

TOUGH MUDDER X SEMI-FINALS

Episode 2 of the 2018 Tough Mudder X Championship aired on CBS this past Saturday. Much of episode 1 featured athlete background stories and not a lot of action besides slow-mo recaps. However, episode 2 contained much more uninterrupted race footage that allowed viewers to see how the race truly unfolded.

Most professional sports display quick stats (like touchdowns, homeruns, points/game, etc.) for the audience, and that's essentially what Tough Mudder did for the semi-finals. Finishing times for both heats were shown, along with the names of those who advanced to the finals. CBS did show split times for top athletes in a couple zones, but that doesn't tell the whole story about the race.

That's where Yancy Camp staffer Jack Bauer comes in. Just like he did in round 1, Jack provides a detailed breakdown of how often there were lead changes, who struggled/dominated certain zones, etc. during the semi-finals. Data from the TMX Championship that gives readers a deeper understanding about what happened in round 2 includes:

- Lead and position changes throughout the race
- Fastest splits for each zone
- Timing mat splits
- Comparison of CrossFit vs. OCR
- Round 2 vs. round 1 comparison

Just like round 1, this data was delayed a few days to avoid spoiling any of the results for TV viewers. Let's take a look at how the qualifying rounds went down.

**Make sure you tune in July 28 on CBS to watch the amazing finals action.*

Course Map

Here is a quick review of the timing mat locations that will be referenced repeatedly:

- Zone 1, 400m – after climbing down from Balls to the Wall (#5)
- Zone 2, 800m – just before climbing up Kong Infinity (#11)
- Zone 3, 1100m – just before #14 on the long running stretch
- Zone 4, 1200m – after Leap of Faith (#15) just before starting the sandbag cleans (#16)
- Zone 5, 1400m – just before Rope-A-Dope (#20)
- Zone 6, Finish line



Workout List:

1. Dumbbell Hang Clean and Jerk
2. Box Jumps
3. C2B Pull Ups
4. Wall Balls
5. Farmer's Carry
6. Sled Drag & Pull
7. Sandbag Cleans
8. Sandbag Shoulder to Overhead
9. Sandbag Lunges
10. Atlas Carry

Obstacle List:

1. Balls to the Wall
2. Berlin Walls
3. Just the Tip
4. Everest
5. Kiss of Mud
6. Kong
7. Skidmarked
8. Funky Monkey
9. Leap of Faith
10. Rope a Dope

Position Changes

Here are the official results for the 2 semi-final heats, in order of finishing time. Only the top-10 fastest moved on to the finals for their third race of the day. Take a quick look at this then move on, as Jack breaks down the data into way more detail in the next few sections. The next few tables are broken down in different ways that will be eye-opening as to how the race unfolded.

Note: the thicker black line represents the cut-off mark in the qualifying rounds, as only the top-20 advanced to the semifinals. You'll also see a lot of color-coded columns:

- Blue = fast
- White = average
- Red = slow
- Darker color = very fast/slow

Rank	Bib	Last	First	Cat.	Wave	400m (After BTW)		800m (Before Kong)			1100m (Last Bale Bonds)			1200m (After Leap of Faith)			1400m (Before Rope Climb)			1600m (Finish Line)			Sport										
						Timing Mat		Timing Mat		Split	Timing Mat		Split	Timing Mat		Split	Timing Mat		Split	Timing Mat		Split											
						Time	Position	Time	Position	Change	Time	Rank	Time	Position	Change	Time	Rank	Time	Position	Change	Time	Rank		Time	Position	Change	Time	Rank					
1	241	McIntyre	Hunter	M	S2	02:49.5	1	05:21.6	1	0	02:32.1	1	07:40.1	1	0	02:18.55	1	08:44.5	1	0	01:04.4	1	10:56.3	1	0	02:11.58	5	12:08.8	1	0	01:12.5	3	OCR
2	234	Heppner	Jacob	M	S1	02:58.3	2	05:53.7	4	-2	02:55.4	4	08:27.4	3	1	02:33.57	3	09:34.3	3	0	01:06.59	2	11:39.3	2	1	02:05.0	2	12:51.7	2	0	01:12.4	2	CrossFit
3	243	Vidal	Isaiah	M	S2	02:58.4	3	05:42.4	2	1	02:44.0	3	08:28.3	4	-2	02:45.59	9	09:37.1	4	0	01:08.58	4	11:45.8	3	1	02:08.7	4	13:08.6	3	0	01:22.58	12	OCR
4	232	Vellner	Patrick	M	S1	03:08.9	9	06:05.9	5	4	02:57.0	6	08:37.8	5	0	02:31.59	2	09:51.6	5	0	01:13.58	7	11:56.7	4	1	02:05.1	3	13:10.4	4	0	01:13.57	6	CrossFit
5	244	Kempson	Matthew	M	S2	03:07.4	6	05:42.5	3	3	02:35.1	2	08:18.8	2	1	02:36.3	5	09:27.5	2	0	01:08.57	3	12:02.3	5	-3	02:34.58	10	13:21.5	5	0	01:19.2	9	OCR
6	233	Troyan	Jordan	M	S1	03:07.8	7	06:21.3	10	-3	03:13.55	11	09:02.8	8	2	02:41.5	7	10:24.4	9	-1	01:21.56	13	12:26.4	7	2	02:02.0	1	13:40.0	6	1	01:13.56	4	CrossFit
7	242	Rager	Dakota	M	S2	03:08.6	8	06:08.8	6	2	03:00.2	7	08:53.3	6	0	02:44.55	8	10:08.2	6	0	01:14.59	8	12:20.5	6	0	02:12.3	6	13:41.1	7	-1	01:20.56	11	CrossFit
8	246	Noyce	Bobby	M	S2	03:17.2	11	06:12.8	7	4	02:55.6	5	09:00.2	7	0	02:47.54	11	10:23.8	8	-1	01:23.6	14	12:51.1	8	0	02:27.53	9	14:06.4	8	0	01:15.3	7	CrossFit
9	245	Hoerner	Streat	M	S2	03:11.3	10	06:28.2	11	-1	03:16.59	13	09:20.4	12	-1	02:52.2	13	10:40.3	12	0	01:19.59	11	13:06.5	10	2	02:26.2	8	14:18.3	9	1	01:11.58	1	CrossFit
10	235	Miraglia	Dylan	M	S1	03:05.4	4	06:14.8	8	-4	03:09.4	9	09:09.9	10	-2	02:55.1	14	10:31.2	11	-1	01:21.53	12	12:51.5	9	2	02:20.3	7	14:18.7	10	-1	01:27.2	14	OCR
11	231	Miraglia	Michael	M	S1	03:05.9	5	06:16.2	9	-4	03:10.53	10	09:07.4	9	0	02:51.2	12	10:23.0	7	2	01:15.56	9	13:23.5	11	-4	03:00.5	14	14:37.2	11	0	01:13.57	5	OCR
12	236	Roesch	Mack	M	S1	03:18.3	12	06:37.6	12	0	03:19.3	15	09:16.6	11	1	02:39.0	6	10:29.9	10	1	01:13.3	6	13:30.1	12	-2	03:00.52	15	14:49.4	12	0	01:19.3	10	OCR
13	237	Gifford	Beni	M	S1	03:37.9	14	06:39.2	13	1	03:01.53	8	09:26.3	13	0	02:47.1	10	10:44.9	13	0	01:18.6	10	13:49.4	13	0	03:04.55	16	15:26.1	13	0	01:36.57	18	OCR
14	248	Middendorf	Nolan	M	S2	03:40.5	16	06:57.6	15	1	03:17.1	14	09:55.6	14	1	02:58.0	15	11:29.0	14	0	01:33.54	18	14:20.0	14	0	02:51.0	11	15:35.8	14	0	01:15.8	8	CrossFit
15	249	Ramirez	Shawn	M	S2	03:23.4	13	06:51.9	14	-1	03:28.5	16	10:07.2	15	-1	03:15.53	16	11:39.4	15	0	01:32.2	17	14:34.4	15	0	02:55.0	13	16:03.6	15	0	01:29.2	16	CrossFit
16	250	Wentzel	Daniel	M	S2	03:40.9	17	06:57.6	15	2	03:16.57	12	10:18.3	16	-1	03:20.57	19	11:49.5	16	0	01:31.2	16	14:43.6	16	0	02:54.1	12	16:23.6	16	0	01:40.0	19	CrossFit
17	247	Atkins	Ryan	M	S2	03:52.6	19	08:49.8	20	-1	04:57.2	20	11:24.9	19	1	02:35.1	4	12:36.5	18	1	01:11.56	5	15:49.0	17	1	03:12.55	17	17:17.3	17	0	01:28.3	15	OCR
18	238	Williams	Carter	M	S1	03:39.2	15	07:10.9	17	-2	03:31.7	18	10:30.7	17	0	03:19.58	18	12:00.0	17	0	01:29.53	15	15:51.6	18	-1	03:51.6	20	17:17.6	18	0	01:26.0	13	CrossFit
19	239	Ranks	Skully	M	S1	04:16.0	20	07:47.0	19	1	03:31.0	17	11:03.8	18	1	03:16.8	17	12:43.4	19	-1	01:39.56	19	16:31.2	19	0	03:47.58	18	18:07.9	19	0	01:36.7	17	Navy Seal
20	240	Walrath	Matthew	M	S1	03:41.6	18	07:33.5	18	0	03:51.59	19	11:38.2	20	-2	04:04.57	20	14:10.7	20	0	02:32.5	20	18:00.9	20	0	03:50.2	19	19:42.3	20	0	01:41.54	20	CrossFit

