

SubSea Resources (SUB)



Image courtesy of Klein Associates

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I certify that this report represents my own opinions.

Angela Maxwell, *Analyst*
0870 080 2965
angela@objectivecapital.co.uk

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Key Points

SubSea's extensive database and research skills, together with its salvaging experience, will allow it to exploit the large number of metal salvage opportunities in deep waters. In part, this has been made possible by the technological advances achieved in the oil industry.

KEY POINTS

- **New technology leads to new opportunities.**

Recent technology borrowed from the offshore oil industry makes the deep sea salvage of commercial cargoes feasible. Since 1850 some 25,000 metal-hulled ships have been lost with most of these ships lying at depths in excess of the traditional 300m cut off point. SubSea can now operate at up to 6,000m.

- **Profitability potential from disciplined salvage operations**

Each salvage operation is of relatively brief duration and, assuming good weather conditions, can be highly profitable. The salvage operation is comprised of two parts – the survey and the recovery. Working on information from its proprietary database, the company scans the sea bed to confirm the target. Surveys can be as short as a couple of days. The second stage is the recovery operation, which can take 2-5 months. Salvage proceeds could be up to US\$60m versus salvage costs of up to US\$10m.

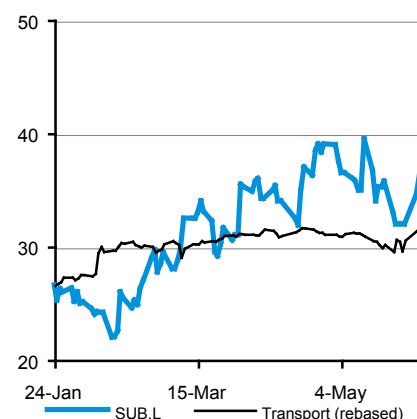
- **Turning ripping yarns into a disciplined business**

SubSea does not aim to achieve isolated big hits but to exploit its portfolio of opportunities. The Company has currently identified more than 70 wrecks with a combined estimated net salvage value of US\$1.55bn. Its database of ships lost at sea extends to 14,000 vessels that were sunk in a wide variety of circumstances. These opportunities will be steadily proved-up over time.

- **"Boys own adventure" with cost and budget control**

By the end of financial year 2008, SubSea should have recovered three large vessels plus two artefact retrievals. These five scheduled recoveries should give an indication of potential "hit rates". The Company manages each recovery on a project basis thus keeping tight control over budgets and costs.

Price chart – SUB.L



Our valuation

If SubSea is able to carry out...	Equity valuation (£m)	Share price (£)
Limited recoveries	48.8	0.43
Full recovery	57.6	0.51
Sustainable bus. model	68.6	0.60

Company details

Quote	London AIM
Ticker - shares	SUB
- warrants	SUBW
Hi-Lo last 12-mos. (shares, p)	39.5-22.5
Shares issued (m)	113.6
Fully diluted (m)	150.5
Market Cap'n (£m)	44.3
Management ownership (%)	16.8
Stockbroker:	Canaccord Adams www.canaccordadams.com
Financial PR:	WM Communications www.wmccommunications.com +44 (0)20 7930 9030

Website: www.subsearesources.com

Andy Yeo

Head of Research
andy@objectivecapital.co.uk
0870 080 2965

Analyst:

Angela Maxwell
angela@objectivecapital.co.uk

Overview

SubSea Resources is a salvage company whose core business is the retrieval of cargoes of non-ferrous commodity metals such as copper, tin, aluminium etc. The company also looks to use its comparatively fixed cost base to take advantage of any bullion or historical wreck retrieval on an opportunistic basis.

Until the 1980s, potential salvage operations were limited by depth constraints. Only recently has deep water technology from the offshore oil industry allowed salvage operators to go deeper than the traditional 300 metres, where few profitable retrieval opportunities remain, to a potential 6,000 metres.

Revenue generation from three separate, but linked sources

SubSea aims to generate revenue from three streams. The core business is the salvage of non-ferrous metals such as copper, tin, nickel, cobalt, silver and aluminium that were transported in bulk. Other semi-refined materials, such as high-grade ores of tungsten, antimony and vanadium, are also of interest. SubSea has a list of immediate targets, each with an estimated gross cargo value of more than US\$10m. The second stream is the retrieval of artefact vessels carrying bullion. The recovery of artefact vessels will be undertaken on an add-on basis when a survey vessel is in the area. There is also the potential for opportunistic recoveries on behalf of governments or companies for specific wrecks such as aircraft.

Successful on-time salvage operations will lead to healthy margins

Each salvage operation is of relatively brief duration and can be highly profitable. Surveys can be as short as a couple of days although the company budgets for 30. Recovery can take from 2-5 months. Proceeds from individual salvage operations start at US\$7m and could reach US\$60m. Total costs for a typical salvage may be up to US\$10m. The first five targets, which the company plans to recover to financial year 2008, have an estimated net salvage value of US\$130m. Costs not related to salvage operations are relatively low as the crew is sub-contracted.

Disciplined salvage model leads to minimising financial risks

SubSea's disciplined salvage model is fundamental to its operations. The separate development of each operation involves three main stages of research, survey and salvage. The approach reduces risks in stages, with costs progressively back end-loaded. The research on a project may cost upto US\$75,000 following initial review and authorisation, the subsequent survey to locate, identify and inspect a wreck a further c.US\$1m, and only then will a recovery operation, which might cost US\$5m-US\$10m, be undertaken.

Going for the low hanging fruit

SubSea defines its retrieval opportunities in two ways – Class A vessels with a salvage value of greater than US\$10m and Class B vessels with a salvage value of between US\$5m to US\$10m. The Company's current list of 20 Class A commercial

wrecks is scheduled to be recovered over the next 6-10 years. The Class B portfolio numbers 50 plus 7 artefact vessels. Historically, salvage operators have typically recovered in the order of 85% of cargoes, and a typical agreement with the owner of a commercial wreck would involve the salvor having a 90% share in return for its salvage work. SubSea's primary targets for 2006/2007 are high value vessels such as the Celia project with a net-salvage value of US\$32m and Vanilla project with US\$56m at current metal prices.

'Virtual' operating model maximises efficiency

SubSea operates with a small core team and contracts vessels and crew around its salvage projects. The Company also owns its own survey vessel, the John Lethbridge, named after the famous British salvage expert. The vessel can also undertake light salvage operations such as artefact retrieval. SubSea has leased a salvage vessel, the MV Geomaster, for a rolling contract period of 140 days. If early salvage operations are successful, SubSea may lease a second salvage vessel. The ship's crew is hired from a ship management company.

Schedule of committed retrievals

The Company has identified a schedule of work for the John Lethbridge and for the MV Geomaster which maximises operating efficiency. For example, once the John Lethbridge has finished recovering the cargo from Gina, it will then move onto surveying the Miranda. If the survey proves successful the MV Geomaster will then recover the Miranda. The flexibility of the John Lethbridge allows greater operating efficiency and the provision of a pipeline for the MV Geomaster. The company intends to have an average of 2-3 salvage operations each year. SubSea does not aim to achieve isolated "big hits", but to exploit its portfolio of opportunities focusing on US\$10m-US\$40m cargo values.

Legal requirements of salvage understood

SubSea's intended targets generally lie in international waters. SubSea will normally negotiate a contract with the owners of a cargo before starting a salvage operation. Historical wrecks are subject to different legal issues, but typically SubSea will not commence recovery of an historical wreck without a firm legal agreement with the relevant counterparty. In the rare case where ownership is unclear and a recovery is undertaken there are clear legal procedures which the company will follow.

Costs kept to a minimum during this phase

Management intends to retain sufficient liquidity to fund operations for a two year period. Once the business model is proven, the Company intends to begin dividend distribution. The Company operates on a lean basis and currently employs 16 people full time, composed of executive management together with key personnel.

Sister ship to Celia



Sister ship to Vanilla



Valuation

SubSea is in the early stages of developing a sustainable deep-sea commercial salvage operation. In recent times, such operations have been limited to one-off 'massive-value' treasure targets where the economics justified the significant recovery costs. Advances in technology now make the development of such a model economically viable.

To date, SubSea has demonstrated an ability to locate and survey well-defined targets in its portfolio of wrecks. It is working to demonstrate that it:

- can consistently and accurately determine the type and volume of cargo on the target from its research process;
- can commercially recover the target (i.e., with sufficient recovery to be profitable after delays, and marine and engineering risks);
- can consistently carry out salvage operations using project-by-project contracted resources;
- and on a longer-term basis, can replenish its target portfolio as it exhausts its initial qualified list.

SubSea attempts to control for the risk of incomplete research by carrying out relatively inexpensive preliminary surveys. Although this does not remove the risk of failed salvage operations, this considerably reduces the risk of substantial losses.

