

Grey Stafford, PhD
Incoming President International Marine Animal Trainers' Association,
Director of Conservation Wildlife World Zoo & Aquarium
16501 West Northern Avenue
Litchfield Park, AZ 85340

James H. Lister, Esq.
Birch Horton Bittner and Cherot, P.C.
Suite 1020
1156 15th Street, NW
Washington, DC 20005

Re: PETA v. Miami Seaquarium – Lolita Lawsuit

Dear Mr. Lister:

Topic

The following report addresses the housing of one, approximately 50 year old, female Killer Whale, *Orcinus orca*, named "Lolita" with 2 Pacific white-sided dolphins, *Lagenorhynchus obliquidens*. It is my expert disclosure letter in this case.

My Experience

For more than 25 years I have researched, managed, trained, and presented animals in USDA licensed zoological facilities including SeaWorld, Dolphin Quest, and Wildlife World Zoo as well as in an academic setting. As a result, my work history has been focused on maintaining Animal Welfare Act Compliance, and in particular, with respect to the rules governing the Humane Handling, Care, Treatment, and Transportation of marine mammals. For instance, over the past 5 years, I coordinated the design, construction, launch, and regulatory compliance (e.g., space, shade) of the first marine mammal exhibit to display California Sea Lions in the state of Arizona in over 40 years. In addition, I have overseen successful professional trade association facility accreditation for two USDA licensed facilities holding marine mammals. I also serve as an accreditation inspector for the leading professional trade association representing the marine mammal community. My analysis is based upon pool diagrams and documents though I have visited the Miami Seaquarium (2002) and expect to revisit the facility prior to trial.

Administrative Matters

I have attached my resume and a list of publications authored by me in the last 10 years. I am being compensated for my work on this matter by Defendant Miami Seaquarium in the amount of \$100 per hour plus reimbursement of expenses. I have not testified as an expert witness in judicial proceedings in the last four years.

Background

The USDA's Animal and Plant Health Inspection Service (APHIS) is tasked with ensuring that the standards of care provided to all zoological mammals, in particular, charismatic species like marine mammals, meet the requirements authorized under the Animal Welfare Act. APHIS achieves this mandate through random and unannounced site inspections of the more than 2000 USDA licensed exhibitors throughout the U.S. APHIS generally conducts at least one inspection per year for each exhibitor, though the actual number of inspections varies as needed by the Service or in response to complaints about the licensee filed by individual citizens. Only

observed violations of the AWA standards, designated as "non-compliant" items, are included in facility inspection reports, which are made available by the Service for viewing by the general public. Remedial actions taken by a licensed facility to correct previously noted non-compliant items are not reported, nor are previous non compliant items later listed as "compliant" in subsequent inspection reports. Also, inspection reports do not include statements regarding or examples of exemplary animal care or exhibits that far and away exceed AWA minimum standards.

The AWA standards governing the "Humane Handling, Care, Treatment, and Transportation of Marine Mammals" are published in 9 CFR Sections 3.100 through 3.118.

APHIS Determinations Regarding Lolita's Pool

With regards to the care and housing of Lolita at Miami Seaquarium (MSQ), in a letter to Katherine A. Meyer (attorney People for the Ethical Treatment of Animals and Animal Legal Defense Fund) dated March 28, 2012, Dr Elizabeth Goldentyer, DVM, the Eastern Regional Director of USDA APHIS, responded to three specific areas of concern raised by Ms. Meyer. Dr. Goldentyer's letter is Exhibit D to Defendant Miami Seaquarium's Amended Answer. In her letter, Dr. Goldentyer describes her agency's recent "reevaluation" of Lolita's pool, as well as, states APHIS' conclusion that Lolita's pool "meets the AWA space requirements for marine mammals." In particular, Dr. Goldentyer specifically states that partial obstructions such as the island located in the pool are not precluded by 9 Code of Federal Regulations Section 3.104 governing the Minimum Horizontal Dimension requirement. Summarizing her remarks on space requirements, Dr. Goldentyer's clearly states Lolita's pool "exceeds the minimum requirements in all required dimensions."

Additionally, Dr. Goldentyer, stated her agency also "reevaluated" the shelter provided Lolita in her habitat. She states that "shade and protection from the weather is provided by the stadium seating around Lolita's pool." Of particular note with regards to shade, Dr. Goldentyer states that "Lolita has none of the skin and eye lesions associated with inadequate shade."

Addressing the last area of concern raised by Ms. Meyer, Dr. Goldentyer's letter makes it clear that MSQ meets CFR Section 3.109 requirements for housing social marine mammals like orcas with one or more compatible animal of the "same or biologically related species." In fact, the letter states that Lolita has shared her pool with Pacific white-sided dolphins "for many years" and they are cetacean mammals and therefore a "biologically related species" as required by CFR 3.109.

Additional support for Dr. Goldentyer's conclusions discussed above come from other exhibits including an inter office memo (Amended Answer Exhibit E) from APHIS veterinarian, Dr. Moore to another APHIS veterinarian, Dr. Gaj. In it, Dr. Moore states that the "majority of [Lolita's] pool is 20 feet deep, more than adequate to provide protection by submerging." Dr. Moore confirms there was "no evidence of solar damage to the skin or active issue with the eyes." Of interest, Dr. Moore reported that the animals are fed from the island structure "according to the position of the sun" and as a result, the animals are fed "with the sun position to the back of the animals." In other words, the animals are purposefully *not* encouraged to look into the sun while being fed. Dr. Moore also stated in the memo that previous measurements to Lolita's pool were confirmed and the "MHD as reported is accurate."

Another APHIS memorandum (Amended Answer Exhibit C) written by Nicolette Petervary, VMD in response to a citizen's complaint stated "Seaquarium's inspection history shows Lolita and the other marine mammals at the facility to be healthy..." and that "...animal enclosures were generally found to be clean, structurally sound and in good repair." With regards to shade, she wrote, "Animal enclosures have adequate shade, protection from weather..." and that "shade cloth is not a desirable option for dolphins and whales, since it can lead to pathogen buildup that could compromise their health." She too, states that shade and protection from weather is provided by the stadium seating and that "Lolita has none of the skin and eye lesions associated with inadequate shade." Dr. Moore's memo also states that Lolita's pool "meets the AWA requirements for marine mammals" and includes a detailed diagram to explain the Service's conclusions. The APHIS diagram confirms an MHD measuring 60 feet in diameter for Lolita's pool.

The memo (Amended Answer Exhibit C) is also important because it includes a summary table of AWA required minimum space measurements for orcas and quickly compares them to the actual MSQ pool measurements as determined by APHIS inspectors. *In every measure, the MSQ pool for Lolita exceeds the minimum standards set forth by AWA regulations.* For example, the MHD required under the AWA for housing up to two orcas is only 48 feet, whereas the actual diameter is 60 feet.

Finally, Amended Answer Exhibit G includes a site evaluation conducted on December 21st, 2004 and report prepared by Dr. Laurie J. Gage, DVM, USDA Marine Mammal Advisor. In it, Dr. Gage observes that Lolita's skin "is smooth and glistening and her eyes are bright." She notes Lolita at that time was housed with a single male Pacific white-sided dolphin and that the two animals "appeared to be compatible." Dr Gage continues her evaluation by stating, "this whale appears to be healthy and well-adjusted to her environment" and that "the housing situation appears to agree with this particular whale." In closing, APHIS's marine mammal expert, Dr. Gage confirms the "...pool meets AWA minimum standards for this species."

My Review of APHIS Determinations

Should the Court need to look into these issues further, I offer the following observations:

Space Requirements

For the purposes of describing minimum spacing requirements, the rules under the AWA governing the care and housing of marine mammals divides cetaceans into Group I and Group II cetaceans. The regulations define Orcas as Group I animals while Pacific white-sided dolphins are Group II. The following discussion explains why the complaint alleging the MSQ pool is noncompliant with the AWA in terms of minimum space requirements to house up to 2 orcas with 2 companion animals is incorrect.¹

Introduction

First, it is important to note that the most recent APHIS documents mentioned above concluded that MSQ's pool for Lolita and 5 white-sided dolphins exceeds minimum required standards

¹ Some details regarding review of APHIS calculations are supplied in an Addendum to this letter.

under the AWA for those 6 cetaceans. However, Lolita is currently housed with just two Pacific white-sided dolphins. Obviously, the space requirements under the AWA for only 3 cetaceans will be reduced accordingly. As a result, some of my calculations for the minimum space requirements will be lower than those reported by APHIS' calculations.

Using only the most conservative linear pool measurements (Amended Answer Exhibits C, D, E; Defendant's Objections and Responses to Interrogatories Exhibit A) provided to calculate and describe (below) the primary pool space for Lolita and 2 Pacific white-sided dolphins, I conclude the pool habitat clearly exceeds the minimum space requirements for up to 2 orcas and 2 Pacific white-sided dolphins as set forth under the AWA in terms of minimum horizontal dimension, minimum pool depth, minimum water volume, and minimum surface area (CFR 3.104).

Lolita's Minimum Pool Values vs. AWA Minimum Required Standards

For purposes of determining whether a pool meets minimum standards for space, APHIS examines the size of a cylinder of water formed by the Minimum Horizontal Dimension and minimum depth required for the species under consideration. At 60 ft, the actual MHD of Lolita's pool is 25% greater than the minimum MHD (48 ft) required under the AWA for housing up to 2 orcas. For illustration purposes, if we make the most conservative calculation by assuming a uniform pool depth of only 12 ft (the required minimum depth for orca), the water volume associated with the actual MHD, (less the volume of water displaced by the island of 2700 cubic ft), is 31,212 cubic ft or more than 30% greater than the required minimum water volume (23,823 cubic ft). And, the pool surface area defined by the actual MHD is 2601 square ft, which is over 40% greater than the minimum surface area (1808.64 square ft) required by the AWA to house up to 2 orcas and 2 white-sided dolphins.

Total Space Estimates for Lolita's Pool

Comparing these space minimums to the entire pool at MSQ reveal important details, the most important of which is that *Lolita's pool is significantly larger than the required space minimums in terms of all four factors used by APHIS to determine pool compliance with rules under the AWA.*

For example, if instead of assuming a uniform depth of 12 feet, we use the actual pool depth values ranging from 12 to 20 ft (Amended Answer Exhibit E; Plaintiff's Request for Admissions Exhibit B; REV0021497), the pool water volume defined by and estimated using a MHD of 60 ft (less the volume of water displaced by the island of approximately 2700 cubic ft) increases to 39,376 cubic ft. This represents 65% more water volume than the minimum water volume required to house 2 orcas and 2 Pacific white sided dolphins. [As expected, due to conservative assumptions upon which my calculations were made, the total volume estimated under MHD is appreciably lower than reported by APHIS' Dr. Petervary in Amended Answer Exhibit C.]

Of course, the actual volume of water available to the animals at a depth range of at least 12 ft is considerably greater still, given the conservative assumptions made to calculate the volume of the pool at varying depths and shapes, plus the extra capacity of the oblong shaped pool combined with the additional rectangular portion noted as "annex"- considerable areas of the pool that fall outside the circle defined by using a MHD of 60 ft. In fact, Defendant's Objections and Responses to Interrogatories Exhibit A provides a pool diagram with the number of gallons contained by Lolita's pool to be 580,496 gal or 77,612 cubic ft. (1 US fluid gal = 0.1337 cubic ft). Thus, Lolita's total pool volume is estimated to be more than 3 times the minimum required water volume for housing up to 2 orcas and 2 Pacific white-sided dolphins.

Similarly, using the same rationale regarding the oblong shape of the pool and rectangular portion applied to the total amount of water surface area and horizontal dimension (at the minimum required depth or deeper) accessible to Lolita, it is apparent those area and horizontal dimension factors are also much greater than the required minimums. This is due to the fact that much of the water in the oblong shaped pool and the rectangular annex is outside the circle defined by the 60ft MHD.

Concluding Comments on Pool Space

The APHIS conclusion stated in several documents cited above that the requirements for Minimum Horizontal Dimension in Section 3.104 do not preclude a partial obstruction is sound. In fact, most zoological and aquarium facilities include large, immovable objects as "furniture" to provide animals with enrichment in the form of mental and physical stimulation, and which in the case of marine mammals is permitted (CFR Section 3.101 (g)) and even required (CFR Section 3.109) by the Act under certain conditions. The island has wide underwater passageways on either end. These enable Lolita to swim normally around the island in a manner not precluded by the AWA rules (Amended Answer Exhibit D) as well as provide her and her companion animals opportunities for tactile enrichment.

Furthermore, CFR Section 3.104 (a) requires that primary enclosures must make it possible for animals "...to be able to make normal postural and social adjustments with adequate freedom of movement, in or out of the water" as the MSQ pool certainly provides for Lolita with significant horizontal space and at greater than minimum depth (i.e., 12 to 20 ft). Temporary closure of gates at either end of the island and thus, temporarily limiting animals to enclosures that may not meet minimum space requirements, is permitted under CFR Section 3.104 to conduct husbandry training, exhibit cleaning, and maintenance. These routine activities do not require the gates to be closed more than a few hours per week (Exhibit A, Response to Interrogatory No. 2). Additional exceptions for temporarily holding animals in spaces that do not meet minimum space requirements for medical treatment or medical training are permitted under CFR Section 3.110 (b) with justification and documentation by an attending veterinarian.

Companion Animal

The legal complaint erroneously implies the AWA rules require that a cetacean must be housed with a member of its own species in order for a facility to be compliant with AWA regulations, and incorrectly asserts MSQ is not housing Lolita with compatible individuals from a biologically related species.

Despite their common name, killer whale, the species known as *Orcinus orca* is actually not a whale, but a dolphin. In fact, orcas are the largest member of the family of dolphins known as Delphinidae. As members of Delphinidae, orcas share many similar physical, behavioral, social, and ecological traits with more than 30 other dolphin species, including the smaller species of dolphin known as Pacific white-sided dolphin or Lags, *Lagenorhynchus obliquidens*.

Historically, MSQ is not the only facility to have had orcas and Pacific white-sided dolphins successfully housed, trained, and exhibited together for public display. However, MSQ likely has the greatest husbandry and training experience of any marine mammal facility caring for such a mixed group of species, having housed these species together for many years (Amended Answer Exhibit D, Exhibit G) and for a much longer duration than other known marine mammal

facilities. Lags make suitable companions to orcas, particularly those from the Southern Resident population of orcas, for several reasons. Both species tend to be found in the cool to cold waters of the Northern Pacific Ocean. As members of the dolphin family, both species: are predatory as well as social animals, use echolocation for foraging and navigation, exhibit disruptive coloration (i.e., black coloration dorsally and white coloration ventrally) and have teeth not baleen. In addition, the SRKW population of orcas, of which Lolita has been deemed a member by National Oceanic and Atmospheric Administration (NOAA) Fisheries, feeds primarily on fish, as does the Pacific white-sided dolphin.

The AWA rule does not preclude housing two different species of cetacean together, *nor does it require that animals must be housed with members of their own species (i.e., housing with conspecifics is not required)*. The main requirement under the AWA is that a marine mammal "known to be primarily social in the wild" has at least 1 companion animal from a "biologically related species," and that the two animals are "compatible" per CFR section 3.109. The Act even permits the housing of cetaceans singly in some circumstances provided the well-being of the animal calls for such housing, and provided there is a coordinated and periodically reviewed management plan from the veterinary and training staff. As a result, MSQ's housing of Lolita with two individuals from another species of dolphin with whom she shares so many behavioral, biological, environmental, and ecological characteristics as the Pacific white-sided dolphin is not a violation of the AWA.

Based on my own previous professional experience at a different facility caring for 2 orcas and 3 white-sided dolphins housed together, there was no concern over training and publicly presenting these animals together due to an incompatibility between the species. On the contrary, the challenge was getting the animals to reliably separate in a timely manner from one another into different areas of the pool habitat whenever requested to do so!

Finally, in late 2002, I was part of a small group of marine mammal professionals visiting the MSQ, giving me the opportunity to observe Lolita with her companion, which at that time, was a male Lag. My recollections are that neither animal displayed agonistic behaviors toward the other. On the contrary, much like APHIS' marine mammal expert Dr. Gage (Amended Answer, Exhibit G), I found both were calm while in close proximity to one another, curious, and attentive to our presence despite not having been requested to come to the attention of their trainers (i.e., they were not asked for stimulus control). In terms of her physical appearance, Lolita had sharp, pointy teeth. (Confirmed in evaluation by Dr. Gage 2 years later. Amended Answer, Exhibit G) These, together with her excellent skin and body condition, surpassed those I had seen or cared for previously in other, much younger, orcas. I was struck even more by her great physical appearance when informed of her advanced age, which at that time in 2002 was estimated to be in her mid 30's. Quite simply, given the close proximity to observe her and her companion Lag, I concluded, and still hold the belief, she was the most beautiful looking orca specimen I had ever seen.

Shade

The legal complaint incorrectly asserts that MSQ does not provide Lolita shade or protection from weather.

The AWA rules permit marine mammals to be housed in outdoor facilities (CFR Section 3.103) and briefly describe a broad definition of shelter for marine mammals in CFR Section 3.103 (b). Shelter provided for marine mammals may be "natural" or "artificial" so long as it is "appropriate" for the species concerned. In addition, the shelter provided should "afford them protection from the weather or from direct sunlight." However, the rules do not specify the type and amount of shelter or shade required for cetaceans in terms of pool area coverage. Furthermore, the rules do not preclude the use of a combination of shade or shelter types.

Wild orcas live in the open ocean and must regularly breathe air to survive. Therefore, orcas and other small bodied dolphins have no natural access to shade structures and must frequently break the water surface to obtain air. Fortunately for cetaceans that are obligated to spending much of their lives at or near the water surface, water serves as an effective filter for most forms of natural sunlight, especially potentially damaging longer wavelength UV-A and even more harmful, shorter wavelength UV-B. Therefore it is important to restate that much of Lolita's pool is more than 60% deeper than the minimum depth required for orcas.

Conclusion

Based upon reviewed documents, past experience visiting Lolita at MSQ, and my own professional experience at a different facility caring for orcas and Pacific white-sided dolphins housed, trained, and presented together, the legal complaint asserting that the MSQ is non-compliant with the AWA in terms of: providing minimum required pool space, providing compatible companion animals from a biologically related species, and providing species appropriate shade and shelter is not supported according to requirements as set forth under the AWA.

My opinion is based on the following documents: [Amended Answer Exhibits C, D, E, G; Defendant's Objections and Responses to Plaintiff's Interrogatories Exhibit A; Plaintiff's Request for Admissions Exhibit B, Response to Requests to Admit; REV0021497; and CFR Sections 3.100 to 3.118]

Sincerely,



Dr. Grey Stafford

Addendum

AWA Space Definitions and Calculations for cetacean marine mammals

The rules under the AWA CFR Section 3.104 (b) set the minimum space requirements starting with up to 2 Group I or up to 4 Group II cetaceans using four factors, all of which must be satisfied based upon the species in question. Those factors are: pool depth, water volume, surface area, and Minimum Horizontal Dimension (MHD). Since marine mammal pool shapes and depths vary widely among USDA licensed and inspected facilities, which can make pool surface area and water volume calculations challenging, it is helpful to visualize the MHD as the diameter of the largest circle that can be fitted within the confines of the pool. Once it is determined that a primary pool's MHD meets (or, as in this case, exceeds) the MHD required for the species exhibited, and using the prescribed minimum depth defined under the Act that is based upon the largest species housed therein, the minimum required volume and minimum required surface area are calculated using the geometrical formulas for the volume of a cylinder and the area of a circle, respectively.

In situations with Group I and Group II animals housed together, the Act rules require that the MHD to be used in all subsequent calculations is the diameter corresponding to the cetacean species with the larger MHD, which in this scenario, is orca. Once the required MHD has been determined (CFR Section 3.104 (b)(1)(iv)), the additional minimum required pool size parameters (i.e., volume, surface area) can be determined based upon the number (and type) of additional Group I (in excess of 2) and/or Group II cetaceans housed therein, using tables and formulas provided in the Act.

In addition to the four space related factors above, each species of cetacean has assigned to it one more important value necessary for determining the minimum space required, known as an Average Adult Length (AAL).

In the above scenario, CFR Section 3.104 Tables I & III set an orca AAL = 24 ft. By comparison, Lolita is approximately 20 ft long consistent with the average adult length reported for SRKW females (Fearnbach et al., 2011). CFR Section 3.104 (b)(i) defines the minimum required diameter of a circle that can fit within the confines of the pool, or MHD, as 2 times the AAL of the longest (here, only one) Group I cetacean species. Therefore, for the purposes of this report, the MHD required for a pool housing up to 2 orcas and a smaller Group II species is:

$$\begin{aligned}\text{Required MHD} &= 2 \times \text{AAL for orca} \\ &= 48\text{ft}\end{aligned}$$

The minimum pool depth (CFR Section 3.104 (b)(2)), is defined as 1/2 the length of the longest species (i.e., orca) housed.

$$\begin{aligned}\text{Minimum Depth} &= 1/2 \times \text{AAL for orca} \\ &= 12 \text{ ft}\end{aligned}$$

Any areas of the primary pool enclosure that do not meet this minimum depth requirement are not included in space calculations to determine whether the required minimum pool volume or minimum surface area has been satisfied. However, it should be noted that most of Lolita's pool,

not just that portion covered by the MHD, is at a depth of at least 12 ft with much of the pool depth closer to 20 ft.

To recap, the minimum required pool water volume depends on satisfying the minimum required MHD at the required Minimum Depth (CFR Section 3.104 (b)(3)) and must include volume adjustments for each additional animal housed therein. In the current scenario for Lolita and her companions:

$$\begin{aligned}
 \text{Minimum Volume required} &= \text{Group 1 (up to 2 individuals)} + \text{Group 2 (2 additional individuals)} \\
 &= (1/2 \times \text{MHD})(1/2 \times \text{MHD}) \times 3.14 \times \text{Minimum Depth (Group I)} + \\
 &\quad 2 \times (\text{AAL})(\text{AAL}) \times 3.14 \times \text{Minimum Depth (Group II)} \\
 &= (1/2 \times 48 \text{ ft})(1/2 \times 48 \text{ ft}) \times 3.14 \times 12 \text{ ft} + 2 (7.5 \text{ ft})(7.5 \text{ ft}) \times 3.14 \times 6 \text{ ft} \\
 &= 21,703.68 \text{ cubic ft} + 2,119.5 \text{ cubic ft} \\
 &= 23,823.18 \text{ cubic ft (up to 2 Group I animals plus 2 Group II)}
 \end{aligned}$$

The final minimum space requirement to be calculated is the minimum pool surface area. The minimum required surface area covering all the animals housed in the primary pool can be determined after the minimum required MHD, depth, and volume for Group I and Group II animals housed together has been met (CFR Section 3.104 (b)(4)(ii)).

