

THE NATIONAL GALLERY

Showcasing the practical use of IIF: Webinar #1 of *'Practical applications of IIF as a building block towards a digital National Collection'*

19th March 2021

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Re-using IIF resources in
documentation solutions





Working with your own data

- There are a growing number of institutions presenting images to the public via IIIF
- The IIIF standard is designed to allow images to be stored once but used multiple times
- So if IIIF systems are being developed for public engagement and dissemination they can also be used for internal use and documentation systems

The problem of accessing and using ones own data

A number of years ago the NG needed to consider how we could all work with and share our own images and data (this work is still ongoing)

At the time there was a range of key resources held and managed by different departments:

- **Text Based Resource: TMS** (Collection Management Database), **CID** (Collection Image Database), Written Reports, Notebooks and Data Files, etc.
- **Photographic Images** (Visible, X-ray, UV, Raking light, etc.)
- **Conservation Image** (Infrared images, Photomicrographs, etc.)
- **Scientific Image** (Sample images, Analytical images, etc.)
-



An example of the classic “*Silo Problem*”

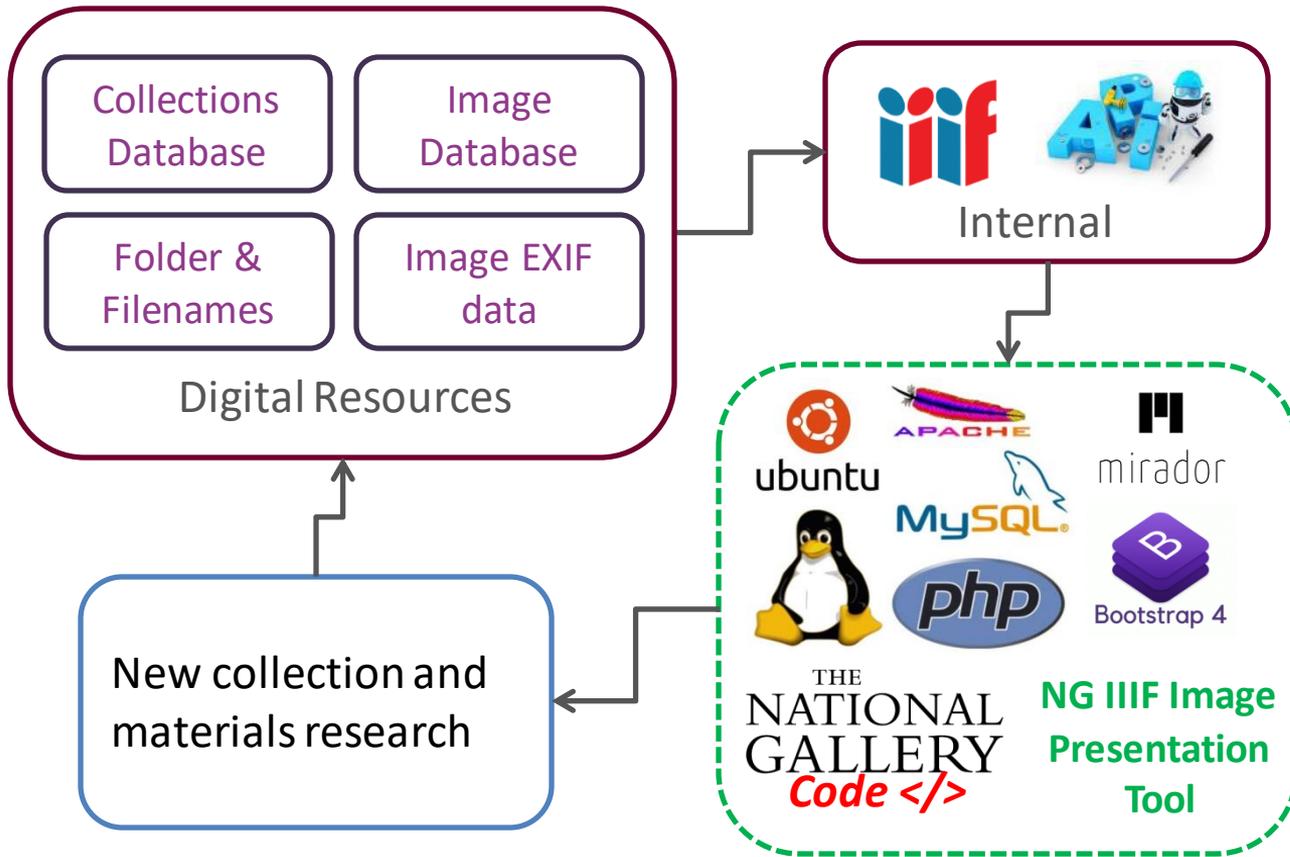
Large numbers of images and data files, from small to very large, stored securely within departmental folders – Limited cross departmental access achieved via duplicating files



