

New Jersey State Museum

Metsger Mine Map Collection

Preliminary Series Descriptions - August 2021

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Sterling Mine Maps

Sterling 7-AA-1540

This series includes maps numbered 7-AA-1540 as well as some 7-AA-163. They are all level maps and can be broken into 3 distinct sub-series:

Group A "Sulfide Distribution" Dates: 1921-1923. These maps were physically bound together under this title, date from 1921 to 1923 and include map numbers 7-AA-1540 and 7-AA-1631. Arranged by level, these maps show an outline of the ore body and are color coded for ore, lean ore, and limestone. Some maps note bore hole locations. Not all maps include note of specific personnel involved, but the initials of AWP [Allen Wainwright Pinger] are found on several.; Map Type: Level; Scale: 1" = 100'; Size: 14"x27.75"; Total Maps in Series: 19; Map ID numbers included: **NJSM 42**. [*see Inventory page 49*]

Group B "Sterling Mine Monthly Progress, 1931-1937" - These maps were physically bound together under this title. The base maps date from 1931 to 1934, the data provided dates from 1931 – 1937. These maps appear to trace actual mining activity and findings for each month. Most have a chart that includes month and year, feet mined and a "notes" section. Most maps have color indicating mineral type, and drill hole details. Map Type: Level; Scale: 1" = 100'; Size: 11.5"x28"; Total Maps in series: 21; Map ID numbers included: **NJSM 14**. [*see Inventory page 50*]

Group C "Preliminary Grade Study Wedge" Dates: 1922-1932. This series includes 2 subsets that, because of dates and content, appear to be related. The first set, maps in Group 43 date from 1/1/1922 to 8/1/1932. The first map includes the penciled title "Preliminary Grade Study Wedge" which is assumed to relate to all the maps in this series. Information includes color coding for ore, lean ore limestone and MINLDLS; abbreviations of minerals; bore hole lines. The second group is dated 8/1/1932 and appears to continue the study on lower levels of the mine. Information includes color coding for ore and abbreviations of minerals; bore hole lines. Type: Level; Scale: 1" = 100'; size: 14"x27.5"; Total number of maps in series: 11; Map ID numbers included: **NJSM 43 & 44**. [*see Inventory page 52*]

Sterling 7-AA-1624 Series¹

All the 7-AA-1624 level maps are similar in format but cover different levels of the mine, different north to south, west to east locations. Labeling identifies them by level and often North-South locations. It is difficult to know how these maps fit together and how they should be sorted but I have made a few guesses based on the types of information provided and how they were grouped at the time of inventory. Below are some general characteristics of sub-sets of these maps that lead me to believe they should be distinct sets.

¹ This series includes maps labeled 7-AA-1624 as well as some that do not include this label but were found with these maps and clearly match the format.

Sterling Mine Maps

Sterling 7-AA-1624 Series² (cont'd)

7-AA-1624 Group A. Date ca. 1932-1946. Most maps in this series includes color and abbreviations for minerals, show geological information, drill hole details and includes additional hand-written notes providing narrative regarding geological formations and minerals. Type: Level; Scale: 1" = 30'; Size: 28"x41"; Total Maps in Series: 37; Map ID numbers included: **NJSM 115 and 38.002 and 38.003.** [*see Inventory page 53*]

7-AA-1624 Group B - Date ca. 1941-1954. These maps show an outline of a mining shaft; notations of strike and dip, bore holes and include color coding and abbreviations to identify minerals. Type: Level; Scale: 1" = 30'; Size: 16"x22"; Total Maps in Series: 9; Map ID numbers included: **NJSM 40.** [*see Inventory page 55*]

7-AA-1624 Group C - Date ca. 1941-1942. These maps show geological structure of the ore body and include bore hole locations and identify some specific minerals. Type: Level; Scale: 1" = 30'; Size: 16"x21.75"; Total Maps in Series: 5; Map ID numbers included: **NJSM 35.006-35.010.** [*see Inventory page 56*]