The value of SubSea's targets are also heavily exposed to fluctuations in commodity metal prices¹. In many ways, SubSea's existing portfolio of targets can be considered as a kind of portfolio of "commodity options"²– albeit subject to uncertainty over their ability to recover the target.

Consequently, we have valued SubSea's existing list of wrecks as a portfolio of commodity options assuming commodity prices revert to their long run (real) prices and after adjusting for:

- the survey process (assumed to have a 85% chance of success);
- probability of successful recovery (assumed to be 80% on ongoing recoveries);
- projected recovery rates (85%);
- fees for re-smelting/re-processing and metal brokers³;
- and the negotiated share retained by insurance companies (approx. 10%).⁴

We have estimated SubSea's value under the following scenarios:

- **Limited recovery programme:** technical and research challenges limit recovery operations to the high value Class A targets;
- **Recovery of identified target list:** commercial recovery of Class A and B targets is commercially viable but SubSea are unable to adequately define further targets;
- **Develops into a replicable business model:** SubSea succeeds in building a sustainable commercial salvage model.

After allowing for the risk that SubSea are unable to demonstrate a commercially viable model for deep-sea recoveries, we estimate SubSea's value at between 43p and 60p per share.

¹ while this can work to their advantage, as in the case of Ella where the delay in recovery coincided with an increase in gold prices, the likelihood is that in real terms salvage values will decline. However, the mix of cargoes does give SubSea considerable opportunity to manage its recovery programme to maximise revenue.

² i.e., SubSea has the option to recover a wreck at the cost of the salvage operation

³ at this stage we have not assumed any numismatic uplift on coin recoveries

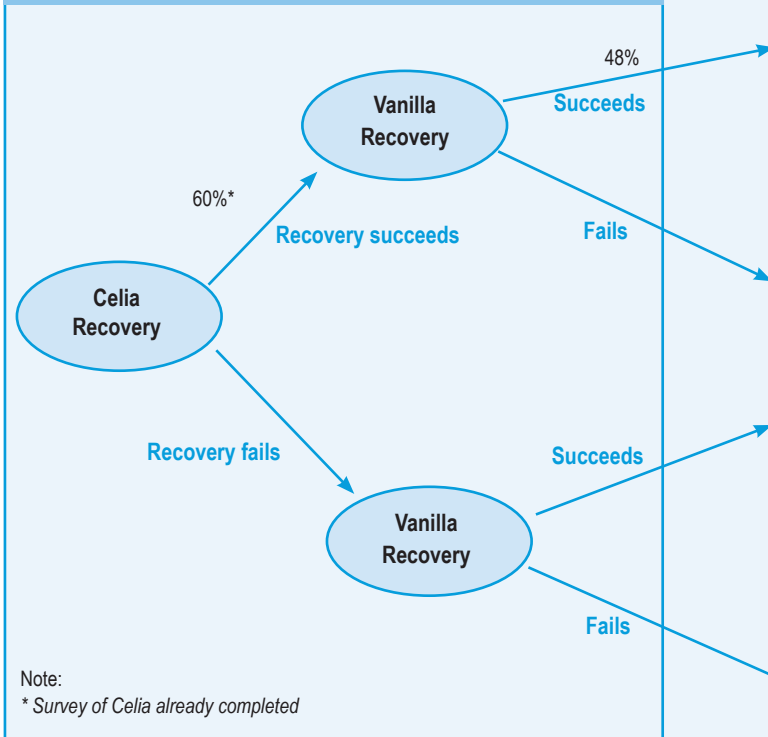
⁴ we have ignored the diversification benefit that SubSea enjoys from its exposure to a range of commodities

SubSea Valuation

Summary of valuations

Scenario	Equity Valuation (£m)	Shareprice (£)
Limited recoveries	48.8	0.43
Full recovery	57.6	0.51
Sustainable business model	68.6	0.60

Proving-up phase



Operational phase scenarios

Valuation of SubSea if it successful demonstrates it can recover commercial targets:

Develops into a replicable business model:

SubSea succeeds in building a sustainable commercial salvage model

Value of unrisks identified recoveries:	US\$m
- Artefact	6.8
- Class A	155.0
- Class B	21.9
Total Recoveries	183.7
Ongoing operations	20.7
less: overhead	15.0
Total expected operating value	189.4

Recovery of identified target list:

Recovery of Class A and B targets is commercially viable but SubSea are unable to adequately define further targets

Value of unrisks identified recoveries:	US\$m
- Artefact	6.8
- Class A	155.0
- Class B	21.9
Total Recoveries	183.7
less: overhead	15.0
Total expected operating value	168.7

Limited recovery programme

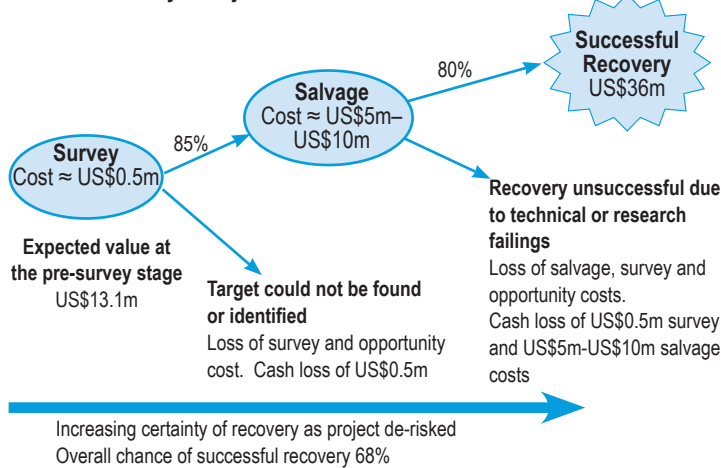
Technical and research challenges limit recovery operations to the high value Class A targets

Value of unrisks identified recoveries:	US\$m
- Artefact	6.8
- Class A	155.0
Total Recoveries	161.8
less: overhead	15.0
Total expected operating value	146.8

Model is not commercially viable

Valuation of individual recoveries (US\$m)

Value of Recovery – Project Miranda



Contribution to valuation of each Class A wreck

Class-A Targets	Code Name	Current Gross Value (US\$m)	Standalone Risked Recoveries			Contribution to SubSea's valuation		
			Expected Gross Value at Recovery (US\$m)	Implied Salvage Value (US\$m)	Risked Net Salvage Value (US\$m)	Intrinsic Value (US\$m)	Time Value (US\$m)	Value (US\$m)
Survey recoveries								
	Gina	6.2	5.5	4.0	2.9	2.9	0.0	2.9
	Ella	8.1	7.2	5.2	3.8	3.8	0.1	3.9
Salvage Recoveries								
	Celia	43.7	39.0	27.1	7.9	7.9	0.4	8.3
	Vanilla	70.3	67.2	47.4	16.5	16.5	1.2	17.7
<i>Further recoveries dep. on demonstrating com. targets can be recovered</i>								
	Miranda	48.6	50.5	36.2	16.9	12.8	1.3	14.2
	Samantha	37.8	31.8	22.4	8.6	6.5	0.8	7.3
	Diana	46.3	36.3	25.4	9.3	7.1	1.2	8.3
	Jennifer	62.1	51.4	35.8	13.3	10.1	2.2	12.3
	Gloria	56.7	29.3	21.3	6.8	5.2	1.3	6.5
	Barbara	50.4	40.0	27.7	8.4	6.4	1.9	8.3
	Michele	47.7	39.8	27.6	8.4	6.4	1.9	8.3
	Tina	45.2	35.7	25.9	7.9	6.0	2.0	8.1
	Sue	37.8	28.9	21.0	5.9	4.5	1.5	6.0
	Lola	34.3	25.6	18.6	4.6	3.5	1.4	4.9
	Jane	34.0	27.0	18.6	4.1	3.1	1.2	4.4
	Greta	28.4	14.3	10.4	1.4	1.0	0.5	1.5
	Tara	27.0	21.4	14.8	2.6	2.0	0.9	2.9
	Fifi	19.7	14.9	10.4	1.1	0.8	0.4	1.3
	Brigitte	19.0	14.0	9.7	0.8	0.6	0.3	1.0
	Jean	18.3	14.2	10.0	0.9	0.7	0.4	1.1
	Audrey	17.3	13.2	9.2	0.6	0.5	0.3	0.8
	Marina	16.1	14.0	10.0	0.9	0.7	0.4	1.1
	Vivian	13.2	9.9	6.9	-0.1	0.0	-0.1	-0.1
	Total	788.2	631.4	445.7	133.5	109.0	21.8	130.8

Sensitivity of full recovery valuation to changes in assumed...