For a mixed group of cetaceans, the minimum surface area is the larger of the following: the area determined by the required MHD or the sum of areas determined for each animal under consideration as listed in Table IV (CFR Section 3.104 (b)(4)(iii)). In the above scenario, the minimum surface area required is the result of the significantly larger surface area value obtained using the MHD calculation:

$$\begin{aligned}
 \text{Minimum SA required} &= 3.14 \times (1/2 \text{ MHD})(1/2 \text{ MHD}) \\
 &= 1808.64 \text{ square ft}
 \end{aligned}$$

Lolita Pool Calculations Defined by Pool MHD Ignoring Water Deeper than 12 feet

Using these species values and calculations prescribed under the AWA, it is possible to determine whether the MSQ pool meets the minimum space requirements for up to 2 orcas (MSQ has just 1) and 2 Pacific white-sided dolphins. Using the most conservative dimensions of the primary pool (Amended Answer Exhibit C), with a MHD of 60 ft and a minimum depth of 12 ft, and excluding estimates for the surface area and volume occupied by the island (i.e., furniture) (Amended Answer Exhibits C, E) in the primary pool, we obtain the actual minimum space available in the pool as:

$$\text{Actual pool MHD} = 60 \text{ ft}$$

$$\text{Minimum Depth} = 12 \text{ ft ("majority of the pool is 20 ft deep" per Exhibit E)}$$

$$\text{Island SA} = 5 \times 45$$

$$= 225 \text{ square ft (approximate)}$$

$$\begin{aligned} \text{Island Volume} &= 225 \text{ sq ft} \times 12 \text{ ft} \\ &= 2700 \text{ cubic ft} \end{aligned}$$

$$\begin{aligned} \text{Actual Water Volume} &= 33,912 - 2700 \text{ cubic ft} \\ &= 31,212 \text{ cubic ft} \end{aligned}$$

$$\begin{aligned} \text{Actual Water Surface Area} &= 2826 - 225 \text{ sq ft} \\ &= 2601 \text{ square ft} \end{aligned}$$

Estimated Pool Volume Defined by MHD, Including Estimated Water Volumes Deeper than 12 feet

To illustrate how Lolita's pool with its varying depths greatly exceeds minimum requirements for water volume, it is helpful to imagine an upside down wedding cake with two layers, V1 and V2. We begin as previously noted by calculating the volume (V1) of a cylinder with a diameter of 60 ft and a depth of 12 ft less the volume of water displaced by the island (2700 cubic ft). Doing so gives:

$$V1 = 31,212 \text{ cubic ft}$$

Next, we need to estimate the volume of the pool at 20 ft of depth, less the estimated water volume displaced by the slope of the pool bottom. For this, we made a few assumptions to simplify calculations which ultimately favor *underestimating* the additional volume contained in the pool at a depth between 12 ft and 20 ft and defined by the MHD of 60 ft.

These assumptions are: first, the location of the island is imagined along a diameter of the circle defined by the MHD; second, we assume the bottom of the pool from a depth of 12 to 20 feet forms two equal halves of a cylinder (this underestimates the volume of water at 20 ft depth); and third, the slope of the pool bottom is uniformly 10 ft wide in the cylinder of water being calculated (this over estimates the volume of water displaced by the sloping bottom).

Again, using the formula for the volume for a cylinder, the volume of water in Lolita's pool defined by the MHD and below 12 ft depth is estimated by:

$$V2 = 1/2 \times [1/2 \times [\text{Volume of cylinder (radius = 30 ft)} - \text{Volume of cylinder (radius = 20 ft)}] + \text{Volume of cylinder (radius 20 ft)}]$$

$$V2 = 1/2 \times [1/2 \times [22,608 \text{ cubic ft} - 10,048 \text{ cubic ft}] + 10,048 \text{ cubic ft}]$$

$$V2 = 8,164 \text{ cubic ft}$$

$$\text{Total volume estimate (defined by a MHD = 60 ft)} = V1 + V2 = 39,376 \text{ cubic ft.}$$

Due to the assumptions necessary to make the calculations, this volume value is likely an underestimate of the actual volume of water within the cylinder of water defined by the MHD. In addition, it does not include the significant water volume in Lolita's pool outside the MHD

cylinder and at the minimum required depth of 12 ft or greater. I may refine this estimate before trial by replacing some of the simplifying assumptions that understate pool volume with more precise data.

Reference:

Fearnbach, H., Durban, J. W., Ellifrit, D. K., & Balcomb III, K. C. (2011). Size and long-term growth trends of endangered fish-eating killer whales. *Endangered Species Research*, 13, 173-180.

S. GREY STAFFORD, Ph.D

SUMMARY OF QUALIFICATIONS

- Animal & Behavioral Management
- Industry Advocate
- Government Affairs & Accreditation
- Project Management
- Media & Public Relations
- Customer Focused
- Talent Development
- Conservation Education
- Entrepreneurial Leadership

WILDLIFE WORLD ZOO, AQUARIUM & SAFARI PARK
A privately operated and accredited facility featuring over 600 species

2004 – PRESENT

Director of Conservation & Communications – Litchfield Park, Arizona

Member of senior management team during a decade marked by extraordinary physical, collection, and staff growth funded by steady increases in attendance and earned revenue, even during recession. Major additions include: 16-acre aquarium complex with new entrance, parking, retail shops, and restaurant, plus a 15-acre safari park expansion. Work collaboratively with animal, aquarium, education, and veterinary departments while serving as the institution's primary media representative.

- Coordinated design, animal acquisition, USDA & NOAA regulatory requirements, transport, management, staff development, and launch of a sea lion exhibit, revenue-generating public feeding experience, and seating arena. Composed educational show script for first sea lions in 40 years and currently the only marine mammals in state.
- Developed keeper training and husbandry protocols. Lead successful application process for institutional accreditation by Alliance of Marine Mammal Parks & Aquariums (AMMPA).
- Foster strong relationships and in-kind sponsorships with local media. Increased zoo's visibility as one of the largest zoos in western U.S. through an average of over 5 tv segments per week.
- Frequent guest, often by request of professional trade organizations, on CNN, FOX, & HLN providing expert commentary on zoo, wildlife, conservation, and welfare issues.
- Author of book on applied operant conditioning entitled, *ZOOmility: Keeper Tales of Training with Positive Reinforcement*.
- Testified at NOAA hearing at request of Georgia Aquarium in support of beluga importation (2012).
- AZA faculty member for weeklong Applied Animal Training course held at DAK (2011).
- Craft messaging & compose letters used by AMMPA and ZAA for legislative lobbying efforts.
- Evaluate recipient organizations for annual Animal Care and Conservation financial awards.
- Accreditation inspector for AMMPA.
- Assisted production team for Jack Hanna's *Into the Wild* for week long filming featuring AZ zoos.
- President-elect of IMATA.

DOLPHIN QUEST O'AHU

2002 – 2004

Director of Animal Management – Honolulu, Hawaii

Ensured the care, operant conditioning, record keeping, and facility compliance with federal regulations for a multi-species collection of aquatic animals featuring bottle-nose dolphins and catering to domestic and international travelers.

- Coached a team of trainers and interns in a 5-star customer service driven facility while growing a \$2M budget during post 9/11 tourism recession.
- Encouraged staff development through employee performance evaluations, trainer exchanges, coursework, and involvement in professional organizations and local universities.
- Balanced guest program inventory with animal welfare, safety, staff, host resort, and customer needs.
- Worked directly with GM on annual budgets, purchasing, hiring, revenues, guest program development.
- Conducted instate animal transports, collected biological and behavioral data for analysis, publication and presentation, underwater exhibit construction, and site accreditation by AMMPA.

ADDITIONAL POSITIONS HELD:

Curator of Education	Wildlife World Zoo	1999 – 2002
Upper School Teacher	Hathaway Brown School for Girls	1992 – 1994
Animal Trainer	Sea World of Ohio	1990 – 1992, 1993 – 1995

RELATED EXPERIENCE

Editorial Board, *Aquatic Mammals*. Peer reviewed journal published European Association for Aquatic Mammals.
Editorial Advisory Board, *Soundings*. Published quarterly by International Marine Animal Trainers' Association.
Longitudinal Dolphin Study off coastal Florida, Participated in a decades long project coordinated by Randall Wells, Ph.D., using quick capture and release of resident wild bottle-nose dolphins to monitor population well-being and effects of human activities such as fishing, coastal development, and pollution (Winter, 2005).
Pygmy Marmoset Colony Manager, Department of Biological Sciences, Kent State University (1994 – 1998).

RECENT PUBLICATIONS

Robeck, T.; Jaakkola, K.; Stafford, G.; Willis, K. (accepted, 2015). *Killer whale (Orcinus orca) survivorship in captivity: A critique of Jett and Ventre (2015)*. Marine Mammal Science.

Jarnagin, J.; Stafford, G. 2013. *So you want to start an accredited marine mammal program...in the desert?*
 Proceedings of the 41st International Marine Animal Trainers' Association (IMATA) Conference. Las Vegas, NV.

Stafford, Grey. 2010 (Nov/Dec). *Desensitization for Life*. The APDT Chronicle of the Dog. Reprinted in *Soundings*, 2011.

Stafford, Grey. 2008 (Sept/Oct). *Aggression Management Using Positive Reinforcement*. The APDT Chronicle of the Dog.

Stafford, Grey. 2008 (July/Aug). *That Bird will Never Work for a Man*. The APDT Chronicle of the Dog. Reprinted in *Soundings*.

Stafford, Grey. 2007. *ZOOmility: Keeper Tales of Training with Positive Reinforcement*. Foreword by Jack Hanna. iReinforce.com. Scottsdale, AZ. 144 pp.

Biedenbach, G.; Campbell, M.; Davis, C.; Hurley, W.; Stafford, G. 2003. *Training appropriate DRI behaviors in group settings at interactive facilities*. Proceedings of the 31st International Marine Animal Trainers' Association (IMATA) Conference. Long Beach, CA. Winner of Husbandry Training and Behavioral Training Award.

Rocho, J.; Havlis, D.; Stafford, G. 2003. *Technology and husbandry: Trainers gathering, analyzing and applying ultrasonography data to manage animal collections*. Proceedings of the 31st International Marine Animal Trainers' Association (IMATA) Conference. Long Beach, CA.

Turner, T. N. and Stafford, S.G. 1997. *Rapid weight fluctuations linked to increased aggression in intact male California sea lions*. Proceedings of the 25th International Marine Animal Trainers' Association (IMATA) Conference. Baltimore, MD.

Korytko, A.; Stafford, S.G.; Tardif, S.D.; Blank, J.L.; Hintz, R.L.; Cuttler, L. 1997. *Differential levels of circulating thyroid hormone and IGF-1 in the common and pygmy marmoset*. 79th Annual Endocrine Society Meetings. Minneapolis, MN.

Turner, T.N.; Stafford, S.G.; McHugh, M.B.; Surovik, L.; Delgross, D.; Fad, O. 1991. *The effects of context shift in killer whales (Orcinus orca)*. Proceedings of the 19th International Marine Animal Trainers' Association (IMATA) Conference. Vallejo, CA.

Stafford, S.G.; Ploplis, A. C.; Jacobs, D. T. 1990. *Turbidity of polystyrene in diethyl malonate in the one-phase region near the critical solution point*. *Macromolecules*, 23:470-475.

PRESENTATIONS

"The WILD Side of Performance & Recognition Programs. What Zoo-keeping Teaches Companies about Effectively Rewarding Behavior" State SHRM conference. Phoenix, AZ (2015).

"Proactive Zoo PR in the 21st Century: if you aren't managing your message, someone else is," Zoological Association of America (ZAA). Pigeon Forge, TN (2012).

Animal training seminar & behavioral consultation. Akron Zoo. (2012).

"Generating Great Press, Even When They're Against You," Association of Pet Dog Trainers (APDT) Annual Conference. San Diego, CA (2011).

"The WILD Side of Performance & Recognition Programs," Invited speaker for WorldatWork Total Rewards Conference & Exhibition. Seattle, WA (2009).

"What Zoo-keeping Teaches Us About Training with Positive Reinforcement," Association of Pet Dog Trainers (APDT) Annual Conference. Louisville, KY (2008).

"Outreach Animals and the Media: Building Relationships that Build Zoos and Aquariums," AZA Panel Member. Philadelphia, PA (2007).

"You Can't Afford Not to Train," AZA Panel Member. Chicago, IL (2005).

PROFESSIONAL MEMBERSHIPS

- Association of Zoos and Aquariums (AZA).
Past Public Relations Committee Member & Advisor: elephant and marine mammal management.
- Past Animal Welfare Committee Member: welfare assessment and review of conservation research applications.
- International Marine Animal Trainers' Association (IMATA).
- Zoological Association of America (ZAA).

EDUCATION

- Doctor of Philosophy in Physiology, Department of Biological Sciences, Kent State University. Doctoral Dissertation: *Thermoregulatory and Endocrine Adaptations of Small Body Size in Primates: A comparative study of two related but, differently sized, species of New World primates, the pygmy and common marmoset*. (1994 – 1999).
- B.A. in Physics, with honors from the College of Wooster, Wooster, Ohio.
- SCUBA certified.

Exhibit B

to

**Plaintiffs' Motion to Exclude
Improper Opinion Testimony by
Dr. Grey Stafford**

CERTIFIED
COPY

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA

MIAMI DIVISION

Case No. 15-cv-22692-Ungaro/Otazo-Reyes

- - - - -

PEOPLE FOR THE ETHICAL)
TREATMENT OF ANIMALS, INC.,)
ANIMAL LEGAL DEFENSE FUND,)
HOWARD GARRETT, and ORCA)
NETWORK,)

Plaintiffs,)

vs.)

MIAMI SEAQUARIUM and)
FESTIVAL FUN PARKS, LLC.)
d/b/a PALACE ENTERTAINMENT,)

Defendants.)
-----)

- - - - -

DEPOSITION OF S. GREY STAFFORD, Ph.D.

Held at Animal Legal Defense Fund

170 E. Cotati Avenue

Cotati, California

Sunday, February 14, 2016, 8:59 a.m.

- - - - -

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 APPEARANCES

2
3 For the Plaintiffs:

4 Animal Legal Defense Fund
5 170 E. Cotati Avenue
6 Cotati, California 94931
7 BY: STEFANIE WILSON, ESQ.
8 and MATTHEW LIEBMAN, ESQ.

9
10 For the Plaintiffs:

11 Coffey Burlington, L.L.
12 2601 South Bayshore Drive., PH
13 Miami, Florida 33133
14 BY: PAUL J. SCHWIEP, ESQ.
15 (Did not appear)

16
17 For the Plaintiffs:

18 PETA Foundation
19 1536 16th Street, NW
20 Washington, D.C. 20036
21 BY: JARED GOODMAN, ESQ.
22 (Did not appear)

23
24 For the Plaintiffs:

25 PETA Foundation
2154 W. Sunset Boulevard
Los Angeles, California 90026
BY: MATTHEW STRUGAR, ESQ.
(Did not appear)

For the Defendants:

Birch Horton Bittner & Cherot, PC
1156 Fifteenth Street, NW
Washington, D.C. 20005
BY: JAMES H. LISTER ESQ.

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 APPEARANCE CONTINUED

2 For the Defendants:

3 Birch Horton Bittner & Cherot, PC
4 1127 West 7th Avenue
5 Anchorage, Alaska 99501
6 BY: WILLIAM A. EARNHART, ESQ.
(Did not appear)

7 For the Defendants:

8 Greenberg Traurig, P.A.
9 Terminus 200
3333 Piedmont Road, NE
Atlanta, Georgia 30305
10 BY: JENNIFER B. MOORE, ESQ.
11 (Did not appear)

12 For the Defendants:

13 Greenberg Traurig, P.A.
14 450 South Orange Avenue
Suite 650
Orlando, Florida 32801
15 BY: MICHAEL G. MURPHY, ESQ.
16 (Did not appear)

17 For the Defendants:

18 Greenberg Traurig, P.A.
19 333 Southeast 2nd. Street
Suite 4400
Miami, Florida 33131
20 BY: EVELYN A. COBOS, ESQ.
21 and MARK S. SALKY, ESQ.
(Did Not appear)

22 Reported by:

23 Emily Husary, CSR
24 License No. 12148
25

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 INDEX OF EXAMINATION

2		Page
3	Examination By: MS. WILSON	5
4	Examination By: MR. LISTER	144

5

6

7 INDEX OF EXHIBITS

8 Plaintiff's

9	Exhibit No.	Description	Page
10			
11	3001	Three-page Amended Notice of	41
12		Taking Deposition	
13	3002	Fifteen-page Report	41
14	3003	Two-page USDA Inspection Report	134
15	3004	Two-page USDA Inspection Report	134
16	3005	One-page USDA Inspection Report	139
17	3006	One-page USDA Inspection Report	139
18	3007	One-page USDA Inspection Report	140
19	3008	One-page USDA Inspection Report	141
20	3009	Two-page USDA Inspection Report	142

21

22

23

24

25

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 S. GREY STAFFORD, Ph.D., 16:00
2 called as a witness by the Plaintiffs, herein, being
3 first duly sworn by the Certified Shorthand Reporter,
4 was thereupon examined and interrogated as is
5 hereinafter set forth.

6 EXAMINATION

7 BY MS. WILSON:

8 Q. Hi, Dr. Stafford. I'm Stefanie Wilson. I'm
9 one of the attorneys for the plaintiff, Animal Legal
10 Defense Fund in this case. So I just first want to
11 make sure that I'm speaking clearly enough for you. So
12 right now and at any time, if I'm going too fast or I
13 am mumbling, just let me know. Okay?

14 A. Okay.

15 Q. We'll start by having you state your name for 08:59
16 the record, please.

17 A. Sure. It's Dr. Steven Grey Stafford.

18 Q. And have you ever been deposed before?

19 A. No.

20 Q. So in that case, there is just a couple of
21 guidelines I wanted to run through fairly quickly off
22 the bat so that we're on the same page.

23 So first is I would ask you to answer
24 verbally to my questions, as you've already been doing.
25 Not just nodding or shaking your head or saying

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 huh-uh.

08:59

2 A. Yes. Might take me a few repetitions.

3 Q. No problem. And also, I'd ask you to provide
4 complete answers and any information you can think of
5 that responds to my question. Do you agree to do that?

6 A. Sure. Yes.

7 Q. And if you don't understand any of my
8 questions, will you please ask me to rephrase it?

9 A. I will.

10 Q. If you need a break at any time, please feel
11 free to say so. But if there is a question pending,
12 just please answer it first before taking the break.
13 okay?

14 A. Yes.

15 Q. And if you remember any additional
16 information during the course of our discussion, even
17 if we've moved on to a different topic, that might be
18 responsive to a question that was already asked, will
19 you please raise it?

09:00

20 A. Yes.

21 Q. And if you think of a document that might
22 help your testimony while we're talking today, will you
23 please mention it?

24 A. Yes.

25 Q. And as I ask questions, Mr. Lister may make

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 objections just to preserve them for the record. But 09:00
2 unless he tells you specifically not to answer a
3 question, you're required to go ahead and answer. Do
4 you understand that?

5 A. Yes.

6 Q. Is there anything such as illness or
7 medication that might prevent you from giving accurate
8 testimony today?

9 A. No. I just have allergies so I may rub my
10 eyes quite a bit.

11 Q. Okay. Anything else besides allergies that I
12 should know about that might prevent --

13 A. No.

14 Q. And I actually have to finish my question
15 first also before you answer. 09:01

16 A. Okay.

17 Q. Did you bring any documents with you today?

18 A. I did.

19 Q. Okay. Tell me what you brought.

20 A. I have a copy of the Animal Welfare Act, Part
21 E, which pertains to marine mammals.

22 I have a statutory regulatory text. These
23 are just definitions of terms. And I have what appears
24 to be a press release from NOAA Fisheries on Lolita,
25 their decision to list her.

1 I have a publication of the proposed rule,
2 originally, which examined whether or not to list her
3 under the ESA.

09:02

4 I have exhibit -- The Defendant's Amended
5 Answers to Plaintiff's First Set of Interrogatories.
6 With that comes several exhibits.

7 Do you need me to list those out by letter,
8 Exhibit A, C?

9 Q. Sure. Just for completeness.

10 A. Exhibit A is a detailed diagram of the whale
11 and dolphin stadium.

12 MR. LISTER: And I think you may be switching
13 over to exhibits to our amended answer as opposed to
14 exhibits to our interrogatory answers.

15 THE WITNESS: Oh, yes, yes.

09:02

16 MR. LISTER: You've got there the diagram
17 that's Exhibit A to defendant's answers to
18 interrogatories. And then you have some exhibits that
19 are exhibits to defendant's answer to the plaintiff's
20 complaint.

21 THE WITNESS: Exhibit C. Exhibit D, a letter
22 from Dr. ckGoldentyer from APHIS.

23 Exhibit E, Dr. Moore of APHIS, inneroffice
24 memo.

25 I have Exhibit F, a declaration by Patricia

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 cksykes.

09:03

2 Exhibit G, prepared by Dr. Laurie ckGates
3 from APHIS, their marine mammal expert.

4 I have the sea aquarium's motion to dismiss.

5 I have a document that has a number,
6 REV0021497.

7 MR. LISTER: And I can help the plaintiffs
8 there. That now has a Bates stamp number. It was a
9 document that was produced and the Bates stamp number
10 is MSQ0010539.

11 BY MS. WILSON:

12 Q. Okay. Could you just briefly describe the
13 document?

14 A. It appears to be a letter from APHIS to a --
15 a generic letter to a concerned citizen.

09:04

16 Q. Okay.

17 A. Listing APHIS's evaluation of Lolita's
18 housing and addressing the concern by some unknown
19 concerned citizen.

20 It has a detailed diagram with some linear
21 dimensions of the pool.

22 It has a chart with calculations of the
23 minimum that APHIS looks at.

24 Q. For space?

25 A. For space, yes.

1 And it compares it to the minimum required 09:05
2 under the act versus values that APHIS came up with.

3 I have Plaintiff's Request for Admonitions
4 document, which includes several of their exhibits,
5 which they describe as A, B and C; diagrams of the pool
6 of varying years.

7 And I have the defendant's answers and
8 objections to the plaintiff's request.

9 I also have the report that I provided to the
10 plaintiff's attorney.

11 Q. Thank you.

12 MR. LIEBMAN: Is there anything there that we
13 don't have, do you know? I can run a photocopy of
14 it.

15 MR. LISTER: I think you've got everything. 09:06
16 The REV document is the same as this MSQ document that
17 I just read to you before. If you want to get a copy
18 as an MSQ so you can match it up, you can take this
19 copy of it.

20 MR. LIEBMAN: Okay. I'll do that.

21 BY MS. WILSON:

22 Q. Who provided you the documents that you
23 brought today?

24 A. Plaintiff's attorney, Mr. Lister and his
25 office.

1 Q. Did you look at anything else when you were 09:06
2 preparing your report that you wrote for Plaintiff?

3 A. I would have to review the report because I
4 have citations, to be -- I don't believe so. But in
5 the interest of completeness, I would like to review
6 that.

7 Q. Sure.

8 A. Did you use any other documents or
9 information?

10 Q. That's correct.

11 A. I used my personal experience having visited
12 Miami Seaquarium back in 2002. And seeing Lolita at
13 that time in a professional visit unrelated to this
14 matter, obviously.

15 I also refer to mathematical calculations, 09:08
16 going back to calculate like the volume of a cylinder.
17 Those type of...

18 Q. Like the formulas?

19 A. Like the formulas, yes.

20 Q. Okay.

21 A. That's all I can think of, to my knowledge.

22 Q. Thank you. I'm going to show you a document.
23 It's called Plaintiff's Amended Notice of Deposition of
24 Grey Stafford. Just take a look at it. Take your time
25 and let me know if it's familiar to you.

1 MR. LISTER: I'll jump in and say that with 09:09
2 the scheduling of the depositions, which was so
3 difficult to arrange because there was so many of them,
4 I actually did not get this amended notice of
5 deposition to him. But instead what we did is I read
6 it and I've worked to make sure that the documents that
7 you asked be provided are with us today. That's how I
8 dealt with it rather than going over it with him. So
9 I'm not sure he's seen it.

10 THE WITNESS: I have not seen it.

11 MR. LISTER: I didn't think so.

12 THE WITNESS: I didn't see it.

13 MS. WILSON: So I guess, then, Dr. Stafford
14 can't authenticate it, but would you object to moving
15 it in? 09:11

16 MR. LISTER: Not at all.

17 BY MS. WILSON:

18 Q. So I'm just looking at this to confirm you
19 did do a diligent search for all -- actually, let me
20 back up a bit.

21 I am going to point you to the second page of
22 Exhibit A where it says "Documents requested from each
23 expert." Part 4.

24 A. Oh, Exhibit A. Part 4?

25 MR. LISTER: He's looking at the definitions

1 and instructions.

