**NDNP TIFF Profile**
Version 1.8

CHANGES in 1.8:
1. Additional acceptable values added to tag 41728.

CHANGES in 1.7:
1. Changes to resolution limits.

CHANGES in 1.6:
1. Corrections to tags 282, 283, and 42016.

1. The TIFF will conform with the TIFF 6.0 specification, except it is not required that values be word offset[1]. A tag must be provided if it is required by the TIFF 6.0 specification and its value is not the default.
2. The TIFF will be 8-bit grayscale.
3. The TIFF will not be compressed.
4. Image processing will not be applied to the TIFF, except for deskewing. The TIFF will be as close to the original produced by the scanner as possible. Deskewing will be applied if the skew is greater than 3 degrees.
5. TIFF resolution must be maximum possible between 300 and 400 dpi, relative to physical dimensions of the original material. If this is not possible, contact NDNP.
6. The image should be cropped to the page edge (not to the text block boundaries).

In addition to the tags required by the TIFF 6.0 specification, the following tags are required. The tag must be provided if the value is not the default as given in the TIFF 6.0 specification:

TIFF Tag #:              269
TIFF Tag Name:      DocumentName
TIFF Type:             ASCII
Notes:                    Use Microfilm reel # (barcode). If not converted from microfilm, use normalized LCCN.

TIFF Tag #:              42016
TIFF Tag Name:      ImageUniqueID
Z39.87 #:               6.2.1
Z39.87 Name:         UniqueImageID
TIFF Type:             ASCII
Notes: Use reel sequence number. Must be unique within reel. If not converted from microfilm, use "[Issue date in CCYY-MM-DD format]_[edition order]_[page sequence number]". For example, "1909-03-20_1_13".

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[1]This is a common problem with many TIFF producing applications and is readily handled by most TIFF rendering applications.

TIFF Tag #:             274
TIFF Tag Name:          Orientation
Z39.87 #:               6.2.4
Z39.87 Name:            Orientation

TIFF Tag #:             41728
TIFF Tag Name:          FileSource
Z39.87 #:               7.1
Z39.87 Name:            SourceType
TIFF Type:              ASCII
Value:                  "microfilm" or "microfiche" or "print" or "1" or "2" or "3"
Notes: Contact NDNP if none of the permitted values are appropriate. Permitted values reflect updated values ("1", "2", or "3") and existing NDNP practice values ("microfilm" or "microfiche" or "print" ) . [1 = Film Scanner; 2 = Reflection Print Scanner; 3 = Digital Camera]

TIFF Tag #:             315
TIFF Tag Name:          Artist
Z39.87 #:               7.3
Z39.87 Name:            ImageProducer
Notes: Use the following format: "institution name; scanning contractor".
The semicolon and scanning contractor are omitted if not applicable.

TIFF Tag #:             271
TIFF Tag Name:          Make
Z39.87 #:               7.6.1.1
Z39.87 Name:            ScannerManufacturer

TIFF Tag #:             272
TIFF Tag Name:          Model
Z39.87 #:               7.6.1.2.1
Z39.87 Name:            ScannerModelName
Note: Include model number (optional).
Include serial number (required).
Use the following format: "model name, model number, SN#serial number"

TIFF Tag #:             305
TIFF Tag Name:          Software
Z39.87 #:               7.6.2.1
Z39.87 Name:            ScanningSoftware
Note: Include version.

TIFF Tag #:             306
TIFF Tag Name:          DateTime
Z39.87 #:               7.9

Z39.87 Name:           DateTimeCreated
Note: See the TIFF 6.0 specification for the proper formatting of this tag.

The following are clarifications of the TIFF 6.0 specification, based on commonly encountered mistakes or additional NDNP requirements:
TIFF Tag #:            256
TIFF Tag Name:         ImageWidth
Note:   ImageWidth is measured in pixels.

TIFF Tag #:            257
TIFF Tag Name:         ImageLength
Note: ImageLength is measured in pixels.

TIFF Tag #:            296
TIFF Tag Name:         ResolutionUnit
Value:                 "2" (inches) or "3" (centimeters)
Note: Specifying a unit of measurement is required. A value of "2" (inches) is encouraged.

TIFF Tag #:            282
TIFF Tag Name:         XResolution
Note:                  Xresolution is a Rational, as defined by the TIFF 6.0 specification. ImageWidth (Tag 256) is the numerator and the length of the source (measured in the units specified in ResolutionUnit (Tag 296)) is the denominator.

TIFF Tag #:            283
TIFF Tag Name:         YResolution
Note: Yresolution is a Rational, as defined by the TIFF 6.0 specification. ImageLength (Tag 257) is the numerator and the width of the source (measured in the units specified in ResolutionUnit (Tag 296)) is the denominator.

TIFF Tag #:            277
TIFF Tage Name:        SamplesPerPixel
Value:                 1