UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of:	*	
	*	
LOSS OF THE SUBMARINE *TITAN*	*	
IN THE NORTH ATLANTIC OCEAN	*	Accident No.: DCA23FM036
ON JUNE 18, 2023	*	
	*	

Interview of: SCOTT GRIFFITH,
Director of Logistics and Quality Assurance
OceanGate

via Microsoft Teams

Wednesday,
August 30, 2023

APPEARANCES:

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Marine Board of Investigation

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I N T E R V I E W

LT [redacted] Related to marine casualty incident that occurred on the, the *Titan* June 18, 2023, 435 miles outside of Newfoundland, Canada. In this was five persons who were also presumed dead as a result of this incident.

I will go around the room; I will ask everyone on the line to say their first name, and spell their last name for us as well as stating their association with either the Board or their organization. I will start here, let's see here, with Mr. [redacted]

MR. [redacted] Good afternoon, everybody. My name is -- and good afternoon Mr. Griffith. Thank you again for being here with us. My name is Lieutenant Commander [redacted] And I'm an investigator with the Marine Board of Investigations. Thank you.

LT [redacted] Mr. Neubauer. Good afternoon, Mr. Griffith. My name is Jason Neubauer, N-a-u-b-a-u-e-r. I'm the Chair of the Coast Guard Marine Board of Investigations. Thank you.

LT [redacted] Mr. [redacted]

MR. [redacted] Good morning Scott and Harold. [redacted] and I'm an advisor to the MBI. Thank you.

LT [redacted] Ms. [redacted]

MS. [redacted] Good afternoon. I am [redacted] Last name is spelled [redacted] and I am a technical advisor for the Marine Board of Investigation.

LT [redacted] Mr. [redacted] Good afternoon. I am [redacted]

[redacted] I'm the Coast Guard officer engineer. I'm a technical advisor to the Marine Board.

LT [redacted] Mr. [redacted]

MR. [redacted] Yes, hi, afternoon. My name is [redacted] [redacted] My last name is spelled [redacted] And I'm also a technical advisor for the Marine Board.

LT [redacted] Mr. Muse.

MR. MUSE: Good morning. This is Marcel Muise, M-u-i-s-e. And I am the NTSB's Investigator-in-Charge for this accident.

LT [redacted] Mr. Barnum.

MR. BARNUM. Good morning, Mr. Griffith. Bart Barnum, B-a-r-n-u-m. Marine casualty investigator, and with the NTSB's Office of Marine Safety.

LT [redacted] Mr. Kramer.

DR. KRAMER: Yes. Good afternoon. My name is Dr. Donald Kramer, spelled K-r-a-m as in Mary -- e-r. I am a materials engineer with the National Transportation Safety Board.

LT [redacted] And we'll switch over to you to hear on the line. Mr. Malkin, I believe that we -- you are represented here today, sir, by Mr. Malkin, is that correct?

MR. GRIFFITH: Yes, that's correct.

LT [redacted] Okay. And we have no -- we do not oppose that at all. Mr. Malkin, if you could just go ahead and introduce yourself and spell the last name as well.

MR. MALKIN: Sure. Harold Malkin, M-a-l-k-i-n, with the law

firm of Morgan, Lewis, representing Scott Griffith.

LT [redacted] And, Mr. Griffith, if you could go ahead and introduce yourself and your relation to this investigation, sir.

MR. GRIFFITH: Yeah. I'm Scott Griffith. I work for OceanGate. G-r-i-f-f-i-t-h is how you spell the last name.

LT [redacted] Okay. And just a few ground rules --

MS. SHVETS: Ms. [redacted] I'm --

(Crosstalk)

MS. SHVETS: I'm Jane Shvets, S-h-v-e-t-s, at Debevoise, counsel for OceanGate.

LT [redacted] My apology, Ms. Shvets. Thank you for, for stepping in there.

Okay. Yes, we have everyone.

As a few ground rules. If you have any questions for, for Mr. Griffith, if you could just come on the line, and turn your camera on, and then speak. If you have any issues with your camera, please state such beforehand, and then we'll address that there. But just as a, as a courtesy, if we can all as we're speaking be visible via the camera.

And then I just wanted to know if you have any questions for us, sir, before we get started?

MR. GRIFFITH: I don't have any questions.

LT [redacted] Mr. Neubauer.

MR. NEUBAUER: Yes. Thank you, Lieutenant [redacted]

Just wanted to raise a point that if you, Mr. Griffith, and

your counsel would like to confer on something, just let us know, and we will go off camera. And we, we've had this come up on a previous interview. Just call for a quick session off camera, and we'll, we'll pause. Thank you.

UNIDENTIFIED SPEAKER: Thanks for that.

LT [redacted] Thank you, Mr. Neubauer. I will now pass this on to Lieutenant Commander [redacted]

LCDR [redacted] Thank you, Ms. [redacted]

INTERVIEW OF SCOTT GRIFFITH

BY LCDR [redacted]

Q. Again, good afternoon, Mr. Griffith. Thank you for being here with us. I'd like to start off with some interview, some background questions. Can you please provide us what your, what your education is?

A. Yeah. My education, went to high school, graduated here in Bellevue, Washington. Then I attended university at Western Washington State or Western Washington University. Did not graduate there. I attended Edmonds Community College, and got a project management technical degree there.

Q. Okay. Do you hold any professional certificates or licenses?

A. I have a merchant mariner credential.

Q. And what is that for?

A. It's just an ordinary seaman.

Q. Okay. Thank you. And is it active?

A. Yes.

Q. Okay. Great. Thank you. And then can you please tell us about your relevant work history prior to OceanGate?
A. Yeah. So after I left university, and I was a project manager for a construction consulting firm. Later ended up being a part owner of that consulting firm. And that was primarily related to architectural and engineering consulting related to warranty and defect claims in the Seattle, Oregon, are, Seattle, Oregon, and Portland. And then later was introduced to OceanGate by a guy that I had worked with that was previous director of engineering at OceanGate prior to its move to Miami. And at that time Stockton had -- was moving the company back to the Settle area, and my friend asked if I could come help move some stuff -- equipment with my pickup truck and trailer. And I was later introduced to Stockton, and Stockton was looking for a project manager, and I was looking a, a change. Things weren't working out with my company anyway. So I was looking for a change. So I joined OceanGate in 2013, about 10 years ago, and in the capacity of operations manager. So I was doing the project management for a number of different projects that Stockton had. I continued in the operations manager role up into I think right around 2020. At that time Dan Scoville took over operations, and my role changed to director of logistics in quality assurance at that, at that time. And that's my current title.
Q. Great. Thank you very much for that. And when did you graduate from college?

A. Let's see. '98, I think, '98.
Q. And now appreciate the background information on it. So now just moving forward with your interactions with your working at OceanGate. So in 2013, you began working there as an ops manager, as you stated, in project management. What types of things were you doing in 2013 with OceanGate as your position of ops manager?
A. We had several things going on. We were maintaining -- my main role was the maintenance, running the maintenance program for the *Antipodes* submersible. And at that time we had taken delivery of the *Lula* submersible, and we were developing, and changing that submersible to use as a prototype for the *Titan* program. Meaning, we were using the preferable for that vessel to run tests, and, and different integrations and development of the *Titan* submersible. We were -- and we had some projects with University of Washington, Applied Physics Lab, and they had some contracts that we were executing on. And so there was some, some involvement there where we had specialized equipment going into the submersible, and then those things would be tested by, by a physics lab. And that was part of this -- it was part of a larger Navy project, the LDUUV projects at that, at that time. Is that what you're looking for?
Q. Yeah, absolutely perfect. I greatly appreciate that. Thank you. You used the acronym LDUV [sic], what does that stand for?
A. Large displacement unmanned underwater [sic] vehicle.
Q. Okay. And just to go back, you, you talked about the -- is

it *Lula*, L-u-l-a, or L-u-l-u?
A. L-u-l-a.
Q. Okay.
A. That was a submersible that we purchased prior to my time at OceanGate, and it was purchased out of the Azores, and brought over to Florida where the operations were, and then it was delivered to Seattle area, and by a team previous to me, and that was basically the, the hull was maintained, but the vessel was gutted, and, and the priority there was to use that pressure vessel for testing equipment and control systems that the Applied Physics Lab was developing. At that point at OceanGate, the Applied Physics Lab was in effect our Engineering Department. We had a contract with them. Stockton and management had offices at the Applied Physics Lab at the University of Washington. And I was the guy at the shop making sure that the list of things to do got executed and reported back to the management on, on those items.
Q. And the, the *Lula*, was that then re-named to be *Cyclops 1*?
A. That's correct.
Q. Okay. And in -- since you've been with the company quite a, quite a long time since 2013, you had already mentioned looking -- they were utilizing the *Cyclops I* as to be a prototype type for the *Titan*. When did the, the *Titan* vision actually get -- was it part of OceanGate's project? Like at what point did you start working forward towards the *Titan*?

A. It was previous to my becoming employed. It was always discussion from the first time I met Stockton about a deep submersible that could go in the deep ocean. So that was, that was something that was always in the vision since I've been around. And there was development work with Applied Physics Lab towards that. I saw presentations, different prototypes, and, you know, different presentations, PowerPoint stuff. And so it was always a, a vision to have a submersible that could go deep relative to our other subs.

Q. Great. And the relationship with the Applied Physics Lab at UW, or -- I guess they're both UW, UW. Who were your points of contact there, or the points of contact for Mr. Rush OceanGate with UW?

A. Let's see. Have to remember a bit. It's been awhile. We had a principal engineer called Pete Brodsky. He was -- he developed the control system that goes from the control -- the handheld controller to the computers to the thrusters that he developed the first version of that. Then there was a mechanical engineer -- I believe was mechanical engineer, Dave Dwyer, another principal engineer at APL. And he was part of all the mechanical. So I'd get mechanical drawings from him about parts, and like bracketry and stuff like that, and instruction on how to install the, you know, like, thrusters onto that external frame of the *Cyclops*. He also designed the external frame of *Cyclops* to hold all of the electronics, housing. One of the items that we, we

were -- we wanted all the switching from the thrusters outboard of the pressure hull. That was one of the design requirements for the, for the deep sub. And so that was implemented no the, the early version of *Cyclops 1*. This went through a lot of different developments because it was a prototype. So we tried all sorts of different setups, motor controllers, different integrations. And so it was -- there was a lot of different versions that got implemented on *Cyclops 1*, even in -- just for the time APL.

Q. And prior to the establishment of the hull of *Titan* was, was the vision always to have a carbon fiber pressure hull?

A. I don't know that. Yeah, I, I mean, I was part of the discussions of pressure hulls, but it was just -- but I don't know if it was always the case.

Q. Okay. And were you the project manager for the *Titan* sub?

A. Yeah.

Q. What was your relationship or what was your role with the *Titan* from its inception?

A. Yeah, well, so they -- we, we were testing the equipment on *Cyclops 1*, and then there was a transition from APL in effect being our engineering firm to having OceanGate's own internal engineering firm. And I think that was around 2016, and that was when Tony Nissen was hired as the director of engineering at OceanGate. And then Tony was part of the development, and drove that train. It was at that point it was a pretty strong (indiscernible). We were focused on the, like, my, my main work

scope was operating the *Antipodes* submersible, and then *Cyclops 1*, and then we are continuing to implement changes on *Cyclops 1*. But that was exclusive of, like, the development of the hull of the *Titan* 1 submersible. There's two different versions of the hull for, for *Titan*. And what we're talking about here is the, the first version. But Tony had his own independent team, and was going forward with that project.

Q. Great. Thank you. You had mentioned operating the *Antipodes* and *Cyclops 1*. Were you involved at all with *Antipodes* and the U.S. Coast Guard and its looking to get certified?

A. Yeah, yeah. Definitely, you know, I'm -- at that time -- well, later, I definitely was. In my current capacity I recently renewed its oceanographic research vessel designation. Our involvement with the Coast Guard was nearly like every, every dive that we've done with -- so on those subs we're always doing -- each one of those dives has a research component. And so there's some collaboration. And but our standard practice in operation is to notify regional bodies that are interested in marine safety before any dive operation. So there would be phone calls to the Coast Guard prior to us diving. We do a lot of diving near the Everett Navy Base. So we contact the quartermaster there. Relationships with other law enforcement because what we do looks weird. So there was always that case (indiscernible) law enforcement.

Q. And was the, the *Antipodes* was, was a classed sub; is that

correct?

A. That's correct. It's ABS Class A1 submersible.

Q. Okay. And then the *Cyclops 1* was that classed?

A. No.

Q. And was there ever any oceanographic research vessel designation issued to the *Cyclops 1*?

A. Yes.

Q. Do you remember, do you know what sector had issued that or what Coast Guard unit?

A. Here in Seattle.

Q. Okay. And so can you talk to me a little bit more about the operations of the *Cyclops 1*? While the -- so while the *Titan* was being built, and was being put together before prior to its operation you basically you're stating that you were operating *Antipodes* and the *Cyclops 1* in various locations for different operations. What were some of the, the operations that you did in the *Cyclops 1*?

A. So we were testing, like I said, testing that equipment all the time. So we were doing dumps in the marina pretty often. We were doing different partnership, dives with different research institutions. Some of those like University of Washington. We did operations with -- down in the Gulf of Mexico. We did a project with NOAA. And the Flower Gardens. Probably missing some. Been quite a few projects with the University of Delaware. Yeah. So those are the ones I know, I guess, another one comes to

mind is another project with (indiscernible) and some regional folks down the Farralom Islands. I'm sure there's more. Oh, yeah, and then up at the University of Washington, and I think it was the Santa Barbara up in Samoan Islands. We did another project there.

