reference - it
20 will be in the Reference section. And it's a
21 CD. You have to ask for the EPA
22 administrative record, and they will give you
23 a little CD, and you can plop it into a
24 computer and read it. We do not put out a
25 hard copy.

1 BY DEBBIE KRING: The EPA provided a
2 laptop.

3 BY MR. DOOLAN: Yes. There is a
4 laptop provided by EPA at the library that
5 you can stick the disc into, so there's no
6 charge to review it.

7 And, finally, if you have comments,
8 who you send them to is Debbie Kring. There
9 is her email address or her phone number if
10 you would like to call them in. And that's
11 all I have tonight, so we'll turn it over for
12 questions.

13 BY DR. DRAKE: We handed out some
14 blue cards for anyone who really doesn't want
15 to ask a question in public. That's okay.
16 You can just write that down on a card and
17 just leave it with Debbie Kring on the table.
18 And, also, during the whole length of the
19 comment period, you know, you can call Debbie
20 on the phone, and you can email her. You can
21 contact her any way you want with any
22 questions, comments you might have about
23 anything Mark has spoken about tonight. But
24 I guess the intent now is to have some, you
25 know, actual question and answers. So if

1 anyone has any questions, now is a great time
2 to do it. I see someone right here in the
3 front row. Great. If you wouldn't mind just
4 to state your name for the court reporter
5 here.

6 BY CYNTHIA YOUNG: Cynthia Young.

7 BY DR. DRAKE: Cynthia Young. Okay.

8 Ms. Young, yes.

9 BY CYNTHIA YOUNG: My question has to
10 do with these repositories that you're going
11 to build. I mean, considering the sizes of
12 the pits that have been filled, and that's
13 only held half the waste, so whatever you
14 build is going to be huge. So what are you
15 guys thinking these are going to be?

16 BY MR. DOOLAN: Well, there's still a
17 tremendous amount of space available in the
18 Oronogo Circle. We've put over a million and
19 a half cubic yards, and the mining companies
20 are doing the work right now filling them in.
21 Million and a half cubic yards in Oronogo
22 Circle and you can't even tell it. So
23 there's a tremendous amount of space there.
24 We still have a lot of space left at the old
25 King Jack Park pit. And then there's just

1 shafts. We uncover them all the time. We go
2 in and clear up an area that we're going to
3 work in, and we'll find half a dozen shafts.
4 Some of them are three hundred feet deep, and
5 they'll take literally tens of thousands of
6 cubic yards of mining waste down in the
7 shaft. So we're still trying to put as much
8 as we can underground, and there's still a
9 lot of pit space available, which is not
10 enough pit space to put all. So I can't tell
11 you how long it - how big a repository is
12 going to be, but we're scattering them
13 throughout the site. Like, we're going to
14 put a tremendous amount of material out there
15 at the gypsum pile. Nobody ever uses that
16 pile anyway. If we add another twenty feet
17 to the top of it you would never even know
18 it.

19 BY CYNTHIA YOUNG: Well, my concern
20 is, since we don't know what size it's going
21 to be, that won't come back to us, is my
22 understanding? Once you guys get beyond
23 this, we just sign off, and whatever size it
24 is it's whatever it is?

25 BY MR. DOOLAN: Well, I understand

1 what you're saying. Yeah. It is what it is,
2 but we're trying to design every repository
3 in - with anticipated future use in mind. We
4 don't want to just build a mountain out
5 there. In fact, we've made some of the
6 repositories a lot larger in size area wise
7 so that they're not real tall, so that they
8 can be developed. You know, there's no
9 reason it couldn't be used for all kinds of
10 commercial development. We don't allow
11 residential construction on the repositories.
12 No houses, duplexes, apartment complexes.
13 We don't want kids living there. But they
14 can certainly be used for commercial or
15 recreational-type areas. So we're keeping
16 that in mind when we're building them. We're
17 not just building big mountains.

18 BY CYNTHIA YOUNG: Okay. So it's not
19 going to look like a prison out in the middle
20 of somewhere filled --

21 BY MR. DOOLAN: No.

22 BY CYNTHIA YOUNG: -- with dirt?

23 BY MR. DOOLAN: Absolutely not.

24 BY CYNTHIA YOUNG: I mean, that's
25 what I'm envisioning.

1 BY DR. DRAKE: Right. Just briefly
2 to follow up on Mark's answers to part of
3 your first question, if there was a change
4 that we thought was a material change, like -
5 like say, for instance, the volume doubled
6 yet again. We're very confident that won't
7 happen, but if we were to have just a
8 significant material change, there would
9 certainly be another opportunity through some
10 other type of public notification. You know,
11 we're not anticipating that, but just real
12 quickly to follow up. I saw - yes. Person
13 in the green. Yes.

14 BY ERIC FERRELL: Eric Ferrell.

15 BY DR. DRAKE: Eric Ferrell.

16 BY ERIC FERRELL: Mark, you mentioned
17 that the discing process didn't work, and so
18 the new plan is to do away with that idea,
19 but I didn't understand what might take the
20 place of that.

21 BY MR. DOOLAN: Excavate and remove
22 it.

23 BY ERIC FERRELL: Okay.

24 BY MR. DOOLAN: We're just going to
25 dig it up and get rid of it. We thought we

1 could save money by basically just doing
2 mixing. You know, we thought that if there
3 was just contamination at the surface we
4 could disc it under with some cleaning
5 material and leave it in place. It just
6 didn't work, so it's got to be excavated and
7 hauled off.

8 BY ERIC FERRELL: Thank you.

9 BY DR. DRAKE: Lady in the white
10 blouse.

11 BY SHANEN GIVONE: My name is Shanen
12 Givone. So under the proposed changes do I
13 understand this to mean that whereas we did
14 have two part per million cadmium, seventy
15 part per million lead, and two thousand nine
16 hundred and forty-nine parts per million of
17 zinc, you now want to increase those levels
18 to be seventeen, two hundred and nineteen,
19 and two thousand nine hundred and forty-nine?