Success rate of surveys	75%	80%	85%	90%
Value (£/share)	0.38	0.44	0.51	0.57
- change in value	-25%	-13%	0%	13%
Success rate of recoveries	70%	75%	80%	85%
Value (£/share)	0.38	0.44	0.51	0.58
- change in value	-25%	-13%	0%	14%
Level of cargo recovered	75%	80%	85%	90%
Value (£/share)	0.36	0.43	0.51	0.59
- change in value	-29%	-15%	0%	16%

Key Risks

Failure of the research process

The success of the Company's business model depends on its ability to accurately identify suitable targets on an ongoing basis. This requires both a close approximation of the target's location, understanding of other wrecks in the area that may be mistaken for the target and a reliable understanding of its cargo¹.

As the company has yet to undertake its first retrieval operation, the validity of the research database is unproven. Despite delays due to mechanical problems and the weather the company successfully surveyed the Ella, a 19th century bullion ship. However, a successful outcome with Ella should not be taken to confirm the accuracy of the entire database. The variables relating to the retrieval are many: the cargo may be absent or different to that predicted by the database, or it may prove difficult if not impossible to retrieve the cargo due to its position on the ship.

Non-ferrous metal prices

The Company is primarily targeting cargoes of non-ferrous commodity metals such as copper, tin, aluminium etc. The value of these cargoes is dependent on the market price of the relevant commodities at the time of recovery. Although the company has the ability to switch between targets depending on current commodity market conditions, a significant decline in general commodity prices would affect the profitability of all projects.

Loss of a survey or salvage vessel

Whilst the Company's vessels are insured (including the value of cargoes once recovered and transferred to shore) this insurance does not cover consequential loss of business plus time required to replace a vessel and its equipment. Under such conditions, operating capacity would be seriously constrained in the event of a loss.

Loss or failure of key equipment

If vital equipment such as a grab were lost, the ship would have to return to port. SubSea tries to minimise this risk by carrying spare parts and engineers on its vessels. However equipment problems, weather and vessel issues delayed the Ella survey and these risks should not be discounted.

Increased ship prices & crew rates

SubSea's business model depends on coalescing equipment and people around its salvage projects. While this offers great flexibility and lower overheads, in tight markets salvage vessels may become expensive or difficult to lease. Due to the impact of Hurricane Katrina, the Company's recovery vessel MV Geomaster was leased for a cost of £37,000 per day including crew. SubSea, in its IPO prospectus, envisaged a recovery vessel lease cost of £30,000 per day.

¹ See the discussion relating to the Ballarat on page 15.

Competition

A small number of businesses operate in competition with SubSea, although the main competitor, Odyssey Marine currently focuses on high value, low volume artefact retrieval. There are limited barriers to entry, primarily relating to the database, but these could be overcome with sufficient resources and time. Therefore, the arrival of new entrants to the market cannot be wholly discounted. However, in the near term, it is not expected that competitors will have an impact on SubSea's business or prospects.

Personnel

In common with other specialist businesses there is a comparatively small labour pool with the prerequisite experience and skill sets to undertake this work. This is particularly true for skilled marine researchers on which the Company's business model depends. This could lead to difficulty retaining and recruiting sufficient numbers as the business grows which in turn could lead to wage inflation for key employees. The bulk of the operating staff on ship is hired on a subcontracting basis, providing SubSea with some financial flexibility. The company has also taken out £1m key man insurance cover for John Kingsford, although this is not expected to be a permanent arrangement.

Litigation

Litigation risks are minimised by entering into contractual agreements with cargo owners pre-retrieval. Standard practice is that a wrecked hull is owned by the ship owner and the cargo by its insurers. SubSea will negotiate a contract with the owners of a cargo before starting a salvage operation. These contracts usually state that the salvor retains 90% of the proceeds.

In the case of artefact ships the position is more complex as these can be considered "national treasures". However, SubSea would only commence salvage for one of these ships if a contract had been agreed with the relevant party.

Where no contract has been agreed, an important issue is that SubSea's intended targets generally lie in international waters. Despite the existence of the International Convention on Salvage 1989, which has been ratified by a number of countries, there are likely to be significant differences between different jurisdictions. The salvor can establish a preferred jurisdiction by landing the cargo wherever practicable in a country whose courts are generally more favourable to the salvor. In such situations SubSea will attempt to land cargoes in England. Artefact vessels in international waters still suffer the same "national treasure" issue outlined above.

SubSea Resources is a UK registered company incorporated on 10 September 2004 to acquire SubSea Technology and Research New Zealand Limited (“Star”), a New Zealand company operating from London. Star was started by Mark Gleave and John Kingsford to amalgamate several private marine salvage and survey businesses whose principal assets included what is now SubSea’s database, together with some survey results and salvage rights. The company initially raised US\$1.5m via a private placing and listing on the USM board of the New Zealand Stock Exchange.

SubSea’s acquisition of Star was financed by a mix of shares and warrants. On 4 November 2004 SubSea listed on AIM and raised £10.4m gross by issuing 52m new shares, accompanied by the sale of 3m existing shares, at 20p, together with 13m warrants, to finance the purchase of equipment and the carrying out of planned salvage projects.

Background to SubSea and Star

SubSea traces its origins from Deep Sea Salvage Ltd – a marine wreck research company founded in 1982 by John Kingsford (SubSea’s current Director of Operations). In 1984 he entered into a joint venture with Comex SA, a company whose business involved commercial diving and sub-sea engineering, to form Comex Deep Sea Salvage Ltd (CDSS).

From 1984 until 2002, CDSS created a research database of about 12,000 wrecks and also carried out a number of surveys and advisory assignments, and developed underwater tools for salvage operations. From 1989 the operations of the joint venture reduced significantly owing to John Kingsford’s commitments as a manager at Comex.

During the 90’s limited work continued at the joint venture, including the acquisition of rights to the wreck codenamed “Vanilla” and the recovery of a small amount of 14th Century porcelain (worth US\$350,000). John continued to work for Comex until 2002 when the shares in the joint venture were transferred to Star.

Shareholders

The company currently has 113.61m shares in issue, together with 26.76m warrants. The warrants, which are also listed on AIM, are exercisable on a one-for-one basis at an exercise price of 40p for 5 years following the AIM listing. The composition of shareholders and warrant holders is as shown in the table to the right.

In addition Mark Gleave and John Kingsford each have options over 4.282m shares (in each case representing 3.8% of the shares currently in issue), exercisable between one and 10 years after the AIM listing, at 20p. The company has an executive share option plan which, together with Mark Gleave's and John Kingsford's existing options, is limited to 10% of the issued share capital.

The company has issued 4.06m new shares (3.6% of the currently issued) since the AIM flotation, raising £1.06m of additional capital.

Major shareholders

	Shares	Warrants
Christopher Harborne (a fund manager)	12.8%	13.3%
Mark Gleave	8.4%	8.7%
John Kingsford	8.2%	8.5%
Fidelity	7.5%	-
RAB Capital	7.1%	-
Christopher Rowe	0.1%	-
Karen Wyatt	0.1%	0.1%
Other	52.1%	68.9%
	100.0%	100.0%

Source: Company

Quality of research verification held on immediate salvage targets								
	Gina	Ella	Celia	Vanilla	Miranda	Jennifer	Samantha	Diana
Proof of Cargo								
Government	•	•		•		•	•	•
Treasury/Bank								
Insurers	•	•	•	•	•	•	•	•
Salvage Association			•	•	•			
Bills of Lading			•		•	•		•
Consignee			•	•	•	•	•	•
Transporter	•	•	•	•	•	•	•	•
Others				•		•	•	•
Circumstances of Loss & Position								
Government	•	•	•	•	•	•	•	•
Vessel's officers	•	•	•	•	•	•	•	•
Convoy location						•		
Other ships	•	•			•	•	•	•
Submarine				•				
Official Enquiry		•	•	•	•	•	•	•
Others			•	•	•	•		
Cargo stowage	•	•	•		•		•	•
Vessel plans	•	•	•	•	•	•		
Vessel photos			•	•	•	•	•	•
Contract signed / available	•	•	•	•	•	•	•	•
Historical context checked	•	•	•	•	•	•	•	•
Sister ship available			•	•	•			
Surveyed by SubSea		•	•	•				
Depth, km			1.2	3.6	3.5	4.0	5.0	5.0

The Cargo Salvage Business

Significant modern salvage operations

- 1974 Project Jennifer – recovery of Russian nuclear submarine from 5,100m of water by the US
- 1981 HMS Edinburgh discovered by Keith Jessop carrying over US\$96 million of bullion
- 1985 Black boxes recovered from Air India Flight 182 in 2,000+m of water
- 1985 Nuestra Senora de Atocha found - up to £400 million in bullion
- 1985 Discovery and filming of Titanic in 3,800m of water
- 1985 Recovery of the 'Nanking' cargo of US\$20 million of porcelain and gold from the Geldermalsen
- 1987 SS Central America found in 2,600m of water – potentially US\$500+million of bullion. Legal issues kept them in Court for 10 years, until an industry standard deal was agreed with the insurers
- 1989 Bismarck located and filmed in 4,790m of water
- 1990 MV Lucona proven to have been deliberately sunk in 4,400m of water by video and evidence from an early computer enhanced sonar
- 1994 Recovery of silver coins from USS John Barry in 2,800m of water
- 1994 Recovery of Royal Mail Ship Douro carrying over £1.5 million in coins
- 1999 Recovery of Mercury space capsule 'Liberty Bell' from 5,000m of water after being located by side scan sonar
- 2004 Oil recovered from the tanker Prestige in 3,800m of water

Source: *Objective Capital*

SubSea's core business is the retrieval of cargo from sunken ships. Since 1850 some 25,000 metal-hulled ships have been lost with two World Wars contributing some 10,000 vessels. Until the 1970s two firms were active in marine salvage – Sorima and Risdon Beazley. The reason for the demise of these companies was the inaccessible nature of wrecks with pre-1990 technology. Problems with mooring, wreck identification and recovery of cargo meant that Sorima and Risdon Beazley were no longer equipped to deal with wrecks below 300m. However, the US military managed some quite spectacular successes but not for commercial purposes.

