

Digital Rock Atlas, Newfoundland and Labrador Phase 1: Frontier Areas

A Lithostratigraphic Reference of 68 wells for Newfoundland and Labrador

DELIVERABLES AND TIMING

The project deliverables will consist of the following items:

- 1) High resolution standard digital images for cuttings samples (1024 x 780 pixels) and enhanced quality images at 4 different levels of magnification (x5, x10, x20 and x50) for selected wells.
- 2) User friendly PhotoSTRAT™ viewing software for viewing individual and multiple images.
- 3) Lithostratigraphic tops database with tops and thickness for each formation of each well.
- 4) A3 summary panel with integrated thumb nail images lithological and other freely available supplementary data.
- 5) High resolution core scan images delivered via user friendly software.
- 6) Hard copy fan fold plots of individual wells available by request, at extra cost.

Completion: Available for immediate purchase.

PRICE AND TERMS

The **PhotoSTRAT™ and Core and Slide Scan reference dataset** is available to E & P companies on a single company or group basis

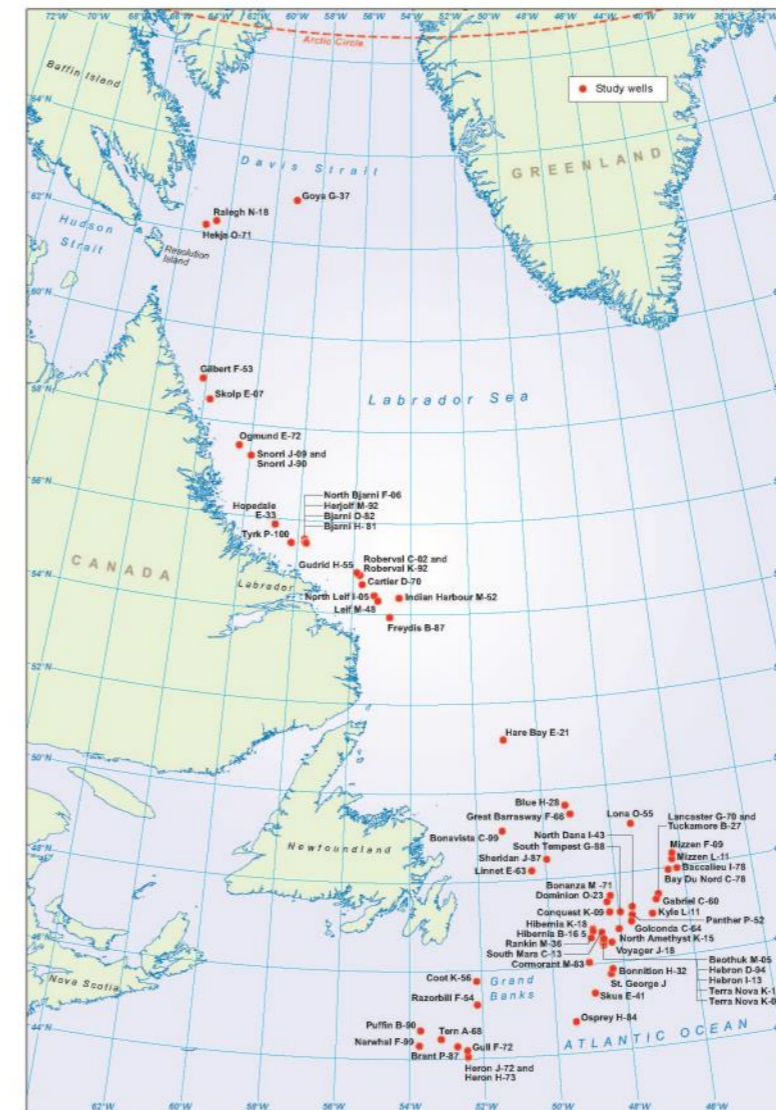
Single company, entry fee for a minimum of 68 wells (25 year license).

\$145,000 before 31st October 2016, \$175,000 post completion

Availability: October 2016

Douglas Langton:	+44 (0) 7816967230	douglas.langton@rockwash.co.uk
Mike Snape:	+44 (0) 1244 677064	mike.snape@rockwash.co.uk
John Church:	+44 (0) 7968 828285	john.church@rockwash.co.uk

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- **High resolution & scaled images for every available cuttings sample in each well.**
- **High resolution core (>800m) and petrographic slide scan images.**
- **Digital product, inclusive of user-friendly viewing software.**
- **Images integrated with relevant geological data.**

Cost: Single company, \$145,000 before 31st October 2016, \$175,000 post completion

Availability: October 2016

Further Information and Contacts:

Douglas Langton: +44 7816 967230, douglas.langton@rockwash.co.uk

Mike Snape: +44 7947 046699, mike.snape@rockwash.co.uk

This project is being undertaken in partnership with Nalcor Energy oil and Gas

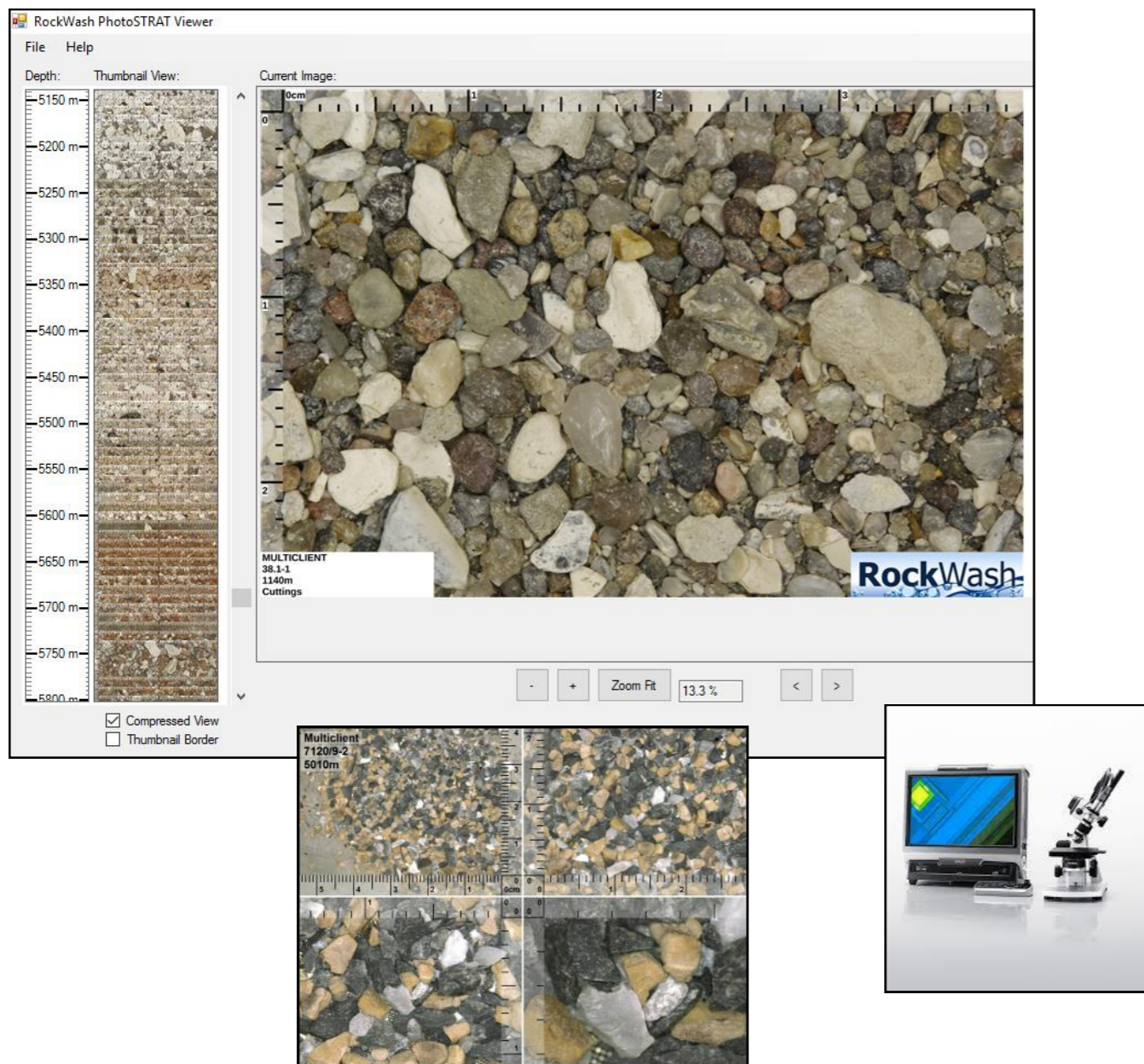
INTRODUCTION

The key lithostratigraphic units of the Newfoundland and Labrador offshore areas are presented visually for the first time as high resolution images of cuttings samples, core and thin sections.

RockWash Prep and Store Ltd (RockWash) is able to provide a complete high resolution digital image for each of the cuttings samples, core and petrographic slides from wells at the national core store for Newfoundland and Labrador.

RockWash, in partnership with Nalcor Energy has initiated this project after consultation with the industry to build PhotoSTRAT™ and core and petrographic slide scan databases for the exploration wells of the Newfoundland and Labrador offshore areas. This will provide an easily accessible reference set for each of the classic type sections.

This dataset will prove to be an invaluable resource for all geoscientists both at their work stations and at the wellsite. It will, in particular, enable the re-evaluation of many of the early wells drilled in the Newfoundland and Labrador Offshore, which are no longer available for sampling.