20 BY MR. DOOLAN: That's correct.

21 BY SHANEN GIVONE: So if cadmium, I
22 believe, is supposed to start causing cancer
23 at like five, and lead, I believe, was at
24 eighty, where we start getting a lot of
25 health problems, you're suggesting that we

1 allow us to be exposed to even more - or
2 higher levels of those toxins?

3 BY MR. DOOLAN: Those numbers that
4 you're quoting are from - you're looking at
5 aquatic studies, coming from a variety of
6 different studies that are done throughout
7 the country, and some of them are done on
8 coldwater species, like trout, who are
9 extremely sensitive. We don't have those
10 kind of species here. We actually collected
11 the material from Jasper County, and Cherokee
12 County, Ottawa County, Newton County, as I
13 said, took them back to the laboratory, put
14 them in aquariums, and exposed all kinds of -
15 I think it was five or six different aquatic
16 organisms. Some sensitive, some not so
17 sensitive. Looked at growth, looked at -
18 like in the fishes, looked for lesions and
19 things like that. And when you do those
20 toxicity studies you expose them to different
21 concentrations, starting at very low
22 concentrations up to high concentrations, and
23 you look for those cutoffs where the
24 scientists and the toxicologists could
25 actually measure either a growth response, a

1 reproduction response, or some sort of tissue
2 response in the actual organisms in the
3 laboratory. And the toxicologists were the
4 ones who came up with those numbers based on
5 sediments that we actually have at the site.

6 BY SHANEN GIVONE: Is it not correct
7 that different organisms or different animals
8 react differently? For example, the fish may
9 not be affected, the ones that you tested,
10 but is it possible that it will affect
11 humans, or deer, or raccoons, or birds, and
12 other organisms that would be exposed to
13 those contaminants?

14 BY MR. DOOLAN: We did risk
15 assessments. Actually, Roy Harris is here
16 from the State Health Department. The State
17 Health Department, in conjunction with the
18 County Health Department, conducted the risk
19 assessments, and the numbers that we came up
20 with for people that are swimming or
21 recreating these streams are significantly
22 higher than what these values are that we're
23 proposing. So, in other words, if you go out
24 and play in the streams, and are swimming in
25 the streams, the values are much higher.

1 Aquatic organisms are much, much more
2 sensitive to the sediments and the surface
3 water and the sediments than people are.

4 BY MS. KLOECKNER: Can you go over
5 the action levels for the terrestrial soils,
6 because those are different from the sediment
7 numbers that this lady was asking about?

8 BY MR. DOOLAN: Yeah. The cleanup
9 number for the terrestrials - now, this is
10 just for sediments. The cleanup number for
11 terrestrial is four hundred parts per million
12 lead, seventy - forty parts per million
13 cadmium, and sixty-four hundred parts per
14 million zinc. That was Jane Kloeckner.

15 BY MS. KLOECKNER: Oh, I'm sorry.

16 BY DR. DRAKE: Okay. We'll come back
17 to you, but gentleman in the blue. Blue
18 shirt.

19 BY ROY SIDENSTRICKER: Roy
20 Sidenstricker. Sidenstricker. I've just got
21 a question about what's your estimation of
22 moving out in the Purcell, Alba, Neck City
23 area. Estimated guess.

24 BY MR. DOOLAN: Don't know. I wish I
25 did.

1 BY ROY SIDENSTRICKER: I mean, it
2 seems like we're last on the totem pole, so -

3

4 BY MR. DOOLAN: Not necessarily.

5 BY ROY SIDENSTRICKER: I mean, we've
6 got lives to live, too, you know.

7 BY MR. DOOLAN: Certainly do. We're
8 trying to focus - the actual majority of the
9 waste - the reason the site is called the
10 Oronogo-Duenweg Mining Belt Site is that
11 whole strip from Oronogo down to Duenweg.
12 We've got a big chunk of that cleaned up. My
13 intention is, once we've got the rest of that
14 finished - we like to stay in one area and
15 concentrate, that we'll probably move up in
16 the Neck/Alba area. We do have a separate
17 contract going down in the Wildwood area.
18 Wildwood Ranch area. Which is down off 32nd
19 Street. Because that is the only area of
20 mining waste in Jasper County that drains to
21 Shoal Creek, and there's a pretty significant
22 amount of that material going down the valley
23 there into Shoal Creek, so we're trying to
24 remediate that, then we'll probably be up in
25 that area.

1 BY ROY SIDENSTRICKER: We drain into
2 Spring River, North Fork, Buck Branch.
3 There's several, several - they drain down
4 into Oklahoma.

5 BY MR. DOOLAN: Right. Couple of
6 years, is the best I can tell you.

7 BY ROY SIDENSTRICKER: Okay. That's
8 - I mean, I ain't going to hold you to it.

9 BY MR. DOOLAN: Thank you.

10 BY ROY SIDENSTRICKER: Plus or minus.

11 BY DR. DRAKE: Okay. We'll go back..
12 I'll do the guy in the red, and then we'll go
13 back to you. I have to do you in order of
14 your hands, so we'll be fair and democratic
15 here. So, yes. Gentleman in the back.

16 BY JAMES RICHARDS: James Richards.

17 BY DR. DRAKE: Okay.

18 BY JAMES RICHARDS: Similar question.
19 What about the Snowball area? It's closer
20 in the Joplin city there.

21 BY MR. DOOLAN: Don't have an exact
22 date. I know that --

23 BY JAMES RICHARDS: It is part of the
24 plan though?

25 BY MR. DOOLAN: Oh, it's absolutely

1 part of the plan. The Snowball area is a
2 little strange because part of it is going to
3 be done by the mining companies, the other
4 part is going to be done by EPA. I'm also
5 very aware that the city is planning a new
6 ramp and a new street up through there as
7 part of that Zora bypass. I believe that the
8 majority of that roadway is going to go on
9 the mining company's side, and I'm kind of
10 pushing them to - when they get finished in
11 the Oronogo area to go down and take care of
12 that. So hopefully within a year or so.