New Technology

Until the 1980s, potential salvage operations were limited by depth constraints. Thanks to technological developments in the offshore industry, deep-sea salvage is now economically feasible.

ROV operating on the sea bed



Source: *Comex SA*

Key issues technological changes have addressed

Issue	Solutions
Wreck location and identification	A global positioning system (GPS) and side-scan sonar allow accurate positioning and identification. In addition, magnetometers have now greatly increased their accuracy.
Mooring depth	Computer-controlled dynamic positioning means that the vessel does not have to be anchored
Diving depth	Remote Operated Vehicles (ROV's) with sonar, video cameras and articulated arms replace human divers and can operate at depths of 6,000 metres.
Heavy lift capacity	Wire technology developed for oilfields is available to provide sufficient lift capacity

It is physically impossible for any human diver to access the depths at which most of the wrecks that are of interest are located. It is also prohibitively expensive for manned submarines to venture to these depths on a regular basis. In fact only once has the deepest part of the ocean, the aptly named Challenger Deep, ever been visited by man (US submersible Trieste in 1960). In order to chart and survey the ocean floor it has been necessary for man to utilize Remote Operated Vehicles (ROV) and SONAR technology. Of most importance was the development of side scan SONAR. This enabled much larger areas of sea floor to be covered and hence reduce the time taken to survey an area. The information disseminated by sophisticated computer programming enables the salvors to view remarkably clear 3-D imagery of wrecks and other undersea objects.

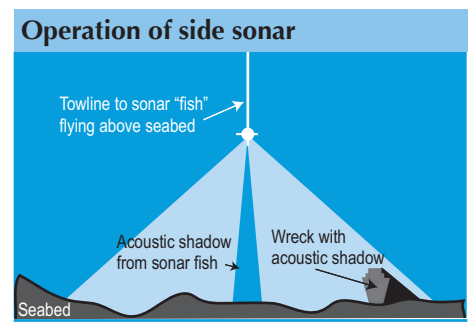
When dealing with wreck discovery a further piece of technology has proved to be invaluable: magnetometers. Magnetometers register changes in the earth's electrical field around ferrous objects. This is analogous to the effect of placing a metal object close to a compass. Magnetometers are particularly useful when the vessels have been hidden by debris such as sand. Magnetometers can now detect small metal objects at depth.

Remotely Operated Vehicles (ROV)

Throughout the late 19th and early 20th centuries, many scientists and engineers worked to develop controllable craft that could extend exploration into the deep sea. The first tethered Remotely-Operated Vehicle, or ROV, was developed by the underwater photographer Dimitri Rebikoff in 1953.

Much of the critical pioneering work in the development of ROV technology was done in the 1960s and 1970s by the US Navy, which needed robotic vehicles to recover underwater ordnance lost during testing. ROVs first gained some public attention when the Navy used its Cable Controlled Underwater Recovery Vehicle (CURV) system to recover an atomic bomb lost off Spain in 1966. CURV was used again in 1973 to save the pilots of a sunken submersible off Cork, Ireland, with only minutes of air remaining.

In more recent years, however, some of the most dramatic examples of ROV development have been made in the private sector by commercial firms that saw the future in ROV support of offshore oil operations. Today, as oil exploration migrates into deeper and deeper waters, ROVs have become an essential part of the operations and have become not only capable, but highly reliable. With ROVs working as deep as 10,000 feet in support of offshore oil and other tasks, the technology has reached a level of cost effectiveness that allows organizations from police departments to academic institutions to operate vehicles that range from small inspection vehicles to deep ocean research systems.



By far the most famous ROV in the world was Jason Jr., an ROV developed at the Woods Hole Oceanographic Institution and used to explore the wreck of the White Star liner Titanic in 1986. Piloted by Martin Bowen, Jason Jr. was able to “fly” deep into the wreck and photograph areas that would never have been accessible to towed camera sleds or manned submersibles. Although the historical and scientific findings of the 1986 Titanic expedition were minimal, the project became a tremendous media event and firmly established both the use of ROVs and the exploration of wrecks in the deep ocean in the public’s mind.

The capabilities of ROVs have expanded tremendously in the almost twenty years since Jason Jr. first ventured down Titanic’s grand staircase. While Jason Jr. was jokingly referred to as a “floating eyeball” – it was equipped only to take still images and video – modern ROVs like the Comanche ROV with which the John Lethbridge is equipped perform a multitude of tasks in the deep sea. Sub Atlantic Systems, the manufacturer of the John Lethbridge ROV, increased the operating depth to 6,000m and increased its payload capability to 200 kg.

John Kingsford, operations director of SubSea Resources stated “It was critical that SubSea Resources find a technical solution for working on salvage at the variety of depths where we have identified key targets. The ability of Comanche to operate the Tritech Super ZipJet and work-class manipulators proved to us that this ROV will be truly capable of performing intervention tasks on the salvage projects we have scheduled in the near future”.

Dynamic Positioning and GPS

When retrieving a wreck in over 4,000m of water it is impossible to physically anchor the retrieval vessel to the sea bed. No anchor system is long enough or strong enough and hence an alternative solution has to be used. Using technology utilized in undersea cable laying, and also in the cruise ship industry, vessels can now maintain a static position relative to their target.

Global Positioning is familiar to anybody who drives a car with satellite navigation. A network of geo-synchronous satellites allows anyone with the technology to calibrate their exact latitude and longitude to extreme levels of accuracy. Maintaining that position on an amorphous mass such as an ocean with no fixed landmarks is quite tricky.

Dynamic Positioning allows the vessel to be manoeuvred in both dimensions on the surface of the ocean. Pods and thrusters using the same physics as jet engines and propellers apply forces to the vessel to maintain its static position. The thrusters and pods are able to swivel independently of the vessel for accurate control. The DP and GPS systems communicate in order for the relative position of the vessel to be maintained.

Research – the key to success

SubSea has compiled a database of ships lost at sea. At present this database consists of more than 14,000 vessels that were sunk in a wide variety of circumstances. However SubSea knows that the intelligence it can gather on these vessels in terms of their locations and cargoes is unlikely to be 100% accurate. Therefore its research tends to focus on vessels whose position of sinking and cargo can be verified from a number of different sources.

SubSea utilises such sources as Ministry of Defence records as well as U-Boat “kill pictures” and tends to look for corroborative evidence of cargo. They also use insurance files, bank records and other government archive material. They are keen to avoid the fate of the salvors of the Ballarat, a P&O ship believed to be carrying gold. Supposedly the gold had been laden in Cape Town and was on board when the ship was sunk by a German U-Boat. However this was contrary to the policy at the time as the UK government was not engaged in sending highly valuable gold reserves to the US through the normal shipping zones on civilian ships. War Office policy dictated that gold was transferred to a warship at Freetown and then onwards to North America. Hence there was little surprise at SubSea when the salvors found the Ballarat but no gold. It is obviously vital that the database compilers appreciate not only the facts and location of the lost vessels but also the historical context in which each vessel was operating.

There is no guarantee that files are accurate but SubSea has identified 70 vessels that have been categorised as A or B targets. The Class A targets are the primary focus over the short and medium term as SubSea feels that the combination of cargo type, tonnage and the strength of the research means that SubSea is more likely to achieve results from these vessels. As this is a high risk endeavour, going for the low hanging fruit is absolutely paramount. SubSea’s competitive advantage stems from the ability to identify the low hanging fruit. At present there are over 20 Class A targets already identified with a net salvage value of US\$583 million at current metal prices.

