

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC,
Petitioner

v.

NUHN INDUSTRIES LTD.,
Patent Owner.

IPR2023-01161
Patent 11,358,425 B1

Record of Oral Hearing
Held: October 11, 2024

Before MEREDITH C. PETRAVICK, MATTHEW S. MEYERS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing on Friday, October 11, 2024, commencing at 10:12 a.m. MDT, via video teleconference.

P R O C E E D I N G S

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JUDGE DOUGAL: This is the oral hearing for IPR 2023-01161 between Petitioner Bazooka-Farmstar LLC and Patent Owner Nuhn Industries Limited. And concerning US Patent 11,358,425. I'm Judge Dougal and with me today are Judges Petravick and Meyers. So, let's start with appearances. Who will be arguing on behalf of Petitioner? You're muted, sir.

MR. LEACH: Sorry about that. I will be arguing on behalf of Bazooka-Farmstar, LLC. And under the Leap program, my colleague, Taylor Stemler will also be arguing the motion to amend. And with me also is Michael Herbally (ph), on behalf of Bazooka-Farmstar.

JUDGE DOUGAL: And I believe, according to Webex, you're Mr. Leach, correct?

MR. LEACH: Yes. Yeah, Mr. Leach.

JUDGE DOUGAL: Okay, great. And who do we have for Patent Owner?

MR. LUCHSINGER: Yeah, good morning or afternoon, depending on where you are. My name is Brad Luchsinger. Registration name is under James Bradley Luchsinger. I'm with the Harness IP law firm. We represent the Patent Owner, Nuhn Industries Limited. Also with me today are my colleagues Scott Yackey and Matt Cutler, but I will be the sole presenter.

JUDGE DOUGAL: Thank you. Before we begin with the arguments, I'll go over a few administrative matters. We understand that in every case that comes before us, both parties have a lot at stake and as such, we take our roles as judges very seriously. My primary concern is your right to be

1 heard. If at any time during the proceeding you encounter technical or other
2 difficulties that you feel fundamentally undermines your ability to
3 adequately represent your client, please let us know immediately. For
4 example, by contacting the team members who provided you with the
5 connection information.

6 Please identify yourself each time you speak. When not speaking,
7 please mute yourself. As you know, we have reviewed and have the entire
8 record before us. When referring to demonstratives, papers or exhibits,
9 please do so clearly and explicitly by slide or page number. Please also
10 pause for a few seconds after identifying it to provide us time to find it. This
11 helps with the preparation of an accurate transcript for the hearing. Finally,
12 also, please be aware that members of the public may be listening to this oral
13 hearing.

14 Now I'd like to address a few issues specific to this hearing. The
15 patented technology involves a manure agitator. We note that in the record
16 there are some few discussions of manure and waste using slang terms that
17 some people may consider crude or offensive. We encourage the parties to
18 use language appropriate for the seriousness of the issues before us and
19 respectful to all present, including any members of the public who may be
20 listening.

21 We note that each party has objected to the inclusion of certain slides
22 and the other party's demonstratives. As you know, the slides are not
23 evidence and are only meant to facilitate our discussion. We have reviewed
24 the objections and the slides at issue. In each case, we see no reason why it
25 would be necessary to refer to those slides in our hearing today. At the same
26 time, if a party feels that they want or need to use one of the slides in

1 question, they are free to address the objections during their main argument
2 time and before presenting the content of that slide. We'll likely take any
3 arguments of this nature under advisement, though we may make a ruling on
4 the objection from the bench.

5 In our hearing order, we authorized 75 minutes of argument per side.
6 Petitioner filed a request which was granted for participation of a leap
7 practitioner. This authorizes them to an additional 15 minutes or 90 minutes
8 total argument. At the same time, we remind Petitioner that the leap
9 practitioner must have a meaningful and substantive opportunity to argue
10 during the hearing today. Though there are a number of issues before us, we
11 believe that the authorized time should be sufficient. We encourage the
12 parties to be aware of the time and to use their time wisely.

13 Now, you may want to get a pencil for this. The parties may use their
14 time as they see fit. At the same time, we are interested in hearing an
15 argument in particular related to a few issues. For example, I'm interested in
16 hearing your arguments as to whether the evidence shows that the types of
17 pumps disclosed in Carrier, Truxor, or SenwaTec were known to be used for
18 pumping liquid manure or were capable of pumping liquid manure. I'm
19 interested to hear your arguments on how we should construe the term "fluid
20 mover." I'm interested in hearing why Carrier does or does not anticipate
21 the claims. I'm interested in the impact of the secondary considerations,
22 particularly on the Puck and Bryham ground, and with a focus on claims one
23 and seven.

24 And then for the amended claims, I'm interested in hearing why the
25 combination of Puck, Bryham and Manure Manager does or does not render
26 the proposed substitute claims unpatentable, including any impact of the

1 secondary considerations. Again, you're free to use your time as you see fit,
2 but those are all issues that I am interested in hearing about. So before we
3 begin, are there any questions?

4 MR. LEACH: One quick question. So, I have slides on some that
5 they objected to. For example, they objected because there were no citations
6 provided. It's just to facilitate my argument. Do I have to skip those slides,
7 too? I mean, there's a number of them.

8 JUDGE DOUGAL: Well, you don't have to skip the slides. It's just
9 we, you know, they're just to help us along. You can refer to them or look at
10 them yourself without referring to them, or you can just simply give your
11 argument as to -- their only objection was like you mentioned that we don't
12 have citations, you know, and you can address your argument at that time
13 when you hit the slide if you want to. It's not that you can't use them.

14 MR. LEACH: Okay. It's just if you want to avoid the issue and save
15 time, we can skip them or we can address them in the argument. Either way,
16 it's fine.

17 MR. LEACH: Okay.

18 JUDGE DOUGAL: Yeah.

19 MR. LUCHSINGER: So this is Brad Luchsinger. Just a point of
20 clarification on that. With the slides, I had planned on sharing my screen so
21 that we can all look and navigate through the slides sort of together. So for
22 the ones that were objected to, I believe it's slides 34 through 37 of our
23 presentation, the Patent Owners presentation. Would you prefer that I just
24 not share those on the screen when we go through them? Or do we need to
25 address the objection if we want to share the screen with those slides on
26 them?

1 JUDGE DOUGAL: I would say if you want to share those slides then
2 address the objection before sharing those slides or just simply don't share
3 those slides and still talk about the issues, you know?

4 MR. LUCHSINGER: Yeah, understood. Hopefully that clarifies the
5 procedure for Mr. Leach as well.

6 MR. LEACH: Sure. Is it possible, Your Honors, to just address the
7 objections on the slides now? Because I plan on sharing my screen and
8 going through the slides too. And so, rather than like stop the argument and
9 then start the argument based on which slides. For example, I think Patent
10 Owner objected to slide 27, given that it didn't have any citations on it. And
11 to the Board's point, they're not evidence. So I would like to use that to just
12 facilitate the discussion on that, on those points. Slides 44 and 45, I think
13 they argued, there are new arguments in terms of what would have been
14 obvious in terms of adding remote control, and we don't think it's new
15 evidence. It's evidence that Nuhn filed with its motion to exclude and it's of
16 record. And so I don't think they can pick and choose what evidence is used
17 and not used. So we'd like to be able to use those slides as well.

18 MR. LUCHSINGER: Would the Board like our Patent Owner's
19 position on this or -- it sounds like we're sort of getting into arguments that
20 should count against our time.

21 JUDGE DOUGAL: Yeah, I understand your position. I would like to
22 move forward with the procedure I've outlined. At the same time obviously,
23 I'll jump on slide 27 if you want to. You get there, cite the evidence, or
24 that's -- that would overcome that objection in my mind.

25 MR. LUCHSINGER: Well, so just to be clear, the objection wasn't
26 just that there was no citation to evidence, but it was that it provided a

1 summary of deposition testimony that was inaccurate. It was a
2 mischaracterization of the Patent Owners experts deposition testimony. That
3 was the ground.

4 MR. LEACH: I'll cite the evidence there during the argument, so I'll
5 provide that.

6 JUDGE DOUGAL: And Mr. Leach, would you like to reserve any
7 time for rebuttal?

8 MR. LEACH: I would. I'd like to reserve 15 minutes.

9 JUDGE DOUGAL: And Mr. Luchsinger. Is that what I'm saying? Is
10 that right?

11 MR. LUCHSINGER: Luchsinger. Almost like lush. Yeah. So I'd
12 like to reserve five minutes for rebuttal. And if you see me grabbing at my
13 phone, it's just because I'm using it as a timer. I'm not texting anyone.

14 JUDGE DOUGAL: That's fine. Okay, looks like we're going to
15 pause the hearing for a moment. Some technical issues. Okay, looks like
16 we can restart. Sorry about that temporary delay.

17 MR. LEACH: All right, Judge Dougal, one quick question. Under
18 the Leap program, we get 15 extra minutes, I believe, and I just wanted to
19 flag that just so we're on the same page.

20 JUDGE DOUGAL: Correct, yeah. So, I believe you have 90 minutes
21 total and Patent Owner has 75 minutes. All right, so when you're ready, you
22 can begin.

23 MR. LEACH: Okay, I'm going to share my screen. Hope this works.
24 Can people see my screen?

25 JUDGE DOUGAL: Yes.

1 MR. LEACH: Okay. If it may please the Board, I will start. Again,
2 I'm Tom Leach for Petitioner Bazooka-Farmstar, and we'll jump into the
3 issues. There's two broad issues in this case, anticipation and obviousness.
4 For anticipation, the dispositive question is whether one skilled in the art
5 would reasonably understand or infer from the prior art reference's teaching
6 that every claim element was disclosed in that reference. In terms of
7 obviousness, what's important is the scope and content of the prior art, the
8 differences between the claims and the prior art, the level of skill in the art,
9 and secondary considerations, if applicable. And I'll note that a strong case
10 of obviousness cannot be overcome by weak or the secondary considerations
11 of non-obviousness.

12 And so, let's talk about the '425 Patent here. The '425 Patent is titled
13 amphibious pumping vehicle, and the invention claimed is an amphibious
14 vehicle. Now the '425 Patent incorporates by reference another patent, and
15 that's the '758 Patent, and it incorporates it by reference in by using the
16 application number of the '758 Patent because it hadn't issued at that point.
17 But what's key here is the '758 Patent is a patent to a fluid pump, and it's a
18 general fluid pump. And in that '758 Patent it says, although described
19 herein with reference to the pumping of liquid manure, the pump, according
20 to the present invention, can be employed in any fluid pumping situation,
21 particularly where reservoirs with variable height are encountered, such as
22 when pumping fluid from rivers, ponds, lakes, rainwater storage reservoirs,
23 et cetera. And so that frames kind of what the '425 Patent is about. And
24 again, the '425 Patent.

25 The claim, for example, claim one is to an amphibious vehicle
26 comprising in generally a floatable vehicle body, ground engaging propulsion

1 structure, a fluid pump, power source and wireless remote control. The
2 dependent claims add common elements well known to those of skill in the
3 art, such as fluid conduits, nozzles, wheels and various types of drive
4 systems. And so, contrary to what was said on the face of the '425 Patent
5 about prior art, amphibious pumping vehicles were not new. For example,
6 amphibious dredge vehicles were known prior to the priority date of the '425
7 Patent. One example of an amphibious dredging vehicle was the Truxor
8 vehicle. This vehicle included tracks which allowed it to be driven from the
9 land into water and back out. It included a dredge pump which allowed it to
10 dredge sediment, including stones, bits of wood, mud from the bottom of
11 ponds and wetlands.

12 Another example of an amphibious pumping vehicle was the Amphi-
13 King manufactured by SenwaTec. And the picture on the left is from the
14 brochure that we rely on in our grounds. Using this vehicle, operators were
15 able to agitate manure and pump it from manure lagoons so that could be
16 used as fertilizer onto agricultural fields. Another example of a manure
17 agitation vehicle was the Sundstrom vehicle. This vehicle had four wheels,
18 a remote control that controlled the engine fluid pump and nozzles. It could
19 be driven around the lagoon via the remote control of the pump agitation
20 nozzle and it had a cable tethered to shore, and so the force from the manure
21 coming out of the nozzle would allow you to move the nozzle and steer this
22 vehicle around the manure lagoon. And then you could let the cable out or
23 pull the cable in to move it up and down and around the manure lagoon
24 Carrier, which Board is familiar with, is an amphibious pumping vehicle. It
25 discloses remote controlled amphibious pumping vehicle with a high volume
26 fluid pump conduit nozzle for firefighting applications.

1 The Bryham reference discloses adding wheels to boats to make them
2 amphibious. To avoid the problems with launching boats that require
3 trailers, especially where there isn't a boat ramp which is particularly
4 relevant in this case. Puck is another amphibious pumping vehicle. Puck
5 had nozzles around the boat for agitation, propulsion, and it had a centrifugal
6 pump placed in the center of the boat. Bradley is another patent from 2000
7 that was a remote control amphibious pumping vehicle. It had four wheels,
8 and it also discloses pumps and jets for agitation, along with a hovercraft
9 base. And so prior to the '425 Patents priority date, there were all kinds of
10 amphibious pumping vehicles and manure agitation vehicles that were better
11 than the shore based pumps disclosed in the patent. Recall that the shore-
12 based pumps in the patent were connected to a tractor, and the problem with
13 them is that they only had a limited reach, and as lagoons got bigger, they
14 couldn't agitate the center of these lagoons. But as we've just seen here,
15 there's a number of these amphibious pumping vehicles that could reach all
16 corners and all areas of the lagoon.

17 So let's talk about forms of manure. The industry uses different
18 terminology to refer to manure based on solid content. On the left-hand side
19 of the picture, you can see a pile of solid manure. On the right-hand side,
20 you have the other extreme, which is liquid manure. And liquid manure has
21 the lowest total solid content of the forms of manure. Solid manure would
22 be used or be spread onto farm fields using a box spreader or a trailer that
23 would fling the manure onto the fields so it could try to spread it out evenly.
24 One of the problems with applying solid manure is you would get clumps of
25 manure. So you've kind of got it concentrated spots of where the fertilizer
26 is, and it required a trailer and equipment like this to spread it. So what did

1 farmers do? Farmers would wash, or animal husbandry operations would
2 wash the manure to a holding pond or a lagoon with water. So it would be a
3 very dilute form of manure, and they would hold it there until they could use
4 their already existing irrigation equipment, such as water pumps or irrigation
5 pumps, to pump it onto fields. And this helped because it was less
6 expensive, because they already had the irrigation equipment, and it could
7 more evenly spread it onto fields.

8 And what's interesting here is the patent that's incorporated by
9 reference into the '425 Patent even explicitly talks about this. It says liquid
10 manure from animal husbandry operations, particularly pig farming
11 operations, is typically stored in a large manure reservoir or lagoon until
12 there is a sufficient quantity available to spread or irrigate onto farmland for
13 disposal. And so the incorporated by reference patent, which is to a fluid
14 pump, talks about irrigating liquid manure on the farm fields.

15 So let's talk about a manure lagoon and what's in a manure lagoon. So
16 the Puck reference provides a very good description of a manure lagoon. It
17 shows that the manure lagoons stratify into layers. And Puck also discloses
18 that there's bacteria in manure, and that bacteria breaks down the manure,
19 just like in human waste or human manure. There's bacteria that breaks
20 down that waste. You get a sludge layer, where the heavier sediment falls to
21 the bottom and forms at the bottom. And you can see that in the dark brown
22 layer here is the sludge layer disclosed in Puck. Between or above the
23 sludge layer is a watery liquid manure layer, and that's called the
24 supernatant, or supernatant. And that's the light brown colored in the picture
25 here. And so, occasionally, there's fibrous materials in the manure, and that
26 can rise to the top and form a crust. But a crust is not always formed,

1 especially in pig manure. And so, vehicles such as Puck have been
2 developed to agitate these manure lagoons to get the sludge on the bottom
3 into suspension, so it can be a homogeneous fluid pumped out and applied to
4 farmlands as fertilizer.