13 BY JAMES RICHARDS: Yeah. My
14 understanding is the road is going to go to
15 Bell Center curve there.

16 BY MR. DOOLAN: Correct.

17 BY JAMES RICHARDS: Cattycorner to
18 Lone Elm and Zora connection. So it will go
19 right through that main part of Snowball.

20 BY MR. DOOLAN: That's correct.

21 BY JAMES RICHARDS: Okay. But no
22 timeframe really? Just kind of -

23 BY MR. DOOLAN: Year and a half, two
24 years. It kind of depends on when the county
25 - or when the city needs to get in there and

1 build that road.

2 BY JAMES RICHARDS: Yeah. I guess
3 they don't have the money to do it right now.

4 BY MR. DOOLAN: No..

5 BY DR. DRAKE: Okay. Let's go back.
6 If you - she probably won't remember your
7 name, so just have to ask you one more time.

8 BY SHANEN GIVONE: Shanen Givone.

9 BY DR. DRAKE: Okay. Thank you.

10 BY SHANEN GIVONE: While looking
11 online and researching the population from
12 2000 to 2010 according to each zip code, it
13 appears that our population in every city
14 that I looked at from Purcell, Webb City,
15 Joplin, Carl Junction, the area, every one of
16 those cities has declined by about fifty
17 percent. We've lost that much of a
18 population. These are not my numbers. I'm
19 just saying what I found online. And I'm
20 concerned because the male/female ratios are
21 also skewed in those same reports, which is
22 very similar to what happened in Seveso,
23 Italy, and I think it was Michigan, that both
24 had exposure to like Agent Orange. And since
25 it was made in Verona, Agent Orange, and

1 other chemicals, of course, and it was
2 released, and it was still released and found
3 in the 2012 EPA's fourth five year review,
4 because of those similarities, and because it
5 seems as though we have so many birth
6 defects, which are about three times higher
7 than the national average, and because we
8 have children who are two to five times
9 higher than the national average that are in
10 special ed IEP classes, and our number one
11 risk for our health around here would be
12 coronary, along with the breathing and
13 sepsis, or whatever it is, the number ten
14 that had to do - had to do with the kidneys
15 releasing the waste along with your protein.
16 I can't remember the name for it. It's on my
17 laptop. I would have to look it up. But all
18 these things, we seem to be a very unhealthy
19 community. And the water tests that I have
20 on the laptop also show very high levels of
21 not just Agent Orange, which we would call
22 pesticides, or herbicides, or defoliants, and
23 things of that nature, but they were made
24 during the war in a more concentrated form.
25 And we're finding those in our water today,

1 along with the cadmium, and lead, and zinc,
2 and radiation levels that I understand from
3 speaking to some of the people from the MDNR,
4 and the EPA, and the health department, that
5 it is just natural organic radiation, but I
6 do not find that to be true from what - or I
7 do not find that to be all that it is from
8 the reports that I'm looking at. And so I'm
9 concerned, especially when we talk about
10 increasing the health levels - or the heavy
11 metal levels for all of us to be exposed to
12 when it seems that we're already much weaker
13 than we were.

14 BY MR. DOOLAN: Well, first of all,
15 I'll try to explain. We're only dealing with
16 a mining problem here, the cadmium, lead, and
17 zinc. So the issues that you're discussing,
18 dioxin related, which have nothing to do --

19 BY SHANEN GIVONE: Some of them.

20 BY MR. DOOLAN: -- with this site,
21 and I can't address those because --

22 BY SHANEN GIVONE: What about the
23 radiation that does come from smelting and --

24

25 BY MR. DOOLAN: I'm not aware of any

1 radiation coming from the smelting. We have
2 not found any radioactive materials down here
3 that I'm aware of that are related to the
4 mining.

5 BY SHANEN GIVONE: According to Mr.
6 Gunn, when Eagle-Picher emits their heavy
7 metals, it is partially radioactive. And he
8 calls that organic because it came from the
9 ground. And I argue that it is no longer
10 organic when you pull it out of the ground
11 and make it so small that we are breathing it
12 in.

13 BY MR. DOOLAN: I'm not familiar with
14 that issue, so we're going to have to get
15 back with you on that.

16 BY SHANEN GIVONE: And as far as the
17 TCDD, or other type of dioxins, we have that
18 coming up --

19 BY MR. DOOLAN: It's not part of this
20 site, and I have nothing to do with that.
21 You're going to have to talk to the health
22 departments about it, because I don't have
23 any --

24 BY SHANEN GIVONE: Is there any --

25 BY MR. DOOLAN: -- information

1 whatsoever at all about that. I'm not here
2 to talk about that tonight. It's not that
3 I'm trying to avoid your question, it's just
4 not - I don't have any information about the
5 dioxin to answer your question.

6 BY SHANEN GIVONE: Well, it also
7 comes off of EBV. Are you responsible for
8 that part or not, since it's located in the
9 chats?