Q. And what was your role -- was your role as a pilot of, of the *Cyclops 1* and the *Antipodes*?

A. No. I mean, that was something that latter happened for me. I mean, I -- being involved in operations, you know, the pilots work for me initially. I later became a pilot, and got into a pilot training program that we -- that's internal at OceanGate. But my, my role varied quite a bit from being the person in charge of getting the stuff there to being what we call a mission director. I did that a lot later. To just be a deckhand on the vessel to, you know, just a lot of different roles. Our comms and tracking systems that we would run, you know, I did a lot of different roles throughout all those different dives. We're talking about over a hundred dives or maybe, maybe hundreds. I don't know. I don't have a count.

Q. Were you involved in the, the *Titan*, the initial hull, the first hull of the *Titan* in the test dives in the Bahamas?

A. Yes.

Q. Can you tell me about what, what happened down there?

A. Yeah. So we, you know, I was the guy that went down to the Bahamas, and did the recon to Abacos and what we were looking for

was an area that was deep where we could test that was close to shore. That's how we ended up in the Bahamas. And the goal was that we could dive during the day, and didn't have to, you know, could stay at onshore at night and rest there rather than staying on a boat for the duration. So that was the primary objective going to the Bahamas. And then we had a test plan that our engineering team had put together for a -- that basically a graduated test program that went from unmanned diving into manned diving. So I took care of the logistics of getting stuff down there, finding local contacts to charter their boats. And then at the time I was managing a team of maintenance guys and pilots. So all -- and then we implemented our engineering test plan for the unmanned dives in the Bahamas. Once that was executed, we rolled into manned diving, and Stockton was the pilot on that. I think I did one dive as -- in my pilot training program with Stockton in the Bahamas that I -- outside of a marina type setting out in the ocean. Does that answer your question?

Q. It does. I have a follow-up question to that. So we have come to know that there became an issue that was identified first with the hull, the first hull of the *Titan* while diving in the Bahamas during that trip. Can you tell me a little bit more about that?

A. Yeah. So we -- in Marsh Harbor Marina, and one of the pilots worked for, for me at that time, then Kenny was doing a pre-dive inspection to the submersible, and saw a crack on the inside of

the pressure hull in the, the carbon (indiscernible). At that time we saw a single line. So we further investigated it. The hull has an insert that can slide in and out, but at that time it wasn't feasible to slide that insert out. So we cut a portion of that insert to further examine that crack. I notified our management, Stockton and Tony. They were not there at that time we were, and then that ended up, you know, we ended up canceling all, all of our -- our plans were at that time to do more pilot training dives, and then go to the north Atlantic and dive the *Titanic*. So we were schooled up. I had my team schooled up to go do that. And but all that got cancelled. We brought -- then we brought that sub back to Seattle for further examination. That sub ended up going to the Deep Ocean Test Facility in Annapolis, Maryland. And then that sub was -- after that test was retired. That's the pressure hull that was sitting in, you know, the parking lot (indiscernible).

Q. Thank you. And then from there is when the second pressure hull they began to build or, I guess, to attempt to find a source or an outsource for the second pressure hull. Were you involved in any of the engineering, or not engineering, but any of the logistics in identifying any type of suppliers or anything for the second hull?

A. Just very limited. So they -- my involvement was directly related to identifying an autoclave for that, for that pressure hull. So just giving a little more background on it. We had a

change up in the engineering side. Once that pressure hull was retired, you know, that was the departure of Tony Nissen, and Dan Scoville was in, had been hired or was a contractor. I'm not sure exactly what his start date was, but he was involved in the company, and they took over that project. But at that same time we were dealing with the COVID thing. So I was working in my basement, and my, my primary role was in logistics. So I switched out of operations, and was planning the *Titanic* our first June '21 *Titanic* expedition. So that was the main course. But to answer your question, I did identify Janicki Industries as a, as a local place here to -- that has an autoclave that can fit that pressure hull. And that switched because we had problems -- the original hull was going to be manufactured at NASA in Alabama, I believe, and so we needed to find something here because they had identified a (indiscernible) NASA has or similar was actually produced here locally. And so we had access to that.

Q. Can you tell me a little bit more about NASA? How much interaction did OceanGate or yourself have with NASA?

A. I just knew it as a name because it was impressive, but I wasn't, I wasn't involved. I was hoping I could be because that's one of the few states I have remaining to go in the U.S., but, but anyways, I, but, yeah, no involvement really with me.

Q. Okay. And who was their -- who was the primary point of contact in dealing with, with NASA?

A. I would assume Stockton, Dan, Bob, and Dan had a team of

private managers, like, Kayla (ph.), and Emily. I know Emily went down there. But, yeah. So he had his whole team, but like I said, I was pretty, I was pretty isolated from that.

Q. How did COVID affect OceanGate in your, in your relationship and with work?

A. Yeah. So when COVID came down, we -- in my role I started working from home. So we -- and then but other, other folks that were required to be at the shop, and do maintenance, and things of that nature, those people started coming back. So people that had previously worked at me in operations, you know, those people started to trickle back. And then another effect of course is this NASA shutdown (indiscernible) so that had to -- they had to shift to using a different robotic arm to do that work. But that was -- that's really how it affected. And then later when the vaccines came available there was a requirement at the company to get vaccinated. You're going to participate.

Q. Did COVID affect any -- did COVID -- how did COVID affect operations?

A. Yeah. Operations we had to go through all the different protocols for testing, and mask wearing, and all the different various COVID standard protocols. We -- I participated in a couple dive operations during the COVID period, and masks were required, and testing was required prior to participation.

Q. Okay. What was your relation with the real-time monitoring system? Did you have any, did you have any relationship with it

prior to being a pilot? And what do you know about the system, and how did it work?

A. Yeah. Pretty limited. They -- I was told in the Bahamas it was working. I was surprised to see that crack when it was there because we didn't have an indication of that from that system. Then I saw -- I participated in the testing of the *Titan*, the first hull at the Deep Ocean Test Facility in Annapolis, Maryland, I saw the output. That was really exposure to that system where I, I saw the feedback coming from that system, and I, I thought the analogy was it was like watching a boxing match. I mean, you could tell as pressure was applied that the sub was getting damaged; that's what my viewpoint was. And then we'd back off pressure, and then we'd bring pressure back on. And we'd -- that system was recording that basically the sub was, you know, had a limited lifespan. And we were at it. And that was what was determined from that test, and that's why that pressure hull was retired. So the data I saw on that was really the most I've seen from the real-time monitoring system.

And then later I saw, you know, after the development of the second hull that's when I started doing more piloting. I saw it as a pilot the feedback.

Q. And as a pilot, can you explain to me as the pilot how you're seeing that data as you're diving?

A. Yeah. So it's all computer controlled, and it's, and it's on the screen, and it has, it has basically a feedback where -- to

the pilot, you have a green light and a yellow light and a red light. And then you can, you can actually look at -- that's on the control screen, and on a secondary screen that would be behind it you can actually see what's -- what the sensors are seeing. So there'd be counts of noise, and the program would tell you what would be a hit and whatnot. And if we -- I'm not sure exactly how, how it works, but my understanding is if we've had continual hits that means that we have an issue with the hull, and then that light would change in color, and we (indiscernible).

Q. Had you ever had any incidences while diving which you had to abort the dive due to higher acoustic emissions per sensor?

A. No.

Q. Okay. What does it mean total acoustic incidences per sensor? Is that how it's measured?

A. I don't really know. That's a better question for Bill.

Q. Okay.

A. Bill's the expert on this whole thing. This is the system that he, he took the, the system that, you know, in my viewpoint didn't work real well in the Bahamas, and put it into a system that we saw that worked at the Deep Ocean Test Facility. There was a later test of this -- pressure number, the hull number two that was at the DOTF prior to doing the operations with personnel, and he was part of that. I wasn't part of that. But so this was something that, you know, was his system, that he carried on, and, yeah, so he's, he's the guy to ask those

questions.
Q. I appreciate that. Thank you very much. Were you -- you -- so I just -- did you state that you were not at the, and we'll call it hull number two of *Titan*, you were not at the Deep Ocean Test Facility for the testing of that?
A. No.
Q. Were the results relayed back to you, or were you aware of how it did?
A. They said it tested good.
Q. Okay.
A. The company was going forward with the manned testing.
Q. Okay. And now being as, as the logistics director at this point, so you were in the process of setting up the logistics for the *Titanic* expedition number one --
A. Yes.
Q. -- in 2020; is that correct?
A. 2021, yeah.
Q. 2021. Correct. Can you talk to me about how from 2021 you began in logistics, and how you set up to identify the vessel and the plan and how it was going to go?
A. Yeah. So we've had, you know, this is not our first attempt, right? We had planned other expeditions to the *Titanic*. So we had some documents in place on what, what that program would look like that I inherited. And so I took those documents, and reviewed them with Stockton. We made like date changes and things

of that nature. And then I started looking for vessel providers that met those requirements of those documents, you know, with so many, so many berths, so many, you know, all the different components that we need to execute an expedition of that duration; meeting areas, stuff like that, different components. And then I just started contacting vessel owners, and all around that region, from Europe, Europe, you know, U.S., any, any boat that could provide those services. And so I started getting boats for our duration, and ended up settling with Horizon Maritime, a local provider. That's something that I learned in the Bahamas. We try to utilize local folks because it usually got us a lot better mileage, and if we, if we needed other assistance like hiring a crane or whatever, they all, they all knew who, who to talk to. And so we, so we went with the local provider there. And then carried out the expedition. That answer your question?

Q. Yeah, it does. So when you were -- throughout the three expeditions, did you ever have any, did you ever have any interaction with Canadian regulatory authorities like Canadian Coast Guard or the Inspections Division or Transportation Safety Board?

A. I had -- I certainly talked to Global Affairs Canada. (Indiscernible) this is a time with, like I said previously, our dives are focused around research elements. So we sought permission to do that within Canadian boundary. But I don't recall any direct deal with anyone else.

Q. Okay. And then who would -- would you set up the storage and transportation of the *Titan* sub itself?

A. Yeah. It was a little more collaborative than that, but primarily I would -- I'd be the point of contact. At some points our operations manager Ryan would deal with some of that, and sometimes Stockton directly would deal with that. But it was primarily in my court. So I would talk to the guys with the trucks, and the cranes, and do the initial contact, and then I -- there would be a hand-over to actually our ops guys that are going to be actually dealing with the actual truck driver. So I'd talk to the trucking company, and then -- but the truck driver and whatnot, the crane operator themselves would typically talk to our ops guy or our designated person onsite.

Q. So the 2021 season or expedition was, was the first of the current expeditions. How did that first expedition go? You had said that you guys -- or there, there was going to be test dives. Did OceanGate conduct test dives with the new *Titan* hull on the initial 2021 expedition?

A. I don't really -- it may come to me, but I want to say we did, but I, I don't -- I would think so, but I don't -- without looking at the dive log I don't actually know. But I'd have to look at the dive log --

Q. Okay.

A. -- for that. So on our dive logs if you're looking at them usually it has like a primary goal, like, what, what we're doing

or, you know, on any of our dive plans would talk about -- it would say test. So if you're, if you're looking at like any of our dive plans for many of those, those things, it would have a primary, primary thing, and it would say test. But I would think the our normal, our normal thing is we after transport we test the system before going in and doing a primary dive. But I can't answer that definitively.

Q. Okay. If it was a test dive, would, would they be taking mission specialists on a test dive? Is that common?

A. I mean, mission specialists can participate in any dive, you know, if we're, if we're just doing -- yeah. So I mean it wouldn't be uncommon to have any, anyone available really get into the, the sub. If you don't have folks inside the sub you've got to weigh the sub to get into your dive weights. So typically our normal operation was ask for, ask for people if they want to participate in a, in a dive if we had open seats available. Otherwise it's we've got to move a bunch of lead or steel or something off of the sub so you can get it to its dive configuration. So typically there was a call for who wants to go for a dive? And we -- and that would be -- that's how it would be executed.

Q. So just for the 2021. I just kind of want to go through 2021, 2022, and then 2023 quickly. So for the 2021 expedition in your own words how would you, how would you explain or describe the initial expedition to the *Titanic*?

A. It was definitely a learning year because this expedition is -- we had -- it was the largest expedition that we've ever taken on. And it was, you know, it was a new sub with a bunch of different components. So Dan's team had implemented a bunch of mechanical changes to the sub, like, different systems and designs. And then so there was mileage to collect on all of that, all of those new designs and implementation. There was -- we, we had tested. I know there were systems that were tested in the, in the shop, and then were tested in like shallower water that didn't operate in the deep water as designed. We had several items that we had purchased from outside sources that were designed for deep water operation that didn't work, or limited work, inconsistent. So we had to overcome some of those challenges. In '21 just to name -- like batteries, lights, communication systems, tracking systems. There were a bunch of challenges related that were even, you know, these are off-the-shelf components that we purchased that were depth rated that should have worked. And there was tweaks and involvement with manufacturers and vendors and those things that, that needed to take place. So we definitely, definitely had our challenges, and was a, was a learning year. But that's -- then there was the implementation on the *Horizon Artic* vessel, launch and recovery plan there, needed, needed changes as well. So there was -- there was a whole host of things that -- that's why I would classify it as a -- of a learning year.