Position at End of Zone

This chart shows the relative placement of everyone at various checkpoints. For instance, Jacob Heppner was the 2nd person to finish his wall balls during the qualifying round, but he dropped to 4th place at the 800m mark. Hunter McIntyre lead wire-to-wire. Here are some observations:

- 9/10 people who went through the first workout zone in the top-10 ended up making the finals. The only person who missed ended up finishing 11th. If you want to make the finals at TMX, you can't afford to start out slow and hope to play catch-up.
- The top-5 fastest racers from the semi-finals remained in the top-5 the entire second half of the race.
- Two people were in position to make the finals 3/4 through the race but ended up failing to advance after struggling in the sandbag zone.
- No one DNF'd in the semi-finals, compared to 13 DNFs in the prelims.

Rank	400m (After BTW)	Behind Lead	800m (Before Kong)	Behind Lead	1100m (Last Bale Bonds)	Behind Lead	1200m (After Leap of Faith)	Behind Lead	1400m (Before Rope Climb)	Behind Lead	1600m (Finish Line)	Behind Lead
1	Hunter McIntyre	02:49.05	Hunter McIntyre	05:21.6	Hunter McIntyre	07:40.1	Hunter McIntyre	08:44.5	Hunter McIntyre	10:56.3	Hunter McIntyre	12:08.8
2	Jacob Heppner	00:08.58	Isaiah Vidal	00:20.58	Matthew Kempson	00:38.07	Matthew Kempson	00:43.00	Jacob Heppner	00:43.00	Jacob Heppner	00:42.59
3	Isaiah Vidal	00:08.59	Matthew Kempson	00:20.59	Jacob Heppner	00:47.03	Jacob Heppner	00:49.58	Isaiah Vidal	00:49.58	Isaiah Vidal	00:59.58
4	Dylan Miraglia	00:15.59	Jacob Heppner	00:32.01	Isaiah Vidal	00:48.02	Isaiah Vidal	00:52.56	Patrick Vellner	01:00.4	Patrick Vellner	01:01.56
5	Michael Miraglia	00:16.04	Patrick Vellner	00:44.03	Patrick Vellner	00:57.07	Patrick Vellner	01:07.01	Matthew Kempson	01:06.0	Matthew Kempson	01:12.57
6	Matthew Kempson	00:17.59	Dakota Rager	00:47.02	Dakota Rager	01:13.02	Dakota Rager	01:23.57	Dakota Rager	01:24.2	Jordan Troyan	01:31.52
7	Jordan Troyan	00:18.03	Bobby Noyce	00:51.02	Bobby Noyce	01:20.01	Michael Miraglia	01:38.55	Jordan Troyan	01:30.1	Dakota Rager	01:32.53
8	Dakota Rager	00:19.01	Dylan Miraglia	00:53.02	Jordan Troyan	01:22.07	Bobby Noyce	01:39.03	Bobby Noyce	01:54.58	Bobby Noyce	01:57.56
9	Patrick Vellner	00:19.04	Michael Miraglia	00:54.56	Michael Miraglia	01:27.03	Jordan Troyan	01:39.59	Dylan Miraglia	01:55.2	Streat Hoerner	02:09.55
10	Streat Hoerner	00:21.58	Jordan Troyan	00:59.57	Dylan Miraglia	01:29.08	Mack Roesch	01:45.04	Streat Hoerner	02:10.2	Dylan Miraglia	02:09.59
11	Bobby Noyce	00:27.57	Streat Hoerner	01:06.56	Mack Roesch	01:36.05	Dylan Miraglia	01:46.57	Michael Miraglia	02:27.2	Michael Miraglia	02:28.54
12	Mack Roesch	00:28.58	Mack Roesch	01:16.00	Streat Hoerner	01:40.03	Streat Hoerner	01:55.58	Mack Roesch	02:33.58	Mack Roesch	02:40.56
13	Shawn Ramirez	00:33.59	Beni Gifford	01:17.56	Beni Gifford	01:46.02	Beni Gifford	02:00.04	Beni Gifford	02:53.1	Beni Gifford	03:17.53
14	Beni Gifford	00:48.04	Shawn Ramirez	01:30.03	Nolan Middendorf	02:15.05	Nolan Middendorf	02:44.55	Nolan Middendorf	03:23.57	Nolan Middendorf	03:27.0
15	Carter Williams	00:49.57	Nolan Middendorf	01:36.00	Shawn Ramirez	02:27.01	Shawn Ramirez	02:54.59	Shawn Ramirez	03:38.1	Shawn Ramirez	03:54.58
16	Nolan Middendorf	00:51.00	Daniel Wentzel	01:36.00	Daniel Wentzel	02:38.02	Daniel Wentzel	03:05.00	Daniel Wentzel	03:47.3	Daniel Wentzel	04:14.58
17	Daniel Wentzel	00:51.04	Carter Williams	01:49.03	Carter Williams	02:50.06	Carter Williams	03:15.55	Ryan Atkins	04:52.57	Ryan Atkins	05:08.55
18	Matthew Walrath	00:52.01	Matthew Walrath	02:11.59	Skully Ranks	03:23.07	Ryan Atkins	03:52.00	Carter Williams	04:55.3	Carter Williams	05:08.58
19	Ryan Atkins	01:03.01	Skully Ranks	02:25.54	Ryan Atkins	03:44.08	Skully Ranks	03:58.59	Skully Ranks	05:34.59	Skully Ranks	05:59.1
20	Skully Ranks	01:26.55	Ryan Atkins	03:28.02	Matthew Walrath	03:58.01	Matthew Walrath	05:26.02	Matthew Walrath	07:04.6	Matthew Walrath	07:33.55