5 And so, as we talked earlier, the picture on the right top shows these
6 shore based tractor agitators that typically were like centrifugal pumps that
7 pumped the manure to agitate it. But the problem with these is they couldn't
8 reach the center of the lagoons, especially as the lagoons got larger. And so,
9 as we talked about, there's a number of pumps that, such as irrigation pumps,
10 that those at skill in the art of the farmers would use to pump out the liquid
11 manure in these manure lagoons and POSA's knew that water or irrigation
12 pumps were commonly used to pump liquid manure. This is evidenced by
13 the literature. And so what are some of these pumps? There's an ad in
14 Manure Manager, the July/August 2011 Manure Manager, that shows Fisher
15 pumps. And these are centrifugal pumps for irrigation, manure handling,
16 flood control, and aeration. And so these are the types of pumps that can
17 pump water and can pump liquid manure. In fact, they can pump higher
18 solid content forms of manure, like slurries. And what's important, in one of
19 the other brochures related to the Fisher pumps it talks about, due to the
20 design and efficiency of Fisher pumps, they are considered high volume, low
21 pressure units, require low horsepower requirements. Fisher pumps can
22 pump any fluid that will flow and are used for irrigation, plus tank filling,
23 manure, sewage lagoons, and note how they equate the two, dewatering and
24 other such applications.

25 And going back to the literature again, so what pumps are used to
26 pump liquid manure? All kinds of pumps are used to pump liquid manure,

1 centrifugal pumps, helical screw pumps, piston pumps, and what's important
2 here is all of these pumps can pump liquid manure. It shows in the second to
3 the left column, it says maximum solid content in percent that these pumps
4 can handle. And if you notice, all of these pumps can pump liquid manure
5 and a lot of them can pump much higher solid content manure. And so one
6 of skill in the art would understand what types of pumps can pump liquid
7 manure. And they would understand that, for example, the centrifugal pump
8 with the inclined shaft pump, for example, would have 3,000 to 5,000
9 gallons per minute pumping rate. So a high volume pump could pump
10 forms of liquid manure and even higher solid content manure.

11 So moving on to, and we'll talk about liquid manure and various
12 pumps a little later, but talking about agitation and remote control. In terms
13 of manure agitation remote control had been used long before the priority
14 data '425 Patent. Puck used remote control to control the pump, the nozzles,
15 the vehicle, all aspects of it. Sundstrom used remote control on its boat to
16 agitate and control the nozzle and the engine and parts of the boat. And then
17 getting back to agitation, or I'm sorry, amphibious pumping vehicles used
18 for pumping liquid manure. The SenwaTec vehicle shows that it could go in
19 and out of manure lagoons, and that the dredge pump on the SenwaTec
20 vehicle was used to agitate manure lagoons. And I know there's a dispute
21 over whether the human waste is manure, but humans are animals and
22 manure is waste from animals. And so as Mr. Sundstrom provided in his
23 declaration, pumping human waste, which he has done, and pumping animal
24 waste, which he has done, there is no difference in the pumpability of the
25 two.

1 So, briefly getting back to the patent, because the claims of the patent
2 are to an amphibious vehicle comprising a floatable vehicle, body ground
3 engaging propulsion, fluid pump, power source and wireless remote control.
4 And so, I want to get back to the claims, because that leads into our next
5 slide about the level of ordinary skill in the art. The PTAB, at least
6 preliminarily found Petitioners pose a definition most closely aligning with
7 the problems and solutions of the '425 Patent and the prior art of record, the
8 claims are directed to an amphibious vehicle. Claims are not limited to
9 manure lagoons. And I think the point of that is when you look at the
10 incorporated by reference patent, that's to a general fluid pump. Now it has
11 applications for liquid manure, but it talks about pumping on reservoirs and
12 all this other types of applications of just simply pumping water. And so a
13 POSA would have had a bachelor's degree in mechanical engineering or
14 similar field, and two years of professional experience in marine and off
15 road vehicles. And then lack of work experience can be remedied by
16 additional education. But what's at issue here is the Marine Vehicle
17 Experience.

18 JUDGE DOUGAL: Counsel, this is Judge Dougal. Real quick, is
19 there a dispute that level of skill will make our decision go one way or the
20 other? I know that you guys both argue about level of skill, but I didn't see
21 additional arguments where someone applying the level of skill was arguing
22 that, you know, you wouldn't combine Puck and Bryham or some other
23 references based on level of skill. But what, why is this of relevance to our
24 ultimate decision?

25 MR. LEACH: Well, I think it's relevant to the decision because Dr.
26 Winkel has experience in marine vehicles. That experience makes his

1 testimony more appropriate for the opinions that he provides. And it relates
2 to how one of skill in the art would understand how to combine Puck and
3 Bryham, and how easy it would be in terms of where to place things. And
4 what's important here is Nuhn admits that Mr. Prairie has no professional
5 experience with marine vehicles. And that's at paper 58 at page four. Yet
6 Mr. Prairie offers extensive opinions on marine vehicle concepts. And that's
7 provided there in slide 26. And so the reason we bring this up is the
8 experience of marine vehicles matters here, and the definition of a POSA
9 matters. Because if Petitioner's definition of a POSA is correct, and we
10 believe it is, Dr. Prairie is not a POSA, and his opinions are irrelevant and
11 can't be relied on. But even if they can be relied on, they should be given
12 little weight. Mr. Prairie's opinions are incorrect and irrelevant. And we're
13 getting to slide 27, which there's a dispute about. And I can bring it up for
14 the Board and we can talk about it. How would we like to handle that? I
15 can give you cites for each of these dots. And is what I planned on doing.

16 JUDGE DOUGAL: Yeah, just give us cites. I guess we'll take under
17 advisement.

18 MR. LEACH: Sure.

19 JUDGE DOUGAL: We're aware of Patent Owner's objections.

20 MR. LEACH: So Mr. Prairie, his definition of a pump, or what he
21 considers to be a pump in the prior art in this context is an intent based
22 definition. And I'll provide the Board with his testimony on that point. And
23 this is exhibit 1111 at page 20, lines eleven through page 20, line one. And
24 here's where there was a lot of back and forth trying to understand what
25 structure is required of a pump that pumps liquid manure versus what
26 structure can pump water. And I asked him --

1 JUDGE DOUGAL: Counsel, a minute ago, you showed us a slide
2 where you listed different types of pumps with very specific requirements.
3 They had requirements for fluid flow, horsepower. Isn't this consistent with
4 what you just showed us, that there are all kinds of different pumps, but they
5 have specific requirements to pump fluid. You know, my pump on my
6 water fountain sure can pump water, but, you know, it doesn't have the fluid
7 flow characteristics and the horsepower requirements of the chart you just
8 showed us. So isn't this consistent with what your evidence shows, that it's
9 not just any pump that could pump water, but it has to have specific
10 requirements? I guess I'm not really sure what, you know how this is a
11 problem.

12 MR. LEACH: In terms of the intent base of a pump. Mr. Prairie's
13 definition of a pump, it says, basically his opinion is that a liquid manure
14 pump, to determine whether it is, in fact, a liquid manure pump, you would
15 have to find out what its intended design was for. And he affirmatively said
16 yes to that. And so back to your point about these different pumps, the
17 example of these pumps, it just shows that all of these pumps, high volume
18 pumps that are centrifugal pumps, pump liquid manure, piston pumps, pump
19 liquid manure. The point is not only do they pump liquid manure, but they
20 pump higher solid content manure. The point being, liquid manure is the
21 lowest total solid content manure. And because of that, ordinary irrigation
22 pumps can pump it, water pumps can pump it. And so, there's no specific
23 requirement of the pump to be able to pump liquid manure because it
24 behaves like water, at least at the very low end or the low end of what liquid
25 manure is. And I know we will get to that. There is a dispute on the higher
26 end, but that's really irrelevant. And I'll talk about that a little bit later.

1 But getting back to why Mr. Prairie is not a POSA and why his
2 opinion should be given little or no weight is he has this intent based
3 definition. We believe that's wrong. He could not or would not identify
4 what pump structure is required to pump liquids with suspended solids. And
5 you can. That's at exhibit 1111, page 53, line nine to page 71, and you'll see
6 there's a bunch of back and forth there where I ask him, you know, what
7 structure is required to pump liquid manure? He says, well I need to know
8 what liquid manure is. Is it hog manure, is it cow manure? I say it's hog
9 manure. He asks, what were they eating? I tell them, assume regular feed.
10 And then what did he ask? Where was the farm? Was it in Europe? Was in
11 the US? What was the temperature? He just kept getting more specific and
12 asking more and more questions, but would never actually answer the
13 question. And so I think those examples show why the definition of POSA
14 matter and why Mr. Prairie's opinion should be given little weight.

15 The other two points here is I asked him about a centrifugal pump.
16 What are the components of a centrifugal pump? And that was at exhibit
17 1111, page 34, line 18 to 4611. And page 47, line twelve to 52, line 23.
18 And again, he couldn't or wouldn't say what the components of a centrifugal
19 pumper without requesting a picture of a pump that I would represent was a
20 centrifugal pump. So finally when I did give him a centrifugal pump, a
21 picture of it, which was a picture of Nuhn's pump, that was the commercial
22 embodiment out of the '425 Patent. The pump that was incorporated by
23 reference in an ad, a piece of literature, a piece of a patent or I'm sorry, a
24 printed publication. He could not interpret that piece of prior art aside from
25 reading the words on the page. And that's at page 274, lines 21 to 278, line
26 17. And I think all of that together shows Mr. Prairie's opinion should be

1 given little weight. And the remaining evidence from Dr. Winkle shows that
2 the claims are anticipated and obviously.

3 Moving on, get to claim construction really quick. One of the issues
4 is whether a fluid pump for pumping liquid manure, if that the for pumping
5 liquid manure is a statement of intended use. And it's our position that for
6 pumping liquid manure is simply a statement of intended use and it's non
7 limiting. And in the institution decision on this point, the Board noted that
8 Patent Owner does not provide argument at this stage as to what specific
9 structure is required to pump a liquid which includes suspended solids, and
10 encourage the parties to further develop this. As I said, the claim requires a
11 fluid pump. The use, for example, for pumping liquid manure is a non-
12 limiting intended use. Nuhn has failed to provide any specific structure
13 required for a fluid pump to pump liquid manure. And Nuhn's intent based
14 argument fails. This is an apparatus claim, not a method claim. And I think,
15 like in the Textron case, while for pumping liquid manure is intended to
16 describe the principle, intended use of the invention, it does not import a
17 structural limitation or exclude multipurpose fluid pumps. That is a non-
18 limited statement of intended use.

19 And so aside from that, even if for pumping liquid manure is a
20 limitation, high volume water pumps can pump liquid manure. The
21 evidence is replete with examples of high volume pumps pumping liquid
22 manure. And in the chart that we talked about earlier, that wasn't
23 requirements of the pumps, that was showing various pumps and what they
24 were capable of, and they were capable of pumping higher solid content
25 manure, and obviously liquid manure as well. And so, it just showed a
26 variety of different pumps, and included in that were high volume pumps.

1 And I think the evidence shows that water or fluid pumps pump liquid
2 manure, because there's no dispute that liquid manure includes manure that
3 is nearly 100 percent water and behaves like water. And so, what we
4 showed here is a chart out of the agricultural waste management field
5 handbook, and the sites are in the lower right hand corner of the slide. But
6 the figure here shows the classifications of manure. You've got liquid,
7 slurry, semi solid, and solid. The lowest total solid content manure is liquid
8 manure. And while there may be some dispute as to what the higher end
9 percent total solid is of liquid manure, there is no dispute that liquid manure
10 includes very low total solid content manure, including manure that's a half a
11 percent or less, or one or 2 percent total solids, and that ordinary water
12 pumps can pump that liquid manure. Those of skill in the art understood
13 this.

14 And why that matters. Inherency does not require the prior arts
15 disclosure, be coextensive and mirror the claim's full scope. Instead, the
16 prior art must have sufficiently described and enabled at least one
17 embodiment that necessarily featured or resulted in the subject matter
18 embraced by the claim. And that's the reactive surfaces case. And there's no
19 dispute that in terms of low total solid content, liquid manure near zero is
20 easily pumped with water pumps, dredge pumps, and firefighting pumps.

21 And so, I want to turn real quick to fluid mover. So this term we
22 agree that it's means plus function. And the function, I think both sides
23 agree, is moving fluid. And so, the corresponding structure is a pump
24 conduit nozzle. That is the structure that moves fluid. And when you're
25 looking at corresponding structure, it must include all structure that actually
26 performs the recited function. Nuhn's definition or Patent Owner's definition

1 is wrong because they say the structure is valves and nozzles, but that lacks
2 any structure that is a pump that can move fluid. And so I'd like to get to
3 ground one of Carrier. Carrier discloses a remote control amphibious
4 vehicle --

5 JUDGE DOUGAL: Real quick going back. This is Judge Dougal
6 again.

7 MR. LEACH: Yes.

8 JUDGE DOUGAL: So is it just the pump and the valves and the
9 nozzles that are disclosed in the patent that define what the fluid mover are?
10 Is it just basically, just in the broad terms, those three terms, pump, nozzles,
11 valves.

12 MR. LEACH: For a fluid mover? It's a pump conduit, nozzle.
13 Nuhn's definition is valves and nozzles. And their definition is wrong is
14 because no part of their definition includes a structure that actually moves
15 fluid. And so Petitioner's definition of fluid movement, the structure that
16 moves fluid, is a pump, conduit and nozzle. That's what moves the fluid.

17 JUDGE DOUGAL: Okay, so why is it singular? Why is it singular?
18 Nozzle and valve as opposed to nozzles and valves?

19 MR. LEACH: I guess I'm not tracking you. Are you asking why
20 Nuhn's definition is valves and nozzles?

21 JUDGE DOUGAL: Well, I'm just. The patent, right. There's a -- I
22 guess my question is what extent. Right. How far do we go with 112.6?
23 The disclosure involves a system of. Okay, we can say a pump, but it's also
24 a system of multiple nozzles, multiple valves associated with each of those
25 nozzles. You know, I mean, to a certain extent, you could say, you know,
26 two in the front, two on the left, two in the right, one in the back. Like, how

1 far. How much structure, how far into the structure? Do we have to go for
2 112.6 to say that? Is the structure required to define this claim?

3 MR. LEACH: Sure, I think I've got it. So when you're looking at in a
4 means plus function claim, when you're looking at what is the corresponding
5 structure to the function that is moving fluid, you must include all structure
6 that performs the recited function. And here, the structure that performs the
7 recited function of moving fluid is a pump, conduit and nozzle. You don't
8 need multiple nozzles because one pump, one conduit, and one nozzle can
9 move fluid. Now, there can be more. It's not limited to that, but the
10 structure required to move fluid is pump, conduit, nozzle, and that's all that's
11 required. And so you. Obviously, we believe theirs is wrong because there's
12 nothing in their definition, Patent Owners definition, that moves fluid. But
13 also they trying to, they try to tie in this for controlling speed or direction of
14 the vehicle, but that's not the function here. The function here is moving
15 fluid. So the question is what corresponding structure moves fluid? And
16 that's pump, conduit, nozzle. Now the pump conduit nozzle may control the
17 speed or direction, but you only need one pump, one conduit and one nozzle
18 to control the speed of the vehicle. And so I think the case law is pretty
19 clear that the structure is limited to only that structure required to perform
20 the function.