Q. I appreciate that. And then where was the *Titan* stored from

2021 to 2022?
A. Think back. I think we actually brought it back. I think we -- pretty sure we brought it back, but I could be incorrect.
Q. Okay. And then when it was in -- back in -- is that back into Everett?
A. Yeah.
Q. And then where would it have been stored while in Everett?
A. In our shop.
Q. In the shop. Okay. And then 2022 expedition season would you, would you say that it was successful?
A. '22?
Q. Yes, sir.
A. Yeah. It was -- yeah, we had, still had challenges. Difficult doing these deep dives. But, yeah, I mean, I, I felt that things were getting better, and, and the sub was consistent. I participated in several of the dives in '22, and as a pilot, and I, I thought that we still had some challenges, but the systems were evolving better and better with the, with the challenges of the deep ocean.
Q. Great. And I kind of wanted to just briefly speak about a specific dive, and I, I -- I know you don't have the dive log in front of you, but it is dive 0083 on July 23, 2022. And it was -- are you familiar with that one or do you need me to give you some more specifics on it?
A. Give me a little more background.

Q. So it was named or the dive location was the PH Mystery.
A. Okay, yeah.
Q. Do you remember anything in particular about that dive?
A. Yeah, yeah. So we dove at that location. I was in the sub. This was a, a coordinates -- this is post-*Titanic* expedition. We had -- we'd done all of our dives, and were satisfied with our dives for the -- that expedition on the *Titanic*. And PH had these coordinates that he wanted to investigate, and there was -- like I said, we had an opportunity to dive there. So they were up, and the coordinates he had done with the recovered -- what's the big piece that's in the Luxor in the Las Vegas, and they had lost that on one of the recoveries back in the day. And when they were looking for that piece they found this anomaly of the -- on the seabed, and, and we were going to go investigate it, and see what we saw. So we go down to the bottom, and just down the -- I think it was 2900 or something meters, and found just a muddy bottom a lot like that's around the *Titanic*. And then further investigated the area. Then I, on that, on that particular dive, I just -- we were trying to get some more information from topside -- it's all coming. More and more information is coming back in my head. So bear with me. And just -- I didn't have any good sonar contacts on, on that particular location. So I chose a bearing, and just started driving that in that direction. And we have about 150 to 200 meter range on that particular sonar, and so I would stop after making that type of progress, bring the sub up in elevation

up this -- and then I did a couple 360s, you know, looking for any sonar contact, and then just -- and resumed that heading. I think I did that a handful of times, and then we got a sonar contact. And we found an old, looked like an old sea mount, a volcanic type structure, with a bunch of different type ocean life on it, and explored that, and documented that, and came back to the surface.

Q. Was there -- were there any issues with the dive? Anything with regards to the acoustic emissions or the strain gauges.

A. Not that I recall.

Q. Okay. And just maybe for you can help me understand a little bit more. So on the dive log with regards to dive 0083 for the total acoustic -- incidences per sensor that dive specifically had 40 which was more than double any other dive on the log. Just wanted -- is it something that you identified? Is it something that maybe you heard or were able to see while you were on that dive?

UNIDENTIFIED SPEAKER: Commander, can I just ask Scott a quick question?

BY UNIDENTIFIED SPEAKER:

Q. Would it be helpful for you to see this document in order to answer the question or are you able to answer it?

A. Yeah. I mean, I --

(Crosstalk)

A. -- yeah, yeah, no, I, I'm fine. I didn't -- there was, there was nothing from that dive that gave me concern over the, over the

amount of incidents on there. Does that answer?

BY LCDR [redacted]

Q. Yeah, yeah, absolutely. I just wasn't sure if you -- I didn't want to cut you off. So with that, so if you can help me explain to me a little bit about the process then post-dive, right. So that -- those measurements are only measured and stored inside the, the stern or the aft dome of the hull, correct?

A. Yes, that's correct. They have a -- we have a computer system there that takes that, and then we process -- the hard drive would come out, go to our engineering folks, and then they'd write a report at the end of the dive. Now, nothing strikes me as alarming from that, from that dive. There are -- when you're seeing these things as a pilot the, the sounds, and, and the, and the counts on those things you can -- we don't -- I don't track those necessarily putting on a paper or anything like that, but I do track them in my head. And so one of the, one of the characteristics where we'll get these sounds is when we're going through transition up onto the, you know, up on the boat, or if we're going on the -- just on the surface of the ocean. So they'll have the like a rocking back and forth of the sub if it's choppy out there. You'll have the fiberglass banging around on the outside of the, of the pressure hull and then the, the cage. And so you'll have -- you'll see these counts happening, and I, you know, my recollection is some of these are false in my viewpoint with the, with the system because I wouldn't expect the

pressure hull having an issue at the surface. But you do have fiberglass sections banging on the, on the like the exoskeleton of the hull that's on the rear section that holds the batteries and components.

Q. Yeah. As a pilot have you ever had a dive which -- where you experienced loud buckling, breaking of the -- which apparent -- of the apparent carbon fiber while you were operating the sub?

A. On one dive in I think it was '21, I heard what I thought was what Stockton had described as a, as a -- he described the sound of a -- the carbon fiber cracking as a, as a slap of the ruler on the table, and the -- and I heard a sound related to that on one dive at depth, but that was the only one, one incident of that.

Q. And when you, when you in that incident when you -- did you, did you resurface immediately?

A. Yeah. We were -- that was -- we had issues, and we were trying to -- that was when at the same point we had issues with our drop weight motor mechanism, and that's what I recall. So we ended up using our hydraulic system rather than our electric system to drop weights, and then came back to the surface. So there was, there was a couple things going; basically we struck out. So have they talked about the strike system? Are you guys familiar with the strike system?

Q. No, we're not. So if you could fill -- if you could please fill us in, that would be great.

A. We put together a dive plan, and it has all the people, the

timelines, objectives on a dive plan. Second page of this dive plan is a risk index. So but that takes into account vehicle data, people data, weather data, partner data, all sorts of different characteristics. We have a weight and index that we have that we -- each one weight -- so if you and I were going to go on a dive together, and I hadn't dove recently, there would be a mark for me. If I haven't had a couple of dives in the last couple of months that would be another mark for me. You haven't been in the sub before, that would be a mark for the, for the operation. These type of things. And they -- we would have this risk index, and if we got up to 48, we took a strike. Three strikes we're done. Then we'd also track anomalies with the entire of our team. That would be reported all back to the mission director. We get more than 15 anomalies within a dive structure it's another strike. And then there's certain things like an equipment failure. Some certain, certain components we can dive with, and certain characteristics, and this is covered in our HSE under the dive section. Certain things are a strike. Certain things are you can't dive. We're not -- somebody didn't get rest or whatever, they're not diving. Does that clarify?

Q. It does. Sorry. You just broke up there for like the last four seconds, but I, I, yeah, I, yeah, absolutely it does. I get the risk index and the strikes, and how that works there. So just want to talk about that incident in particular. So when you actually have an acoustic emission that you hear, and it's, okay,

let's head back up, once you get back up to the surface is there an inspection procedure that you would, that you would go through to, to see if there's any delamination or cracks like there was in the initial hull?

A. Yeah. So there's, well, there's a -- there's an inspection on -- multiple inspections on any dive sequence. On a particular like that it's really we would have -- we would do a full external review, full internal review, a meeting. That's per our normal practice is like we, we do these things. Like that's like me in my pilot role I typically do two before a dive, you know, one the day before, and one the morning of, and then, and then do a post-dive inspection as well. That's normal practice. And then on top of that there's the, there's the review by the engineering folks that are going to be taking that data from the acoustic emissions, and then putting together basically a dive profile on what -- a whole report on what that looks like before we go on.

Q. So the engineers take the strain or the strain gauge data and the hull emission -- I'm sorry, the acoustic emission data, and they create a separate report based on the previous dive?

A. Yeah. So there will be a, there will be a -- it's -- I wouldn't say like a formal report, but they'll, they'll go and do an analysis of that and review that, and basically give us a good to go for, for the next, for the next operation.

Q. So for 2022 and 2023, who was that person who would review that?

A. Phil Brooks, and then for '23 was designated as Jerome Santos.

Q. Okay. And just to -- just trying to understand how, like, I saw within your operations manual, your -- in the pilot manual, the pre-imposed inspection list, and how you guys go through that. With being that the *Titan* sub, the outside of it is rhino lined, and none of the carbon fiber is actually accessible, also internally it has the fiberglass insert, and none of the carbon fiber is accessible for visual inspection, how would or how, how do they do an inspection post-dive of the actual carbon fiber hull?

A. Yeah. It would be, well, you'd still physically look at it, but I mean there's no, there's no removal of any coatings or anything like that or a -- but you'd be relying on the acoustic data for the good to go of any of the hulls really.

Q. Okay. And we're going to take a break in just a second, if that's okay, for you to give you a little bit of a break. I just kind of want to get into from 2022 into 2023. So after the 2022 season where was the *Titan* stored?

A. Up at the university local to Saint John Memorial University.

Q. And where is that located at?

A. It's in Saint John's Newfoundland. It's a -- we primarily operated out of this Pier 12 was their waterfront, and it's a -- it's a couple miles away. It's a big university there, and they had a warehouse bay that was dedicated for underwater ROVs, and we

moved our sub into that location.
Q. And was the sub stored inside for the duration of the winter?
A. I don't know exactly when it got moved there. But Ryan, Ryan moved it up to that location. I don't know -- I don't -- after I, after I left I didn't -- I don't think I came back for, for some time. So I wasn't involved in the like the trucking or the cranes there. So I don't know the exact date, but I, but I know it got moved up there, and then stored there, and then, then they moved it out of there to a different location where we were -- putting it in the water for the '23 expedition. But I don't know the exact dates of when, when it came out, in and out of the Memorial University warehouse.
Q. Okay. Great. Appreciate that. Do you want to take -- we've gone about an hour now. Do you want to take a 10-minute break?
UNIDENTIFIED SPEAKER: Can I just ask a question, and just based on what you just said.
BY UNIDENTIFIED SPEAKER:
Q. The Commander asked you if it was stored inside or outside. The last thing you said was something about inside the structure. Is that you think it was stored inside?
A. Yeah, I -- but I don't know --
Q. You don't know where, but it was inside?
A. Yeah. I saw pictures of it inside a warehouse.
Q. Got it.
A. But I don't know what date they got it to that warehouse. I

don't know what date it came out of the warehouse.

Q. Got it.

A. But and, yeah, I just know that there was -- we were going to test there, and, you know, winter was still at Saint John's. I know that because I saw the ice flow. We were talking about that, yeah. But that's --

UNIDENTIFIED SPEAKER: Okay. How long would you like to take?

UNIDENTIFIED SPEAKER: We can take -- I'm good. Is 10 minutes okay?

UNIDENTIFIED SPEAKER: Sure, sure.

UNIDENTIFIED SPEAKER: We'll come back at 13 or 10 -- whatever your time is, 10:18, yes. So 10 minutes. 1318 for us.

Okay. We're going to go ahead and stop recording.

(Off the record.)

(On the record at 1:19 p.m.)

LT [redacted] Recording is now resuming recording. It's 1319 Eastern Standard Time.

LCDR [redacted] Great. Thank you.

Thank you again, sir, and Mr. Malkin. Greatly appreciate it.

BY LCDR [redacted]

Q. Before I -- we get into the third expedition, I kind of want to just circle back with regards to the 2022 storage at Memorial University, and you had said there was another place it was possibly stored at. Were they under contract? Did you guys pay

for the storage at Memorial?
A. I don't -- I know there was work towards a MOU, a memorandum of understanding, but I'm not (indiscernible) with all that directly. So I wasn't part of, part of that.
Q. Okay.
A. But there's something going on there, but -- some type of partnership.
Q. Okay. And I, I understand how the *Cyclops 1* it wasn't trailer -- it wasn't -- it didn't have its own specific trailer. It had to be moved onto a flatbed. Is that the same for the, for the *Titan*? Did it have its own dedicated trailer to be driven somewhere, or did it have to be moved via boom truck and to like an 18-wheeler?
A. Yes. Well, couple different things. So we sometimes would rent the trailer if we were doing multiple moves, you know, for a duration. And then other times there would just be a trailer that was contracted with a trucking company, and if we'd (indiscernible) travel lift or crane or whatever, and then -- and for a month, and then transport them to the location, and upload them where we needed to.
Q. And in -- from 2022 to 2023 had you ever seen the *Titan* while it was stored at Memorial University or the other storage location other than the picture that you saw?
A. Yeah, I -- picture, and then -- I saw it at -- trying to remember the name of this. It was a different branch of Memorial

University. They have another facility that's on the water, and that's where *Titan* was put onto its platform there. But when I, when I showed up there at this year *Titan* was on, you know, sitting on its feet on the concrete in a staging area.

Q. But you're unaware of when it went to that staging area?

A. That's correct, yes.

Q. And was there a -- was it covered with a tarp? Was it under a tent, anything like that?

A. At that point, no, no. It was -- we were actively working on it, like, the -- I think when I, when I showed up Stockton was inside the sub. So it was actively like booting it up, and we were testing all the systems, like, yeah.

