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Stay...cation

A team of Guild DP's help to create HBO's update of *Westworld*, one of the creepiest theme-park thrillers ever filmed...on film.

by Matt Hurwitz / photos by John P. Johnson/HBO



As she does every morning, Dolores Abernathy (Evan Rachel Wood) steps out onto the porch of the modest homestead she shares with her father and greets him. But when a fly lands on her eyeball, she doesn't even blink. Elsewhere in the Old Western theme park known as *Westworld*, a robotic

“Host” is asked by a guest, “Are you real?”

“If you can't tell,” the response comes, “what's the difference?”



ans of Michael Crichton's 1973 thriller, *Westworld*, will no doubt be excited to see HBO's updated version of Crichton's creepy blend of past and future as a sci-fi series adapted by showrunners Jonathan and Lisa Joy Nolan. For those who need a quick refresher: *Westworld* is the ultimate summer vacation, where people pay to live out their fantasies of life in the Old West. The park features humanoid "Host" robots whose main directive is to serve the guests – and to never harm a living thing. Until, of course, they do. But there is also some irony in this new take, given that the 70's-era original was the first feature film to use digital image processing (to simulate an android's point of view), and the husband-and-wife creative team behind HBO's new series was adamant about shooting their technology-run-amok story on film.

"This is a Western about Westerns – a meta-Western," Jonathan Nolan explains. "It's [park creator] Dr. Ford's distillation of all of the movie westerns he loved when he was a kid. [*Westworld* creator Dr. Ford, played by Anthony Hopkins, maintains an operation center hidden deep below the park's surface.] And the only way to shoot that is on film." In fact, shooting the Western scenes on film and the tech-world components digitally was considered. "But that introduces a complexity to your workflow that's just not worth it," Nolan adds.

Paul Cameron, ASC, who shot *Westworld's* pilot, says finding a common visual thread between the cool, sterile world of Ford's below-ground labs and the vast, cinematic, above-ground world of the robots was a welcome challenge, given that Nolan (following suit with his brother, Chris) eschews digital capture.



This page and Pages 33 and 37: Nolan likened the iconic Utah locations to classic Marlboro commercials, to which Cameron responded: "I've actually shot a few of them here!"

"There's a certain reverence when you shoot film," Cameron adds, "that somehow keeps a little edge to the set. There's always the knowledge, in the back of everybody's head, that they know the film's going to run out at a certain point."

David Franco, who shot Episodes 8, 10 and parts of 7, taking over for series DP Robert McLachlan, ASC (*Game of Thrones*, *Ray Donovan*), following the show's three-month hiatus, says that "except for one commercial, the last thing I shot with film was *Boardwalk Empire*. So shooting film was absolutely one of the attractions of working on this show." McLachlan agrees, adding that he even got to use his own ARRI 435 a few times. "Hearing [the 435] grinding away was music to my ears," he recalls. "I never thought I'd hear that sound again."

[*Westworld's* nearly two-year production schedule began in 2014 with Cameron shooting the pilot, Chris Haarhoff, SOC, operating A-camera/Steadicam, and Barry Idoine operating B-camera. McLachlan and Brendan Galvin took the show to series in 2015, shooting even and odd

episodes, respectively, with a Local 600 camera team that included operators Greg Smith, Steven Matzinger and Craig Fiske. Franco and Jeff Jur, ASC, came on after the hiatus for McLachlan and Galvin – operators for that team included Steadicam veteran Tommy Lohmann (Franco) and Don Devine, SOC (Jur), with Matzinger returning for B-camera and occasional additional Steadicam from Dana Harris. Franco and Jur had complex cross-boarding of their episodes, including trading off operators and assistants.]

Like the constant reality blurs in its narrative, *Westworld's* production team created a workflow that blended the best of film and digital. Kodak stocks used on the project included EXR 5245 (50D), 5207 (250D) and 5219 (500T), with Cameron using the 5245 for both day exteriors and some saloon interiors. "Even though it's a slower speed," he explains, "it's a really rich stock that gives that Marlboro feel." McLachlan, who tended to favor the 5207, says he's always preferred the look of everything shot on the same emulsion. "I would also push the 5219 a full



stop,” he notes, “especially for these massive nightscapes we had. It just made what light we had go further.”

Fotokem (Burbank) processed dailies (all takes as per Nolan’s preference) before being sent to Encore Hollywood for 2K scanning and timing by dailies colorist Jason Altman; final DI timing was done by longtime Cameron favorite Shane Harris. With the timed pilot available during series production, McLachlan and Franco took stills on set and colored in Adobe Photoshop for any new looks, before sending to Altman.