21 JUDGE DOUGAL: Thank you.

22 MR. LEACH: I'll move on. And so ground one Carrier. Carrier
23 anticipates the claims of the '425 patent. Carrier is an amphibious vehicle.
24 It has an engine, a pump, a water cannon with multiple nozzles, conduits
25 ground engaging propulsion structure, and it was all remote control. In fact,
26 I think what's telling here is Carrier describes the remote control in pretty

1 good detail. And when you look at the '425 Patent, there's almost no detail
2 on how to implement remote control. And that's because at the time of the
3 '425 priority date, remote control systems were easily implemented on these
4 such vehicles. They were just plug and play systems. And so getting to the
5 heart of the question here, does the pump on Carrier, or does Carrier disclose
6 to one of skill in the art a fluid pump for pumping liquid manure? And it
7 does. And the Board was correct in characterizing the dispositive question
8 here as whether one of skill in the art would reasonably understand or infer
9 from the prior art's references teaching that every claim element was
10 disclosed in that reference. And another cite for that case would be for that
11 proposition is *In re Baxter Travenol Labs*. And that's 952 F.2d 388 at page
12 90. And that's a Fed. Circuit case. But getting to the evidence here about
13 what one of skill in the art would understand from Carrier.

14 Carrier discloses a high volume fluid pump for pumping liquid or
15 fluid from lakes and streams. Nuhn's expert admits that fluid from lakes or
16 streams includes suspended solids such as organic matter, sand, silt, all that
17 stuff. And that Carrier discloses a high-volume pump that can pump water
18 from lakes and streams. Puck confirmed that firefighting pumps pump
19 liquid manure, and the pump disclosed in the '425 Patent is a multipurpose
20 centrifugal pump that can pump water from lakes and streams. And so the
21 evidence, including from Dr. Winkel, establishes that one of skill in the art,
22 reading the Carrier disclosure would understand that it discloses various
23 pumps, and one of those pumps is a firefighting pump, a high volume
24 firefighting pump. That could pump water from lakes and streams. And I
25 think another reference article here that is appropriate to point out is in the
26 literature, it says that lagoon waste system. So here are the characteristics.

1 Lagoon systems handle highly diluted waste, 96 percent or more water that
2 can be pumped through irrigation systems. And then it says most lagoon
3 affluent is more than 99 percent water. So it has the consistency of water.

4 JUDGE DOUGAL: Counsel, for the benefit of the record. Can you
5 tell us what you're citing to?

6 MR. LEACH: Sure, that's Exhibit 1042 at page five. And another
7 piece of evidence on this point is the declaration of Ernie Sundstrom, and
8 that's Exhibit 1115 at paragraph 15 where Mr. Sundstrom, who has pumped
9 liquid manure, human waste, he confirms that water pumps or irrigation
10 pumps have been used for years to pump liquid manure. And so the
11 evidence is replete in the record that to one of skill in the art, Carrier
12 discloses a pump for pumping liquid manure. Carrier also discloses the
13 claimed remote control functions. It discloses remote control wheels that
14 can control the speed. Carrier discloses remote control of the fluid pump,
15 the nozzles and gun. Carrier discloses remote control of one of the speed
16 and direction on ground and the remote control controls one of the speed and
17 direction while floating. And I have the cites there in the slides. Carrier also
18 discloses a fluid mover. Carrier discloses a pump conduit nozzle capable of
19 controlling the vehicle's speed and direction while floating. And I know
20 Patent Owner argues that you wouldn't use the pump to control the speed
21 and direction, but that structure with the firefighting application while
22 floating could control the speed and direction. It is nothing more than a jet
23 that the reactionary forces would push that vehicle around a fluid or a body
24 of water or reservoir, and you could control its speed and direction on the
25 mechanical drive.

1 A POSA would have understood Carrier's power source is connected
2 to the hydraulic drive pump by a mechanical drive and connected to the fluid
3 pump by mechanical drive. And we cite Patent Owners diagram and their
4 expert used to try to say, look, there's a difference between a hydraulic drive
5 and a mechanical drive. The claim is a comprising claim and it also
6 includes, and if it could have also a hydraulic portion of that drive system.
7 But to drive the fluid pumps and to drive the hydraulic motor out of that
8 hydraulic motor is a mechanical shaft that connects to a pump impeller or
9 the pump and piston. It has to, and same with the hydraulic pump, there has
10 to be some mechanical drive that drives that hydraulic pump. And therefore
11 Carrier discloses the limitations of this claim. And so, for each of the
12 grounds I provide a quick summary of the prior art relied on and the expert
13 testimony for the Board.

14 So let's get to ground two structure in view of Yoon or Carrier. And
15 so, structure includes all of the elements of the claim except for remote
16 control. And we'll talk about the dispute over the fluid pump too. But it's
17 got pump conduit, nozzle, ground engagement, propulsion structure. It's an
18 amphibious vehicle, all of that. So, the dispute is whether you would
19 combine.

20 MR. LUCHSINGER: We have an objection to this slide.

21 MR. LEACH: Oh, sorry. So I think the dispute here, Your Honors,
22 was we believe they did not. Wait, sorry, Brad, maybe I'll just let you tell
23 me what your, what your objection is.

24 MR. LUCHSINGER: Yeah, so the objection is that slides 44 and 45
25 cite to deposition testimony of Mr. Olofsson, which was taken. It wasn't
26 taken before due dates two or due dates three in this IPR and it wasn't

1 mentioned in any of the Petitioners papers. So it's a new argument and
2 evidence that's being used for the first time on the merits of their validity
3 challenges. In oral argument, it was presented as exhibits by the Patent
4 Owner in connection with motions to exclude. So it's not proper for the
5 Petitioner to make arguments regarding validity challenges based on these
6 exhibits.

7 MR. LEACH: And if you're done, Brad, the response to that is they
8 put this exhibit in and so we're just citing to portions of it an exhibit that they
9 put into evidence.

10 JUDGE DOUGAL: Counsel, have you argued about this before? Did
11 you cite this in your papers?

12 MR. LEACH: We certainly cited to Melnikoff and we argued that
13 they have not challenged the motivation to combine structure with Yoon and
14 Carrier. Look, I think the argument here, or what they're worried about is
15 the Olofsson testimony. We're not relying on that for our validity ground.
16 The point is that was just background for what one up skill in the art would
17 know. We're not relying on that, so that's fine. The point of this slide is
18 Nuhn did not challenge the motivation to combine Truxor with Yoon or
19 Carrier which teach remote control. So Truxor has all the elements, but for
20 remote control Melnikoff, I mean the motivation to combine here couldn't be
21 stronger. Melnikoff explicitly taught adding remote control to Truxor for
22 safety reasons. And so one of skill in the art would have been motivated to
23 combine the remote control teachings of Yoon or Carrier with Truxor. And
24 on that point, both Carrier and Yoon also talk about using remote control for
25 safety reasons for the operator. So not only did Melnikoff teach the
26 motivation to combine the remote control teachings of Yoon and Carrier.

1 Yoon and Carrier both talk about having a remote control on these vehicles
2 to keep operators out of danger. And it's clear in the record, I think that
3 Truxor is used in areas that can be dangerous to an operator. And so the
4 motivation to combine here is really strong.

5 In terms of the dredge pump on they dispute, I'm sorry. In Truxor,
6 Patent Owner disputes whether the dredge pump was capable of pumping
7 liquid manure. I think again the evidence is clear that dredge pumps such as
8 the Doro pump were capable of pumping higher solid content forms of
9 manure in addition to dilute manure. Dr. Winkle testified that structure
10 discloses a pump for pumping liquid manure. That is the Doro pump. On
11 the very brochure that we rely on, it talks about the Doro pump being able to
12 pump stone, bits of wood and sludge. And so certainly it could pump liquid
13 manure, especially lower total solid content forms of liquid manure. And
14 again, Yoon and Carrier disclosed the claimed remote control. It would
15 have been obvious to one of skill in the art to add those remote control
16 features to Truxor. And it would have been within the skill of art. Want to
17 add a plug and play remote control system to Truxor. Truxor also for the
18 same reason we talked about, teaches the mechanical drive. And here's just
19 a summary again of ground two and the evidence.

20 So ground three, SenwaTec, in view of Yoon or Carrier. SenwaTec is
21 another amphibious pumping vehicle. It has a centrifugal dredge pump,
22 conduit and nozzle six wheeled vehicle. And again, Nuhn does not
23 challenge the motivation to combine. This should have been SenwaTec and
24 Yoon and Carrier. Sorry for the typo. And again, Melnikoff explicitly
25 taught any remote control to amphibious vehicles. That provides the
26 motivation to combine in addition to Yoon and Carriers motivation to add

1 remote control for the safety of the operator. So there's no doubt that the
2 SenwaTec vehicle pumps liquid manure. And I think Nuhn tries to confuse
3 this issue. I mean, they basically argue that centrifugal pumps do not pump
4 liquid manure. And that's at paper 27 at 53. That's just wrong. Centrifugal
5 pumps do pump liquid manure. And even Nuhn confirmed that the '425
6 Patent discloses a centrifugal pump for pumping liquid manure. That's the
7 pump incorporated in by reference in the '425 Patent.

8 And so, as background as the board found in the institution decision,
9 we rely on some other documents for what one of skill in the art would have
10 understood for a dredge pump. Such as the SenwaTec dredge pump and one
11 of skill in the art would have understood that dredge pumps such as
12 SenwaTec pump were capable of pumping higher solid content forms of
13 manure in addition to dilute manure. And we list a number of exhibits here
14 that show the Anthea king's manure pumping capabilities. Nuhn's
15 distinction between human manure and livestock manure is irrelevant. Mr.
16 Sundstrom testified that there is no difference between the pumpability of
17 liquid manure and human manure. And as some of these background
18 references, the SenwaTec video, which, Brad, is that one that you've
19 objected to showing the SenwaTec video? I think the Board has already
20 ruled that that is fine background evidence as to what a POSA would have
21 understood of pumps such as the SenwaTec video. So I would like to show
22 that video because it's telling.

23 MR. LUCHSINGER: Well, we do object to --

24 JUDGE DOUGAL: Can we, you know, we've already reviewed all
25 the papers. We know the background issues and, you know, this level of
26 detail. It's fine if you want to do this, but it's not really necessary for us. We

1 know what the issues are. We know, you know, what your arguments are on
2 how every limitation is taught. You know, at the beginning, I kind of
3 identified some issues that we'd like to talk about that we think are critical to
4 this case. I really think it would be the best use of our time to kind of jump
5 to some of those critical issues and talk about secondary considerations.
6 You know, talk about amended claims. You did hit some of the issues that
7 I'm concerned with. But, you know, we are aware that you have record
8 evidence that your declarants have said that various these types of pumps
9 were known to be used for pumping manure. And so again, if you want to
10 hammer it home and hit additional pieces of evidence on these points, you
11 can, but I just don't. I would love to be able to hit some of the more critical
12 issues.

13 MR. LEACH: Okay, I will. I will try to do that, Your Honors. I'll
14 jump to ground four, which is Puck in view of Bryham. And again, Bryham
15 teaches adding wheels to boats to get in and out of lagoons. And so Bryham
16 provides strong motivation to combine its teachings with Puck. Bryham
17 identifies the problem of launching a boat, especially without proper boat
18 ramp. An individual would usually get his feet wet maneuvering the tow
19 vehicle and trailer on unpaved train. It was difficult. There's all sorts of
20 problems Bryham provides with trailering a vehicle. And Bryham's solution
21 was to add corrosion resistant all terrain wheels to those vehicles. And it
22 would have been logical to locate the wheels of Bryham at each corner of
23 the steel frame in Puck. And the dock sections could have been modified to
24 accommodate the wheels. That would have been within the level of skill in
25 the art.

1 And moreover, Puck and Bryham teach the compatibility of
2 alternative hull designs. And again, one of skill in the art would have
3 understood the benefits of a central power source. And they wouldn't want
4 an extra engine because they're heavier, costlier and they take up extra
5 space. Puck also teaches the remote control and using valves on the
6 different nozzles to control the speed and direction of the boat. And it would
7 have been obvious to extend Bryham's hydraulic system or wheels using
8 remote control. And then we added Bennett here and I think the boards of.
9 Excuse me a second. And as the board knows, we added Bennett in case the
10 Board finds something missing in the level of skill in the art to add the
11 remote control steering to the ground engaging of Bryham.

12 So let's move on to get to secondary considerations. Well, first I
13 would like to touch on the ground six. Patent Owner says this ground is
14 done and is addressed. But it's our position that the case law is clear that the
15 certificate of correction only applies to actions thereafter arises. And this
16 action started before they received the certificate of correction. And
17 therefore, the patents are invalid on ground six over license their own prior
18 art. And so, Nuhn also never sought permission from the PTAB to file its
19 request for certificate of correction. And explicitly stated in exhibit 1118 at
20 one that Nuhn's petition for expedited review stated that this IPR proceeding
21 involves the '638 Patent, as it must, because that was where the defect in the
22 priority claim was. And I think the case law is pretty clear on the fact that
23 that certificate of correction has no applicability here. The claims were
24 invalid at least up until we think the claims are invalid because it doesn't
25 have retroactive effect, but at least up until the date that the certificate of
26 correction issued.

1 So let's get to secondary considerations. The secondary
2 considerations of non-obviousness that Nuhn's puts forth cannot overcome
3 the strong case of obviousness that Petitioner has provided on this nexus
4 point. They rely on the presumption of a nexus and that presumption does
5 not apply here. And it doesn't apply here because the nexus may only be
6 presumed if the product is coextensive with the claims. And Patent Owner
7 argues here, Nuhn, in its motion to amend an '835 Patent IPR, using the
8 same secondary consideration, talks about all the new features that they
9 claim that are not claimed in the '425 Patent. That they claimed in those
10 proposed amended claims were important and drove the commercial success
11 and the secondary considerations of non-obvious. And Nuhn's own
12 admission then negates any nexus. And I think the point here is that Patent
13 Owners assertion about the significance of unclaimed features shows that it's
14 not coextensive. Those proposed claims in the '835 Patent, which they say
15 are driving the secondary considerations of non-obviousness are not in the
16 claims of the 425 patent, and there can be no presumption of a nexus.

17 Also, with respect to commercial success, you know, advertising, the
18 case law is clear that advertising and other features or other things may drive
19 commercial success, and here we have that evidence. In fact, Ian Nuhn
20 himself said, I think because we made it look the way it does, people are
21 proud to fork over that kind of change and they are proud to own it. There is
22 another article that talks about how neat the Lagoon Crawler looks with a
23 bright red paint job and big knobby wheels. But those are not claimed
24 features. And if you look at that comparison to the utilitarian Truxor,
25 SenwaTec, Puck and Sundstrom, clearly how the Lagoon Crawler looks is
26 driving some of those sales. Nuhn's evidence, Ian Nuhn's declaration

1 specifically, which is the subject of a motion to exclude his market share
2 analysis, disregards other competitive products and is based on Ian Nuhn's
3 speculation. He admitted his testimony was pure speculation on the number
4 of units sold by competitors. He admitted merely estimated market share.
5 He failed to consider dredging vehicles or other amphibious vehicles. And
6 his argument that Nuhn became a household name is pure speculation. And
7 I provide the cites there in slide 70 for that.