The temperature soared to the mid-90s by the time the semi-finals began. How would the heat affect everyone's time in their second race of the day? Short answer: it didn't. Every single placement time in the semi-finals was at least 9.5 seconds faster than that respective placement time from the qualifying round. In fact, 8/10 placement times from the semi-finals were at least 20 seconds faster than the time that achieved that placement during round 1. Although the rest of the field ran much faster, on average, than it took to achieve the same place in round 1, Hunter McIntyre ran 34.5 seconds faster himself, keeping a sizeable gap on everyone else.

Place	1	2	3	4	5	6	7	8	9	10
Qualifying	12:43.0	13:47.5	13:47.7	13:53.9	13:58.8	14:00.5	14:03.6	14:20.2	14:27.8	14:47.1
Semi-Finals	12:08.8	12:51.7	13:08.6	13:10.4	13:21.5	13:40.0	13:41.1	14:06.4	14:18.3	14:18.7
Difference	0:34.2	0:55.8	0:39.1	0:43.5	0:37.3	0:20.5	0:22.5	0:13.8	0:09.5	0:28.54

Fastest Splits

You'll see where everyone made up ground or faded for each zone.

- Once again, despite consisting of four workout zones (DB C&J, box jump overs, pull-ups, and wall balls), OCR athletes posted 5 of the 6 fastest times in Zone 1 during round 2.
- It took Ryan Atkins 6 attempts to get up Everest, which explains why his split during Zone 2 was over a minute slower than the next slowest competitor. The CBS coverage briefly described what happened, but everyone in the crowd was speechless as we saw Ryan Atkins struggle on an obstacle for possibly the first time ever.
 - After finally making it over the warped wall, Ryan took off in a virtual sprint and many in the crowd wondered if he could somehow make up that huge gap. What can't Ryan do, after all?
 - Although it looked like he was running significantly faster than everyone else after his slip-up, Ryan actually had the 4th fastest split on the run-heavy section between Kong and the start of the sandbag zone. As someone who watched this in-person, I'm shocked by this and thought he surely ran 15 seconds faster than anyone else here.
 - Regardless, it was a very admirable comeback as Ryan fought his way back to finish in 13th. The fact that he ran 50 miles just 6 days before nearly making the finals at TMX shows how his range is unmatched in the OCR world.
- Zone 3 favored OCR athletes as well, featuring Kong, a sled drag, an angled wall, then 300m of running. Surprisingly, 2 of the top 3 fastest splits on this run-heavy section came from CrossFit athletes.
- Zone 5 was by far the biggest difference-maker in this race. Not a single person without a top-10 split in the sandbag zone ended up advancing to the finals.
 - Jordan Troyan was the only person with a top-3 split in the sandbag zone during both rounds 1 and 2.
 - Isaiah Vidal was once again the fastest OCR athlete through the sandbag zone.
 - Dakota Rager had the fastest split in the sandbag zone in round 1, but he dropped to 6th fastest in round 2.