7-AA-1624 Group D - Date ca. 1931-1938. Though not labeled as a 7-AA-1624 map, these were found with those maps and are identical in size and information. The first map in this series includes information on what levels were "mined to," shows bore holes; provides information about workings of mine ("minor water seeps"; "apparent buckling and abrupt steeping"); and identifies minerals. There are also notations regarding "R" and "B" followed by numbers, but it is not clear what these refer to. The remaining maps are like the first but do not include "mined to" notations. Type: Level; Scale: 1" = 30'; Size: 27"x40"; Total Maps in Series: 6; Map ID numbers included: **NJSM 36.** [*see Inventory page 56*]

7-AA-1624 Group E - Date from 1932-1944. This series of maps outlines mine works, provides abbreviations for mineral deposits; some narrative of minerals and formations; shows bore hole details. Type: Level; Scale: 1" = 30'; Size: 27.25"x40.5"; Total maps in Series: 17; Map ID numbers included: **NJSM 119.** [*see Inventory page 57*]

7-AA-1624 Group F - Date from 1932-1938. The baseline information and maps look like series 7-AA 1624 but are not labeled with that number. Outlines mine works, provides abbreviations for mineral deposits; some narrative of minerals and formations; shows bore hole detail. Includes much additional penciled or inked notations regarding R and B as "B-1787.1" "R-1797.1". Type: Level; Scale: 1" = 30'; Size: 26.75"x40"; Total maps in Series: 16; Map ID numbers included: **NJSM 121.** [*see Inventory page 59*]

7-AA-1624 Group G - Date from 1931-1938. This series includes maps labeled as 7-AA-1624 and others that are not but look identical in content. Very similar to information in groups 119 and 121. These maps outline mine works, provides abbreviations for mineral deposits; include some narrative of minerals and formations; and show bore hole details. Type: Level; Scale: 1" = 30'; Size: 27"x40"; Total Maps in Series: 15; Map ID numbers included: **NJSM 126.** [*see Inventory page 60*]

² This series includes maps labeled 7-AA-1624 as well as some that do not include this label but were found with these maps and clearly match the format.

Sterling Mine Maps

Sterling 7-AA-1657³

All the 7-AA-1657. Date: 1922-1986 section maps are similar in format but cover different levels of the mine, different west to east locations and are often identified by section numbers (720 North, 1100 North, etc.) which might signify a specific quadrant. Because there is so much overlap and often missing data (dates, specific mine levels, etc.) it is difficult to know how these maps fit together and how they should be sorted but I have made a few guesses based on the types of information provided and how they were found grouped during inventory. Below are some general characteristics of sub-sets of these maps that lead me to believe they should be distinct sets. Users will find that within the groups, if they are laid out in sequence, the maps fit together and overlap to show information from one level to the next, generally moving in a west to east direction. Type: Section; Scale: 1" = 30'; Size: 21.75"x30.75"; Total Maps in Series: 487; Group numbers included: see sub-series below.

Sterling 7-AA-1657 Group A: NJSM Maps 5, 35.001 - 35.004 and 101.1 - 101.4 - These 33 maps date ca. 1964-1970. Most of these are pencil drawings that include color that was added to identify minerals. [*see Inventory page 1*]

Sterling 7-AA-1657 Group B: NJSM Map Groups 2, 4, 10, and 101.5 - These 277 maps date from ca. 1934 to 1983 but many are undated. These maps tend to include added color to identify minerals and some details about the locations of specific drill holes. Maps in group 10 also include information about the sections of the mine that have been "mined out." I suspect that the maps in these groups may have been part of one sequence of maps that covered section 700 through 2740. [*see Inventory page 2*]

Sterling 7-AA-1657 Group C: NJSM Map Group 39 - These 29 maps are a clearly defined subset which date from 1941 to 1949 and were all done by the same person. Information includes outline of the mine shaft, notations of possible ore deposits and color and abbreviations used to identify specific minerals. [*see Inventory page 16*]

Sterling 7-AA-1657 Group D: NJSM Map Group 8 - These 103 maps date from ca. 1964 to 1985. The purpose of this series appears to be showing ore estimates and indicating where areas have been "mined out" Colors also provide a key to minerals and there are some details regarding bore holes. [*see Inventory page 18*]

Sterling 7-AA-1657 Group E: NJSM Map Group 9 - These 95 maps date from ca. 1922 - 1986. This set shows stope dates, ore estimates, reserved ore estimates and indicates areas already mined. [*see Inventory page 25*]

³ This series includes maps labeled 7-AA-1657 as well as some that do not include this label but were found with these maps and clearly match the format. Particularly, some maps that begin with the title "Section Thru Φ " often do not include the map number but were found in section sequence with those maps. This series also includes maps numbered 7-AB-1657 because I believe the AB is a clerical error. AB was used to identify the Franklin mine maps and these are clearly Sterling maps.