Q. How often just specifically to the 2022 into -- let's say the off season of 2022 into 2023, how often would OceanGate employees, engineers, logistic, or operations people go up to Canada to work on the sub?

A. I would say it was -- and I, I -- like, I didn't go to work on the sub, but there was definitely, definitely people that did. But --

Q. Okay. Okay.

A. But I didn't (indiscernible) in that.

Q. I appreciate you circling back, and just kind of buttoning it up a little bit. Thank you. At this time I'd like to go -- let's go into expedition 2023. And you were on expedition 2023; is that correct?

A. Yep. Yes.
Q. Okay. And expedition 2023 was different because you weren't using the *Artic Horizon*. You were now using the *Polar Prince*. Can you talk to me about the relationship with the *Polar Price*?
A. Yeah. So *Horizon Artic* and, and their vessels, Forensic Maritime, were unavailable for our charter period, and there was a suggestion by *Horizon's* management that we utilize the *Polar Prince*. The *Polar Prince* was a vessel that I was unfamiliar with, and from my original review of vessels in that area. Stockton went up and did a, a review of the boat in person. And then we had a, a scope of work that needed to take place on that boat for just making the -- the boat's an older boat relative to the other boats we chartered. So it needed things like -- Stockton wanted it to be prettier, you know, just had to do some like paint, things like that. And the accommodations on the inside weren't up to our normal standard. That would be in that document , you know, that, that I would go review. And so there's several upgrades that needed to happen on that boat, and that's, that's something that I collaborated with the folks at Horizon, Miawpukek Horizon. That's the owner of the boat. And so there was a scope of work for -- to go through, and change some of the cabin arrangements. Because it was set up primarily as a -- it was previous Coast Guard. So it was set up in that capacity. And we wanted it like the accommodations closer to a typical offshore supply vessel -- with, like, TDs in the room, and fresh paint, and

different beds, comfortable beds, and things of that nature.

MR. MALKIN: You're painting a pretty dismal portrait of the Coast Guard vessel.

LCDR [redacted] That's Canadian Coast Guard, Harold. Thank you very much for that.

BY LCDR [redacted]

Q. So also did -- there was a difference in the configuration of the delivery platform, and how the *Titan* was taken out to the *Titanic*. Can you talk about that, and the, the type of logistics and work that went into determining how to tow, what a good tow speed was, the -- and the setup of the actual tow and the tow plan? I know there's a lot of things in there but --

A. Yeah. So, well, *Titan* and its, and it's platform from, from beginning are set up to tow. That's meaning it was designed, and, you know, by, by our engineering team to tow to locations. That's what we did in the Bahamas. And then what we have done on other sites, you know, as far as our, our testing in the winter. And we have the same -- similar thing for our *Cyclops 1* submersible where we have a -- it's a launch and retrieval vehicle that's part of the *Titan* aspect. And but there's configuration on the, on the *Polar Prince* is such that we, we had the tow for the duration of the expedition. So that if there was a development, we already had a lot of the components there. Because like I said it was already, the platform and *Titan* were already designed to do that, and we already had like all of our, or tow gear. I think we got

some spares and whatnot, you know, we were concerned about the ops (indiscernible) and whatnot. But, yeah, so we -- does that kind of get what, what you're asking?

Q. Yeah, yeah, yeah, absolutely. Again, greatly appreciate that. So with -- so, so on looks like May, May 22nd, as you were headed, as the vessel was headed out to the *Titanic*, once you got out to the *Titanic* area with the *Titan* was there any issues or were, you know, was there anything that happened to the *Titan* while it was being towed out to where it would have hindered its operations at all?

A. I don't recall the specific day, but we, we had challenging, really challenging weather this last expedition. So much that we deviated from going out to the *Titanic*, and, and just waited -- and delay going offshore. We went into harbors and dropped anchor. So we were definitely avoiding the weather at the *Titanic* site this year. Does that answer?

Q. Yeah. So it does. I understand that. So but was there any -- with the new towing configurations did the *Titan* experience any, any issues, any problems from the tow itself?

A. There was an incident related to a bow down configuration on the, on the platform, and I'm unsure how that happened. There was a -- it was thought that there was a ghost fishing net that, that got caught on the tow, and changed the configuration -- and, and pulled the line down. And meaning the orientation of -- so that the platform has four ballast tanks, and typically in a tow

configuration you'll vent the aft ballast tanks to, to have a different rig, and, and we -- there was a, there was some type of problem with, with the tow where something pulled the line down, and orientated the platform in a, in a nose down configuration. And so that had to, that had to be corrected. There was a report that it might be a ghost fishing line or something like that. I never saw it. But that's the thing that comes up in my head to answer that question.

Q. Okay. So on -- I'm just giving you the dates because I know the dates. I know you don't know them offhand. But on May 31, 2023, there's a dive location the Grand Banks. It was a test dive; only went to max depth of 10 meters. This is all according to the dive log.

A. Okay.

Q. June 6th, Grand Banks, max depth of 10 meters. Another test dive. Why -- was there a reason why they did two, two test dives in a row at the Grand Banks vice doing a normal dive?

A. No. I don't recall -- so the 10 meter -- let me clarify what a 10 meter dive is. So the platform is, is set to dive at 10 meters, and that -- what I mean by that is so the sub and the platform at still tethered to one another. So when you see in the dive plan a 10 meter dive or any -- shallow dives are -- the sub is not departing. So that's where -- you may be a pilot on a -- from my perspective if I'm a pilot on the sub, I'm actually just running the atmosphere of the sub, and in my pilot capacity. I'm

not actually in control of the descent and the ascent of that platform. And those tests are typically done to check equipment changes. And so an example of that is like we have a light or something that was installed or a sonar connection being made or, or we want to check comms, you know, some data point that we're trying to collect. Those would be the reasons for those type of dives. I mean, it goes on and on, but we would, we would be checking out some new configuration or an implementation or we, we're just checking the box there. So those dives are characteristically meaning you're, you're locked into the platform. You're a person in the sub doing a specific task, and then the sub would come back, you know, the platform itself would be operated from the surface, and being brought up by a surface --

Q. Understand. Thank you very much for that. And then on June 12, 2023, this was an aborted dive. Do you remember why that dive was aborted?

A. No, I don't.

Q. Okay. And then if you can as vividly as you remember, can you go through the details of the -- from the pre-dive plan the previous day or any issues that you remember with regards to the final dive, and kind of go through the sequence of how you remember it, and how you were involved?

A. Okay. Yeah. So we saw a weather window for *Titanic* dives. So there was a plan put in place to go to the site, and dive the *Titanic*. We arrived onsite. My role on that day I was assistant

to the -- helping collect data on like the anomaly tracking, talking to people, and helping poll for the team. One of the things I didn't mention is we also poll people like how they're feeling that day. So on top of that, that -- on top of all -- it's the anomaly questions. So I was reporting that to the mission director. It was my expectation to pilot the sub the next day given our weather window. So once the dive proceeded, I -- and my, you know, collection role was, was done, I went to my state room, and went back to bed.

Then I was notified, somebody, I think it was Kyle, mission director, that we had missed -- comms call which is -- we have a 15-minute comms window, and meaning we have to report back to the surface at a 15-minute interval. Our last -- as they were near, near bottom, and were dropping two of their weights to slow their descent. And so we (indiscernible) comms calls continued to miss, and so we got into our emergency protocols, missed comms, lost sub. And notified Horizon management on shore of our issues, our onshore team, following our checklist. And we -- I think Horizon reached out to the Coast Guard, and then my expectation was -- so we have a -- there's a lot of different systems on the sub that are redundant for getting back to the surface. We were -- we have a time window to bring the sub -- that it will take it to the surface, and there's different drop weight mechanisms like I talked about earlier. There's hydraulic drop weight. We also have a (indiscernible) time release drop weight system. I mean,

it's just once you hit the water the clock is ticking. And then these weights release so you don't -- they don't need to be pilot controlled. And then there's electrically drop weights. On the deep dive the sub is negatively ballast. So as a pilot you drop weights as you're -- to slow your descent. We have a -- there's a designated area that we like to drop weights that's around the *Titanic*. And then you slow your descent, and get down on the bottom, trim your -- trim the sub up, and then go to the target. That's normal operation.

So once we missed the comms, we figured they're -- they've got -- it was a Fisk communications system on -- this dive was the deepest dive that we've done with that communication system. Like I said from earlier, we had communication systems that come from these manufacturers that are designed for these depths that don't work. So it was -- so my expectation was Stockton had aborted the dive because of missed comms, and it was coming back up. And then we'd hit, you know, we'd do the, we'd do the recovery once we had their, you know, VHF contact on the, on the surface. So that didn't happen. So like I said, we were just pulling up all the, every, all the external resources, and notifying different channels, and then just, you know, because of the, the depth and location -- in the, in our document I've got a list of folks that have resources and capabilities to help us. So I started calling all those folks, and we had a whole team of people come, coming for resources. And one -- then a, a vessel of opportunity that

was doing a -- Deep Energy, I think is the name, I transferred to that boat onsite, and at that time we were -- Kyle and I were talking with Unified Command, and so we were on conference calls quite often. And the Deep Energy vessel had a 2, 3 thousand meter ROVs onboard, and the technicians that operated those felt that those subs -- or not subs, but those ROVs could possibly dive to 3800 meters. So and they augmented those in a configuration that they thought was possible. So I was in the control room with one of those subs or ROV on the seabed in a close proximity to last known location, and we were scanning with their sonar. And then that system failed. And then we, we continued to, you know, so they recovered that. We continued to search with the, with the other unit. And then at that time we had --

Q. What day would this be?

A. I don't --

Q. Okay.

A. This is, this is pretty quick, the next day. It's kind of a little blur to me because I stayed up for five days. So it's like I, you know, I didn't stay up the full day five days, but little, little rest there. So I was just working, working like an animal there.

So we were getting the -- and then at some point I'm not really sure of the timeframe, we were getting the aircraft dropping sonar buoys, and it was reported to have acoustic noises that are consistent with like what we talked about in pilot

training, like banging on the hull type of noises. There weren't very many vessels. I think it was just the two of us at that time. And I talked to the chief engineers on both or -- yeah, the bridge or whoever. Any possibility of like pumps or anything like that, you know, that (indiscernible). And asked them to alternate it because we were getting some consistency and noise pattern. And this was reported from the aircraft, and their sonar buoy items. So we're trying to figure out what was going on with the sub, and if it was -- became neutral we, we would -- they dropped their weights, and had some other issue, and then it was in the water column. And so we were trying to figure out the map, and triangulate where the sub would drift given the currents and stuff that we knew about from other dives. And then continued to chase, chase those sounds for several days.

And then we had also at the same time our tracking system was picking -- I had people remote in from I think it was Germany some acoustic technicians that were remoting into our tracking systems, and they were based on the 10-hour (indiscernible) that we had on (indiscernible) they were very close to getting, getting a, a bearing on that. But at the same, you know, on all -- there's a lot of different things going on here. So we're trying to get Magellan folks out there. We're trying to get Logic Systems out there. These boats -- had, had assets that get down to that depth. So there's a bunch of stuff happening at the same time.

But then there was -- we ran into some delays about getting

the gear out there. And then Pelagic got, got to the site, dive at the last known location, and, and then found, found the remnants of the sub. Anything else? That's what I recall. It was five days. So we (indiscernible) something like that, pretty intense but --

LCDR [redacted] No, again, I greatly appreciate it, and from myself and the rest of the team just our condolences to you and your colleagues, and so just wanted to put that out there and say that. I know it's very -- I'm sure it's very difficult to, to go back through all that, but thank you again. I'm going to go ahead and stop. I've been talking now for quite a while. So I'm going to go ahead, and pass it over to the NTSB, and Mr. Muise. Again, Mr. Griffith, thank you very much for your time. I'll have some follow-up questions later.

MR. GRIFFITH: Okay.

BY MR. MUISE:

Q. Thank you -- again, and thank you for your time today. I just have a few follow-up questions from, from what you and [redacted] discussed, specifically on pilot training. So the pilots work for you? Is that -- did I get that right? At the time of the accident.

A. It depends. So, like, so the chief pilot in the company is Stockton, and so Stockton drives the pilot training program. But if a guy doesn't show up for work, I'm the guy calling him, you know. So or if he needs to take a vacation. So I'm -- I was --

when I was running operations I was his day-to-day manager. But pilot was nothing something in my, in my toolbox at, at that time.
Q. Okay. How about actually running like actually training pilots?
A. Yeah. So I, I started doing that later in my, in my career at OceanGate over the tenure. So I started once I -- I don't know what date exactly. I'd say more recently I started in the pilot training program where I would train lower level pilots. There's a three-tier system at OceanGate for pilots. There's a Level 1, a Level 2, and a Level 3. Level 1 is you've done, done our ground school, and you've -- you can go ahead, and be assigned as, as a, basically a pilot in training, and participate with a pilot as you -- there is a pilot in command like Stockton for example. You're just going and diving with Stockton, and he'll hand over the controls, and run you through scenarios on how to pilot and stuff. Then there's a Level 2 which means you can dive as a pilot, but have to have a co-pilot. Then there's a Level 3 which means you can solo pilot.
Q. Is any of the training for those levels external or was it all internal to OceanGate?
A. There were some, well, there were external people that were Level 3 pilots. So maybe contractors.
Q. Sure. But for a new OceanGate pilot would you send them to training somewhere else? Did they get experience at other companies or other training facilities?