09:11

2 BY MS. WILSON:

3 Q. I'm sorry. The second page of Exhibit A.

4 A. "All documents provided to each expert"?

5 Q. "Documents requested from each expert."

6 A. Okay. I'm in the right section now.

7 Q. Number 4, all documents provided each expert
8 by defendant's attorneys and each of the subparts
9 there. Are you aware of any documents or did you look
10 at any documents that might be responsive to each of
11 these subpoints?

12 MR. LISTER: Documents provided by
13 defendant's attorney that reflect any of the following.
14 And there is three categories.

15 BY MS. WILSON:

09:12

16 Q. "Compensation for expert study or testimony.
17 Facts or data that the expert considered in forming the
18 opinion to be expressed. And assumptions that
19 defendant's attorney provided and that the expert
20 relied on in forming opinions to be expressed."

21 A. Well, first one, compensation, for my study
22 or testimony, that has been laid out in my report. So
23 that has been provided. I am asking almost as a
24 question. If I am answering your question. So yes,
25 I've provided the compensation rate.

Verbatim ■

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 Q. Are there any documents, additional documents 09:12
2 that might reflect it? Such as a contract or a
3 retention letter.

4 MR. LISTER: There is a retention letter. If
5 you guys want to see that, I have it. I can bring it
6 up. The basics of his hourly rate is all set forth in
7 his report.

8 MS. WILSON: Sure. Thank you.

9 THE WITNESS: To the best of my ability, the
10 documents that I considered for my report, I have
11 already presented to you. They're here in this
12 binder.

13 BY MS. WILSON:

14 Q. Okay. Thank you. Moving on. Have you ever
15 testified as an expert witness before? 09:13

16 A. No.

17 Q. In addition to reviewing the documents, did
18 you talk to anyone in preparation for your testimony
19 today?

20 A. I talked with Mr. Lister, of course. And he
21 is the only person from his firm that I've spoken to on
22 these matters.

23 Q. Was anyone else present when you talked to
24 Mr. Lister?

25 A. No. Those were via e-mail or telephone

1 calls.

09:14

2 Q. Have you talked to anyone at Miami
3 Seaquarium?

4 A. I have not.

5 Q. You mentioned that you visited the Miami
6 Seaquarium in 2002?

7 A. Yes.

8 Q. I wanted to ask you a few questions about
9 that. Is that the only time you've been?

10 A. I may have gone as a child long before I can
11 remember.

12 Q. So what's your best estimate of how many
13 times you've visited the Miami Seaquarium?

14 A. One.

15 Q. And so I'm correct that the last time was in 09:14
16 2002?

17 A. That's correct.

18 Q. Do you remember the month or around --

19 A. I do not. It was late in the year. It was
20 part of a conference trip to Florida and we were
21 conducting tours of various marine mammal facilities in
22 the Central and Southern Florida area.

23 Q. Could you tell me a little bit more about the
24 conference.

25 A. Sure. The conference was for the

1 International Marine Mammals Trainer's Association. I 09:15
2 believe it was in Orlando.

3 Q. And you said "we were conducting tours."
4 what do you mean by that?

5 A. My coworkers that I was traveling with.

6 Q. Coworkers where?

7 A. At that time I worked for Dolphin Quest.
8 This was not an official visit. It was a professional
9 courtesy visit.

10 Q. That was arranged with Miami Seaquarium?

11 A. Yes.

12 Q. And tell me a little bit more about the tour
13 that you took.

14 A. Well, we visited the park and then we were
15 able to go to the stadium, Lolita's housing. And we 09:15
16 spent time with -- and I don't recall the person that
17 showed us around. But we were there in nonshowtimes.
18 So nonpublic access times to that area, which gave us a
19 close view of her and the pool and her companion at
20 that time.

21 Q. Okay.

22 A. In other words, we were right up next to the
23 pool.

24 Q. And just for clarity in the record, when you
25 say "her," you're referring to Lolita?

1 A. That's correct.

09:16

2 Q. Also Toki?

3 A. Yes.

4 Q. And who was her companion?

5 A. At that time she had a male Pacific
6 white-sided dolphin.

7 Q. Any others?

8 A. No. Not at that time.

9 Q. Do you remember any information about the
10 dolphin? His name or --

11 A. I do not.

12 Q. -- anything like that?

13 A. No. I do not. I just remember they both
14 where beautiful specimens for their species.

15 Q. You said you were right up to next to her
16 pool. Like, looking in or how --

09:16

17 A. Yes. Correct. Like looking in at the --

18 Q. So you're holding your hands about like a
19 foot away from your chest.

20 A. Yeah. Being zoo people, we like to lean over
21 and take a closer look.

22 Q. How long did you spend at the tank?

23 A. We were probably there, I guess an hour.

24 There again, it's been almost 14 years, 13 and a half
25 years.

1 Q. Tell me what you remember about what things 09:17
2 you observed while you were there.

3 A. Well, at that time I had already worked with
4 killer whales at my former facility. So I was familiar
5 with the species. I was familiar with lagalankus
6 (phonetic) as well; Pacific white-sided dolphin. And I
7 was struck by how absolutely beautiful Lolita was in
8 terms of skin tone, her body condition, her teeth;
9 incredibly sharp. And I was even more struck once I
10 learned how old she was. She was probably in her
11 mid-30s by then. And I didn't know that prior to going
12 to visit her. I didn't know her history prior to going
13 to visit her. So I was absolutely floored by how great
14 she looked.

15 I also was taken by the fact that both 09:18
16 animals were calm. They were engaged with these people
17 by the side of the pool, but they were not asked to
18 come to stimulus control which is basically asking
19 animals for their attention. That was not part of our
20 visit. But yet they were still engaged, curious as to
21 what we were doing there and investigating us as much
22 as we were observing them.

23 Q. And how do you assess when an animal is calm?

24 A. Well, it varies by species, of course. Some
25 behaviors are species-specific. But in general, when

1 you're talking about mammals now, not reptiles, you 09:19
2 look at things like respiratory rate.

3 Q. I'm sorry. I don't mean to interrupt you. I
4 realize my question was phrased very broadly. And just
5 in the interest of time, what I was getting at was how
6 did you know that Lolita and her companion were calm
7 when you said that you observed them being calm?

8 A. Oh, they were spy hopping. They were
9 basically presenting themselves vertically in the water
10 so that they could see above the surface of the water,
11 observing us as much as we were observing them. And
12 they were in fairly close proximity to each other.
13 There may have been some tactile contact, gentle
14 tactile between the two animals. All of those indicate
15 to me that these were companions and they were curious 09:19
16 about their environment, curious about these visitors,
17 myself included. There is no agnostic or other types
18 of behavior that would not indicate calm animals.

19 Q. Any other behaviors that you observed while
20 you were there?

21 A. No, because we weren't there as part of any
22 show or performance or husbandry training session. So
23 we didn't see a full display of behaviors other than
24 swimming.

25 Q. I think you mentioned earlier you were at the

1 tank for an hour; is that --

09:20

2 A. Approximately an hour. It was not a -- we
3 were not there to spend days on days. We weren't there
4 to inspect or -- we were there as a courtesy visit to
5 see the facility.

6 Q. Did the staff that was bringing you around,
7 did they give you any other information about Lolita or
8 her care or about the tank itself?

9 A. No. Not that I recall. Obviously I was
10 there in the stadium. I could see the seating and the
11 wall. It's a kind of a coliseum-type design.

12 Q. Okay. Did you take any notes that day?

13 A. No.

14 Q. Are you planning to go to the Miami
15 Seaquarium to observe her again?

09:21

16 A. Very likely. That is part of our plan,
17 especially if we go to trial. I will make my way to
18 Miami and refine any conclusions that I've already
19 arrived at.

20 Q. When you say "our," who are you referring to?

21 A. Mr. Lister.

22 Q. And yourself?

23 A. Yes. Just myself.

24 Q. Okay. So taking a step back. We understand
25 you've been retained as an expert in this case to talk

1 about AWA compliance. Tell me what you perceive as
2 your role in this case.

09:21

3 A. I think that my role, in some ways, is pretty
4 straightforward. In that I am asked to look at the
5 regulations, the requirements under the Animal welfare
6 Act and compare them to the various measurements we
7 have available of Lolita's pool and to either confirm
8 or deny whether or not those pools, that pool meets the
9 minimum required standards as set forth under the
10 Animal Welfare Act.

11 Q. Okay. So I wanted to now get into a little
12 bit of your educational and professional background.
13 So tell me about your education.

14 A. I have a bachelor's degree in physics. I
15 have a doctorate from the Department of Biology of
16 Science at Kent State University. My interest there
17 was primarily mammalian physiology, specifically
18 reproductive and environmental physiology.

09:22

19 At that time, the department had two primary
20 focuses: reproductive physiology and aquatic ecology.
21 I was on the reproductive side of the department. My
22 interests for my dissertation was to examine
23 environmental reproductive parameters of small new
24 world primates. Specifically, the use of energy and
25 the relation of their body size, their small body size

1 to their energy requirement as a species. So this was 09:23
2 largely an environmental physiology-type of project.

3 Q. Do you have any college or graduate school
4 academic research or study that specifically relates to
5 orca?

6 A. I have paid work experience as a animal
7 caregiver, trainer at Sea World.

8 Q. I understand. I do want to get into that.
9 Just for organization sake --

10 A. In terms of specific to orcas? I do not
11 recall any coursework, specifically for marine mammals
12 orcas.

13 Q. Do you have any academic or educational
14 training in regulatory compliance in the Animal Welfare
15 Act? 09:24

16 MR. LISTER: Objection.

17 You can answer.

18 THE WITNESS: I have not taken a course in
19 interpreting the Animal Welfare Act rules. I'm not
20 aware that there is one for zoology professionals.

21 BY MS. WILSON:

22 Q. So you started getting into your professional
23 experience. Can you walk me through, chronologically,
24 your work history in zoological abilities?

25 A. Sure. I was hired in January 1990 at what

1 was then called Sea World of Ohio. That park no longer 09:25
2 exists. At that time, I started at what was the whale
3 and dolphin stadium at that facility. It was rather
4 unique at that time, in that it housed killer whales
5 and dolphins. Originally, it held -- when I first
6 started, it held bottlenosed dolphin. And after a few
7 years those animals were relocated to other facilities
8 for breeding and other animal management. Reasons that
9 I was not privy to. And we moved in a trio of Pacific
10 white-sided dolphin.

11 Q. And how long were you there at Sea World of
12 Ohio?

13 A. I was at Sea World of Ohio from January of
14 '90 until -- well, I was there in several stages. I
15 was there until May of '92. I returned the spring of 09:26
16 '93 and continued there on a half-year basis until '95.

17 Q. Okay. What happened in the gap?

18 A. I taught math and physics in high school.

19 Q. Tell me a little bit more about your
20 responsibilities --

21 A. Oh, I apologize. I also began graduate
22 school.

23 Q. Oh, okay. In that gap?

24 A. Yes. I started graduate school in '94. So
25 part of that gap was graduate school.

1 Q. Okay. Then tell me a little bit about your 09:26
2 responsibilities at Sea World of Ohio.

3 A. Sure. As with most entry-level positions at
4 the beginning, you're there doing husbandry, learning
5 about the species, learning about animal management,
6 animal training, enrichment. And I was promoted on a
7 few occasions at the earliest window of opportunity.
8 At that time, the company had minimum time requirement,
9 in addition to being able to demonstrate some skills
10 and knowledge about your job. So I was promoted on or
11 about the minimum amount of time required, which I
12 think spoke to my progression in terms of skills.

13 And in practical terms, what that meant is I
14 went from being able to observe and assist with
15 training sessions to leading my own sessions with the 09:27
16 whales, with the dolphins, with the sea lions, walrus,
17 and other species. And took on greater responsibility
18 including public demonstrations, educational shows and
19 so on.

20 I also, at that time, was the animal training
21 department's research coordinator. Basically, any data
22 we collected on something like seasonal body weight on
23 male California sea lions and compared to intake.
24 Those sorts of things. So I helped to write poster
25 presentations, formal presentations for professional

1 conferences.

09:28

2 Q. Was this based on animals that you had in
3 house?

4 A. Correct.

5 Q. Just backing up. So what was your title when
6 you started?

7 A. I think at that time it was entry level or
8 apprentice trainer.

9 Q. And then when you were promoted?

10 A. Then associate trainer, then trainer level.

11 Q. Could you elaborate a little bit on how your
12 responsibilities there as a trainer provided you with
13 expertise related to orca housing and care?

14 A. Well, obviously we were responsible for
15 maintaining the health and husbandry of the animals,
16 which includes how they're fed, how they're cared for,
17 the condition of their exhibit. So in preparation for
18 random APHIS inspections, that's the normal part of any
19 keeper or trainer's job, I suppose.

09:29

20 I also recall on more than one occasion
21 measuring diameters of pools and depths of pools. And
22 that information was then handed to a curator to, no
23 doubt, calculate space requirements.

24 Q. What sorts of things did you look at when
25 you're -- you mentioned the condition of the exhibit.

1 A. Oh, you know, things like sanitizing food 09:30
2 buckets, work space areas, handles on gates, handles on
3 refrigerators, handles on scales. Things that --
4 supplies and tools that are used to interact with the
5 animals on a daily basis. Writing behavioral records,
6 making behavioral observations. Cleaning. A lot of
7 cleaning. Those sorts of things.

8 Q. Okay. So what came next in your work
9 history?

10 A. In my work history? Following grad school, I
11 defended in May of '99. And then I took a position a
12 few months later as curator of education at wildlife
13 World Zoo. At that time it was just a zoo. There I
14 managed a collection of media and education animals
15 onsite programs, offsite programs. Worked with the 09:31
16 public quite a bit, worked with the media quite a bit.

17 Accompanied, from time to time, APHIS
18 inspectors during their visits to the zoo.

19 Following a three-year stint as education
20 curator, I took a position as director of animal
21 management at Dolphin Quest of Oahu.

22 Q. Sorry. Let's back up a little bit. So
23 curator of education world wild life --

24 A. Wildlife world. It happens all the time.

25 Q. Wildlife world. Kind of like ADLF. Okay.

1 Tell me what you mean when you said "media, 09:31
2 educational animals."

3 A. We had a population of animals housed in a --
4 together in terms of the total area of the zoo so that
5 they could transport to schools, to community events,
6 to television stations. These were animals kept
7 basically separate from the general population of zoo
8 animals.

9 Q. What kind of animals?

10 A. Mammals, birds, reptiles.

11 Q. Terrestrial animals mostly?

12 A. Yes.

13 Q. What --

14 A. But animals that were trained. Much like we
15 trained the orcas. So there was a continuity in terms 09:32
16 of how the animals were managed using operant
17 conditioning. The same sort of principles that we
18 would use with orcas and dolphins and sea lions.

19 Q. Were they trained to interact with the
20 public?

21 A. To the extent that they were a part of public
22 demonstrations, free-flight demonstrations. In some
23 cases, perhaps even public contact like helping to hold
24 a big snake or -- given the proximity of the public, I
25 would say, yes there was an interaction there. They

1 weren't exhibit animals, for example.

09:33

2 Q. Okay. So this was May '99 to when?

3 A. No. It was August '99 when I started. I
4 defended and graduated in May '99. The curator of
5 education position was roughly August of '99 to August
6 of 2002.

7 Q. Okay. And tell me about your
8 responsibilities or walk me through what would you do
9 when you accompany APHIS on its visits.

10 A. Well, as you know, APHIS makes a minimum of
11 about one visit per year. So these weren't a lot of --
12 necessarily a lot of visits. But I would answer
13 questions. I would accompany the curator, the general
14 curator or the zoo director. And we would walk or
15 drive through the zoo and address whatever questions
16 the inspector might have.

09:34

17 Q. What are the nature of the questions that
18 they usually had?

19 A. It depends on the nature of the visit. If
20 it's just a random inspection, they just come to visit,
21 then it could be anywhere. Sometimes they might come
22 because of a specific public complaint and want to see
23 a specific exhibit or animal or animals. So it varies.
24 It's really up to the inspector's control how that
25 inspection is conducted.

1 Q. Did your job responsibilities at that time 09:34
2 include anything related to compliance, aside from
3 accompanying APHIS?

4 A. Well, certainly, to the extent that the
5 mammals in the education collection were subject to
6 Animal Welfare Act standards, I was responsible for
7 maintaining that husbandry and exhibitory, to meet
8 those minimum standards or exceed them.

9 And occasionally I would be involved in
10 crafting a response. As you know, the inspection
11 process works as follows: The inspectors issue a
12 report. If they find a noncompliant item, you have the
13 opportunity to respond to that. We usually do it in
14 writing. Saying that it's either been addressed or we
15 have questions. 09:35

16 So I was, from time to time, asked to help
17 edit or write the response to an APHIS inspection.

18 Q. Okay. Anything else as far as compliance or
19 bringing the facility into compliance?

20 MR. LISTER: Objections. A little more
21 clear.

22 You can answer.

23 THE WITNESS: Not that I can think of.

24 BY MS. WILSON:

25 Q. How did your responsibilities as curator of

1 education at a world -- wildlife world Zoo or WWZ, if 09:36
2 we can do that.

3 A. There we go. That will work.

4 Q. -- provide you with expertise related to orca
5 housing and care?

6 A. Other than being more familiar with the
7 Animal Welfare Act regulations themselves and the
8 process by which APHIS conducts itself in these,
9 nothing directly to orca.

10 Q. Does WWZ -- did they have any orcas at the
11 time?

12 A. No.

13 Q. Have they ever had any orcas?

14 A. No.

15 Q. Okay. What came next in your job history? 09:37

16 A. In, I believe, September of 2002 I took a
17 position, director of animal management for Dolphin
18 Quest of Oahu.

19 Q. So 2002...

20 A. To 2004. Approximately a two-year stint.

21 Q. Okay. And please tell me about your
22 responsibilities as director of animal management.

23 A. I was responsible for coaching and managing a
24 team of trainers, interns as well as a population of
25 bottlenose dolphin. We had some other species like sea

1 turtles and fish and rays. But primarily the
2 responsibility was over the dolphin. This was an
3 interactive swim facility. So a lot of guest contact,
4 as you might imagine under controlled conditions.

09:37

5 Q. I kind of wanted to drill down a little, you
6 managed a team of trainers?

7 A. Yes.

8 Q. What kind of -- what would that involve on
9 your part?

10 A. Well, it involved everything from scheduling
11 staffing to providing them coaching, training -- on
12 training. Making sure that they were involved in
13 professional organizations and additional learning
14 opportunities. We were involved in a variety of
15 research-related projects. Things like neonatal
16 development, ultrasound use in tracking and monitoring
17 dolphin pregnancies.

09:38

18 Q. So was this the breeding facility as well?

19 A. Well, when I arrived we had pregnant females
20 on loan to us. But when I left, those animals had
21 moved back to their facilities that basically they came
22 from and we had all males. So a mixture of both
23 situations.

24 Q. So did your responsibilities include anything
25 about maintaining the facility or direct animal care?

1 A. Absolutely. All of the above. The care of
2 the animals from food prep, to the condition of their
3 habitat, to how they were maintained and trained and
4 managed, how they were transported in a few cases, all
5 of that responsibility rested with me.

09:39

6 Q. Did your responsibilities include anything
7 related to APHIS visits or AWA compliance there too?

8 A. Absolutely. I would be the responsible party
9 as the animal manager to address any concerns that
10 APHIS might have had.

11 Q. Did they conduct any visits during your time
12 there?

13 A. I believe they did conduct one.

14 Q. When was that?

15 A. I do not recall.

09:40

16 Q. Can you tell me little bit more about the
17 nature of the visit?

18 A. Not really. It's been so long, I can't. It
19 may not have been a formal visit. It may have been a
20 courtesy visit. APHIS can do that where they drop in
21 and say hello, essentially. But not conduct a formal
22 visit or issue a formal inspection.

23 Q. Okay. The courtesy visits, are those the
24 same as the random inspections you mentioned before?

25 A. No. Well, they're often unannounced. So in

1 that sense they might be considered random. But they 09:40
2 aren't necessarily to inspect a facility. It could be
3 here are some changes in how we interpret rules. Here
4 are some additional findings from the service. Here
5 are some new requirements that we might want to see.
6 Any of those things might be a reason for a courtesy
7 visit.

8 Q. But you don't recall if it was actually a
9 courtesy visit?

10 A. I don't. I really don't.

11 Q. So how did your responsibilities at Dolphin
12 Quest provide you with expertise related to orca
13 housing care?

14 Orca's housing and care, we did not house
15 orcas for Dolphin Quest. But of course we retained 09:41
16 related -- biologically related species, bottlenose
17 dolphins. So from that standpoint, that experience
18 reinforced the basic requirements of the Animal Welfare
19 Act with respect to cetacean in general.

20 Q. What came next?

21 A. Let's see. September 2004 I returned to
22 wildlife world zoo, which soon became wildlife world
23 Zoo and Aquarium through a major expansion. In that
24 time frame, I was the director of conservation and
25 communications. So my role changed from my previous

1 role there. Just as the facility itself had changed as 09:42
2 well.

3 Q. Okay. So tell me about your job
4 responsibilities as director of conservation and
5 communication.

6 A. I would evaluate potential recipients for
7 conservation awards. These is small cash awards to
8 conservation-minded organizations such as the Marine
9 Mammal Center in Sausalito. Facilities like that. And
10 we would, then, of course try to promote those efforts.
11 Usually those organizations we supported had some
12 connection to our collection. So for example, we had a
13 lot of hoofed animals from sub-Saharan Africa. So we
14 would very often help support organizations that
15 support those animals in the wild or those species. 09:43

16 I also dealt almost exclusively for the zoo
17 in terms of news media and messaging and providing
18 education materials for onsite information and
19 eventually online. Still kind of the early days of the
20 Internet. I don't think social media had been
21 discovered quite yet in 2004.

22 Q. It was a very different Internet.

23 A. It was, yes, yes.

24 And then in more recent years, over the last
25 five or six years with the installation of our aquarium

1 and the phase rollout of the aquarium and complex, part 09:44
2 of our master plan included adding marine mammals. In
3 this case, California sea lions. And given my marine
4 mammal background, I led that project from design of
5 the facility, including its minimum standard
6 requirements or meeting those; collection, transport.
7 And by "collection," I mean from other facilities. Not
8 from the wild. I guess, a better word would be
9 acquisition of animal from other facilities,
10 transporting them safely. Building a staff, training
11 and coaching a staff, maintaining life support systems,
12 developing public education programs. And coordinating
13 a team of trainers that provide the day-to-day care of
14 the sea lions, including my own participation of that.
15 My own participation in daily care and training of the 09:45
16 animals. It was very much hands on and has been a very
17 much hands on role.

18 In that capacity, I absolutely have dealt
19 with APHIS as well as NOAA Fisheries because of the
20 involvement of marine animals.

21 Q. Please give me a little bit more detail about
22 your dealings with APHIS related to this position right
23 now.

24 A. Sure. Well, prior to building the facility
25 or in early stages of building the facility, I was then

1 meeting with representatives of organizations, major 09:45
2 agencies, USDA., NOAA Fisheries, U.S Fish and Wildlife.
3 But they're not really part of that. They don't
4 oversee California sea lions. And I consulted with
5 them as far as our intention to bring marine mammals to
6 our facility, asking their input on design and other
7 specifications prior to building the facility.
8 Obviously, as we progressed in the construction phase
9 and the acquisition of animals phase, there are certain
10 notifications that are required. You have to notify
11 NOAA Fisheries if you're going to move marine mammals.
12 There is a certain time period that's required prior to
13 moving them, under normal circumstances.

14 We also, during -- at least on one occasion
15 I'm aware of and more like two or three others, we 09:46
16 invited our APHIS inspector to see the job site and to
17 offer feedback, input on the development of our site
18 plan for the sea lions. And I was part of these
19 conversations.