One of the phrases oft used in maritime parlance is “shipping lanes”. This means that the majority of vessels traverse the same corridors of Open Ocean due to prevailing currents and winds. It should come as little surprise that there is usually more than one wreck in the survey area. It is at this point that SubSea can become opportunistic in researching and recovering bullion ship cargo should the opportunity arise. The survey ship will be able to approach this task whilst the recovery vessel is dealing with the main Class A target.

Direct Competition

There are three companies competing in SubSea's space:

- Ocean Resources (OCRI.PK)
- Deep Water Recovery and Exploration
- Odyssey Marine Exploration (OMR.A)

Ocean Resources and Odyssey Marine primarily concentrate on low volume, high value artefact retrieval.

Ocean Resources

Treasure hunter Ocean Resources has been engaged in maritime exploration and salvage operations, primarily low volume, high value cargo in the Caribbean. The company uses a remotely operated grab excavator, which is said to be capable of lifting up to three tons of material at a time. The excavator can operate in water as deep as 4,900m. Their main asset, Ocean Boomer, was acquired by SubSea in April 2005 and renamed the John Lethbridge. SubSea believes that they have not operated offshore since the winter of 2004.

Odyssey Marine Exploration

Like Ocean Resources, Odyssey primarily focuses upon artefact retrieval. Their two main projects are the HMS Sussex and the SS Republic, a side wheel steamer lying off the Georgia coast. The SS Republic's cargo was bought from Atlantic Mutual Insurance. The SS Republic sank in 1865. Odyssey sells the coins and artefacts to collectors. Odyssey is currently in negotiations with the Junta de Andalusia with regards the wreck of the Sussex. For Odyssey to move into SubSea's core business of non-ferrous metal retrieval which is a bulk business, Odyssey would have to reconfigure its operating capabilities and its strategic direction.

For the full year 2005, Odyssey reported revenues of US\$10.0 million, compared to US\$17.6 million in 2004, and a net loss of US\$14.9 million compared to net income of US\$5.2 million the previous year. The net loss per share for the full year 2005 was US\$0.35, compared to earnings of US\$0.13 per share in 2004.

Odyssey attributed the 2005 annual loss to several factors. Revenues were lower than expected due to a smaller customer base of independent coin dealers, diminishing availability of high-value gold coins, lower than expected direct sales, and the impact of Hurricane Katrina on Odyssey's first-ever shipwreck attraction in New Orleans.

Deep Water Recovery and Exploration Ltd

This is a small family operation based in Scotland. It has recovered a variety of small cargoes around Scotland and the Mediterranean. However, it has suffered from under capitalization, poor equipment and a lack of professional support. Deep Water was looking for the First World War ship, the SS Persia. The Persia was said to be carrying diamonds and jewels belonging to the Maharaja Jagatjij Singh and was sunk by a German U-Boat in 1915. Deep Water had limited success recovering the Persia.

There are other salvage operators in the market but they either do not have the technical expertise or the interest to operate in deep water. The Daily Telegraph recently suggested that Deep6 was looking for up to £20m of new money to fund a second recovery vessel to help it recover the cargoes from seven identified wrecks, containing 18,000 tonnes of metal.

Salvage rights and Admiralty Law

The principle of the rights of salvors is one of the oldest recorded forms of law. It has always been legally understood that the salvor has a right to a large proportion of the value of the retrieved cargo. Under Admiralty law the rights of the salvor are well respected although a keen understanding of the law and the avoidance of high profile bullion wrecks is necessary in order to operate properly.

Territorial waters

International convention dictates that a 12 mile extension of coastline constitutes territorial waters. Any salvage operation inside this limit falls under the jurisdiction of the local government. Beyond this are what is loosely described as zones of economic influence. If a bullion wreck were discovered in this zone a claim would be likely from one or more governments. However SubSea does not target bullion wrecks and these difficulties should be avoided.

International waters

Beyond the boundaries of territorial waters international Admiralty Law dictates that the law that shall apply is the law in which the salvage is landed. SubSea intends to land its cargo in England because of the favourable rights granted to salvors under English Law.

When ships sink the cargo and the hull are treated as separate entities. An insurance contract will pay the owners of the ship whilst a separate insurance contract will pay the owners of the cargo. This is the staple of the underwriters of Lloyds of London. The cargo is the main concern of SubSea and English Law entitles salvors to 90% of the proceeds of an operation.

SubSea has taken great pains to understand the Admiralty Law and how it affects their target retrievals. They understand that the main principle of law is favourable to them and that there is a strong precedent that supports their operations. They have also made sure that their targets are all in international waters as this avoids the legal wrangles that ensue with local jurisdictions as Odyssey Marine is discovering in its protracted negotiations with the Junta de Andalusia in its recovery of HMS Sussex. They are also keenly aware of the need to obtain contracts if at all possible as this means that proceeds can be disposed of in a timely manner rather than waiting for the Receiver of Wrecks to hold cargo proceeds for 12 months. Insurers are more than happy to receive even a small portion of the proceeds of a successful retrieval as it represents something rather than nothing.

Bullion and Historic Wrecks

SubSea will not deal with these wrecks until a robust contract has been negotiated with the relevant party. The issues of these wrecks are being constantly discussed in the UN and their titles will almost certainly be disputed by the original owner's nation. SubSea do have such wrecks on their database but will only attempt recovery once all of the contracts are in place.

War Graves

The 1986 Protection of Military Remains Act makes it illegal to interfere with Allied or enemy ships and aircraft lost during military service in UK waters post 1914. British citizens are prohibited from interfering with such vessels in any waters. SubSea is sensitive to the issue of war graves and none of their target vessels are war graves.

SubSea has three key revenue generating opportunities underpinned by its research database:

- **The core business of bulk non-ferrous metals:**

SubSea's main opportunity lies in retrieving high volumes of non-ferrous metals. The composition of the portfolio of retrieval opportunities is skewed towards copper and tin with a mixed basket of other metals such as vanadium and aluminium. These are large volume cargoes of several thousand tonnes each, accordingly a leased salvage vessel will be used to undertake these high volume retrievals.

- **Retrieval of artefacts**

Due to the low volume, the retrieval process can be undertaken by the Company's survey vessel, the John Lethbridge. The John Lethbridge will multi-task during such retrievals by surveying the surrounding area for other recovery prospects.

- **Ad hoc contracts**

This entails the John Lethbridge being used to undertake salvage contracts from governments, individuals and companies to retrieve objects such as aircraft. The average value of these contracts can be US\$30,000 per day for an average 10 days. This revenue stream is not dependent on the database but is difficult to forecast as it is dependent upon the contract process.

These are likely to arise because the company has a ship in the immediate area, so that they would be relatively cheap add-ons to existing projects. However the fees involved in any one commission are likely to be in the order of US\$100,000-US\$400,000. A range of 2-5 commissions a year, at most, may be a realistic expectation. We have assumed one contract per year at US\$300,000.

Project Process & Operations

SubSea's model involves a relatively low cost core team supporting a series of projects, all of which have a low "get out" cost at any point before an actual recovery is undertaken. This underlines the importance of thorough research to establish as far as possible the existence and identity of the cargo.

Each vessel recovery is undertaken on a project basis with the first stage beginning at the research database. The company has 1 fulltime researcher in the UK and three part-time researchers based in Europe. Once a vessel has been identified in the database, a survey is commissioned and the survey ship sets sail to confirm via sonar and ROV the position and identity of the ship. To control costs and limit financial exposure, the maximum permitted time for the survey is 30 days. Depending on the cargo, the survey ship will then undertake the retrieval or, if it is a bulk cargo, a salvage vessel will be brought in.

Survey ship John Lethbridge



The John Lethbridge was previously called the Ocean Boomer prior to its purchase from Ocean Resources.

Source: Company

SubSea currently operates two ships – a 75 metre survey and salvage vessel, the John Lethbridge, and a 117 metre leased salvage vessel, the MV Geomaster. SubSea acquired the John Lethbridge in April 2005 for the advantageous price of US\$1.5m. The crew consists of nine SubSea employees and 18 subcontractors from SMS. SMS undertakes vessel management at a cost of £50,000 per month.

The Company has recently completed a major refit and repair programme for the vessel. The result is a modernised hydro-acoustic and ROV survey ship, incorporating enhanced manoeuvring facilities, along with a full dynamic-positioning control system and associated navigation.

Some delays were experienced while awaiting Health and Safety Executive approval, relating to asbestos issues involved in the plans to remove a redundant boiler, and to avoid this feeding through to the salvage schedule it was decided to charter a ship for the Ella survey instead.

SubSea's main salvage vessel, the MV Geomaster, has been leased from TS Marine on a fixed term 140-day contract with extensions at SubSea's discretion. The MV Geomaster has a complement of four SubSea employees, a recovery crew of 22 provided by TS Marine and full marine crew. For the lease of the ship and crew, SubSea is paying £37,000 per day with TS Marine managing the vessel. The MV Geomaster is currently undergoing modifications with SubSea paying a US\$1m mobilisation fee. Using SubSea's recovery equipment the MV Geomaster can retrieve up to 400 tonnes per day.

