ALTERING THE BATHYMETRY OF WALKER LAKE, NEVADA

Mounds are indicated by sonar return signals that abruptly ramp up and down with no return signals beneath the mounds. Logs, fish, or other objects floating near the bottom of the lake are distinguished from mounds because return signals appear underneath the objects. Mounds near the mouth of the Walker River could be stumps of trees that grew during long periods of low lake-surface altitude (Adams, 2007) or partially buried logs carried in from the river. Some of the mounds, especially those near the western shore, likely are boulders that tumbled into the lake or were deposited by prograding alluvial fans during long periods of low lake-surface altitude. Using a submersible camera, piles of boulders south of the town of Walker Lake were observed along the shore and in water about 30-ft deep. Large piles of boulders also could be at the western end of the transect at UTM northing 4276000 (fig. 6C) and the southern end of the transect at UTM easting 348000 (fig. 6D).

The echosounder detected what appeared to be mounds in the deepest parts of Walker Lake, miles from the shore and river mouth (figs. 6A–D). Sonar return signals from the anomalies were the same as signals from boulders or other solid objects lying on the bottom (fig. 7). However, side-scan sonar and divers did not verify their presence. The vertical exaggeration in figure 7 makes anomalies appear similar to tufa towers along the shores of Mono Lake (fig. 8). However, about 75 percent of the mounds and anomalies in Walker Lake are low, broad features with a width that is at least twice the height. Tufa typically forms as tall structures along the margins of lakes and not in the deepest waters.

The three anomalies in figure 7 were located on March 3 and again on March 4, 2005, when the lake bottom was viewed with a submersible camera. Rocks were observed that appeared to be tufa and the lake bottom was pock marked with many holes. In August 2006, divers determined that the holes were burrows made by mayfly larvae and red worms. The lake was well mixed when bathymetry was done and there is no indication that the equipment malfunctioned, so it is unknown what caused the anomalous return signals.

A number of objects and features were seen during the side-scan sonar survey. Numerous strong reflections were imaged almost immediately upon 53RD AND 3RD

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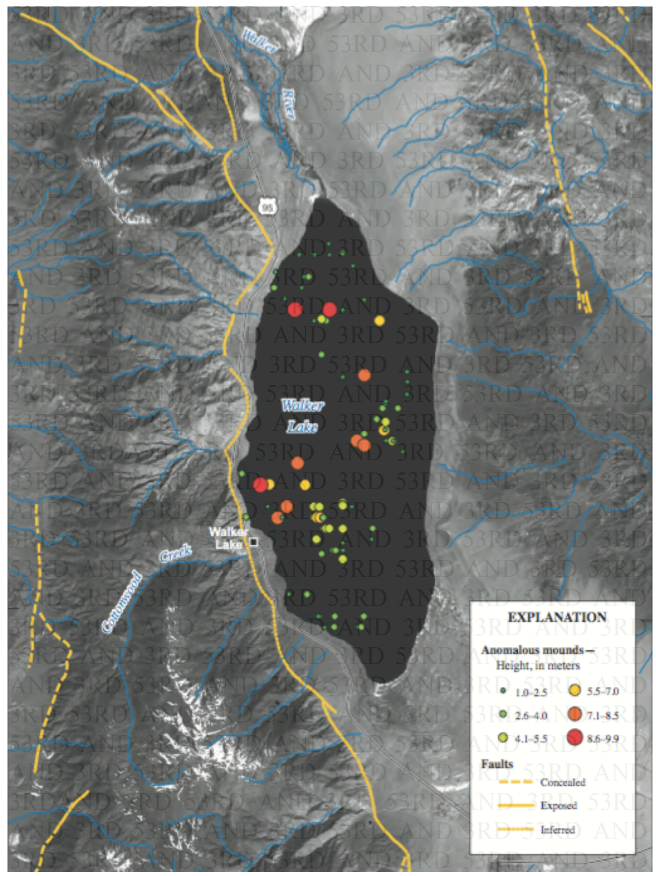