A. No. I mean, there were, there were certainly pilots that drove other subs, but not, not, you know, it wasn't like you went to a school for, you know. There's places like down in the Caribbean that you go and get -- go to pilot school or whatever, but there was nothing like that as a requirement.

Q. Was it a company requirement to have a merchant mariner credential? I know you mentioned you had one.

A. It was a -- I wouldn't -- I don't know if it's a policy. It was something that, yeah, so I don't, I don't know. My merchant mariner credential we got so we'd have different boat owners would require different credentials for the boats. So like for example if I was on a Norwegian boat I had to go get a Norwegian physical to get on that vessel. So different people, different vendors wanted different credentials for whatever the boat requirements were. So I went and got my MMC and my -- took the, the ST2CW course, and that was more driven by external vendors.

Q. Did Horizon require any of that kind of training?

A. I don't know.

Q. Okay. I heard you say you -- *Antipodes* and maybe *Cyclops 1* were -- had U.S. Coast Guard oceanographic vessel designation.

A. Yeah.

Q. Are you familiar at all with the Coast Guard's inspection circular that covers some of that stuff? Sometimes it's called -- it's often called a NVIC, N-V-I-C.

A. No (indiscernible).

Q. Okay. In there it talks about 40 hours of training for pilots. Did you guys come anywhere near close to that for new pilots?
A. So 40 hour of training for a pilot? I would say well over.
Q. Okay. My other question was just about the, the ROVs that came on scene. Did you, did OceanRig -- not OceanRig -- not -- OceanGate or was it the Coast Guard that arranged for Pelagic to come on scene?
A. I called -- definitely I called -- know the guys. So I mean I (indiscernible). So I definitely I called them like right, right away. So I'm not sure if they got contacted by external or not, but, but, like, one of the manipulators on their, on their machine they sold them -- one of our manipulators. So it's kind of a longstanding relationship. And then some of the contract guys that came in and worked for me when I was in operations also worked contract jobs for them. So we're familiar with these guys, and they've been to our shop, and so that, that -- it's a small community.
Q. Okay. Was it the same for -- is Magellan a company or just a make and model of an ROV?
A. Magellan is a company that had done at the tail end of our '22 expedition they went out there to the site and, and did a high resolution scan with their ROV kit. And so we were trying to get them out. They were -- their kit was in the UK. But they were, obviously, really familiar with the site and the currents and, and

how they -- very capable ship.

MR. MUISE: Okay, Scott, thank you for that. I believe my colleague Bart has some questions for you too.

MR. BARNUM: Thanks, Marcel.

BY MR. BARNUM:

Q. Thank you, Scott. Very, very thorough. I appreciate it. Like Marcel mostly my questions here are going to be follow-up. So we'll be bouncing around a little bit.

A. Okay.

Q. I think your friend was the -- referring you for the job was the director engineering back to 2013, who was that?

A. (Indiscernible). Yeah, and it was prior to that. So he, he came in -- I'm not sure exactly what years he worked at OceanGate, but he departed OceanGate when they moved from Seattle to Florida. He didn't have the desire to move from Seattle to Florida. So when they parted ways at that, and that's my understanding of his, his tenure at OceanGate.

Q. So how long were they in Florida before they moved back?

A. I'd say a couple years.

Q. Okay. I know we plan to speak to Mr. Scoville at some point as well, Dan Scoville. But you said he took your job as the director of operations at some point?

A. Yes.

Q. And what's his current job or prior to the accident?

A. He left OceanGate, and whenever after -- after the '21

expedition was where we had the COVID mandate for the -- he did not subscribe to that. So parted ways.

Q. Was he still the director of operations or did he --

A. His title was director of operations and engineering.

Q. And engineering. Okay. All right. So just clarification. You're talking about the dive in the Bahamas, and the use of the RTM, and how it didn't identify the crack that was found. And then they take the hull to the DOTF and test it again, but you said they, they got some data, some RTM data from that.

A. Yes.

Q. So was the RTM, was the RTM system upgraded or changed?

A. Yes. There was a significant amount of work that Phil did. Phil Brooks is like the guy on the RTM stuff like I said. And there was a significant amount of work that he did with that RTM system between the Bahamas and Annapolis, Maryland, DOTF, test. But I, I just know he worked like a dog on all that. So --

Q. Okay. Yeah, we'll ask him about that. No problem. Was that hull ever dove again after the DOTF?

A. I'm sorry. Was it ever what?

Q. Dove again. Was the sub reassembled, and dove again after the crack was discovered DOTF, DOTF?

A. We might have done a test, test dive like in the marina to test some equipment, but never -- I don't recall ever like it going out on a dive. It might have been something just in a -- like a marina dunk like in port of Everett --

Q. Right.
A. -- but I don't recall specifically.
Q. Okay. And then on the topic of the RTM. As a pilot you were telling [redacted] about the, the three different lights that you see. Is that the only feedback you're getting, or are you seeing any other feedback from the RTM as a pilot?
A. You can go to the RTM screen, and it has a designated screen that's not -- it's not as -- it's behind. It's something that you wouldn't have up necessarily as a pilot, but you can open a screen, and it will give -- you can just see the raw, the raw data. You'll see that the sensors are -- hearing things, and feedback, and numbers are changing, and things of that nature. What all that means Phil can talk to, but it's -- from my view as a pilot you get, you get indications of if you've got a problem or not on the primary screen, and then you base your dive performance on that. If there's a problem, it should show up, and you cancel the dive, and surface.
Q. Okay. And can you remind us again what are -- what were the color of lights that goes -- that was the only indication that you made your assessment off of was these three lights?
A. Yeah. Yeah. There would be like a green, yellow and a red.
Q. Okay.
A. Yeah.
Q. And if you saw a yellow you were -- would the team tell you, were you trained that was like a go, no go or --

A. No. If there's anything, any issue, we're coming back up. We're taking pressure off of the sub. That would -- but that's, you know, that's how we're trained. It's like you would come up. You'd surface the sub if there was an issue with, with the hull, or if the system was telling you that there's a problem, take pressure off the hull.

Q. Okay. And you told us that you never had to surface the sub due to an RTM feedback, but had, had you ever seen a yellow or a red light and maybe didn't surface?

A. Not that I recall I don't.

Q. All right. So my next kind of line of question, questions were on the dialog. And I know you talked to [redacted] a little bit about it, but I'm going to share my screen. I was hoping that you could kind of walk us through a few of the dives.

A. Okay.

Q. Are you -- let me know when you're able to see my screen.

A. Get closer. Okay. I got it.

Q. Okay. So this was provided to us from OceanGate and the Coast Guard. Are you familiar with this document? Have you seen it before or this, this --

A. Looks like *Titan*'s dive log.

Q. Okay. So who owns this document? Who is updating it? Who is in control of it?

A. This document is, is typically -- Stockton owns this document, but (indiscernible) as the chief pilot, right? But

there would be inputs on this that like for example if I'm, if I'm on a dive, I'm doing the inputs on there, and then we'd later review this, and go through it like a -- we do a post-dive brief, and make sure that all the stuff got entered, and stuff like that. But the person checking all of that would be Stockton.

Q. Okay. So I should have prefaced this. I did make a couple highlights in here, annotations I made just for --

A. Yeah.

Q. -- filtering through. So is this a public document like on a, a shared folder that you can go in, Stockton can go in, and make notes or is it --

A. Yes. It's --

Q. -- controlled by Stockton?

A. It's, well, this evolved a little bit over time. So just to back you up in the history this is something that, for example, I can access on my team. Anyone can access that has teams authority. This is on a teams channel for the, for the sub. So anyone that's given permission at OceanGate can access this and input stuff. So it's on a shared document. Now, on previous versions this would have been just an Excel file. An example of that would be in the Bahamas where we did not have connectivity this would be on -- down there it would be on a like a flash drive. So if I was going to hand over this document, you know, so I'd report changes, and then hand over the flash drive to Stockton, and he's reviewed it. And then when we have

connectivity then we'd later update it to -- I think that that time we were using Dropbox or something, something like a shared file system. But, yeah, the, but to answer your -- I think I'm answering your question.

Q. Yeah.

A. Agents can enter in things. Mission director may enter in things as like the normal course of things. But ultimately it would be reviewed by Stockton, and then, you know, and then we'd always -- normal course of action is review the -- this log before your dive, and, and the mission director does that as well. For example, you've got a tab there for maintenance items. There's critical items and non-critical items under maintenance. They're dive critical.

Q. Yeah.

A. Yeah. So those non-dive critical things hit the risk index. Dive critical things you're not diving.

Q. Okay. Thank you for that. You gave us some background on risk index. Thanks for that. You said if it's above 48 it's one strike and --

A. Right.

Q. -- then anomalies it's above -- 15 or 18 -- 15 it's another strike. What would be your third strike? Is that the total acoustic incidents per sensor or --

A. Could be anything really. There's a whole spectrum of --

Q. But is that captured on here somewhere the third strike or --

A. No. No. It would just be if we have third strike there -- the dive operation would be cancelled. So like a change in forecast of weather is a strike. That's just one example, but there's a whole host of things that could be a strike. Most of them is explained in our, in our HOC document. Some of it's just subjective to the mission director.

Q. Okay. Yeah, I -- and apologies. I haven't reviewed that fully. So I can look into that to get some more info. All right. Dive notes. Is there any other document or log of more detailed dive notes or is it -- is everything captured here on this sheet?

A. In the history of OceanGate it's varied greatly.

Q. Okay.

A. There's not a -- based upon my tenure some of it's like really thorough like we had meeting minutes and things like that on the debrief. Other things it's varied, you know, nothing. So it's pretty varied, and I was -- those rules were inconsistently applied by Stockton.

Q. Well, was there like a -- you said this was on your teams channel. Was there like a one note or some sort of running log where like a journal entry where a dive, the dive supervisor, mission supervisor would just enter notes or anything?

A. There may be for some dives, and but they -- and what I'm saying is there may be for some dives, and nonexistent for others.

Q. Okay. All right.

A. And --

Q. So going to more here on the dive log. Why -- it seems incomplete, right? So, like, total acoustic incidents per sensor the first recorded number here is in 2018, December 2018, and not before that, was that because the system wasn't installed or --
A. I don't know. I, yeah, I, you know, for, for the system, yeah, I would just be speculating, yeah.
Q. I mean, you said you review this before you dive. Are you --
A. Yeah.
Q. -- is there anything in particular on this page you're looking at? Like do you take in consideration what the previous dive, what their total acoustic incidents per sensor were registered as or --
A. Yeah. I mean, well, my, my opinion is the system in like 2018 didn't work (indiscernible) we're looking at. And but --
Q. Okay. Okay. But you'll see like so I'm scrolling down here. Even during the -- in the, in the 2022 dives there seems to just be some sporadic entry where it does not document each dive.
A. Yeah. Yeah, I don't have a --
Q. Okay. And all right, that's fine. All right. So I'm backing up just for my timeline. I just because I got you. So 2018 this is a Little Harbor, Little Harbor deep test site --
A. Yeah.
Q. -- Stockton was alone. Went down 39, 39 meters.
A. Yeah.
Q. Which dive -- which was the dive previous to when Kenny found

the crack?
A. 40 (indiscernible) I would say (indiscernible) I would say probably 48.
Q. So here's dive 47 they went to Stockton, and Karl Stanley went to 37 60.
A. Yep, yes.
Q. So and then the next dive they only went to four on --
A. Yeah. Yeah. So I know from -- the crack was discovered in -- in Marsh Harbour, which is a different location than Little Harbor, and we had moved -- my recollection is we had moved all of our gear up there in preparation to go into the -- Marsh Harbour is a -- is their, the main hub there. That's where -- it's the main port on the Island of Abaco. And Little Harbor is just a little harbor. But so we, we had moved our, our gear up there, and that's when there was an expectation the dive after the 18th of April, and were doing a pre-dive. That's my recollection is Kenny was doing pre-dive and, and saw that crack.
Q. Gotcha. Okay. Thank you for that clarification. So you moved after, after these dives in Little Harbor they moved to Marsh Harbour. We're going to dive there, and they discovered the crack?
A. Yeah.
Q. Okay. Thank you. So then these 2019 dives you were onboard this one. This is -- this would have been the first dive in Everett Marina with the new hull?

A. No. That's the old hull.
Q. That's the old hull. So this would have been after the Deep Ocean Test Facility then possibly?
A. Before.
Q. Before. Okay.
A. So that, that's with that (indiscernible) the actual sub is at the surface. I mean, we're, we're just -- the bottom, the bottom of the sub is one, one meter down. So the top of the sub is still out of the water at one meter.
Q. Okay.
A. So we're just -- we're getting some equipment wet there, did that testing.
Q. Gotcha. And the 79 meters on the May 6th?
A. Yeah, that's -- so when we jumped from 2019 to 2021, that's the new hull --
Q. Okay.
A. (Indiscernible).
Q. All right. Thank you for that. And then I'm just coming down. I highlighted the dive 63. I believe this is the one that you indicated you heard the rule slap. Does this look familiar this dive? Does it correspond with that?
A. That's what I recall.
Q. Okay. Do you know who made the notes for that dive? I mean, is there any reason why something -- an abnormality like that wouldn't be added in the notes?

