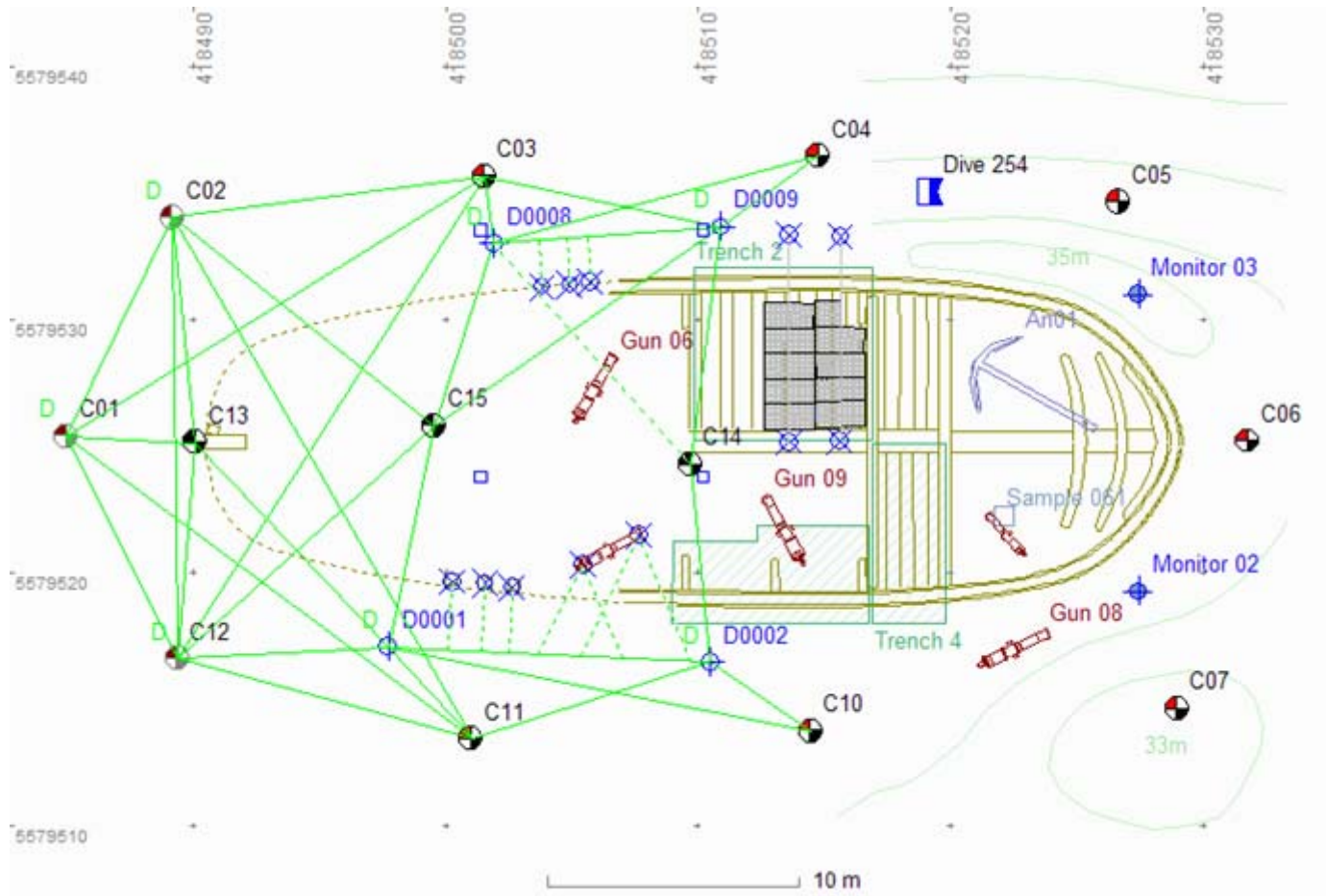


An Introduction to Site Recorder 4 GIS





Site Recorder

A Geographic Information System

- 'Can integrate and manage large and diverse data sets'
- 'Is capable of assembling, storing, manipulating, and displaying geographically referenced information'
- 'Can be used as a tool to aid the recording and preservation of cultural heritage sites by collecting together and presenting site information in an integrated and meaningful way'
- Is a big bucket of spatial data





Site Recorder

Requirements

- Records data from a generic maritime or intertidal site
- Allows integrated recording in 2.5 dimensions
- Simple - easy to learn and use
- Scalable - survey to excavation
- Secure electronic publishing
- Allows data exchange
- Records associations between objects
- Minimise cost



The GIS for Maritime and Intertidal Archaeology

Site Recorder - Mary Rose MASTER.rcdd

File Edit View Tools Window Help

Plan (XY) Chart

Artefact - MRT-05A0006

Recording Properties Notes Position Images Sources Samples Links

Recording

Name: 05A0006
 Previous name(s): A0006
 Object Class: Personal Possessions
 Object Type: fiddle bow
 Material: Organic : Wood
 Description: bow Fiddle?
 Dive Found: 26 September 2005
 Date Found: 26 September 2005
 Dive Recovered: 26 September 2005
 Date Recovered: 26 September 2005
 Collect Method: Excavated

The method used to collect the

Record: 631 of 825

Print

Cancel Help

Layers

Name On Lock

- Mary Rose
- 1976 BP Rangemeter
- Mary Rose General
- 2005 Season
- 2005 Artefacts
- 2005 Samples
- 2005 Timbers
- 2005 Human
- 2005 Timbers Dwg
- 2005 Control
- 2005 Features
- 2005 Dives
- 2005 Anchor
- 2005 Datalogger L
- 2005 Moorings
- 2005 Cradle
- 2005 Trenches
- 2005 Sandbags
- Dive 37 Fixes
- 2004 Season
- 2003 Season
- 1996 Erosion Monitoring
- 1979 Season
- 1978 Season
- 1977 Season
- 1976 Season
- 1973 Season
- 1971 Season
- Hull Outline 60
- Trenches 75-79
- 2003 Remus ALV Survey
- 1997 Dix Sub-Bottom
- 2004 Tritech SBP
- 2004 Wessex Archaeology
- 2005 MLD MBES Bathymetry
- 2002 MLD MBES Bathymetry
- 2003 GeoAcoustics MBES
- 2003 Andrews Survey
- Base Maps

Artefacts [825]

Ty	Name	Visible	Layer	Easting (m)	Northing (m)	Latitude	Longitude	Depth (m)	Previous name(s)	Object Class	Object Type	Material	De
	05A0004	N	2005 Artefacts	633691.012	5625216.913	50 45.7981 N	001 6.2583 W	10.000	A0004	Ship Stores	Bottle	Glass: Bottle	pa
	05A0005	N	2005 Artefacts	633691.007	5625217.027	50 45.7981 N	001 6.2583 W	10.000	A0005	Ship Fittings	Block	Ceramic : Block	2x
	05A0006	N	2005 Artefacts	633691.114	5625218.085	50 45.7987 N	001 6.2581 W	10.000	A0006	Personal Posse...	fiddle bow	Organic : Wood	bo
	05A0007	N	2005 Artefacts	633691.120	5625218.002	50 45.7987 N	001 6.2581 W	10.000	A0007	Miscellaneous	Concretion	Other	Co

50 45.7933 N 001 6.2570 W 1:87

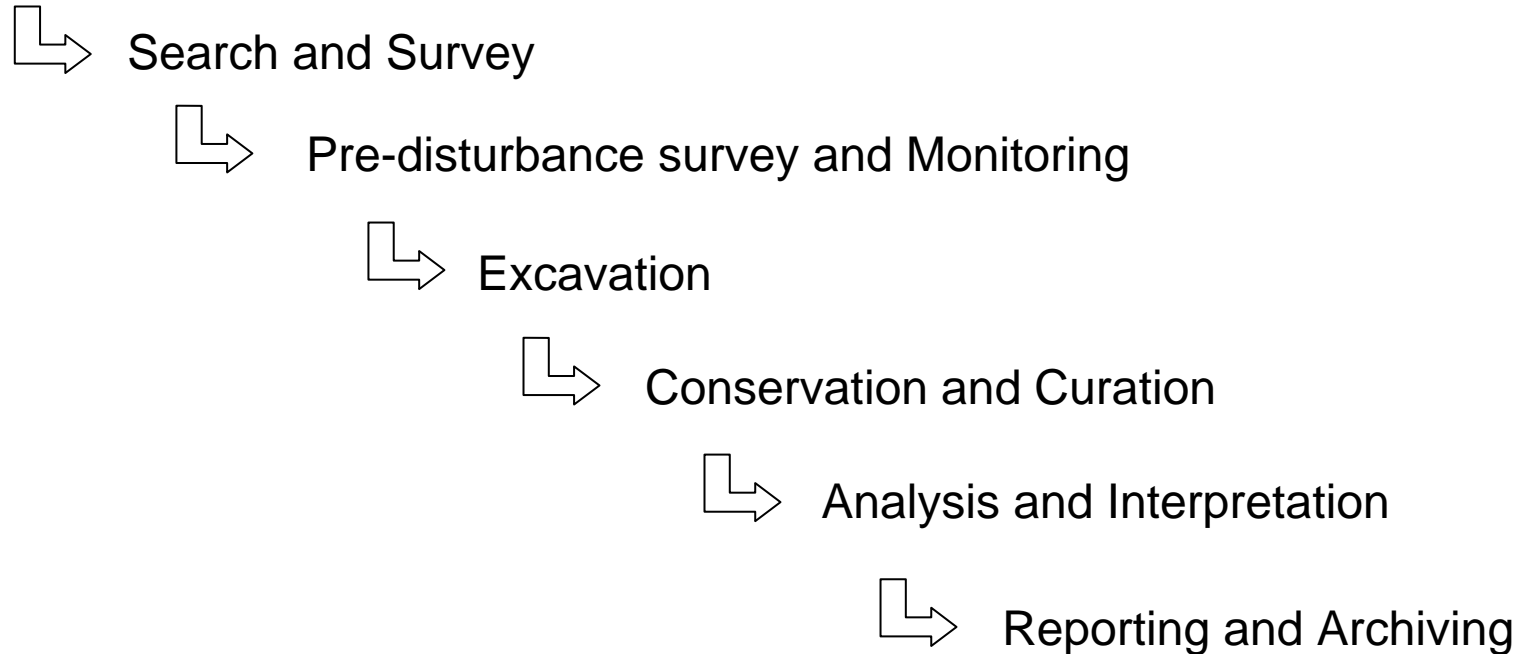
GPS Tracking OFF Logging OFF



Site Recorder

Archaeology Project Phases

Planning and Assessment



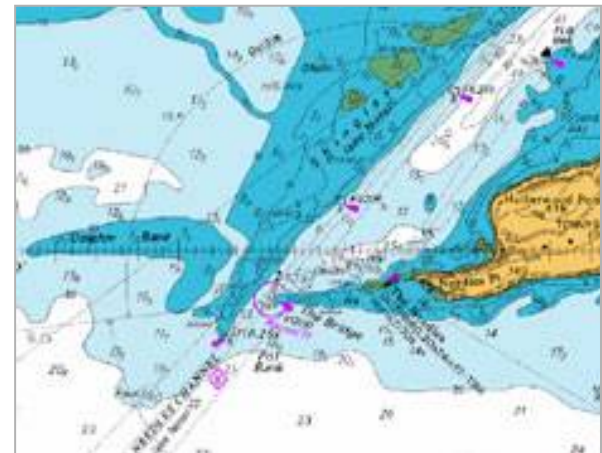


Site Recorder

Planning / Assessment

Show what is known in context

- Known wrecks
- Targets - Side-scan, magnetometer, profiler, stories, fishing snags
- Survey areas
- Coastlines, contours, buoys
- Documents
- Images
 - Photographs, video
 - Geo-referenced raster
- Import wreck and target data
- Define survey areas
- Import coastline and contours
- Link to documents, images

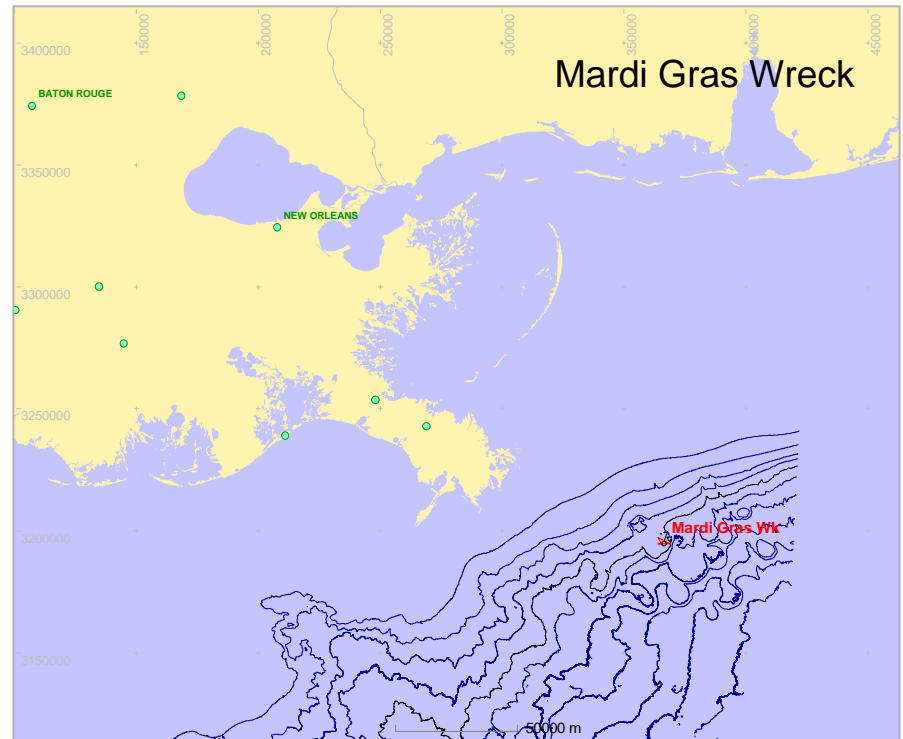
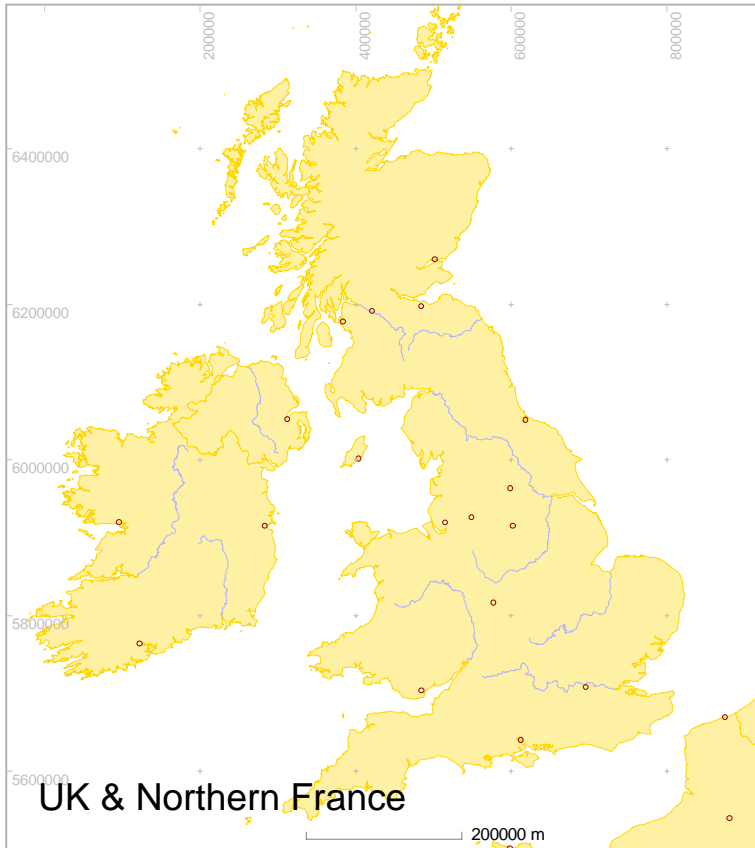