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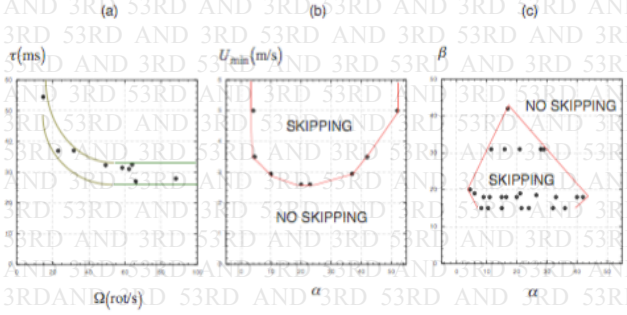

FIG. 7: (a) Evolution of the collision time τ with the spinning velocity Ω for $R = 2.5$ cm, $h = 2.75$ mm, $U = 3.5$ m.s^{-1}, $\alpha = 20°$, $\beta = 20°$; (b) Domain of the skipping stone in the $\{\alpha, U_{min}\}$ plane with $R = 2.5$ cm, $h = 2.75$ mm, $\Omega = 65$ rot.s^{-1}, $\beta = 20°$; (c) Domain of the skipping stone in the $\{\alpha, \beta\}$ plane with $R = 2.5$ cm, $h = 2.75$ mm, $\Omega = 65$ rot.s^{-1}, $U = 3.5$ m.s^{-1}. In the three figures, the continuous lines are to guide the eye.

THERE IS A YOUNG COWBOY HE LIVES ON THE RANGE HIS HORSE AND HIS CATTLE ARE HIS ONLY COMPANIONS HE WORKS IN THE SADDLE AND SLEEPS IN THE CANYON WAITING FOR SUMMER HIS PASTURES TO CHANGE AND AS THE MOON RISES, HE SITS BY HIS FIRE THINKING OF WOMEN AND GLASSES OF BEER (THINK I ALWAYS SANG "GLASSES APPEAR" NO BEER) AND CLOSING HIS EYES AS THE DOGGIES RETIRE HE SINGS OUT A SONG WHICH IS SOFT BUT IT'S CLEAR AS IF MAYBE SOMEONE COULD HEAR GOODNIGHT YOU MOONLIGHT LADIES ROCKABYE SWEET BABY KYLE (JAMES IN REALITY) DEEP GREENS AND BLUES ARE THE COLORS I CHOOSE WONT YOU LET ME GO DOWN IN MY DREAMS AND ROCKABYE SWEET BABY KYLE THE FIRST OF DECEMBER WAS COVERED IN SNOW AND SO WAS THE TURNPIKE FROM STOCKBRIDGE TO BOSTON THE 'BERKSHIRES' SEEMED DREAMLIKE ON ACCOUNT OF THAT FROSTING (SO, I ALWAYS SANG 'BIRCHES') WITH TEN MILES BEHIND ME AND TEN THOUSAND MORE TO GO THERE'S A SONG THAT THEY SING WHEN THEY TAKE TO THE HIGHWAY A SONG THAT THEY SING WHEN THEY TAKE TO THE SEA A SONG THAT THEY SING OF THEIR HOME IN THE SKY MAYBE YOU CAN BELIEVE IT IF IT HELPS YOU TO SLEEP BUT SINGING WORKS JUST FINE FOR ME THERE IS A YOUNG COWBOY HE LIVES ON THE RANGE HIS HORSE AND HIS CATTLE ARE HIS ONLY COMPANIONS HE WORKS IN THE SADDLE AND SLEEPS IN THE CANYON WAITING FOR SUMMER ROCKABYE SWEET BABY KYLE (JAMES IN REALITY) WITH TEN MILES BEHIND ME AND TEN THOUSAND MORE TO GO THERE'S A SONG THAT THEY SING WHEN THEY TAKE TO THE HIGHWAY A SONG THAT THEY SING WHEN THEY TAKE TO THE SEA A SONG THAT THEY SING OF THEIR HOME IN THE SKY MAYBE YOU CAN BELIEVE IT IF IT HELPS YOU TO SLEEP BUT SINGING WORKS JUST FINE FOR ME THERE IS A YOUNG COWBOY HE LIVES ON THE RANGE HIS HORSE AND HIS CATTLE ARE

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