A. Yeah, Stockton would have made the notes, but, yeah, I'm not sure.
Q. Okay. And then your inspection, you said you do -- you did a normal inspection post-dive, pre-dive. Just real quick, the inset that was put in, how was that attached to the carbon fiber or how was it held in there?
A. It was wedged in place. It wasn't attached to the carbon fiber.
Q. Okay. Just like some, some wood wedges, or some sort of a (indiscernible)?
A. Yeah, there was, there's some -- let me see. There's a couple different versions of this. I think the, the most recent version, I think it was basically a shim that held it in place. It may have -- Dan would be good person to ask on this on the mechanical side. They -- it was nothing like -- it wasn't, like, drilled into the carbon fiber or anything like that. There may have been some attachment. I recall some attachment to the titanium in the rear, but I'm not sure.
Q. Okay. You might have mentioned this. Just going back to dive 63 when you heard the ruler slap was that information passed on to Stockton?
A. Oh, yeah. We were, we -- sat next to me.
Q. Oh, yeah, I'm sorry. Obviously, yeah, he was right there. What was -- and, and what did he -- what was his explanation of that? And understanding that you didn't have much insight into

the analysis, analyzing of the RTM, but --
A. Those are outside of the laboratory test. So that sub went through laboratory testing, right? That I wasn't part of. And that -- with the carbon fiber is that when we would do at the very beginning of dive cycles it would be a period that the hull would make noise, and, and then we would never hear that noise again. And if that noise didn't ever happen again, that was an indication that it was good. It was referred to me as seasoning the hull. Meaning that it would get to a point where, where the, where there wouldn't be any noise, and then -- but initially there would be.
Q. Okay. All right. Moving down here the dive log, Scott, the 73. I just highlighted this in red because it was the highest one that I saw the anomalies. You were the, I guess, the co-pilot or the crew on this dive. Stockton was piloting. What triggered that 22? Do you recall? This was 27-hour dive, and I actually kind of wanted to ask you if you could take us through that dive, and why it took so long?
A. Yeah. We got an incident (indiscernible) incident report to cover that. 22 I don't, I don't remember what added all -- up to all those. The mission director on that may have notes. I think that was Dan. But the anomalies I think I said earlier the anomalies can be relatively low things like if you are not wearing an OceanGate shirt on a dive day, that's an anomaly.
Q. Okay. Yeah. I just wanted to know if you remembered anything specific about this incident?

A. Yeah, I don't, I don't, I do remember that dive because it was 27 hours. We had the incident on the, on the recovery.
Q. Said the batteries died on approach. I mean, can you talk about that?
A. Yeah. So, well, this, in this dive dove on the stern of the *Titanic*. Then on the, on the surface was pretty rough when we came back to the surface. I had the sticks, if I remember, and, and meaning I had the controls, and was going in for my landing on the platform, and the, the batteries I, I lost control of the sub based on battery, my battery system. So my propulsion to the thrusters I lost. I was still in control of the buoyancy. And I, I landed the sub on the platform. This is at our 10-meter depth, and but I couldn't thrust to lock in to the platform. And we had a dive -- divers -- think if they were, they -- typically we have divers on standby, and a diver came down to assist with the locking, and was unable to do so, and physically couldn't do it. And I got pushed off the platform in the current, and then they -- came back up to the surface. They brought me around with a, a boat. Tried to land me, but the weather was deteriorating. So there was a call made to do the recovery after weather cleared, and it was later in the day as well. So it was getting to nighttime operations, and people on the surface were getting tired. So the mission director made the call to do the recovery after the next day. So we stayed in the sub overnight, and came onto the platform the next day, and got locked in, and then

brought the sub up, and back up on the boat.

Q. Was there any damage to the sub during this incident?

A. Yeah, there was the, the fairing -- let me see -- there was a -- it's all going to be in the incident report, but I'm trying to remember exactly. There was the fairing, the fiberglass portion I think ripped off by, by the rough on the surface. There was some cone components that got broken by bashing around on the surface. There's a whole report on this, but I'm trying to remember all of them. So much that we had to, you know, we had to do repairs, and replace components. But like I said, it's going to be in that incident report.

Q. Okay. Good. All right. Thanks. Let's see. I just had a few more questions for you, sir, but I don't think I had any more about the dive log, and I just wanted to go around while I'm sharing my screen, and see if anybody else maybe had a question for you on the dive log before I have my final couple, couple questions for you.

MR. BARNUM: If that's okay with the MBI. Does that work for you folks, or you want me just to keep going?

Okay, well --

LCDR [redacted] I think, no, Bart, I think if anybody has any questions they want to reference the dive log, go ahead and take care of that now.

BY UNIDENTIFIED SPEAKER:

Q. There was also I think an incident with the platform on the

previous dive. Maybe you could speak to that as well. Dive 72, Mr. Griffith --

A. Yeah.

Q. -- incident then as well? If you have any knowledge of it. If not, that's fine.

A. Yeah, I don't, I don't remember. I, you know, I don't remember incident on 72.

MR. BARNUM: Okay. All right. If no one else has a question, I'll take that down. I just had a couple, just a couple more for you, sir.

MR. NEUBAUER: Sorry, Bart. I just -- this is Jason Neubauer. I have one question on that.

MR. BARNUM: Oh, okay. I'm bringing it back up there.

MR. NEUBAUER: Thank you. I can see it.

BY MR. NEUBAUER:

Q. So one question on the, on the last dive. It looks like you on May 31st you conducted a short dive on the Grand Banks. Was that a test dive or were you actually looking at something for that one; do you remember that dive?

A. Yeah. Let me, let me see that. 85 you're talking about?

Q. Yes, sir, yes.

A. Yeah. Locked -- it says locked in engineering test dive. So we're, we're doing -- let me see, I've got -- yeah. So we're doing a, like a software check. There was a new version of software. That's what I recall. That for the control system. So

there was, you know, on the -- couple, couple things I recall we were implementing was like we wanted to test out some of the software changes. Stockton was -- it was always a -- we were trying to evolve the, the process of the sub. The control systems, the refinements based upon the mileage that we collected, and, and improvements. So there was, I'm guessing because I, I've got (indiscernible) there software engineer with me. And that says Stockton engineering test dive. So I'm just -- doing a thruster check, that's what I, that's what I would call, and what it looks like it tells me from this dive log.

Q. Okay. And so all of the other individuals on there are just OceanGate employees; is that right?

A. No. Those are mission specialists.

Q. Okay. Do you know why they would add the mission specialists to the, to the test dive? Was that just to get used to the platform?

A. Yeah. It was like I said before if you don't have -- your payload isn't there, we got to do a lot more work and people interested in going in the sub and getting that experience, and getting familiar with the submersible. So those are, yeah, those are all mission specialists, and those are people that like I expected to go on later dives. But, yeah, so it's -- that why they -- we have the sub to be -- get familiar with the submersible and the operation, and, yeah, and (indiscernible).

Q. Thank you. That makes sense. I appreciate it. And then it

looks like the last of those dives (indiscernible) you were not onboard, but do you remember why dive was aborted (indiscernible)?
A. What was the question again?
Q. For dive 87 you weren't onboard, but the dive objective says aborted dive. I was just wondering if you can recall why that last dive was aborted, test dive?
A. No. It doesn't -- I don't recall.
Q. Okay. And then one, one other (indiscernible) on the dive log. There's -- I was reviewing the (indiscernible) testing from the dive, and there's a, there's a June 13th, the next day, it looks like there was a test dive conducted -- I don't -- if I recall from your testimony or from your statements earlier you maybe didn't recall that dive, but I, but I'm looking at some of the test communications, and there were -- it appears from that, that there was a test dive on June 13th, and that there were some issues with the vertical ballast tanks. Divers had to go down if I'm tracking communications correctly. Does that -- does any of that sound familiar to you, sir? Do you remember that?
A. No. And there's a -- there would be a dive -- I mean, if we had a dive, there would be a dive plan. I don't know that it got (indiscernible) here, but there would definitely be a, a dive plan in our documents, you know, that, that -- but I don't remember the numbers, right, offhand, but, but there would be something produced, you know, was dive 88, and it would have an objective, and all the people involved, an assignments risk, and -- so all of

that. These are -- so there, there would be supporting evidence of that. I, but I --

Q. But you don't recall anything with -- I think VBTs, vertical ballast tanks, being an issue prior during the '23 mission?

A. VBT.

Q. Okay.

A. Yeah, nothing, nothing that rings a bell with me.

MR. NEUBAUER: Okay. Thank you. I appreciate it.

That's all I have, Bart.

MR. BARNUM: All right. Thanks.

BY MR. BARNUM:

Q. So just two more questions I have, and I'll pass it off. Thanks for being so patient with me here. You're talking about the partnership with NASA. You weren't involved too much with it, but initially they were going to be, they were going to be building the, the hull. Do you know why they ended up not doing it?

A. Yeah. It's my understanding COVID. They shut down some because of COVID. My understanding is all of the components were there. Like, meaning, resins, carbon fiber, mandrel, all those things were onsite at the flight center there, and everything was pulled up ready to go. And when they shut down due to COVID we stepped sideways and used that local provider that had, that had provided -- they're actually the, I believe the manufacturer of that arm that NASA uses. So all that -- all the programs, and all

of that work it's my understanding that all of that was done, and so it's just we just needed the arm to, to build, build the carbon -- wind it up. So that's my understanding, and that was done using a different arm happened to be local to us.

Q. Okay. And my final question for you, sir, was regarding your relationship with David Lockridge.

A. Yeah.

Q. My understanding is at some point you were his boss. He left the company there was a, an inspection report on the first hull that he completed that he presented to the -- Mr. Rush, yourself, and Tony, and maybe someone else.

A. Yes.

Q. Can you kind of just explain your relationship with him, and then explain that meeting, and your reaction to it, and if you had any concerns?

A. Yeah, sure. I'll -- Lockridge came, came on when we started for, you know, like I said, I was -- my role as an operations manager I was in charge of the maintenance and, and kind of day-to-day operations in the shop, and in that portion. And Stockton's was the chief pilot at the company. And he needed to dedicate more of his time to this *Titan* (indiscernible) *Cyclops 2* built. And so somebody with experience that I didn't have was brought in, and it was David Lockridge, Director of Marine Operations, that's how he was brought in. Chief pilot. So he took over all the piloting aspects of the *Cyclops 1* and *Antipodes*

submersible, and all those operations. He didn't -- we -- I had people working for me, but they at the same time would answer to him, and we, we just did that jointly. He later wanted -- didn't want as much of a management role. So I, I assumed that. We had a real collaborative relationship. I was at that time we were, we were very independent from the engineering team. They were in a different section of our, of our warehouse, and we were doing our ops stuff. Like we didn't share toolsets; that kind of separation. So David had some concerns with Tony's team and Tony's build, and I had, I had concerns as well, just questions, like I thought some of the components, like, for example, the way they attached the fairings I didn't think that was going to work because they, they didn't -- they weren't, like, mechanically fastened. And Lockridge had expressed concerns to me the day prior to this report. I was surprised to see the report in that, in that nature because at the same time we were developing the unmanned test in the Bahamas, and my viewpoint was let's just test this thing, and see if it works. David wrote that report, and it was Stockton's viewpoint that he didn't, you know, and Tony's that they didn't have the background and expertise to, to make the claims that he made in there. And I was surprised that he was unwilling to do the unmanned testing. Like I said, him and I had collaborated on doing this testing in the Bahamas with the boat and different folks involved with his folks, and vendors, and getting -- and, and developing the operations side of support for

implementing the engineering test plan. And, yeah, and then he said he was unwilling to participate in anything, and left at the end of that meeting. So that was -- does that answer your question?

Q. Yeah, it does. I mean, you said you had, you had some of the same concerns or you also had concerns about the sub as well. Can you explain what those were?

A. I would say like questions. Like I, you know, it was, like, whoa, like, why, you know, what I remember specifically -- I didn't get into, like, we're just observing the sub in our shop, and I was like there's a section of fiberglass that was attached to a different section of fiberglass, and was held in, held in place by just a couple small fasteners. And I had questions on like how is that going to sustain and maintain attachment to each other when it's dealing with chop on the surface of the ocean? And I -- my viewpoint was we're a collaborative team, and we should ask -- if we have concerns over that, we should make those up to engineering, and say, okay, what's, what's the solution here? How is this suitable or is it or is it not? But, yeah, and like I said, I was surprised to see that report because I figured the -- give Tony the opportunity to prove his case that this is suitable or this is, this is the reason why we did this. And that's -- going forward.

UNIDENTIFIED SPEAKER: And just for the record, I don't think Mr. Griffith said he had the same concerns. He said he had his

own concerns.

MR. GRIFFITH: Yeah.

BY MR. BARNUM:

Q. Right, understood. I was just curious what those were, and I think you might have just described some of those.

A. Yep.

Q. Okay. Were you concerned that the titanium hull was not -- there was no non-destructive testing done on it prior to test human occupancy?

A. Well, the expectation was to do testing at that time. So that's why I was really surprised by his letter. I was like our whole plan is to go test unmanned. And like we had this -- Tony had put together this program, and I had rented this boat for a week or so, and we were going to go out and test this thing unmanned, and, and I, I didn't understand the resistance to testing. So if we had a problem with it in the later point that's one thing, but to have a problem with testing with the current condition of the sub I was, you know, let, let the sub speak for itself; that was my viewpoint. I didn't see a reason to not test given the plan that we had put in place.