Site Recorder

Add Coastlines

Import files from GIS and CAD programs

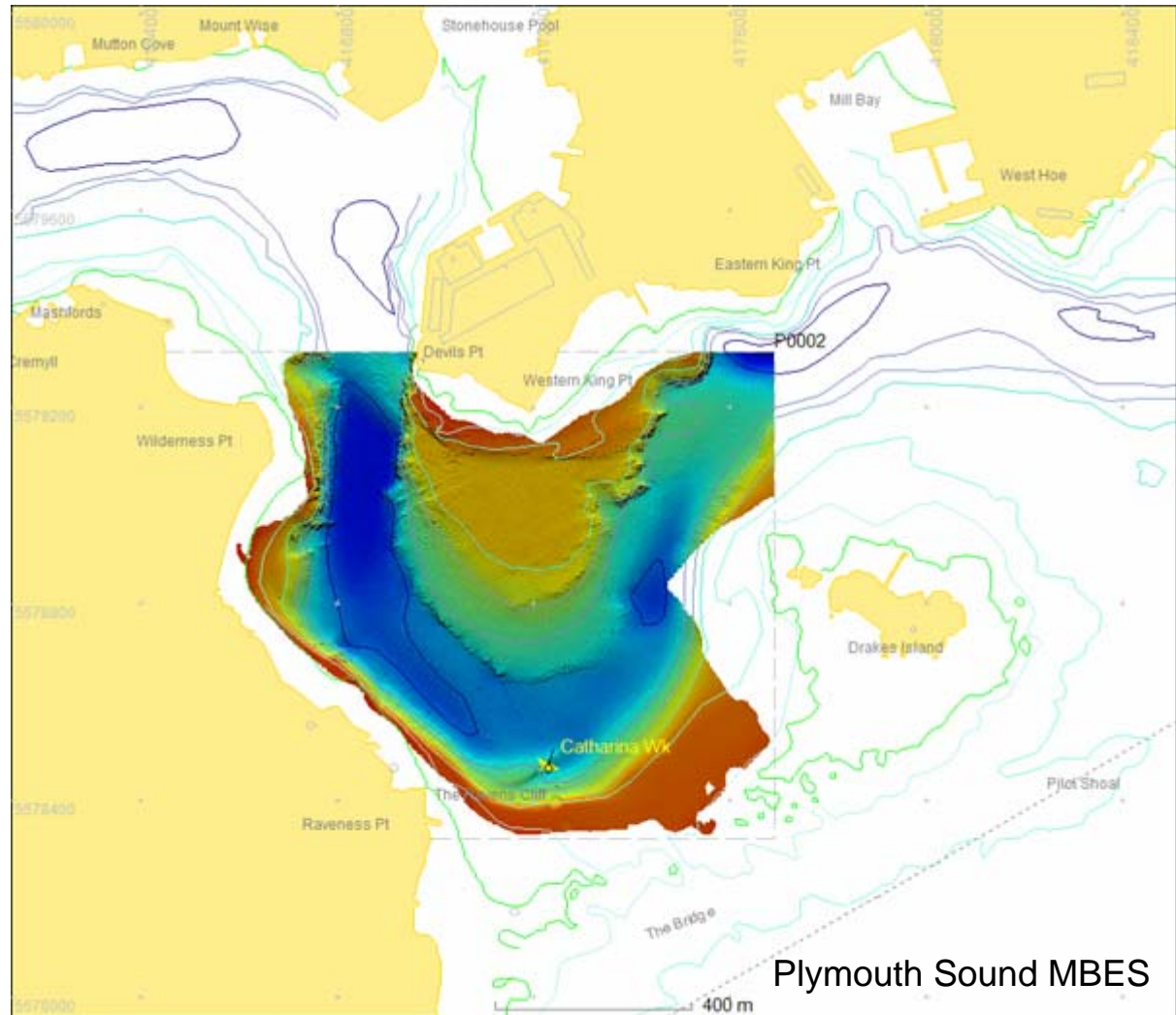




Site Recorder

Add Image
Basemaps (raster)

Multibeam images
Aerial Photographs



Plymouth Sound MBES

Hazardous MBES and gun drawings

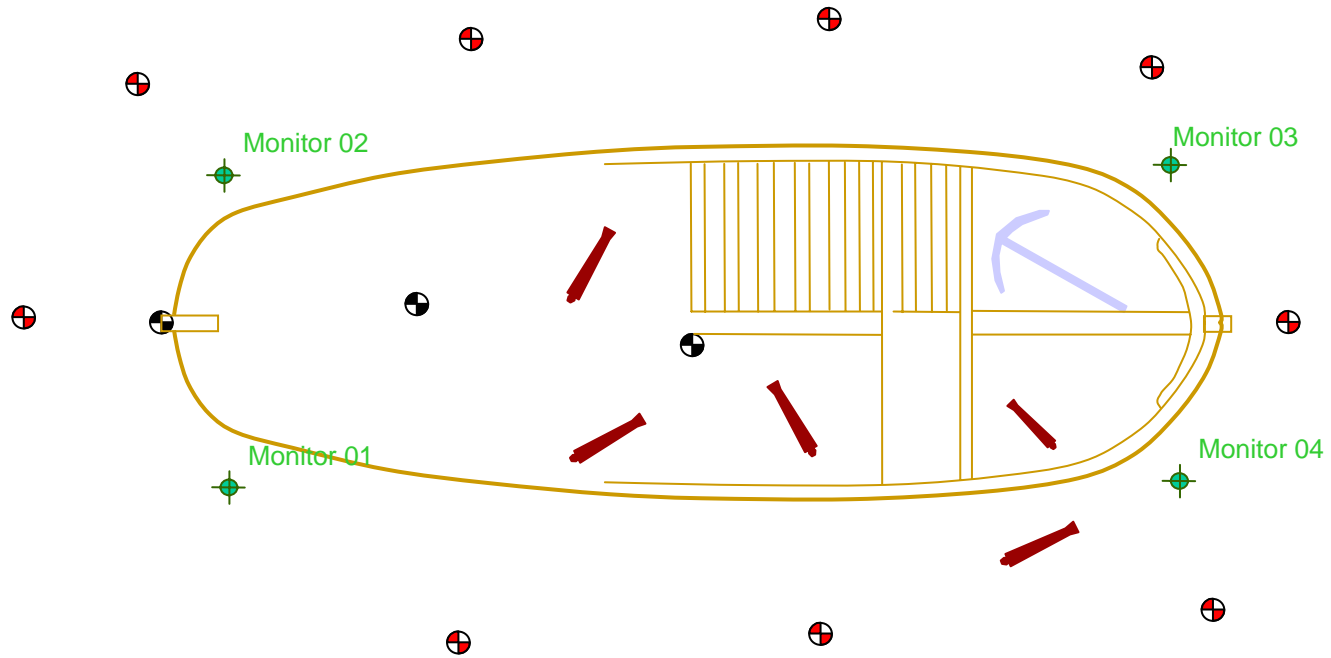






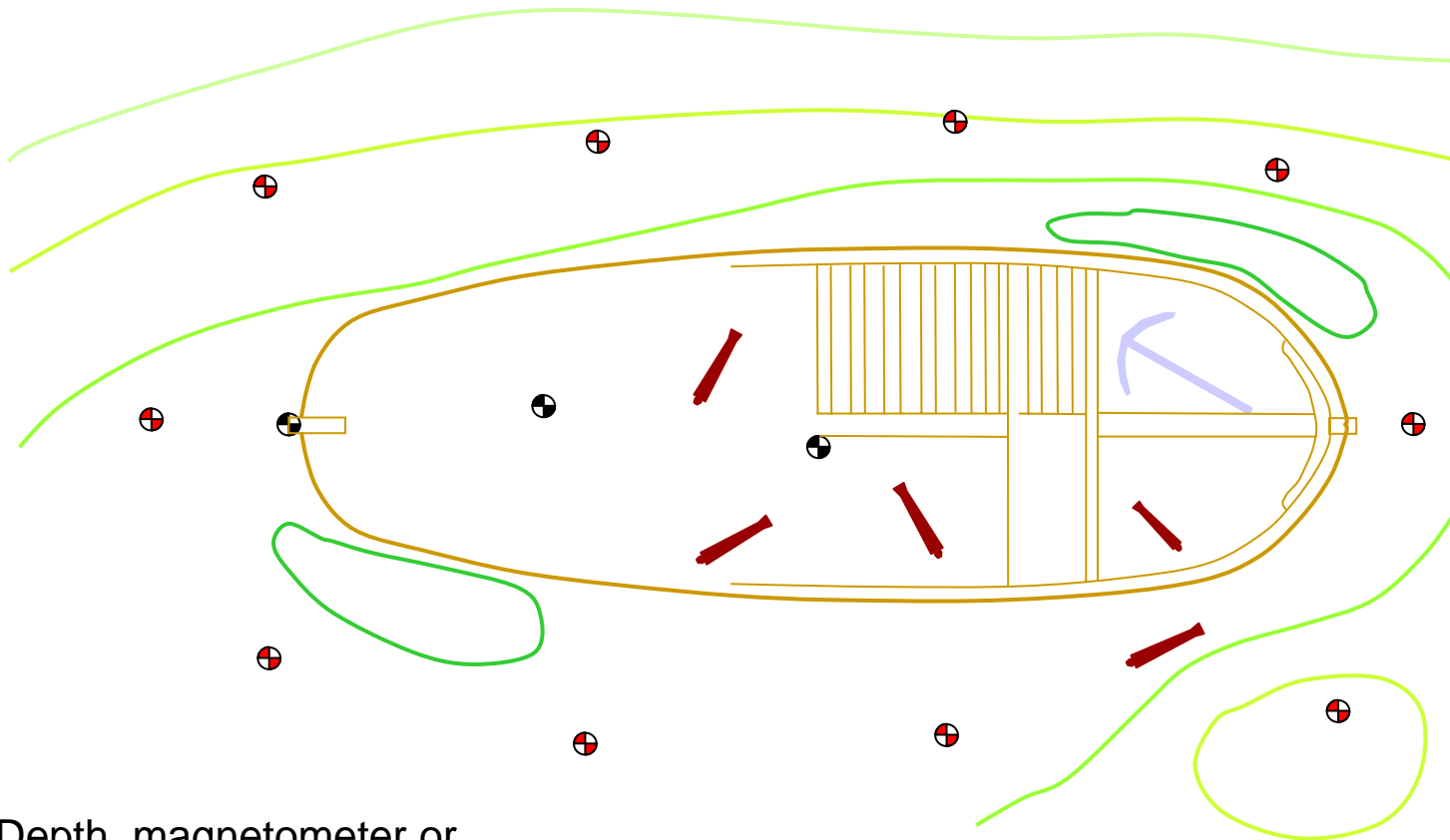
Site Recorder

Add Points



Site Recorder

Add contour lines



Depth, magnetometer or
anything else



Site Recorder

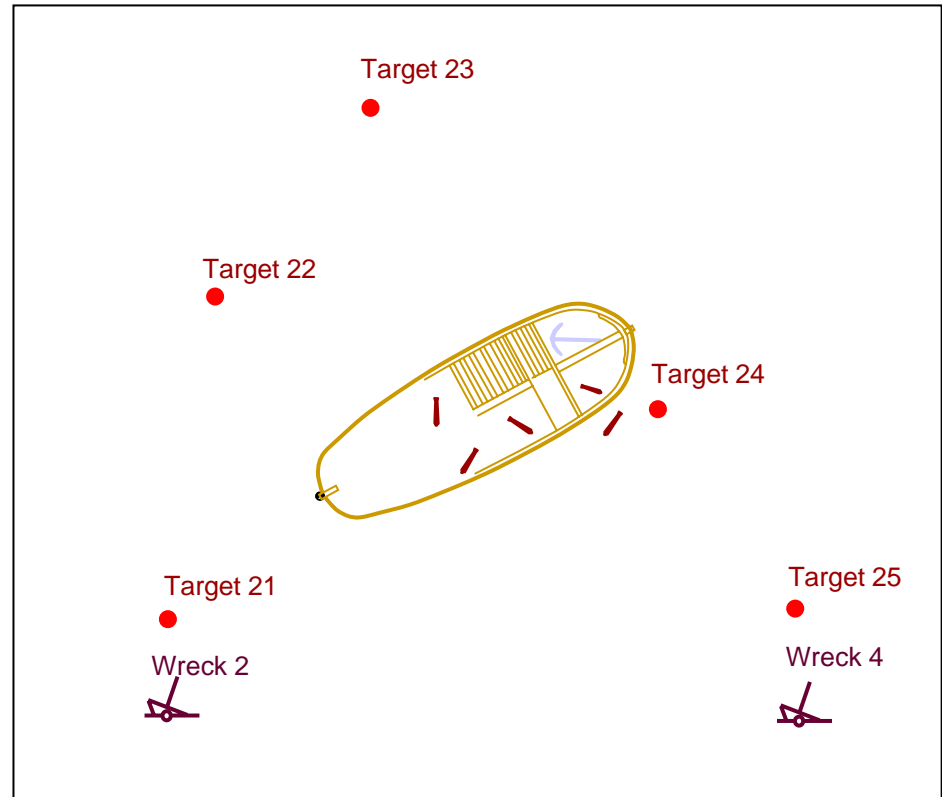
Add Targets and Wrecks

Targets derived from:

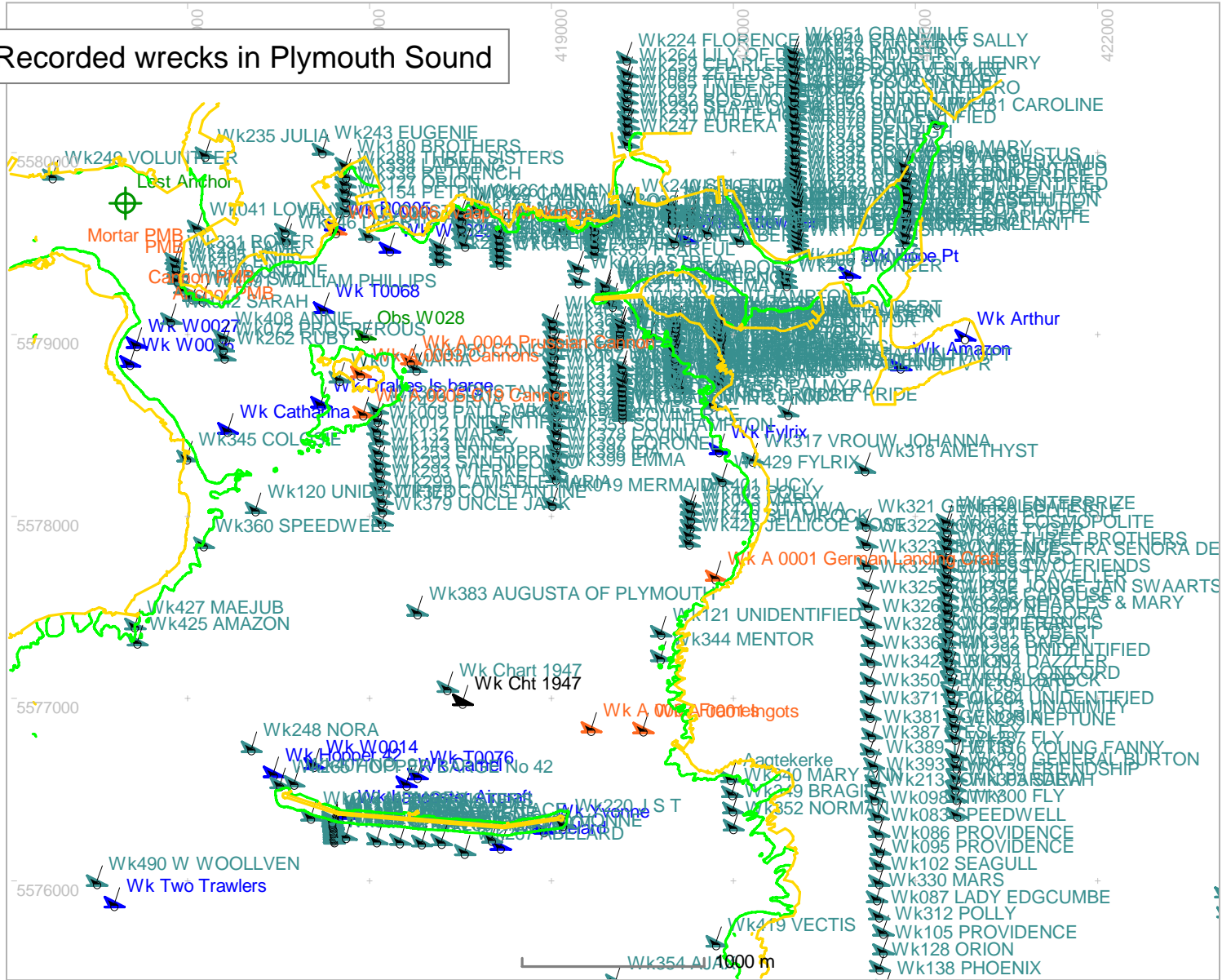
- Diver search
- Magnetometer
- Sidescan Sonar
- MBES

Wrecks:

- Located wrecks
- Recorded wrecks
- Wreck debris



500 Recorded wrecks in Plymouth Sound

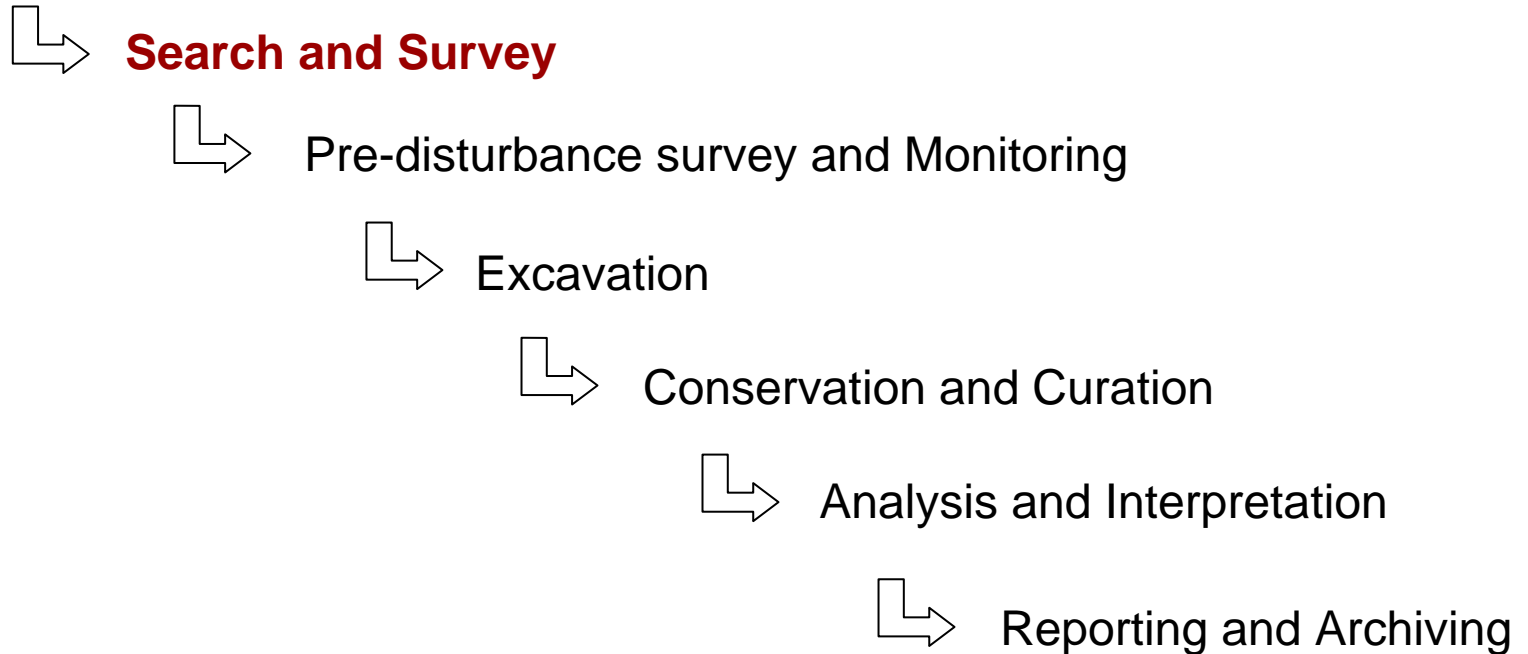




Site Recorder

Archaeology Project Phases

Planning and Assessment





Site Recorder

Search and Survey

Search for a target or survey for any targets

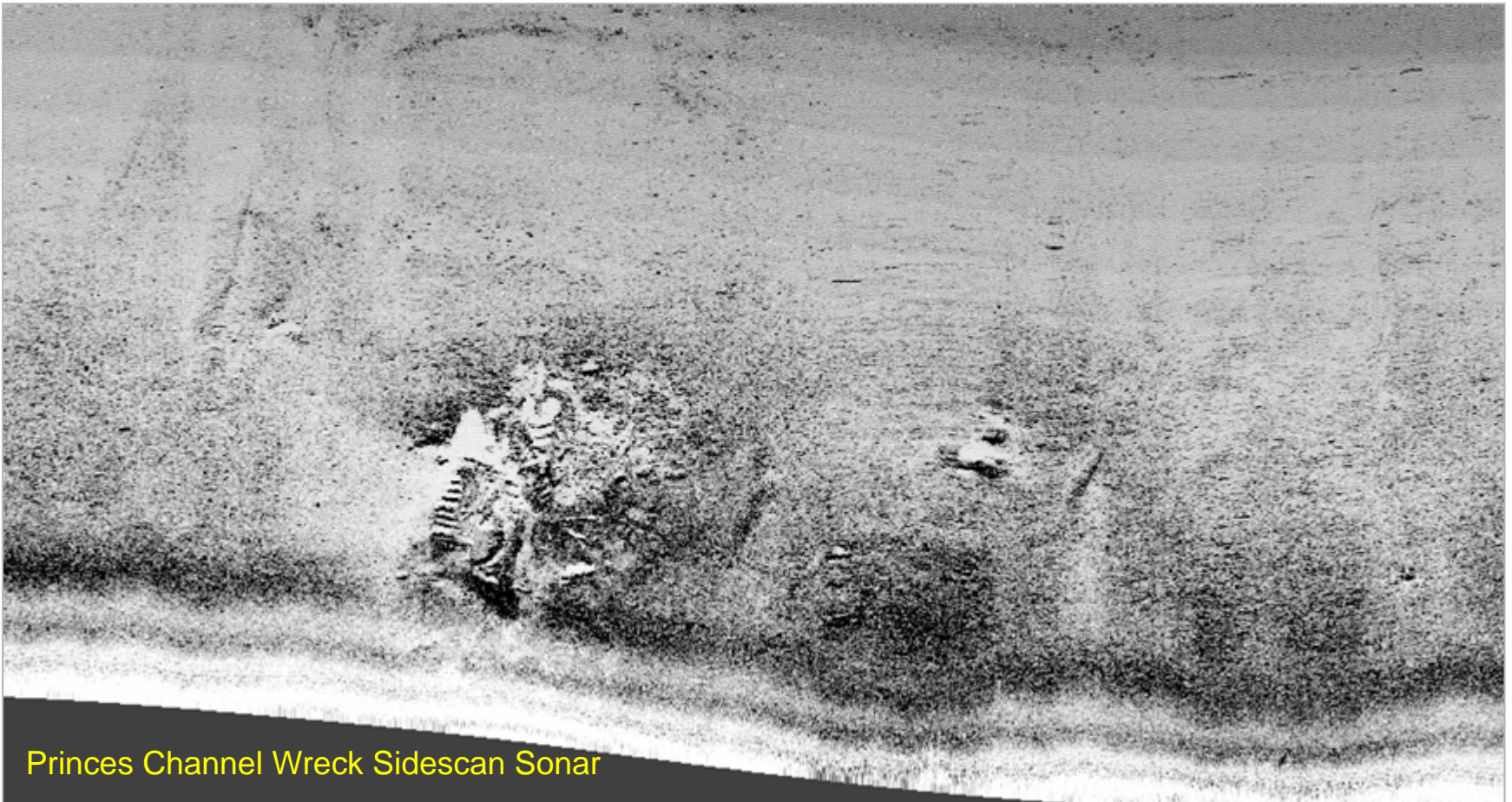
- GPS / APS positions
- Magnetometer data
- Side-scan sonar images
- Multibeam sonar images
- Sub-bottom profiler images
- Documents and Images
- Logbook and Task List
- Record data
- Process data
- Guide survey vessel





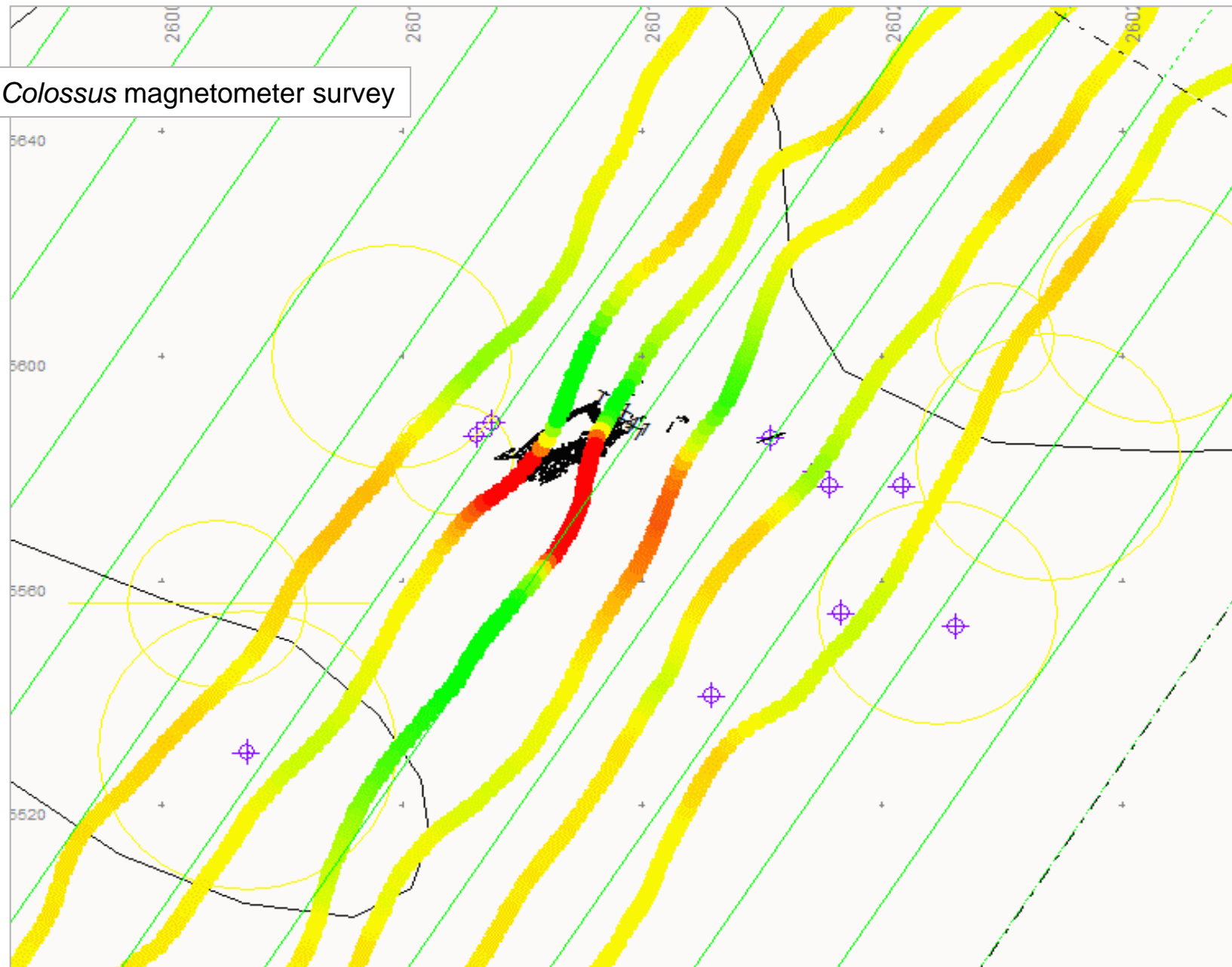
Site Recorder

Add Georeferenced Sidescan Sonar Basemaps



Princes Channel Wreck Sidescan Sonar

Colossus magnetometer survey





Site Recorder

Archaeology Project Phases

Planning and Assessment

↳ Search and Survey

↳ **Pre-disturbance survey and Monitoring**

↳ Excavation

↳ Conservation and Curation

↳ Analysis and Interpretation

↳ Reporting and Archiving



Site Recorder

Pre-Disturbance Survey & Monitoring

Record and process site survey data

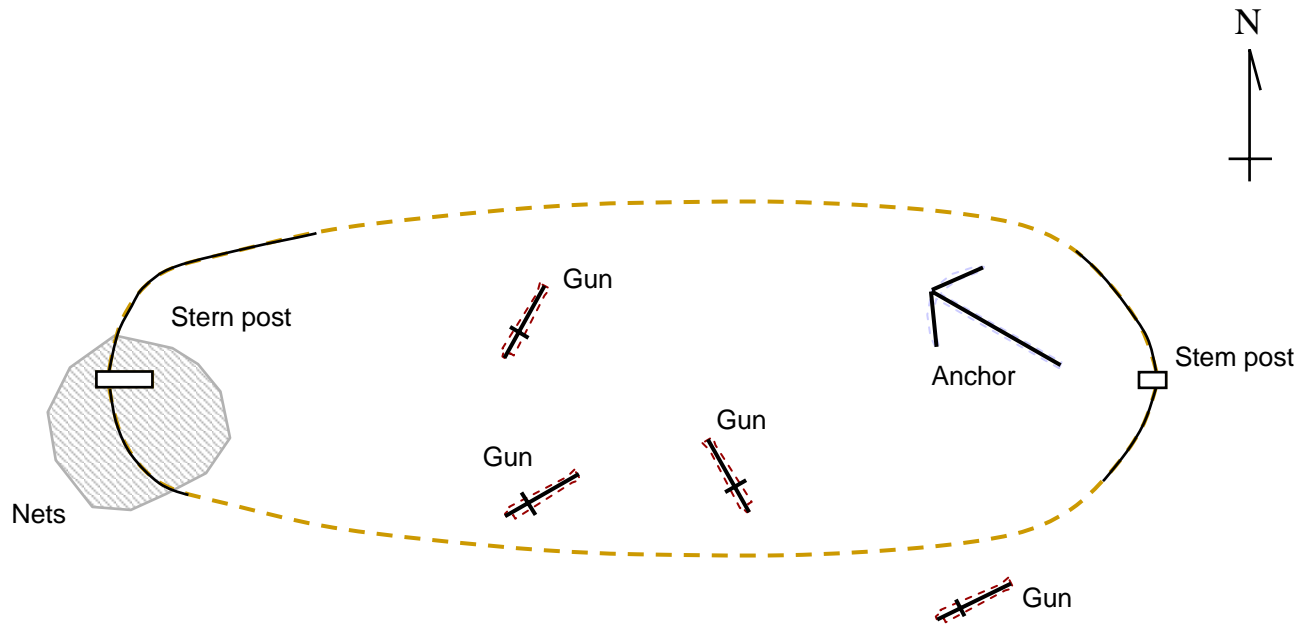
- Sketches
- Legacy site plans
- Survey points, measurements
- Drawing frames
- Dive logs, people
- Photomosaics
- Documents and images
- Logbook and Task List
- Draw sketches
- Process survey measurements
- Record changes over time