10 BY MR. DOOLAN: What?

11 BY SHANEN GIVONE: EBV. It used to
12 be - it burns all of the materials and stuff
13 like that for -

14 BY MR. DOOLAN: I have no information
15 about that. I understand, Shanen, that you
16 have a lot of concerns about the issues down
17 here, but --

18 BY SHANEN GIVONE: I really do.
19 Yeah.

20 BY MR. DOOLAN: We're addressing
21 those through personal contact --

22 BY SHANEN GIVONE: But, I mean, you
23 can just see that I'm concerned about
24 increasing any of those numbers --

25 BY MR. DOOLAN: Well, the numbers

1 that --

2 BY SHANEN GIVONE: -- or allowances.

3 BY MR. DOOLAN: I will speak
4 specifically about the sediment numbers, and
5 I'm glad to tell you those are still
6 significantly lower, order of magnitude lower
7 than what is acceptable for humans to be
8 exposed to, because the aquatic organisms in
9 the streams are much more sensitive to the
10 metals in the streams than people are. And I
11 think we have some health officials here that
12 could back me up on that. So they're still
13 significantly lower than what people would be
14 concerned about. And we have site specific
15 data to indicate that the toxicity is still
16 safe for those organisms living in the
17 stream.

18 BY SHANEN GIVONE: Well, since the
19 MCLs for lead for children is now five
20 instead of ten, and you said back in I think
21 2009 that seventeen percent or something of
22 the children were found to have at least ten
23 micrograms per deciliter of exposure - or
24 lead poisoning, then that means there were
25 actually probably fifty percent of the

1 children that were at a toxic level if they
2 used today's five micrograms per deciliter
3 instead of the ten? Is that possibly the
4 reason for all of the people that are no
5 longer with us from 2000 to 2010?

6 BY MR. DOOLAN: Do you want that one,
7 Tony?

8 BY TONY MOORE: Well, you know, the
9 current CDC guidance is that you should start
10 to be concerned if children have blood lead
11 levels greater than five. That's not
12 necessarily - I mean, I don't think they
13 would necessarily consider that toxic at
14 blood lead level of five, however, it is a
15 level of concern, and you would hope that
16 they would not exceed that level or stay
17 below it. There are studies out there that
18 would indicate that virtually no lead
19 exposure is - zero lead exposure would be
20 optimal, but that's not possible. There's -
21 if you look up lead in the dictionary it's
22 going to say lead is ubiquitous in the
23 environment because it's everywhere. It's
24 been used for so many things, and it's kind
25 of everywhere in the environment. So I don't

1

2 BY SHANEN GIVONE: Well, we can't
3 lower the lead to what it used to be ever
4 since we had the leaded gasoline. I mean, I
5 understand that that is probably never going
6 to be below two anywhere in America, and
7 probably most countries, but it just seems
8 that if they've already correlated health
9 issues for adults or children even at the
10 levels of two or three, like with the World
11 Health Organization study and stuff, that we
12 would not want to introduce it even in the
13 water sediments or anything like that.

14 Because we have flooding, then we have dry
15 spells, then it becomes dust, and then it's
16 still blowing. I'm just concerned about --

17 BY MR. DOOLAN: Keep in mind that
18 what we're proposing for the sediment number
19 is two hundred and fifty. Our acceptable
20 level for residential yard soil is four
21 hundred. So it's not quite, but almost half
22 that value. And it's coming from sediments
23 that are saturated in the bottom of a stream.
24 So if a child is exposed to those sediments,
25 it's going to wash off his hand before he can

1 get out of the stream anyway. So these
2 numbers are, in my opinion, extremely
3 protective of people still.

4 BY DR. DRAKE: Okay. Let's - yes.
5 Lady right here in the front, if you wouldn't
6 mind to state your name for the court
7 reporter.

8 BY SUSAN HARDEE: Susan Hardee. I
9 have a few questions. One, is Oronogo Circle
10 actually ever going to get full? Filled?

11 BY MR. DOOLAN: We think so.

12 BY SUSAN HARDEE: Really? And
13 capped?

14 BY MR. DOOLAN: We think so. That's
15 the plan.

16 BY SUSAN HARDEE: Okay. Then on the
17 property north of that, it's about twenty-six
18 acres, and it was full of a lot of
19 mineshafts, and I think EPA is speaking now
20 of making it a wetland. I knew I had a
21 spring over there, and also Orchard Creek,
22 which comes from north, and I'm not positive
23 what they're doing. I'm supposed to get a
24 final plan. But all this water - kind of
25 what I would like to know - they found five

1 springs when they started on the twenty-six
2 acres, not one. And the small creek. And
3 Oronogo Circle, the water in Oronogo Circle
4 goes to Joplin, and Carthage. We know it
5 goes everywhere. Anyone in the area knows.
6 And if you're putting contaminated material
7 in the Circle, isn't that going to leach out
8 into our aquifers in some way?

9 BY MR. DOOLAN: We actually did very
10 extensive studies before we did our 2004
11 Record of Decision where we took material
12 much more contaminated than what we're
13 putting in it now. In other words, we went
14 up into the Waco area and found some mine
15 tailings that had extremely high levels of
16 lead, extremely high levels of zinc. Lead is
17 actually not that soluble. It doesn't
18 dissolve under the groundwater that well.
19 Zinc does though. We've had some tailings
20 that had as high as forty thousand parts per
21 million of zinc in it, which is extremely
22 high, filled up a fairly large pit up there,
23 had monitoring wells placed all the way
24 around the pit to monitor the groundwater.
25 What we saw was a pretty significant spike

1 for a short period of time, and then fell
2 off, and the concentrations actually went
3 lower than what was in the pit before we
4 filled it. So what happens, it's a chemical
5 reaction that if you put the materials in
6 there they go down real deep, which means
7 they're not exposed to oxygen anymore, and it
8 takes away their solubility, they become more
9 solid, and they don't dissolve. So it's
10 actually better to have the materials
11 underwater than exposed at the surface.

12 BY SUSAN HARDEE: Are they not going
13 to sink kind of to the bottom, the lead and
14 everything, and --

15 BY MR. DOOLAN: No.

16 BY SUSAN HARDEE: -- then the top
17 water couldn't clear off? After all this is
18 finished can I have all my water tested?