Q. Were you, sir, were you involved with the, the bonding of the titanium collars or rings to the, the carbon hull?

A. No.

Q. You weren't. Okay.

A. The first sub -- I'll give you a little background on that.

The first sub was done off site. The first version was done in California, some vendor, Tony's team was there. I've seen pictures of it. The second version with Dan's team, and that was also done off site. Others can tell you about that. I wasn't there for any of those.

Q. Who was there for the second gluing?

A. It would be Dan's, Dan's team. I think Brian. I think Brian was there. I don't know. This was all during COVID. So I'm in my basement working on boat charters during this time. And I'm aware of these situations because we'd have update meetings in the morning, kind of a roundtable thing like what are we doing today, those type of meetings. So that's -- my limited exposure to that is just that couple minute tag-up in the morning that we do.

MR. BARNUM: All right. That's all the questions I had, sir. Thank you very much.

LCDR [redacted] Mr. Kramer, do you have any follow-up questions?

MR. KRAMER: Sure. I have a few.

UNIDENTIFIED SPEAKER: Excuse me just for one second.

Commander [redacted] just so it's clear, I don't want to interrupt any further, but at noon, which is how long we're scheduled to go, I have a hard stop. I have a deadline in another case at five o'clock. If you all are not finished, we can arrange to continue, but I know Mr. Griffith is of interest probably to a number of your folks, and I just wanted to get that out on the

table. I apologize.

LCDR [redacted] Understood, sir. Greatly appreciate that. And we'll push until that time, and then we'll break.

UNIDENTIFIED SPEAKER: Sure.

BY MR. KRAMER:

Q. Yeah, I just, I wanted to ask a question about the, the discovery -- this is hull one, the discovery of the crack on the inner diameter of the hull. So I gather, and I'm trying to kind of familiarize myself with the construction of this, of this submersible. I gather then that the liner does not or did not fully cover the composite portion of the hull then; is that correct?

A. Yeah, that's correct. You can -- if you're at that part of the sub, you can, you can see there's a, there's an air gap between the liner and, and the inside of the pressure hull.

Q. And could you also inspect it at the, the stern end as well or not?

A. You -- not with as great access. There's a component bay. There's a couple different versions of this interior, right?

Q. Yeah.

A. One engineering team, and then a totally different engineering team. So --

Q. Right.

A. -- but there, there was still that air gap, but you can see that in some areas, like, for example, you can see it very easily

at the floor in the, in the aft section by just looking down. But other areas it was obstructed.

Q. Gotcha. And was that a, a part of the inspection procedure or was that kind of a like a, a lucky find on the part of someone who was very diligent?

A. Yeah. I mean, a full review is -- I mean, like a full walk-around review is something that is part of our program. But to say he caught it and somebody else might not, I mean, I (indiscernible).

Q. Right.

A. But I do -- that's one of the things like we compartmentalize each, you know, as a pilot that's what I would do is like each look at each component, and do an external and an internal, but we're not taking anything apart. There's no -- we're not, we're not lifting the cover or anything like that. We're not pulling out the insert or anything like that. You're just -- what's visually acceptable. You're checking, and, and you're going through that from the front to the back or around, around the sub and inside the sub.

Q. Understood. So after the -- after that crack was -- well, I guess, it sort of sounds like it's up to the discretion of the pilot as to what or how thorough the inspection is.

A. We had a -- we have a list of components that we check. So there's a checklist. Stockton came from the aviation world. So it's --

Q. Checklist.
A. -- checklist on aircraft. Builds his own airplane, and all that. So it's very much, very much the same, and that's why he tried to instill into the submersible community is that the way that things have -- lessons that have been learned in aviation. He wanted to apply that to, to the work with submersibles.
Q. Sure. So was that -- but was that hull inspection of the forward end was that an item on the checklist?
A. No, I don't, I don't recall, but I don't -- on my walkthroughs I'm (indiscernible) carrying my flashlight, and checking that, you know, that's, that's just my standard. I think it's just inspect hull or something like that, but I don't have it in front of me.
Q. Okay.
A. There's some generalized thing that we're going to be looking at each, each component that we can visually see, and, and check, and then there's, like I said, a list there. But it's something that I would, as a pilot, I'd spend several minutes going all around the sub check (indiscernible) around it things visually. Something you're touching, like, thrusters and spinning, checking bearings, and stuff like that, that kind of --
Q. Okay, all right. Yeah. That's perfect. Thank you. I guess I just have maybe just one other question. In the transition from the first hull to the second hull do you know if there were any sub-scale models built using the, the manufacturing process for

hull two?
A. I don't, I -- yeah, I think there were. I don't -- I wasn't really involved with that testing, but I, I believe there were. Yeah. The more I think about it right here just sitting at the table, I can remember people that were part of Dan's team talking about a test, and he wouldn't have been involved in the earlier testing. So there probably are, yeah. That's my recollection is that I wasn't directly involved, and I remember kind of chatter about those -- what I'm remembering is the test that happened at the pressure chamber at the University of Washington.
Q. Wait. Which one was that?
A. That would be a scale model test but --
Q. For the sub-scale model of hull one or hull two?
A. Hull two. Dan's team doing that test. There was testing that happened (indiscernible) testing that happened the duration of this *Titan* project.
Q. Yep.
A. But it was outside of the scope of my, my --
Q. Yeah.
A. -- there.
Q. Okay.
A. But I do remember, and can say that there were people on Dan's team doing testing, and which would mean it was version two.
MR. KRAMER: Right. Okay. I appreciate your answers. I think I'm finished my questioning at this time. Thank you.

LCDR [redacted] Thank you, Mr. Kramer.

Mr. Neubauer.

MR. NEUBAUER: Thanks, [redacted] and thank you, Mr. Griffith.

BY MR. NEUBAUER:

Q. Just a couple follow-up questions, sir. Do you ever remember a mission during either the 2021 or '22 expeditions where the front hatch of the *Titan* was dislodged during recovery operations?

A. Yeah. We were doing some testing. I think it was a test of our launch and recovery. The titanium hemisphere on the forward came off on the deck of the ship. There was a -- on the launch and recovery there was a change from the slope to the levelness of the ship, and the platform itself had to go through that transition. And when the platform came down, they -- the bolts that retained the forward hemisphere of the titanium sheared off, and the titanium came separated from the sub. After that point, we changed up our procedure. And typically on a dive there's a vacuum that is pulled inside the sub on *Titan*, and previous to that occasion there were four bolts used to secure the titanium to the rest of the sub, and we, we increased that amount.

Q. Okay. Thank you. Do you recall if that was '21 or '22?

A. It was '20 -- it was '21, I think.

Q. Thank you. Couple more questions. How long would it typically take to drop a weight with the hydraulic system once you initiated the -- a drop?

A. Depends how fast you pump. It's a manual pump, and it's a

-- so you, you're -- if you wanted to drop, drop hydraulic weights, it's very easy as a pilot. It's sitting right next to you, like, in like a proximity like your E brake on a car. And you can pump away, and the after opening a couple (indiscernible) stops. So it's pretty quick; I would say seconds. Yeah, I've dropped weights using that system before. It's pretty quick.

Q. Okay. Thank you. Would that be the standard weights that would be dropped to like slow a descent by hydraulic system?

A. Well, we had several different iterations in several different drop weight systems of that. So some of these things are -- some of the hydraulics initially during the design we just made the decision to have all electric weights drop. We had problems with those motors working at depth. So we switched. We changed out the, the plumbing on that, and so we utilized our hydraulic system to do weight release as well rather than just a primary. When we, when the first -- I guess to answer your question when the first was -- the first version of the sub, and as a pilot I never expected to, to use the hydraulic system except for if I was going to abort a dive. Later versions based upon the mileage with the electrical systems, we modified that. So we'd utilize it during primary, and, and then also if we needed to do -- cancel the dive protocols. Does that --

Q. So following for the day of the incident dive, they were going to drop -- they responded by text that they were dropping some weight to slow the descent.

A. Yeah.
Q. Do you know if that would have been the hydraulic or the electronic system at that time?
A. Let me see. I'm trying to -- that would, typically that would have been the electrical. On this last version it would have been electrically activated.
Q. And from your experience, sir, would there ever be a delay in that initiating an electrical drop (indiscernible)?
A. The latest version, no.
Q. Okay.
A. I mean, it's, it's -- you hit the drop, and it drops. We had, like I said, we had issues with it in the, in the past. So we, we changed up that plumbing because, like I said, I was on a dive in '21 that the electrical motors didn't work. For this latest version there was -- I don't think there was a change in the electrical system from '22 to '23 for that drop weight. We had solved that issue. That's my recollection.
Q. Thank you. And you had previously mentioned the incident where you heard the crack at depth, and it was during a drop weight type situation, I believe you had mentioned.
A. We were -- it was we, we had a couple different things going on, and we heard, we heard this slap, and but we were also at the time we were, we were trying to trim our sub, and figure out what's going on with this drop weight motor. So there was a bunch of stuff going on at the same time where, where we're just talking

about going home because it's -- we're aborting the dive because we had got the no strike components, right? And then that's, that's what -- so like I said, it kind of cascaded. Couple of things going on. It was early dive -- first dive of the *Titanic*. So --

Q. So but that was an electric motor drop that was part of that?

A. Yeah. That motor was -- when you would initiate it from the controls it would not drop.

Q. Just a couple more questions, sir. Did the -- did you as a head pilot have the full authority to abort a mission or would you have to have permission?

A. Oh, anyone in the operation, including the (indiscernible) the boat could cancel it out.

Q. Okay. During the dive?

A. Full stop authority, anyone, anyone, yeah, yeah.

Q. Okay. My last question, sir. You mentioned you could go to the secondary screen for the full monitoring system depth. Did you feel comfortable that you had the knowledge to (indiscernible) that -- the extra layer of data, or did you fully rely on just the lights to for -- to abort a dive?

A. Yeah, I did not have the knowledge on the RTM to interpret it. I relied on the lights and the feedback from that.

Q. Okay, sir, and do you know who, who would set the level for those lights to occur? To your knowledge (indiscernible) level?

A. I don't, yeah, I, I imagine it was Stockton or Phil or some

engineer; somebody that had the capacity to do that. I don't really know.

MR. NEUBAUER: Thank you, sir. That was my last question.

I will pass it back to Commander [redacted] Thank you.

LCDR [redacted] Thank you again, sir.

We're -- have -- going to reach out to Mr. [redacted] do you have any further questions for Mr. Griffith?

Okay, hearing none from Mr. [redacted]

Mr. [redacted] did you have any questions?

MR. [redacted] Yeah, I know we're running short on time. So I just have a couple of quick things, observations maybe.

BY MR. [redacted]

Q. When you (indiscernible) the damage, you said the bolts were sheared. Was that the only damage? Were there any nicked surface deformations, fractures, elongations, anything else you were aware of damaged, repairs, machining?

A. No. I mean, it looks like the bolts were sheared, and there was -- and that was basically it. I don't recall any other damage.

Q. So there was no non-destructive testing; based just on just visual observation everything was good with the bolts?

A. Yeah, yeah. There was no -- yeah, I wasn't, I wasn't aware of any more work on that, but it was basically lifted back up, put in place with a crane, and (indiscernible) into it, and then I think, I think there was some testing done, but I don't, I don't

know exactly.
Q. Also because of the time that's a perfect answer. That's exactly what I was looking for. The window, did you have any concerns with the window or the window movement under pressure, the actual acrylic view port?
A. No. I mean, I -- it -- I didn't have any concerns over the view port. It was tested in the lab, and, and, yeah, I didn't have any concerns over the view port.
Q. Okay. Just one other thing. I know that you had some control issues with the controller, and you had to reprogram the controller. The root cause of that, was that, was that a human error in the programming of the thrusters, a human error in the mounting of the thrusters?
A. No. It was not mechanical. The issue in the one dive where the thruster when I'd initiate it to go forward would go backwards. And that was something that happened in the computer control system or the motor controller, and it was never, never replicated. And the engineering team spent a considerable amount of time on that, and could not get it to reproduce. And it was just a very unusual incident where the thrust (indiscernible) zero instead of a one or something like that. That was how it was described to me where a reset of the controller or a reset of the power would have likely solved that issue.
Q. Okay. I didn't see anywhere where the issue was resolved. So if they never discovered what caused it, it's hard to fix what

they --

A. Yeah. I know Phil can -- if you guys talk to Phil, you can -- I think he spent a considerable amount of I want to say weeks on that project with his, with his guys, and I -- he was never able to replicate it.

MR. [redacted] Okay. In consideration of time, that's all I have. Thank you for your time, sir.

UNIDENTIFIED SPEAKER: And, again, I don't want to, I don't want to curtail this prematurely. If you all have some additional questions, I'm sure he's going to kill me, but I'm sure we can do it remotely so that Mr. Griffith doesn't have to come down to my office now that he's met all of you, and if we want to reconvene, if we want to reconvene -- at some point so you have the chance to finish, I want to make sure you get to do that.

LCDR [redacted] Yeah. I think that's going to be a great idea. I think we have four more minutes. Just quickly, Ms. [redacted] did you have any questions for Mr. Griffith?

MS. [redacted] Everyone asked my questions. So I have no questions at this time.

LCDR [redacted] Thank you, ma'am.