Site Recorder

Add a preliminary sketch

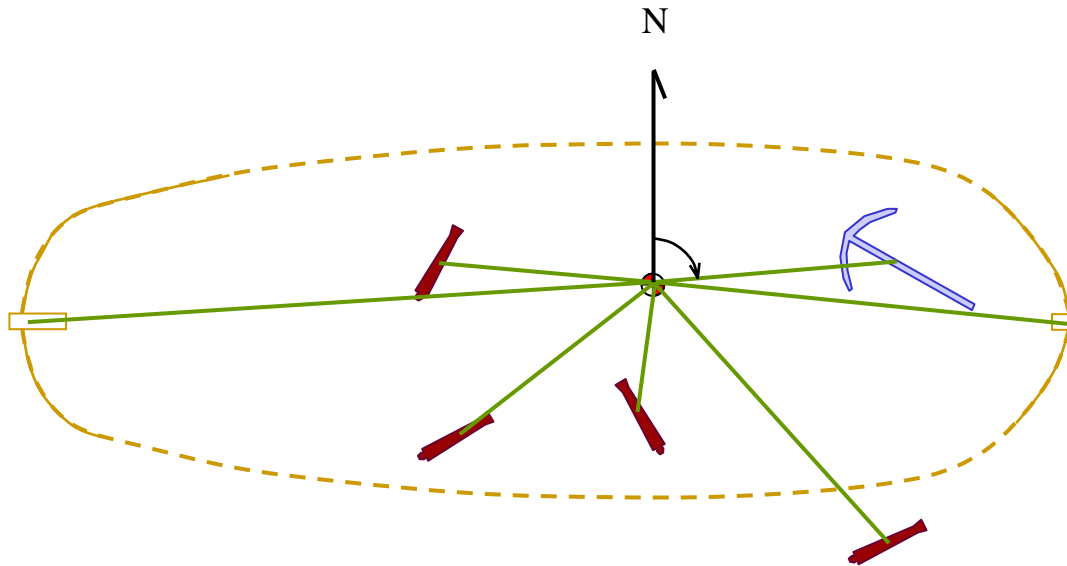


Site Recorder includes a complete set of CAD drawing tools



Site Recorder

Quick assessment survey using radial measurements

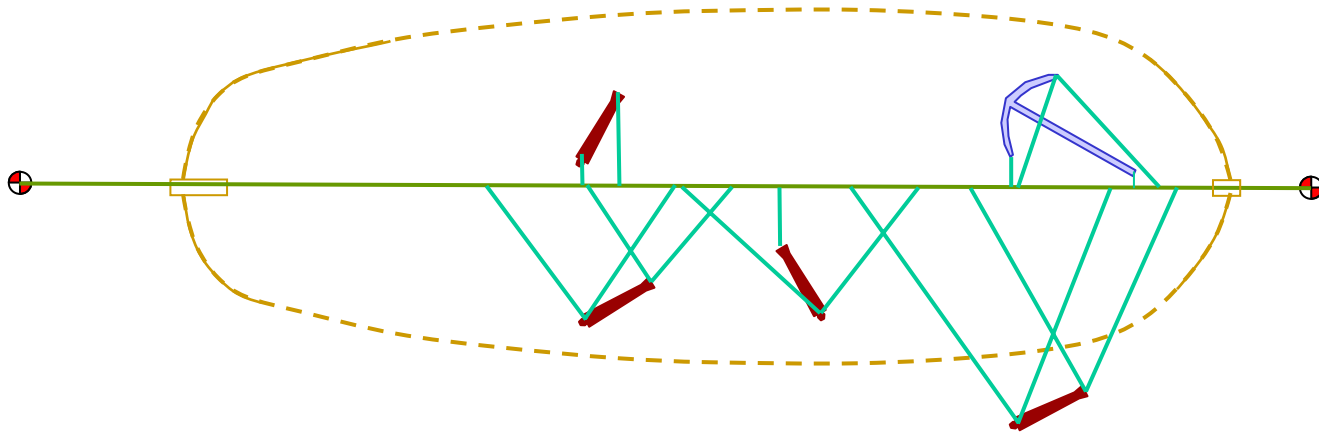


Supports radial (distance + angle) measurements



Site Recorder

Quick assessment survey using baseline, offsets and ties

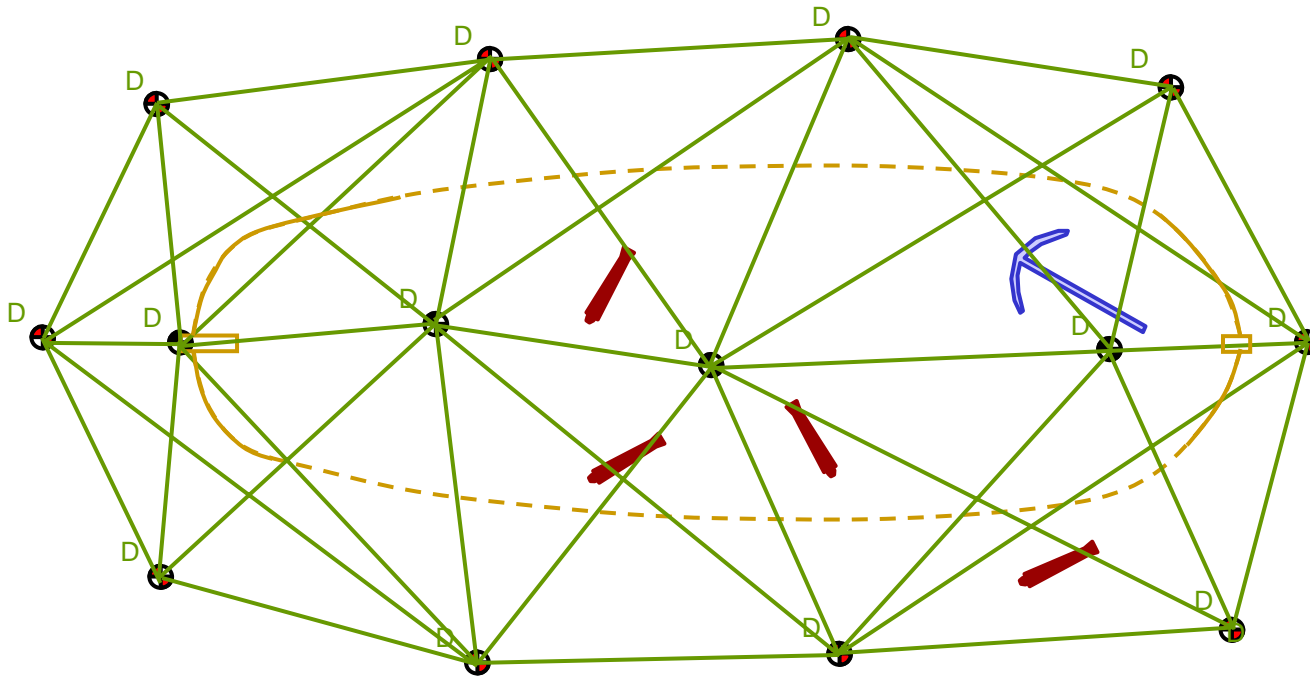


Supports offset and ties measurements



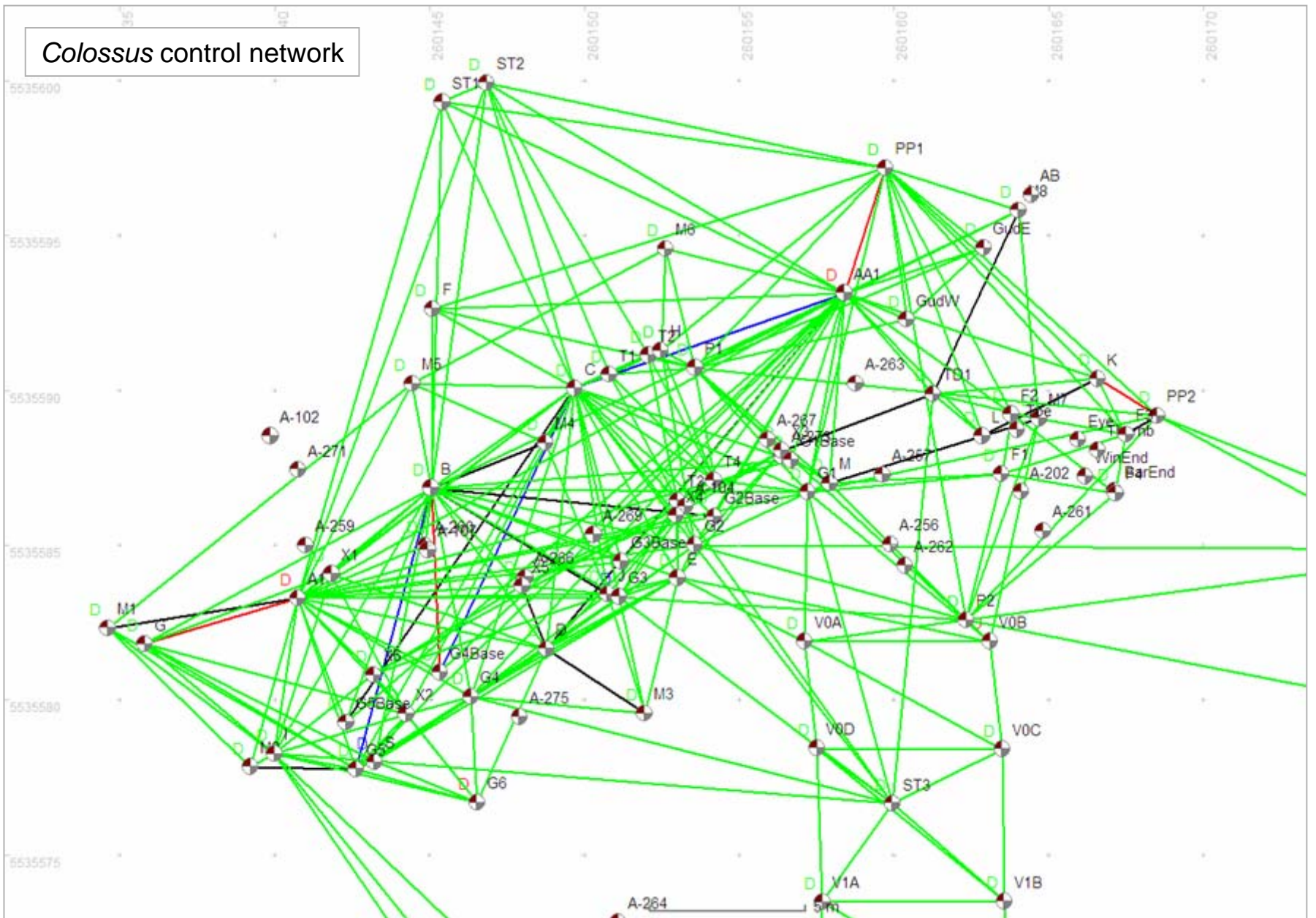
Site Recorder

Add Primary and Secondary Control Points



Add survey points, distance and depth measurements
then adjust to find the positions of the points

Colossus control network

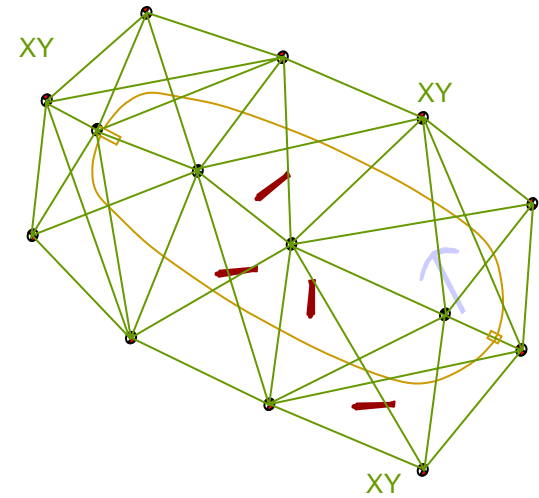
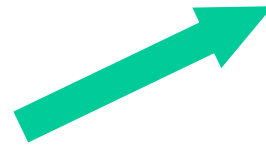
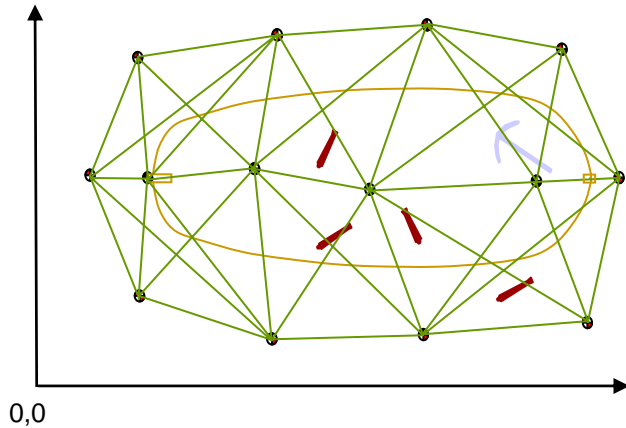




Site Recorder

Position site in real world with GPS positions

Uses positions from a GPS receiver to position the site in the real world

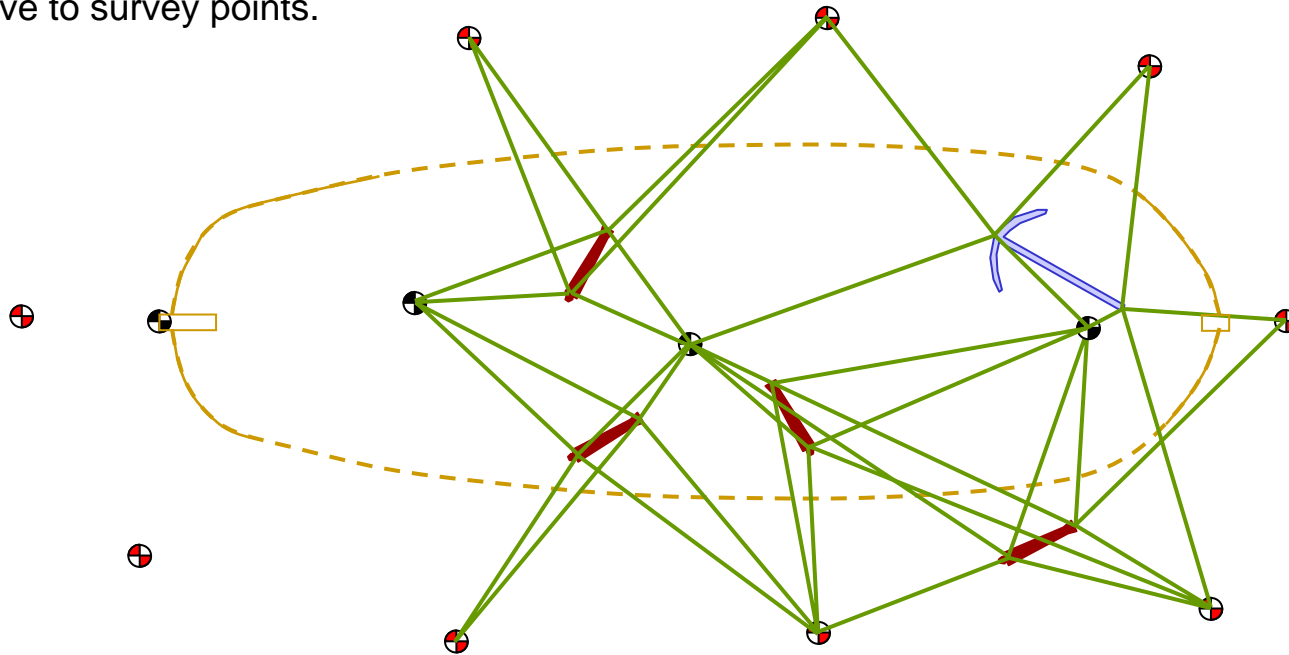




Site Recorder

Position Artefacts and Structure using Survey Points

Artefact drawings can be positioned relative to survey points.

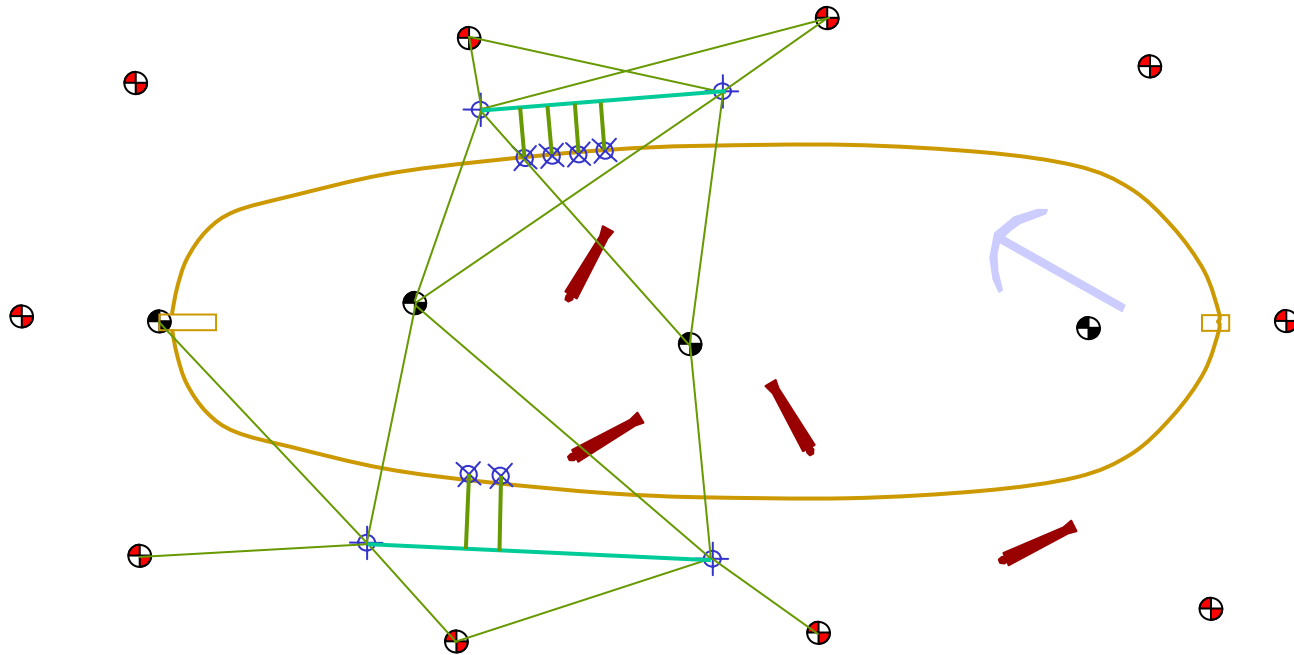


If the points move as the survey improves the artefact drawings will follow



Site Recorder

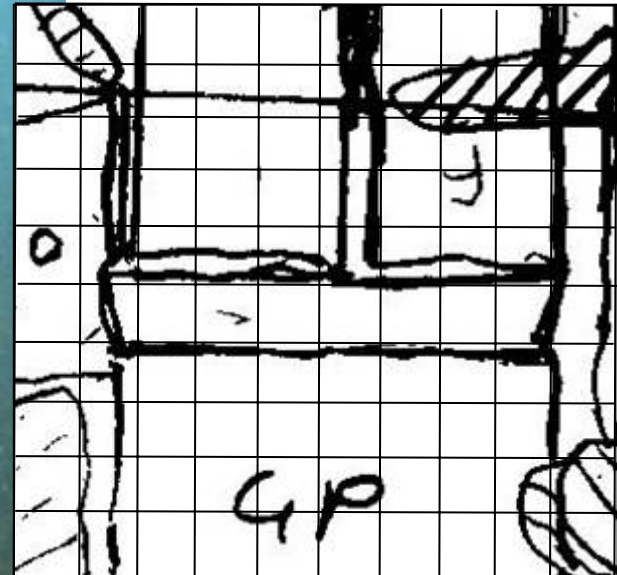
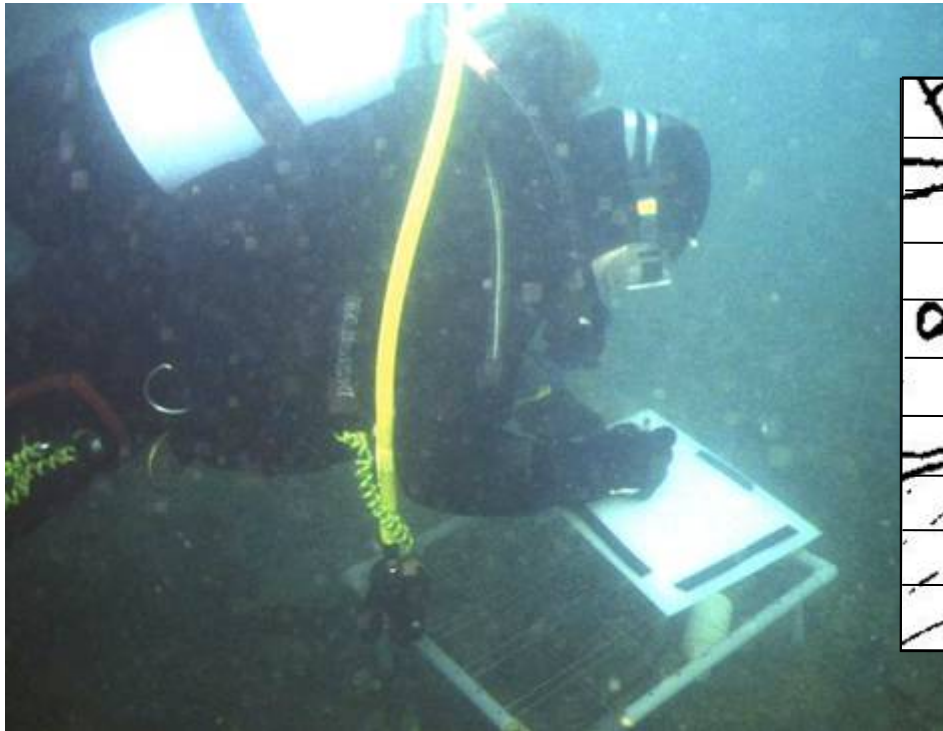
Add detail using offsets and ties