Rank	400m (After BTTW)	Slower	800m (Before Kong)	Slower	1100m (Last Bale Bonds)	Slower	1200m (After Leap of Faith)	Slower	1400m (Before Rope Climb)	Slower	1600m (Finish Line)	Slower
1	Hunter McIntyre	02:49.05	Hunter McIntyre	02:32.1	Hunter McIntyre	02:18.55	Hunter McIntyre	01:04.4	Jordan Troyan	02:02.0	Streat Hoerner	01:11.58
2	Jacob Heppner	00:08.58	Matthew Kempson	00:03.00	Patrick Vellner	00:13.04	Jacob Heppner	00:02.55	Jacob Heppner	00:03.0	Jacob Heppner	00:00.6
3	Isaiah Vidal	00:08.59	Isaiah Vidal	00:11.59	Jacob Heppner	00:15.02	Matthew Kempson	00:04.53	Patrick Vellner	00:03.1	Hunter McIntyre	00:00.7
4	Dylan Miraglia	00:15.59	Jacob Heppner	00:23.03	Ryan Atkins	00:16.06	Isaiah Vidal	00:04.54	Isaiah Vidal	00:06.7	Jordan Troyan	00:01.58
5	Michael Miraglia	00:16.04	Bobby Noyce	00:23.05	Matthew Kempson	00:17.08	Ryan Atkins	00:07.52	Hunter McIntyre	00:09.58	Michael Miraglia	00:01.59
6	Matthew Kempson	00:17.59	Patrick Vellner	00:24.59	Mack Roesch	00:20.05	Mack Roesch	00:08.59	Dakota Rager	00:10.3	Patrick Vellner	00:01.59
7	Jordan Troyan	00:18.03	Dakota Rager	00:28.01	Jordan Troyan	00:22.10	Patrick Vellner	00:09.54	Dylan Miraglia	00:18.3	Bobby Noyce	00:03.5
8	Dakota Rager	00:19.01	Beni Gifford	00:29.52	Dakota Rager	00:26.00	Dakota Rager	00:10.55	Streat Hoerner	00:24.2	Nolan Middendorf	00:03.10
9	Patrick Vellner	00:19.04	Dylan Miraglia	00:37.03	Isaiah Vidal	00:27.04	Michael Miraglia	00:11.52	Bobby Noyce	00:25.53	Matthew Kempson	00:07.4
10	Streat Hoerner	00:21.58	Michael Miraglia	00:38.52	Beni Gifford	00:28.06	Beni Gifford	00:14.2	Matthew Kempson	00:32.58	Mack Roesch	00:07.5
11	Bobby Noyce	00:27.57	Jordan Troyan	00:41.54	Bobby Noyce	00:28.59	Streat Hoerner	00:15.55	Nolan Middendorf	00:49.0	Dakota Rager	00:08.58
12	Mack Roesch	00:28.58	Daniel Wentzel	00:44.56	Michael Miraglia	00:32.07	Dylan Miraglia	00:17.49	Daniel Wentzel	00:52.1	Isaiah Vidal	00:11.0
13	Shawn Ramirez	00:33.59	Streat Hoerner	00:44.58	Streat Hoerner	00:33.07	Jordan Troyan	00:17.52	Shawn Ramirez	00:53.0	Carter Williams	00:14.2
14	Beni Gifford	00:48.04	Nolan Middendorf	00:45.00	Dylan Miraglia	00:36.06	Bobby Noyce	00:19.2	Michael Miraglia	00:58.5	Dylan Miraglia	00:15.4
15	Carter Williams	00:49.57	Mack Roesch	00:47.02	Nolan Middendorf	00:39.05	Carter Williams	00:25.49	Mack Roesch	00:58.52	Ryan Atkins	00:16.5
16	Nolan Middendorf	00:51.00	Shawn Ramirez	00:56.04	Shawn Ramirez	00:56.58	Daniel Wentzel	00:26.58	Beni Gifford	01:02.55	Shawn Ramirez	00:17.4
17	Daniel Wentzel	00:51.04	Skully Ranks	00:58.59	Skully Ranks	00:57.13	Shawn Ramirez	00:27.58	Ryan Atkins	01:10.55	Skully Ranks	00:24.9
18	Matthew Walrath	00:52.01	Carter Williams	00:59.06	Carter Williams	01:01.03	Nolan Middendorf	00:29.50	Skully Ranks	01:45.58	Beni Gifford	00:24.59
19	Ryan Atkins	01:03.01	Matthew Walrath	01:19.58	Daniel Wentzel	01:02.02	Skully Ranks	00:35.52	Matthew Walrath	01:48.2	Daniel Wentzel	00:28.2
20	Skully Ranks	01:26.55	Ryan Atkins	02:25.01	Matthew Walrath	01:46.02	Matthew Walrath	01:28.1	Carter Williams	01:49.6		

Completion Time vs. Fastest Split Per Zone

Here's how to interpret this chart:

- 1.00 – this person had the fastest split in this zone
- Every number above 1.00 is how much extra time it took someone to complete that zone compared to the fastest split
 - For instance, Hunter McIntyre had the fastest split in the "800m" column since his value is 1.00. Jacob Heppner, 2nd fastest qualifier, has a 1.15 value, meaning it took him 1.15 times longer (or 15% longer) to complete Zone 2 than Hunter.
 - If your value is 2.00, it took you twice as long to complete a zone as the fastest person that round.
- Blue = fast, red = slow