19 BY MR. DOOLAN: Absolutely.

20 BY SUSAN HARDEE: Really? All the
21 ponds and - okay.

22 BY MS. KLOECKNER: Institutional
23 control. Surface water monitoring is
24 institutional.

25 BY MR. DOOLAN: Yes.

1 BY DR. DRAKE: Okay. Yes. We'll go
2 back to you.

3 BY SHANEN GIVONE: Shanen Givone
4 again. And this has to do with the cleanup.
5 Mr. Gunn from the EPA told me that - when I
6 asked about Snowball, and Oronogo, and Alba,
7 and all the different chats that are still
8 visible, and people are still able to go in
9 and be exposed to it and take it out and
10 throw the contamination around in a driveway
11 or whatever, I asked why it was still
12 possible that kids were riding in Snowball,
13 and access was open, and we were still
14 exposed like on windy days. And he told me
15 that we were only given fifteen million
16 dollars per year for all of Region 7, as far
17 as a budget for cleaning up the mining
18 district. Is that correct to your knowledge?
19 And, if so, why is it that all of those
20 corporations like Asarco and Doe Run, and
21 Eagle-Picher, and all - I mean, there's like
22 twenty of them or so. Why is it that when
23 they were fined we did not just get it all
24 done right away, instead of seemingly just
25 doing a little bit here and a little bit

1 there, and even in the highest concentrated
2 areas, like in Alba where you saw the picture
3 that was outlined, that means it's the most
4 toxic, and the one in Oronogo, most toxic,
5 and the part in Joplin by the smelter, most
6 toxic, why weren't those concentrated on
7 first and then work outwardly?

8 BY MR. DOOLAN: We are working on the
9 areas that we think are the most - where
10 there's most people exposed. That's why we
11 started in the Carterville, Webb City area,
12 because that's where the highest population
13 was, the people abutted right up against
14 those. That's why we're working in the
15 Oronogo area right now. We can't do all
16 eleven thousand acres all at once.

17 BY SHANEN GIVONE: But are you doing
18 it or are the companies that caused it doing
19 it?

20 BY MR. DOOLAN: Both. EPA is working
21 on the site, spending what we call fund lead
22 money, tax dollars.

23 BY SHANEN GIVONE: Right.

24 BY MR. DOOLAN: Appropriations from
25 Congress. And we have Blue Tee, Goldfields,

1 --

2 BY SHANEN GIVONE: Right.

3 BY MR. DOOLAN: -- Doe Run, also
4 working on the site.

5 BY SHANEN GIVONE: And there could
6 not be a particular one that would start on
7 the ones out in Alba, and another particular
8 one that would start --

9 BY MR. DOOLAN: The mining companies
10 - the mining companies are working on the
11 areas that they operated on. They're only
12 responsible for a certain part of the site,
13 not the entire site. We do not have a party
14 responsible for the Neck/Alba area.

15 BY MS. KLOECKNER: I'll try to answer
16 the question about the responsible parties.
17 We have five responsible parties actually
18 that had some viability left when we started
19 to work on our legal settlements with this
20 Operable Unit Number One. All this mine
21 waste cleanup. And those five parties
22 covered maybe - and this might be a little
23 high. Fifty percent of the acreage. So we
24 entered into what we call a mixed work
25 settlement, where those parts where they

1 formerly operated and owned mines, they are
2 doing the work. And then we have orphaned.
3 Maybe fifty percent or more of the acreage
4 that has to be cleaned up is orphaned. We
5 can't tie those areas to any particular
6 viable responsible party, so we are using
7 Superfund monies for those portions. And
8 it's kind of checkerboarded where we find a
9 party that's responsible and where we have to
10 use Superfund trust monies, the money that we
11 get annually from headquarters.

12 BY SHANEN GIVONE: Why are we limited
13 to the fifteen million per year then?

14 BY MS. KLOECKNER: Well, that has to
15 do with funding from Congress, funding from
16 headquarters, and how that's divvied up
17 across the whole United States. So in order
18 to approach this systemically for the whole
19 United States, the money is divvied up on a
20 formula from headquarters, and we get so
21 much. You could add more, I'm sure.

22 BY DR. DRAKE: Right. There's always
23 a - and that was Jane Kloeckner, the regional
24 counsel, answering that last question. But,
25 as you might imagine, there are ten regional

1 offices at the Environmental Protection
2 Agency, all vying for remedial action funding
3 to do any manner of cleanups in all fifty
4 states. So it's a big competition, so to
5 speak, for funding. We have been very
6 fortunate here. We have received actually
7 quite a bit of federal funding. We receive a
8 large amount of the annual Superfund budget,
9 and we just have to procure all we can. I
10 mean, it's - it's certainly our goal to
11 procure as much money as we can, to do as
12 many cleanups as possible. But, I mean, the
13 amount of taxpayer money is finite. The
14 amount of responsible party funding is
15 finite. They're liability is finite. So
16 it's just that combination of all of the
17 circumstances. But we are certainly, - you
18 know, a perfect world, yes, we would want as
19 much funding as possible. The EPA is only
20 one federal agency among many, many federal
21 agencies that make up the United States
22 Federal Government. So, you know, it is a
23 competition. Keep that in mind. And the
24 resources are limited. So, let's see. Let's
25 go on to some more questions. Yes. In the

1 Kansas City Royals shirt in the back. Yes.
2 If you wouldn't mind, just give your name for
3 the reporter real quick.

4 BY BOB FOOS: Bob Foos. Are you
5 monitoring the Circle pit area, Blue Tee? It
6 seems like they've come to a halt.

7 BY MR. DOOLAN: Well, Blue Tee is
8 conducting that action over there. They have
9 a contractor that's doing that work, and the
10 contractor doesn't like to work in the rain.
11 We've had a whole lot of that this summer.
12 So EPA crews are working, but Blue Tee crews
13 are not working. I cannot explain why.
14 They're just about finished though. I can
15 tell you that. With the work that they're
16 going to do up in Oronogo right at the
17 moment.