8 Long felt need. It was already solved. Nuhn shifts its argument here
9 a little bit. It says the need was breaking a crust formed on a lagoon to mix
10 the solids and form a slurry. But when you look at the background of the
11 '425 Patent, it says the need was an amphibious vehicle or pumping vehicle
12 that could reach the center of the lagoon because the shore based agitators
13 couldn't mix the center of lagoons as those lagoons became larger. And so
14 what you needed is something that could traverse the entire surface of the
15 lagoon. Well, those existed. Puck and Sundstrom already did this. The
16 long felt need was already solved. The results were not unexpected. They
17 make much about the fact that SenwaTec or Puck's are lighter weight
18 vehicles and couldn't break up crust. Well, first, crust is not, as Mr.
19 Sundstrom's declaration provides, are not always on lagoons. In fact, much
20 of what Nuhn provides the Board with are these really extreme cases of
21 lagoons that have crust. And they always tell this six foot thick of crust. I
22 don't think any of it was six foot. But it doesn't really matter because
23 lagoons have crust and some don't.

24 And again, back to whether these vehicles meet one form of the claim
25 is all that's needed. And here it wasn't unexpected for others to use
26 hydraulically driven wheels to agitate corrosive manure lagoons. That's

1 shown in the SenwaTec vehicle entering the manure lagoon. And it sinks in
2 and you can see the tires churning up the crust. And so, this was not
3 unexpected. One of skill in the art could look at a vehicle such as SenwaTec
4 and understand when it goes into a manure lagoon, it would churn up the
5 crust.

6 Industry skepticism. Nuhn's only evidence of industry skepticism
7 comes from Ian Nuhn's declaration. And much of that testimony is hearsay.
8 When deposed about who was skeptical, Ian Nuhn only identified his father,
9 Dennis Nuhn. They also talk about an email. A single email is not a patent
10 license. And the email from Puck is insufficient to show commercial
11 acquiescence. And if you look at the email, we've taken that out because
12 Nuhn objected to it based on confidentiality. But if you look at the email,
13 which is exhibit 2075, it's directed. Nuhn has some patents on pumps and
14 the email is directed to pumps. It's not clear that it was directed to these
15 agitation vehicles.

16 And finally, copying. Well, at first glance the two vehicles may look
17 similar. Bazooka's Wolverine is not a copy. The wheels do not go up and
18 down. Bazooka used propellers for propulsion and agitation and steering.
19 That is different from what the Lagoon Crawler uses. There is no nozzle
20 propulsion. And there's no fluid conduit network. No valves between the
21 pump and the outlet. And so, I'll reserve the rest of my time for rebuttal.
22 Unless the Board has any questions?

23 JUDGE DOUGAL: No, that's fine. Are you going to have your co-
24 counsel deal with the amended claims right now or.

25 MR. LEACH: Yeah, we can do that.

26 JUDGE DOUGAL: Yeah. Let's transition over.

1 MR. STEMLER: Your Honors, I'm just getting set up real quick.

2 JUDGE DOUGAL: No problem. And Mr. Stemler, just so you're
3 aware, on my clock I have about 17-18 minutes left of your main argument
4 time if you want to keep the 15 minutes for rebuttal.

5 MR. STEMLER: Thank you, Your Honor. All right. May it please
6 the Board. My name is Taylor Stemler, and I will be arguing the opposition
7 to the motion to amend. Does everybody see my screen okay?

8 JUDGE DOUGAL: Yes.

9 MR. STEMLER: Thank you. Now Nuhn argues that the placement
10 of the pump on its vehicle overcomes the prior art. Specifically, Nuhn
11 argues that centrally locating the pump along the underside of the vehicle
12 renders its obvious claims patentable. However, the location of the pump is
13 not patentable here. The prior art disclosed this feature of the substitute
14 claims in four separate grounds. First, Puck, Bryham and Manure Manager
15 second, Cheramie and Yoon or Carrier and third and fourth, SenwaTec or
16 Truxor in view of Yoon or Carrier.

17 Now turning first to amended claim 22, the amendments to Nuhn's --
18 claim 22 is the sole independent claim in the proposed claim set and amends
19 claim one of the '425 Patent in a few important ways. First, it requires a
20 pump with a housing and impeller along the underside between two ground
21 engaging elements rearward of the front and forward of the rear of the
22 vehicle, with the impeller being immersed when the vehicle is floating. All
23 of these features were well known in the prior art. Additionally, claim 27,
24 which is the key dependent claim at issue here, adds the additional
25 limitations that there be wheels at the front and rear of the vehicle which are
26 attached to the vehicle by spindles or axles. Claim 27 further requires that

1 the pump be rearward of the front spindles and forward of the rear spindles.
2 While there are a few other while there are other dependent claims in the
3 motion to amend, these are the two main points of contention, and we'll rely
4 on our briefing for why those other claims are invalid.

5 Now, turning first to Bazooka's first ground of invalidity is the Puck,
6 Bryham and Manure Manager combination. Now, Puck, shown here
7 describes a floating manure agitator with a centrally located pump shown in
8 pink, and an intake pipe which is labeled with reference number 40 that
9 extends through the body of the vehicle and out through the underside of the
10 vehicle. Now, this central location of the pump and the inlet positioned
11 along the underside is important for the vehicle of Puck because it provides
12 stability and it also allows for that inlet to be placed below any potential
13 crust and above the sludge layer of the lagoon. Now, the Nuhn pump a
14 POSA would have been motivated to substitute the Puck pump for the Nuhn
15 pump in order to take advantage of the efficiency benefits that were
16 advertised extensively by Nuhn. A POSA would have understood that the
17 Nuhn pump shown here added onto the Puck vehicle could extend through
18 the same opening that the Puck pump intake pipe extends through in the
19 Puck vehicle. A POSA would have understood that positioning the pump in
20 this location would both preserve the same stability benefits offered by the
21 Puck vehicle design and would have also allowed for the pump to draw from
22 the same optimal location taught by Puck. Therefore, claim 22 would be
23 rendered obvious.

24 Additionally, a POSA would have understood that the logical location
25 for the vehicle wheels of Bryham on Puck would be to place those wheels at
26 each of the four corners on the steel frame of the vehicle. This is supported

1 by Petitioners expert Dr. Winkle at exhibit 1109, paragraph 144. Therefore,
2 claim 27 would have been rendered obvious as well. Now, Nuhn essentially
3 concedes the motivation to combine the Nuhn pump with the Puck Bryham
4 combination. Nuhn only focuses its arguments on the location of the Nuhn
5 pump when it would be added to the Puck vehicle. Nuhn proposes the
6 arrangement that's shown here in these figures. However, this arrangement
7 is wrong. It disregards the teachings of Puck. As I mentioned before, Puck
8 teaches a centrally located pump with the Puck intake positioned just below
9 the vehicle body. This arrangement is important because first it allows for
10 the pump inlet to be placed along the underside of the vehicle. As my co-
11 counsel Mr. Leach mentioned before, hoses knew that it was beneficial to
12 arrange a pump inlet below the surface of the lagoon to avoid sucking up
13 any floating debris on the surface. This was taught by exhibit 1041 at page
14 five.

15 Likewise, as taught by Puck, hoses understood that it was beneficial to
16 arrange the pump inlet just below the vehicle so that one could suck up the
17 watery supernatant layer as opposed to the thicker sludge layer at the bottom
18 of the lagoon, as Nuhn's proposal would have. This is important because it
19 promotes pump efficiency and follows the teachings of Puck. Nuhn's
20 proposed arrangement would also be detrimental to the combination because
21 it would cause the pump to be hung up on the bottom of the lagoon as it's
22 driving around. Second, centrally locating the pump on the Puck vehicle is
23 important for a floating vehicle. Dr. Winkle testified to this fact again in
24 exhibit 1109. At paragraphs 151 to 152, Puck describes the stability benefits
25 that are associated with its arrangement of components at paragraph 41 of
26 exhibit 1014. It makes sense that Puck is concerned with stability as the

1 vehicle is propelled by downwardly oriented jets, which create upward
2 reaction forces when that vehicle is floating. An unstable arrangement of
3 components on the Puck vehicle would be especially troublesome given this
4 propulsion method of Puck. Therefore, Puck discloses placing the weighty
5 pump at the middle of the vehicle, not off the back. Positioning the pump
6 off the back of the vehicle would make the vehicle unworkable, unwieldy,
7 and hard to maneuver.

8 Now, Nuhn argues that because the Nuhn pump includes a pivoting
9 boom arm, one would have had to use the pivoting boom arm when
10 connecting the Nuhn pump to the vehicle. This is wrong. The law does not
11 require that one be able to pick up an off the shelf prior art component and
12 perfectly align it with another off the shelf prior art component. Reasonable
13 modifications are permitted. Puck does not describe that its pump or intake
14 pump or pivotal or necessary have to pivot. Anyone would have understood
15 that a pivoting boom arm is not required to attach a pump to the Puck
16 vehicle and would have been capable of securing the pump to the Puck
17 vehicle without using the pivoting boom arm. Now, Nuhn and its expert
18 also argue about the scale of various components in this combination being
19 off. Specifically, Nuhn and its expert argue that the scale of the Puck and
20 Bryham vehicle is too small for the Nuhn pump. However, the intuitive
21 surgical case which is cited in Petitioners sur reply to the motion to amend is
22 a case where the PTAB confirmed that the patent figures are generally not
23 understood to be drawn to scale. In that case, it rejected the Patent Owners
24 motivation to combine counterarguments on this basis. This is the same case
25 that we have here. The Puck Bryham combination could be scaled up in size

1 to accommodate any discrepancy in size between the Nuhn pump and the
2 Puck vehicle.

3 Finally, Nuhn argues that if the Nuhn pump were arranged through the
4 Puck vehicle body, the power takeoff or PTO input of the Nuhn pump would
5 be misaligned with the Puck vehicle engine driveshaft. This is wrong for
6 two reasons. First, the Nuhn pump is built with an extended drive shaft that
7 is used to pump to hang the pump from a lagoon edge into the lagoon. This
8 is shown in the Manure Manager reference where the pump is shown
9 extending from an elevated upper surface down into the lagoon. A POSA
10 looking at this, teaching would recognize that that extended drive shaft and
11 extended vehicle body is not necessary when implementing the Nuhn pump
12 on the Puck vehicle and would have readily understood that one could
13 shorten the Nuhn pump to reduce the space and weight requirements of the
14 Nuhn pump when positioned on the Puck vehicle.

15 Second, POSA's understood that power transmissions could be used
16 to transmit power if the Nuhn pump input and Puck engine output were
17 misaligned. Now, I understand that the Board is interested in hearing about
18 secondary considerations and their impact on this arrangement, so I'll touch
19 on that briefly. Nuhn has not argued secondary considerations at all with
20 regards to its amended claims. It has not shown that its product is even
21 covered by the claim by its second, by its proposed claims in the motion to
22 amend. They provided no expert testimony on that point. There's no record
23 evidence on that point. Additionally, Nuhn described in its '835 Patent
24 Motion to Amend that a number of other features which are not included in
25 the '425 Patent motion to amend are material to the same secondary are
26 material to providing the same secondary considerations points that is

1 outlined here in the '425 Patent IPR. Some of these features are a nozzle
2 positioned above the surface of the lagoon and the power source positioned
3 between the that nozzle and the pump. Nowhere are those features described
4 in these amended claims. So there is no nexus that Nuhn has shown with
5 regards to these amended claims.

6 Moving on to the second ground of invalidity and turning back to
7 amended claim 22 and 27, just to remind the Board of the relevant
8 limitations here, that there be a pump with the housing impeller, that the
9 pump be positioned along the underside of the vehicle between the two
10 ground engaging elements rearward of the front of the vehicle and forward
11 of the rear with the impeller being immersed when the vehicle is floating.
12 The position of the pump is not patentable here. Again, because Cheramie
13 also discloses all of these claim position features. The Cheramie reference is
14 shown here, annotated by Petitioner. The Cheramie reference teaches a
15 green dredging pump and a red propulsion pump, which are labeled in both
16 of these figures one and two. Now, Nuhn has tried to distinguish between
17 boom mounted pumps and its claims, but its claims do not foreclose boom
18 mounted pumps. This is a negative limitation that Nuhn has not presented
19 anywhere. The specification has no support for any negative limitation of a
20 boom mounted pump. These pumps teach the limitations of these substitute
21 claims.

22 Now, I understand that Nuhn has objected to this slide on the basis
23 that this is a new argument that the Cheramie propulsion pump would teach
24 the limitations of claim 22. However, this same argument was presented in
25 Bazooka's opposition to the motion to amend. While that argument was
26 focused in the claim 27 subheading of its argument, the brief clearly

1 explained how the propulsion pump taught each of the features of
2 independent claim 22. Claim 27 depends from claim 27.

3 MR. LUCHSINGER: We do have an objection here. It's spelled out
4 in the written objections that we filed with the Board, and in particular using
5 the water pump element 90 of Cheramie as the pump, the liquid manure
6 pump that's recited in substitute claim 22 is not an argument that was made
7 in opposition to the motion to amend. So, it's new argument and shouldn't
8 be presented here. It was only made in connection with claim 27.

9 MR. STEMLER: I think that goes back to what I just said. So, we
10 discussed the propulsion pump in the subheading of claim 27. And because
11 claim 27 depends from claim 22, we explained in that section how the
12 propulsion pump met each of those limitations of claim 22 as well.

13 JUDGE DOUGAL: This is Judge Dougal. Thank you. Both
14 objections are noted.

15 MR. STEMLER: Thank you, Your Honor. So, turning back to the
16 Cheramie propulsion pump. Cheramie teaches that the propulsion pump 90
17 is located along the underside of the vehicle. Now, Nuhn does not dispute
18 that the logical choice for a propulsion pump is a pump with a housing and
19 an impeller. Which would be necessary to provide consistent propulsion and
20 the desired volume for producing the propulsion effect that's described in
21 Cheramie. That's outlined in Dr. Winkle's testimony in exhibit 1109,
22 paragraphs 62 to 63. Nuhn's sole dispute here relates to the propulsion
23 pump's ability to pump liquid manure. As my co-counsel, Mr. Leach,
24 explained, pumps with impellers and housings were known to be capable of
25 pumping at least the lagoons, having dilute forms of liquid manure with less
26 than 5 percent total solids. The Cheramie propulsion pump is meant to

1 operate in marshland where dredging operations are performed. Dredging
2 operations would produce murky water with suspended solids. As outlined
3 in Dr. Winkle's testimony in exhibit 1109. At paragraph 64. Mr. Prairie,
4 Nuhn's expert, admitted that lakes and streams such as where this pump
5 would be operating in, includes suspended solids. And that's provided in his
6 testimony in his deposition. Exhibit 1111, page 247, line three through 251,
7 line 14.

8 Cheramie's propulsion pump would be capable of pumping water
9 with suspended solids or liquid manure. Now, Cheramie's dredging pump
10 also meets these claim limitations. As my co-counsel, Mr. Leach discussed
11 and is identified in our briefing. Dredging pumps have long been used to
12 pump liquid manure. This is reiterated by Dr. Winkel in exhibit 1109,
13 paragraph 61. In which he collects many references discussing the use of
14 dredging pumps in liquid manure.

15 JUDGE DOUGAL: Council, this is Judge Dougal. Just to give you a
16 heads up, you've got about a minute and a half left of your main argument
17 time. If you want to keep 15 minutes for rebuttal.