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Sterling 7-AA-1717, Dates: 1935-1943

The bulk of this series are from Map Group 51 which were found stapled together. Also included are maps in group 25 which are 7-AA-1717 maps from the same time and with a similar form. However, these three maps use unfamiliar abbreviations (Epi, Px, Bio, Amp). Also, three of the maps in group 51 (51.991, 51.992, and 51.993) were found loose in the package and may not be related. Otherwise, generally, this series of hand drawn section maps shows outline of the mine indicating mineral types with color and abbreviations. They also include locations of bore holes, as well as diagonal lines labeled A, B, C, Y etc. Date: 1935-1943; Type: Section; Scale: 1" = 100'; Size: 15"x22" and 20.5"x 25"; Total Maps in Series: 70; Map ID numbers included: **NJSM 25 and 51.** [*see Inventory page 31*]

Sterling 7-AA-1718, 1910-1950

All the 7-AA-1624 level maps are generally similar in format but record a variety of information.

Sterling 7-AA-1718 Group A. Dates: 1941-1950 - This series has been grouped together based on their original map designation (7-AA-1718) similarity in format, scale, date range and information provided. In general, this series includes color and abbreviations to indicate mineral types; shows bore hole locations; list dates for workings, bore holes (DDH & HDH and samples). Type: Level; Scale: 1" = 100'; Size: generally, 14"x28"; Total number of maps in series: 31; Map ID numbers included: **NJSM 11, 24, 52.** [*see Inventory page 62*]

Sterling 7-AA-1718 Group B. Dates: 1935-1943 - These maps were found bound together. Except for map 050.001 (which is a composite map) these are all level maps and include notations of strike and dip; bore holes; color and notations re minerals. There is a note on Map 50.002 signed by AWP on 12/19/1942 regarding figures in red indicating % of sulfide. Type: Level; Scale: 1" = 100'; Size: 14.25"x27.5"; Total maps in series: 26; Map ID numbers included: **NJSM 50.** [*see Inventory page 64*]

Sterling 7-AA-1718 Group C Annual Progress Level maps. Dates: 1910-1948 - These level maps date from 1910 to 1948 and use color coding and labeling to map out the progress of the mine; includes some bore hole locations as well. : Level; Scale: 1" = 100'; Size: 14"x27.5"; Total number of maps in series: 26; Map ID numbers included: **NJSM 47.020 – 47.045.** [*see Inventory page 65; for other progress maps, see Sterling Annual Progress Section maps. Dates: 1913-1935 and Sterling 7-AA-1540 Group B - Sterling Mine Monthly Progress, 1931-1937*]

Sterling 7-AA-1718 Group D Ore Boundaries, AWP, 1937 - This series consists of level maps that were bound together. All are dated February 5, 1937. They record ore estimates as well as some specific mining details and bore hole locations. Date: 2/5/1937; Type: Level; Scale: 1" = 100'; Size: 14.25"x17.5"; Total Maps in series: 18; Map ID numbers included: **NJSM 16.** [*see Inventory page 67*]

Sterling 7-AA-1718 Group E Ore Estimates. Dates: 1930-1940. These level maps date from 1930 to 1940 and were also found bound. This series shows ore estimates using alphabetic block designations for areas; has color coding; includes some abbreviations for minerals; includes bore hole locations; outlines shaft pillar throughout and "Raise Series" Pillar in most. Date: 1930-1940; Type: level; Scale: 1" = 100'; Size: 14"x27.5"; Total Maps in series: 18; Map ID numbers included: **NJSM 49.** [*see Inventory page 68; for other ore estimates, see Sterling Ore Estimates 7-AA-1631*]