Site Recorder

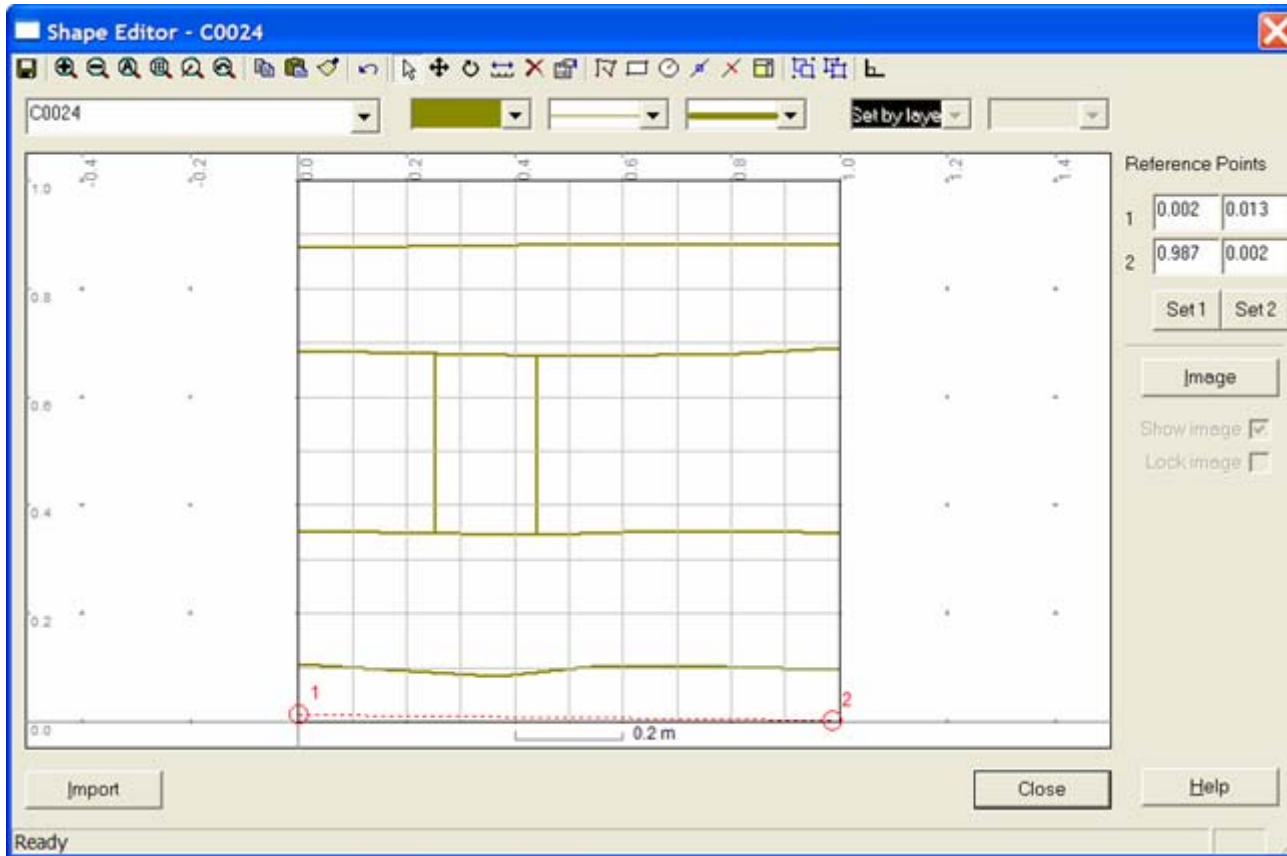
Supports drawing frames





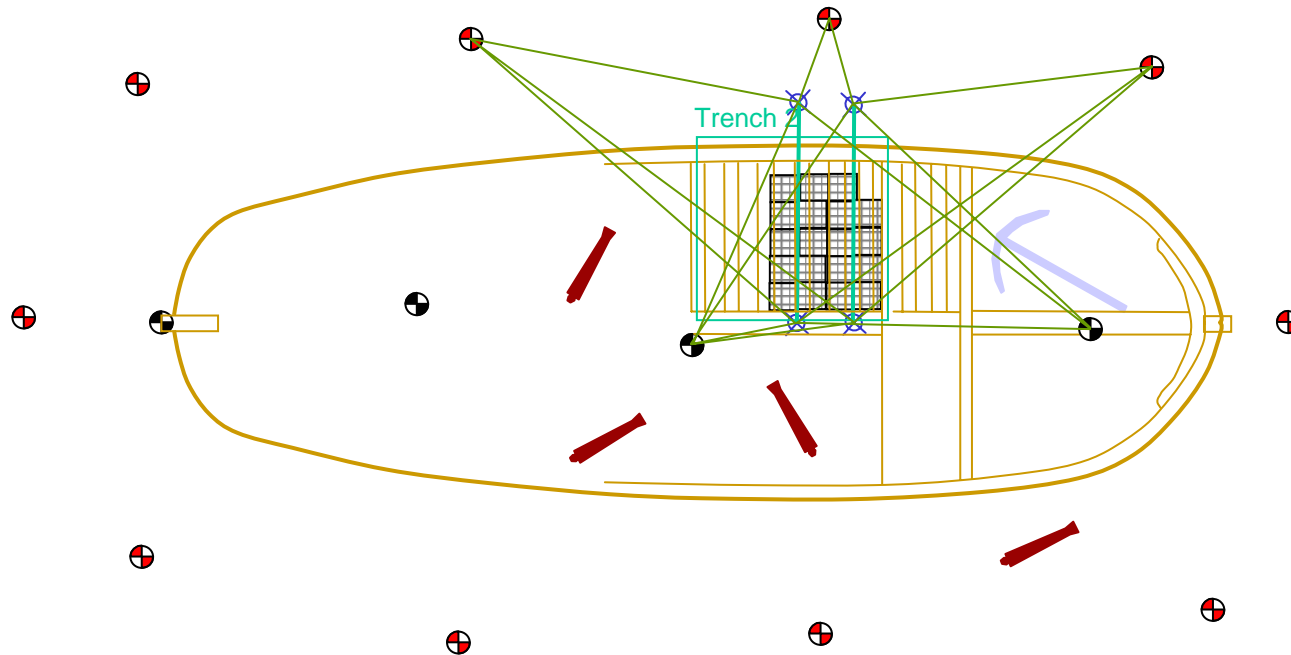
Site Recorder

Trace or digitise each drawing frame using the Shape Editor Tool



Site Recorder

Position drawing frames using baselines

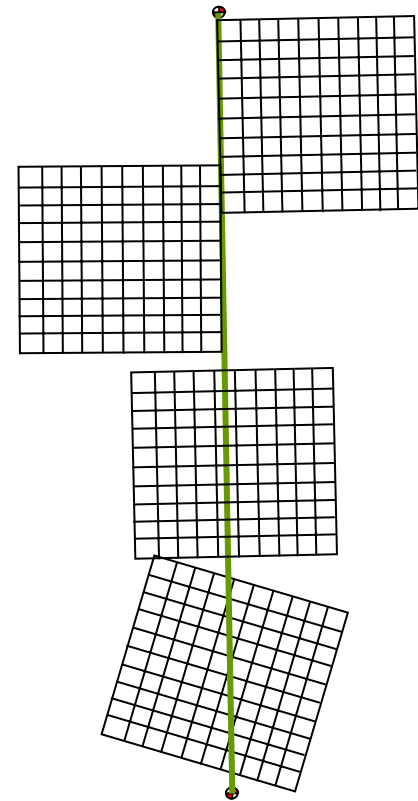
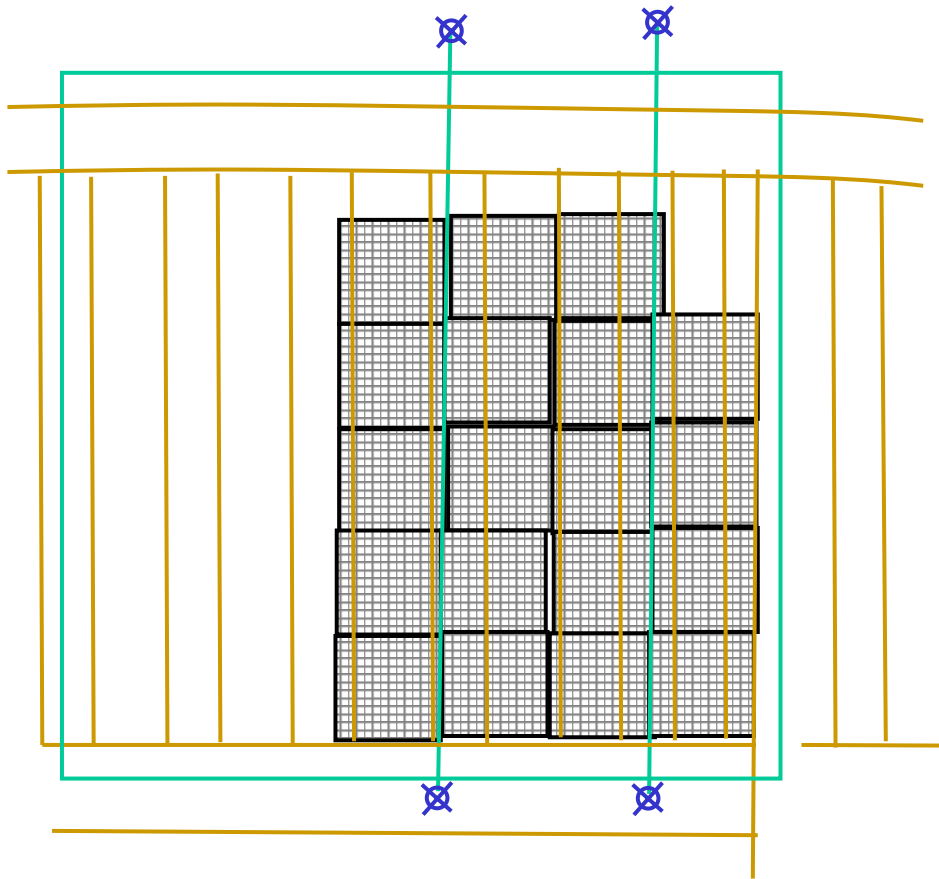


Drawing frames can be positioned relative to baselines or survey points



Site Recorder

Use multiple drawing frames to cover an area





Site Recorder

Add Events, Dive Logs and Divers

Person -

Properties | Notes

General

Name	Jacques Cousteau
Initials	JYC
Address	France
Home Phone	003 785 65345
Mobile Phone	003 234 8435
email	jyc@underwater.fr
Qualifications	Everything
Is a diver	<input checked="" type="checkbox"/>
Is an archaeologist	<input type="checkbox"/>
UID	0 - Set by layer

UID
Unique Identifier

OK

Dive - Dive 254

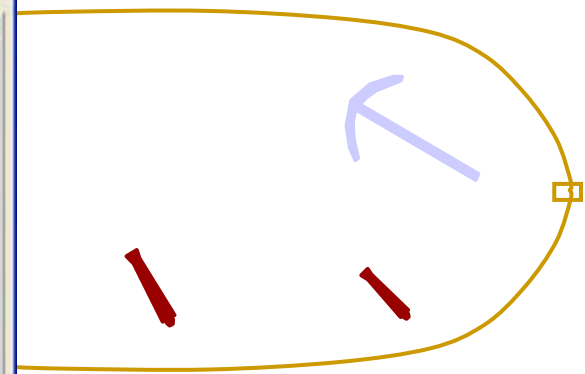
Properties | Notes

General

Name	Dive 254
Layer	Dives
Easting (m)	418519.151
Northing (m)	5579535.080
Depth	0.000
Diver 1	Jacques Cousteau
Diver 2	Hans Hass
Supervisor	William Beebe
Time in	12:13 PM Fri 12 Nov 04
Time out	01:17 PM Fri 12 Nov 04
Duration	64.0 min
Task	Survey
Location	Survey
Visibility	Excavation
Current	Photography
Weather	Lifting
Gas mix	Search
Decompression	Air
Decompression	None

Task
The task to be completed

OK Cancel Apply Help





Kizilburun 2005

Create and display
photomosaics

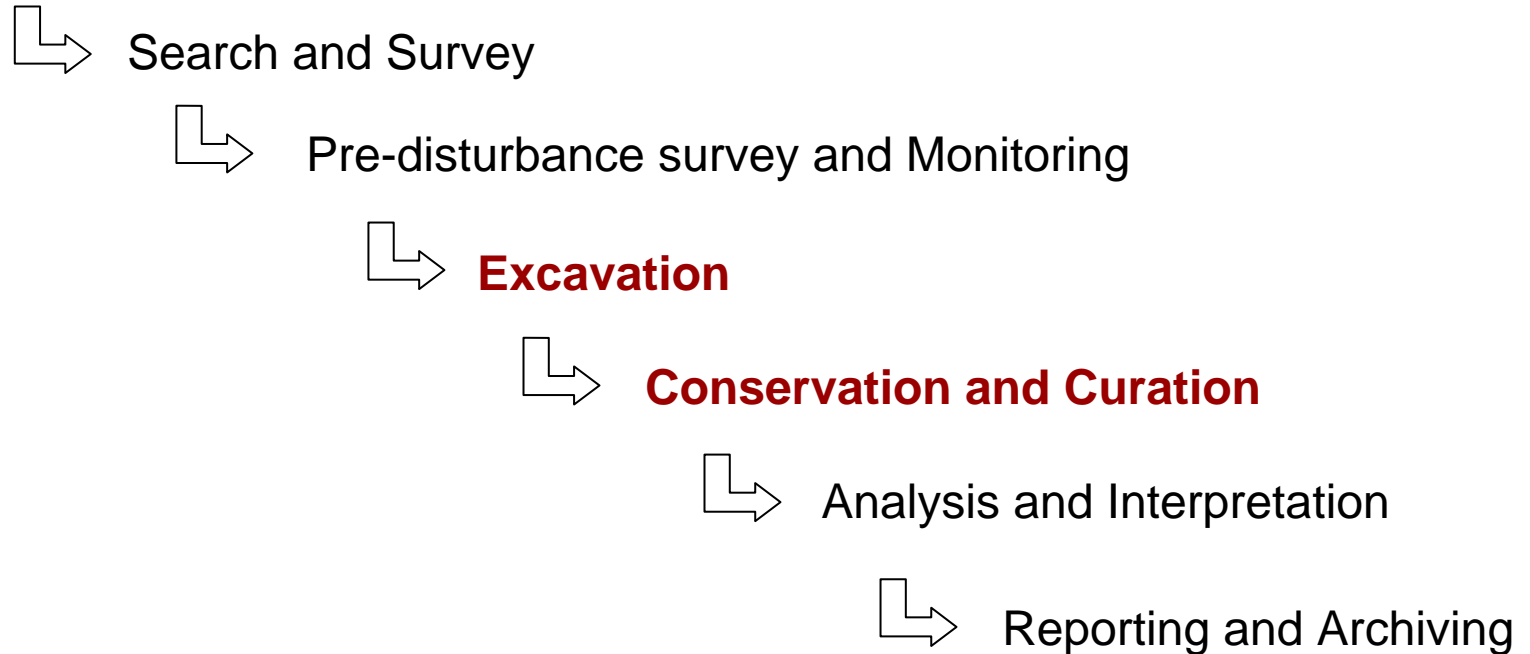
2 m



Site Recorder

Archaeology Project Phases

Planning and Assessment





Site Recorder

Excavation

Record excavation data

- Artefacts / finds
- Samples
- Features / Contexts
- Associate finds, contexts, samples
- Position finds using survey data
- Record changes over time
- Sketches, survey data, sections
- Dive logs, contacts
- Documents and images
- Logbook and Task list