In January 2005 SubSea acquired the GRAB 6000 Salvage System, following its initial testing and engineering studies of the system. The system was originally developed in the mid-1990's specifically to salvage cargoes in deep water. In the same month the company announced that it had completed the successful survey of Celia, which had been undertaken over a 3-day period, using a leased survey vessel and a leased ROV.

Annual costs not involving the operation of ships, but including depreciation at 25%, are in the order of US\$1m.

The Salvage Process

There are three broad stages in each salvage operation, followed by disposal. The structure of the stage gating process is designed to limit financial loss.

Research

The company has a research database, built up over more than 20 years. It contains details of over 12,000 wrecks, of which 70 have been researched to project

stage and a further 45 are of clear interest but have not yet been researched beyond the initial stage. The company uses code names for each vessel to maintain commercial confidentiality.

There are no lists or books giving the names of all ships sunk and their cargoes and the company has therefore had to create its own list by research into primary and secondary sources. This includes examining insurance files, marine records, bank files and government archives. Thus far this has focused mainly on the UK government archives for both World Wars, and the opportunity exists to extend this further to data centres in other countries. Once the initial data has been reviewed and approved, further research is authorised on weather information, sea bed data, additional ship's drawings and photographs and data relating to other wrecks known to be in the immediate area. If this proves satisfactory, the survey to locate, identify and inspect the wreck can be planned.

The company divides wrecks into three categories: Class A wrecks, which are commercial wrecks with an estimated gross cargo value of more than about US\$10m; Class B wrecks, which are less valuable commercial wrecks with an estimated gross cargo value of more than US\$5m; and artefact/bullion vessels. Historical vessels generally date from the mid-17th to the late 19th century. These cargoes typically consist of low volumes of high value artefacts such as jewellery, porcelain, precious stones, coin and gold and silver bullion. These vessels are typically wooden-hulled, sank along the major trade routes and can prove more challenging to find as the hulls can disintegrate or sink into the sea bed.

The company expects to be able to add at least two new wrecks to its Class A list each year, and broadly to replace those that disappear from the list as the survey and recovery takes place. It typically takes two years to research opportunities. Scaling up the research team would run parallel to leasing a second salvage ship.

Survey

The company budgets for a maximum survey length of 30 days on each project although the survey may actually only take a few days. The John Lethbridge is likely to be active for 60% of the year. The balance needed for transit, certification, crew leave and repairs.

The survey ship, the John Lethbridge is 75 metres long and has the following equipment:

- dynamic positioning, to hold the vessel in position without an anchor;
- GPS to position the ship and record the position for salvage;
- side-scan sonar, which can operate with an effective "reach" of depths up to 6,000 metres. It is "flown" by the operator above the ocean floor, and can scan up to two kilometres on either side of its path, enabling coverage of 100 square miles a day;

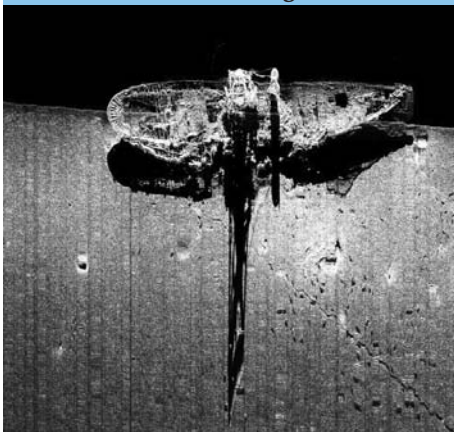
Klien Towfish sidescan sonar



3-D sidescan sonar image



3-D sidescan sonar image



The scoop, part of the GRAB 6000



Source for all images: Company

- a ROV, enabling a visual inspection of the wreck for identification and further detailed inspection.

The ship's complement is 27 consisting of nine SubSea employees and 18 subcontracted crew.

The ability to survey relatively large areas is key to being able to locate targets in the budgeted survey period. There is a trade off between image 'resolution' and the speed at which an area can be surveyed -- and hence the size of the search area that can be covered in a given period. While this is not material for locating SubSea's large commercial targets the resolution of the sonar images is more significant in locating historic wooden hulled ships.

With ship cash costs budgeted at around US\$10,000 a day for an actual survey, together with costs of a crew and any additional equipment, an estimate for a typical survey of US\$500,000 including contingencies would be prudent.

Recovery

Recovery can either be undertaken by the survey ship, the John Lethbridge or by the MV Geomaster. For low volume retrievals such as artefact retrieval or ad-hoc contract work, the John Lethbridge will be utilised. For bulk recoveries the leased MV Geomaster will be used.

The MV Geomaster is a 117 metre vessel and has the following equipment and features:

- dynamic positioning
- a remote operated grab to remove the cargo from the wreck. It is then deposited into a skip which is hauled to the surface
- storage capacity of over 4,000 tonnes
- counterbalance technology for cargo distribution
- 400 tonne per day recovery rate under optimum conditions

The ship has a complement of four SubSea employees, 22 person subcontracted recovery crew, and a full marine crew.

Timeline

In very broad terms, a major salvage operation requiring the MV Geomaster is likely to follow up to a year after the survey. Post the survey a full engineering project is undertaken to plan the recovery operation. Dependent upon the particular recovery, modifications to the MV Geomaster may be undertaken.

A salvage operation lasts from 2-5 months. The MV Geomaster can haul a maximum of 400 tonnes per day in optimum conditions with the grab taking an average five hours to complete a round trip. The database cargo ranges from 2,000 to 10,000 tonnes. Assuming optimum conditions, i.e., clement weather, fully func-

tioning equipment, no difficulties in accessing cargo, the Geomaster could take 25 days to haul 10,000 tonnes to surface. Allowing for one month mobilisation costs plus another month for demobilisation, total optimum recovery time could be in the region of 85 days. An 85-day recovery time would cost SubSea £3.145m given the Geomaster's daily cost of £37,000.

We view as highly unlikely the scenario of a "perfect" recovery given the number of uncontrollable variables. Therefore, a more realistic retrieval rate for a 10,000 tonne cargo including mobilisation and demobilisation would be 140 days. Given the day rate cost of £37,000, and due to the uncontrollable variables a peak total recovery time of 140 days is more realistic, i.e., a cost of £5.18m. This timescale allows a generous amount of leeway for repairs and bad weather and also graphically illustrates the cost of delays to SubSea's profitability.

Before the voyage

Before the recovery voyage the company will typically negotiate a contract with the owner of the cargo. Typically such agreements would allocate 90% or more of the proceeds to the salvor.

Disposal

The company will typically sell the cargo as soon as it has been recovered, although this may be deferred until it has been landed. The Company already has relationships with suitable metal brokers. For historical artefacts such as bullion, SubSea has a relationship with a number of suitable auction houses and coin dealers including Sotheby's which is also a shareholder.

Progress to date

In 2005, the company announced that it had concluded the initial engineering study on the Celia project. This also involved the development of a new system for recovering the cargo. For this, SubSea's engineers worked in co-operation with Saipem's Marseilles-based team of engineers. This team had been responsible for the development of equipment and methods used to successfully recover approximately 13,650 tonnes of oil from the Prestige tanker at a depth of 3,850 metres in 2004. The method identified by this engineering team is based on a grab system and a cargo recovery system unique to SubSea that can be applied across a range of cargo types and sea depths. Some delay has also been experienced in commissioning the equipment on this project as certain roller bearings had to be specially commissioned, pushing the recovery of the Celia to Q306.

Some relevant themes run through progress to date. Delays were experienced as a result of maritime risk and also what could be termed learning curve risk. Solutions have had to be found to overcome engineering challenges. We anticipate that adhoc solutions will have to be found once retrievals are underway at sea,

as no retrieval is identical. SubSea aims to capture the incremental, “on the job” knowledge by having its contractors provide the same personnel and having four of its own staff onboard.

Salvage Timetable

The company has identified its first eight wrecks (six Class A, and two artefact vessels as described below). These vessels have been selected for retrieval due to the high level of confidence in the research data and the company believes the cargo to be easily accessible. These wrecks are also among the more valuable of SubSea’s database.

Ella

A c.19th vessel in the Atlantic lying at a depth of less than 500 metres. The cargo is believed to be silver coins and approximately 16,000 oz of gold bullion with an estimated scrap value in the region of US\$5m-U\$8m. The value of any coins may be greater than the value of the composite metals but this will only be ascertained after recovery. The SubSea survey has confirmed the vessel’s location and identity. Recovery, which was originally scheduled for 2005, was delayed by repairs to the John Lethbridge and SubSea’s decision not to lease another ship. The Ella recovery will now begin in 2Q06 by the John Lethbridge in conjunction with the survey and potential recovery of Gina.