The Solution

- Build an internal web based image viewer – open to all departments
- Providing dynamic up-to-date, streaming access to all of our image resources
- From small images to large scale mosaics

Making images and data more accessible and re-usable



- **On the fly dynamic DAMs creation**, from all current images in defined group of folders
- **Links to paintings and samples automatically identified** from folder and image names
- **Combined** with additional metadata from **multiple databases**
- Data re-formatted to produce **dynamic up-to-date IIF manifests**
- Linked to **IIF compliant images server IIPImage**
- Presented via a **simple collection search engine**

The National Gallery Internal IIF Image Viewer

THE NATIONAL GALLERY National Gallery Image Server

This system has been designed to display images currently held on the National Gallery image server. The system is updated automatically every morning to include new images. For further information about the images displayed, or not displayed here please contact the Photographic Department.

New Search Add to Search

Change Layout Full Screen

Close

Filter objects: Add new object from URL: Load

National Gallery 4 items

THE NATIONAL GALLERY Sample: 116 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 4 items

THE NATIONAL GALLERY Sample: 114 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 19 items

THE NATIONAL GALLERY Sample: 113 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 4 items

THE NATIONAL GALLERY Sample: 111 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 4 items

THE NATIONAL GALLERY Sample: 17 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 3 items

THE NATIONAL GALLERY Sample: 16 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 2 items

THE NATIONAL GALLERY Sample: 12 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 3 items

THE NATIONAL GALLERY Sample: 14 - NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 4 items

THE NATIONAL GALLERY NG3908: Georges Seurat, Bathers at Asnières, 1884, Oil on canvas, (201 x 300 cm)

National Gallery 19 items

National Gallery: Internal Image Server by Joseph Padfield is not currently licensed for external use

- All collection images, including those of painting samples are automatically added to the system every night.
- All staff have access to all of the images up to multiple Gigabytes in size.
- A subset of these images are now being presented externally, via research portals and the public NG website.

NG IIF Image Workflow

- This bespoke process has worked well for a number of years
- However, it is quite complex and is difficult to support and maintain
- Current developments include migrating to a commercially supported Middleware solution, managing:
 - Data aggregation and presentation
 - PIDs management
 - IIF image preparation
 - IIF manifest (metadata) creation
 - IIF presentation (IIIF server)
- This work is still in Beta, but early public outputs of this data can be seen at: <https://data.ng-london.org.uk>

NG Beta API Example Beta Object Data: <https://data.ng-london.org.uk/0F61-0001-0000-0000>

NG Beta API Example Beta IIF Manifest: <https://data.ng-london.org.uk/0F61-0001-0000-0000.iiif>



Working with your own data

- So now we had access to all of our images and associated data in a digitally accessible form how else could we re-use them?
- In addition to the painting collection the NG hold a large collection of thousands of painting samples
- Images of these samples are also included in the IIF viewing system
- The plan was then to re-use the data and images to create a more efficient way of documenting the connections between paintings and samples.

Digital Sampling Points

- A new set of tools were put together to digitally position and describe sample sites within the National Gallery Scientific Department
- This work was supported by the IPERION-CH H2020 EU project as a pilot for future digital initiatives within the National Gallery



IPERION CH

<http://www.iperionch.eu/>

The Primary Documentation of Sampling

2

1. Trace of false tree, etc.
2. Mercury's arm
3. Door
4. Juno's gown pendant
5. Satyr
6. Back of painted out putto
7. Satyr

18 June 2001
Further samples to elucidate changes

11. Dk brown ^{remains} grey of fringe of trees over sky (cleaned), etc.
12. Blue sky over Mercury's painted out arm, between dead and outdoor-sized tree
13. Paint (dk & blended) over painted out stone
14. Faded paintings of flesh - blue? beneath yellow-brown
15. Greyish drapery over painted out raised arm of putto, left for L.S.
16. Greenish part of 'added' cupid's wing for pigment id - any az.
17. Deep brown-green fringe, upper edge left over painted out satyr
18. Grey-green background paint, extreme L.H. edge for back L.S.
19. Deep blue part of cupid's drapery, extreme L.H. edge

24-7-2001

194: RUBENS, *Judgment of Paris*

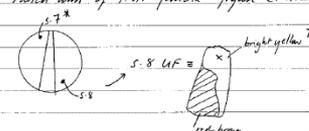
3

See original sample list.