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Sterling 7-AA-1718 Group F Zero Fault Study. Dates: 1935-1940. This is a group of level maps, except for the first item, which is a surface map. Written on this first map in pencil is. "Black: Hypothetical Warp Interpretation"; "Blue: Best Present Interpretation." In general, these maps show color coding; strike and dip; bore holes; the line of the Nason Fault; and what may be the "warp interpretation" drawn in blue and black pencil. Date: 1935-1940; Type: level; Scale: 1" = 100'; Size: 14"x27.5"; Total Maps in series: 21; Map ID numbers included: NJSM 46 and 66. [see *Inventory page 69*]

Sterling 7-AA-1728. Date: 1938

Section maps done on tracing paper dated 1938. This series appears to be various versions of 7-AA-1728 which is described in the original inventory as "Geo Sects 1-11 N66°E" Although not indicated on all the sheets, the inventory gives these a 1938 date and lists AWP as the drawer. These are pencil outlines of the ore that sometimes include colors and abbreviations for mineral/ore. The larger format (which only includes maps 1-7) has the most detail. The smaller versions are often very faint. Type: Section; Scale: 1" = 100'; Size: 8.5"x11" to 13"x16.50"; Total number of maps in series: 20; Map ID numbers included: NJSM 64. [see *Inventory page 35*]

Sterling Air Flow Directions and Emergency Facilities. Dates: 1974-1985

Created toward the end of active mining at Sterling, these level maps show air flow directions, and locations of entries, safety exits, ventilations doors, telephones, and other facilities within the mine. There is some duplication in this series with those in the 108 group appearing to be most complete. Type: Level; Scale: 1" = 100'; Size: 9.5"x22.5"; Total number of maps in series: 32; Map ID numbers included: NJSM 108 and 109. [see *Inventory page 70*]

Sterling Annual Progress Section maps. Dates: 1913-1935

These section maps date from 1913 to 1935 and use color coding and labeling to map out the progress of the mining operation. Type: Section; Scale: 1" = 200'; Size: 8.5"x11" to 13.75"x18.75"; Total number of maps in series: 19; Map ID numbers included: NJSM 47.001 - 47.019. [see *Inventory page 36*; for other progress maps see **Sterling 7-AA-1718 Group C Annual Progress Level maps. Dates: 1910-1948 and Sterling 7-AA-1540 Group B - Sterling Mine Monthly Progress, 1931-1937**]

Sterling Bundled (Wrapped) Longitudinal Sections. Dates: 1937-1956

These 10 smaller maps were found as a group but vary in type, scale, and size. See inventory for details. [see *Inventory page 86*]

Sterling Geological 1850 Level. Dates: 1941-1942

These level maps date from 1/1941 to 10/1942. They provide geological detail and mineral information much like maps 19 but dealing with level 1850. Many include more of a narrative about geological detail.

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Type: Level; Scale: 1" = 10'; Size: 18"x30"; Total number of maps in series: 40; Map ID numbers included: **NJSM 22**. [*see Inventory page 73*]

Sterling Geological detail and mineral information with some data on drifts. Dates: 1938-1942

These are level and crosscut level maps dating from 1938 to 1942 that provide geological detail and mineral identification. Like series **Sterling Geological 1850 Level. Dates: 1941-1942** which details this information at level 1850. Type: Level and crosscut level; Scale: 1" = 10'; Size: 18"x30"; Total number of maps in series: 15; ; Map ID numbers included: **NJSM 15**. [*see Inventory page 76*]

Sterling Geological N-S Section Maps. Dates: 1938-1939

This series consists of small maps on tracing paper. In general, they include color and abbreviations indicating minerals. Type: Section; Size: 11.5x16.25"; Total number of maps in series: 5; Map ID numbers included: **NJSM 65**. [*see Inventory page 38*]

Sterling Geological Section, 1938. Date: 1938

These 7 maps show outline of ore body, some bore hole locations, some indication of minerals and includes some handwritten notations. Type: Section; Scale: 1" = 300'; Size: 11.5"x16.25"; Total maps in series: 7; Map ID numbers included: **NJSM 63**. [*see Inventory page 38*]

Sterling Hanging Wall Water. Dates: 1956-1958:

These maps provide details regarding water flow in the mine and how it was dealt with. Notations along bore hole lines note what I believe are gallons per minute rates "g.p.m." and indicate what holes were "grouted" Type: Level; Scale: 1" = 50'; Size: 18.25"x18" to 24"x28.75"; Total number of maps in series: 5; Map ID numbers included: **NJSM 37**. [*see Inventory page 77*]

Sterling Hill Level Maps, December 1933

This is a series of small level maps that appear to be rough sketches. They show outline of ore, geological characteristics and some identification of minerals and mine works. Date is based on map 89.001. Date: 12/15/1933; Type: Level; Scale: not recorded; Size: 7"x11"; Total maps in series 7; Map ID numbers included: **NJSM 89**. [*see Inventory page 78*]

Sterling Level Maps Showing Drill Hole Detail. Dates: unknown

This series of 18 undated maps outlines Diamond Drill Hole (DDH) and Test Hole (TH) locations and include numerical notations along the lines. Some hole lines are black while others include red and green sections. Stopes and pillars are noted in pencil as are indications of areas being "mined out." No date;

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Type: Level; Scale: 1" = 50'; Size: 20.75"x36.75"; Total number of maps in series: 18; Map ID numbers included: **NJSM 116**. [see *Inventory page 78*]

Sterling Level Maps Showing Work Completion. Date 1942

Group 28 shows ore outline, some mineral information, and calculations of something; also lists that the following activities have been completed: Hammer Drill Holes, Diamond Drill Holes, Channels, level sampling, misc. Type: Level; Scale: 1" = 500'; Size: 10"x18"; Total number of maps in series: 7; Map ID numbers included: **NJSM 28**. [see *Inventory page 79*]

Sterling Level Plans, Sampling, Jointed Steel HDHs and Ore Estimates Dates: 1933-1937

This series consist of level maps that record information about ore estimates, specific mining details and bore hole locations. The shaft pillar location is depicted throughout this series. This material was bound Type: Level; Scale: 1" = 100'; Size: 14.25"x27"; Total maps in series: 19; Map ID numbers included: **NJSM 15**. [see *Inventory page 80*]

Sterling Longitudinal Section Maps, 1943 - 1944

These 10 maps outline the ore body, identify geological characteristics, mineral types and show some mine shafts. Type Longitudinal Sections; Scale: 1" = 100' Size: 11"x 23.5"; Total maps in series: 10; Map ID numbers included: **NJSM 102**. [see *Inventory page 39*]

Sterling Mine Sketches. 1865-1939

These are small format (8.5"x11.5) maps that were bound together and have a variety of information and formats. They have been kept in the order found. See inventory for details. Type: various; Scale: various; Size: 8.5"x11"; Total maps in series: 28; Map ID numbers included: **NJSM 1**. [see *Inventory page 88*]

Sterling Mine Tracings, Sept 30, 1923 (Map Group 13)

Level maps on tracing paper which were bound together. They include coloring but no abbreviations for mineral types. May include stope and bore hole information. Type: Level; Scale: 1" = 100'; Size: 11.5"x21"; Total maps in series: 18; Map ID numbers included: **NJSM 13**. [see *Inventory page 82*]

Sterling Miscellaneous Drill Hole Maps, Analysis, etc., 1941-1946

This series consist of a diverse group of 21 maps, diagrams, surveys that provide information about drill holes. See inventory for details. Date: 1941-1956; Type: various; Scale: various; Size: various; Total maps in series: 23; Map ID numbers included: **NJSM 30, 68, 72, 75, 78, 79, 90, 106**. [see *Inventory page 94*]

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Sterling Miscellaneous Maps

Further analysis may find that these 59 maps of various sizes, types and scales can be categorized or fit into other groups. See inventory for details. [*see Inventory page 116*]

Sterling Miscellaneous Studies, Plots and Experimental Data. Dates: 1923-1942

Assigned this title by Museum staff when first inventoried, these 15 maps date from between 1923 to 1942. See inventory for details. Date: Type: various; Scale: various; Size: various; Total maps in series: 15; Map ID numbers included: **NJSM 53 through 62**. [*see Inventory page 102*]