Some observations from the data:

- Out of the 120 different data points for the top-20 qualifiers combined, there were ZERO red cells in all 6 zones combined for those who advanced to the finals. In other words, literally everyone who advanced to the finals completed every zone at or significantly above average.
- Matt Kempson had the slowest sandbag zone split of anyone who made the finals, completing the zone 27% slower than Jordan Troyan, who had the fastest split. The fastest split out of anyone who missed the finals was 40% slower than Jordan, once again proving how critical the sandbag zone was.
- Hunter McIntyre's worst split was only 8% slower than the fastest person in that zone. His worst split multiplier during round 1 was 27% slower than the fastest split in that zone. Keep in mind that his round 2 splits were relative to the 20 fastest athletes of the day, excluding the slowest one who didn't advance past round 1. An increase in performance like that is so impressive.
- Of the 10 people who qualified for the finals, 6 were CrossFit athletes and 4 were OCR athletes. Note: I'm counting Hunter and Isaiah as OCR athletes, although they are both transitioning more towards CrossFit at this stage in their career. Places 11-13 were by OCR athletes, suggesting that having a pure OCR background was not as beneficial as having a CrossFit background during this second TMX Championship.

Rank	Bib	Last	First	Cat.	Wave	400m (After BTTW)	800m (Before Kong)	1100m (Last Bale Bonds)	1200m (After Leap of Faith)	1400m (Before Rope Climb)	1600m (Finish Line)	Sport
1	241	McIntyre	Hunter	M	S2	1.00	1.00	1.00	1.00	1.08	1.00	OCR
2	234	Heppner	Jacob	M	S1	1.05	1.15	1.11	1.05	1.02	1.00	CrossFit
3	243	Vidal	Isaiah	M	S2	1.05	1.08	1.19	1.08	1.05	1.15	OCR
4	232	Vellner	Patrick	M	S1	1.11	1.16	1.09	1.15	1.02	1.03	CrossFit
5	244	Kempson	Matthew	M	S2	1.11	1.02	1.12	1.08	1.27	1.10	OCR
6	233	Troyan	Jordan	M	S1	1.11	1.28	1.16	1.28	1.00	1.03	CrossFit
7	242	Rager	Dakota	M	S2	1.11	1.18	1.19	1.17	1.08	1.12	CrossFit
8	246	Noyce	Bobby	M	S2	1.17	1.15	1.21	1.30	1.21	1.04	CrossFit
9	245	Hoerner	Streat	M	S2	1.13	1.30	1.24	1.25	1.20	1.00	CrossFit
10	235	Miraglia	Dylan	M	S1	1.09	1.24	1.26	1.28	1.15	1.21	OCR
11	231	Miraglia	Michael	M	S1	1.10	1.26	1.23	1.19	1.48	1.03	OCR
12	236	Roesch	Mack	M	S1	1.17	1.31	1.14	1.14	1.48		OCR
13	237	Gifford	Beni	M	S1	1.28	1.20	1.20	1.22	1.52	1.35	OCR
14	248	Middendorf	Nolan	M	S2	1.30	1.30	1.28	1.47	1.40	1.04	CrossFit
15	249	Ramirez	Shawn	M	S2	1.20	1.37	1.41	1.44	1.43	1.24	CrossFit
16	250	Wentzel	Daniel	M	S2	1.30	1.30	1.45	1.42	1.43	1.39	CrossFit
17	247	Atkins	Ryan	M	S2	1.37	1.95	1.12	1.12	1.58	1.22	OCR
18	238	Williams	Carter	M	S1	1.30	1.39	1.44	1.40	1.89	1.19	CrossFit
19	239	Ranks	Skully	M	S1	1.51	1.39	1.41	1.56	1.87	1.34	Navy Seal
20	240	Walrath	Matthew	M	S1	1.31	1.53	1.76	2.37	1.89	1.42	CrossFit

OCR vs. CrossFit

Qualifying rounds stats are combined with semi-finals stats to see how well OCR athletes did compared to CrossFit athletes in each zone during both of the first 2 rounds:

AVG SPLIT -- ALL						
Sport	400m (After BTTW)	800m (Before Kong)	1100m (Last Bale Bonds)	1200m (After Leap of Faith)	1400m (Before Rope Climb)	1600m (Finish Line)
Semis						
OCR	03:13.58	03:11.7	02:41.0	01:12.52	02:41.44	01:22.23
CrossFit	03:21.11	03:14.50	03:01.3	01:29.5	02:41.44	01:21.49
Qualifiers						
OCR	03:39.7	03:17.36	03:12.8	01:21.58	03:51.59	01:34.59
CrossFit	03:34.57	03:39.36	03:45.26	01:46.21	03:20.54	01:26.33
COMPLETION TIME vs. FASTEST SPLIT PER ZONE -- ALL						
Sport	400m (After BTTW)	800m (Before Kong)	1100m (Last Bale Bonds)	1200m (After Leap of Faith)	1400m (Before Rope Climb)	1600m (Finish Line)
Semis						
OCR	1.00	1.00	1.00	1.00	1.00	1.01
CrossFit	1.04	1.02	1.12	1.22	1.00	1.00
Qualifiers						
OCR	1.02	1.00	1.00	1.00	1.15	1.10
CrossFit	1.00	1.11	1.17	1.30	1.00	1.00

- During round 1, CrossFit athletes completed Zone 1 5.1 seconds faster, on average, than OCR athletes. This number increased to 7.6 seconds in round 2.
- OCR athletes were, on average, 2.7 seconds faster than CrossFit athletes in Zone 2, which covered the most obstacle and run-heavy section of the course. This gap would have been 18.9 seconds if Ryan Atkins' split is excluded, as it included his nearly 2 minutes being stuck on Everest. The edge in running goes to OCR athletes in round 2.
- Surprisingly, if you average the sandbag zone splits for all 20 athletes who made it to the semi-finals, both OCR and CrossFit athletes averaged the same exact completion time. However, if you only include the 10 athletes who advanced to the finals, CrossFit athletes completed the sandbag zone 5.6 seconds faster than OCR athletes.

Checkpoints

Here's another visual of the data and where people ranked throughout the race. The further to the right that a cell is blue, the more likely that they would advance to the semi-finals. Similarly, the further to the right that a cell is red, the less likely that they would finish in the top-20.

Rank	Bib	Last	First	Cat.	Wave	400m (After BTTW)	800m (Before Kong)	1100m (Last Bale Bonds)	1200m (After Leap of Faith)	1400m (Before Rope Climb)	1600m (Finish Line)	Sport
1	241	McIntyre	Hunter	M	S2	02:49.5	05:21.6	07:40.1	08:44.5	10:56.3	12:08.8	OCR
2	234	Heppner	Jacob	M	S1	02:58.3	05:53.7	08:27.4	09:34.3	11:39.3	12:51.7	CrossFit
3	243	Vidal	Isaiah	M	S2	02:58.4	05:42.4	08:28.3	09:37.1	11:45.8	13:08.6	OCR
4	232	Vellner	Patrick	M	S1	03:08.9	06:05.9	08:37.8	09:51.6	11:56.7	13:10.4	CrossFit
5	244	Kempson	Matthew	M	S2	03:07.4	05:42.5	08:18.8	09:27.5	12:02.3	13:21.5	OCR
6	233	Troyan	Jordan	M	S1	03:07.8	06:21.3	09:02.8	10:24.4	12:26.4	13:40.0	CrossFit
7	242	Rager	Dakota	M	S2	03:08.6	06:08.8	08:53.3	10:08.2	12:20.5	13:41.1	CrossFit
8	246	Noyce	Bobby	M	S2	03:17.2	06:12.8	09:00.2	10:23.8	12:51.1	14:06.4	CrossFit
9	245	Hoerner	Streat	M	S2	03:11.3	06:28.2	09:20.4	10:40.3	13:06.5	14:18.3	CrossFit
10	235	Miraglia	Dylan	M	S1	03:05.4	06:14.8	09:09.9	10:31.2	12:51.5	14:18.7	OCR
11	231	Miraglia	Michael	M	S1	03:05.9	06:16.2	09:07.4	10:23.0	13:23.5	14:37.2	OCR
12	236	Roesch	Mack	M	S1	03:18.3	06:37.6	09:16.6	10:29.9	13:30.1	14:49.4	OCR
13	237	Gifford	Beni	M	S1	03:37.9	06:39.2	09:26.3	10:44.9	13:49.4	15:26.1	OCR
14	248	Middendorf	Nolan	M	S2	03:40.5	06:57.6	09:55.6	11:29.0	14:20.0	15:35.8	CrossFit
15	249	Ramirez	Shawn	M	S2	03:23.4	06:51.9	10:07.2	11:39.4	14:34.4	16:03.6	CrossFit
16	250	Wentzel	Daniel	M	S2	03:40.9	06:57.6	10:18.3	11:49.5	14:43.6	16:23.6	CrossFit
17	247	Atkins	Ryan	M	S2	03:52.6	08:49.8	11:24.9	12:36.5	15:49.0	17:17.3	OCR
18	238	Williams	Carter	M	S1	03:39.2	07:10.9	10:30.7	12:00.0	15:51.6	17:17.6	CrossFit
19	239	Ranks	Skully	M	S1	04:16.0	07:47.0	11:03.8	12:43.4	16:31.2	18:07.9	Navy Seal
20	240	Walrath	Matthew	M	S1	03:41.6	07:33.5	11:38.2	14:10.7	18:00.9	19:42.3	CrossFit

Splits Between Timing Mats

This is essentially the same thing as the table in the “Checkpoints” section above, except that it lists split times (rather than finishing time) in order of overall finishing place in the qualifying rounds.