18 MR. STEMLER: Thank you, Your Honor. Nuhn's expert attempts to
19 relabel Cheramie's figures. By using an arrow identifying what he thinks
20 should be considered the dredge pump. But Cheramie uses the reference
21 number 50 to identify the dredge pump, not Mr. Prairie's arrow. The
22 homeland houseware case says that expert. The federal circuit says that
23 expert testimony plainly inconsistent with the record must be disregarded.
24 So too, should Mr. Prairie's testimony be disregarded.

25 Now, Nuhn's expert identifies some unrelated publications. None of
26 which are cited by Cheramie as the basis for why Cheramie is mislabeled.

1 However, looking closely at these publications, one of which is shown here,
2 just only supports the fact that this space, labeled as 50, contains the dredge
3 pump, as this same space is where the dredge pump is located in this
4 reference. I'll end here unless the Board has any other questions. Otherwise,
5 we'll turn it over to opposing counsel. Thank you, Your Honors.

6 JUDGE DOUGAL: Thank you. All right, Patent Owner, whenever
7 you're ready.

8 MR. LUCHSINGER: Sure. Let me just get my screen ready to share
9 here. Can everyone see my screen okay?

10 JUDGE DOUGAL: Yes.

11 MR. LUCHSINGER: Okay, great. Well, then I'll begin. So Nuhn is
12 a Canada based company that manufactures farm equipment for handling,
13 agitating, and spreading manure. It's been in business for 120 years, four
14 generations. Ian Nuhn, the inventor on the '425 Patent that's challenged
15 here, is the Vice President. The patented product is called the Nuhn Lagoon
16 Crawler. It was a revolutionary product in this space. It created a new
17 market segment and has been a wild commercial success. We'll get to that
18 in the secondary considerations analysis. The prior art of manure agitation
19 equipment really consisted of two groups. One was tractor driven pumps.
20 That's like the pump that's disclosed in Manure Manager, which is actually a
21 pit pump that Nuhn made. That's exhibit 1088. And then the other class of
22 manure agitation equipment was floating agitators, like the floating agitation
23 boat in Puck, which is exhibit 1014. The prior art does not disclose or
24 reasonably suggest the claim combination, which is an unmanned
25 amphibious manure pumping vehicle that can be driven into, though, and out
26 of manure lagoons by wireless remote control. The only manure agitation

1 related reference is Puck. The rest of Petitioners pumping vehicles describe
2 vehicles that weren't designed to pump liquid manure, are not described as
3 liquid manure pumping vehicles, and haven't been proven in liquid manure
4 pumping applications. And in a second, I'm going to tell you why that's a
5 fatal flaw with these references.

6 Really what Petitioner is trying to do here is use hindsight to create a
7 combination that obviates Nuhn's invention. And they're really trying to jam
8 a square peg into a round hole, because these references would not suggest
9 to a person of ordinary skill in the art that you have a manure pumping
10 vehicle, a vehicle that would be capable of working in that application
11 without becoming clogged or damaged. There are five fundamental
12 questions that the Board should be asking, and I'll go through each of these.

13 The first one is, who is a POSITA? Now, I know Judge Dougal said
14 that he didn't have. Maybe that this question impacted the analysis
15 regardless of whose definition is adopted, but I think it does because it sets
16 up this point that we can't rely on just the title of the '425 Patent or the
17 preamble to say what the claims cover is simply a generic pumping vehicle.
18 We can't just ignore the recitations of liquid manure that are repeated
19 throughout the claims. We can't ignore the overall disclosure of the '425
20 Patent and what a person of ordinary skill in the art would understand.
21 Petitioner's motion to exclude our expert highlights what's wrong with their
22 definition of a POSITA. In addition to having a mechanical engineering
23 degree and working knowledge of manure handling and agitation, they also
24 say in addition to that you need two years of working experience in one
25 manure or sorry, marine vehicles and two off road vehicles. The '425 Patent
26 doesn't talk using the word marine anywhere. It doesn't talk about the

1 marine industry. And it's in fact inconsistent with what the Petitioner has
2 acknowledged as the appropriate industry here. And that's the manure
3 management industry and manure agitation equipment.

4 The Petitioner has cited that or filed the declarations of Benny Puck
5 and Ernie Sundstrom. They represent that these are long time manure
6 agitation equipment veterans. And they say that the reason that they filed
7 these declarations is because it reflects who a person of ordinary skill in the
8 art is. There's no indication that either of these individuals have two years of
9 experience in marine vehicles. Two years of experience in off road vehicles.
10 It just doesn't make any sense. We're not dealing with, like, technology that
11 would be very complicated to a mechanical engineer from where they would
12 need two additional years of experience in marine industry. This isn't like
13 vacuum bagging a transom and stringers or something like that. The
14 buoyant elements in the products at issue as well as Puck are floating dock
15 sections.

16 So why do we need in addition to a mechanical engineering degree,
17 two years of experience in the marine industry when that's not the industry
18 that this patent relates to at all? It simply doesn't make sense. And so then
19 when you start saying okay, what would a person of ordinary skill in the art
20 do? It really should be from the perspective of the approach industry, which
21 is the manure agitation equipment industry. And that's what the Patent
22 Owner's definition is. In addition, if Petitioner's definition is adopted, the
23 prior art that consists of manure agitation equipment, the most relevant prior
24 art. Right? So that's Puck, that's the Huel reference, which is a reference
25 disclosing a tractor mounted pump that's on the face of the '425 Patent. The
26 depot reference which is a tractor mounted pump that's on the face of the

1 '425 Patent. And even Ian Nuhn and his tractor mounted pump references
2 including the one that's incorporated by reference in the '425 Patent which is
3 the '758 Patent. Those are all directed to tractor driven manure agitation
4 pumps which are described in the background of '425 Patent.

5 The second fundamental question, what makes liquid manure different
6 than water? This is very important. So, the Board and its institution
7 decision recognize that liquid manure has suspended solids. It we can see it
8 in the picture on slide five. But what's just as important is liquid manure is
9 highly corrosive. Why is it highly corrosive? Liquid manure contains
10 ammonia, uric acid, urea and other chemicals that make it highly corrosive.
11 It's not just like salt water. If we look at exhibit 1055 at page one, it
12 describes these contents of liquid manure. This is also a point that the
13 experts agree on. So, I've moved on to slide six. The Petitioner's expert
14 acknowledges that liquid manure is highly corrosive and cites these articles
15 that exhibit 1055 and exhibit 1056 that explain that samples of metal that are
16 placed in liquid manure lose millimeters of thickness a year. Some of the
17 samples lose their entire mass within 30 months. The Patent Owner's expert
18 agrees with this.

19 Another aspect of liquid manure is that it's a non-Newtonian fluid.
20 What that means is that the shear behavior of the material dramatically
21 increases the load on the pump and its components the faster you pump it.
22 This point is also agreed to by the experts for at least over 5 percent total
23 solids. The Patent Owners. So I'm on slide eight of exhibit 2104, which is
24 our trial presentation. And at paragraph 91 of exhibit 2029, Patent Owners
25 expert explains that from 1% to 14% total solids. There's a study that
26 indicates it exhibits this non-Newtonian behavior. And Petitioner's expert

1 does acknowledge the non-Newtonian behavior, but essentially says that it
2 falls off below 5 percent total solids. But we have at least agreement that
3 there's evidence that you have over 5 percent total solids in many manure
4 lagoons, if not most, and that that liquid manure in those lagoons would
5 exhibit this non-Newtonian behavior.

6 So now that that plays into the next fundamental question, the third
7 fundamental question. I'm on slide nine of our presentation. What makes a
8 pump a liquid manure pump? So the Patent Owner's expert exhibit at
9 exhibit 2099, paragraph 97 explains that there's no bright line rule or rigid
10 formula to what makes a pump a liquid manure pump. But our expert does
11 say it has to have an appropriate size, tolerances, clearances, appropriate
12 flow rate, pump head power requirements, which you even saw in the
13 exhibit that Petitioner presented earlier. But it also has to have an
14 appropriate housing impeller, inlet, outlet, and bearing design. At paragraph
15 98 of exhibit 2099, Patent Owners expert explains that there's four pieces of
16 evidence that a person of ordinary skill in the art would look at to understand
17 if the pump in front of them was a liquid manure pump.

18 The first thing was the pump designed to pump liquid manure? The
19 second thing. Second piece of evidence, was the pump marketed or
20 described as a liquid manure pump? The third piece of evidence, has this
21 pump been tested or validated in liquid manure pumping applications? And
22 then the fourth is, does the pump have structure that would become clog
23 clogged or damaged by pumping liquid manure? And this is critical to that
24 first point about what makes liquid manure different than water. We don't
25 have any evidence by the Petitioner of any of these points for anything

1 except Puck, which is the only reference that discloses a manure agitation
2 vehicle. That's fatal that they have.

3 JUDGE PETRAVICK: Can you hear me?

4 MR. LUCHSINGER: Yes.

5 JUDGE PETRAVICK: These four things, I mean, that your expert.
6 Not necessarily. The patent law has decided it has to be proven to meet a
7 liquid manure pump. How does that relate to what you just told us that, you
8 know, you said something like, the manure is corrosive, therefore liquid.
9 And the metal erodes, if you put it in there within a month. If that is one of
10 the things that distinguish a liquid manure pump from a pump having to deal
11 with corrosion, wouldn't you be able to tell us what materials would a liquid
12 pump, manure pump would be made of? And so why isn't that in this list
13 when you just told us that liquid manure is corrosive and that certain
14 materials corrode if you put it in there? So are you telling us that a liquid
15 manure pump would have to be made of a certain. Not only a certain
16 material, would have to be able to deal with fluids having a certain number
17 of solids in it, have to have a flow rate? So why can't you tell us that one of
18 ordinary skill in the art would know that it has to have this structure, as
19 opposed to a pump, has to be marketed as a liquid manure pump? That, to
20 me, seems sort of ridiculous in that you have to say, well, it has to be called
21 a liquid manure pump. So why isn't corrosion in one of these factors, given
22 what you just told us?

23 MR. LUCHSINGER: It is. So, it's in factor four. Does the pump
24 have structure that would become clogged in or damaged by pumping liquid
25 manure? Okay, so because liquid manure is highly corrosive in a non-
26 Newtonian fluid, you would, you know, you'd have to see if there is

1 structure of that pump that would be damaged by the highly corrosive nature
2 or vice versa. Does the structure withstand the highly corrosive nature of
3 liquid manure? Does the structure withstand – I’m sorry.

4 JUDGE PETRAVICK: My next question is, if I go into a supplier of
5 pumps, there's nothing that says that our pumps are labeled as specifically as
6 liquid manure pumps. Like there's no supplier that sends out an
7 advertisement that says, this is a pump only used for liquid manure.

8 MR. LUCHSINGER: No, I think they do. And we see that with, like,
9 the --

10 JUDGE PETRAVICK: It's not a term of art. Right? A liquid manure
11 pump is not a term of art.

12 MR. LUCHSINGER: No, I think it is. A liquid manure pump is a
13 term of art. And what I’m saying --

14 JUDGE PETRAVICK: So if I go, like, the web. And I said, put in
15 liquid manure pump.

16 MR. LUCHSINGER: I just lost the last bit of your audio. I don't
17 know if others did.

18 JUDGE PETRAVICK: One of ordinary skill in the art, went to a
19 supplier or a catalog of pumps and pulled it up. You could go to an index
20 and find a section for pump manufacturers that says, this section has liquid
21 manure pumps in it, as opposed to these are a section of pumps. And there
22 would be pumps suitable for pumping liquid manure.

23 MR. LUCHSINGER: Yes. And in fact, we see that in the Manure
24 Manager magazines, we see many, many ads for manure pumps. These are
25 pumps that have been designed and validated and are therefore marketed as
26 liquid manure pumps. What I'm saying is --

1 JUDGE PETRAVICK: Hold on a second. Let me ask you another
2 question then. So what you're telling me is that pumps that are labeled as
3 liquid manure pumps or marketed as liquid manure pumps, even if they're
4 structurally the same as other pumps, but don't have the labels or are not
5 marketed that way, it's the marketing that makes the difference here, not
6 necessarily the structure?

7 MR. LUCHSINGER: No, that's not what I'm saying. What I'm
8 saying is it's the Petitioner's burden to prove that what's in the prior art is a
9 pump that's a liquid manure pump, and therefore a pump that's capable of
10 pumping liquid manure. And these four things that are on slide ten of our
11 presentation are the types of evidence that a person of ordinary skill in the
12 art would look at to try and understand. If you have a liquid manure pump,
13 one of them is how it's marketed. I'm not saying it has to be marketed as
14 liquid manure pump. It could have been something else, but it then has to be
15 tested or validated as a liquid manure pump, or you'd have to present
16 evidence of any one of these four things. Petitioner hasn't don't that.

17 JUDGE PETRAVICK: A liquid manure pump that could only, you
18 know, I imagine that there are different kinds of manures. We've just heard
19 about it. They have different solids. And I have a pump that pumps low,
20 you know, percentage of solids in a liquid manure, but not a large percentage
21 of solids in there. So there could be pumps of, with the structures of various,
22 you know, various differences at that point. But you're saying what they
23 have to have is evidence that there is, that it's called a liquid manure pump.
24 So therefore, you know, basically labeled that way, as opposed to this one is
25 not capable of it. This one's capable of it.

1 MR. LUCHSINGER: Well, no, I just want to make sure that I'm not
2 misunderstood. I'm not saying that you have to present evidence that a
3 pump was called a liquid manure pump. But that's one of the things a person
4 of ordinary skill in the art would look at. It's not the only thing. There's
5 these other requirements. But what Petitioner hasn't talked to you about at
6 all today, and hasn't talked about at all in its papers, is how we know that the
7 pump and Carrier in Truxor or SenwaTec, which were firefighting pumps
8 and dredge pumps, could withstand the highly corrosive environment of a
9 manure lagoon and wouldn't break, given the high loading that is
10 experienced when you're pumping a non-Newtonian fluid. And it's
11 Petitioners --

12 JUDGE DOUGAL: I think what my colleague is getting at is looking
13 at Petitioners slide 52, for example, the difference between the centrifugal
14 pump or the helical screw pump, the piston pump. I think what she was
15 getting at is that no matter what they're marketed to, aren't those capable of
16 pumping liquid manure? Did that capture?

17 MR. LUCHSINGER: It does, because if someone came into your
18 office and put a centrifugal pump on your desk and says, is this a liquid
19 manure pump? How would you know?

20 JUDGE PETRAVICK: The question actually is, if somebody put a
21 pump in front of one of ordinary skill in the art and put it in front of that
22 person and it was not labeled as a liquid manure pump, would they know
23 that it was capable of pumping liquid manure? And not all types of liquid
24 manure, but at least one type of liquid manure, which could be a liquid
25 manure that has less solids in it. And I'm assuming that if there's less
26 manure in the water, then it would be less corrosive. That's the question in

1 front of us, not whether it's been marketed as a liquid manure pump. The
2 question is whether one of ordinary skill in the art would know that from the
3 references. So I'm kind of wondering if your Patent Owners expert had this
4 kind of you know, talking about that these 1, 2, 3, 4 pieces of evidence that's
5 on this slide, whether, you know, the fact that it says that the pump had to be
6 designed purposely for that or pumped for the market, whether that taints his
7 testimony as to what the actual question is.