18 BY BOB FOOS: Have they started
19 capping yet?

20 BY MR. DOOLAN: The pit?

21 BY BOB FOOS: No. The surrounding
22 areas.

23 BY MR. DOOLAN: There is very little
24 capping to be done because everything was
25 excavated. The only place that they're going

1 to be building a cap is right up against the
2 roads, because the roads in Oronogo are all
3 built in chat, so you start in the chat
4 piles, then work your way towards the
5 streets, you leave an embankment along the
6 road where the chat is exposed, so you have
7 to cap the edges of those, but other than
8 that it's --

9 BY BOB FOOS: Maybe I'm using the
10 wrong term. I mean covering with topsoil and
11 -

12 BY MR. DOOLAN: There will be no
13 topsoil put on there.

14 BY BOB FOOS: Okay.

15 BY MR. DOOLAN: All they're doing is
16 going in and digging down until they get the
17 clean material, then they're grading the area
18 to make it drain. It's really unfortunate
19 that we don't have enough funding or
20 available topsoil anywhere in Jasper County
21 to cover all the areas that we excavate. I
22 would like to, but I crunched the numbers at
23 one time just to see if we put four inches of
24 topsoil on the areas we clean up so we can
25 get grass growing, and just EPA's side would

1 add another sixty million dollars at a
2 minimum. So we don't have the money to do
3 it.

4 BY DR. DRAKE: Okay. Thank you.
5 More questions? Yeah. I'll get to the guy
6 behind you first, then we'll go back to you.
7 The person in the blue shirt. And if you
8 would repeat --

9 BY ROY SIDENSTRICKER: Roy
10 Sidenstricker. When you move out to the
11 Purcell, Alba, Neck City area are you going
12 to come talk to the landowners before you
13 move out there and explain what you're going
14 to do?

15 BY MR. DOOLAN: Absolutely.

16 BY ROY SIDENSTRICKER: Approximately
17 how long before you actually do the work are
18 you going to talk to us? What we did, we
19 took fourteen acres that's the ole Frojeau
20 (ph.) mine just north of Purcell, where the
21 old sludge pond used to be. It's got
22 tailings, it's got slate, it's got pillars,
23 concrete pillars and stuff. Well, we
24 developed that and put a 6.3 acre lake in
25 there where the sludge pond used to be.

1 We're getting a lot of runoff from the chat.
2 And we've built houses all around this lake.
3 And we kind of want to know what you're going
4 to do with that sludge pond. Are you going
5 to fill it in or help us make a lake out of
6 it?

7 BY MR. DOOLAN: I would have to wait
8 until we do the design.

9 BY ROY SIDENSTRICKER: Well, I just
10 want to know about --

11 BY MR. DOOLAN: We do them in phases.
12 So, you know, we'll design out, we'll do the
13 remedial design on four or five hundred
14 acres, and we'll go construct it. We'll do
15 an additional design, then go construct it.
16 So I have no idea --

17 BY ROY SIDENSTRICKER: Are you
18 familiar with the area though? Have you been
19 out there?

20 BY MR. DOOLAN: Not in a long time.

21 BY ROY SIDENSTRICKER: But, anyway, I
22 wanted to know about how long before you come
23 talk to us.

24 BY MR. DOOLAN: Oh, it will be a few
25 months in advance before we start the

1 cleanup.

2 BY ROY SIDENSTRICKER: I was
3 interested. So thank you.

4 BY DR. DRAKE: Okay. I believe you
5 had your hand up here in front. One more
6 time, your name.

7 BY SUSAN HARDEE: Oh. Susan Hardee.

8 BY DR. DRAKE: Okay. Thank you.

9 BY SUSAN HARDEE: And Blue Tee can't
10 do anything. Just go over and talk to Bill.
11 Everything over there right now is clay, and
12 if you even try to walk in it you can sink
13 right to here and stay there. So it's the
14 weather. But I also had a comment. I talked
15 to Jerry Riff about it, because I'm
16 understanding maybe a problem about getting
17 borrow, which I have given some, but they
18 were going to get it from someone else. And
19 behind, not the twenty-six acres, but across
20 where we live, there was Mill Pond. If
21 anybody is familiar with Oronogo would be.
22 And that was capped and taken away. There
23 are two streams that come from our fire
24 station this way and by a house over here
25 that used to go into Mill Pond. They still

1 go into that area. And there's nothing
2 stopping them. They're just going to keep
3 flowing, and I guess keep going to Center
4 Creek, or down in a big hole that somebody
5 has got to fill. Orchard Creek Mine comes
6 from way out north also. But what I
7 suggested to Jerry is maybe if anybody needed
8 borrow, and to get rid of some more water,
9 that Mill Pond could be put back there. It's
10 just - I just live - my property abuts it on
11 this side of MM Highway. And I hated to see
12 it go just for wildlife. And I'm really -
13 I'm actually getting happy if I'm getting
14 wetlands on the twenty-six acres because we
15 have every wildlife you can imagine. Even a
16 rest stop for birds flying. That would make
17 me very happy. But Mill Pond, maybe someone
18 should just look into putting it back.

19 BY MR. DOOLAN: I'll let them know
20 about that.

21 BY SUSAN HARDEE: Okay.

22 BY MR. DOOLAN: See if there's an
23 interest in it.

24 BY SUSAN HARDEE: Okay.

25 BY DR. DRAKE: Okay. Yes. In the

1 white blouse. And I can't recall your name,
2 but --

3 BY SHANEN GIVONE: Shanen Givone.

4 BY DR. DRAKE: Okay. Thank you.

5 BY SHANEN GIVONE: When you were
6 talking about the proposed changes and
7 amendments you said that the county sets the
8 action levels?

9 BY MR. DOOLAN: The county has an
10 ordinance that governs construction of new
11 residential property, and they actually
12 established a cleanup level for cadmium and
13 lead in their ordinance.