Sterling Ogdensburg Level Maps. Dates 1933-1934

In general, the maps in this group include outlines of the mine shafts, numbered stopes, safety exits, various coordinates, notes on areas mine out and some penciled notes ("Mud", "Rotten timber"). No formal map date but some dates (usually in red ink) can be found. Some maps include yellow "Trans" lines going South-West labeled 0.00 to 26. Type: Level; Scale: 1"=30'; Size: varies; Total maps in series: 24; Map ID numbers included: **NJSM 125**. [*See Inventory page 83*]

Sterling Ore Estimates M E Johnson. Dates: 1933-1934

These maps bound together and show ore estimates; some color coding; includes some abbreviations for minerals; includes bore hole locations; outlines shaft pillar throughout. Date: 1933-1934; Type: level; Scale: 1" = 100'; Size: 14"x27.5"; Total Maps in series: 18; Group numbers included: 48. [*see Inventory page 84; for other ore estimates see Sterling 7-AA-1718 Group E Ore Estimates. Dates: 1930-1940.*]

Sterling Orebody Plot (Drafted)

This grouping dates from 1935 to 1943 and provides a variety of information. The series title "Orebody Plot (Drafted)" was assigned by NJSM staff when the material was originally accessioned. See inventory for details. Date: 1935-1943; Type: varies; Scale: varies; Size: 16"x11.5"; Total maps in series: 31; Map ID numbers included: **NJSM 34**. [*see Inventory page 105*]

Sterling Plan of Work, 1923-1949

This set of 5 small maps appear similar in nature to the series Mine Sketches. See inventory for details. Date: 1923-1949; Type: section and composite; Scale: 1" = 300'; Size: 8.5"x11"; Total maps in series: 5; Map ID numbers included: **NJSM 33**. [*see Inventory page 112*]

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Sterling Production Maps Featuring Pillars, Stopes and Raise . Dates 1907-1925

A group of 8 maps, the 3 which have dates range from 1907 to 1925. They appear to track operations as areas were mined. Type: Section; Scale: none recorded; Size: 20.5"x23.25"; Total maps in series: 8; Map ID numbers included: **NJSM 120**. [*see Inventory page 39*]

Sterling Production Maps of the East Vein, 1920-1981

Longitudinal Section maps that show outline of mine workings and production over time. Some include handwritten notations updating areas of further production and indicating ore grade. Date: 1920-1981; Type: Section; Scale: 1"=100'; Size: 16"x22.5"; Total Maps in series: 8; Map ID numbers included: **NJSM 88**. [*see Inventory page 40*]

Sterling Section Maps showing Stope Slices, 1932

These are section maps all dated August 1932. They show stope slices at locations from 640N to 1000N. They include color coding and abbreviations identifying minerals and show some bore hole locations. Type: Section; Scale: none recorded; Size: 20.75"x24"; Total maps in series: 10; Map ID numbers included: **NJSM 45**. [*see Inventory page 41*]

Sterling Section Maps West to East, 1949

Only one of these 11 section maps was dated as April 1949, but the rest are similar in format, size, and scale. Group 26 shows little detail. They include an outline of the ore vein or possibly the mining shaft along with outlines of squares and rectangles, I do not know what these outlines represent. Type: Section; Scale: 1" = 100'; Size: 20"x24.75"; Total maps in series: 11; Map ID numbers included: **NJSM 26**. [*see Inventory page 41*]

Sterling Section Thru $\frac{1}{2}$ Stope Slices and Pillars, 1920-1963

Section maps dating from 1920 to 1963. In general, this series outlines the mining structures; some drill hole lines; uses inked fill (cross hatching, dots, triangles) possibly to indicate mineral type; and includes dates within sections to possible indicate when section was mined out. Type: Section; Scale: 1"=100'; Size: 20.75"x24 "; Total maps in series: 94; Map ID numbers included: **NJSM 118**. [*see Inventory page 42*]

Sterling Sketches Regarding the West Dipping Fault and the Zero Fault. Date: 1943

These are 11 small format drawings (8.5"x 11" to 10.75"x13") that were found together. Only two are dated: 3/1943. It is assumed that the sketches were made to produce stereograms in this series that depict