20 Once the animals arrived, of course, they are
21 subject to APHIS inspection. And as you might imagine,
22 APHIS came to see how the sea lions were doing. Many
23 conversations over the course of the last several years
24 we have had on sea lions.

25 Q. Now, are you the point person when APHIS

1 comes to inspect or are you primarily --

09:47

2 A. I am one of them. It sort of depends. As
3 you know, APHIS they have better hours than lawyers.
4 They work Monday through Friday, 9:00 to 5:00. So my
5 hours, I tend to work a lot of weekends. So if I am
6 not there during the week, then obviously the general
7 curator would handle it. And they are generally the
8 point person. But in their absence, I would be the
9 point person. And certainly with respect to questions
10 that may arise with the sea lions at our facility, I am
11 the point person. And I conduct those conversations
12 with the APHIS inspector.

13 Q. Do your responsibilities include the other
14 animals that you keep --

15 A. At the institution?

09:48

16 Q. Yeah.

17 A. Sorry.

18 Q. That's okay.

19 A. Insofar as if I were the only senior manager
20 on site that day in some rare instance that the
21 director was off grounds, the general curator was off
22 grounds and there was an inspector visiting, then yes,
23 I would have the responsibility to escort them, answer
24 their questions along with the veterinarian that was
25 there, daily.

1 Q. So --

09:48

2 A. But in terms of day-to-day management of the
3 animals, that is not part of my current responsibility.

4 Q. But if you were there that day, would you be
5 involved if, say, APHIS does a site visit, looks at the
6 aquarium, also goes around to the other exhibits that
7 you have --

8 A. It's possible I would be involved in that.
9 Again, it depends on whether or not the other senior
10 management is there or not. If they're called away and
11 I'm the -- I don't mean this in the wrong way --
12 ranking person, manager that day, then yeah, I would
13 take responsibility for that and through the duration
14 of their visit.

15 Q. Okay. And how does that work at WWZ? Is
16 there a senior person for each type of exhibit or how
17 does that work?

09:49

18 A. It's a -- I think it's a fairly standard zoo
19 setup where you have a zoo director with several direct
20 reports. More on the operational side of things,
21 nonanimal side. Of course, you have a veterinarian
22 team, vet techs, comm staff. And then you have a
23 general curator or W director. Excuse me. Generally
24 speaking, anything related to APHIS outside of the sea
25 lion facility would be handled by the W director of

1 general curator and the veterinarian.

09:50

2 But if there are any questions or if some day
3 a noncompliant item would come up in our sea lion
4 facility, that would fall to me to address that. We've
5 had sea lions for three years. We have not had a
6 noncompliant item.

7 Q. Who is the general curator deputy director --

8 A. At my zoo is a gentleman named Jack Ewert,
9 E-w-e-r-t.

10 Q. And are you involved in any way in
11 noncompliance or response in any of the other
12 facilities together with Mr. Ewert?

13 A. Yes. I have been called upon to help craft
14 written responses to APHIS inspection reports.

15 Q. Okay. And you mentioned also another
16 responsibility of yours is dealing with media and
17 offsite.

09:51

18 A. Offsite programs.

19 Q. Yes.

20 A. Like educational programs.

21 Q. Is that correct?

22 A. The offsite programs like an educational,
23 like an outreach to a children's school, that was back
24 when I was education curator. I don't really engage in
25 those too often at this point. More so, it would be

1 like a, you know, presentation at a chamber of commerce 09:51
2 meeting. And then of course I worked extensively with
3 print, radio and television news media.

4 Q. Does anyone else do print, radio or
5 television appearances at the zoo?

6 A. Yes. We do so much that -- yes, I do have a
7 few on our training staff that assist me with covering
8 some of them.

9 Q. Are you the person who usually --

10 A. I'm it. And even if they are assisting me,
11 they're taking their direction from me as far as what
12 message we have, so on.

13 Q. Okay. So are we current now on your work
14 history, complete?

15 A. Yes. 09:52

16 Q. Okay. So I have a few questions about the
17 opinions that you included in your report. Would it be
18 helpful to you to have -- or you do have a copy of the
19 report there with you.

20 A. Of my report? Yes. And I have, I believe, I
21 have copies of all the reports I cited in my report.

22 Q. Perfect. Okay. I'm going to show you
23 another copy that I have. I'm going to go ahead and
24 ask you to take a look at this just to make sure my
25 copy is true and accurate and it's the same as yours.

1 MR. LISTER: Counsel, this is the report that 09:53
2 was served by Defendants on Plaintiff on February 8th,
3 right? That's how you got it?

4 MS. WILSON: Yes.

5 MR. LISTER: I just notice that it doesn't
6 have a date on the report. So dated by the cover
7 document that was served on you.

8 MS. WILSON: Right. And I didn't print the
9 cover as well. Trying to save paper.

10 THE WITNESS: Okay.

11 BY MS. WILSON:

12 Q. Okay. Just a housekeeping thing. I don't
13 think we actually moved and marked the first one, the
14 deposition notice. Do you still have that laying
15 around somewhere? 09:54

16 A. This?

17 Q. Yes.

18 (Whereupon, Plaintiff's Exhibit 3001 was
19 marked for identification.)

20 BY MS. WILSON:

21 Q. And the copy I just handed you will be 3002.

22 (Whereupon, Plaintiff's Exhibit 3002 was
23 marked for identification.)

24 BY MS. WILSON:

25 Q. Let's start with space. Please tell me how

1 you came to your expert conclusion in the report that 09:55
2 the pool size for Lolita exceeds the minimum space
3 requirement under the AWA.

4 A. I utilized exhibits that were provided and
5 that have been mentioned previously this morning to
6 calculate, using formulas under the Animal Welfare Act
7 rules, to calculate those values for myself and
8 compared them to the minimum standards that are listed
9 in the act itself -- or under the rules on the act.

10 Q. Okay. And so just to clarify your testimony.
11 The dimensions of the pool that you got were from the
12 exhibits mentioned provided to you by your attorney or
13 by Mr. Lister, correct?

14 A. They were -- yes. All the exhibits were
15 provided through Mr. Lister's office. 09:56

16 Q. And the formula to calculate the minimum
17 horizontal dimension, the minimum pool depth, minimum
18 water volume and minimum surface area, those were all
19 taken from the AWA regulations that are in the code of
20 federal regulations; is that correct?

21 A. Yes.

22 Q. Okay. So I guess -- what other than --
23 explain to me the special expertise that was involved
24 to input these values and to compute the calculations
25 to arrive at the final numbers that you compared

1 against each other.

09:57

2 A. Well, I have, I have been somewhat familiar
3 with the rules under the Animal Welfare Act,
4 specifically as they related to marine mammals, given
5 my role in building and launching the sea lion
6 facility.

7 The space measures for marine mammals are
8 fairly uniform. They just vary by the type of taxon.
9 When we're talking about cetacean or pinniped, it's the
10 same factors APHIS uses. Minimum horizontal dimension,
11 depth, so forth. Those are fairly uniform across
12 taxon. Obviously some species use land and others
13 don't. So there are some adjustments there.

14 So what I did was to look at the exhibits and
15 try to calculate, based on those documents, what those 09:58
16 calculations that the act provides, what was the
17 result. And then compared them to the minimum
18 standards, which are in the act or under the rule under
19 the act.

20 Q. How did you use -- how was your experience
21 with the sea lion exhibit helpful to you in that or
22 relevant for doing the calculations?

23 A. When it comes to sea lions, you have to
24 calculate the same sorts of dimensions. The MHD.
25 Again, these are based upon the species and the taxon,

1 the type of species.

09:58

2 Pinnipeds need pool space, but they also need
3 dry space, land, where cetaceans are not required to
4 have land. And that's not prohibited, but they're not
5 required to have it. So while the input values might
6 change, like the length of the species we're talking.
7 At least the length that the service, APHIS requires or
8 deems an average for that species. Those might change.
9 The calculations are rather similar, whether you're
10 talking about sea lions or orcas or dolphins or other
11 cetaceans.

12 Q. And how did you take into account the island
13 or the obstruction that's inside the tank?

14 A. Well, I was able to estimate the volume of
15 the water displaced by the island, which I would refer
16 to as a "partial obstruction," and subtract it from the
17 volume and surface area calculations for that imaginary
18 cylinder of water, if you will, that APHIS uses, that
19 model, that construct, to kind of visualize how all
20 these dimensions, the MHD, the volume, the pool surface
21 area and the minimum depth requirement form, basically,
22 a cylinder, an imaginary cylinder of water in the pool.

09:59

23 Q. What do you mean by "partial obstruction"?

24 A. Well, the island itself has passageways on
25 either end of it. So it's not an obstruction. It's a

1 partial obstruction. The animals can freely swim
2 normally around it.

10:00

3 Q. How do you know that, in Lolita's case?

4 A. Well, I visited that facility so -- back in
5 2002, but I also believe in the APHIS reports cited in
6 my report, that was a conclusion of the APHIS
7 inspectors, that there are gates, but she can freely
8 swim on either side of it.

9 Q. How often are the gates in Lolita's tank
10 open?

11 A. Again, using the letter from Dr. Goldentyer
12 from APHIS and Dr. Guage from APHIS, and -- I have
13 trouble with her name. Dr. -- begins with a P.

14 MR. LISTER: Petervery (phonetic).

15 THE WITNESS: Thank you. Petervery. They
16 all address the presence of the island and the fact
17 that she can pass around the island on either side.

10:01

18 Q. And these letters, what are the dates of the
19 letters, do you recall?

20 A. I would have to refer --

21 Q. I don't have them in front of me.

22 A. I would have to refer to the exhibits
23 themselves.

24 Q. Do you know if they were based on their own
25 personal visits to the facility?

1 A. I think definitely in the case of Dr. Guage, 10:02
2 that was based on her inspection because she is the
3 APHIS expert on marine mammals, as well as big cats.
4 But marine mammals. She's the go-to person. So she
5 was there and evaluated Lolita in her exhibit.

6 Q. Do you know how long she was there in
7 evaluating Lolita?

8 A. I'd have look at her report. I don't recall
9 off the top of my head.

10 Q. Do you want to take the time to take a look
11 and see if it's there?

12 A. Sure. The only time reference I see in
13 Dr. Guage's report, which is -- was her visit on
14 December 21 of 2004.

15 Q. So it doesn't indicate how long she was there 10:03
16 or anything like that?

17 A. Not that I can see. It does not.

18 Q. Do you have personal knowledge about how
19 often the gates are open or closed in the tank?

20 A. Well, my personal knowledge is based upon the
21 exhibits that have been provided and discussed this
22 morning. So I don't know if that qualifies as personal
23 knowledge. It came from these exhibits that the gate
24 is not closed very often.

25 Q. Anything else that you relied on in sort of

1 basing that assumption in coming to your conclusion? 10:04

2 A. No.

3 Q. Does AWA compliance, when calculating these
4 measures that you did, does it take into consideration
5 whether obstructions are partial or permanent or --
6 I'll stop there. That's the end of my question.

7 MR. LISTER: Objection. The question didn't
8 finish.

9 BY MS. WILSON:

10 Q. Let me rephrase. When you have a partial
11 obstruction like the gates can be opened or closed
12 sometimes, does the AWA compliance take into account
13 how often that obstruction is present?

14 A. It does in the sense as follows: The act
15 absolutely allows for temporarily housing marine 10:05
16 mammals in spaces that do not meet the minimum
17 requirements. Now what is "temporarily"? Anything
18 beyond two weeks requires the oversight and the written
19 authorization and detailed plan by an attending
20 veterinarian. Short of that two weeks, there is a
21 great deal of latitude in the regulations to allow for
22 that temporary housing in areas that do not meet the
23 minimum requirements for things like breeding,
24 temporarily holding them in preparation for transport,
25 and obviously medical training, but also nonmedical

1 training purposes. The key emphasis there is it's
2 temporary.

10:06

3 Q. Okay. Is that your own reading of the
4 regulation or is that derived from any other source?

5 A. That is my reading of the regulation.

6 Q. If it were the case that the gates were often
7 or usually closed, would it change your conclusion that
8 the minimum space requirements are met?

9 MR. LISTER: Objection. Assumes fact not in
10 the record.

11 Witness may answer to the extent he knows.

12 THE WITNESS: That's an interesting question
13 from the standpoint that I have no knowledge of those
14 gates being closed more often than that, and I
15 certainly don't have knowledge of the gates being
16 closed longer than the two-week period, in which
17 additional requirements come into play under the act.

10:06

18 But what is interesting is even with the
19 gates closed, there is -- and if I may refer to the
20 regs themselves.

21 BY MS. WILSON:

22 Q. Okay. Just for the record, if you can give
23 the citation and where you're looking at.

24 A. I will. If for example, you look under
25 Section 3.104 Space Requirements and you look under

1 paragraph B, which pertain to cetaceans, which is what 10:07
2 we're talking about today and below that you look at
3 paragraph 1-I, it defines the MHD, the minimum
4 horizontal dimension.

5 And in most cases, I think yourselves, APHIS,
6 my colleagues and I, we focus on MHD and we visualize a
7 circle. But if you look at the second half of that
8 paragraph, it allows subtracting 20 percent. I think
9 it would help to imagine a globe, north, south, east,
10 west when you look at the top the Lolita's pool. If
11 you look at the second half of that paragraph, it
12 allows you to remove or subtract 20 percent of the
13 required MHD, which in the case of the killer whales,
14 48 feet. That's APHIS's rules, their guidelines, not
15 mine. And you can add it to the linear dimension, 10:08
16 east, west. Again, thinking about our globe, now
17 instead of a circle, it's now more of a kidney bean.
18 You can add that 20 percent length in your
19 determination of whether or not you satisfy the mean
20 horizontal dimension.

21 Well, 20 percent off of 48 feet is
22 approximately 10 feet. So you're down to 38 feet.
23 This north, south dimension, according to regulations
24 for orcas -- now, these are orca values; you can drop
25 that north, south down to by 10 feet. So provided that

1 you can add that 20 percent on a linear dimension
2 that's 90 degrees to the direction that you're
3 subtracting that 20 percent from and still satisfy the
4 APHIS rules for mean horizontal dimension.

10:09

5 So bringing us back, if those gates are
6 closed, you are very close to that kidney-bean shaped
7 size pool. Because, of course Lolita's pool is 80 feet
8 long east, west measure. And most of that is at or
9 below the minimum required -- or greater I should say
10 than the minimum 12-feet depth for orcas.

11 So even if gates are closed, the pool fits
12 the spirit and perhaps, of that definition for mean
13 horizontal dimension.

14 Q. Okay. So with that explanation, your answer
15 to my hypothetical question of whether if you knew that 10:10
16 the gates were closed, you would still say that the
17 space is adequate is a yes?

18 A. Yes. Provided that anything beyond two weeks
19 is explained and documented by an attending
20 veterinarian. I have not done the calculations for the
21 kidney-bean shape that I just described to you. But
22 based on a brief perusal and mental calculation,
23 evoking the second half of that paragraph where you can
24 subtract that 20 percent in one dimension and add it to
25 90 degrees in the linear dimension.

1 MR. LISTER: I'm going to object in that I 10:10
2 think the hypothetical question was about a long-term
3 closure. Something more than the two weeks. That's
4 what I understand the answer to relate to.

5 MS. WILSON: Or often.

6 MR. LISTER: You're asking the question. I
7 just heard the question as a hypothetical, long-term
8 type gate closure.

9 BY MS. WILSON:

10 Q. Are you aware that the Miami Seaquarium
11 records reveal that the gates were often closed
12 overnight or all day?

13 MR. LISTER: Objection to facts not in the
14 record.

15 The witness can answer. 10:11

16 BY MS. WILSON:

17 Q. I'm asking if you're aware of that.

18 A. I'm not aware of that.

19 Q. Are you aware that in 2015, the gates, when
20 you total all the time together, were closed for almost
21 a month out of the year?

22 MR. LISTER: Objection. Assumes facts not in
23 the record.

24 THE WITNESS: I have no data.

25 BY MS. WILSON:

1 Q. So you're not aware?

10:11

2 A. I'm not aware.

3 Q. What's your basis for concluding that the
4 island in the tank provides Lolita and her companion
5 animal opportunities for tactile enrichment?

6 A. Well, it's a -- as has been described in the
7 exhibits that we've talked about this morning, it's
8 described as a freestanding wall, essentially. Which
9 means, as the animals freely move about either end of
10 it from the front pool to what's been deemed the annex
11 on the other side of the island, there is opportunities
12 to rub and to scratch and receive tactile reinforcement
13 from that.

14 Q. Have you ever personally observed Lolita or
15 her companions doing that?

10:12

16 A. I have not observed her and her companion
17 doing it. I've observed other cetaceans, including
18 orcas rub on the gate channel, if you will, the spaces
19 between one part of the pool to the next similar to the
20 space, the free space formed at the end of the island.

21 Q. In other facilities?

22 A. Yes.

23 Q. Okay. Have you ever read any staff reports
24 or observations relating to Lolita about her or her
25 companion using the island or the gate for tactile

1 enrichment?

10:13

2 A. I have not read anything to that effect.

3 Q. I admit that we might have touched on this in
4 your explanation. But I just want to clarify my
5 understanding. You have a conclusion or you have a
6 statement in your report that the obstruction, such as
7 the island don't count against the minimum horizontal
8 dimension requirements. Can you explain that to me a
9 little bit more.

10 MR. LISTER: Objection to the concept of
11 partial versus full obstruction.

12 Go ahead. The witness can answer.

13 THE WITNESS: Well, given that she can pass
14 freely on either end of the island, I would not deem it
15 as an obstruction. I would refer to it as a partial
16 obstruction.

10:13

17 BY MS. WILSON:

18 Q. Okay. So why doesn't it -- explain to me why
19 it doesn't count against the minimum horizontal
20 dimension.

21 A. Because it doesn't -- it doesn't impact or
22 impeded her ability to swim normally and to make
23 postural changes, as defined under the welfare act
24 rules. She can swim around it.

25 Q. Okay. And that's based on your own reading

1 of the regulation or is that derived from some other 10:14
2 source?

3 A. It is based on two sources -- well, two
4 general sources. One are the exhibits that I cited in
5 my report from several APHIS veterinarians and
6 inspectors. But also my reading of the rules as well.

7 Q. How would you define -- what would you
8 include as normal postural and social adjustments with
9 adequate freedom of movement for an orca?

10 A. The ability to move their peduncle up and
11 down freely, be able to turn and verse course, to swim
12 fast or slow.

13 Q. Anything else?

14 A. I don't know. Nothing comes to mind at the
15 moment. 10:15

16 Q. Could you explain what a peduncle is?

17 A. It's the portion of the body, basically from
18 the dorsal fin to where the tail flukes meet the body
19 itself. So that's the peduncle, that region. It's the
20 power source for a cetacean. It's where they get their
21 locomotion from, essentially.

22 Q. You said the ability to move their peduncle,
23 is that correct?

24 A. Yes.

25 Q. And explain how they do that, what that

1 means.

10:16

2 A. Well, cetaceans move their peduncle, their
3 tail flukes up and down when they're swimming. If you
4 see flukes vertical, worry it's a shark. If you don't
5 see the flukes, you're okay. It's a whale. But that
6 normal fluid motion, moving their peduncle up and down
7 would certainly be an indicator that they're able to
8 freely move about their exhibit.

9 Q. Okay. Would freedom of movement for an orca
10 include the opportunity or ability to swim long
11 distances?

12 A. Well, given that she has the ability to swim
13 around the island, I think she has that ability to swim
14 long distances.

15 Q. What about just in a straight line?

10:16

16 A. Well, if you look at the exhibit, the
17 east/west dimension of the pool is 80 feet. So that's
18 kind of a long straight line.

19 Q. So that's as far as she can swim in a
20 straight line before she has to turn around and go
21 back; is that correct?

22 A. Well, she, she -- it's a three-dimensional
23 exhibit. These are very much three-dimensional animals
24 in terms of their movement. So she can move in all
25 sorts of directions three dimensionally, including

1 above the water. And there is no stipulation that I'm 10:17
2 aware of in the welfare act rules that look at straight
3 line motion, I guess.

4 Q. Okay. Would freedom of movement for an orca
5 include diving?

6 A. Sure.

7 Q. How deep?

8 A. Well, are you asking me about wild orcas
9 or --

10 Q. I am asking you what you would consider to be
11 adequate for species in your expert opinion.

12 A. Well, orcas, like other dolphins, they breach
13 frequently compared to, say, much larger baleen-type
14 whales, much bigger bodied whales that can dive for 30
15 minutes to an hour on one breath. 10:18

16 Orcas can certainly dive deeply for five
17 minutes, eight minutes. But nowhere near the depths or
18 the duration of much larger species of whale, baleen
19 whale, not a tooth dolphin or a tooth whale.

20 Q. But would you still consider diving part of
21 their normal range of movement in the wild?

22 A. Sure. But the point I was getting to was
23 that because of their smaller body size, even with
24 their ability to dive, they are, they are tied to the
25 surface much more than, say, a much larger species of

1 whale, blue whale or other type of baleen whale. And 10:19
2 even if they do dive for extended periods of time, like
3 maximum dive, they're going to have to kind of stay
4 near the surface for a while after that to recover.
5 Much like an athlete might recover after a race or
6 something like that. There is a metabolic deficit
7 there that has to be recovered. And the only way to do
8 that is to breathe. And the only way orcas can breathe
9 is at surface.

10 Q. When you say "surface," I guess talk to me
11 about your understanding of this, because some people
12 will imagine a surface just immediately at the top, the
13 very top line of the ocean, the surface of the ocean.
14 But some people also envision surface being sort of
15 like a column not, a like a column. Like a row of 10:19
16 water. Is there a range of depth that you would still
17 consider to be at the surface where the whales are
18 spending their time, in your understanding of, you
19 know, orca?

20 A. I think, as per the nature of my report, I
21 tend to review things like a physicist, conservatively.
22 To me, the surface means at the water surface. At the
23 very top. At the boundary layer between water and air.
24 In my mind, that's how I define it.

25 Q. So normal range of presence in the ocean for

1 orcas would be at the surface of the water?

10:20

2 A. Certainly relative to larger bodied
3 cetaceans.

4 Q. Like the baleen whales that you were talking
5 about earlier?

6 A. Yes.

7 Q. And about how much of their --
8 percentagewise, how much of their time would they be
9 spending there versus diving deep?

10 A. I don't have that data.

11 Q. Would freedom of movement for an orca include
12 breaching?

13 A. Sure.

14 Q. And how deep would an orca have to dive in
15 order to be able to breach her entire body out of the 10:21
16 water?

17 A. Well, orcas are incredibly strong animals.
18 And based on my experience at my facility, not looking
19 at sea aquariums, at my facility, our whales routinely
20 were able to breach well out of the water, their entire
21 body at depths very similar to what you see at sea
22 aquarium.

23 Q. What do you mean when you say your facility?

24 A. When I worked at Sea World of Ohio.

25 Q. How deep was the pool?

1 A. In the back -- we had multiple pools. The 10:21
2 back pool, I believe, at that time, it was 10 to 12
3 feet, and the whales could breach out of that water.
4 The front pool, the largest pool, I think had a depth
5 of 26 feet and they absolutely could dive and breach
6 completely out of the water.

7 Q. Are you aware that in the literature that
8 orcas in the wild will swim in a straight line up to
9 100 miles per day?

10 MR. LISTER: Objection.

11 Witness may answer.

12 THE WITNESS: I've heard that. I suspect
13 that there are a lot of caveats to that. It's a great
14 popular thing to say. But my experience with all types
15 of species is that animals will do what they have to do 10:22
16 to find and forage for food. So if it requires 100
17 miles a day, then they'll do it. But if they only have
18 to swim a half mile today because the fish are here,
19 they're not going to swim away from that. So to me,
20 that is driven more so by the resources available to
21 the animal, prey, as opposed to they must or required
22 to swim that far.

23 BY MS. WILSON:

24 Q. Would normal or adequate freedom of movement
25 for an orca include the ability and opportunity to

1 forage?