14 BY TONY MOORE: Based upon EPA --

15 BY MR. DOOLAN: Based upon what EPA's
16 recommendations were.

17 BY SHANEN GIVONE: And will any of
18 those require a TI because they are above
19 what the EPA might normally consider as being
20 a safe level?

21 BY MR. DOOLAN: They are what EPA
22 considers to be a safe level.

23 BY SHANEN GIVONE: Okay. Do we not
24 have TIs, technical impracticalities, I think
25 is the word? I'm probably using the wrong -

1 BY MR. DOOLAN: Technical
2 impractability waiver is not required because
3 the numbers are what EPA requires. In fact,
4 I think in some cases they were a little bit
5 lower than what EPA recommended.

6 BY DR. DRAKE: And that was Tony,
7 Tony Moore from the health department. Yes.
8 Gentleman in the shirt here.

9 BY BRIAN HEDGCORTH: Brian Hedgcorth.
10 I'm curious about the repository areas,
11 long-term monitoring. You didn't really talk
12 about how, you know, over time those are
13 going to be monitored. Is there a plan for
14 that?

15 BY MR. DOOLAN: We will - both EPA
16 and the mining companies will require the
17 landowners to put a covenant on their Deed
18 that describes what the land - or the
19 repositories can and cannot be used for.
20 We've got a few of those in place already on
21 the repositories the EPA has built. We've
22 got a few more that underway. And I know
23 that the mining companies are working on
24 those. They're pretty simple documents. In
25 essence, what they're going to say is that

1 you cannot build a residential structure on
2 top of the repository, and that we don't want
3 you drilling shallow groundwater well that's
4 used for human consumption in the repository
5 area. Other than that, it can still be
6 developed for commercial. And the operation
7 and maintenance is basically just coming out
8 every - periodically, every year or so, and
9 inspecting the repository to make sure that
10 the cap is still in place, that you haven't
11 built a house on top of it, that there isn't
12 erosion going on that needs to be repaired.
13 So it's not all that - but there is a
14 document that you will be asked to sign that
15 gets actually filed on your Deed at the
16 County Assessor's Office. And the reason we
17 do that is because we don't want somebody
18 coming in fifteen, twenty years down the road
19 when you sell the property, has no idea what
20 happened there, and going in and digging into
21 it, and re-exposing all those wastes, or
22 trying to build a house, or worse yet,
23 putting a daycare on it or something like
24 that. So it's just a safety precaution to
25 make sure that the wastes stay buried.

1 BY DR. DRAKE: Real quick, I - yes,
2 sir. Real quick, I wanted to make a brief
3 announcement that I should have said earlier.
4 I think Debbie and Liz caught everyone
5 walking through the front door, but if anyone
6 has not signed up, we have a signup sheet for
7 everyone tonight. We would just like your
8 name, if you want to jot it down. We would
9 like to know the attendants, and the
10 interest, and so forth. So just - I saw a
11 couple of people leave, so I wanted to make
12 that announcement here before the end. So
13 just, please, feel free to sign up if you
14 didn't on your way in. And then the
15 gentleman back here in the tan. Yes.

16 BY BOB WEST: My name is Bob West. I
17 was wondering why zinc is included in all
18 this. Why is it bad?

19 BY MR. DOOLAN: Why is zinc bad?

20 BY BOB WEST: Yes.

21 BY MR. DOOLAN: Zinc is very, very
22 toxic to the aquatic environment. I mean,
23 for people zinc is an essential nutrient. We
24 take a vitamin, you know, it's got zinc in
25 it. Or a lot of people, including myself,

1 feel a cold coming on, we take zinc.

2 BY BOB WEST: Oh, yes.

3 BY MR. DOOLAN: Zinc is very helpful
4 to humans, but it's very toxic to fish. And
5 some - it can be very toxic to horses in high
6 concentrations. So some animals are not
7 tolerant, and fish are certainly not
8 tolerant. It's kind of strange that people
9 don't like lead, and we tolerate a lot of
10 zinc, fish can tolerate a lot of lead, but
11 you can expose them to zinc and they go belly
12 up.

13 BY BOB WEST: Wow.

14 BY DR. DRAKE: Okay. More questions?
15 Okay. A couple of - oh, we have three hands
16 up. Okay. We will go in the order that you
17 raised your hands, because we're very
18 democratic tonight. So I'll have to keep my
19 visual mind of all three of you. So I think
20 the gentleman in the red shirt had his hand
21 up first. And, if you don't mind, just
22 quickly repeat your name one more time.

23 BY JAMES RICHARDS: James Richards.
24 Again, back to the Snowball development. I
25 think it kind of goes in hand with what you

1 said. You notify the property owners months
2 in advance before you start any procedures
3 there and everything?

4 BY MR. DOOLAN: Yes.

5 BY JAMES RICHARDS: What if there's
6 been development on top of some of that chat
7 areas already?

8 BY MR. DOOLAN: Like you've brought
9 in a bunch of clean fill and covered it?

10 BY JAMES RICHARDS: Yeah.

11 BY MR. DOOLAN: Great. I don't have
12 to do anything with it then.

13 BY JAMES RICHARDS: Okay. So
14 basically --

15 BY MR. DOOLAN: Thank you.

16 BY JAMES RICHARDS: You're very
17 welcome. Actually, thank you for all your
18 work you're doing. So, basically, that
19 property is considered safe because it's not
20 exposed chat?

21 BY MR. DOOLAN: If you put a
22 sufficient amount of material on there.

23 BY JAMES RICHARDS: Three to four
24 feet of topsoil.

25 BY MR. DOOLAN: That's more than

1 enough.

2 BY JAMES RICHARDS: Okay. For nine
3 acres.

4 BY DR. DRAKE: Yes. I would second
5 Mark that four feet is a great amount, a
6 great amount of soil. That's more than we're
7 putting on. I think the second person was
8 the man in the plaid shirt back here.