Samples taken to investigate paintings: revealed by new (image-processed x-ray).

Original series ss1-3 (a-c)

- cs 4. Blue drapery, lower l.h. corner - any evidence for 18th cent materials here?
5. Blue highlight on helmet covering painted-out putto - what a pigment? Could this be a later addition?
- cs 6. 'Paintings' of Mercury's shoulder - red (drapery?) beneath landscape
7. Highlight (yellow impasto) on surface visible, apple for EDX. Is this LTZ or NY? [194.7a; 194.7b]*
8. Highlight (concealed) on painted out, earthen, apple (see X-ray) beneath red-brown paint of r.f. for EDX [194.5B]†
9. Dark fringe/landscape over painted out putto - see X-ray. Putto painted out by Rubens, so should be no l.s. descent of carbon. CS over descent.
10. Dark green-brown shadow (perhaps not by Rubens) over raised arm of l.h. female figure (Minerva)



Hand written records of the samples locations kept in dedicated Sample Books.

NG: Analogue Sample Site Records

Laser printer image marked with pen.
(Quicker to produce but less archival)



NG280: Workshop of Giovanni Bellini, The Virgin and Child, probably 1480-90, Oil, probably with egg tempera, on poplar, (90.8 x 64.8 cm)



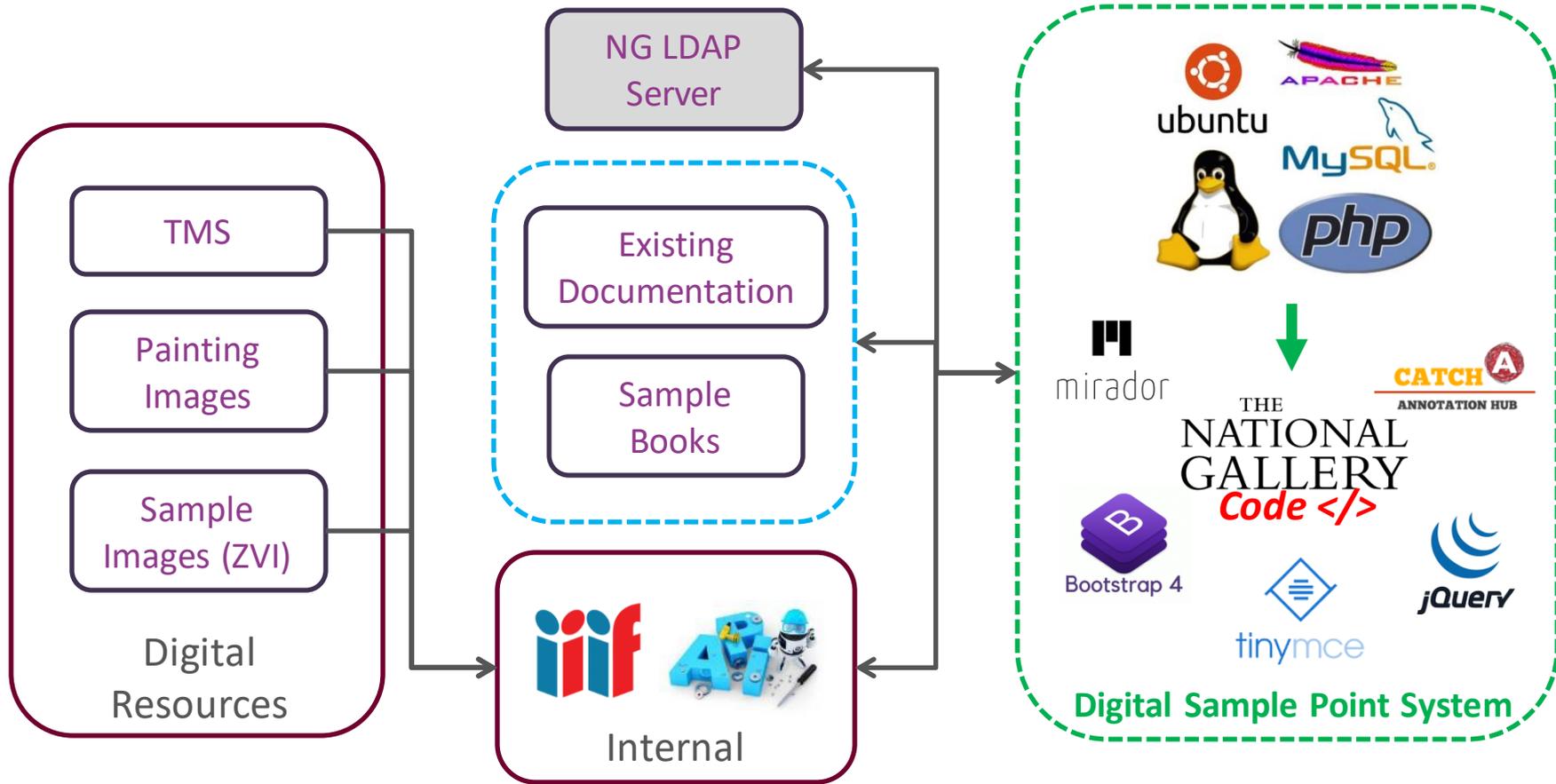
Black and White photograph marked with permanent marker.

