Reddog Solutions

"Providing clients with reliable water volume estimates and drone services in a timely manner"

WATER VOLUME ESTIMATE
ROUGH CREEK LODGE
MALLARD LAKE
SHOWN ON GOOGLE EARTH AS "HOUSE LAKE"

ERATH COUNTY, TEXAS
32° 6'25.35''N
97°52'53.73''W
Volume Measurement Dates:
8/24/21 through 8/28/21

Client:
Rough Creek Lodge
5165 County Road 2013
Glen Rose, Texas 76043

NAME	VALUE
Project Name	MALLARD LAKE MEASUREMENT
Work Performed by	Reddog Solutions
Date	8/24/21 through 8/28/21
Horizontal Units	U.S. Survey Foot
Vertical Units	U.S. Survey Foot
Projection	NAD83(HARN)Oklahoma North(ftUS)

Depth(ft)	Volume(gal)	Area(ac)
26	114639189	43.982
25	100448851	42.972
24	86992965	39.568
23	74625614	36.331
22	63321329	33.043
21	53182029	28.812
20	44513553	24.595
19	37129394	20.514
18	30956805	17.433
17	25609249	15.434
16	20881352	13.600
15	16745974	11.751
14	13206938	10.025
13	10215023	8.342
12	7746750	6.792
11	5757219	5.520
10	4138873	4.280
9	2973955	3.020
8	2118441	2.254
7	1478457	1.722
6	980498	1.347
5	601284	0.975
4	338184	0.656
3	170778	0.384
2	73554	0.225
1	20314	0.103
0	1437	0.020

Measurement Dates: 8/24/21 through 8/28/21
Estimated Volume of Measured Water: 114,639,189gal
<u>WATER VOLUME ESTIMATE</u>
<u>ROUGH CREEK LODGE</u>
<u>MALLARD LAKE</u>
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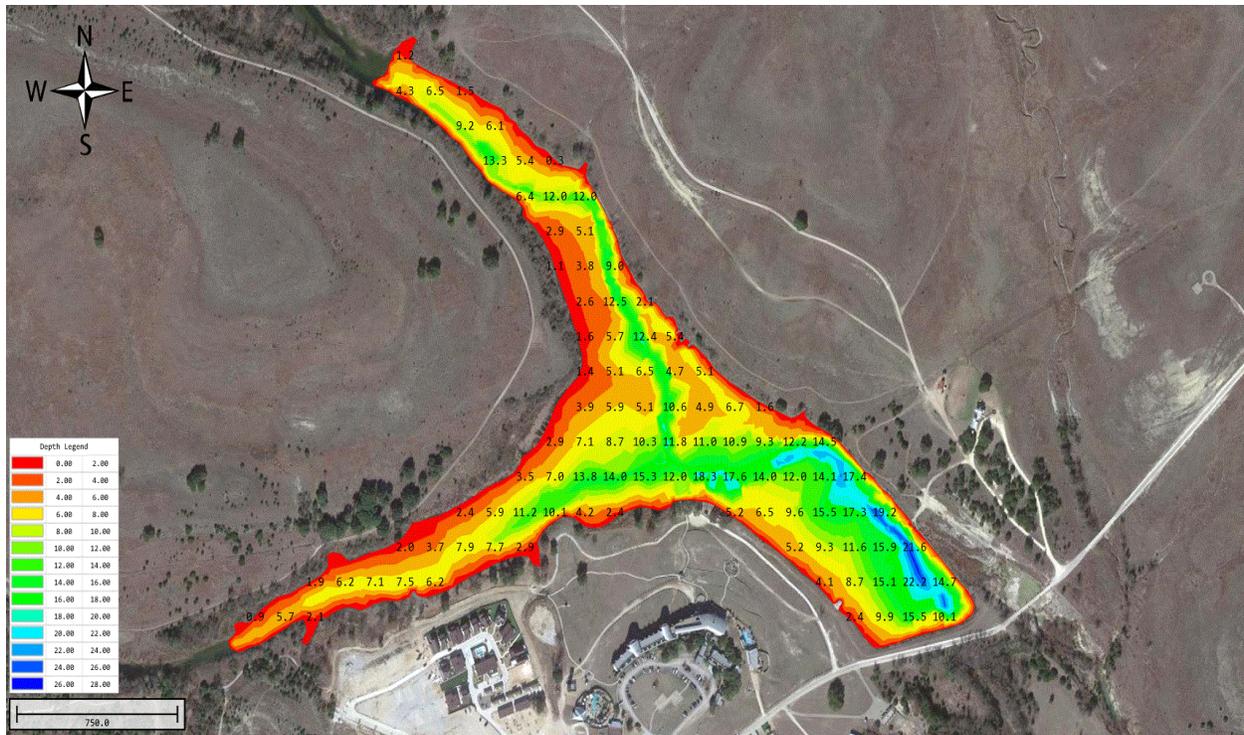
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WATER VOLUME ESTIMATE
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DEPTH LEGEND/DEPTH POINTS