9 BY STEVE HAGENSICKER: Steve
10 Hagensicker. I've got forty acres on the
11 very east side of Duenweg. Turkey Creek is
12 my south boundary. In kind of the southeast
13 part of my property is kind of a gravel bar.
14 Then Mi Tierra Longhorn Ranch is just east of
15 me. Now, they did have a big chat pile which
16 they hauled most of that out, but what I'm -
17 my question is, what would it take for
18 somebody to come by and sample my soil to see
19 how contaminated it is? I've got eight head
20 of horses and mules running around, and I was
21 kind of - would be curious how it rates on
22 the contamination.

23 BY MR. DOOLAN: You're just wanting
24 the property sampled to see what it is?

25 BY STEVE HAGENSICKER: Yeah.

1 BY MR. DOOLAN: We don't have anybody
2 down here sampling right now. I don't know.
3 Tony, is that something your guys could do?

4 BY TONY MOORE: We could possibly do
5 that. Yeah.

6 BY MR. DOOLAN: We have an agreement
7 with the county to do some sampling,
8 especially for people that are wanting to
9 sell topsoil or build a lot or something. So
10 if you get a hold of the Jasper County Health
11 Department, they could send somebody out to
12 just take some quick samples and let you know
13 what it looks like. The EPA doesn't have
14 anybody down here doing sampling right now.

15 BY DR. DRAKE: Okay. The woman in
16 the hound's-tooth here.

17 BY CYNTHIA YOUNG: Cynthia Young.
18 Just a couple of comments. My yard was one
19 of those that was cleaned. I will say I have
20 a beautiful yard. So whatever you guys put
21 on top of it after it got cleaned off, it's
22 fantastic. And my grass is beautiful, so I
23 really do appreciate was done in that. And,
24 also, since I live in Webb City and I work in
25 Carthage, I have been driving past all the

1 work that's being done between Webb City and
2 Cartersville, and it is such an improvement
3 and such a pleasant sight, and I look forward
4 to our community developing and using it,
5 whereas before it was not. So I know you
6 guys hear negative things, but there are a
7 lot of positive things coming out of this,
8 and I want you to know that.

9 BY MR. DOOLAN: Thank you. We
10 appreciate that.

11 BY DR. DRAKE: Okay. More questions?
12 Yes. In the white. And, if you don't mind,
13 state your name.

14 BY LEISHA HOLDEN: Leisha Holden. I
15 have - I'm back to where the people are in my
16 area in Alba really getting - have been ill
17 with cancers and heart disease and stuff. I
18 mean, just - I could give you probably a list
19 of a hundred people in Alba, Purcell, and
20 Neck City that are sick. Dying with lung
21 cancer. Young people. I mean, there's got
22 to be something going on out there that's
23 really bad. Myself, I have cardiac and liver
24 disease, and I've not done drugs, no alcohol.
25 And it goes to quite a few people - I live -

1 I swam in the mines when I was a kid, but we
2 didn't know what was going to come in the
3 last forty years. Isn't - I mean, is there a
4 way you guys can test - because I have a mine
5 in front of my house, a mine to the east of
6 me, and three to the west of me. Within -
7 within not even a fourth of a mile. And I
8 live in the middle of Alba.

9 BY MR. DOOLAN: You want your yard
10 soil tested?

11 BY LEISHA HOLDEN: I would really
12 like to have.

13 BY MR. DOOLAN: Get with me and give
14 me your address, because we may have already
15 done it back when we were doing the
16 residential yard cleanup. We tested quite a
17 number of houses in the Neck, Alba, Purcell
18 area.

19 BY LEISHA HOLDEN: I'm right on D
20 Highway.

21 BY MR. DOOLAN: We tested quite a few
22 houses up there, and there was only two or
23 three that needed remediation. We'll just
24 have to see what your address - I'll get with
25 you right after.

1 BY LEISHA HOLDEN: Okay.

2 BY MR. DOOLAN: And I do certainly
3 sympathize with the health problems, but I'm
4 going to have to refer you to either the
5 health department, or ATSDR, or the State
6 Health Department about those concerns.

7 BY LEISHA HOLDEN: I mean, just the -
8 just the soil is what I'm thinking, because
9 it used to be a ballpark where the boys
10 played on, but they brought - they brought a
11 lot of gravel from the Sunflower area, which
12 - and put in. They put gravel - the gravel
13 in. They filled in a lot of our - when they
14 put the sewer line and the new water lines in
15 they went to the chat piles and got a lot of
16 gravel and put - the only reason I know that
17 is because my parents - my dad was the - on
18 the - what am I trying to say. The
19 committee. Yeah, well, he was alderman. And
20 he - so naturally he was walking around. I'm
21 going to walk around to see what's going on.
22 Since he's passed. But I also remember what
23 was down, where they got that stuff from, for
24 our water lines and our sewer lines.

25 BY DR. DRAKE: Okay. Any more

REPORTER'S CERTIFICATE

STATE OF MISSOURI

ss.

COUNTY OF NEWTON

I, JILL A. RENFRO, C.C.R. 605, Certified Court Reporter and a Notary Public in and for the County of Newton and State of Missouri, do certify that the foregoing is a true and correct transcription of the Public Hearing held at Missouri Southern State University, in the City of Joplin, in Jasper County and said State.

GIVEN under my hand and notarial seal at my office in Newton County, and State of Missouri, this 19th day of August, 2013.

My commission expires: 2/18/2017

Reporter's costs to be

paid by

Jill A. Renfro
Notary Public within and for

Newton County, Missouri.

JILL A. RENFRO
Notary Public - Notary Seal
STATE OF MISSOURI
Newton County
My Commission Expires Feb. 18, 2017
Commission #13461732

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