10:23

2 A. For a while, orca certainly. For an animal
3 that's provided all its nutrition by human care, it
4 could be -- that foraging can be provided in other
5 ways: through enrichment, through play times, through
6 a variety in regular training sessions, if I understand
7 your question.

8 Q. What, in your opinion, would the AWA require
9 if the minimum space requirements set forth under
10 Section 3.104b, which are the measurements that you
11 discussed, don't satisfy the requirements of space that
12 would require, quote "normal, postural and social
13 adjustments with adequate freedom of movement," which
14 are set forth under Part A? In other words, what do
15 you think the AWA would require if there is a tension
16 between those two?

10:24

17 MR. LISTER: Objection. The questioning
18 attorney is making an interpretation of law and asking
19 a question based on interpretation of law. I think
20 it's a highly improper question.

21 The witness is being asked about a possible
22 change in law, apparently. The witness can answer to
23 the best of his ability.

24 But I think it's a very misleading question.

25 BY MS. WILSON:

1 Q. I'm not asking you about a change in the law. 10:24
2 I'm asking if there is a scenario where the minimum
3 amount of space did not afford an animal adequate
4 freedom of movement, what would the AWA require, in
5 your expert opinion? which is on the AWA compliance.

6 MR. LISTER: Objection. Are you asking about
7 a hypothetical in any situation or are you asking about
8 something at Miami Seaquarium?

9 MS. WILSON: A hypothetical situation
10 involving a marine mammal.

11 THE WITNESS: I think the answer to that is
12 detail, as we've already described today. Because
13 first of all, the factors that the service uses to
14 determine those minimum requirement, minimum space
15 requirement are designed so that any pool that's 10:25
16 built -- let's talk cetaceans -- any pool that's built,
17 will allow the freedom of movement. That is the
18 purpose of having the cylinder of water and so forth
19 construct.

20 But of course, as we've mentioned this
21 morning, there are situations, normal, routine
22 situations, whether it's husbandry training, holding
23 the animal temporarily, getting the animal ready for
24 transport, that are allowed or permit situations where
25 the animal might be in spaces that do not meet the

1 minimum standards, up to that two-week period that we 10:26
2 discussed earlier. And even beyond there, it requires
3 the supervision and documentation of an attending
4 veterinarian. So I don't -- I think the rules were
5 written to precisely avoid tension between normal
6 postural changes and the minimum requirements.

7 BY MS. WILSON:

8 Q. Thank you. Does your opinion that the water
9 volume in Lolita's pool satisfies the minimum
10 requirements under the AWA, account for water drop in
11 the tank or the level of the water reduced?

12 A. I was not asked to consider that. I think it
13 would fall under the heading of routine maintenance.
14 Adjusting water levels to service the pool itself or
15 occasionally for veterinary purposes. You might drop 10:27
16 the water because of getting safer access to the animal
17 itself in a veterinary situation. I'm not aware of
18 those situations. But I could see where dropping of
19 water is done. It's done at other facilities. But
20 there is usually purpose, as far as veterinary need or
21 a maintenance need. Both of which are permitted under
22 the rules.

23 Q. If you were made aware of facts that
24 indicated that the water level was consistently dropped
25 by several feet without explanation or purpose, would

1 that change your conclusion that the water volume is
2 adequate under the AWA?

10:27

3 MR. LISTER: Objection.

4 witness may answer.

5 THE WITNESS: I think it depends on several
6 things. I think certainly it might affect my opinion.
7 It depends on the depth of the water drop. It depends
8 on the duration of the water drop.

9 Again, a water drop might be viewed as a
10 smaller-than-minimum space, which is permitted under
11 the welfare rules for certain purposes, training
12 purposes, veterinary medicine and so on, that we
13 discussed previously.

14 I think the key factor is temporary. And
15 once you are housing an animal for whatever reason
16 permitted under the rules, it has to be temporary and
17 in that two-week time frame. Assuming it's a
18 veterinary issue, then you need additional documenting
19 as to why that's necessary, by the attending
20 veterinarian.

10:28

21 BY MS. WILSON:

22 Q. Is there any duration for frequency of
23 unexplained water dropping that would cause you
24 concern, say, if it was in your own facility?

25 A. In my facility, we drop water to service the

1 pools, to clean the pools; we actually vary the water a 10:29
2 little bit for enrichment purposes because of the shape
3 of our pool. Some of the shallow areas basically
4 create a little slip and slide for the sea lions. So
5 it's not unusual to see varying water depth.

6 Q. Okay. Thank you, Dr. Stafford. I don't
7 think you answered my question so I'm going to ask it
8 again.

9 Is there any duration or frequency of
10 unexplained water dropping in a marine mammal facility
11 that would cause you concern?

12 A. Certainly if there was a significant drop of
13 water that led the animal to be housed in a space that
14 doesn't meet minimum requirements. And if the duration
15 of that exceeded two weeks, without any sort of 10:30
16 documentation by a veterinarian, then yes, that would
17 certainly be a concern.

18 I'm requesting a rest room break.

19 MR. LISTER: That's fine.

20 (Whereupon, a short recess was taken.)

21 MR. LISTER: Counsel had asked some questions
22 about what documents the witness relied on and
23 there may have also been some questions about what
24 documents the witness was given. And so to be careful,
25 we've gone back through e-mail logs and there is some

1 more documents that the witness can describe and we 10:42
2 have copies of.

3 MS. WILSON: Okay. Great. Thank you.

4 THE WITNESS: I think when I answered earlier
5 this morning, I was thinking documents that I used
6 specifically for my report. So I have here -- this is
7 a document that I -- what would this be called? These
8 are vet records for Lolita. I did not review them.
9 I'm not a clinician; I'm not a licensed clinician. I'm
10 not qualified to comment on veterinary issues to the
11 extent that this document writes. So I did not review
12 it in any great detail.

13 MR. LISTER: That was just a document that
14 was sent to him with the vet records.

15 MS. WILSON: Are they ones that were produced 10:43
16 in my previous document production?

17 MR. LISTER: Yes. We will go one by one. Be
18 careful. But yes, that one was produced.

19 THE WITNESS: I have here an e-mail; this was
20 a video, a brief video of Lolita swimming in her pool.
21 As I recall, I had trouble with viewing it in realtime.
22 I think it was more a broadband issue. So I saw like,
23 an image or two of her swimming, making white water.
24 But --

25 MR. LISTER: This one also had a cover e-mail

1 from me, which said that she was swimming laps. So I 10:44
2 guess that counts as sort of a fact supplied by the
3 lawyer to the expert. So we have that covered in the
4 e-mail. You can see it. The video was produced. And
5 it's a video of Lolita swimming laps around the island
6 in her pool.

7 MS. WILSON: Okay.

8 THE WITNESS: I have some sample behavioral
9 records from Lolita from 2015. I may have scanned
10 these and looked at some of the types of information in
11 recorded records, but I did not review them for
12 purposes of my report.

13 BY MS. WILSON:

14 Q. The behavioral records, like when you just
15 glanced at them, were they familiar to you? Are they 10:45
16 similar to the type of behavior records that you have
17 used at other facilities?

18 A. Yes. They have a rating system for each
19 interaction with the animals. They use a five-point
20 scale, I use a three-point scale. They note things
21 that are required like food amounts eaten per day, per
22 session, who the trainers were involved that were
23 caring for her and training her at that point in time.
24 The type of interaction. It was nice to see -- I did
25 notice that the types of interactions that Lolita

1 receives vary. It's not all show. It's not all 10:45
2 training. It's play time. It's veterinary. It's
3 relationship-type sessions. And that's pretty
4 universal in the marine mammal training field. So what
5 I would say is that the records seem very detailed in
6 the amount of information that they condensed in a
7 single record per day.

8 Q. Okay.

9 A. This is the letter from Catherine Meyer that
10 precipitated the response by Dr. Goldentyer of APHIS
11 that I did use. I used Dr. Goldentyer's response. I
12 don't recall reading it. It looks like it did go to my
13 e-mail address. But I don't recall actually reading
14 the original letter to Dr. Goldentyer. She actually
15 restated the concerns expressed in this letter as part 10:46
16 of her response.

17 This is links from Orca Network. Looks like
18 objections to Miami Seaquarium.

19 MR. LISTER: Those are Howard Garrett of Orca
20 Network's response to Miami Seaquarium's
21 interrogatories. What they have in them is links to
22 the seapen plan and the sea plan proposal. So I sent
23 that to the witness. You know, he's not been talking
24 about seapens, but we wanted to be complete.
25 Everything, you know, the facts that were given to the

1 witness. So that's what we're going through now. And 10:47
2 this is one of them.

3 MS. WILSON: Okay. Thank you.

4 THE WITNESS: I did not really consider that
5 as part of my report, the NOAA recording of the press
6 conference on the final rule.

7 MR. LISTER: The press conference recording
8 was produced in Miami Seaquarium's document production.

9 MS. WILSON: Okay.

10 THE WITNESS: And this looks like animal
11 training documents.

12 MR. LISTER: The Animal Training Manual.

13 THE WITNESS: Oh, it's the Animal Training
14 Manual.

15 MS. WILSON: For Miami Seaquarium? 10:48

16 MR. LISTER: Yes. That was also produced.

17 THE WITNESS: I perused it, but I did not use
18 any data from here as far as the space calculations.

19 BY MS. WILSON:

20 Q. What about for any other part of your report?

21 A. To the best of my memory, no. I think that's
22 it.

23 Q. Are those the copies that we can look at?

24 MR. LISTER: Yes. You're welcome to look at
25 this. They have my cover notes to them as well.

1 MS. WILSON: Do you mind if I just take a few 10:48
2 minutes?

3 MR. LISTER: That's fine.

4 MS. WILSON: We can do another three- to
5 five-minute break.

6 MR. LISTER: That's fine. You'll see titles
7 of e-mails like eight of X, seven of X, and what that
8 means, it's just the sequence of e-mails that went to
9 him forwarding the case documents. And I think the
10 ones that aren't in that stack are the ones that you
11 already went over in your questioning at the very
12 beginning of the deposition. Also, I did send him the
13 complaint, the lawsuit.

14 Do you have the answer?

15 THE WITNESS: I do. 10:50

16 MS. WILSON:

17 Q. Did you use it or rely on it in formulating
18 your report?

19 A. Only as far as to understand what the
20 question was, as far as the minimum standards, the
21 minimum required space standards and how that pertained
22 to what I was being asked to look at in terms of
23 exhibits to calculate the minimum space requirement.

24 Q. So based on your looking at the complaint,
25 what did you -- how did you formulate what the

1 questions were that you were being asked to answer in 10:51
2 your request for the report?

3 A. In part, through conversations with
4 Mr. Lister, that was the area of my expertise that they
5 were hoping that I could comment on after evaluating
6 the linear dimensions that were available through those
7 various documents.

8 Q. So you're referring to space?

9 A. Space.

10 Q. Did they ask you about anything else?

11 A. Space, companion animal and shade.

12 Q. Did they ask you about anything else?

13 A. Not at that time. I have, since, looked at
14 some of the behavioral records in greater detail after
15 my report was submitted. But there just hasn't been 10:52
16 enough time to look at some of the things in front of
17 you as well.

18 Q. Dr. Stafford, when you said just now that you
19 have since reviewed some of the animal behavior
20 records, are these the ones that you looked at or
21 different ones?

22 A. May I look at that? Yeah. I think -- well,
23 I looked at them when they were presented to me this
24 morning. I have records from 2015 that I've scanned
25 that are more inclusive than yours were. But those

1 were not provided to me until yesterday.

10:54

2 Q. Okay. And they're from the document
3 production?

4 MR. LISTER: Yeah. After you'all began to
5 focus on those, we figured we ought to provide them.
6 So we provided a few pages just so we could see them
7 early on while he was preparing his report. And then
8 defense began focusing on them, so we provided Dr.
9 Stafford, yesterday, with a whole set of 2015 that we
10 had.

11 BY MS. WILSON:

12 Q. Dr. Stafford, did you look at plaintiff's
13 expert reports?

14 A. I don't believe so. No, no.

15 MS. WILSON: Were they provided to
16 Dr. Stafford?

10:55

17 MR. LISTER: Not yet.

18 MS. WILSON: Not yet. Will they be?

19 MR. LISTER: I think that's certainly the
20 plan. I think the plan served them one week ago.

21 I will just add that the documents you're
22 looking at now, the veterinary records and behavior
23 logs are confidential under the case protective order.
24 Animal Training Manual I think is confidential, as well
25 also.

1 MS. WILSON: Do you mind if we go off the 11:00
2 record for a second? I did want to confer with
3 cocounsel.

4 MR. LISTER: Sure.

5 (Whereupon, a short recess was taken.)

6 BY MS. WILSON:

7 Q. So we just discussed that you have, since you
8 prepared your report, reviewed animal behavior records
9 as well as other documents relating to Lolita and her
10 facility; is that correct?

11 A. I think "reviewed" is probably a strong
12 characterization of that. I apparently received some
13 of these documents, but some of them, in my estimation,
14 didn't immediately pertain to the space and other
15 issues that I was asked to focus on. And in the 11:05
16 interest of time, there just wasn't enough time to
17 review things like plans for a seapen. I certainly can
18 comment as far as animal welfare implications of a
19 seapen, but I'm not a seapen expert.

20 Q. No. I was asking about the animal behavior
21 record.

22 A. Those I briefly perused just to see that
23 they, in fact, keep records which is a requirement.
24 But not in any detail. I did not have the time to draw
25 any conclusions from them as far as how their training

1 might somehow influence or impact the welfare standards 11:06
2 of space.

3 Q. Okay.

4 A. If I may, unless, you have another question,
5 I did want to add a few thoughts on the water drop
6 question that we ended with prior to our break several
7 minutes ago.

8 Q. Okay.

9 A. One important thing that animal managers,
10 behavior managers do particularly in the marine mammal
11 field, which has kind of led the way as far as using
12 operant condition in a zoological setting, is we
13 attempt to anticipate the unpredictable situation so
14 that the animals are better prepared when something
15 unforeseen might occur. That's called desensitization. 11:07
16 It's a very frequently used thing involving any
17 behavioral, husbandry or veterinary otherwise that an
18 animal might learn.

19 For example, before you can have a
20 veterinarian come step up to a pool and draw blood
21 voluntarily, you have to desensitize the animal to the
22 presence of a, quote, unquote "stranger," the
23 veterinarian. And it's similar with any equipment that
24 they might use. The sensation of an alcohol swab on
25 their skin and so on.

1 I can see where dropping water levels in a 11:07
2 pool could be a useful tool in that same
3 desensitization goal in the event that you had an
4 emergency. If you had a medical emergency,
5 particularly where you needed to access an animal
6 quickly and immediately in a way that's safe for staff
7 and the animal as well.

8 One way that that's done in the case of
9 cetacean is dropping the water level. So if dropping
10 the water level is done and paired with positive
11 reinforcement and other forms of enrichment, which as
12 far as I know are used extensively at aquariums, that
13 could be a very useful scenario to practice in the
14 event it's ever needed in more of an emergency
15 unpredictable situation. 11:08

16 Q. Okay. Anything else?

17 A. That is it.

18 Q. What do you mean when you say "operant
19 conditioning"?

20 A. "Operant conditioning" is the use of
21 consequences. Consequences could be toys or a back
22 scratch or a hose or food or any other thing that an
23 animal finds interesting or desirable. And those
24 consequences are provided to shape desirable behavior,
25 useful behavior, cooperative behavior like the

1 aforementioned drawing blood from a cetacean or any 11:09
2 animal. So the process by which that is conducted is
3 called operant conditioning.

4 Q. And the explanation that you just gave, would
5 it be correct to say that that was from your experience
6 as a behaviorist?

7 A. That is absolutely based on my experience as
8 a behaviorist, as an applied behavior animal manager,
9 yes.

10 Q. Okay. And in your experience as a -- in your
11 experience with marine mammal facilities, when you were
12 purposely dropping the water in order to do
13 desensitization, would you reflect that in the records,
14 that the water dropping was on purpose or...

15 A. We -- in my experience with cetaceans, now, 11:10
16 this is dolphins, Pacific whited-sided dolphins and
17 orcas, we did not drop the water to any appreciable
18 amount. Now, it might have fluctuated because of life
19 support requirements, you know; it might vary -- much
20 like a tied; there is going to be some variations from
21 day to day in water level, by a few inches, perhaps,
22 when you're talking about such large volumes of water.

23 Our facility had slide-out areas where we
24 could ask the animal to come forward. Our facility
25 had -- a lot of times you'll see a med pool, which

1 might be kind of a square-looking thing, clearly well 11:11
2 below the minimum standards but designed to have a
3 false bottom that the animal could lift up. So there's
4 two ways to do it. You drop the water or you could
5 lift them up. So it varies by facilities' equipment
6 and capability.

7 Q. Are you aware of any instance where the water
8 was dropped in Lolita's tank in order to desensitize
9 her?

10 A. I'm not aware of that level of detail, no.

11 Q. Okay. Thank you. Unless there is anything
12 else on space, I wanted to move on to shade.

13 A. Okay.

14 Q. Okay. What's -- just generally speaking,
15 what's your understanding of shade that is appropriate 11:11
16 for the species concerned that is required by the AWA
17 regulations? What does that mean?

18 A. To me, what it means is the form of shade
19 that human beings might enjoy is not necessarily a form
20 of shade that other wild species might experience in
21 their normal habitat. In other words, shade can take
22 many forms, I guess is my point.

23 And in my reading of the rules, it does not
24 specify what that shade must be constructed of or
25 consist of. Nor does it preclude the use of

1 combinations of shade. And by "shade," what we are 11:12
2 really talking about is absorbing sunlight or
3 reflecting sunlight or deflecting sunlight.

4 Q. And what --

5 A. Some shades are opaque, some aren't. Some
6 are transparent, right?

7 Q. I suppose. Okay. And that's your reading of
8 the regulations or is that derived from another source?

9 A. That's my interpretation of the regulations
10 and my experience as a physicist studying things like
11 light.

12 Q. What would you characterize as natural or
13 artificial shelter that is appropriate for orca?

14 A. Could you repeat that question?

15 Q. How -- maybe I'll put this as a hypothetical. 11:13
16 If you were designing a facility to house a killer
17 whale, what would you input as natural or artificial
18 shade that you think would be appropriate for that
19 species?

20 A. I would look at the materials by which the
21 pool was constructed. I would look at things like
22 the -- I'm going to use it in a different context, the
23 shading of the pool itself or the color of the pool,
24 whether or not the materials used and the coloration of
25 the pool is reflective or not. Or to what degree it

1 might be reflective.

11:14

2 I also would look at things like water
3 quality. And I think an argument can be made that a
4 certain degree of naturally occurring algae in a pool
5 is a good thing, from a shading standpoint.

6 Obviously, these are cetaceans that we are
7 talking about today. They live in the open ocean.
8 There are no giant oak trees out -- extending branches
9 out over the open ocean to provide them the shade that
10 terrestrial animals might enjoy.

11 And so I don't think anyone has actually
12 examined what sort of differences these species might
13 have living in the open ocean compared to, say,
14 terrestrial animals in terms of their physical
15 abilities to live in open-ocean conditions with access 11:15
16 to sunlight except when they're below the surface.

17 Q. Okay.

18 A. Or at night.

19 Q. Just so I understand your last sentence, you
20 were saying you don't think that there is anyone that
21 has compared, for an orca species, their ability
22 to live -- or -- can you just restate that more
23 specifically?

24 A. I guess what I am saying is I don't know of
25 any research that someone has conducted that looks at

1 what may be unique abilities of orcas and other 11:16
2 cetaceans that again, spend a lot of their time at the
3 surface, in dealing with sunlight.

4 Q. Okay. And comparing --

5 A. Comparing to other species that might utilize
6 access to direct shade like terrestrial animals often
7 do. There are plenty of species, even on land, that
8 have access to shade and there are plenty of species
9 like Arabian horses that have access to almost no shade
10 and live in full sun.

11 Are there unique differences in their
12 physiology that might help them adapt to those
13 conditions? I suspect there are. I'm not sure anyone
14 has ever been able to do that kind of research.

15 Q. Other than trees or shade, because you 11:16
16 started out saying that there are many different kinds
17 of shade, what kind of elements in an open ocean might
18 provide shade or reflect light or absorb light?

19 A. Certainly, if the animal is in a coastal
20 situation, there may be shade cast by the landscape, by
21 the topography of the land, the rocks, so forth.
22 That's certainly possible.

23 Q. Anything else?

24 A. More so in-shore situations. Except for any
25 kind of underwater feature or just below the surface

1 feature, no, I'm not aware of any.

11:17

2 Q. What about like any natural substrate or
3 organic matter that might be in the ocean?

4 A. Certainly that's true. Light comes in
5 different wavelengths, right? And certain forms of
6 those light -- certain wavelengths of light are
7 transmitted further in the water column than other
8 forms. And the higher energy wavelengths of light that
9 you have, the shorter -- the shorter wave length, the
10 higher the energy. Those photons tend to get absorbed
11 rather quickly. They don't go very far in the water,
12 compared to maybe some visible form of light. But
13 certainly, if there are articulates, if there are
14 things in the water, living creatures and so forth that
15 utilize that light or scatter light, that would
16 provide, certainly, a form of shade.

11:18

17 Q. Okay.

18 A. Especially for creatures that, again, spend
19 much of their life at the surface.

20 Q. Sure. What's your source for the factual
21 assertion that orcas spend much of their life at the
22 surface?

23 A. Some of it is based on personal experience
24 working with orcas.

25 Q. In the wild or in captivity?

1 A. In human care, yes.

11:18

2 Q. Okay.

3 A. And some of it is just, you know, incidental
4 reading and study of comparing different cetaceans. As
5 we discussed earlier, large bodied, really large-bodied
6 whales can dive for extended periods of time that
7 really no orca could ever match. So just by their
8 smaller size. As big as an orca is, they're still
9 relatively small, compared to a blue whale. Their
10 physiology, their size, limits their life to being
11 closer to the surface more of the time, relatively
12 speaking, to a large blue whale, for example.

13 Q. And when you say "reading and study," could
14 you just be a little bit more specific about what
15 materials?

11:19

16 A. No, I really can't. I've been doing this for
17 26 years. An article here or a textbook there. It's
18 knowledge accrued through career, I guess.

19 Q. Are there any differences among resident
20 versus transient orca populations in terms of how much
21 time they spend at the surface or their behavior in
22 that way?

23 A. Well, they generally are the same basic size
24 and shape, so their energy requirements are going to be
25 the same, roughly. Therefore, their need for oxygen is

1 going to be roughly the same. I am not aware of any 11:20
2 differences, but that doesn't mean there aren't some
3 differences. Certainly, they make use of different
4 parts of the ocean habitat. Some are more in-shore
5 coastal. Some are offshore. Some tend to be more
6 localized where they spend their time and others hence,
7 the name resident and transient, I guess.

8 Q. Okay. Did you consider these features, such
9 as the color of the pool, the reflectiveness of the
10 materials in the pool, the water quality when you were
11 coming to your conclusion about the appropriate shade
12 in Lolita's tank in preparing your report?

13 A. I did not take into account water quality of
14 the pool. It's certainly something I would look at
15 when I visit the facility prior to trial. 11:21

16 Q. I do want to ask you about the other things.
17 Would you say is it just because you didn't have the
18 information in front of you?

19 A. Yes, yes. I don't have any detailed water
20 quality measures in front of me. And my last visit to
21 the sea aquarium was 2002. So I did not observe the
22 pool clarity, if you will, for the purposes of this
23 report.

24 Q. Okay. What about the other two aspects?

25 A. Could you repeat what they were?

1 Q. Sure. You said the color of the pool and the 11:22
2 materials that were used, whether or not they were
3 reflective.