8 MR. LUCHSINGER: The burden of proof.

9 JUDGE PETRAVICK: Do you have one more? I do have another
10 question.

11 MR. LUCHSINGER: Okay.

12 JUDGE PETRAVICK: And it goes to this issue, and this is
13 something that's been bothering me about this case since we read it from the
14 very beginning. And I'm looking at this patent, and I'm looking at the
15 background, and it's telling me that, you know, manure happens, and there's
16 the storage in the ponds, and a crust develops, and that pumps are employed
17 for this purpose with jets, you know, to break the crust and recirculate the
18 manure. And that pumps are known for recirculating this manure. So it
19 seems to me the background of the patent itself is telling us that these kinds
20 of pumps exist and are known. When I go on to read the rest of the patent,
21 it's telling me how the problem that's trying to be solved is reaching the
22 middle of large lagoons. And then it tells me about amphibious portions and
23 adding things to be able to navigate to the middle of the lagoon.

24 So here we are arguing about what's a liquid manure pump and what's
25 not. But it seems to me, when I give a fair reading of the patent itself, it's
26 telling me that pumps -- that that's not actually the main portion of the

1 invention that's in this patent. You know, it's not an improvement to the
2 pump, a pump that's known for doing these things. The improvement is to
3 the vehicle and getting it to in the middle. Well, you didn't invent this pump
4 for this patent, correct? Like, you're -- it's not the focus of the invention.

5 MR. LUCHSINGER: It's an element.

6 JUDGE PETRAVICK: It's about liquid manure and that pumps that
7 are capable of pumping liquid manure do exist. Correct?

8 MR. LUCHSINGER: It's an element of the invention, and an
9 important one, because it defines what the invention actually is, which is a
10 delivery system for a liquid manure pump that's created a new product in the
11 space. The prior art that's cited is remote control firefighting equipment
12 that's designed to carry a person, that's Carrier and remote, or manned
13 amphibious dredging vehicles, which it's a totally different product. And
14 one of the primary reasons for the differentiation is the components that it
15 has, and that is those other vehicles do not have a liquid manure pump. And
16 that's why this is an important limitation.

17 JUDGE PETRAVICK: So when you're sitting here telling me about
18 what one of ordinary scale in the art would know or had to look for as to a
19 pump, as to a liquid manure pump, or specifically your liquid manure pump,
20 your specification doesn't, you know, provide any parameters about what a
21 liquid manure pump is or would be inventive in this concept. So it's sort of
22 already known the exact types of pumps.

23 MR. LUCHSINGER: Well, the specification does specifically talk
24 about the structure of the pump that's in the vehicle. It talks about it as
25 having an impeller, three tangential outlets, a combiner, and then it also
26 incorporates by reference the '758 Patent, which is another Nuhn patent,

1 describing its manure lagoon pump. But if you don't mind, I would like to
2 move on to the other fundamental questions just to keep things moving
3 along. And I'll address these in separate grounds of rejection or grounds of
4 challenge. But it's, would a person of ordinary skill in the art understand
5 Carrier trucks or and SenwaTec as teaching a liquid manure pumping
6 vehicle with a liquid manure pump, which we started to address through
7 your questioning. And then would a POSITA have modified Truxor,
8 SenwaTec and Puck in ways that have never been done before or since
9 Nuhn's patent and without hindsight? And then we'll get to secondary
10 considerations.

11 For claim construction. We already addressed what liquid manure
12 means. We already addressed a fluid pump for pumping liquid manure.
13 And, you know, one of the things that I was thinking of is, what about a term
14 that's a little bit more familiar to us? What if this patent talked about a fuel
15 pump? Would we be having the same conversation? Right. Fuel has
16 ethanol in it and is corrosive to plastic and rubber. It also has vapors that
17 can't leak out of a fuel pump. A person of ordinary skill in the art, in the
18 automotive context knows that what a fuel pump is, it's a classification of
19 pump. There may be water pumps out there that have ultimately been
20 proven to work as fuel pumps, but that doesn't mean that all water pumps are
21 fuel pumps, just like not all water pumps or all dredge pumps are liquid
22 manure pumps. And a person of ordinary skill in the art would understand
23 that because it's a niche space. None of us are people of ordinary skill in the
24 art. So we have to listen to what the experts have to say on this issue. And I
25 really do think that that analogy of a fuel pump to a liquid manure pump
26 makes sense here.

1 So the construction of liquid manure, the Petitioner is trying to say
2 that it's only liquid manure where the total solid content is less than 5
3 percent. Where do they get that? It's entirely extrinsic evidence. It's from a
4 field handbook, which is exhibit 1066. There's no reason that the Board
5 should limit the scope of the term liquid manure to just the most watery of
6 liquid manure described in a field handbook, which is extrinsic evidence.
7 That's particularly true because I'm on slide 15 of our presentation. The
8 technical field of the '425 Patent equates liquid manure to the animal
9 manure contained in a farm lagoon. So as far as the '425 Patents concerned,
10 in intrinsic evidence, it's the contents of a manure lagoon, which includes
11 liquid with suspended solids.

12 I want to move to the term fluid mover because that was one of the
13 issues that Judge Dougal identified at the beginning. We do dispute
14 Petitioner's claim saying that the function here is just moving fluid. Where
15 do they get that from? They get it from the nonce term itself in the means
16 plus function claim limitation, fluid mover. They see the word mover in the
17 nonce term and say the function, the claim function is moving fluid. But
18 that's not the correct analysis. Claims seven and 19, which is where this
19 f term appears, recites what the claim function is. And that is at least one of
20 speed and direction of the vehicle when the vehicle is floating, is controlled
21 by the fluid mover. So the function that the Board needs to consider that's
22 claimed is not what's in the nonce term, but it's just controlling the speed and
23 direction of the vehicle when it's floating. And when you match that up with
24 the specification, this specification, this is slide 19 of our demonstrative.

25 It's the '425 Patent at column five says cooperation between the
26 valves and the plurality of nozzles is used to provide directional control and

1 motive power for the vehicle while floating. So when you match up what
2 the claimed function is, which is not just moving fluid, it's providing
3 directional control and propulsion. It's clear that the structure that the
4 specification identifies is valves and plurality of nozzles. You know, if the
5 knots term was control means it should be the same analysis. You shouldn't
6 impart function from the nonce word itself, because otherwise it's not a
7 nonce word in the first place.

8 All right, Carrier ground one. So, it's the I'm on slide 20 of our
9 demonstrative. The limitations that Carrier does not disclose is the fluid
10 pump for pumping liquid manure and then the wireless remote control
11 limitation. What does Carrier disclose? Well, it discloses optional
12 firefighting equipment that can be added to this vehicle with two pumps that
13 are labeled 202. In the figures, you can see that these pumps are mounted.
14 They're small, and they're mounted very high up rear end of the vehicle.
15 And the only thing that we have that talks about these pumps is they're
16 firefighting pumps, says they're capable of pumping water from a lake or
17 stream onto a fire, and that we have a screen. So if we go back to what a
18 person of ordinary skill in the art would look at as evidence of whether the
19 pump's disclosed in Carrier are liquid manure pumps, they're not called
20 liquid manure pumps. They're just water pumps. There's no evidence that
21 they were tested or validated or could be used in this application, and there's
22 no evidence that they would survive the highly corrosive environment of
23 manure lagoons, would survive the high forces associated with pumping a
24 non-Newtonian fluid and wouldn't be clogged by suspended solids. And in
25 particular, paragraph 63 of Carrier talks about a screen. And our expert says
26 that that screen would become clogged if it were used to pump liquid

1 manure. Because Carrier doesn't -- if Petitioner hasn't proven that Carrier
2 discloses a manure pump, it doesn't disclose the wireless remote control
3 limitation of controlling a fluid pump for creating a stream of liquid manure.
4 Flow of liquid manure.

5 JUDGE DOUGAL: Counsel?

6 MR. LICHINGER: Yes.

7 JUDGE DOUGAL: This is Judge Dougal. I want to ask you about
8 one piece of evidence back on your prior question. So, in the declaration
9 from Mr. Puck, this is exhibit 1114, paragraph six. He testifies that "High
10 pressure / high volume pumps available in 2012 for pumping water from
11 lakes and streams for firefighting are capable of pumping liquids with
12 suspended solids, especially if the suspended solids had a total solid content
13 of about 5 percent or less." Then he continues. "Such pumps could pump
14 liquid with even higher solid content. Such pumps could also pump
15 mixtures of water and animal waste with even higher solid contents." So he
16 doesn't say Carrier, but that seems designed to be evidence that the pump in
17 Carrier, it's his opinion that the pump in Carrier or those types of pumps are
18 capable of pumping liquid manure. Do we have any evidence, testimony or
19 testimony of your declarant or other people in the field that counters this,
20 that says that firefighting pumps of this type aren't capable of pumping 5
21 percent less or even higher amounts of suspended solids?

22 MR. LUCHSINGER: There's not something that there's not I'm not
23 aware of evidence, testimonial evidence saying that this firefighting pump
24 can't pump liquid manure. But the way that Petitioner is trying to prove
25 Carriers pumps as being liquid manure pumps is based on an
26 overgeneralization that all firefighting pumps can pump liquid manure. And

1 what I'm saying is that overgeneralization is fundamentally flawed. While
2 Mr. Puck may have found that there were some firefighting pumps that
3 could also pump liquid manure, but that doesn't mean that the firefighting
4 pumps disclosed in Carrier can pump liquid manure. There's no evidence a
5 Petitioner has presented that shows that they were described as firefighting
6 pumps or some other evidence that a person of ordinary skill in the art would
7 look at to say, oh, okay, it makes sense now. It would survive the highly
8 corrosive environment of liquid manure. It would deal with the high loads
9 associated with a non-Newtonian fluid.

10 A person of ordinary skill in the art, just looking at the Carrier
11 reference, all they see is this is a small vehicle with small pumps that are
12 designed for firefighting pump water out of lake or stream. And there's just
13 not the evidence there upon which a person of ordinary skill in the art could
14 say that this pump is capable of working in liquid manure pumping
15 applications. That's not what the reference would teach them. By contrast,
16 if we look at Puck and it's in paragraph 25, Puck specifically says that it's
17 Lurie pump, which is a Cornell Reddy Prime pump. That's the manufacturer
18 Cornell. It says it's a liquid manure pump. The Cornell Ready Prime
19 advertising materials talk about it being capable of being used in this
20 application. The GEA fuel advertisements for liquid manure pumps talk
21 about it as a liquid manure pump.

22 And I'm not saying that marketing or words are everything, but we
23 have to think about this from perspective of ordinary skill in the art. And
24 when they're just looking at a document, there has to be something in it that
25 tells them this is a liquid manure pump or it would work in this application.
26 So it either has to be called that or you need other evidence that would show

1 it would survive this application. And we don't see that in Carrier. We don't
2 see it in Truxor, or we don't see it in SenwaTec because Truxor --

3 JUDGE DOUGAL: To summarize your position, it's basically,
4 they're over generalized in their arguments as to what these pumps are. And
5 we need a little more specificity.

6 MR. LUCHSINGER: Yeah, like if the claim said, you know, we've
7 got a vehicle with an internal combustion engine and a fuel pump, right?
8 And then I have a boat with a bilge pump, and I say, well, that's a fuel pump.
9 Because, you know, some water pumps have been known to be able to be
10 used to pump fuel, but that doesn't mean that my bilge pump wouldn't
11 degrade by the ethanol and fuel, wouldn't leak vapors. A person of ordinary
12 skill in the art wouldn't consider that bilge pump a fuel pump.

13 JUDGE MEYERS: But that doesn't mean that it's not capable of
14 doing so with the bilge pump. You know, if you're going to use it in an
15 ocean, in a saltwater environment versus a freshwater environment,
16 obviously the saltwater is going to be more corrosive and you're going to
17 end up replacing it sooner than you would in a freshwater bilge pump. But
18 the boats are still using bilge pumps interchangeably with respect to the
19 water source.

20 MR. LUCHSINGER: Well, what I'm saying, a person of ordinary
21 skill in the art, looking at that bilge pump would see it as a bilge pump, not a
22 fuel pump, because a fluid pump for pumping liquid manure, that term
23 identifies a category of pumps, liquid manure pumps, which is a category
24 that a person of ordinary skill in the art understands. It's a category of pump
25 that's described in the Puck reference, it's described in the Hull reference, it's
26 described in the depot reference. So this is a term of art. And just because

1 one water pump or one firefighting pump actually worked in this situation,
2 because of its construction, the materials, the seals, the bearing design, were
3 able to handle everything, it doesn't mean that they all do. And it doesn't
4 mean that a person who are skilled in the art would understand that all water
5 pumps, all firefighting pumps, all dredge pumps would pump liquid manure.

6 JUDGE MEYERS: But are they not capable of it even for some
7 certain amount of time? I understand your position on longevity.

8 MR. LUCHSINGER: But what I'm saying is that a person of ordinary
9 skill in the art would not consider it a liquid manure pump, would not
10 consider it to satisfy the claim limitation if you turned it on and five minutes
11 later it stopped working.

12 JUDGE MEYERS: Well, we're not talking about minutes. We're
13 talking about months, years, perhaps.

14 MR. LUCHSINGER: Well, the point is the Petitioner carries the
15 burden of establishing that these pumps are liquid manure pumps and they
16 haven't done so because they're relying on an overgeneralization.

17 JUDGE PETRAVICK: Counsel. Would your expert testify that the
18 references didn't show a pump that is capable of pumping liquid manure?
19 What did your expert understand was required under the law to meet that
20 claim limitation? Did your expert think that it had to be called a liquid
21 manure pump? Did your expert think that what is the criteria that a person
22 of ordinary art would have to know that the pump has to have? So when
23 you're expert, can you show what the expert thought they had to testify to?

24 Because this slide, I think, is very telling and that your expert seems
25 to not necessarily be aligned with the law as to what a prior art reference has
26 to show in order to show that the limitation is met, specifically this kind of

1 limitation. So how do we know what your expert's understanding was?
2 Because it seems to me that this paragraph seems to show that, you know,
3 they kind of varied from the law as to what was necessary to show that
4 something was capable of pumping liquid manure.

5 MR. LUCHSINGER: Our experts. So in the petition, Dr. Winkle
6 filed his declaration saying that I think this water pump is a liquid manure
7 pump on the sole ground that it's because water and liquid manure have
8 equivalent pumping characteristics. Our expert said, I disagree with Dr.
9 Winkle's opinion because manure isn't equivalent to water. Here are the
10 reasons why. And I laid them out, suspended solids, highly corrosive, non-
11 Newtonian fluid. And then our expert went on to say, I don't see in these
12 references why --

13 JUDGE PETRAVICK: Counsel, did you just say that you laid out for
14 your expert that a liquid manure pump has to be highly corrosive or be
15 resistant, not a pump water and so on, as opposed to your expert telling you
16 what a POSITA would know was a liquid manure pump?

17 MR. LUCHSINGER: Our expert laid out what liquid manure was,
18 not the other way around. So our expert said, I disagree with Dr. Winkle's
19 opinion that liquid manure is equivalent to water. And then our expert laid
20 out why he disagreed. Why there's not this equivalency. And it's those three
21 differences, the solid content, the corrosiveness, the non-Newtonian shear
22 behavior. And then our expert went on to say, I don't see evidence in the
23 references themselves or what Dr. Winkel has provided that would lead a
24 person of ordinary skill in the art looking at these references to say, this is a
25 liquid manure pump. And then our expert said here in his declaration at

1 exhibit 2099, paragraph 98, this is the type of evidence that I would consider
2 to understand if a reference did disclose a liquid manure pump.

3 JUDGE PETRAVICK: And if this type of evidence wasn't aligned
4 with the law as to what one of ordinary skill in the art would know from
5 those references and all the that it teaches does that under -- what I'm
6 thinking about is whether that undermines what his testimony is.