Gina

The Gina is a 19th century wreck with at least 20,000 oz of gold believed to be on board. This wreck, which lies at a short distance from Marseilles, will be used as a test bed prior to taking the John Lethbridge into the Atlantic. In the event that the Company is successful in locating the target and is able to recover it then this will be commenced in June 06 prior to recovering the Ella. If the Company is un-

Target list of first eight wrecks

Geomaster			US\$ m
Timing	Target	Cargo	Est. gross value
Q306	Recovery	Celia	39,766,495
Q107	Recovery	Vanilla	67,577,578
Q307	Recovery	Miranda	46,199,178
Q407	Recovery	Samantha or Jennifer	38,712,500 ¹
Q208	Recovery	Diana	44,882,500
Q308	Recovery	Diana	
John Lethbridge			
Q206	Recovery	Gina	12,470,000
Q2/Q306	Recovery	Ella	8,100,000
Q2/Q306	Survey	Miranda	
Q406	Survey	Vanilla	

Potential recoveries of Frances and Ruby

¹ The Gross Value quoted relates to the Samantha alone.

Source: SubSea Resources, Objective Capital

able to recover the Gina then the John Lethbridge will immediately transit to the Ella site.

Frances and Ruby

These are two wrecks with cargoes similar to Ella (gold and silver coins) and believed to be located very close to Vanilla. It is planned to survey and recover these, using the John Lethbridge, as part of the survey of Vanilla.

Celia

Was a commercial freight ship that sank in the North Atlantic after the Second World War. It was carrying a cargo of copper (cathodes and bars) and zinc with an estimated gross value in the region of US\$40m. The wreck is upright, intact and lying at a depth of 1,000m. The Company aims to salvage 80-90% of the cargo. An exclusive agreement with the cargo insurers will result in SubSea retaining 89% of the sale proceeds. This will be the first recovery by the company using the MV Geomaster.

Vanilla

An American ship which was on a voyage for the US government's Strategic Metals Reserve Corporation from Chile to New York and was sunk in international waters off Panama. The cargo was over 9,000 tonnes of copper, antimony, tungsten, wolfram, tin and vanadium. The company has acquired both the vessel and its contents.

Miranda

A freight ship that was sunk in the North Atlantic lies at a depth of about 3,600 metres. Miranda was carrying a cargo of nickel.

Jennifer

A freight ship under contract to the British government which was sunk in World War II in the Western Atlantic lies at a depth of about 3,200 metres. Jennifer was carrying a cargo of copper, tin and cobalt.

Diana

This is a freight ship sunk in World War II, with a cargo of tin and wolfram.

Contracts have been negotiated with the owners of Ella, Frances, Ruby, Celia, Vanilla and Miranda.

Copper cathodes similar to in Celia



1000 tonnes of copper in Celia sister



Sister ship to Vanilla



Class A targets

Code Name	Metals	Gross Value (US\$m)	Gross Cargo (tonnes)	Cu (tonnes)	Sn (tonnes)	Ni (tonnes)	Co (tonnes)	Wo3 (tonnes)	Va (tonnes)	Au (tonnes)	Ag (tonnes)	Mo (tonnes)	Zn (tonnes)
Audrey	tin, wolfram	17.3	1,625	-	1,400	-	-	225	-	-	-	-	-
Barbara	copper, tin	50.4	6,560	5,660	900	-	-	-	-	-	-	-	-
Brigitte	tin	19.0	2,000	-	2,000	-	-	-	-	-	-	-	-
Celia	copper, zinc	43.7	6,285	5,585	-	-	-	-	-	-	-	-	700
Diana	tin, wolfram	46.3	4,700	-	4,500	-	-	200	-	-	-	-	-
Fifi	tin, wolfram	19.7	1,900	-	1,700	-	-	200	-	-	-	-	-
Gloria	silver coin	56.7	84	-	-	-	-	-	-	-	84	-	-
Greta	silver coin	28.4	42	-	-	-	-	-	-	-	42	-	-
Jane	copper	34.0	4,600	4,600	-	-	-	-	-	-	-	-	-
Jean	tin, wolfram	18.3	1,640	-	1,300	-	-	340	-	-	-	-	-
Jennifer	copper, cobalt, tin	62.1	7,140	6,321	508	-	311	-	-	-	-	-	-
Lola	silver bar	34.3	75	-	-	-	-	-	-	-	75	-	-
Marina	molybdenum	16.1	620	-	-	-	-	-	-	-	-	310	310
Michele	copper, cobalt, nickel	47.7	6,172	6,000	-	80	82	10	-	-	-	-	-
Miranda	nickel	48.6	2,410	-	-	2,410	-	-	-	-	-	-	-
Samantha	tin, wolfram	37.8	3,300	-	2,500	-	-	800	-	-	-	-	-
Sue	silver bar	37.8	84	-	-	-	-	-	-	-	84	-	-
Tara	copper, cobalt	27.0	3,535	3,502	-	-	33	-	-	-	-	-	-
Tina	gold bar	45.2	2	-	-	-	-	-	-	2	-	-	-
Vanilla	copper, tungsten, vanadium	70.3	8,171	5,144	-	-	13	1,464	1,550	-	-	-	-
Vivian	Tin, wolfram	13.2	1,300	-	1,200	-	-	100	-	-	-	-	-
Total		773.9	62,245	36,812	16,008	2,490	439	3,339	1,550	2	285	310	700

Source: Company

Select Class B targets

Code Name	Metals	Gross Value (US\$m)	Gross Cargo (tonnes)	Cu (tonnes)	Sn (tonnes)	Ni (tonnes)	Co (tonnes)	Wo3 (tonnes)	Va (tonnes)	Au (tonnes)	Ag (tonnes)	Mo (tonnes)	Zn (tonnes)
Alice	Copper, cobalt, nickel	16.4	1,635	1,579	-	46	10	-	-	-	-	-	-
Betty	Nickel, Aluminium	10.3	1,476	-	-	356	-	-	-	1,120	-	-	-
Brit	Copper, Alum., Nickel/copper	15.4	1,781	925	-	356	-	-	-	500	-	-	-
Catherine	Copper	18.9	3,007	3,007	-	-	-	-	-	-	-	-	-
Christine	Copper, Platinum Matte	18.5	2,513	2,513	-	-	-	-	-	-	-	-	-
Cindy	Copper, tin, aluminium	18.6	2,028	400	500	-	-	-	-	1,128	-	-	-
Coco	Copper, Platinum Matte	25.4	3,623	3,500	0	0	0	41	82	0	0	0	-
Etta	Copper bar	15.6	2,300	2,000	-	-	-	-	-	300	-	-	-
Fanny	Copper	22.2	3,000	3,000	-	-	-	-	-	-	-	-	-
Holly	Copper	22.2	3,000	3,000	-	-	-	-	-	-	-	-	-
Ingrid	Copper	18.9	3,000	3,000	-	-	-	-	-	-	-	-	-
Jody	Copper bar, Zinc	18.0	2,000	2,000	-	-	-	-	-	-	-	-	-
Jemma	Copper matte, silver, gold	14.7	1,872	1,870	-	-	-	-	-	-	-	2	-
Laura	Copper blister	15.7	2,500	2,500	-	-	-	-	-	-	-	-	-
Lulu	Copper blister	15.8	2,505	2,505	-	-	-	-	-	-	-	-	-
Lily	Copper blister	14.2	2,254	2,254	-	-	-	-	-	-	-	-	-
Millie	silver coin	14.8	16	-	-	-	-	-	-	-	-	16	-
Mimi	Copper	22.5	3,500	3,500	-	-	-	-	-	-	-	-	-
Nelly	Copper, Platinum Matte	14.0	2,004	2,004	-	-	-	-	-	-	-	-	-
Pamela	Aluminium	16.4	5,900	-	-	-	-	-	-	5,900	-	-	-
Paula	Copper, aluminium	18.4	2,814	2,282	-	-	-	-	-	532	-	-	-
Ronda	Copper wire	18.8	2,537	2,537	-	-	-	-	-	-	-	-	-
Rita	Copper	15.5	2,100	2,100	-	-	-	-	-	-	-	-	-
Sabrina	Copper blister	17.6	2,800	2,800	-	-	-	-	-	-	-	-	-
Shirley	Copper, cobalt	15.9	2,212	2,201	-	-	-	11	-	-	-	-	-
Thelma	Stainless steel, zinc	17.5	33	-	-	-	33	-	-	-	-	-	-
Wilma	Copper, Platinum Matte	14.3	2,002	2,002	-	-	-	-	-	-	-	-	-
Zara	Copper	14.8	2,000	2,000	-	-	-	-	-	-	-	-	-
Zena	Copper	14.8	2,006	2,006	-	-	-	-	-	-	-	-	-

Source: Company

As SubSea's financial year end is March, we believe that some projects scheduled for completion in the fourth quarter of the calendar year may be prone to slip-page. For example although the Vanilla is scheduled for the first quarter of 2007, or SubSea's fourth quarter, we have assumed that the cargo will be booked in the first quarter of SubSea's financial year 2008. We have made this assumption as the weather during January to March tends to be unpredictable and although costs associated with Vanilla retrieval may be booked in 2007, revenues may be booked in 2008.