4 A. I did not consider the reflective nature of
5 the pool. However, I did notice in that one that the
6 pool is a darker blue. That's just knowledge that I've
7 had since 2002 visiting there.

8 I think anecdotally, if you look at marine
9 mammal facilities over the past few years, they have
10 transitioned to darker surfaces, like what you see at
11 sea aquarium. That was not really mentioned in my
12 report. I don't think it really was a part of it.
13 what I used was the documentation from APHIS inspectors
14 and their conclusions based upon the shade provided by
15 the stadium structure, seating and so forth. 11:23

16 Q. So your conclusion relied exclusively on the
17 conclusions made in the APHIS documents?

18 MR. LISTER: Objection. That's inconsistent
19 with the testimony. The question's inconsistent with
20 the testimony.

21 witness may answer.

22 The word "exclusive" is particularly.

23 THE WITNESS: With reference to shade, I
24 cited the -- I wanted to highlight in the rules that
25 the type or amount of shade shelter required is not

1 mentioned under the rules. And also that much of the 11:24
2 UV light is filtered out or scattered within the water
3 column given the fact that the pool is a depth of 20
4 feet, maximum 20 feet. So in that sense, I supported
5 what was written by the APHIS inspectors in those
6 documents that we discussed all morning.

7 BY MS. WILSON:

8 Q. Are you aware of whether or not the APHIS
9 inspectors also looked at that measure that you just
10 mentioned, the depth of the pool?

11 A. Yes. In fact, I think one of the exhibits
12 was, I think, I was specifically looking at Exhibit E,
13 a letter or memorandum from Dr. More to Dr. Guage of
14 APHIS, both of APHIS, in which, I believe, she states,
15 "The majority of the pool is 20 feet deep. More than 11:26
16 adequate to provide protection by submerging." In
17 addition, "There was no evidence of solar damage to the
18 skin or active issues with the eyes." She goes on to
19 say that "All animals in the west stadium are fed from
20 the island side, according to the position of the sun."

21 So the staff -- I took that to mean the staff
22 is aware of where the sun is each day during feeding
23 sessions so that the sun is always to the back of the
24 animal. In other words, they're not asked to look up
25 into the sunlight.

1 Q. If you were aware of sun damage to her skin 11:26
2 and to her eyes, would that change your conclusion that
3 the shade in her tank is adequate?

4 MR. LISTER: Objection.

5 Witness may answer.

6 THE WITNESS: When it comes to a
7 physiological response to something like sunlight, I'm
8 not a veterinarian; I'm not licensed in that area. So
9 I really don't see how I can factor that into my
10 report. Because that's not my training as a
11 veterinarian.

12 BY MS. WILSON:

13 Q. So you don't think that any damage to the
14 skin or eyes would be indicative that there is no
15 adequate shade? 11:27

16 A. Well, animals, including humans, have the
17 ability to adapt to sunlight. We tan. So there are
18 normal physiological responses that allow organisms to
19 adapt to their environment. That's how we maintain
20 homeostasis.

21 I suppose if you exceed those mechanisms,
22 someone more qualified than myself, like a
23 veterinarian, can say this is, quote, unquote, "damage"
24 versus this is a "normal physiological response" to a
25 change in environmental condition. In this case,

1 light.

11:28

2 Q. What is an individual orca's -- on the
3 individual level as opposed to species level, what are
4 the ability of an orca, a southern resident killer
5 whale to adapt to exposure to sunlight?

6 A. I don't know the answer to that question.

7 Q. What's the level of turbidity in Lolita's
8 case?

9 A. I don't know the answer to that question.

10 Q. What's the level of turbidity in the national
11 environment of a southern resident killer whale?

12 A. I don't have specific data. I suspect it
13 varies quite a bit based on the season, the
14 temperature, the currents and so forth. But I'm not an
15 oceanographer.

11:29

16 Q. Okay. Are you aware that Lolita's records
17 indicate that she has blisters, wrinkles and sunburn on
18 her skin?

19 MR. LISTER: Objection.

20 Witness may answer.

21 THE WITNESS: I did not extensively review
22 her veterinary records. So no. I'm not aware of that.
23 Doesn't mean they're not in there. But I didn't note
24 those because I didn't really review them in any
25 detail.

1 BY MS. WILSON:

11:29

2 Q. Are you aware that her records reflect that
3 she suffers from eye issues, long term?

4 MR. LISTER: Objection.

5 Witness may answer.

6 THE WITNESS: I'm not aware of that. And
7 that actually runs contrary to my observation back in
8 2002, as well as several documents provided by APHIS
9 veterinarians, which were cited in my report.

10 BY MS. WILSON:

11 Q. If you had known those facts, would they have
12 impacted your opinion in your report?

13 A. Well, since I can't verify whether those
14 facts are true and since I'm not a veterinarian, I
15 don't know that I would be qualified to comment on that 11:30
16 in my report or otherwise.

17 Q. So your answer is you don't know if it would
18 impact your opinion?

19 A. I guess what I'm saying is I would have to
20 rely on the statements of qualified professionals to
21 evaluate whether or not there is physical damage to an
22 animal and in what way and what is the presumed cause
23 of that. In other words, I'm not a veterinarian so I
24 can't diagnose that animal's condition with any kind of
25 expertise much like yourself. I mean, you're not a

1 veterinarian, as far as I know. So I would have to 11:31
2 rely, as I did, in my report on statements made by
3 qualified licensed veterinarians who also happen to be
4 APHIS inspectors.

5 And in their reports, she suffered from no
6 eye issues and her skin had no issues relative to sun.
7 And that was my layperson, if you will, observations
8 when I saw Lolita for the first time in 2002.

9 Q. Okay. So you base your report on the
10 information as it was known to you, that she had no
11 skin or eye issues whatsoever?

12 MR. LISTER: Objection.

13 Witness may answer.

14 THE WITNESS: Yes. I believe that is the
15 case. 11:32

16 BY MS. WILSON:

17 Q. In humans, you said earlier, you know, we
18 adapt to sunlight; we tan. Burns and wrinkles in
19 humans, are those caused by sun damage or can those be
20 caused by sun damage?

21 A. Yes, they can be.

22 Q. Is there any reason why there would be any
23 difference in an orca?

24 A. Conceivably, yes. They evolved from land
25 animals back to the sea. And I would imagine that

1 given their lives at the surface of the water, that 11:32
2 there very well could be special adaptations in those
3 species and other cetaceans that enable them to survive
4 in that environment. That's what organisms do to adapt
5 to their environment.

6 So for example, I'll give you a different
7 example. There are certain types of hoofed animals
8 that because they live in snow much of the year, they
9 will change the proteins in their cells to adapt to the
10 changing environment. Perhaps something like that.

11 Q. Are you talking about an individual or a
12 species level?

13 A. A species level.

14 Q. So just to kind of wrap up, it would be fair
15 to characterize your conclusion that the shade, 11:33
16 sheltered use of Perma regulations that's provided in
17 Lolita's tank is adequate because orcas are known to
18 spend the majority of their time at or near the surface
19 of the water?

20 A. I concluded that it's adequate because
21 trained veterinarians indicated that her eyes and skin
22 condition appeared fine, that the stadium area provided
23 adequate shade and that the pool depth enabled Lolita
24 to dive to a depth of 20 feet.

25 Q. Thank you. Okay. Let's talk about

1 companionship now. What's your understanding of the 11:34
2 term "biologically related species"?

3 A. I think, you know, at a minimum, animals that
4 are found in the same general family of species.
5 Despite their name killer whale, orcas are dolphins.
6 The largest number of Delphinidae. The family known as
7 dolphins that most people think of. And therefore, any
8 other cetacean that has been classified under
9 Delphinidae, a lot of biologically relevant
10 characteristics.

11 Q. Any other -- you said "at minimum." So is
12 there anything beyond that that you would think is
13 biologically related required?

14 A. Sure. Well, I think that dolphins are
15 related biologically to porpoises, but they're in a 11:35
16 separate family. But there are enough physical and
17 morphological differences to warrant them their own
18 family designation. But still, they are tooth whales.
19 They fall under a larger umbrella, if you will, of
20 tooth cetaceans versus those that use baleen. So the
21 answer to your question, I think, depends a little bit
22 on how close do you want to zoom in that lens.

23 Q. Yes. I guess what I am getting at, how close
24 of a zoom does the AWA regulations require, in your
25 view?

1 A. It's a pretty broad definition. Biologically 11:36
2 related or similar. There aren't a lot of
3 specifications to that. But the fact that you're
4 considering a family of species means there is that
5 inherent similarity across a species in a family.

6 Q. Does biologically related under the AWA
7 require anything deeper than just being in the same
8 family, taxonomically?

9 A. There is no reference to taxon. I am just
10 referring to the specific code. I'll grant you, it's a
11 rather broad definition. It does not specify what
12 those characteristics must be.

13 Q. Okay. You did bring a copy of it. Let's
14 just read the reg into the record so we're all talking
15 about the same thing, if that is agreeable with 11:38
16 Mr. Lister.

17 MR. LISTER: That's fine.

18 BY MS. WILSON:

19 Q. So Section 3.109 says --

20 MR. LISTER: If I could just open that back
21 up before you start to read.

22 MS. WILSON: Let me know when you have it.

23 MR. LISTER: I'm ready.

24 BY MS. WILSON:

25 Q. It says, "Marine mammals, whenever known to

1 be primarily social in the wild, must be housed in 11:38
2 their primary enclosure with at least one compatible
3 animal of the same or biologically related species,
4 except when the attending veterinarian in consultation
5 with the husbandry/training staff determines that such
6 housing is not in the best interest of the marine
7 mammal's health or well-being."

8 So working off that definition or that reg,
9 tell me about your conclusion that Lolita's
10 companionship is adequate and respond to the
11 regulation.

12 A. Well, as you read, first and foremost, the
13 rules do not require it must be the same species that
14 she's housed with as a companion. That is not a
15 requirement. It's a related species. My conclusion on 11:39
16 it is based upon documents provided by APHIS
17 individuals we've mentioned previously, as well as my
18 own experience working with orcas and Pacific
19 white-sided dolphins in the same facility, not Miami
20 Seaquarium. And given that orcas and lags are of the
21 same family of dolphin, they are inherently, to use the
22 term, biologically related species by virtue of being
23 classified in the same family.

24 Q. So under that definition, would it be
25 appropriate under the regulations to house a wolf with

1 a cocker spaniel?

11:40

2 MR. LISTER: Objection.

3 witness may answer if he knows.

4 BY MS. WILSON:

5 Q. They're in the same family, Canidae?

6 A. My answer to that would be how was the wolf
7 raised? How was the cocker spaniel raised? If the
8 cocker spaniel was a feral cocker spaniel raised on the
9 streets of the city, paired with a hand-reared wolf
10 that was bonded to people or to other animals, I might
11 have concerns about the cocker spaniel.

12 Q. So it depends on the individual personality
13 of the animals and how they interact with each other?

14 A. If you're asking me about compatibility, it
15 certainly depends upon the biologically relatedness of 11:41
16 the species, as well as how they are behaviorally
17 managed and trained on exhibit together.

18 It is not unusual in the zoological world to
19 house species that are similar, biologically related,
20 as well as species that are dissimilar, but maybe share
21 the same types of habitat, just different parts of it.
22 This is not an unusual thing in zoos, aquariums.

23 Q. And I should -- I am asking about
24 compatibility. I'll go on and read the reg. I am back
25 at Section 3.109. It says, "However, marine mammals

1 that are not compatible must not be housed in the same 11:42
2 enclosure. Marine mammals must not be housed near
3 others animals that cause them unreasonable stress or
4 discomfort or interfere with their good health."

5 MR. LISTER: I'm going to just object. This
6 is similar to the objection counsel made yesterday in
7 the LDF deposition. Just to preserve the record, our
8 point that the issue of compatibility with dolphins was
9 never raised in the notice of intent to sue, which
10 forms the scope, the maximum scope of this lawsuit.

11 The witness, of course, may answer subject to
12 that objection.

13 THE WITNESS: I would like to request you
14 repeat the question.

15 BY MS. WILSON: 11:42

16 Q. Sure. I was just clarifying. That is a good
17 point. It wasn't a question. I was just clarifying
18 that I am asking about compatibility between Lolita and
19 her companion because that's part of your assessment,
20 that her companionship is adequate or satisfies the
21 minimum requirements under the AWA. So just clarifying
22 what I am asking about.

23 So what's the basis for your statement in
24 your report on page 6 that "The AWA rule does not
25 preclude housing two different species of cetaceans

1 together, nor does it require that animals must be
2 housed with members of their own species"? Is that
3 your own reading of the regulation or is that derived
4 from a different source?

11:43

5 A. That's the reading of the regulation you just
6 read into the record, 3.109.

7 Q. Okay. And your opinion in this report is
8 based, at least in part on your statement that orcas
9 and lags, the Pacific white-sided dolphin have
10 behavioral, biological, environmental, and ecological
11 characteristics in common. So could you just expand on
12 what those characteristics are?

13 A. Sure. Pacific white-sided dolphins and the
14 southern resident killer whale population, since that's
15 what we're discussing here, they both feed on fish.

11:44

16 Q. What's your source for that assertion?

17 A. It was a website search of the American
18 Cetacean Society. They're a fact sheet. That is the
19 most recent. I've known that from my own experience of
20 feeding both types of animals, both species fish. But
21 most recently I did a basic search online and read a
22 few fact sheets about them just to update my memories.

23 Q. Just so I'm not going to continue to
24 interrupt you, my intent is to have you answer that
25 question. And I would want to know the source for each

1 of those things. So if you could just go ahead and 11:45
2 provide that. So I'll repeat the question.

3 A. Please.

4 Q. So I asked you to tell me a little bit more
5 about what you meant when you say that orcas, southern
6 resident killer whales and lags have behavioral,
7 biological, environmental and ecological
8 characteristics in common. I asked you to tell me a
9 little bit more about what each of those
10 characteristics are that they have in common. And I
11 would also ask you to please, to the extent that you
12 recall, indicate what your source is.

13 A. Okay.

14 Q. For each of those.

15 A. Perhaps one of the most obvious is that these 11:46
16 are social beings. They are members of the same
17 scientific family. So that right there tells me that
18 other scientists, through peer review process, not my
19 saying so, but other scientists have deemed these
20 animals to be biologically related. And that is well
21 documented in things like Walkers Mammals of the World,
22 which is a huge textbook -- I probably have it here
23 somewhere -- where it discusses the taxonomy and the
24 rationale for why these species belong in the same
25 family.

1 Their appearance is similar. In the case of 11:46
2 Pacific white-sided dolphins and orcas, specifically
3 the southern resident population, they feed on fish.
4 Some orca species feed on other types of food, sharks
5 birds and so on. They echo locate. They, particularly
6 in the case of lags and killer whales, they share
7 similar coloration. I refer to it as disruptive
8 coloration. Basically, they're dark on their back side
9 and they're lighter on their underside.

10 That is a predatory adaptation. Because what
11 that means is they can slide underneath prey. And if
12 prey were to look down, their dark backside would blend
13 in with the sea bottom or the bottom of the pool, in
14 this case. As opposed to if prey is underneath them,
15 looking upwards towards the sky, their lighter in color 11:47
16 underbelly is going to blend in with the brightness of
17 the surface. So that is -- that sort of coloration
18 enables them to be predators or assist in that, I
19 guess.

20 Obviously, they have teeth. And the shape of
21 their teeth is such that they are more related to one
22 another than, say, a species from, that's a porpoise,
23 which has a different shape type of tooth.

24 Obviously, as mammals, they give live birth;
25 they have hair; they produce milk; they nurse their

1 young; they breathe air. So there are those kind of 11:48
2 broader comparisons that make them biologically
3 related.

4 Q. And the source for all of that?

5 A. I am sorry. Some of that is my own graduate
6 studies in mammalian physiology. Some of that has been
7 through work experience with both species, feeding
8 them, caring for them, observing them, measuring them,
9 watching them interact with each other, individuals
10 from each species.

11 And I think as I convey in my report, in our
12 case, it wasn't that the animals were not compatible,
13 they often were too compatible. So it made it
14 challenging to ask them to separate from one another at
15 different times of the day in the training process. 11:49

16 Because the animals shared so much characteristics
17 together and they were managed together through that
18 operant conditioning to cooperate with one another, to
19 engage in behaviors with one another and to thrive
20 together.

21 Q. And this was at Sea World?

22 A. This was at Sea World, yes, of Ohio.

23 The only thing I would add about that, is Sea
24 World of Ohio -- remember, this was almost 25 years
25 ago, was unique in that its killer whale stadium housed

1 dolphins.

11:50

2 If you go to a killer whale facility now,
3 they only have killer whales there. Our situation in
4 Ohio was different than what you might find at Sea
5 World today with the orca population.

6 Q. Sorry. I was trying to listen and write at
7 the same time. Sea World does not house orcas and
8 dolphins together anymore?

9 A. Not at present. They housed -- they've
10 chosen to house more orcas together and have ongoing
11 breeding programs.

12 Q. Okay. Do you know why they no longer do
13 that, house orcas and dolphins together?

14 A. Well, my -- I don't know, per se. But my
15 sense is that they're a much larger facility. They've 11:51
16 had a conservative effort in orca reproduction. And
17 they have created separate pool facilities for the
18 other dolphin species that they have in their
19 collection, like bottlenose dolphin or Pacific
20 white-sided dolphins.

21 Q. You said that Pacific white-sided dolphins
22 are orca species. Could you tell me a little bit more
23 what you mean by that.

24 A. Well, what I mean is that they are typically
25 found with other cetaceans, often of their own species.

1 But occasionally they can intermix. Dolphins will 11:51
2 intermix. Different types of dolphins will intermix
3 with each other. If not permanently, certainly if the
4 feeding is good. You will see sea lions feeding next
5 to killer whales if the fish is in Monterey Bay. So
6 those, you know, they share the same ocean. So the
7 fact that you will find different species of dolphin
8 foraging or just existing in the same general vicinity,
9 that is not particularly unusual to me.

10 Q. Okay. Would this species of dolphin, Pacific
11 white-sided dolphin and Lolita's species, the killer
12 whale, southern resident killer whale ever intermix in
13 the wild?

14 A. Well, both species prefer cooler 11:52
15 temperatures. Both species are found along the
16 California coastline. Perhaps not when the southern
17 resident population is in-shore for half the year when
18 most of the observations of that population is being
19 conducted. But as they migrate down the coastline of
20 California, if they head that far south or if they head
21 out to sea for months a time when no one knows really
22 what they're doing, absolutely. Those ranges could
23 overlap.

24 And that is also, in the back of my mind, one
25 reason why I believe they are so compatible. Because

1 their water temperatures are similar. Except
2 particularly for the southern resident population,
3 which is in the Arctic or Antarctic temperatures. You
4 swim in this ocean. You know how cold this water is.

11:53

5 Q. I am from Oregon. I've not been out there.

6 Has that ever -- to your knowledge, has that
7 ever been documented in the literature on these species
8 in the wild that they intermix or could potentially?

9 A. Again, it depends on what you mean by
10 "intermix." If it's documented that there are ranges,
11 potential ranges, regions of the Pacific north overlap,
12 yes, that's been documented. I think if you pick up
13 any guidebook on cetaceans, you'll see if they list
14 ranges, you can see those ranges will overlap at least
15 for part of the year.

11:54

16 Q. Okay. To your knowledge, have they ever been
17 documented feeding -- have these species ever been
18 documented feeding or foraging together in the wild?

19 A. That, I don't know.

20 Q. How do the social structures within each of
21 these species, how would they differ or how might they
22 be the same?

23 A. Well, cetaceans, in general, and dolphins, to
24 be sure, are, what I have found in my career, they're
25 very tactile oriented. They don't have fingers like we

1 do. And yet they are very tactile oriented. So they 11:54
2 often will swim alongside one another. And if you're
3 not observant of it, you'll miss it. But they might
4 rub pecks. Or they might, you know, feather touch a
5 peck to a side of their body or dorsal fin to the
6 ventral side of another animal. They are
7 tactile-oriented animals. Orcas and Pacific
8 white-sided dolphin, in general.

9 And I think they share that, both orcas and
10 lags share that. I don't know if it's a desire. If
11 it's something adaptive to that trait. But it's
12 certainly something that I have seen in my career.
13 That these animals are -- very often will, you know,
14 touch one another. And I am sure it has a lot to do
15 with sexual reproductive behavior as well. 11:56

16 Q. Tell me a little bit more about that.

17 A. Well, all animals have one purpose in life,
18 and that is to reproduce, to put their genes forward
19 into future generations. Dolphins are no different
20 from that. And certainly, tactile contact could be
21 construed at times as play behavior as part of their
22 normal repertoire of behaviors. And both lags and
23 orcas share that, in my experience in observing and
24 caring for them.

25 MR. LISTER: Can I take a quick break, just

1 one minute?

11:56

2 MS. WILSON: Absolutely.

3 (Whereupon, a short recess was taken.)

4 BY MS. WILSON:

5 Q. Before we went off the record, we were
6 talking about tactile interactions in the two species
7 that are housed together at Miami Seaquarium. And we
8 talked about tactile interactions can be play; they
9 might be sexual in nature. Are there any other
10 circumstance or aspect of tactile interaction between
11 these species?

12 A. Well, I guess I would just, you know, augment
13 my previous response with the fact that despite the
14 fact they don't have toes and fingers, they are
15 incredibly tactile. Both species are tactile.
16 Dolphins in general are tactile oriented. So it's just
17 another attribute that those species share, which I
18 think goes to their compatibility. And the fact that
19 they're related biologically in that trait, that
20 behavior, if you will.

12:05

21 Q. Do tactile interactions also go to
22 compatibility, aside from just simply relatedness?

23 A. Well, I think so. I mean, I think that there
24 are examples in nature where certain forms of tactile
25 contact help facilitate compatibility and maintain it.

1 Bonobos are highly sexual animals.

12:05

2 The prevailing thought is they breed as
3 opposed to their cousins, the chimpanzees, which fight.
4 And part of the reason they breed so much perhaps
5 speaks to their compatibility as a social breed, in the
6 case of bonobos.

7 MR. LISTER: The witness is testifying a
8 little bit with his hands. Try.

9 THE WITNESS: They're getting cold.

10 BY MS. WILSON:

11 Q. I know there was a long list. Any other sort
12 of characteristic that you can think of between Pacific
13 white-sided dolphins and orcas that make them
14 biologically related?

15 A. I think their natural behaviors are very
16 similar. they jump; they bow; they breach; they swim;
17 they float.

12:06

18 Q. In preparing your assessment about
19 compatibility of Lolita with her companion in her
20 tank, were you provided any information about their
21 interactions?

22 A. As we discussed several minutes ago, there
23 were some documents provided that included some
24 behavioral records, but I did not look at them in that
25 context. And I believe again, my review of that was

1 brief because of the time and the priority for our 12:07
2 other documents to look through. And I also think that
3 the documents only really pertain to Lolita herself,
4 not the other dolphin. So I think to evaluate that,
5 you'd probably want to look at both sets of records.
6 If you are talking about compatibility between two
7 different animals, you'd probably want behavioral
8 records that represent both individuals that you're
9 talking about. So I did not factor those into my
10 report.

11 Q. Okay.

12 A. I think that was your question.

13 Q. Yeah. Well, any other information about
14 their interaction that you relied upon, specifically,
15 when you were making your report? 12:08

16 A. A lot of it really was based upon my visit to
17 sea aquarium back in 2002. And just seeing the comfort
18 level. I mean, it's a striking contrast to see a lag
19 sitting next to a killer whale closer than you and I
20 are sitting right now, five or six feet away. And the
21 calm demeanor of both.

22 And, in fact, the, you know, I think it's
23 very easy when you talk about compatibility; it's very
24 easy for all of us to start becoming a bit too
25 anthropomorphic. And interjecting anthropomorphic

1 ideas that are not necessarily substantiated in 12:08
2 observables. Like restoration rate, proximity, whether
3 or not there is tactile contact between the animals,
4 whether or not they're able to just spend time
5 together, whether under stimulus control of a trainer
6 or just on their own time. And nothing in my
7 experience precludes me or makes me think otherwise
8 that these are not compatible species.