7 MR. LUCHSINGER: His testimony is –

8 JUDGE PETRAVICK: He seems to say that he would look at all of
9 these and, and all of those things and, and maybe not necessarily what the
10 reference itself would teach to one of ordinary skill in the art.

11 MR. LUCHSINGER: His testimony –

12 JUDGE PETRAVICK: One, two, three, four and, you know, and
13 four.

14 MR. LUCHSINGER: I think that the hang up here is that our expert
15 isn't saying that 1, 2, 3, 4 are required under the law. Our expert is saying
16 that I disagree with the overgeneralization that the Petitioner is using. And
17 this, from a factual standpoint, this is the type of evidence that I would
18 consider. It's not that you have to show one through all of one through four
19 or any of one through four. He's just saying this is the type of evidence I
20 would consider and I don't see any of it.

21 I do want to cover briefly claims seven and 19. So these are
22 dependent claims. They're the means plus function limitation. They talk
23 about the speed and the direction of the vehicle being controlled by the fluid
24 mover for Carrier. And the same goes for SenwaTec and Truxor. The
25 Petitioner argues that the water cannon or the nozzle could be used to control
26 speed and direction of the vehicle. But that's a fallacy. A person of ordinary

1 skill in the art wouldn't understand that that's what these, the water cannons
2 used for. That's what the nozzles are used for in SenwaTec or Truxor
3 because they're optional equipment. Right. So it doesn't make sense that if
4 some, you know, the vehicle wouldn't be able to navigate if you didn't have
5 these optional equipment. That's an illogical argument. They certainly don't
6 disclose that they're used for propulsion and steering and moreover, you
7 would be limited to like with Truxor or SenwaTec, you'd be limited to
8 moving in reverse. So it's just, it's illogical to say a person of order skill in
9 the art would understand these references teach using the fluid pump to
10 maneuver the vehicle and provide motive propulsion based on the teachings.

11 And then I also want to touch on claim twelve. So, claim twelve
12 specifically requires mechanical drive connecting the power source and the
13 liquid manure pump. And what Petitioner has identified in Carrier, in
14 SenwaTec and in Truxor are hydraulically driven pumps. And they're trying
15 to rewrite the claims to say mechanical drive means a mechanical drive
16 shaft. But that's not what a person of ordinary skill in the art would
17 understand. If you look at the figure on the right hand side of slide 25, you
18 can see that they disclose a hydraulic pump, a hydraulic motor that are
19 connected by hydraulic lines. This is a hydraulic drive, not a mechanical
20 drive. And the '425 Patent adds context to this because it explains at column
21 two that a mechanical drive is an alternative to a hydraulic drive.

22 I'm going to skip through grounds two and three, which is Truxor and
23 SenwaTec, because I think we covered them talking about Carrier and
24 talking about these liquid manure pump limitations. But the primary
25 difference with Truxor and SenwaTec is they're manned vehicles, whereas
26 Carrier also discloses remote control. So, it's both of these limitations that

1 are missing in these combinations. And furthermore, the evidence shows
2 that you need in these vehicles there are onboard operators that had to stand
3 up and peer over to observe the pumps operating. So it doesn't make sense
4 to a person of ordinary skill in the art that that sort of line of sight
5 requirement for operation of these dredging vehicles would, it would in fact
6 discourage them from making this combination with Yoon or Carrier, which
7 are just asserted for the purpose of providing wireless remote control.

8 But again for Truxor, it's a dredge pump that's disclosed as pumping
9 light sediments and volatile sand. So that while that might say okay, it
10 suggests to a person working skill in the art it could pump suspended solids.
11 That's not the end of the analysis. There's nothing here that would suggest it
12 would be able to pump highly corrosive liquid manure or deal with the non-
13 Newtonian aspect of the shear behavior.

14 With SenwaTec, they try to rely on these declarations that SenwaTec
15 would, was used to pump liquid manure. But we now know that that's in
16 fact false. What the SenwaTec vehicle was used in was municipal
17 wastewater lagoons, which don't have the bedding material in manure
18 lagoons, which is like straw, what the animals are bed in, that gets washed
19 into the lagoons as well. And that creates a solid content that creates the
20 crust. We also, the municipal wastewater lagoons are downstream of
21 treatment facilities and then ultimately gets released back into the
22 environment. There's no evidence showing that these municipal wastewater
23 ponds were highly corrosive. Like, manure lagoons had non-Newtonian
24 behavior, like liquid manure. And sort of this argument that, like, there's
25 human manure. I don't know about you, but I've never heard of that term
26 before. I have a two year old at home. I definitely don't tell my wife that,

1 you know, we need a diaper change because we have a human manure
2 problem.

3 So now I want to talk about ground floor, which is a combination with
4 Puck and Bryham, and then possibly Bennett. So this combination doesn't
5 disclose a power source that's connected to both ground engaging propulsion
6 structure and the fluid pump. And their expert does a lot of hand waving,
7 saying that, well, you could just add Bryham's wheels to Puck and then use
8 the same hydraulic system, use the same wireless remote control to control
9 the wheels. But that overlooks the disclosure of Puck. So I'm on slide 39
10 and paragraph 27. Puck says that hydraulic pump is coupled to a twelve volt
11 battery, which makes sense for Puck because it's linear actuator. So it's just
12 pressure differences in a closed loop system. But when you're talking about
13 driving wheels. I'm on slide 41 now of our presentation. It's an open loop
14 system that requires volume of hydraulic fluid being pumped through, as
15 opposed to just controlling hydraulic actuators. And so what our expert says
16 is that a person with ordinary skill in the art would recognize that you wouldn't
17 just be able to use this twelve volt powered hydraulic system in Puck to
18 drive Bryham's wheels. So therefore, it doesn't make sense what their expert
19 says is that you would just make this combination to save on costs and
20 complexity and take up less space and weight, but the systems are not
21 compatible.

22 I also want to talk about the motivation to combine combined for
23 grounds four and five. So the Petitioners on slide 42 of our hearing
24 demonstrative. Petitioner says that the motivation to combine to add
25 Bryham's wheels to Puck is because a person of ordinary skill in the art
26 would not want to place a trailer or one's feet in the hazardous and corrosive

1 manure lagoon. This is a made-up problem that doesn't exist. I'm on slide
2 43 of our hearing demonstrative. You can see in the far left hand side. The
3 Puck patent shows that its agitation boat could be launched and retrieved
4 without backing the trailer into the water. Paragraph 34 of Puck, this is on
5 the right hand side of slide 43, explains that the trailer is back towards the
6 lagoon, and then the agitator may roll off the trailer under the force of
7 gravity or be pushed off. And then at exhibit 2008, page seven, this is a
8 screenshots of a video of a manure boat demonstration that was captured by
9 progressive dairyman, which is a publication. And you can see here Puck's
10 boat being launched without the trailer being in the water, without someone
11 stepping into. Sorry, I shouldn't say water without the trailer being in the
12 lagoon, or without someone stepping in the manure lagoon.

13 So the underlying motivation of adding wheels to Puck is to solve a
14 problem, problem that didn't exist, which is, I don't want to put the trailer in
15 the water. And our expert also says that this means there's no reasonable
16 expectation of success, because if a person of ordinary skill in the art was
17 concerned about putting a trailer in a manure lagoon due to the highly
18 corrosive environment, for a couple minutes when you're launching and
19 retrieving, that would have -- that same concern would have discouraged
20 them from adding ground, engaging wheels to the boat that's going to be in a
21 manure lagoon, a corrosive manure lagoon for hours at a time. So a person
22 of ordinary skill in the art wouldn't have had a reasonable expectation of
23 success. And what's more is this isn't just our expert theorizing. We have
24 actual evidence to show that that's what the industry thought.

25 So one of the secondary consideration, evidence that we presented
26 through Ian Nuhn's declaration, which is exhibit 2083, paragraphs 55

1 through 56, is that when he was originally developing the Lagoon Crawler,
2 his father, Dennis Nuhn, who is the president of the company, thought that it
3 was a wasted effort because he thought that there would be problems with
4 adding these ground engaging wheels. He thought that the motors and the
5 hydraulic fittings would corrode, that hydraulic fluid would be contaminated
6 by liquid manure, that the hydraulic fluid would leak into the manure
7 lagoon, which then creates an environmental hazard, that it wouldn't have
8 enough traction to maneuver in the lagoon and get out, because these are
9 heavy pieces of equipment, and that it wouldn't be able to be controlled
10 without, like a guide wire. It's not just Dennis Nuhn who thought that we
11 also -- Ian Nuhn also testifies that when they first launched the Lagoon
12 Crawler and went to these different shows, people had the same skepticisms
13 when they first saw it. So it's not just Dennis Nuhn. It was Ian Nuhn's
14 personal knowledge of how people reacted to the Lagoon Crawler at these
15 various shows. And when I get to the secondary consideration evidence in a
16 minute, I'll show you that. He even mentioned that to a newspaper reporter
17 that there was skepticism in the beginning.

18 Also, as far as reasonable expectation of success and this combination
19 Bryham structure. I'm on slide 46. You can see on the right is a three wheel
20 tricycle type structure that almost looks like, you know, a plain landing gear,
21 where the front wheel is designed to swivel for steering, and then the back
22 two wheels are designed to provide power. If a person. If we're just simply
23 making a pure substitution here, right. You would take, apparently, this
24 ground engaging propulsion structure and add it to Puck. But person of
25 ordinary -- our expert explains his declaration, exhibit 2029, at paragraphs
26 318 through 319, that a person of ordinary skill in the art would see this as a

1 non-starter because the stability issues and traction issues associated with
2 this type of drive structure doesn't make sense. So now what the argument
3 has sort of morphed into is Petitioners saying, well, what you'd really do is
4 you delete the front wheel, and then you just take the back two wheels and
5 you duplicate them. So now we've got four wheels at each corner of the
6 vehicle. Why would a person of ordinary skill in the art do that? They
7 wouldn't, unless they were looking at Nuhn's patent as a blueprint.

8 All right, secondary considerations. I know this is an important issue.
9 The Petitioner tries to downplay secondary consideration evidence presented
10 by the Patent Owner as just declaration statements. But every single
11 secondary consideration, there's corroborating evidence that has been
12 provided. So, the first secondary consideration is commercial success. Ian
13 Nuhn's declaration, exhibit 2083 talks about this at paragraphs 23 through
14 28. But then we've also attached Nuhn sales reports to our exhibits 2055
15 through 2059. There's been over 450 Lagoon Crawlers sold and millions of
16 dollars in revenue. The actual number is confidential, so you can look at it
17 in the exhibits. I don't want to state it right now, but that's a lot of crawlers
18 and a lot of money in this very niche industry. And moreover, the Nuhn
19 Lagoon Crawler quickly surpassed the prior market leader, which was Puck
20 boats. Ian Nuhn testifies to this fact. And during Petitioner's argument, they
21 say that's just based on skepticism, but it's not. Ian Nuhn testified that he
22 was aware that Puck's boat serial numbers count up incrementally, and he
23 knew what the serial numbers were when the Lagoon Crawler was first
24 launched, so he knew how many boats there were. So it's not just based on
25 skepticism, it's actually based on his industry knowledge.

1 Long felt need. So, Ian Nuhn's declaration talks about this. That's
2 exhibit 2083, paragraphs 18 through 19. And then it's also talked about in
3 the background section of the '425 Patent, which we talked about.
4 Background section talks about using these tractor mounted agitators, and
5 they were unsuccessful in agitating large lagoons because they couldn't get
6 to the center. Ian Nuhn also talks about the problems associated with Puck's
7 boat, that not only was it, you know, time consuming and difficult to get it in
8 and out of the lagoon, but oftentimes they would nose dive into the lagoon
9 when they were being launched. They would get stuck in these sandbars
10 that formed in the middle of the lagoon. So there was a long felt need for
11 something better. And that's what led to the commercial success of the
12 patented invention.

13 Unexpected results. So while it might be expected that adding ground
14 engaging propulsion structure would help carry a manure agitation vehicle in
15 and out of a lagoon, what was unexpected is these vehicles sort of act like
16 icebreakers. The displacement of the vehicle body, combined with the
17 churning action of the wheels, creates a working pocket. We can see that in
18 slide 49, where in that working pocket, the Lagoon Crawler is operating, so
19 that the crust is sort of protected or pushed away from the pump, which
20 prevents it from clogging. This is a new and unexpected result. Another
21 new and unexpected result that Ian Nuhn identifies in his declaration, which
22 is exhibit 2083 at paragraphs 29 through 32, is that one Lagoon Crawler was
23 able to replace four or five tractor driven pumps and agitated lagoon in less
24 time, and did a better job. So that, and what that means is that there was
25 considerable savings as far as the initial investment in equipment and fuel
26 savings, because you didn't have to run four or five motors at the same time.

1 And he wasn't expecting that the Lagoon Crawler would do a better job than
2 multiple shore based agitators, but in fact, it did.

3 Industry praise. There's 13 newspaper articles of the Patent Owner
4 presenting.

5 JUDGE DOUGAL: Sorry to interrupt. This is Judge Dougal. I just
6 wanted to make sure you were aware you have about six minutes left of your
7 main argument time. If you want to keep five for rebuttal.

8 MR. LUCHSINGER: Okay. So, I just want to point out that there's
9 evidence of industry praise. There's evidence that there was skepticism. We
10 talked about that earlier. Evidence of licensing, which is the prior market
11 share leader, Puck, sought to license the Lagoon Crawler. That's exhibit
12 2075. And then there's evidence of copying. It's not just a side-by-side
13 comparison. It's also there's evidence of access, because Stutzman's, which
14 is Bazooka's parent company and is listed as a real party of interest,
15 purchased Lagoon Crawlers. There's testimony that one of their mechanics
16 felt uncomfortable with the progress of the Wolverines development, where
17 it started off as just having propellers and then added a pump and nozzle.
18 And that's reflected in the patents that Bazooka filed. We can see that they
19 started off as being something sort of different with just propellers, and then
20 it migrated towards the patented invention.

21 I do want to touch on the motion to amend. So, without hindsight, if
22 you were to look at all the prior art, it discloses like, something like Puck,
23 where you've got a pump that's high and dry inside the vehicle body. Or if
24 you have a submersible pump, it discloses pumps that are located on the end
25 of these boom arms, which means that they're not positioned along the
26 underside of the vehicle, and they're not located rearward of the front of the

1 floatable vehicle body. What I'll touch on, I think first, because it was an
2 issue that was identified, is ground four, and that's the combination of
3 Manure Manager with Puck. So you can see on slide 19 of our
4 demonstrative. What's circled in blue is there's an input shaft on Nuhn's G-
5 Force Vertical Pit Pump, which is at the top of the pump. In the
6 combination that Petitioner identifies in their expert report. That's exhibit
7 1109 in paragraph 143. You can see that this pump is just located floating.
8 A person of ordinary skill in the art would not consider that this is how you
9 would combine these references. You would want to attach the input shaft
10 to the motor of Puck. And this pump is also designed to articulate up and
11 down, pivot up and down, swing up and down into the manure lagoon.

12 So if you weren't using the '425 Patent as a blueprint, what you would
13 end up with is you would have this vertical pit pump mounted on the back of
14 Puck's boat, with the upper part of the pump with its input shaft being
15 connected and aligned with Puck's power source, the motor. And it's not just
16 our expert that talks about this, but it's actually what happened when Ernie
17 Sundstrom did it.

18 MR. LEACH: If I may interject, this is one of the exhibits that we
19 objected to because after the parties exchanged their slides, they provided
20 basically rebuttal slides and added this one, and that was not provided for the
21 order. So I'll just note the objection.