Co-producer Bruce Dunn explains that “they didn’t all have a chance to do this, due to scheduling, but it was still the best guide – the pilot and Photoshopped images.”

Although shot on film, *Westworld* is delivered for broadcast to HBO as a 2K JPEG file. Warner Bros. Television, which produces the show, has another deliverable standard, as well.

“They have an archival requirement for any show that originates on film,” Dunn adds, noting that WB will receive a cut negative of *Westworld* “sometime in 2017,

after broadcast has finished.” During the pilot (and, time permitting, during series production), *Westworld* dailies were viewed on set the old-fashioned way: projected in a trailer at lunch break, with the director, the DP and all department heads. Cameron secured an old film-projection trailer and retrofitted it with a 65-inch big-screen Panasonic plasma monitor.

“I can’t tell you how much it keeps the production and people together and communicating,” Cameron states. “It’s far better to do at lunch, watching dailies, than at the end of the day, when everyone’s exhausted and wants to go home. And it’s different than seeing them on your iPad, where there’s a little Comment section, which I find completely ineffective – nobody leaves comments, and nobody reads them!”

Encore created a ProRes viewing station for the dailies sessions, which would show images converted from the 2K scans, uncompressed, versus the PIX and DAX files created for viewing offsite by others.

Otto Nemenz (Keslow Camera for the pilot) supplied

the show with ARRI XT and LTs, as well as Leica Summilux-C prime lenses, Angénieux Optimo and Fuji zooms, and vintage uncoated Canon K-35 primes for special sequences, such as Host flashbacks.

The cameras from both vendors were fitted with ARRI HD-IVS High-Definition Integrated Video System video taps, with ARRI's Ground Glass Cancellation (GGC), in order to offer an HD image on set for directors and producers.

"The taps Arri made actually map the ground glass for imperfections, and then calibrate themselves and overlay them," Haarhoff explains. "The result is a very good —a high-def picture that's not corrupted by the

ground-glass image."

First AC Jason Garcia took advantage of the video tap signal to operate a Preston Cinema Light Ranger 2, as one would with an HD camera. But other assistants, like 1st AC Michael Weldon, pulled focus "old school."

"They stood by the camera with their hand on the lens," McLachlan laughs. "And what's shocking is how fast that art is disappearing. People on set would ask, 'Well, how do you know what the picture's gonna look like if you can't see it on the monitor?' My answer is, 'Years of experience.'"

Most of *Westworld* was shot at Melody Ranch

"There's a certain reverence when you shoot film — the thought in the back of everyone's mind that it's going to run out at a certain point." *{ Pilot DP Paul Cameron, ASC }*



Studios in Santa Clarita, making use of its legendary Western street set (*Deadwood*, *Django Unchained*) with some modifications, as well as three soundstages. Nathan Crowley was the production designer for the pilot, with Zack Grobler expanding upon Crowley's designs in the series.

One step in that expansion (which began in the pilot) was the addition of a train, something Melody hasn't had for some 40 years. "Lisa and I wanted an elaborate entrance into the park for the guests," Nolan states. "There's nothing that conveys the scope and romanticism of the West like a locomotive!" Melody Ranch's street set also featured a dead end, but, Crowley laughs, "there's no great

western town that has a dead end," so the studio permitted the removal of an existing structure that blocked the view of the parking lot beyond – and allowed installation of the train.

The faux locomotive, tender and three carriages were acquired from Fillmore & Western Railway (F&W), which had the vehicles designed by art director Naaman Marshall for Gore Verbinski's *The Lone Ranger* in 2013. F&W brought them to Melody, along with several hundred feet of track. "Arrivals" were then filmed via a pusher vehicle.

The interior of Sweetwater's Mariposa Saloon was built into one of the street's façades attached to Studio A. Cameron, along with pilot Gaffer Mike Adler and Key Grip





Carlos Boiles, built a lighting truss containing 40 HMIs and Chimeras, which could be raised and lowered as needed to light either the saloon/floor level or balcony set pieces above. More importantly, it enabled the camera operators to keep a consistent light level to match activity in the street, seen outside the saloon's windows. "We needed to be able to go from exterior to interior with a Steadicam and do a 180-degree swish without a big exposure pull," notes Cameron. "It had to be seamless."

The Hosts, as per their programming, repeat the same story cycles each day – conversations between each other, bank robberies, etc., so camera moves were designed to have a subtle predictive quality.