SubSea's third revenue stream is the ad hoc retrieval of objects on behalf of companies or governments. We have assumed a conservative estimate of one contract per year as we believe that investors should focus upon the core business of salvage retrieval rather than focussing upon unpredictable revenue streams.

As the global commodity markets are priced in dollars and SubSea reports in sterling we have converted our forecasts at the prevailing rate of £1 equals US\$1.80.

SubSea Resources Summary Profit and Loss

YE 31 March, £m	2005	2006E	2007F	2008F
Turnover			25.86	53.74
Contracts			0.30	0.30
Total Turnover			26.16	54.04
Cost of sales			-15.71	-32.42
Gross profit		-1.12	10.45	21.62
SGA		-0.95	-1.00	-1.05
Group operating profit/(loss)	-0.38	-2.07	9.45	20.57
Interest paid				
Interest receivable	0.14	0.23	0.12	0.29
Associates				
PBT Headline	-0.24	-1.84	9.57	20.86
Abnormal exceptionals	0			
PBT reported	-0.24	-1.84	9.57	20.86
Taxation				-2.09
Tax rate reported				10%
Tax headline				
Tax rate headline				
Minorities				
Retained profit/(loss)	-0.24	-1.84	9.57	18.77
<i>Basic EPS</i>	-0.21	-1.6	8.4	16.5
<i>Headline EPS</i>	-0.21	-1.6	8.4	16.5
<i>Fully diluted</i>	-0.16	-1.2	6.4	12.5
<i>No of shares (m)</i>	113.61	113.61	113.61	113.61
<i>No of shares (m) fully diluted</i>	150.5	150.5	150.5	150.5

Note: The forecast 2008 cost of sales includes the salvage costs of the Samantha project with revenue booked in the 2009 financial year.

SubSea Resources Cash flow

YE March £m	2005	2006E	2007F	2008F
Opening net debt/cash		9.57	5.78	14.56
Operating profit	-0.38	-2.07	9.45	20.57
Depreciation	0.01	0.65	0.81	1.02
Translation diff				
Exceptionals				
Change in working cap				
Share of associates				
Operating cashflow	-0.37	-1.42	10.27	21.58
Sale of Fas				
Capex		-5.40	-1.60	-1.00
Net interest	0.14	0.23	0.12	0.29
Tax paid				-2.09
Acquisitions/disposals	-0.20			
MLR				
Equity issues				
Cash flow pre financing	-0.43	-6.59	8.78	18.79
Financing	10.00	2.80		
Other				
Cash flow pre financing	9.57	-3.79	8.78	18.79
Change in debt lterm				
Acquired debt				
YE Net cash/(debt)	9.57	5.78	14.56	33.35

Commodity price assumptions

Material	US\$ per unit or ounce	US\$ per tonne	Quality	Total US\$ per tonne ¹	Source
Copper	-	US\$/tonne	999	7,730	Basemetals.com
Zinc	-	US\$/tonne	999	3,546	Basemetals.com
Tin	-	US\$/tonne	999	8,030	Basemetals.com
Aluminium Hi grade	-	US\$/tonne	999	2,530	Basemetals.com
Nickel	-	US\$/tonne	999	22,295	Basemetals.com
Cobalt	15.3	US\$/tonne	999	33,731	Platts
Antimony	-	US\$/tonne	65	5,150	Platts
Wo3	-	US\$/tonne	65	17,500	Northern Miner
Vanadium	8.5	US\$/tonne	45	18,739	Northern Miner
Gold	630.8	US\$/oz	999	20,280,691	London Gold Fix
Silver	12.15	US\$/oz	999	390,632	London Silver Fix
Platinum	1,232	US\$/oz	999	39,609,720	London Metal Exchange

¹ Based on 2 June 2006 prices

Source: *Objective Capital*

It should be noted that metals such as vanadium have no terminal market and as such are not quoted. Prices for elements such as antimony, cobalt and vanadium are derived by supply and demand and industry guides such as Platts or producers such as Northern Miner providing the only reliable estimation of current prices.

Gross cargo values to net salvage value:

The cargo values of SubSea's proposed 2006-2008 retrievals above are quoted in Gross Salvage Value.

For modelling purposes we work on a Net Salvage Value (NSV) by deducting the following:

- **Retrieval assumption:**

We have assumed that SubSea should be able to recover 85% of the cargo said to be onboard.

- **Discount for contamination/deterioration:**

As the retrieved cargoes have been lying in water for, in some cases, several decades, some sodium chloride contamination should be expected. Recovered metal bars are pressure washed to remove salt and we have assumed a discount of US\$200/tonne to the spot price. The process of removing salt from ores is more involved and we have assumed a discount of US\$500/tonne.

- **Insurer's share:**

The industry average is that 10% goes to the insurer, with the salvor retaining 90%. We have assumed this to be the case.

Consequently, the NSV of SubSea's proposed schedule at current spot prices is US\$193m.

The company believes that it should be possible to achieve annual revenues of US\$60m from commercial wrecks based on gross salvage revenues. Obviously an additional leased salvage vessel would see this level reached quicker.

Distribution Policy and Capital Requirements

Management intends to retain sufficient liquidity to fund operations for the next couple of years, and after providing for this it expects to distribute all profits.

Bearing in mind the comments above on the probable cost of failed recoveries, the retention is likely to be in the order of US\$10m, and at a higher level should another salvage ship be leased.

Foreign Currency Exposure

SubSea reports in GBP. Some costs are incurred in EUR and other costs are expressed in USD as this is the standard in both the shipping and commodity markets. The company is exposed to fluctuations in the GBP/USD market due to the base currency that the recovered metals will be valued in.

News flow

Due to the nature of SubSea's operations, the company is vulnerable to delays as we saw in 2005. In many ways the share price is likely to react to news flow in a similar way to a resources company, as uncertainties are removed when key milestones are passed. Positive survey results will give investors confidence in the research database and positive recovery operations confidence in the engineering process. Specifically, we expect to receive updates on the retrievals of Ella, Gina and Celia.

Appendix: Management

Christopher Rowe (59), *non-executive chairman*, has some 35 years experience in equity markets. He is Currently chief executive of Arc Fund Management, which specialises in various funds including Enterprise Investment Schemes, a Venture Capital Trust and a European Property Fund. Before entering the financial markets he spent several years working in the oil prospecting sector.

Mark Gleave (44), *managing director*, was previously head of fund management consulting at Deloitte & Touche and has held senior roles on the buy and sell sides. He has an MBA from Imperial College in risk management and finance and, before moving into financial services in 1983, he worked for four years in insurance, oil and gas exploration and advertising.

John Kingsford (58), *operations director*, spent six years in the British army and then, after a brief period at Michelin, joined Comex SA as a commercial diver in 1976, in due course becoming managing director for survey, deepwater exploration and cargo recovery. In the late 80's he led a team to recover a cargo at 350m, which at the time was the deepest salvage operation ever achieved. He was also the first to work at 500m (on an Italian World War I liner in 1990). With Comex he has worked for many of the major oil and gas companies and commissioned a wide range of vessels and equipment, with significant front-line management responsibility. He was subsequently given certain senior assignments within Comex, including a directorship within the nuclear power inspection and repair field in the UK and France, and was the chairman's representative to the government of Indonesia to advise on offshore salvage regulation.

Karen Wyatt (45), *non-executive finance director*, is a chartered accountant who started with Hayes Allen, before setting up her own firm that specialises in small companies. She will supervise the audit and reporting functions until SubSea is large enough to justify a full time finance director.

We are pleased to bring you this report on **SubSea Resources**.



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Gabriel Didham, CFA
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Angela Maxwell, MBA, MSc. (Investment Analysis). Angela is an institutionally rated analyst with more than 10 years experience of international investment analysis including time in the UK, European and US markets. She has previously worked for ING Barings, Theodor Gilissen, and Arnhold & S Bleichroeder

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Objective Capital Limited

2nd floor, 145 St. John St.
London EC1V 4PY
Tel: +44-(0)870-080-2965
Fax: +44-(0)870-116-0839
sales@objectivecapital.com

Internationally:
Phone: +44-20-7754 5994

US Toll-Free:
1-888-802-7215

For Marketing & Sales:
Token House
11-12 Tokenhouse Yard
London EC2R 7AS

Corporate: www.ObjectiveCapital.com
Research: www.ObjectiveCapital.co.uk