22 MR. LUCHSINGER: So, all I'm citing here is exhibit 1115. And you
23 can see that what Sundstrom did is hung a lagoon, a GEA fuel lagoon pump
24 off. So it's off the front of the manure agitation barge, and the drive shaft is
25 connected and aligned with the power source. So if you were to just look at
26 this without considering the '425 Patent, and you're going to combine these

1 two, the Puck with the G-Force Vertical Pit Pump, you wouldn't end up with
2 a claim combination where the pump's located along the underside of the
3 floatable vehicle body and is rearward of the front end of the floatable
4 vehicle body and forward of the rear end of the floatable vehicle body as
5 required by substitute claim 22. And therefore, it also wouldn't satisfy claim
6 27. Substitute claim 27, which requires the pump to be located essentially
7 inboard of the spindles of the front set of wheels and the rear set of wheels.
8 With that, I'll reserve the rest of my time for rebuttal.

9 JUDGE DOUGAL: Thank you, counsel. All right.

10 MR. LEACH: Thank you, Your Honors. I'll try to be brief here, and I
11 think my colleague, Mr. Stemler may also have a few comments on some of
12 the slides on the motion to amend. Let me share my screen quick here. So I
13 think Petitioner or, I'm sorry, I think Patent Owner, raised the point of the
14 Puck boat, disclosing the Cornell Ready Prime pump. And he said one of
15 skill in the art would understand that that's a manure pump. And I think this
16 gets to the whole point. They want to define manure pump as well. Put the
17 pump in liquid manure, prove it actually does it, and then we will say it's a
18 manure pump. And that's just not how I think how Your Honors identify
19 that panel work. We're talking about a structural claim here, and I think this
20 really makes the point well. This is the Cornell Reddy Prime pump, and the
21 Cornell's Ready Prime pump. It says it's a pump designed and engineered
22 for the most rugged and demanding industries, construction, industrial,
23 rental, and minutiae. Now, I mean, these pumps are for all kinds of different
24 things, and I think this just hits that point home that there is not just this
25 manure pump, this magical manure pump that you have to figure out who
26 designed it and what did they intended to be designed for? What was it

1 marketed for? You know, what was it tested for? There is a number of
2 these pumps that pump liquid manure, thread pumps, pump liquid manure,
3 especially the low solid content liquid manure. And he also admitted on this
4 point, in terms of the interior --

5 JUDGE DOUGAL: Counsel, can you please identify the exhibits
6 you're referring to?

7 MR. LEACH: Yes, I am sorry. This is exhibit 1124 at page three is
8 what we're looking at. And so in terms of Carrier, I think what we heard,
9 Mr. Luchsinger state, is there's no counter evidence to Puck's testimony that
10 the firefighting pumps, high volume firefighting pumps pump liquid manure
11 that Puck testified to. And so that's the evidence. And it shows how one of
12 still in the art reading the Carrier reference would have understood what that
13 reference teaches. And it teaches a pump capable of pumping liquid manure
14 on Carrier.

15 Patent Owner makes much of the gun and nozzle not being able to
16 steer the boat. And he says, well, that was just an option. And so, it wasn't
17 always on the boat. And I think he's missing the point there in that it doesn't
18 have to be every tool that's on the boat at every time. If that firefighting
19 equipment was on there and that nozzles and guns were on there, it meets the
20 claim limitation and it anticipates it doesn't have to be a structure that's on
21 there all the time. It just has to be there at one time. And certainly in
22 Carrier, it's disclosed in there. And I think on that point, if you look at
23 Sundstrom's declaration, which is exhibit 1115 at paragraphs 21 and 22,
24 Sundstrom used its gun and nozzle and the force coming out of it to steer
25 that thing around. Remotely controlled, steer that thing around the manure

1 lagoon. And let me see if I can just pull up a picture quick of the Sundstrom
2 boat. If you give me just one second here, I will share my screen here.

3 And so here's the Sundstrom boat that was remote controlled. As you
4 can see that nozzle and gun was pumping fluid, liquid manure out. And
5 that's how it steered itself, remote, by remote control, around the lagoon.
6 And just as a side note too, they talk about this pump being hung off the
7 front of the boat. That pump, it's almost like a tuning fork. It is along the
8 underside of the Sundstrom boat to go below the nozzle there. And so I'm
9 going to hit on just a few other points here on the Puck Bryham point they
10 made about the engine not driving that you would use Bryham's secondary
11 engine to drive the hydraulics. The point there is, they're missing the point, I
12 guess they are not taking the combination that is disclosed. We, the
13 Petitioner shows that you would take the Puck engine and use that to drive
14 the fluid pump of Bryham. And so the motivation to one of skill in the art
15 would understand that you would use the single engine to drive the various
16 components, which is also shown in many of the other prior features. They
17 use one engine to drive all the hydraulic systems, the drive wheels, the
18 pumps and so on. So I think they missed the point on that argument.

19 And the means plus function limitation for the fluid mover. If you
20 look at the claim, it's not a means for, I think this is, for example on claim
21 seven, it's not a means for controlling one of the speed and direction of the
22 vehicle while floating. It is a fluid mover. And that's the term that we're
23 construing. So that's like looking at that 112 f limitation. It's a means for
24 moving fluid used to control the speed and direction or one of the speed and
25 direction. And so the term that is defined is fluid mover. The rest of the
26 claim handles what that fluid mover does. But getting back to it, the only

1 thing that the fluid mover is meant to do, or the only structure required to
2 move fluid is a pump, conduit and nozzle. And I think on that point the law
3 is clear. And let me pull up a site on that point because I think it's important
4 here.

5 The Federal Circuit forbids incorporating incorporation of structure
6 from the written description beyond that necessary to perform the claim
7 function. And that's the micro chemistry, Inc. v. The Great Plains Chem
8 Company. And that's at 194F.3D1250 at page 1258. That's a fed circuit
9 case from 1999. And so you only need the structure required to perform the
10 function and the function is moving fluid.

11 Now, another big point they made was the pumpability of human
12 feces versus liquid manure and how one is allegedly corrosive and one is
13 not. Sundstrom has testified in his declaration that the pumpability of
14 human manure versus human waste versus liquid manure is there's no
15 difference. And I think that is at Sundstrom's declaration, exhibit 115. I'm
16 sorry, 1115 at page -- just give me a second -- at paragraph 14. And on the
17 point of non-Newtonian versus Newtonian fluid. The graph that Patton
18 owner put up, if you noticed in that graph, to say that these fluids are non-
19 Newtonian, that graph shows all higher level or higher total solid content,
20 liquid manure. So liquid manure becomes non-Newtonian at higher total
21 solid contents than what liquid manure is below 5 percent. So all of their
22 percentages were higher than 5 percent total solid content. And I think
23 what's important there is what they're pointing to is at these higher total solid
24 content, it becomes a non-Newtonian. The problem they have, though, is
25 they actually prove our point. Liquid manure is when it becomes a thicker
26 or a higher total solid content, it does become a non-Newtonian fluid. And

1 that non-Newtonian fluid, some of those don't have the same viscosities.
2 The viscosity changes, but some of those non-Newtonian fluids actually get
3 easier to pump. And that's what happens with liquid manure. And that is
4 provided in our expert's declaration. They want to say it gets harder. And
5 this gets to the point. If you've ever played with silly putty, it's a non-
6 Newtonian fluid. If you pull it really fast, it just breaks because it acts more
7 like a solid. That's one aspect of a non-Newtonian fluid. But non-
8 Newtonian fluids also go the other way and become easier to mix when there
9 are shear forces on them, they become more liquid, and they're easier to
10 pump. And that's what liquid manure is. And manure, when you agitate it,
11 it becomes easier to pump.

12 And so they're wrong on, on both points. And I want to just get to the
13 point that they cut off in their slide. They cut off Petitioner's expert. And
14 that's at Exhibit 1112 at paragraph 125. And he cites the research article on
15 that, which is exhibit 1128 at page three. And so, I just wanted to make that
16 point, you know, I think Your Honors understood the point about, you know,
17 longevity of the pump is not claimed, the type of material is not claimed.
18 And again, these pumps last years, and depending on the fluid, yeah, there
19 might be some issues with it being corrosive to the material, but that's not
20 part of this, part of the claims. And so I think that point, I think, was made.
21 I'm just looking through my notes here.

22 JUDGE DOUGAL: Counsel, you have about a little more than three
23 minutes left.

24 MR. LEACH: Okay. With that, I think I will. I'll bring up one more
25 quick point, and then I'll let my co-counsel, they made the point about
26 Bryham, or, I'm sorry, the Puck. Bryham, not having someone on a trailer.

1 Let me see if I can share my screen with this. This is a screenshot. And so
2 while they snipped a screenshot with people standing back later in the video,
3 or in the video, you see someone climbing on the trailer around the thing,
4 pushing it off, or doing something with the Puck boat, I think that point is
5 made with that. This is exhibit -- that would be exhibit 008. And with that,
6 I will hand it over to Mr. Stemler and let him address some of the other
7 points.

8 MR. STEMLER: Yeah, I only have one quick point to make, you
9 know, counsel for Patent Owner argued that the Sundstrom reference would
10 lead one to, you know, mount the pump at the end, off the end of the vehicle.
11 However, one looking at the Sundstrom teachings would actually be guided
12 away from putting the pump at the end of the vehicle, as shown in the figure
13 on the left. The weight of this pump actually weighs down that vehicle
14 when it's being launched into the lagoon. And Nuhn's expert, identified in
15 exhibit 2029 at paragraph 18 through 19, that when launching manure
16 agitation vehicles, launching too quickly and nose diving into a lagoon is
17 problematic. So when looking at this, you know, disclosure of Sundstrom
18 and seeing the issues associated when launching Sundstrom would not have
19 been motivated to change Puck and move the pump from a centrally located
20 point off the end of the vehicle, as disclosed in Sundstrom. And with that,
21 I'll cede my time here. Thank you.

22 JUDGE DOUGAL: Thank you, counsel. Mr. Luchsinger. whenever
23 you're ready.

24 MR. LUCHSINGER: All right, thank you. So the first thing I wanted
25 to point out is it's represented by Petitioners counsel that Sundstrom
26 propelled itself using the liquid manure pump. That's incorrect. You can

1 see that at the sort of the middle, at the top, top and the back, there's these
2 two winches. The Sundstrom boat used cables to pull it and winches to pull
3 it across the manure lagoon.

4 The second thing that I wanted to touch on is secondary
5 considerations with respect to the amended claims. So, the claimed position
6 of the pump is tied to the unexpected results that are provided by the
7 invention. Because by placing the pump in the center, sort of in the center of
8 the vehicle, along the underside, right, inboard of the front and rear ends, the
9 displacement of the vehicle hull creates this sort of protective perimeter or
10 halo around the pump that the crust isn't going to come into. So it, it puts
11 the pump in this pool of liquid, this working pocket, and the prior art, if you
12 just look at the prior art, it doesn't tell you to put the pump in this location.
13 And that's the point of the substitute claims.

14 I also want to point out that this whole reliance on liquid manure
15 being below 5 percent comes from extrinsic evidence. And one publication
16 and our expert has explained that it's not some industry standard. So it
17 would be legal error to limit the scope of the term liquid manure in the '425
18 Patent to only manure and water that's less than 5 percent total solids.

19 Another thing that I wanted to address is the argument around the
20 presumption of having a nexus between secondary considerations and the
21 claims. Their position is that because the '835 Patent, which is a
22 continuation of the '425 Patent, has slightly different claim scope, that you
23 can't have secondary considerations between the '425 Patent claims and you
24 can't establish the nexus between and '425 Patent claims in these secondary
25 considerations. That makes no sense. It's essentially standing for a
26 proposition that if you have a family of continuation patents, you can't have

1 secondary consideration evidence for those because there's differing claim
2 scopes throughout the family. And if you actually do a side by side
3 comparison in '425 Patent claims and '835 Patent claims, you'll see that they
4 are highly similar.

5 So the presumption, this nexus of secondary considerations is present.
6 Our expert went through at length over 100 paragraphs establishing that
7 nexus for each of the four generations of Lagoon Crawlers that Nuhn has
8 sold. The last thing that I want to just cover briefly is Cheramie. So the
9 Petitioner's arguments with respect to Cheramie are misleading. They
10 identify this green space as Cheramie's dredge pump. But that's literally an
11 empty space. What we're looking at on the right hand side is my
12 demonstrative and nine is what Cheramie actually discloses. So if we blow
13 that up, it says element 53 is a hydraulic motor. Element 52, which is in
14 green, is a hydraulic pump. And then notably what's in pink element 51.
15 That's the impeller. And what I wanted to point out to the board is that
16 substitute claim 22 doesn't just say it's a liquid manure pump that's forward
17 of the front of the or that's rearward of the front of the vehicle. It says that
18 the housing and the impeller are rearward of the front of the vehicle. And
19 that's not present in Cheramie because the impeller housing, which is
20 element 51 in pink, is at the front. And as you can see, the floating vehicle
21 body is highlighted in yellow. On this is slide 13 of our demonstrative. And
22 then there's a deck which is in gray. The pink impeller is forward of all of
23 that.

24 And then I'll just finally add that our expert explained in his
25 declaration, exhibit 2099, paragraph 192 citing the Wickoren reference
26 which is exhibit 2100, that these cutter head dredges, these pumps are really

1 on the end of this boom arm that swings down to the bottom of the body of
2 water. So a person of ordinary skill in the art would not consider this dredge
3 pump to be positioned as claimed in claim 22, which is along the underside
4 of the vehicle body. It's positioned at the front end of a boom arm. With
5 that, I'll address any questions the Board has. If not, I'll cede my time.

6 JUDGE DOUGAL: Thank you, counsel. We appreciate both of you
7 and all of your arguments today and coming before us. We'd also like to
8 acknowledge and thank Mr. Stemler as a LEAP practitioner for coming and
9 participating in the argument today.

10 MR. STEMLER: Thank you.

11 JUDGE DOUGAL: I do have one question that's not really about
12 substantive work or argument, but I noticed that Petitioner has filed their
13 demonstratives as Board and party only. And there's not a public version of
14 the slides. I don't know if that was intentional or if the parties need to get
15 together and confirm whether there's any confidential information on the
16 slides. But I just need to. Yeah. What's the situation there?

17 MR. LEACH: I think there was some uncertainty as to what slides
18 may have had confidential information and we were trying to work that out,
19 so we filed them that way because that's. We just weren't sure. We hadn't
20 heard back from Patent Owner at that point. So I think we can figure out
21 what is to be redacted, if anything, and refile them if the Board would like.

22 JUDGE DOUGAL: Yeah. Could you please get together?

23 MR. LUCHSINGER: We had a conversation by email yesterday
24 identifying which portions of deposition transcripts are sealed. So, I think
25 the Petitioner --

26 JUDGE DOUGAL: You mean of the slides?

1 MR. LUCHSINGER: Yeah, but then those slides include deposition
2 testimony and then we know already what the sealed exhibits are. So what
3 I'm representing is I think the Petitioner has the requisite information to
4 identify which slides contain confidential information and which don't.

5 JUDGE DOUGAL: Thank you. If we can just get that fully resolved
6 and the publicly available slides filed by next Friday, a week from today,
7 that would be really appreciated.

8 MR. LEACH: We can certainly do that.

9 JUDGE DOUGAL: And then, you know, final reminder as we finish
10 up to please stay on. So, if the court reporter has any questions, she can get
11 those answered. So, with that, we'll take all your arguments under
12 advisement and this hearing is adjourned. Thank you, again.

13 MR. LEACH: Thank you, Your Honors.

14 (Whereupon, the proceedings at 2:04 p.m. were concluded.)

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