9 Q. When you went to observe Lolita and her
10 companion, did you have any opportunity to observe them
11 at a time where they weren't aware of your presence?

12 A. Not that I recall.

13 Q. What might you look at when considering the
14 ability of the animals to spend time together? I think
15 you just mentioned that when you were talking about 12:10
16 compatibility.

17 A. Well, I might look at things like when they
18 are not aware that they're being observed, the animals
19 that is, what are they doing? Are they spending as
20 far -- as much time as possible away from each other or
21 are they interacting? And how are they interacting?
22 Is it calm? Is it playful? Is it by touch? Is it,
23 you know, play behavior? So those sorts of things can
24 supplement our observations when they are on stimulus
25 control or when their attention is focused on us

1 because we're standing poolside.

12:10

2 And I would just say, I think the training
3 staff at sea aquarium in conjunction with the
4 veterinarian staff are probably in the best position to
5 evaluate that because they spend the most time with
6 those animals, again, under direct stimulus control,
7 but at other times as well.

8 Q. Are you aware that according to Miami
9 Seaquarium's records, Lolita was raked 52 times by the
10 lags in 2015?

11 A. Did you say raped?

12 Q. Raked, r-a-k-e-d.

13 A. Okay.

14 MR. LISTER: Objection.

15 witness may answer.

12:11

16 THE WITNESS: I'm not aware of the count. I
17 am not surprised by the fact that biologically related
18 cetaceans, dolphin in this case, rake one another.
19 Raking is a normal part of dolphin behavior. In that,
20 I include orcas as dolphin. I think that raking is a
21 form of communication; it's a form of play. It's even
22 occasionally a form of sexual behavior. And it's, in
23 addition to using other body parts, use of one's mouth
24 is also involved in tactile stimulation. They don't
25 have fingertips to explore the world, so they use pecks

1 and dorsal fins and mouth and tongue.

12:12

2 BY MS. WILSON:

3 Q. Can it ever be a form of aggression?

4 A. Certainly, absolutely.

5 Q. Okay. I guess, how would you know if it's
6 play or sexual or aggression?

7 A. Well, I think you have to, as with any
8 behavior, you have to put it in the context of what's
9 going on that day. Are there other precursors? Are
10 there other behaviors? Are there other situations that
11 might shed some light in the trainer's mind and the
12 veterinarian's mind that socially today they are more
13 sexual, more playful, higher energy, lower energy? And
14 that's why the records that I have perused so far are
15 helpful in the sense that they happen to be very
16 detailed. The forms that they use at sea aquarium have
17 a lot of data in them in a very confined, very
18 condensed way, that I think summarizes nicely -- the
19 format of it summarizes nicely for animal managers as
20 they look for how the animals are doing by day, by
21 week, by month, by year.

12:13

22 Q. And you only looked at records from 2015; is
23 that correct?

24 A. Yes.

25 Q. That's what you're talking about when you say

1 they're really detailed, 2015 only?

12:13

2 A. Yes. And I assume that they used the same
3 form for a while. I haven't gone beyond 2015. And
4 even my examination of 2015 records is cursory at this
5 point. But if it is something that is important to the
6 plaintiff's, then that is something I can certainly
7 spend more time going forward and examining in greater
8 detail.

9 Q. Would information about the tactile
10 interaction between Lolita and her companion, the
11 raking, r-a-k-i-n-g, whether it was play or sexual or
12 aggression, if you had more information about that,
13 would that change your conclusion as to compatibility?

14 A. I don't believe so. I certainly -- there may
15 be information in the records that point to trends or
16 habits or likes and dislikes of the individuals in
17 question. But I think overall, the compatibility lies
18 with the behavioral biological traits that these two
19 species share as members of the dolphin family.

12:14

20 And also, my sense of sea aquarium's training
21 program, which is that operant conditioning, using
22 positive reinforcement to build cooperative behaviors
23 between human beings and animals and among the animals
24 themselves. To me, that's what marine mammal training
25 has done so well for so long, is that working together.

1 when "together" means one trainer, one animal or one 12:15
2 trainer and three animals, that compatibility, that
3 cooperation, that trust, that's why I became a marine
4 mammal trainer. That's why the work that they have
5 done over the last 25 years has benefited many, many
6 other animals including petting animals, farm animals,
7 other zoological species. We've learned an awful lot
8 in precisely these kind of situations. In not only
9 building on compatibility that is there biologically
10 and ecologically, but also through operant
11 conditioning.

12 Q. Hypothetically, if you had information of
13 repeated aggression against Lolita by one of the
14 dolphins or vice versa, would that change your opinion
15 as to compatibility? 12:16

16 MR. LISTER: Objection.

17 The witness may answer.

18 Assumes facts not in evidence.

19 THE WITNESS: Again, not having reviewed the
20 records in detail, not having observed the animals in
21 detail over an extended period of time, both with their
22 attention and with them not knowing they were being
23 observed, it's difficult to answer that question.

24 I also think that it's important to
25 understand that aggression is not simply a bite.

1 Aggression comes in different forms. An aggression in 12:17
2 nature is actually an adaptive set of behaviors. So I
3 think when we hear the word "aggression," we
4 immediately assume, oh, bad. There is something wrong
5 here. And aggression is a normal part of an animal's
6 repertoire, whether they are a prey animal or a
7 predictor. So I'm not overly concerned by the premise
8 of your question, I guess.

9 BY MS. WILSON:

10 Q. My question was about repeated acts of
11 aggression over time. That wouldn't concern you at
12 all?

13 A. Well, it depends on -- the devil always in
14 the details, right? How many acts of aggression over
15 time? What is the time frame? And what sort of 12:17
16 context is there that we can learn from? That may be
17 it has nothing to do with their compatibility. It has
18 to do with an F16 flew over because there was an air
19 show in town or something random like that. It goes
20 back to a point I made earlier about the importance of
21 desensitization training when we were discussing water
22 level drops. Desensitization training with positive
23 reinforcement is fundamental to housing any animal in a
24 licensed facility, a USDA-licensed facility like the
25 sea aquarium; like my own facility.

1 Because the more we prepare animals to 12:18
2 understand, you didn't need to worry about that, it's
3 okay, the calmer they're going to be, the more prepared
4 they will be when those situations occur down the line
5 sometime. It may be similar or -- to the jet or
6 something like that. That's part of my job, to prepare
7 them for whatever they might experience while living in
8 human care.

9 So I can't answer your question as you framed
10 it, because the root causes of that may have nothing to
11 do with the compatibility of the animal. It may have
12 something to do with other things in the environment
13 both external to the animals and internal.

14 Q. But setting aside compatibility, I guess, for
15 a second, if that was happening, would you still think 12:19
16 it would be appropriate to house the animals together?

17 A. I think you'd have to look at the learning
18 history of the animals prior to putting them together.

19 Q. The learning history?

20 A. Their learning history.

21 Q. What's that?

22 A. Learning history is all living organisms
23 learn. To me, that's a fundamental truth. And through
24 that experience, interacting with their environment,
25 interacting with their companions, interacting with

1 their, in this case, trainers, that leads to knowledge 12:19
2 or behaviors. We don't know what they're thinking; we
3 don't know what they're feeling. But through their
4 behavior, we can infer how they're doing. Are they
5 engaging with us? Are they avoiding us? Are they
6 avoiding each other? So there is a lot to be learned
7 from just observing their behavior that can shed some
8 light on how they're doing. So I lost my train of
9 thought.

10 Q. It's my fault. I interrupted you and I
11 didn't give you the opportunity to finish your answer
12 to my question. So I'd like you to do it now. Maybe
13 the question can be read back if it would be helpful
14 for Dr. Stafford.

15 A. That would be helpful. 12:20

16 (Whereupon, the record was read as follows:

17 *But setting aside compatibility, I guess, for*
18 *a second, if that was happening, would you still think*
19 *it would be appropriate to house the animals together?)*

20 THE WITNESS: Again, my answer would depend
21 upon the level of desensitization. I would look to
22 other sources before I would immediately assume that
23 the animals are not compatible shouldn't be housed
24 together. I would look at other things in the
25 environment, other things in our practices in terms of

1 management that maybe we haven't addressed or we need 12:21
2 to address or modify over time. So I think the answer
3 is a little more detailed than simply saying, well,
4 they're not compatible. They shouldn't be together.
5 Especially since it may have nothing to do with their
6 relatedness as biologically related species.

7 BY MS. WILSON:

8 Q. Generally speaking, in your work and in your
9 experience, how have you -- how would you assess
10 whether in an animal's environment, including companion
11 species, may or may not be causing that animal stress?

12 A. Well, every animal has a baseline set of
13 behaviors. A baseline -- how do they react? Do they
14 come and check you out when you walk by the pool or are
15 they, for some strange reason today, staying away. Is 12:22
16 there something else going on? So as experienced
17 trainers and healthcare providers, in the case
18 veterinarians, you get to know your animals. You get
19 to know their preferences. You get to know how they
20 like to spend their time, both when you're there and
21 when you're not there. And when you detect differences
22 in that norm for them, and that is individually based,
23 not across species, then, you know, that is a clue for
24 us as caregivers and trainers, something might be up.

25 Now, it could be nothing. It could be

1 something, you know, just a random new reaction to 12:23
2 something. Or it may point to, hey, socially there is
3 something going on. Physically there is something
4 going on. It doesn't necessarily have to be a bad
5 thing. It just could mean that there is something
6 different. And as caregivers, we need to pay attention
7 to that. And one reason -- and one way we do that is
8 by keeping good records. So that we can track.

9 That's probably one of reasons why Lolita
10 looks good at 50 years or mid-30s, when I saw her in
11 person, is because of the detailed recordkeeping on the
12 veterinary side and on the trainer's side.

13 Q. What are some indicators of stress in an
14 orca, behavioral or otherwise?

15 A. There are a lot of universal responses. 12:24
16 Again, I'm not going to get into the physiological
17 parameters like blood result. I'm not a clinician. I
18 would be responding more as a layperson at that point.

19 But certainly behaviorally, animals that are
20 avoiding contact with us or with their exhibit, animals
21 that -- you know, there are forms of frustration that
22 you can witness. Orcas are -- orcas have -- have you
23 ever seen an orca up close? I mean, like up close,
24 like right here.

25 Q. I can't say I have.

1 A. They have -- not a lot of people know this 12:24
2 because you have to be up close to see them, but they
3 have lateral lines that run through their skin. It
4 almost looks like -- I am going to date myself, but I
5 think they're still popular. Remember the old vinyl
6 albums?

7 Q. Yes.

8 A. There is grooves in them, right? That's how
9 sound is reproduced. Their skin does that laterally.
10 And you can feel it. It almost feels like little speed
11 bumps lined up right next to each other. It's kind of
12 like you took your skin and crinkled it up. They have
13 that. It's probably to reduce surface area to help
14 them with reducing their restrictions and friction in
15 the water. I'm sure there's a physical fluid dynamics 12:25
16 purpose for it.

17 well, long story short, when that disappears,
18 the animal is probably not in a great frame of mind as
19 far as frustration. By "disappear," what I mean is
20 suddenly it's like the tightest skin you've ever seen
21 on someone coming out of a surgeon's office having just
22 had their face lift. It goes from ridges to -- that is
23 a physical indicator that, you know, we need to see
24 what is going on here. Maybe she's frustrated. Maybe
25 something is going on in the environment that is a

1 change in her internal emotions, thoughts, whatever. 12:26

2 But there are physical changes that you can detect like
3 that.

4 Q. How would you instruct your, when you were
5 dealing with orca and dolphins, how did you instruct
6 your trainers or how were you instructed to note that
7 physical change with the skin grooves in behavior
8 records or other records?

9 A. It's not limited to just that. You know,
10 first of all --

11 Q. Sorry. If you had observed that on an orca,
12 one, would you note that in a behavioral record or
13 other record?

14 A. Perhaps not that specific observation. I
15 mean, that is kind of an experienced person looking at 12:26
16 that animal, you know, posture, demeanor.

17 Q. Okay.

18 A. They don't use profanity. They use other
19 things to indicate their state of mind. But you might
20 see it in other things like they decide to swim off and
21 they don't want to engage. Those sorts of things would
22 be noted in behavior records very often. And
23 reflected, if the system uses a point scale like I
24 think sea aquarium does, you might note that. Again,
25 it depends on how your point scale is set up. If it's

1 you know, she didn't do X number of behaviors or she 12:27
2 swam away four or five times, it might correspond to
3 certain numbers on their scale. One, two, three,
4 whatever. So you would record it that way. Perhaps
5 maybe not a comment, but maybe numerically.

6 Q. What would it mean to you if the records said
7 that an animal seemed tense?

8 A. Again, I think it -- we as trainers, as
9 animal professionals, we have to be careful about using
10 terms that can also be used antimorphically. Like
11 "tense." What does that mean? As a physiologist, when
12 I hear the word "tense," I think of muscle contraction.
13 But I think if you ask most people, maybe even some
14 trainers, you use the word "tense," they're going to
15 immediately go to some emotional state, that may have 12:28
16 no basis and fact or reality.

17 Q. Okay. So any other kind of behavioral
18 indicators in orca that you would look for to assess
19 whether an animal in your care is stressed?

20 A. Again, "stress," is one of those words that I
21 think is overused and subject to antimorphic
22 interpretation.

23 Q. It's in the regulation, isn't it?

24 A. It may very well be, but, you know, there
25 needs to be with it actual measures that are -- whether

1 the behavioral or physiological in the case of like a 12:29
2 blood panel or something like that, then we can talk
3 about what the impact might be on the animal, if that
4 is quote, unquote "stressed." well, you can see it in
5 their blood panel. There is some changes there. Now,
6 whether or not those changes are harmful, a lot of
7 physiological behavioral changes are adaptations for
8 survival. They're beneficial to the animal, in other
9 words.

10 Just because an animal is stressed and
11 behaves a certain way, doesn't make it bad. Again, you
12 have to be careful for making those value judgments and
13 using words that again, lend themselves antimorphic use
14 as opposed to scientific use. So observable things
15 like their posture, the nature of their skin. Is it 12:30
16 taut or is it normal relaxed posture? Is their
17 breathing rate normal? Is their breathing -- how
18 they're breathing normal? By "normal," I mean baseline
19 calm, not it's abnormal. For example, a whale will --
20 you know, a normal breath on a whale is (breathing
21 noise) as opposed to (breathing noise). It's very
22 different behavior that might reflect very different
23 internal thought process or emotions.

24 Q. I don't know how we're going to do that on
25 the record.

1 You just did sort of a big free exhale and 12:30
2 your second example was a restrained --

3 A. More like, imagine if a whale had lips like
4 humans and you pursed your lips, purse your lips in a
5 very controlled, slow, deliberate exhale. That is a
6 very different whale in that instance than a whale just
7 (breathing noise) breathing normal.

8 Q. What would the latter indicate to you?

9 A. Well, it might indicate nothing. They might
10 be whistling. They might be vocalizing. Or in the
11 context of what has preceded it, again, in the session
12 and the interaction as revealed in the records or
13 first-hand experience because you're a trainer, it
14 might indicate that they're frustrated.

15 Q. Okay. Are you familiar with stereotypic 12:31
16 behaviors?

17 A. I am.

18 Q. What is the definition of stereotypic
19 behavior that you use?

20 A. It is a -- again, this is not out of a
21 textbook, but in my experience, stereotypic refers to a
22 repetitive-type of behavior that is not necessarily
23 helpful to the animal. It doesn't necessarily have to
24 be harmful, but it's not necessarily helpful to the
25 animal. It's essentially a very repetitive behavior.

1 Q. Are they indicative of anything as far as 12:32
2 mental or psychological state of the animal?

3 A. It certainly can be. It doesn't have to be.
4 And stereotypic doesn't have to suggest or doesn't
5 always indicate there is a problem.

6 Q. Are stereotypic behaviors in the literature
7 related to stress in an animal?

8 A. Certainly there can be a correlation between
9 an animal's quote, unquote "stress level" and
10 stereotypy. And there are examples where stereotypy is
11 harmful, like excessive licking on a house cat or
12 something. They lick their paw and they continue to do
13 it.

14 And part of the reason that may occur is
15 because there are, they're stimulated to do it. It's 12:33
16 reinforcing. It's pleasurable in a way.
17 Unfortunately, that behavior persists or is repeated so
18 often that it can cause a physiological injury. In
19 that case, of an overgrooming cat or something.

20 Q. What are some stereotypic behaviors that
21 might be observed exhibited by orca?

22 A. I suppose you might have an animal that has a
23 favorite enrichment item, a toy, and it just refuses to
24 give it back. It just, you know, it swims with it in
25 its mouth, on its back and it's not about to relinquish

1 that object. That could certainly, I suppose be a type 12:34
2 of stereotypy.

3 Again, any excessively repetitive behavior
4 might suggest that a stereotypy is developed or that
5 there is something in the environment in the situation
6 that is causing that behavior.

7 Q. Are you aware of anything else other than
8 literature or in your own experience?

9 A. Specific to orcas or just in general?

10 Q. Yes. Orca.

11 A. Not really in a sense of a chronic repetitive
12 behavior, no. None come to mind.

13 Q. What are -- well, let me ask you another
14 question. In your training, both that you have
15 received and have given in facilities that care for 12:35
16 orca and dolphin, that family of animals, do you give
17 any training to observe any particular stereotypic
18 behaviors?

19 A. Do I give training to the staff?

20 Q. Yes. Do you instruct your staff to look out
21 for any?

22 A. That is an interesting question. I instruct
23 my staff to observe everything because I want to know
24 and I want them to want to know any time there is a
25 change in an animal's behavior that is not easily

1 explained. Because if there is a change, there could
2 be something going on.

12:36

3 Now, it could be completely harmless or it
4 could be more serious and require more investigation on
5 our part to know the difference. So I use behavior
6 much like a doctor uses a blood test, to diagnose or at
7 least, begin to diagnose behaviorally what is going on
8 in the animal's learning environment that is helpful or
9 something that is not helpful to the animal or to the
10 situation that we're talking about whether it's a
11 social situation or a single animal on exhibit or
12 whatever. It's a very powerful tool.

13 Q. What behaviors that an orca might exhibit are
14 known to you to be aggression or precursors to
15 aggression?

12:37

16 A. Some of these are specific to animals that
17 swim, I suppose, and some of these are just shared by
18 other high-order animals. There's a general -- before
19 I give a list -- I didn't prepare a list. But again,
20 after 25 years, I have a mental list.

21 If you can kind of imagine a step ladder. At
22 the bottom rung being kind of minor clues and cues from
23 the animal to more overt clues. So it could be things
24 like prolonged eye contact. Or avoiding eye contact.
25 It could be close proximity or avoidance. Sometimes

1 you get into these things where you've got opposing 12:38
2 things could mean same thing is brewing. It could be
3 the way in which the animal responds to a behavior
4 request or a cue, if you will.

5 If they're slow and lethargic when normally
6 they're right on it and they respond fairly quickly
7 within -- again, within normal, for that animal, that
8 individual animal's time frame. If they respond really
9 slowly or they respond really fast, that is a
10 difference from what's usual. All of those things can
11 be used as potential clues of aggression. It doesn't
12 have to be any more serious or energetic or overt than
13 that. It can be, but it doesn't have to be.

14 Q. Anything else you can think of, as you sit
15 here? 12:39

16 A. Dolphins love to jaw pop.

17 Q. What do you mean by that?

18 A. They will take their jaws -- and again,
19 remember, they communicate with their mouths. They
20 communicate by producing sound through their blow hole,
21 blowing bubbles underwater, basically, or above the
22 water. One the things they love to do is jaw pop.
23 They will basically open their mouth and close it
24 really fast. And we've referred to that as a jaw pop.

25 Q. When you said "dolphins," does that include

1 killer whales?

12:39

2 A. Sure.

3 Q. What about head bobbing?

4 A. Yeah. I suppose it could.

5 Q. What does that sort of look like in an
6 animal?

7 A. You told me not to gesture.

8 Q. Can you describe it without, or no?

9 A. It sounds very much like its name. You know,
10 where the animal's forward half, maybe from its
11 pectoral flippers forward.

12 Q. It kind of looks like nodding?

13 A. Yeah. If we were on our bellies in yoga
14 class and somebody started nodding, that might be a
15 head bob in a cetacean.

12:40

16 Q. That's what my upward dog looks like.

17 A. Namaste.

18 Q. Is sexual contact between two different --
19 individuals of two different species appropriate?

20 MR. LISTER: Objection.

21 Witness may answer.

22 THE WITNESS: I'm not sure how to answer that
23 question because it sounds an awful lot like a moral
24 question, not a scientific biologically related
25 question.

1 Cetaceans engage in all sorts of sexual
2 behavior; they will engage in homosexual behavior, they
3 will engage in group sex behavior, they will engage in
4 what appears to be sexual behavior with no purpose
5 other than to engage in the behavior, not to procreate.

12:41

6 BY MS. WILSON:

7 Q. Are they known to engage in sexual behavior
8 interspecies?

9 A. Certainly species that are biologically
10 related, yes, they will perhaps interbreed. Whether or
11 not something comes of that breeding, that is a
12 different story. That can vary.

13 Q. In the wild?

14 A. Sure. Probably does happen.

15 Q. I'm sorry. I'm asking if your statement was
16 based on knowledge --

12:41

17 A. Animals, species -- sorry. I didn't mean to
18 interrupt.

19 Q. I was asking if your response was based on
20 knowledge of animals in the wild or in captivity?

21 A. It's actually based on both. Species
22 hybernize all the time. It depends on the relatedness.
23 Of course, whether or not offspring are produced, but
24 species will engage in the behavior from time to time.

25 You could have different species of dolphin

1 swimming in a syncapod (phonetic) or something and have 12:42
2 sexual contact, absolutely. That is not unique to
3 cetaceans. Look at primates. Primates will do that as
4 well.

5 That's one of the challenges, I have to say.
6 And I'm not a molecular biologist; I'm not expert in
7 taxonomy. But it gets a little dicey trying to
8 delineate between a species and a subspecies and
9 related species when interbreeding can occur, and
10 particularly when offspring result. Particularly, when
11 offspring is also able to then reproduce. So some of
12 it is in the realm of science -- we don't know all the
13 answers. There is no -- there are different ways to
14 delineate what a species is. Some people prefer
15 molecular indicators. Some prefer, you know, the 12:43
16 obvious; can they produce offspring; can they
17 interbreed? There is a fair degree of haziness there
18 when you start getting down to the species and
19 subspecies level of detail, and not in every type of
20 animal, but certainly in enough that suggest to me that
21 we haven't, as a scientific community, figured out
22 exactly what a species is versus a different species.
23 That understanding is still in the realm of science and
24 being investigated. So yes, they can engage in
25 behavior across species.

1 Q. To your knowledge, what are some reasons they 12:44
2 might engage in that behavior when it's
3 nonreproductive?

4 A. It's fun. I'm not trying to be flippant.
5 But assuming we share many of the characteristics of
6 other mammals, there are neurological signals
7 associated with that. Dolphins are very gregarious
8 animals. They can afford to be because they are apex
9 predators, right? So they have a lot of free time.
10 And one of the ways that you maintain that social
11 cohesiveness is through sexual types of behavior,
12 community play, other things. So it's quite normal.
13 It might shock a few people on Sunday at church, but
14 it's quite normal in the animal world.

15 Q. Any other reason? What about -- sorry. 12:44

16 The witness is shrugging.

17 A. None come to mind. I mean, I suppose there
18 could be other reasons.

19 Q. What about dominance?

20 A. You know, dominance is a -- speaking now as
21 behaviors, dominance is a really misused term in the
22 animal training world. And a lot of our understanding
23 of it comes from dog training, which is completely
24 unsubstantiated.