"It's something we spent time working out with Chris Haarhoff," Jonathan Nolan explains. "We wanted the camerawork to evoke sympathy – the idea that the Hosts' lives are so sadly programmatic that even the camera knows what's going to happen next."

"The camera doesn't really respond to the Hosts' movements," Haarhoff continues. "They're on their way and we're already moving the camera into the next position. It's as if the camera has become as robotic as the characters are."

The underground tech world was also built at Melody Ranch, with Crowley drawing inspiration from L.A.'s glass-dominated Pacific Design Center.

"It's an idea Jonah [Nolan] had of these vast layers underground that exist beneath the park," Crowley shares. "Manufacturing floors, repair floors, diagnostic rooms," all built deep into the red rock of a mesa in the desert. "And that set," adds Grobler, "could easily be changed from the Lab into the Body Shop, with all its surgical equipment, and then changed easily to the Diagnostics Lab" with simple down-lighting, where scientists interview Hosts to check their internal programming.

Jonathan Nolan says the production design presented







On Melody Ranch's fabled Western street set. L to R: Chris Haarhoff, Paul Cameron, ASC, Jonathan Nolan

“the humans trapped in these glass boxes, and the Hosts are the ones who are allowed upstairs and roam free.”

This also meant, according to McLachlan, that “every setup we did required a fairly lengthy process of eliminating reflections. It was never an easy fix, puzzling out where a reflection was coming from or blacking out the camera crew,” who also had to take care not to walk into the glass panels on the fairly dark set.

Another visually stunning *Westworld* set was the Cold Storage area, 82 floors below the ground, where scores of “decommissioned” Hosts stand naked in a refrigerated space. In choosing the right location, Cameron recalls how “we met in pre-production with Jonah and Nathan and were trying to figure out how to give this thing some amazing scale. We asked, ‘What is one of the scariest locations that could feel like it was the basement of all basements?’ We all looked at each other and said at the same time, ‘Hawthorne Mall!’” [Pilot scenes were shot at the Hawthorne Mall; for the series, the set was rebuilt at Melody Ranch after the dilapidated old mall was torn down.]

Cameron enhanced the freakish appearance of the venue by shining in sets of TPAR theatrical lights from any available roof openings. “We tried to keep it as dark and as frightening as possible,” he recounts.

Other locations the *Westworld* team visited included the L.A. Convention Center, Big Sky Ranch in Simi Valley (for the Abernathy homestead), Corriganville, and the Paramount Ranch. The camera and grip teams utilized Patriot vehicles, to mount either Steadicam or telescoping cranes to follow galloping horses and other moves.

“We had a 73-foot Chapman Hydrascope crane to shoot over people and then go back down to the ground,” recounts Steadicam operator Lohmann. “And because it’s electric, you can use it to get long tracking shots and still record dialogue.”

Still, the most iconic “Old West” locations were shot on visits to Moab, Utah and surrounding areas, such as Castle Valley, a favorite of John Ford later in his career. The Harley Bates property, on which Cameron had shot commercials with Tony Scott, had a welcome familiarity to Nolan. “I told Paul, ‘Man, it’s like a Marlboro commercial,’ and he said, ‘Yeah, I’ve shot a couple of them here,’” the director laughs.

Westworld’s pilot team shot in Utah in 2014, and then the series team, headed by 2nd Unit director Richard Lewis and Michael Bonvillain, ASC (and aerial DP Dylan Goss), returned for two weeks in 2015, just prior to the production hiatus.

An important aspect of these trips involved bringing pieces of sets – from the “Mesa Bar” balcony to actually trucking out one of the railroad coaches and placing it on a flatbed truck. “Jonah knew that by bringing a small piece of set out to Moab, we could tie in the reality of the grand scale of the area,” Cameron explains.

Having worked with Nolan on numerous projects, Crowley says he strongly believes, “If you want a view, you take the window to the view.” Or, as Nolan adds, “You can’t rebuild the [Mesa Bar location] Skirball Center [in L.A.] on Dead Horse Point [in Utah], but you can bring the handrail.”

Lisa Nolan says such visual counterpoints were echoed in *Westworld’s* narrative and one of the main reasons she and her husband were drawn to updating the original feature.

“We were fascinated with the idea of combining these two conceits of the ‘real people’ in the technicians’ world feeling more unnatural and contrived in that world’s coolness and technology, and the ‘artificial’ world of the West, aboveground, with its sumptuous colors and natural lighting,” Lisa Nolan concludes. “It’s the irony of the real world looking fake, and the fake world looking real.” 🎬