Site Recorder

Conservation and Curation

Record conservation and curation data

- Conservation data for artefacts
 - Curation data for artefacts
 - Record processes
 - Conform to museum standards
-
- Artefacts
 - Documents and images





Site Recorder

Add Artefacts (finds)

Artefact - MRT- 05A0034

Recording | Properties | Notes | Position | Images | Sources | Samples | Links

Recording

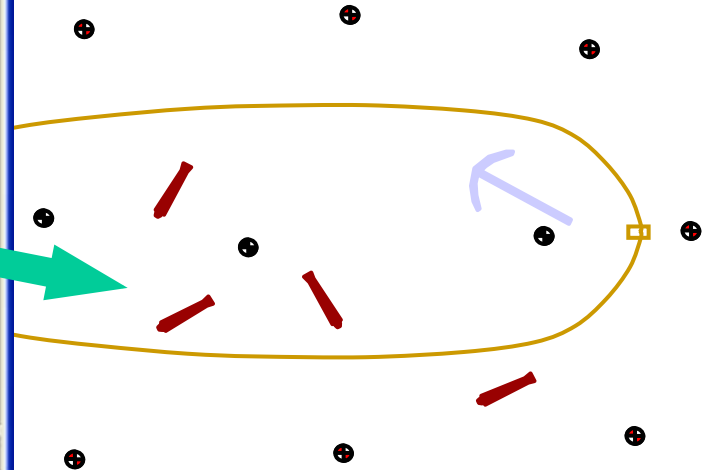
Name	05A0034
Previous name(s)	A0034
Object Class	Ship Stores
Object Type	Glass
Material	Glass: Bottle Neck fragment of glass bottle
Description	
Dive Found	
Date Found	1 October 2005
Dive Recovered	
Date Recovered	1 October 2005

Material
The primary material the object is made of

Record: 659 of 825

OK Cancel Help

Includes full finds recording capability





Site Recorder

Artefact Properties

Recording

Name
Previous name
Object class
Object type
Material
Dive found, recovered
Recorded by

Conservation

Cons. reference
Pre-treatment
Storage medium
Storage location

Interpretation

Provisional date

Dimensions

Length, width, height
Weight
Condition, Completeness
Number of items (bulk finds)

Museum

Museum name
Date to museum

Notes

Location

Association
Part number
Location description
Seabed type



Site Recorder

Property options set by configurable word lists

Artefact - MRT- 05A0034

Recording Properties Notes Position Images Sources Samples Links

Recording

Name	05A0034
Previous name(s)	A0034
Object Class	Ship Stores
Object Type	Glass
Material	Glass: Bottle
Description	
Dive Found	
Date Found	1 October 2005
Dive Recovered	
Date Recovered	1 October 2005

Material
The primary material the object is made of

Record: < < > >

OK Cancel Help




Table : Arch Material

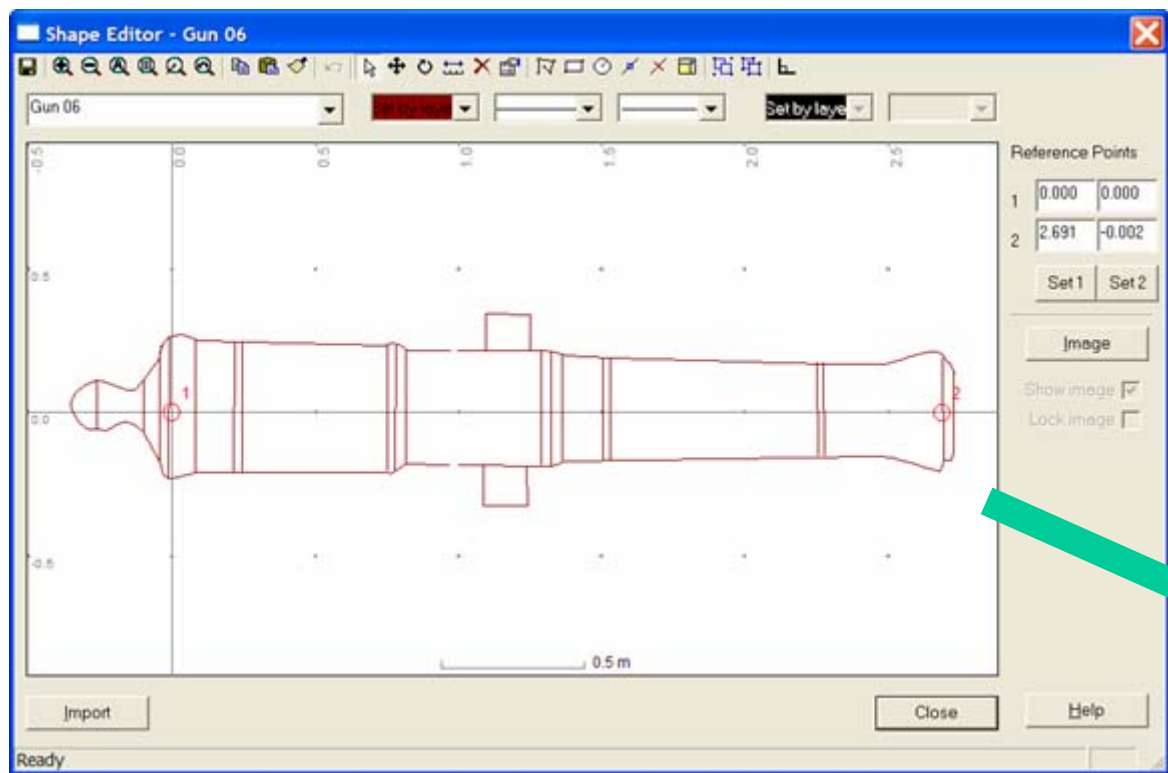
Value	
Ceramic : Brick	Add Word
Ceramic : China	Delete Word
Ceramic : Earthenware	
Ceramic : Other	
Ceramic : Stoneware	Sort Words
Ceramic : Tile	
Glass : Vessel	
Glass : Bottle	Import CSV
Glass : Flat	Export CSV
Glass : Other	
Metal : Copper	
Metal : Copper Alloy	
Metal : Gold	
Metal : Iron	
Metal : Iron : Cast	
Metal : Iron : Wrought	
Metal : Lead	
Metal : Pewter	Set Defaults
Metal : Silver	
Metal : Tin	
Metal : Other	

OK Cancel Help

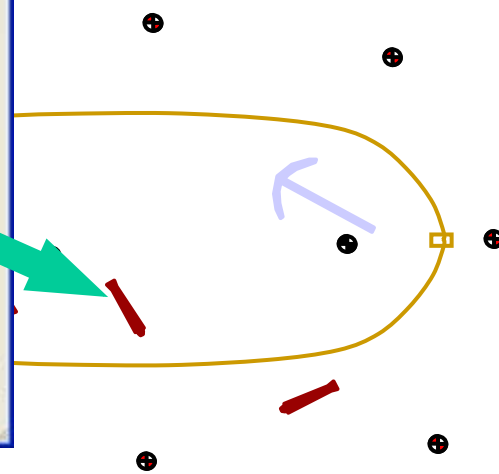


Site Recorder

Add Artefact drawing using Shape Editor Tool

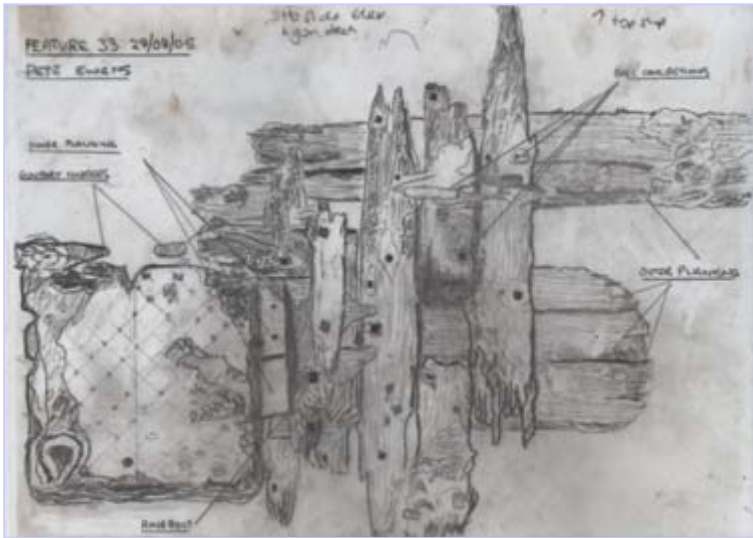


Each artefact can have its own drawing

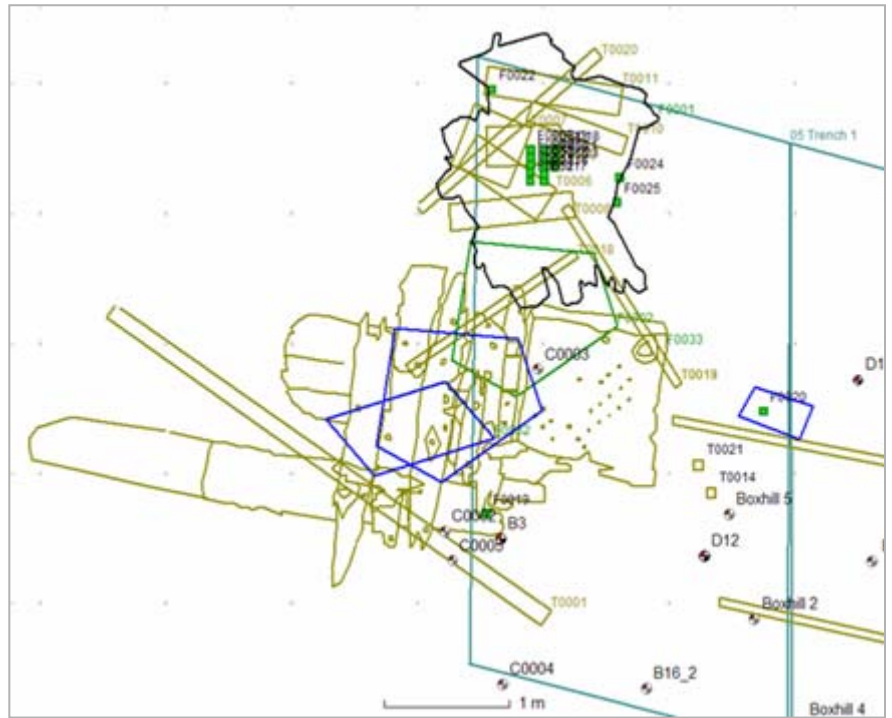




Site Recorder



Artefact drawing as a Shape





Site Recorder

Add Features

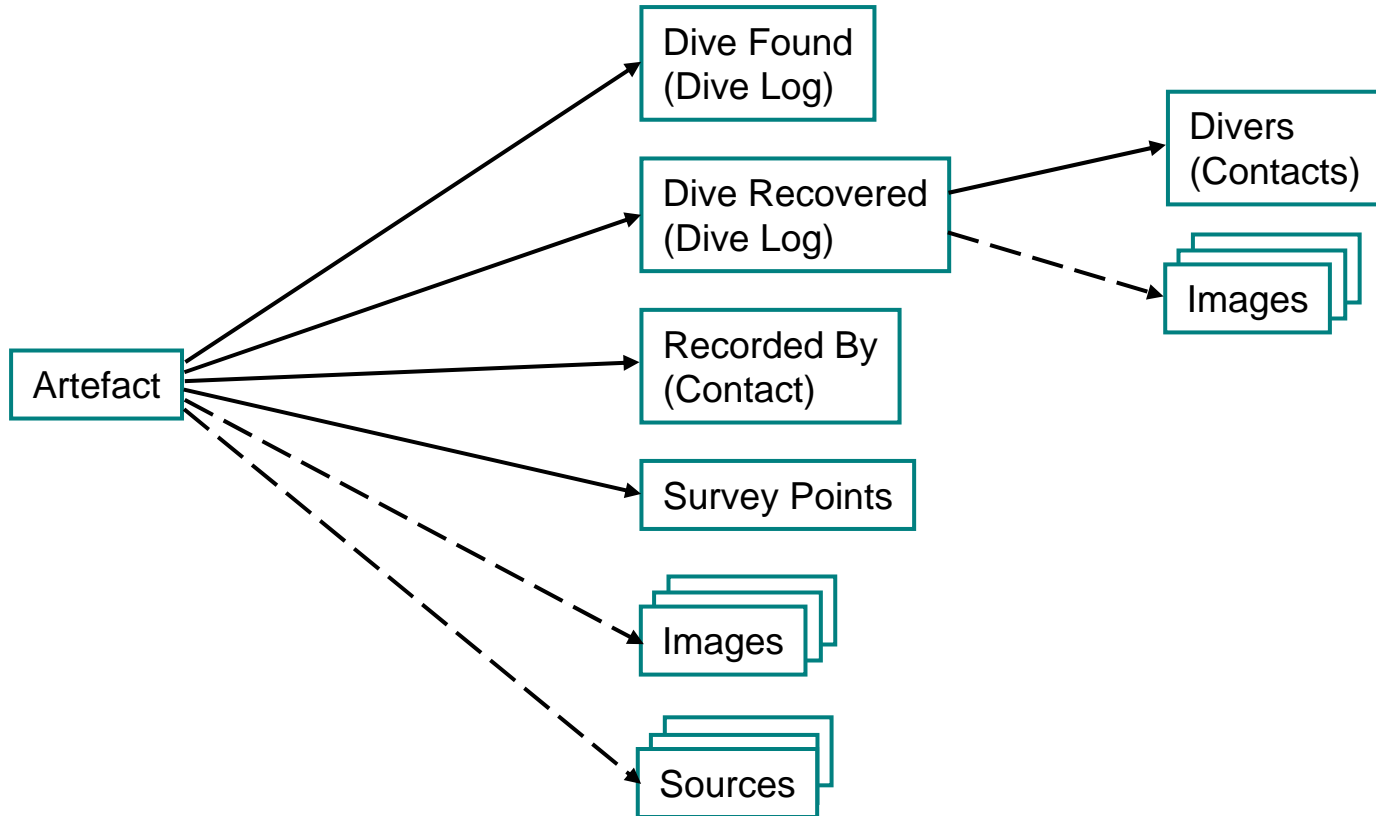
Useful for concretions
Can be used for context recording