NG4790: Caspar Netscher, Portrait of a Lady, 1683, Oil on canvas, (78.5 x 62 cm)

Documenting Digital Sampling Points

- Aim was to replace the existing analogue process with a more flexible and efficient digital solution.
- Construct an easy to use digital sampling system, where possible, making use of existing/standard systems and resources.
- Connect sample points to existing sample images and allow users to record:
 - Sample site location, date and the name of the person doing the sampling.
 - Sample site description, along with the purpose for sampling, additional sampling comments and sample specific descriptions.
- Make use of existing painting & sample images, along with the current sample naming protocols.

National Gallery – Documenting Digital Sample Points



Digital Sample Point system (DSPs)

Standard IIIF
Mirador viewer
connected to a
Catch-A
annotation server.



Formatted
annotation will
also be viewable in
other versions of
Mirador used in
the NG

The screenshot shows a web interface for the Digital Sample Point system. On the left, a Mirador viewer displays a painting titled 'NG1234: Dosso Dossi, A Man embracing a Woman, probably abo...'. On the right, a list of sites for 'N-1234-00-000028' is shown. The list includes three entries: 'Sample(s): IS1' (Sampled by Joseph Padfield on 1542-04-08), 'Sample(s): IS3, OS55', and 'Sample(s): IS4' (Sampled by Joseph Padfield on 2009-09-30). Each entry has a thumbnail image and a 'Site Description' field. The interface also includes a 'Refresh List' button and a 'Change Layout' option.

New data
presentation
system complete
with tools to edit
text descriptions
based descriptions
of sites and
samples.

Connected to the
existing NG IIIF
image system and
internal API to
avoid duplication
of effort.

DSPs – General Summary

- A single existing image has been automatically selected to capture sample locations.
 - This can be changed or updated if required, but this can not be done in the user interface.
 - Migration of sample sites to a new images can be done in a semi-automatic way, but again this can not currently be done in the user interface.
- Sample images are automatically pulled from the existing image viewer – connected via the painting accession number and the sample number, (IS2, OS12, etc).
- All of the new text descriptions are stored in a new relational database.

Digital Sample Point system (DSPs) - Functionality

Secure LDAP
Login

Simple Painting
Search Engine

Mirador-Viewer
Connected to
Web Forms

Creating New
Sample Sites

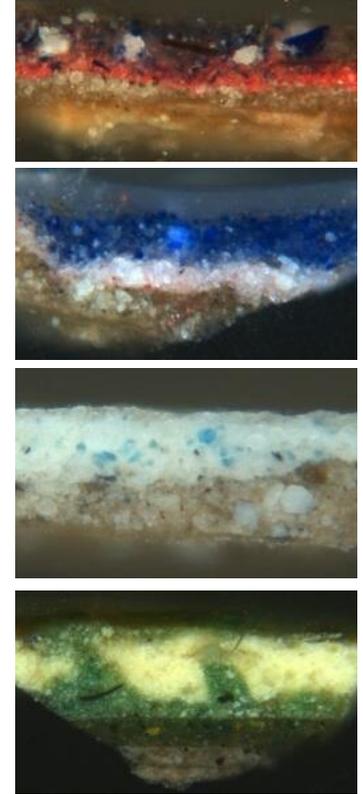
Moving and
Editing Sample
Sites

Adding Multiple
Samples to a
Single Site

Automated
Reports by
Painting

Deleting Sample
Sites

Deleting
Individual
Samples



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NG1234: Dosso Dossi, A Man embracing a Woman, probably abo...