VICINITY MAP

ROUGH CREEK LODGE
MALLARD LAKE
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ERATH COUNTY, TEXAS
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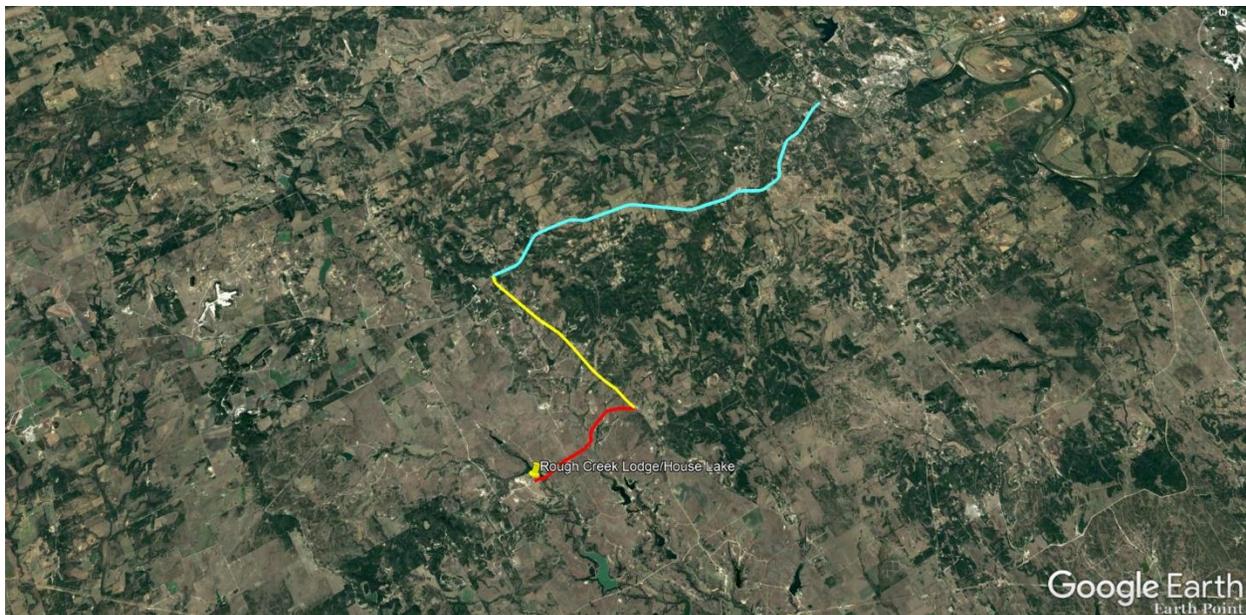
DRIVING DIRECTIONS

POB: From the intersection of FM 205 and U.S Highway 67 on the west side of Glen Rose, Texas, proceed West/Southwest on U.S. Highway 67 for ~9.37 miles (turquoise path); at the intersection of U.S. Highway 67 and CR 2013 (meeting of turquoise line and yellow path) turn left from U.S Highway 67 onto CR 2013 and proceed South/Southeast on CR 2013 for ~4.17 miles (yellow path) to the intersection of CR 2013 and the entrance/private road into Rough Creek Lodge (yellow path and red path); turn right from CR 2013 onto the private road into Rough Creek Lodge and proceed West/Southwest for ~2.67 miles (red path) to Rough Creek Lodge.

COMMENTS

The water volume estimates embodied in this report include those as obtained from data profited by the utilization of technologies/methodologies employed in the water surveying industry and the best efforts of Reddog Solutions, LLC (Reddog).

Using Echo Sounding/GPS Technology is the main tool in the gathering of data needed for bathymetric topographical mapping and water volume estimates. However, there are factors that can limit or abort the use of Echo Sounding/GPS Technology and, when the Echo Sounding/GPS Technology is thus limited or aborted, it requires diligence on the part of Reddog, to use other methods i.e., pole measuring, drop line measuring etc., to ensure that the best-efforts water volumes and bathymetric topographical map renderings are in fact the best efforts of Reddog.

The software program that is used in the production of the final product rendered by Reddog has its own intelligence to interpret the data it receives. This intelligence is reflected in the software's product in a manner that addresses not only the depths, but also how the bathymetric findings and topographical features of the final product are depicted.

In addition, Reddog and its personnel, when it is deemed by Reddog and its personnel, may make additional interpretations/adjustments in concert with the software product, based on its empirical knowledge, endeavoring to make the final product as accurate as best-efforts permit.

Using methods in addition to Echo Sounding/GPS Technology enable Reddog to avoid a "Swiss Cheese" effect when data for any of the water area can't be accurately shown by Echo Sounding/GPS Technology. It must also be noted that due to marine vessel limitations in shallower water i.e., the draft of the vessel and the implications of the drive being up or down versus the actual bottom of the boat, for just a few examples, must be considered. Some areas then need to be estimated by using data from the last most reliable point extrapolated forward, elevation comparisons from the shorelines to deduce estimates and other methodologies to "true up" the entire body of water, leaving little or no amputated creeks, tributaries

or the like omitted from the calculations, the estimated bathymetric volumes, and the depiction estimation of the topographical map.

Reddog retains the rights to any of its work product for advertising, marketing purposes and/or other purposes to help it promote its water surveying business.

Reddog Solutions