

eTrac Inc.  
637 Lindero Street  
Suite 100  
San Rafael, CA 94901

## Grubb Lease Post-Survey Field Operations and Compliance Report

eTrac Inc. performed a hydrographic survey of Grubb Lease in the vicinity of Ventura, California on January 10<sup>th</sup> and 11<sup>th</sup> 2019. eTrac utilized an R2Sonic 2024 Multibeam Echosounder operating at 400Khz to collect bathymetry and backscatter imagery at the site. The purpose of the survey was to map bathymetry contours, locations of aquatic vegetation, and submerged pipeline structures inside the provided survey area. Survey vessel data collection track lines have been included in ASCII format and are attached with this report. The survey vessel track line data is also timestamped with times in UTC format.

Notable environmental hazards were avoiding kelp and operating a small vessel in shallow waters which included a surf zone. To mitigate for the hazardous sea state, the survey was scheduled during calm conditions.

The sea state at the time of survey, on January 10<sup>th</sup> and 11<sup>th</sup> were reported to be approximately 2-4 feet in the survey area. Clear Skies with winds 5-15mph.

No safety incidents were reported.

No marine mammals were observed.



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## Hydrographic Survey Log

### Project Description

<u>Date</u> 1/10/2019	<u>Client</u> L123	<u>Project Name</u> Grubb Lease
<u>File Name Structure</u>	<u>Client Contact</u> Dan Holmes	<u>Location</u> Ventura CA
<u>Survey Type</u> Multibeam	<u>Stage</u>	<u>Reach/Area/Station</u>
<u>Contract Number</u>		

### Personnel

<u>Hydrographer (1)</u> Greg Crenshaw	<u>Hydrographer (2)</u>	<u>Vessel Operator</u> Shaun Akins
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### Weather Conditions

<u>Sky</u> Clear	<u>Wind Speed</u> 5-10 mph	<u>Wind Direction</u>
<u>Swell</u> 3-4 ft	<u>Chop</u> 1-2 ft	<u>Sea State</u> Moderate (1.25-2.5 m)

### Survey Vessel

	<u>Vessel Used</u> Tikaani (24' Monohull)	
<u>Fuel Level</u> Full	<u>Port Motor Hours</u>	<u>Port Motor Oil Level</u> Full
	<u>Starboard Motor Hours</u>	<u>Starboard Motor Oil Level</u> Full

### Geodesy

<u>Horizontal Datum</u> NAD_83	<u>Vertical Datum</u> MLLW	<u>Map Projection</u> CA SPCS Zone 5 (0405)
<u>Units</u> U.S. Survey Feet	<u>Height Correction Method</u> Geoid12b	



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## On-Board Positioning and Motion Systems

<u>Primary Horizontal Position</u>	<u>Primary Vertical Position</u>	<u>Motion System</u>
POS MV V5 WaveMaster	POS MV V5 WaveMaster	POS MV V5 WaveMaster
<u>Update Rate</u>	<u>Update Rate</u>	<u>Update Rate</u>

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## Sonar

<u>Sonar Unit</u>	<u>Sonar Frequency</u>	<u>Ping Rate Limit</u>
R2Sonic 2024	400 kHz (Object Detection Survey)	
<u>Swath Width</u>	<u>Absorbtion Setting (dB/km)</u>	<u>Coverage</u>
120°		

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## Software

<u>Acquisition Software</u>	<u>Processing Software</u>	<u>Time Synchronization Metho</u>
Qinsy v.8.1	Qimera	Qinsy PPS (Network)

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<b>File Name Structure</b>	<b>Client Contact</b> Dan Holmes	<b>Location</b> Ventura CA
<b>Survey Type</b> Multibeam	<b>Stage</b> Conditional Survey	<b>Reach/Area/Station</b>

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PRE DECOMMISSION  
HYDROGRAPHIC SURVEY

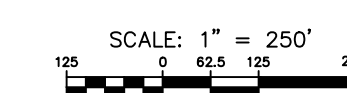
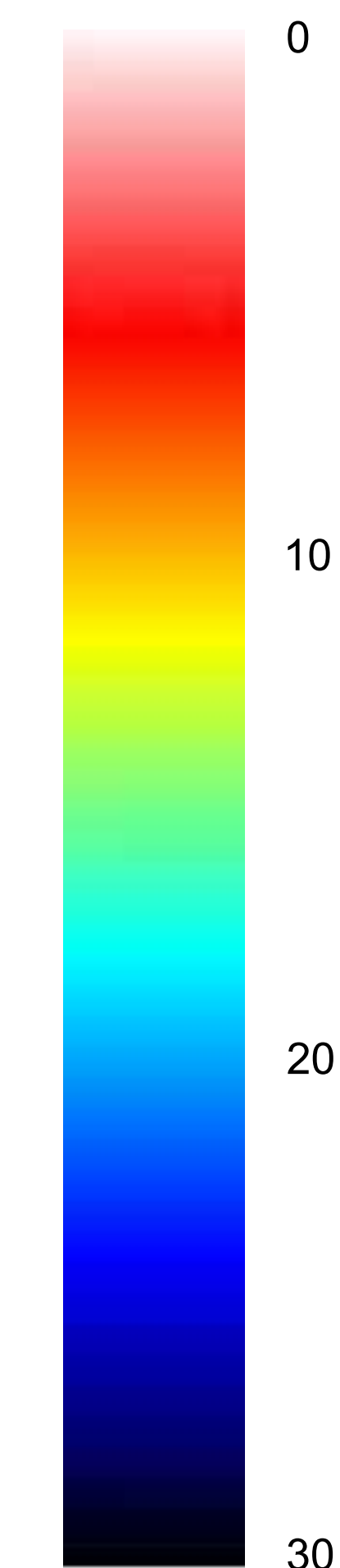
GRUBB LEASE  
DECOMMISSIONING PROJECT

- Notes
1. Horizontal datum/projection: SPCS California Zone 5, NAD83 (2011) (Epoch 2010.00)- U.S Survey Feet
  2. Horizontal control: AZGPS Base Station VENT - Ventura, CA
  3. Survey data collected by eTrac Inc. on January 10, 11, 2019
  4. Vertical datum: MLLW (NAVD88 Geoid (2012A) Reduced to MLLW using the datum transformation values from USAACE tidal Benchmark VNG in Ventura harbor
  5. Vertical control: AZGPS Base Station VENT - Ventura, CA
  6. Units: U.S. Survey ft
  7. This survey represents conditions at the time of the survey.
  8. Positioning and motion data was collected using an Applanix POS MV V5.
  9. All hydrographic data collected with an R2 Sonic 2024.

Legend

- PIPELINE EXPOSED AS SURVEYED
- KELP BED
- ROCKY OUTCROPPING
- ROCKS/BOULDERS
- PIPE INFRASTRUCTURE OBJECTS

DEPTH BELOW MLLW  
(USft)



PLOT DATE: JANUARY 23, 2019  
DESIGNED BY: RG  
CHECKED: NPG

FILE: L123\_2019\_GRUBB\_LEASE\_PRE\_DECOMMISSION

	Descriptions	Easting	Northing	Minimum Depth	Dimensions
L123_2019_OBJ_001	Pipeline Infrastructure Object	6148681.4	1940231.1	-11.0	9x9x4
L123_2019_OBJ_002	Pipeline Infrastructure Object	6148844.7	1940060.1	-11.3	9x9x4