25 Q. May I? I welcome your explanation, but may I

1 ask you to just answer the question first, whether or 12:45
2 not sexual activity may be done for the reasons of
3 maybe a dominance behavior?

4 A. The reason I am having trouble answering your
5 question is because I don't know what your definition
6 of "dominance" is because of how the term is used in
7 society, in conversation. Particularly with domestic
8 animals, dogs. So I don't know how you use the term.

9 Q. Why don't you put forth a definition of
10 dominance first and then use that to answer the
11 question, if you can.

12 A. Well, I measure -- in this case, it might be
13 easier to explain how it is misused, the term is
14 misused than how it is -- should be correctly used. In
15 any social group, you have leaders; you have middle of 12:47
16 the pack and you have followers. But within that norm,
17 there are situations in which the leaders become
18 followers and the followers become leaders. It can be
19 very situational.

20 And so I have seen what I think you and
21 others would characterize as the dominant male. How do
22 we say that? Well, they're successful breeders; they
23 have high testosterone levels; they produce sperm. We
24 can see it on ultrasound. And yet I've seen those same
25 animals behave submissively and allow other males, for

1 example, to breed them. So I think that the whole 12:47
2 notion of dominance is -- I'm not sure how it's
3 relevant to the situation because I don't think the
4 term is understood or used correctly.

5 I look at behavior -- I look at an animal's
6 relationship to another animal or to a human being, a
7 trainer in terms of physical, observable behavior. Not
8 some sort of purported mental state labeled
9 "dominance." That we really don't know other than by
10 judging what their behavior is or is not.

11 What I can say is animals engage in sexual
12 behavior. What those personal relationships are, one
13 is older, more mature; one is younger, less mature, it
14 doesn't necessarily impact the behavior that you see in
15 terms of sexual behavior. One will breed one and at 12:48
16 times, one will breed the other. And their
17 relationship in a society has no real bearing, in my
18 experience.

19 Q. Can sexual contact between an individual of
20 one species and another be related to aggression?

21 A. It certainly can in some species. In my
22 experience, I don't recall experiencing that with
23 cetaceans. And particularly, orcas in my experience.
24 But I did have -- I did not work with a collection that
25 involved males and females.

1 Q. What about Pacific white-sided dolphins? 12:49

2 A. There again, it was a single sex. It was all
3 a female collection. So not in my repertoire of
4 experience.

5 Q. Are you aware that Miami Seaquarium's
6 documents reflect repeated sexual contact between the
7 lags and Toki, or Lolita?

8 A. I am not sure that the records indicate that,
9 but I'm not surprised that biologically related
10 dolphins would engage in sexual contact.

11 Q. If you had known that, how would it have been
12 taken into account in your assessment of compatibility
13 with Lolita's companion species?

14 A. I would point to that as being another
15 indicator of just how compatible they are. 12:50

16 Q. Why?

17 A. Because I think that dolphins, like certain
18 higher-order mammals have the luxury as a species or a
19 set of species to engage in what other species might
20 consider frivolous behavior. Sex with no outcome. Or
21 sexual behavior with no offspring. They have the
22 luxury of that because they sit at the top of the food
23 chain and they're relatively long-lived animals. They
24 can afford to engage in play.

25 MS. WILSON: So the last little bit I have,

1 Mr. Lister, is just a few documents that I wanted to 12:51
2 get into. I am not going to get into them extensively.
3 You're welcome to take another quick break if you like.
4 Maybe that would be good so I can review my notes and
5 make sure there aren't any more questions. And then we
6 can wrap up.

7 MR. LISTER: Okay.

8 (Whereupon, a short recess was taken.)

9 MS. WILSON: I didn't have anymore questions.
10 I just have a few more documents that I wanted to move
11 in. So just for the sake of order, let me do that.

12 MR. LISTER: Sure.

13 BY MS. WILSON:

14 Q. So going back to at the beginning when we
15 talked about your experience and dealing with APHIS and 13:04
16 inspections and stuff like that. Would it be fair to
17 say that you're familiar with the content and
18 appearance of an APHIS inspection report if one was
19 presented to you, you would recognize it as such; is
20 that correct?

21 A. I believe so, yes.

22 Q. Okay. And specifically, ones that have --
23 reports that have been filed for wildlife world zoo,
24 correct?

25 A. Yes. I may not have read them all, but I

1 certainly would recognize my zoo's name.

13:04

2 Q. Okay. I am going to show you a document that
3 is a routine inspection report dated December 14, 2012.
4 It's USDA. It's for wildlife world zoo. Then I have
5 an extra copy.

6 MR. LISTER: Thank you. Appreciate that.

7 BY MS. WILSON:

8 Q. Just take a moment and look at it. I guess,
9 I should clarify. It looks like the date of the
10 inspection was December 14, 2012, but the date of the
11 report at the bottom of the page is January 16, 2013.
12 Just let me know when you're finished reviewing it.

13 A. Okay.

14 Q. Are you familiar with this report?

15 A. I don't recall seeing this representation of
16 it. I do recall some of the findings of the report.

13:07

17 Q. To your knowledge, would this be a fair and
18 accurate copy of the inspection report that would be
19 filed by the USDA?

20 MR. LISTER: Objection to "filed by."

21 BY MS. WILSON:

22 Q. Or produced by the USDA?

23 A. Yes.

24 MS. WILSON: I would like to move it into
25 admission.

1 MR. LISTER: No objection. 13:07

2 (Whereupon, Plaintiff's Exhibit 3003 was
3 marked for identification.)

4 BY MS. WILSON:

5 Q. Now, I'm going to show you another report,
6 another USDA inspection report. This one also says
7 that it's a routine inspection, wildlife world zoo.
8 The date of the inspection is February 28, 2013. And
9 the date of the report at the bottom says March 21st,
10 2013. Please take your time; take a look at it.

11 A. Mm-hmm.

12 Q. Okay. Are you familiar with this report?

13 A. I am familiar with some of the findings in
14 the report.

15 Q. Okay. To your knowledge, is this a fair and 13:10
16 accurate copy of an inspection report produced by the
17 USDA?

18 A. Yes.

19 MS. WILSON: And I'll go ahead and move that
20 in.

21 MR. LISTER: Okay.

22 (Whereupon, Plaintiff's Exhibit 3004 was
23 marked for identification.)

24 BY MS. WILSON:

25 Q. Dr. Stafford, I'm going to read a little bit

1 from the first page, under Handling of Animals.

13:10

2 A. First page of which?

3 Q. Of this inspection report, that is now 3004.
4 And under the heading Handling of Animal, I'm going to
5 skip the paragraph that starts C1, which I think is
6 just the regulation to the findings. And I am just
7 going to read the findings there. So basically the
8 middle of the page. There is a bunch of dashes.

9 A. Yes.

10 "This licensee was exhibiting a
11 three-month-old tiger cub at an offsite venue within a
12 local television studio. During this event, this
13 animal was observed through the studio without any
14 barriers that would prevent it from coming into contact
15 with people, audio/video equipment and the electrical
16 wiring in the studio. This animal was seen biting the
17 clothes of the offstage handler. The lead handler on
18 stage with the program's host was seen to have scratch
19 and bite wounds on his arms. The host of the
20 television show was also seen pulling at the tail of
21 the young tiger. There were not sufficient distances
22 and/or barriers to ensure minimal risk of harm to the
23 animal and the public. This young animal was not
24 confined to a designated area or under direct control
25 by an experienced handler.

13:11

1 "During public exhibition any animal must be 13:12
2 handled so there is minimal risk of harm to the animal
3 and to the public so as to assure the safety of animals
4 and the public."

5 Dr. Stafford, who was the lead handler that's
6 referred to in this inspection report?

7 A. It was not myself.

8 Q. Do you know who it is?

9 A. I do.

10 Q. Who was that, please?

11 A. His name was Josh Jarnagon (phonetic).

12 Q. And is he affiliated with wildlife world zoo?

13 A. He has gone to another position in another
14 facility. So he's no longer employed by our zoo.

15 Q. But he was employed by your zoo at the time? 13:12

16 A. Yes.

17 Q. How long was he employed by your zoo?

18 A. I do not recall. I didn't manage him
19 directly, several years.

20 Do you recall --

21 A. Approximately four. Four or five.

22 Q. Do you recall when he left?

23 A. He left -- I believe he left in 2014. I
24 don't recall the exact dates.

25 Q. Okay.

1 A. It's probably approaching two years.

13:13

2 Q. Okay. Do you recall the circumstances of his
3 departure?

4 A. Yes. He obtained another position at another
5 zoological facility.

6 Q. Where is he now?

7 A. I believe he's at New York Aquarium.

8 Q. Okay.

9 A. He went first to Georgia Aquarium. But in
10 the last several months he's gone to New York Aquarium.

11 Q. Okay. Thank you. This report also refers to
12 an offstage handler. Do you know who that person is?

13 A. I believe it's Justine. At that time her
14 name was Reha, her maiden name, R-e-h-a.

15 Q. Who is Justine?

13:14

16 A. She is a staff member at the zoo.

17 Q. What's her title?

18 A. At this time she was educational keeper at
19 that time.

20 Q. What is her title now?

21 A. Actually, I think she's -- I think her title
22 is marine mammal manager.

23 Q. Does she work within the conservation and --
24 sorry, your department, the conservation education
25 department?

1 A. At the time that this event is described, she 13:15
2 was a member of the education department. She and Josh
3 did not report to me.

4 Q. Okay. So education, is that separate from
5 conservation and communications at wildlife world?

6 A. Conservation communication is a department of
7 one and you're looking at him. The education
8 department is who these two individuals that you
9 referenced, that's the department they were in at that
10 time.

11 Q. Okay. Thank you. I am done with that report
12 now. I am going to show you another report. It's
13 another routine inspection report from USDA. It's
14 dated at the top April 1st, 2013. It looks like the
15 date of the report itself at the bottom is April 3rd, 13:15
16 2013. Are you familiar with this report?

17 A. I am familiar with the incident that it
18 references.

19 Q. Okay. Is this, to your knowledge, a true and
20 accurate copy of the inspection report produced by the
21 USDA?

22 A. Yes.

23 MS. WILSON: Okay. I'm going to move that
24 in.

25 (Whereupon, Plaintiff's Exhibit 3005 was

1 marked for identification.)

13:17

2 BY MS. WILSON:

3 Q. I am going to show you another routine
4 inspection report produced by the USDA of wildlife
5 world Zoo. The date is June 17, 2013.

6 A. Okay.

7 Q. Are you familiar with this report?

8 A. I'm familiar with one of the events in the
9 report.

10 Q. To your knowledge, is this a true and
11 accurate copy of the USDA inspection report --

12 A. Yes.

13 Q. -- produced by the USDA?

14 A. Yes.

15 MS. WILSON: I'm going to move it in.

13:18

16 (Whereupon, Plaintiff's Exhibit 3006 was
17 marked for identification.)

18 BY MS. WILSON:

19 Q. I'm going to show you another USDA inspection
20 report of the wildlife world Zoo dated September 5,
21 2013. I am sorry. This is a prelicense inspection
22 report, number one, the title of the document.

23 Are you familiar with this report?

24 A. I actually am not. I'm not familiar with the
25 findings. I am familiar with the fact that we had a --

1 there is a renewal on the exhibitor's license every 13:20
2 year and if APHIS doesn't get it on time, you have to
3 go through this process to get your license renewed, I
4 guess. So that's what I think warranted this
5 preinspection report. I am aware of that circumstance.
6 I'm not aware of these findings.

7 Q. Okay. Thank you. To your knowledge, is this
8 a true and accurate copy of the prelicense inspection
9 report of wildlife world Zoo produced by the USDA on
10 September 5th, 2013?

11 A. It appears to be, yes.

12 MS. WILSON: Okay. Thank you. I'm going to
13 move it in.

14 (Whereupon, Plaintiff's Exhibit 3007 was
15 marked for identification.) 13:20

16 BY MS. WILSON:

17 Q. I'm going to show you another report. It is
18 a USDA inspection report, routine inspection report of
19 wildlife world Zoo. The routine inspection is dated
20 July 7, 2014. The date of the report is July 14th --
21 well, the prepared date is July 14th, 2014. And the
22 received by date is July 15, 2014. Are you familiar
23 with this report?

24 A. No, I am not. Those animals referenced were
25 not under my responsibility. So I'm not familiar with

1 this report. I would just note that you can see that 13:22
2 our USDA license number had changed from the earlier
3 reports that you provided just now, indicating that
4 your license had been renewed, but under a different
5 license number. And that's evident in this report.

6 Q. To your knowledge, is this a true and
7 accurate copy of the USDA's routine inspection report
8 of wildlife world Zoo dated July 7th, 2014?

9 A. Yes.

10 MS. WILSON: Thank you.

11 I'm going to move it in.

12 (Whereupon, Plaintiff's Exhibit 3008 was
13 marked for identification.)

14 BY MS. WILSON:

15 Q. I'm going to show you a USDA routine 13:22
16 inspection report of wildlife world Zoo. The routine
17 inspection is dated May 4, 2015. The prepared by date
18 is May 8th, 2015. And the received by date is May 12,
19 2015. Are you familiar with this report?

20 A. I am familiar with the findings of the
21 report, yes.

22 Q. To your knowledge, is this a fair and
23 accurate copy of the USDA's inspection routine
24 inspection report of wildlife world Zoo dated May 4,
25 2015?

1 A. Yes.

13:24

2 MS. WILSON: Okay. I am going to move it in.
3 (Whereupon, Plaintiff's Exhibit 3009 was
4 marked for identification.)

5 BY MS. WILSON:

6 Q. And like before, Dr. Stafford, with this one,
7 I am going to read a portion of it and I'll just ask
8 you to clarify, to the extent you can, a couple of
9 terms.

10 A. Which report?

11 Q. Sorry. The last one that was just handed to
12 you.

13 MR. LISTER: What's the date of that one?

14 MS. WILSON: May 4, 2015. This is 3009.

15 Q. Okay. I'm reading from 3009, first page,
16 first paragraph under access and inspection of records
17 and property; submission of itinerary.

13:25

18 "Animal care (AC) was informed of areas at
19 the facility which house animals used for regulated
20 activity, that were unknown to the VMO. These include
21 breeding goats used to stock the petting zoo, which are
22 housed near the facility garbage dump and exhibit
23 mammals housed in the tropics (reptile) building. The
24 facility failed to inform the inspecting VMO on this
25 and previous unannounced routine inspections of these

1 areas. At the conclusion of previous inspections, the 13:26
2 VMO would ask the facility's deputy director if all
3 covered regulated animals had been inspected. The
4 director's response was always yes. During this and
5 previous inspections, the VMO inquired about the area
6 housing, the goat enclosure and the reptile building
7 and was told by the facility director that the areas
8 only contained the garbage dump, birds and/or reptiles.
9 These areas were not disclosed of containing regulated
10 animals until the VMO asked to see the areas. During
11 today's inspection of these areas, several
12 noncompliances were identified."

13 So my only question is whether you know who
14 the facility's deputy director is that's referenced in
15 this? 13:26

16 A. I do.

17 Q. And who is that?

18 A. His name is Jack Ewert.

19 Q. And that's the same Mr. Ewert that we
20 discussed?

21 A. Yes.

22 Q. And do you know what VMO stands for in these
23 reports?

24 A. Veterinary medical officer. That was my
25 guess, but I wanted to see it in writing.

1 MS WILSON: Okay. I'm done. Thank you. 13:27

2 EXAMINATION

3 BY MR. LISTER:

4 Q. Just some very brief redirect. If you could
5 turn, Dr. Stafford, to the REV diagram of the pool that
6 you referenced in the earlier part of your testimony
7 today.

8 Counsel, this document is the MSK0010540
9 document. That's the Bates stamp of the diagram in our
10 document production. And I am just going to put a copy
11 here at the center so that we're all able to see it.

12 Dr. Stafford, when you calculated the volume
13 of the pool in your report, did you take into account
14 this perfect circle that goes -- that is inscribed
15 within the oblong of the pool? 13:28

16 A. Yes.

17 Q. And does that perfect circle which appears on
18 the diagram, is it actually a physical structure in the
19 pool?

20 A. It is not.

21 Q. Is it simply an artificial construct of APHIS
22 that sets the boundaries of the cylinder of water that
23 is used in calculating the pool volume?

24 A. Yes. It is a concept to help with the
25 calculations for minimum space requirements.

1 Q. So in your report, did you calculate volume 13:29
2 two ways: One, actual volume including water outside
3 the cylinder, the imaginary cylinder and also volume of
4 water within the cylinder?

5 A. Yes, I did.

6 Q. Okay. Is that because the APHIS regulations
7 look to measurement of volume of water within a
8 cylinder?

9 A. Yes. They use a cylindrical model to
10 visualize, conceptualize the minimum space requirement
11 using the four categories.

12 Q. And so when APHIS measures water, they
13 exclude water outside the cylinder?

14 A. That's correct.

15 Q. In terms of calculating the volume of water 13:30
16 within the cylinder, did you make some simplifying
17 assumptions?

18 A. Yes, I did.

19 Q. And did you mention in your report that if
20 you were to dig a little deeper and do away with some
21 of the simplifying assumptions that you thought the
22 calculated volume might increase?

23 A. Yes, it would.

24 Q. Now, even with those simplifying assumptions,
25 was the calculated volume in compliance with the APHIS

1 standards?

13:30

2 A. It was not only in compliance, it exceeded
3 APHIS standards.

4 Q. So if you were to relax the simplifying
5 assumptions, would that mean that the calculated volume
6 is even -- is in compliance by even a greater margin?

7 MS. WILSON: Objection. Leading.

8 MR. LISTER: I understand.

9 Q. Was one of the simplifying assumptions that
10 the slope-down area of the pool was 10-foot wide?

11 A. Yes.

12 Q. Now, looking at the diagrams, the MSK0010540,
13 is the slope-down area of the pool, in fact, 10-foot
14 wide at the very front of the pool?

15 A. Yes.

13:31

16 Q. But does that 10-foot margin -- skip it.

17 At the very front of the pool, is there a
18 10-foot slope-down area within the imaginary circle
19 defined by the MHD and the lowest area, 20-foot deep
20 area of the pool?

21 A. Yes.

22 MS. WILSON: Sorry. Can you just point out
23 where the front of the -- just tell me where you're
24 talking about.

25 THE WITNESS: This is the front of the pool.

1 MS. WILSON: So the witness is pointing to 13:32
2 the rounded side of the bottom of the diagram.

3 THE WITNESS: It's the 6:00 position if
4 you're looking at it.

5 BY MR. LISTER:

6 Q. So does the portion of the slope-down area
7 within the 60-foot diameter cylinder shrink from
8 10-foot wide at the 6:00 position to smaller values as
9 you move leftward from the very front of the pool?

10 A. Yes.

11 Q. Does it also shrink as you move rightward?

12 A. Yes.

13 Q. So does that mean that the area within the
14 cylinder that is at the full 20-foot depth -- I'll
15 start that question again. 13:33

16 Does that mean that the subtraction from pool
17 volume to account for the slope-down towards the
18 deepest depth should be less as you move away from the
19 6:00 position and begin to rotate around the pool?

20 MS. WILSON: Objection. Leading.

21 THE WITNESS: Yes. My estimate overestimates
22 the contribution of the slope in subtracting water
23 volume from that cylinder. In other words, the slope
24 is less of a factor as you move away from that 6:00
25 position, in decreasing the water volume, the actual

1 water volume in the cylinder.

13:33

2 BY MR. LISTER:

3 Q. And does the influence of the slope begin to
4 build back up again as you reach the island as you move
5 further around the circle?

6 A. Yes.

7 Q. If you were to take into account the
8 information that the slope-down area within the 60-foot
9 diameter circle shrinks from ten feet to lower values
10 as you rotate around the pool, what would be the effect
11 on your volume calculation?

12 A. It would increase the actual volume of water
13 in the area of the circle that is used by APHIS to
14 determine whether or not the pool meets minimum
15 standards.

13:34

16 Q. And have you done that mathematical
17 calculation to account for the varying impact of the
18 slope within the circle as you rotate around the slope?

19 A. I have not done that calculation.

20 Q. Is that a calculation you may work on as we
21 get ready for trial?

22 A. We certainly can work on it.

23 MR. LISTER: That's all I have.

24 MS. WILSON: All right.

25 MR. LISTER: The purpose of this is to give

1 you guys some disclosure as to some of the refinements 13:34
2 to the math that might be done on the way to trial, to
3 show you a diagram and how it's done. Not easy to ask
4 questions and I understand the leading objections.
5 It's difficult to frame those questions.
6 That's all.

7 We will offer that the witness will review
8 and correct by March 7th or else the transcript can
9 simply be used by any party without corrections, which
10 is how we stipulated on the other things. And I
11 understand that was your stipulation yesterday.

12 MR. LIEBMAN: So stipulated.

13 (Whereupon, the deposition concluded at 1:35
14 p.m.)

15 - - - -
16
17
18
19
20
21
22
23
24
25

CERTIFICATE OF WITNESS

- - - -

I, S. GREY STAFFORD, Ph.D., hereby declare under penalty of perjury that I have read the foregoing deposition testimony; and that the same is a true and correct transcription of my said testimony except as I have corrected pursuant to my rights under Section 2025.520(a)(f) of the California Code of Civil Procedure.

Signature

Date

Verbatim 

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

1 STATE OF CALIFORNIA)
2) ss.
3 County of Sonoma)
4

5 I, Emily Husary, holding CSR License No. 12148, a
6 Certified Shorthand Reporter, licensed by the State of
7 California, hereby certify that, pursuant to Notice to
8 taking the foregoing deposition, said witness was by me
9 duly sworn to tell the truth, the whole truth and
10 nothing but the truth in the within-entitled cause;
11 that said deposition taken at the time and place stated
12 herein; that the testimony of the said witness was
13 recorded by me by stenotype, and that said deposition
14 was under my direction thereafter reduced to computer
15 transcript and, when completed, was available to said
16 witness for signature under penalty of perjury.

17 I further certify that I am not of counsel or
18 attorney for either of the parties to said deposition,
19 nor in any way interested in the outcome of the cause
20 named in the caption.

21 IN WITNESS WHEREOF, I have hereunto set my hand
22 this 22nd. day of February, 2016.

23 
24 _____
25 Emily Husary
Certified Shorthand Reporter
California License No. 12148

Verbatim ■

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

DEPOSITION CORRECTION FORM

INSTRUCTIONS FOR CORRECTING TRANSCRIPT

Please make your corrections, if any, on this sheet. Do not change any of the questions and do not make any marks on the deposition transcript itself. If necessary, you may use more than one sheet of paper.

Page/Line

Change/Add/Delete

[illegible]

Source: National Bureau of Economic Research. "Business Cycle Dates." <http://www.nber.org/cycles/>. Accessed April 10, 2017.

[illegible]

=====

[illegible]

=====

=====

=====

Date: _____

Signature

Verbatim

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541

February 22, 2016

S. GREY STAFFORD, Ph.D.
c/o JAMES H. LISTER, ESQ.
1156 Fifteenth Street, NW
Washington, D.C. 20005

Re: PETA vs. MIAMI SEAQUARIUM
DISTRICT COURT - MIAMI DIVISION
15-cv-22692-Ungaro/Otazo-Reyes

Dear Dr. Stafford,

The original transcript of your deposition taken on Sunday, February 14, 2016, in the above-referenced case will be e-mailed to you, as requested by Mr. Lister, for your inspection and signing.

Pursuant to Code of Civil Procedure 2025.520(a)(f), if you do not read and sign your deposition by March 7, 2016, as stipulated to by Counsel, it can used as if you had done so.

Sincerely,

Karen L. Curzon
Office Manager

Copy: All Counsel

Verbatim ■

A COMPUTERIZED REPORTING SERVICE
(707) 575-1819 • (800) 634-4311 • FAX (707) 575-8541