Labrador Wells

- Bjarni H- 81
- Bjarni O-82
- Cartier D-70
- Freydis B-87
- Gilbert F-53
- Gudrid H-55
- Herjolf M-92
- Hopdale E-33
- Indian Harbour M-52
- North Bjarni F-06
- North Leif I-05
- Ogmund E-72
- Roberval C-02
- Roberval K-92
- Skolp E-07
- Snorri J-90
- Tyrk P-100
- Leif M-48

Davis Strait Wells

- Gjoa G-37
- Raleigh N-18
- Hekja O-71

Newfoundland Wells

- Baccalieu I-78
- Bay Du Nord C-78
- Beothuk M-05
- Blue H-28
- Bonanza M -71
- Bonavista C-99
- Bonniton H-32
- Brant P-87
- Conquest K-09
- Coot K-56
- Cormorant N-83
- Dominion O-23
- Gabriel C-60
- Golconda C-64
- Great Barrasway F-66
- Gull F-72
- Hare Bay E-21
- Hebron D-94
- Hebron I-13
- Heron H-73
- Heron J-72
- Hibernia B-16 5
- Hibernia K-18
- Kyle L-11
- Lancaster G-70
- Linnet E-63
- Lona O-55
- Mizzen F-09
- Mizzen L-11
- Narwhal F-99
- North Amethyst K-15
- North Dana I-43
- Osprey H-84
- Panther P-52
- Puffin B-90
- Rankin M-36
- Razorbill F-54
- Sheridan J-87
- Skua E-41
- South Mara C-13
- South Tempest G-88
- St. George J-55
- Tern A-68
- Terra Nova K-08
- Terra Nova K-18
- Tuckamore B-27
- Voyager J-18

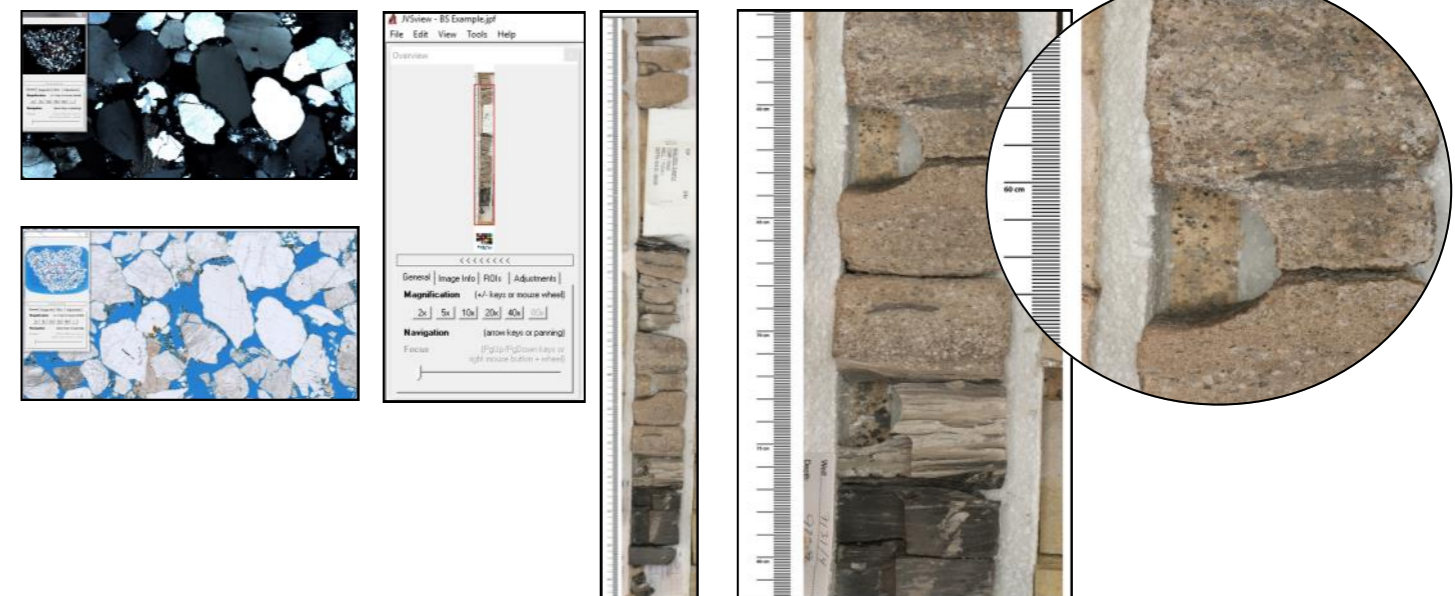
PRODUCT DESCRIPTION

PhotoSTRAT:

Cuttings samples from available intervals in each of the wells are systematically washed using the new Rock-Wash method and apparatus, photographed at high resolution (1024 x 780 pixels) and, for selected wells, at varying magnifications (x5, x10, x20 and x50). Images can be used for lithological descriptions and for building type sections with which well logs can be validated and other geological data complemented.

Core and Slide Scanning:

New high resolution (45 micron / pixel) scanned images of 45 cores from 17 wells (>800m) and available petrological slide scans (number to be confirmed) will be captured and provided in a digital format. Scaled images can be viewed instantly and rapidly at the desk top at different levels of magnification (x 2 to x 40) via specialist compression viewing software. Core images are available in plane and UV light while the slide scanned images can be viewed in plane and cross polarised light. A high level of image clarity is achieved by the adaptive focus capability at all levels of magnification enabling core and slide descriptions and measurements to be undertaken at the desk top remotely from the storage facility.



Core Scan example at different magnifications