Site Recorder

Links





Site Recorder

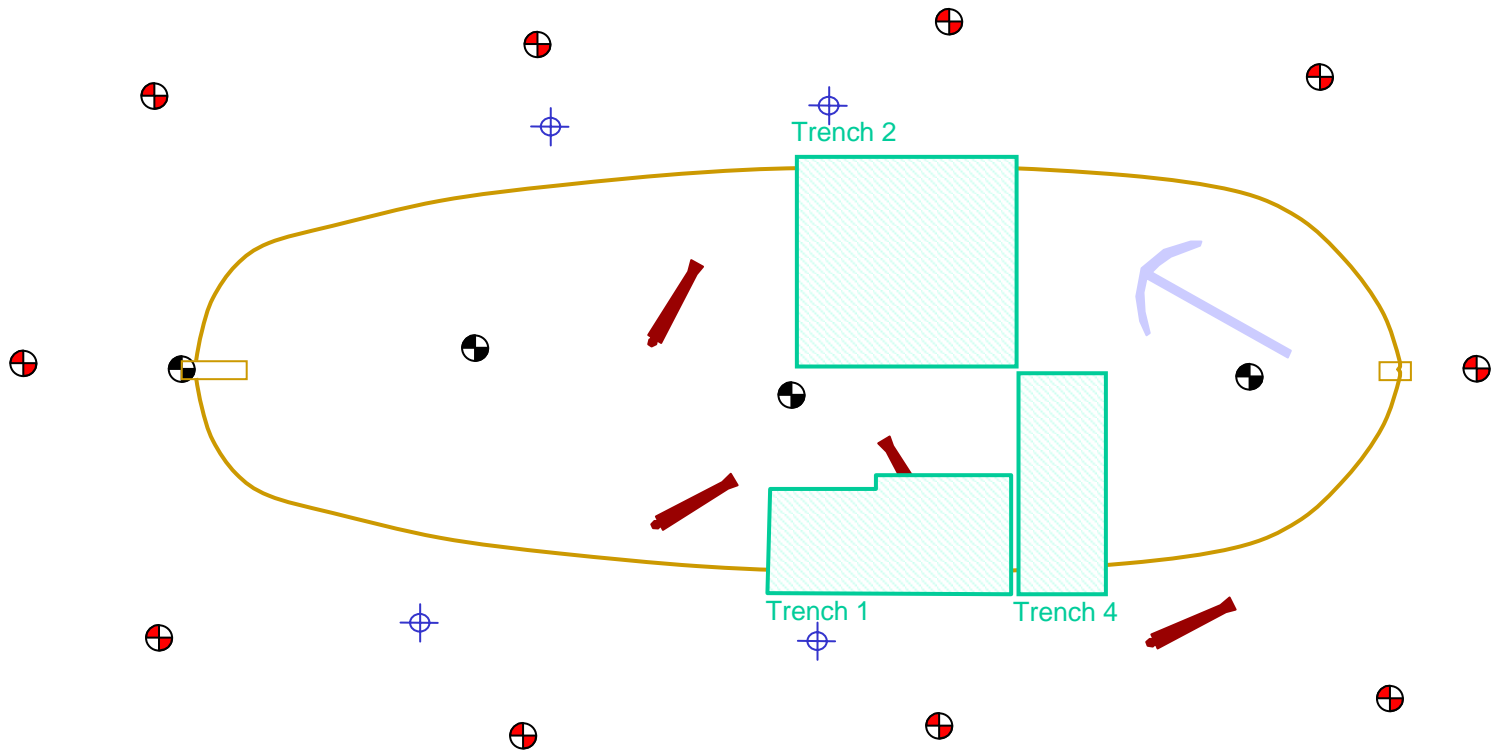
Link photographs and video to Artefacts





Site Recorder

Add excavation trench outlines as Sectors

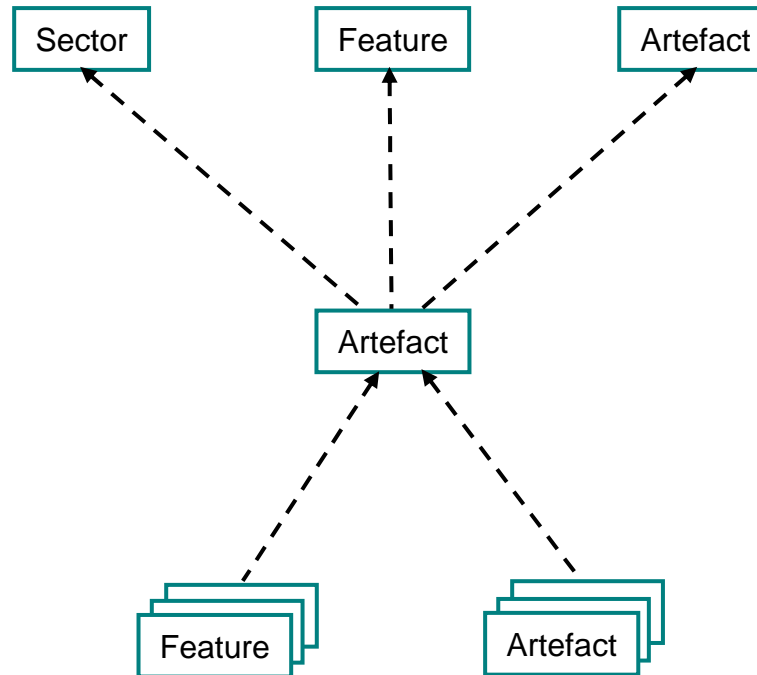


Associations

Hierarchical relationships – Extra information gives clues to object's use

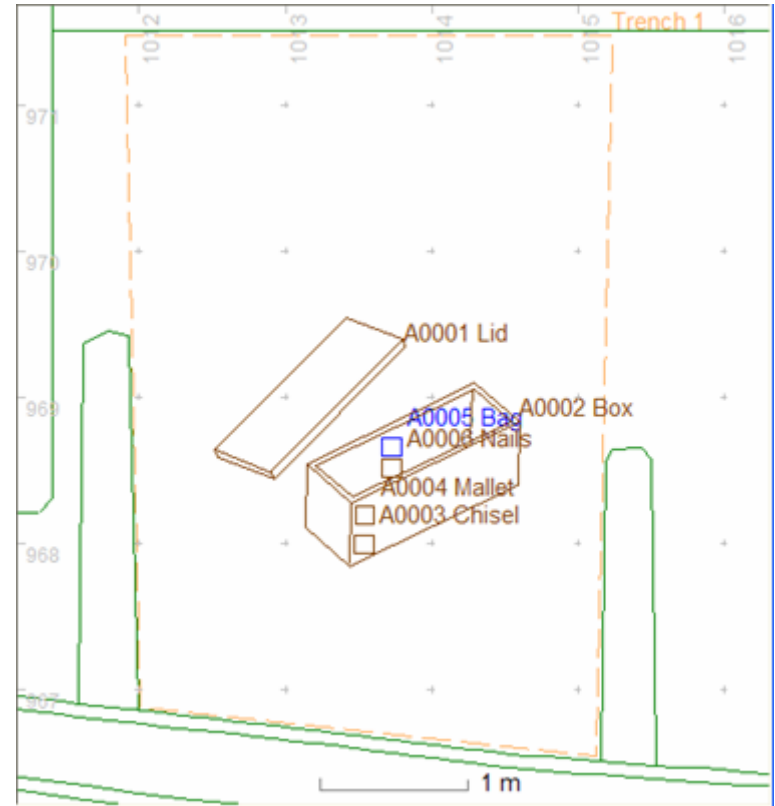
Associations:

- Next to
- Above
- Below
- Contained by
- Part of



Associations

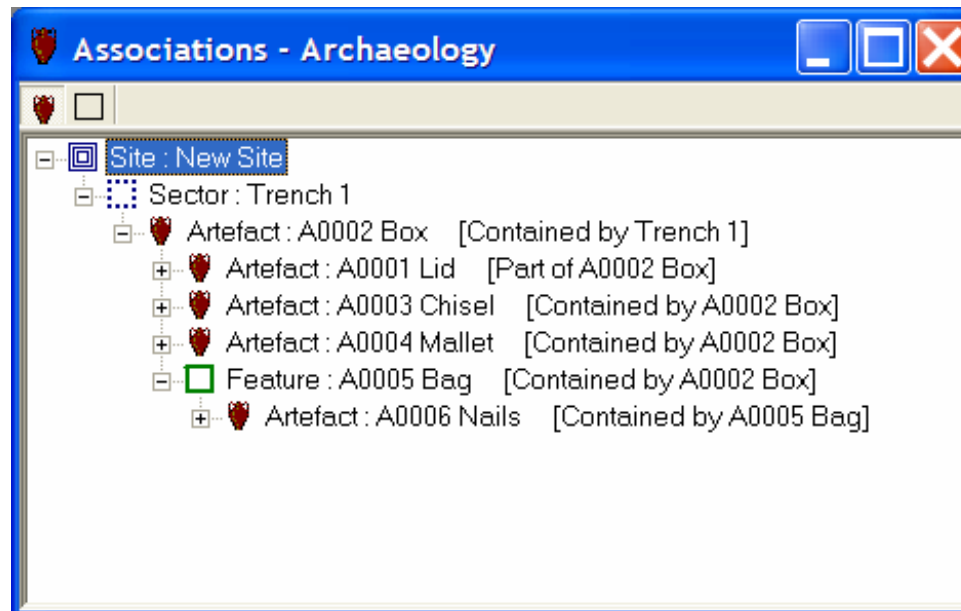
1. A wreck site had an excavation trench defined by the bulkheads of the carpenter's cabin
2. In the trench was found the lid of a box
3. Below the lid was found a box, the lid found earlier was the correct size to fit the box
4. Found inside the box were a chisel and a mallet
5. Also inside the box was the 'ghost' of a cloth bag, no cloth remained just a different colour sediment
6. Inside the 'bag' were found 10 identical copper nails





Site Recorder

Associations





Site Recorder

Add Samples



Sample - MRT- 03S0009

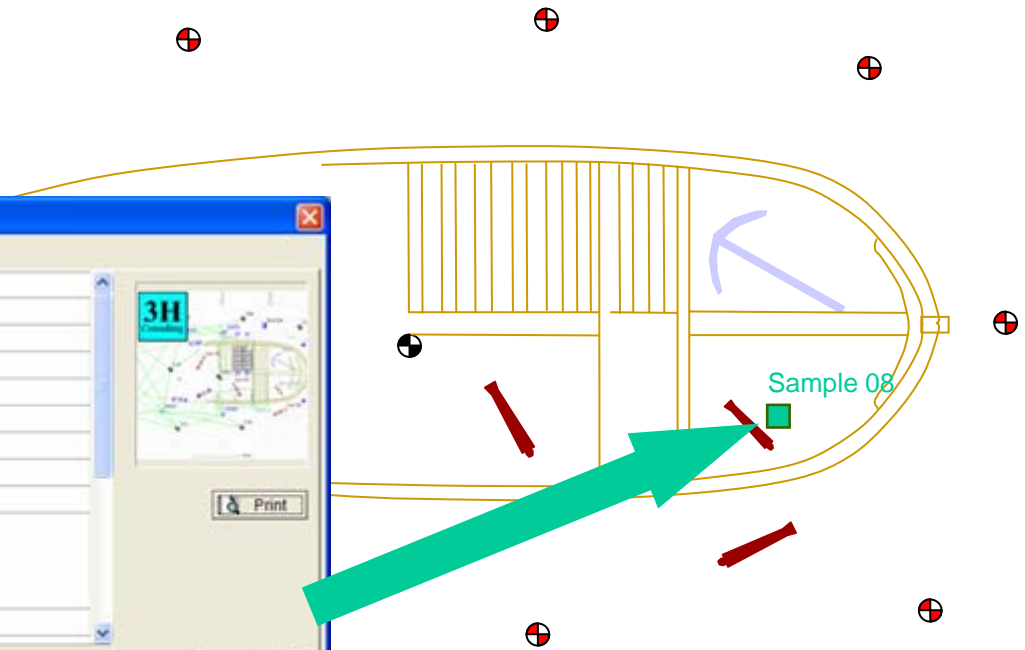
Properties | Notes | Images | Sources | Links

Main

Name	03S0009
Layer	2003 Samples
Easting (m)	633710.736
Northing (m)	5625225.185
Latitude	50 45.8023 N
Longitude	001 6.2413 W
Depth (m)	10.000
Sample Type	butchered long bone
Description	
Reason for sampling	

Record: 9 of 204

OK Cancel Help





Site Recorder

Add Sources, Tasks and Logbooks

Sources add links to:

- Documents
- Reports
- Papers
- Plans

Tasks

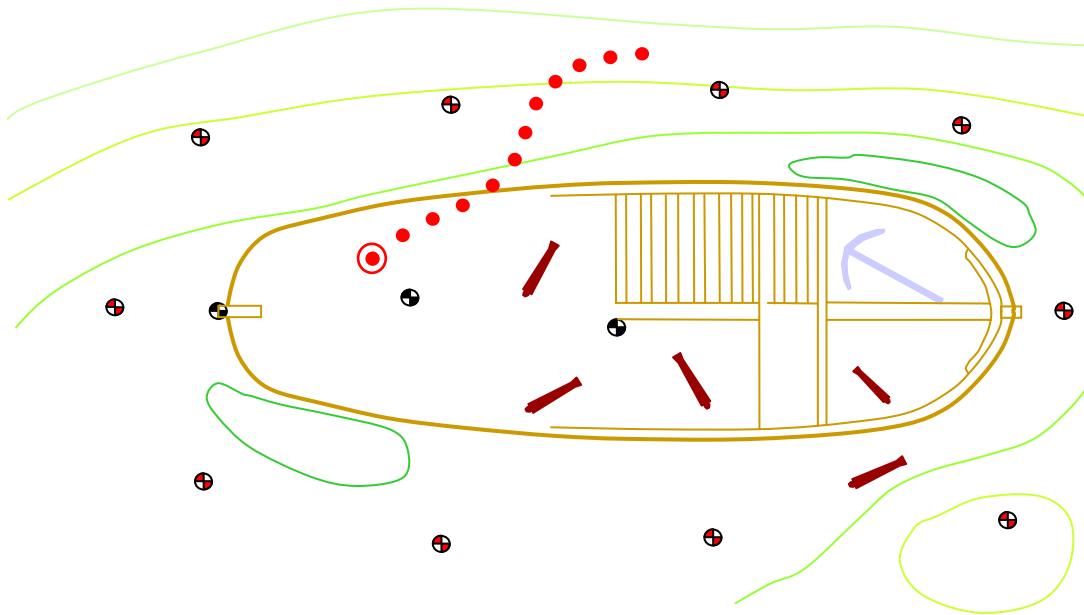
Logbooks



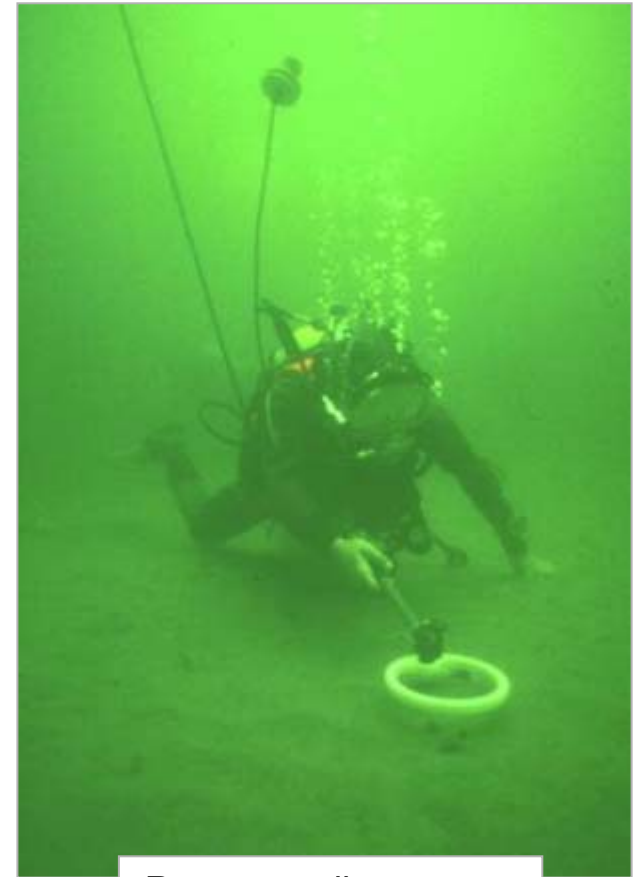


Site Recorder

Track boat, divers and ROVs over the site plan



Take in live positions from boat's GPS or underwater Acoustic Positioning System (APS)