Rank	Bib	Last	First	Cat.	Wave	400m (After BTTW)	800m (Before Kong)	1100m (Last Bale Bonds)	1200m (After Leap of Faith)	1400m (Before Rope Climb)	1600m (Finish Line)	Sport
1	241	McIntyre	Hunter	M	S2	02:49.5	02:32.1	02:18.55	01:04.4	02:11.58	01:12.5	OCR
2	234	Heppner	Jacob	M	S1	02:58.3	02:55.4	02:33.57	01:06.59	02:05.0	01:12.4	CrossFit
3	243	Vidal	Isaiah	M	S2	02:58.4	02:44.0	02:45.59	01:08.58	02:08.7	01:22.58	OCR
4	232	Vellner	Patrick	M	S1	03:08.9	02:57.0	02:31.59	01:13.58	02:05.1	01:13.57	CrossFit
5	244	Kempson	Matthew	M	S2	03:07.4	02:35.1	02:36.3	01:08.57	02:34.58	01:19.2	OCR
6	233	Troyan	Jordan	M	S1	03:07.8	03:13.55	02:41.5	01:21.56	02:02.0	01:13.56	CrossFit
7	242	Rager	Dakota	M	S2	03:08.6	03:00.2	02:44.55	01:14.59	02:12.3	01:20.56	CrossFit
8	246	Noyce	Bobby	M	S2	03:17.2	02:55.6	02:47.54	01:23.6	02:27.53	01:15.3	CrossFit
9	245	Hoerner	Streat	M	S2	03:11.3	03:16.59	02:52.2	01:19.59	02:26.2	01:11.58	CrossFit
10	235	Miraglia	Dylan	M	S1	03:05.4	03:09.4	02:55.1	01:21.53	02:20.3	01:27.2	OCR
11	231	Miraglia	Michael	M	S1	03:05.9	03:10.53	02:51.2	01:15.56	03:00.5	01:13.57	OCR
12	236	Roesch	Mack	M	S1	03:18.3	03:19.3	02:39.0	01:13.3	03:00.52	01:19.3	OCR
13	237	Gifford	Beni	M	S1	03:37.9	03:01.53	02:47.1	01:18.6	03:04.55	01:36.57	OCR
14	248	Middendorf	Nolan	M	S2	03:40.5	03:17.1	02:58.0	01:33.54	02:51.0	01:15.8	CrossFit
15	249	Ramirez	Shawn	M	S2	03:23.4	03:28.5	03:15.53	01:32.2	02:55.0	01:29.2	CrossFit
16	250	Wentzel	Daniel	M	S2	03:40.9	03:16.57	03:20.57	01:31.2	02:54.1	01:40.0	CrossFit
17	247	Atkins	Ryan	M	S2	03:52.6	04:57.2	02:35.1	01:11.56	03:12.55	01:28.3	OCR
18	238	Williams	Carter	M	S1	03:39.2	03:31.7	03:19.58	01:29.53	03:51.6	01:26.0	CrossFit
19	239	Ranks	Skully	M	S1	04:16.0	03:31.0	03:16.8	01:39.56	03:47.58	01:36.7	Navy Seal
20	240	Walrath	Matthew	M	S1	03:41.6	03:51.59	04:04.57	02:32.5	03:50.2	01:41.54	CrossFit

CONCLUSION

Hopefully this data gives you a better perspective on how racers performed in each of the various zones throughout the qualifying rounds since it would have been impossible to realize all of this info watching on TV or even as a spectator at the event. After looking through the data, here are some of my takeaways:

- Round 2 once again showed that strength stations were what determined who advanced. During the semi-finals, 9/10 people with a top-10 split in the first workout zone and all 10/10 people with a top-10 sandbag zone split ended up making the finals.
- Consistency is key, as 9/10 people with a top-10 finishing time during round 1 also had a top-10 finishing time in round 2. In other words, there was no surprise as to who made the finals.
- Hunter McIntyre was even more dominant than he was in round 1. He had the fastest split in 4/6 zones and his *worst* split in any zone was only 8% slower than the fastest person completed that zone.

Note: As mentioned before, we'll wait to release statistical analysis of the finals a couple days after it airs on CBS to avoid spoilers. Thank you Tough Mudder HQ for providing the split data so Jack could nerd-out on race results. Jack, big shout out to you for the awesome tables and takeaways.