So and I'm just -- and Mr. Neubauer, if you -- going to kind of make -- we'll talk about it off line, the executive decision. I'm sure some people have some follow-up questions. But I -- we'll, we'll get together, and we'll try and possibly reconvene --

MS. SHVETS: Mr. [redacted] apologies. I have one short

question that clarifies that timeline. I'm happy to wait for it until next time, but I'm not sure if, if we are continuing or not. So --

LCDR [redacted] Ms. Shvets, go ahead. Go right ahead, and ask the question.

MS. SHVETS: Sure. Sorry about that.

BY MS. SHVETS:

Q. Mr. Griffith, just going back to the discovery of that crack on the first hull that you mentioned was discovered, and we discussed it at some length. I just wanted to place that in time a little bit better. Because when you were shown the dive log it shows that April 2019 day for a dive that involved Mr. Stanley. And then when was the discovery? And you mentioned the preparation for (indiscernible) *Titanic* expedition. Just wanted to understand when was the, the crack discovered on the timeline?

A. Yeah. What I recall is it was in June.

Q. Okay.

A. Early June. Because with post those dives we all came back to our families here in Washington State, and we were prepping for to go to the *Titanic*. So it was some -- we were going to resume more pilot training in the, in the Bahamas, and then, then hop on a boat that was heading up to Saint John's.

MS. SHVETS: Thank you very much.

LCDR [redacted] Mr. Barnum, really quickly, can you go ahead and give us the, the dive number for that of what we believe it

was?

MR. BARNUM: The dive, the last dive the depth was dive 47. That was on April 17th. And then dive 48 was on April 18th, and that went to four meters. So June would have been two months after that.

MS. SHVETS: Yeah.

UNIDENTIFIED: -- I recall.

LCDR [redacted] Okay. Great. Thank you so much.

Ms. Shvets, does that clarify your response?

MS. SHVETS: Yes, that's all. Thank you very much.

LCDR [redacted] Thank you, ma'am.

And then, yeah, I think what we'll do is we'll probably reconvene for some follow-ups. [redacted] will work with you, Mr. Malkin, to identify a time. Again, we'll do a virtual Teams, and I think that's easiest. I don't think we'll need too much more time, and just kind of some follow-ups from what we learned today. If that's okay. Hopefully, we get you out here on a hard stop, and we'll reconvene at some point. But I believe that's -- that we're going to go ahead, and we're going to end the interview.

Mr. Griffith, do you have any questions for us before we depart?

MR. GRIFFITH: Yeah. So I, I did have some questions. Are you guys working with (indiscernible) trying to close out some of the logistics. Are you guys working with the Canadian Coast

Guard, and -- like right now I'm trying to organize some of our gear that was seized and containers -- anyone in this group, like, looking to look at those containers or --

LCDR [redacted] Go ahead, Ms. Shvets.

MS. SHVETS: If I may just say, yes, sorry. Mr. Griffith, if we could take this off line. I know as counsel for OceanGate we have been dealing with all the authorities, and I know there are many questions on the logistics, but perhaps we can do that off line.

LCDR [redacted] Is there any -- okay, great, great. Thank you again very much. Greatly appreciate all your assistance, and we'll be, we'll be in touch.

Thank you, Mr. Griffith.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	LOSS OF THE SUBMARINE *TITAN* IN THE NORTH ATLANTIC OCEAN ON JUNE 18, 2023 Interview of Scott Griffith
ACCIDENT NO.:	DCA23FM036
PLACE:	via Microsoft Teams
DATE:	August 30, 2023

was held according to the record, and that this is the original, complete, true and accurate transcript which has been transcribed to the best of my skill and ability.

[redacted]

Katherine Motley
Transcriber

NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF MARINE SAFETY
WASHINGTON, D.C. 20594

Errata

Interview with Mr. Griffith

Loss of the submersible *Titan*
DCA23FM036

Page/ Line	Original	Correction
3/- 5/7	Muse	Muise
8/7	are	area
8/11	Settle	Seattle
13/23	(indiscernible)	different
17/1	(indiscernible)	fiber
17/16	(indiscernible)	up in Everett
20/8	early	exposure
21/9	(indiscernible)	abort the dive
21/15 21/17	Bill	Phil
29/17 29/20	UNIDENTIFIED SPEAKER:	Mr. Malkin:
32/4	weight and index	weighted index
34/5	pre-imposed	pre and post
34/22	Saint John's	St. John's
35/15 35/17	UNIDENTIFIED SPEAKER:	Mr. Malkin:
36/4	Saint John's	St. John's
36/7	UNIDENTIFIED SPEAKER:	Mr. Malkin:
36/9	UNIDENTIFIED SPEAKER:	LCDR [redacted]
36/11	UNIDENTIFIED SPEAKER:	Mr. Malkin:
36/12	UNIDENTIFIED SPEAKER:	LCDR [redacted]
37/3	(indiscernible)	Stockton dealt
39/23	Coast Guard	Coast Guard vessel
41/2	ops (indiscernible)	ops, chafing, and
50/15	ST2CW	STCW
61/20	rule	ruler
65/24	UNIDENTIFIED SPEAKER:	Dr. Kramer:
67/24	(indiscernible)	to be weight

Page/ Line	Original	Correction
72/24 74/19 84/8	UNIDENTIFIED SPEAKER:	Mr. Malkin:
86/14	(indiscernible)	2019
86/22	Saint John’s	St. John’s

NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF MARINE SAFETY
WASHINGTON, D.C. 20594

Errata

Interview of Mr. Scott Griffith (August 30, 2023)

Loss of the submersible *Titan*
DCA23FM036

Page/ Line	Original	Correction	NTSB Disposition
Page 9, line 12	preferable	pressure vessel	Concur
Page 11, line 19	Dwyer	Dyer	Concur
Page 12, line 1	switching	motor controlled switching	Noted
Page 12, line 3	no	in	"on"
Page 12, line 15	Yeah	No, that was the Director of Engineering.	Noted
Page 12, line 20 and 21	firm	department	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 12, line 23	part	project manager	Noted
Page 13, line 4	hull	full scale hull	Noted
Page 13, lines 11-12	Yeah, yeah. Definitely, you know, I'm – at the time – well, later, I definitely was. In my current capacity I recently . . .	In my current capacity I recently renewed . . .	Noted
Page 13, line 13-17	its vessel designation.	their vessel designation. Our standard practice in operation is to notify . . .	Noted
Page 13, line 20	diving	Research diving	Noted
Page 13, line 21	quartermaster	quarterdeck	Noted
Page 14, line 19	dumps	operations	Noted
Page 14, line 25	know	remember	Noted
Page 15, line 1	(indiscernible)	NOAA	Concur
Page 15, line 4	Santa Barbara up in the Samoan Islands	Sea Doc Society in the San Juan Islands	Concur
Page 17, line 1	(indiscernible)	fiber	Concur

Page/ Line	Original	Correction	NTSB Disposition
Page 17, line 11-16	And but all that . . . parking lot (indiscernible).	All that got canceled. Then we brought that sub back to Seattle for further examination. That sub ended up going to the Deep Ocean Test Facility in Annapolis, Maryland for unmanned testing. After that test the submersible was retired. That's the pressure hull that was sitting in, you know, the storage lot in Everett.	Concur
Page 18, line 3	Scoville was in had been hired or was a contractor.	Scoville was in as Director of Engineering and Operations.	Noted
Page 18, line 9	course	focus	Concur
Page 18, line 12	we had problems – the original hull	We had COVID-related problems – the second full scale hull . . .	Noted
Page 18, line 15	identified a (indiscernible)	Identified ElectroImpact as a suitable vendor.	"...identified a - the same robotic arm that NASA...:
Page 18, line 25	Dan, Bob, and Dan had a team	Dan, Bob, and Dan also had a team	Noted
Page 19, line 1-2	private managers . . . down there.	project managers, like Mikayla, and Emily. I know Emily went to Marshall Space Flight Center prior to COVID.	Noted
Page 20, line 8	I saw the output. That was really . . .	I saw the output. Between the Bahamas testing and the Deep Ocean Facility testing, significant work took place on the RTM. That was really the exposure to that system . . .	Noted
Page 20, line 18	real-time monitoring system.	real-time monitoring system at that point.	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 20, line 24-25	Yeah. So it's all computer controlled . . . the screen	Yeah. It's on the main control screen	
Page 21, line 1	you have a green light and a yellow light and a red light.	you have a yellow light and a red light.	
Page 21, line 15	Bill	Phil	
Page 21, line 17	Bill's the expert . . .	Phil's the expert on the RTM subject . . .	
Page 21, lines 20-21	Deep Ocean Test Facility. There was a later . . .	Deep Ocean Test Facility. The feedback we saw from Phil's improved version of the RTM likely prevented the failure of hull number 1. There was a later test . . .	
Page 23, line 21	talked to Global Affairs Canada.	talked to Canada Border Services Agency and Global Affairs Canada.	
Page 23, line 23	around research elements. So we sought permission . . .	around research elements. I participated on the application to conduct marine scientific research in Canadian waters. So we sought . . .	
Page 24, line 19	I don't really – it may come to me . . .	I don't recall – it may come to me . . .	
Page 25, line 10	in any dive	in a dive	
Page 25, line 12	anyone available really	anyone on the team available	
Page 25, line 14	to get into your dive weights.	to get into dive configuration.	

Page/ Line	Original	Correction	NTSB Disposition
Page 26, line 5	mechanical changes	changes.	Noted
Page 31, line 4	components.	components. This would be normal wave action noise.	Noted
Page 39, line 5	Forensic	Horizon	Concur
Page 39, line 25	TDs	TVs	Concur
Page 40, lines 16-17	And then what we have done . . . in the winter.	And then what we have done on other expeditions.	Noted
Page 40, lines 19-20	retrieval vehicle that's part . . .	retrieval vehicle.	Noted
Page 40, line 23	had a lot of the components there.	had a lot of tow components in St. Johns.	Noted
Page 44, line 25	(indiscernible)	galvanic	Concur
Page 45, line 8	trim the sub up	trim the sub neutral	Noted
Page 45, lines 10-12	we figured they're . . communication system.	we figured they're aborting the dive. This dive was the deepest dive we've done with that new communication system.	Noted
Page 45, line 13	we had communications systems	we had previous communications systems	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 45, line 14	don't	didn't	Noted
Page 45, lines 17-18	we'd do the recovery once we had their, you know, VHS contact . . .	we'd do the recovery once we had GPS location or VHF contact	Noted
Page 45, line 22	in our document	in our project planning document	Noted
Page 46, line 4	vessel had a 2, 3 thousand	vessel had a 2, 3 thousand	Noted
Page 47, line 16	picking – I had people remote	picking up the banging noises, we had people	Noted
Page 47, line 20	bearing on that.	bearing on the source of the banging noise.	Noted
Page 47, lines 22-23	We're trying to get the Logic Systems out there. These boats . . .	We're trying to get the Evologic system a bearing. Several inbound vessels had assets . . .	"We're trying to get the Pelagic Systems out there. These boats..."
Page 47, line 25	some delays	some unfortunate delays	Noted
Page 48, line 1	got to the site, dive at the last	got to the sight, dove their ROV at the last . . .	Noted
Page 48, line 22	It depends. So like . . .	No. So like . . .	Noted
Page 48, line 23	training program. But if a guy . . .	training program. Prior to 2020, if a guy . . .	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 49, line 2	pilot was nothing something	pilot was not in my toolbox	Concur
Page 51, line 13	machine they sold them	machine we sold them	Noted
Page 51, line 21	Magellan is a company that had done at the tail end	Magellan is a company that had done a Titanic survey at the tail end	Noted
Page 54, line 21	like a green, yellow and a red.	like a yellow and a red.	Noted
Page 57, lines 9-10	and then, you know and then we'd always – normal course of action	and then, you know, normal course of action	Noted
Page 58, line 5	HOC	HSE	Concur
Page 62, line 4	inset	insert	Noted
Page 63, lines 3-4	That I wasn't part of. And that – with the carbon fiber	That I wasn't part of. I was told that with the carbon fiber	Noted
Page 64, line 9	I lost control of the sub	I lost electrical control of the sub	Noted
Page 64, lines 17-18	platform in the current, and then they came back up to the surface.	platform in the current, and I then I brought the sub back up to the surface.	Noted
Page 67, line 3	Stockton was – it was always	Stockton was trying to evolve	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 69, line 22	pulled	spooled	Concur
Page 70, line 19	in that portion. And Stockton's	In that portion. Previously, Stockton's	Noted
Page 71, line 1	He didn't – we – I had	He didn't report to me. I had people	Noted
Page 71, line 22	Like I said, him and I	Like I said, David and I	Noted
Page 73, line 12	And like we had this – Tony had put together	And like we had this test plan Tony had put together	Noted
Page 74, line 7	Brian	Ryan	Concur
Page 77, line 11	that's just my standard	that's just our standard	Noted
Page 80, line 13	those motors	those electric motors	Noted
Page 80, line 14	and so we utilized our hydraulic system	and so we utilized our manual hydraulic system	Noted
Page 81, line 11	you hit the drop, and it drops.	you hit the drop button on the computer control screen, and it drops	Noted
Page 81, lines 15-16	latest version there was . . . drop weight. We had solved . . .	latest version we had solved that issue	Noted

Page/ Line	Original	Correction	NTSB Disposition
Page 82, lines 1-4	we're aborting the dive because . . . Couple of things going on. It was early dive --	we're aborting the dive. It was early dive . . .	Noted