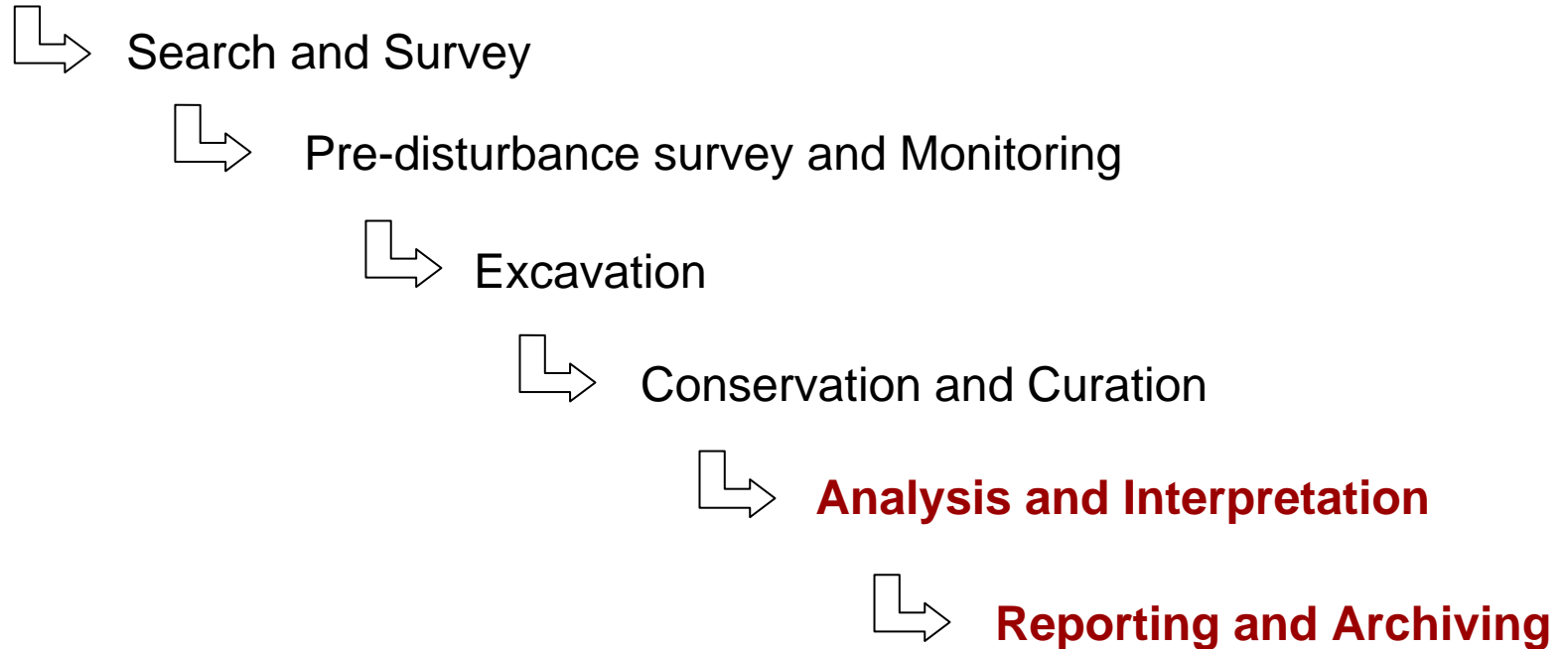
Resurgam diver survey



Site Recorder

Archaeology Project Phases

Planning and Assessment

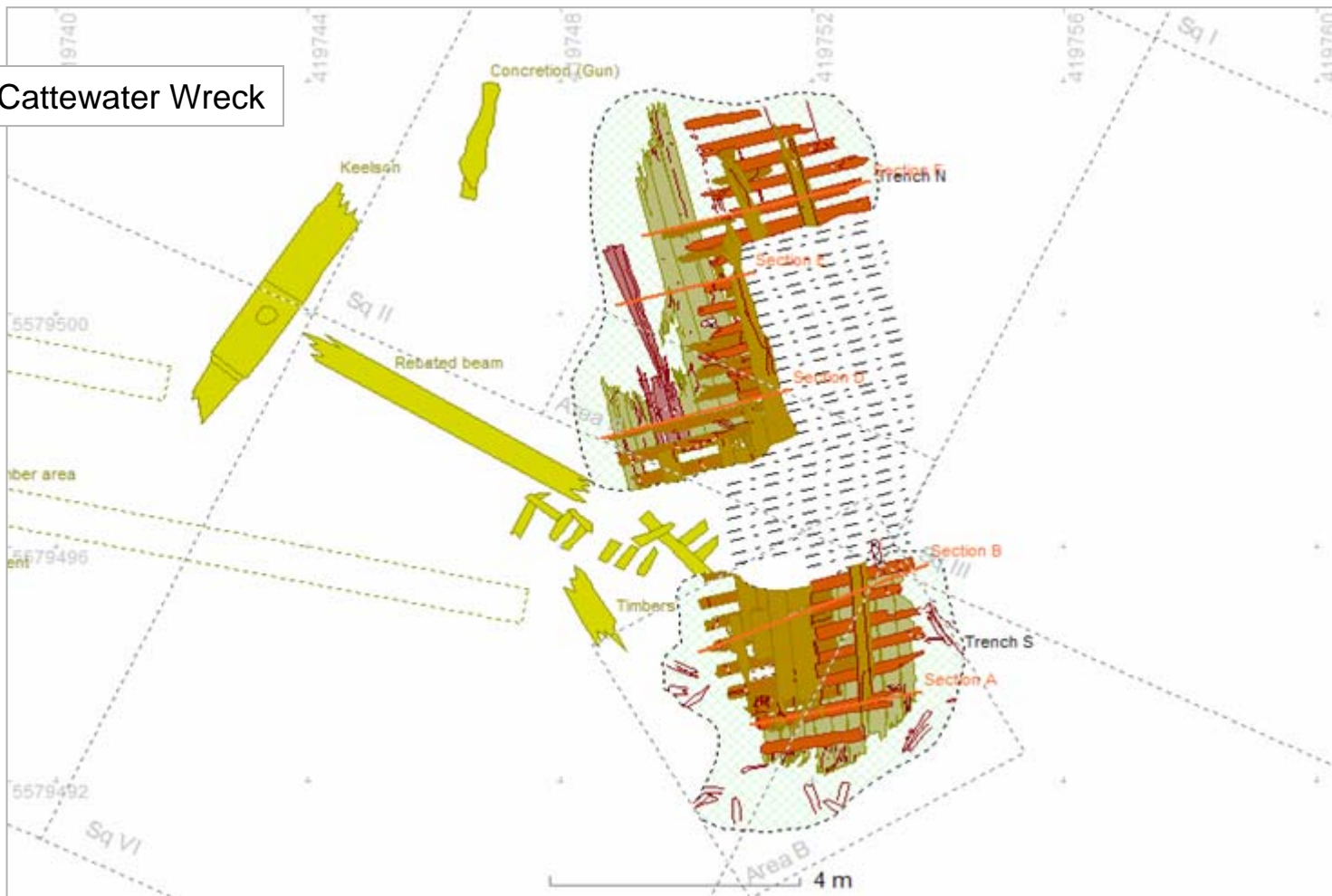




Site Recorder

Create site plans and maps

Cattewater Wreck





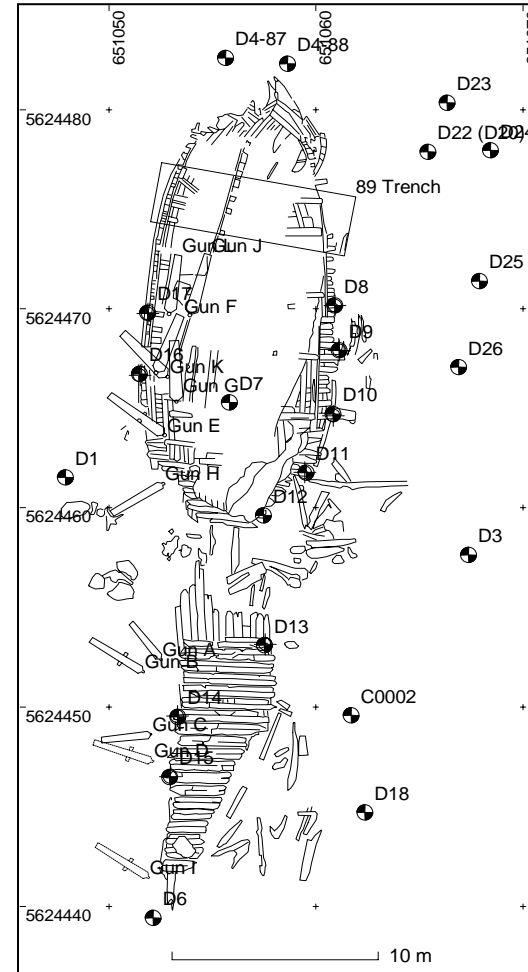
Site Recorder

Reports and publications

Produce publication quality site plans:

- Black and white
- Greyscale
- PowerPoint (thick lines)

- Print to paper
- Print to PDF
- Create Windows metafile (WMF)
- Create screen image (TIF, GIF)

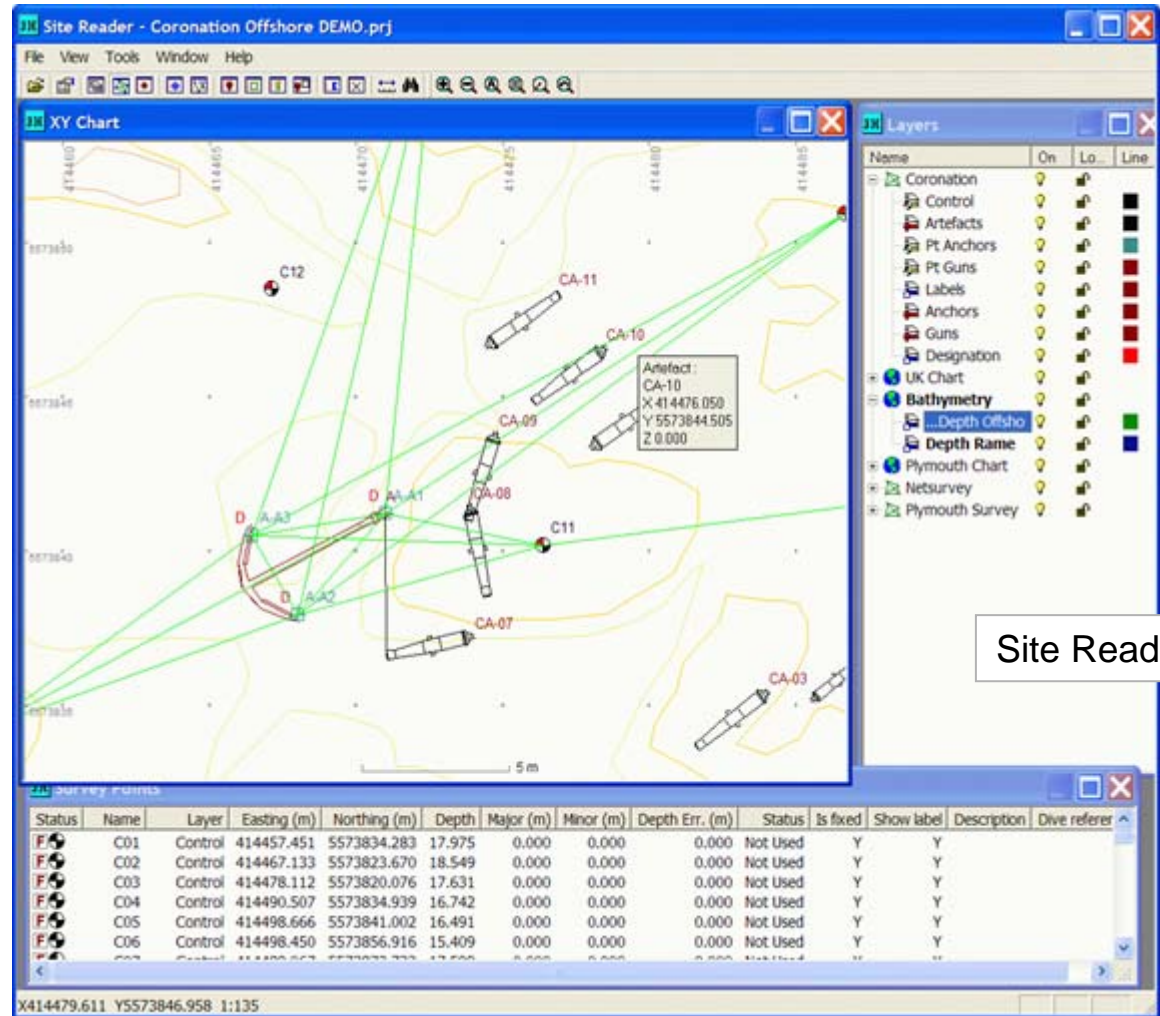




Site Recorder

Publish Site Recorder Files

- Publish primary data sets
- Allows data sharing
- Free viewer program
- Secure publication
- Option to allow printing
- Optional screen capture

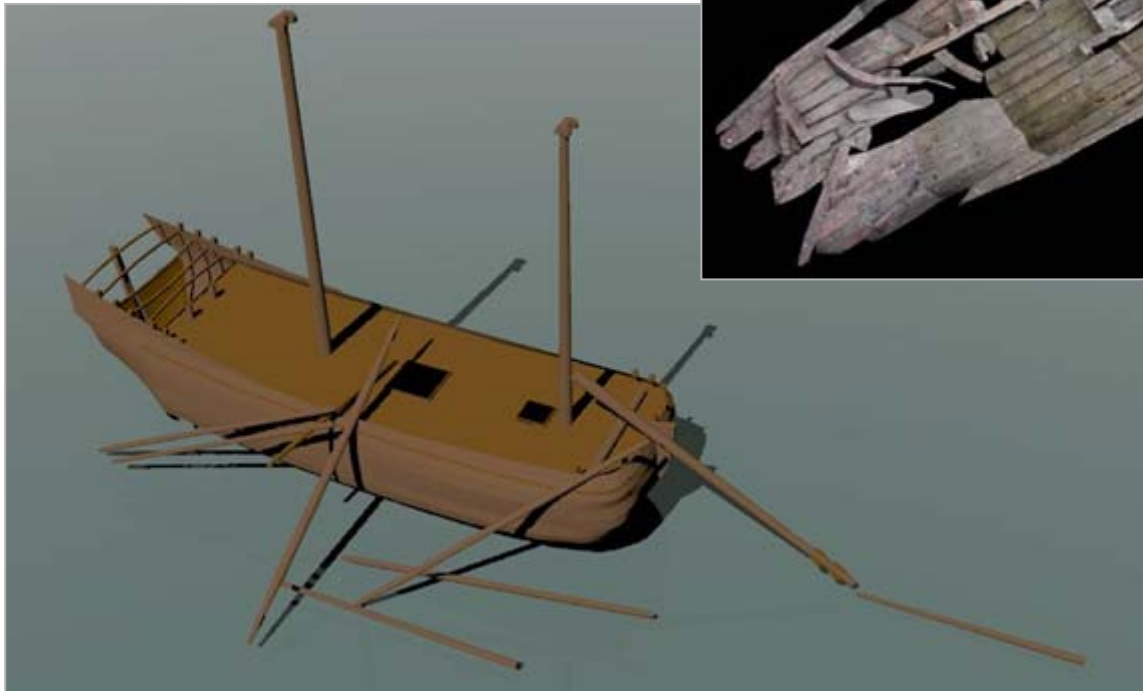


Site Reader



Site Recorder

Provide data for 3D models



Sites Kizilburun - Opera



File Edit View Bookmarks Tools Help

New page Sites Kizilburun

http://www.3hconsulting.com/SitesKizilburunMan.htm

3H Consulting Home Site Map

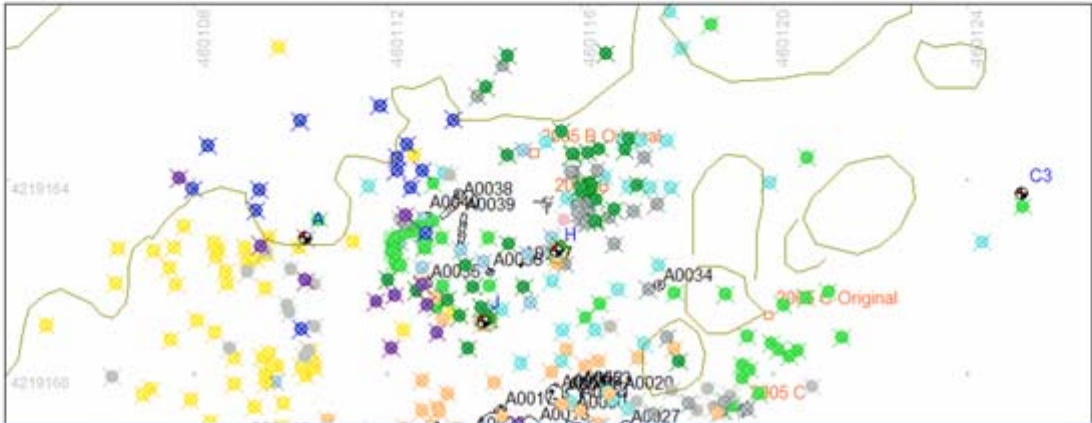
Sites : Kizilburun Roman Column Wreck

<p>Location - Kizilburun, Turkey</p> <p>Coordinates: 38 07.1000N 026 32.6000W (WGS84) Depth: 40-60m</p> <p>Conditions: Excellent visibility, no tide</p> <p>Type: Roman stone carrier</p>		<p>Download Site file</p> <p>Show Site in Google Earth</p>	
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In 1993, the Institute of Nautical Archaeology (INA) at Texas A&M University located the remains of an ancient stone carrier wrecked off the Aegean coast of Turkey at Kizilburun, a rocky promontory southwest of Izmir (ancient Smyrna) and east of the Greek of Chios. The wreck Transport amphoras from East Greece, the Adriatic and even Egypt suggest a date in the first quarter of the 1st century BC.

The site lies in 45 – 48m water depth and by 2006 covered an area approximately 40m x 20m with flat sand on rock terraces. Diving time is limited because of the depth to two 20 minute dives each day.

The image below shows part of the site plan from the 2006 excavation in **Site Recorder 4**. The plan shows artefact positions, artefact detail drawings and survey control points overlaid on top of a sketch showing areas of reef and a small photomosaic of the remaining six drums.





Site Recorder



Archiving



- Archive primary digital data sets
- Small size, easy to store
- Easy to copy, easy to share
- Can be updated



Site Recorder

Application Versions

Site Recorder 4

Geographic Information System (GIS)
Licensed, protected by software key

Site Recorder 4 SE (Student Edition)

Survey processing
Teaching
Free

Site Reader

GIS Viewer for Site Recorder files
Free

Site Searcher

Geophysical data collection and processing
Licensed, protected by software key





Site Recorder

End