Sites for N-1234-00-000028 [Refresh List](#)

Sample(s): IS1
(Sampled by Joseph Padfield on 1542-04-08)
Site Description: Erry: Test description Test

Sample(s): IS3, OS55
Site Description: Small damage in the proper left eye of the male sitter.

Sample(s): IS4
Site Description: Great Sample Location and more and more and more

Sample(s): IS45, OS75
(Sampled by Joseph Padfield on 2009-09-30)
Site Description: Ok lets see how this works - Update

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NG1234: Dosso Dossi, A Man embracing a Woman, probably abo...

Sites for N-1234-00-000028 [View Report](#) [Refresh List](#)

Sample(s): IS1
(Sampled by Joseph Padfield on 1542-04-08)
Site Description: Erry: Test description Test

Sample(s): IS3, OS55
(Sampled by Joseph Padfield on 2018-08-02)
Site Description: Small damage in the proper left eye of the male sitter.

Sample(s): IS4
Site Description: Great Sample Location and more and more and more

Sample(s): IS45, OS75
(Sampled by Joseph Padfield on 2009-09-30)
Site Description: Ok lets see how this works - Update

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NG1234: Dosso Dossi, A Man embracing a Woman, probably abo...

Sample Site [68] [Close](#) [Update](#) [Delete](#)

Sampling Date: 02/08/2018 Sample Taken By: Joseph Padfield

Sample site description
Small damage in the proper left eye of the male sitter.

Reason for sampling
Examining the use of specific materials in the dark paint

Additional comment
Sampling was straight forward with now other issues to record

Samples

Inorganic Sample 3
Well this is a great sample which shows lots of useful things
[1234_93_XS_V15_20x - Optical microscopic, Visible image]

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NG1234: Dosso Dossi, A Man embracing a Woman, probably abo...

Painting Sample Form [Close](#) [Update](#) [Delete](#)

Sample Class: Inorganic Sample No.: 3

Sample Comment
Well this is a great sample which shows lots of useful things

Primary Sample Images (please select one image)

Inorganic Sample 3
is a great sample which shows lots of things
XS_V15_20x - Optical microscopic, Visible image
taken from NG1234, White, 20x Last Modified: 2018-08-02

Inorganic Sample 55

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DSPs – Printable Reports



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample ID: IS3
Sample Description: [01] Hello Goodbye
Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



Sample Description: [01] Hello Goodbye

Image Details: Optical microscopic, Visible image of sample 1A, taken from NG1234, Detail, 20x, Image 6 Last Modified: 2010-10-11 11:02:52



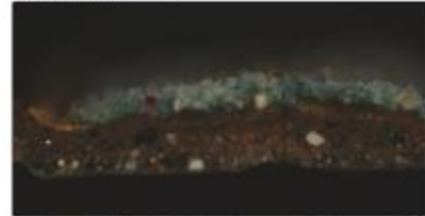
Sample(s): IS3 (Sourced by Joseph Padellaro on 2010-09-02)

Site Description: Small damage in the proper left eye of the male sizer.

Reason for Sampling: Examining the use of specific materials in the dark paint

Comments: Sampling was straight forward with now other issues to record

Sample Images



Sample Description: [02] Well this is a great sample which shows lots of useful things

Image Details: Optical microscopic, Visible image of sample 3, taken from NG1234, Whole, 20x Last Modified: 2010-09-19 14:30:44



Sample(s): IS4, OS66

Site Description: Great Sample Location and more and more and more

A simple initial report format has been put together but this can be updated and customized as required.

DSPs – Further work

- Now that the data entry system and simple reports are complete further work will be required to finalise what information to include in the automatic reports and how they should be formatted.
- It may also be useful to explore additional presentation screens or tools updating to Mirador 3
- This system is designed to only document the sampling process:
 - Examination reports and sample layer descriptions are currently produced as word documents. Could this system be extended to include these interpreted results or more detailed descriptions of the layer structure of samples.
- It could also be useful to consider how similar systems could be used to record other activities, such as examination or images sites.
- At this time the system still contains connections to internal NG systems and further work, will be required to produce and document a stand alone system that could be re-used by others.

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Joseph Padfield (NG)

Thank you



Men of the Docks, by George Bellows, 1912. NG6649.
Photo: Copyright © 2016–2021 The National Gallery