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the mine on either side of the Zero Fault Line. See inventory for detail. Type: various; Scale: unrecorded and 1" = 800'; Size: various; Total maps in series: 11; Map ID numbers included: **NJSM 3**. [*see Inventory page 113*]

Sterling Vein Maps, 1948

These 3 section maps are dated March of 1948. They show the East, West, and the East Branch veins of the Sterling mine. Type: section; Scale: none recorded; Size: 18"x30"; Total maps in series: 3; Map ID numbers included: **NJSM 27**. [*see Inventory page 48*]

Franklin Mine Maps

Franklin Mine Geological 600-950 Level Maps, 1943

This series of maps outline the structure of deposit and identifies minerals; most maps in this series include hand drawn additions. Map Type: Level; Scale: 1" = 30'; Size: 11"x16"; Total Maps in Series: 8; Map ID numbers included: NJSJ 85. [see *Inventory page 135*]

Franklin Mine Level Maps 7-AB-2140, 1934-1935

This series includes color and abbreviations for minerals. Shows geological information, includes additional hand-written notes providing narrative regarding geological formations and minerals. Base maps done ca. 1908 judging from List of Authorities file. Information of these maps gathered 1934-1935. Map Type: Level; Scale: 1" = 30'; Size: 28"x41"; Total Maps in Series: 37; Map ID numbers included: NJSJ 130. [see *Inventory page 135*]

Franklin Mine Section Maps 7-AB-2161, 1932-1956

This series includes color and abbreviations for minerals, shows geological information, includes additional hand-written notes providing narrative regarding geological formations and minerals. West to East directions are estimates. Map Type: Section; Scale: 1" = 30'; Size: 11"x16"; Total Maps in Series: 11; Map ID numbers included: NJSJ 131. [see *Inventory page 126*]

Franklin Mine Section Maps 7-AB-2162, 1932-1956

These section maps were bound together and have been kept in their original order. The first map is on the verso of the front cover of the maps, so may not be relative to the series. In general, these maps identify minerals, show the outline of the ore and show stoping activity. Map Type: Section; Scale: 1" = 100'; Size: 19"x22"; Total Maps in Series: 41; Map ID numbers included: NJSJ 86. [see *Inventory page 127*]

Sections Across Franklin Formation, 1949

The first 28 maps in NJSJ 80 (80.001-80.028) were bound together and have been kept as originally arranged. The second 28 were found later during processing but duplicate the first set and were added to NJSJ group 80 as 80.101-80.128. In general, these maps provide outlines of specific mineral deposits and indicates landmarks. Landmarks include roads, railroads (though these are not specifically names); specific bodies of water. Map Type: Section; Scale: 1" = 1000'; Size: generally, 11"x24"; Total Maps in Series: 56; Map ID numbers included: NJSJ 80 [see *Inventory page 131*]

Palmer Shaft Pillar Sections, no dates

Section maps featuring the Palmer shaft which include coloration and abbreviations added to designate types of mineral formations; abbreviations appear to coincide with those found in Legend of

Franklin Mine Maps

Abbreviations. Map Type: Section; Scale: none given; Size: 21.5"x25"; Total Maps in Series: 14 ; Map ID numbers included: NJSM 6 [*see Inventory page 130*]

Franklin Miscellaneous Maps, ca. 1887-1971

Further analysis may find that these 35 maps of various sizes, types and scales can be categorized or fit into other groups. [*see Inventory page 138*]

Franklin-Sterling Area and Other Locations

Franklin-Sterling Area and Other Locations, ca. 1944-1973

For the most part, these are composite and surface maps, not mine. Technically, all those with the original map designation of 7-AB were produced for the Franklin mining operation. See inventory for details. [*see Inventory page 143*]

Metsger Sterling and Franklin Mine Maps Collection

Notes on Data Fields

Notes on Observations and Decisions Made During Inventory

Ellen R. Callahan

August 16, 2021

Metsger Maps Inventory

Notes on Data Fields

The following data fields were used to inventory and analyze the collection, but not all have been used in the final summary inventories because they did not add any value to the descriptions. Some are legacy information from the initial New Jersey State Museum inventory taken at the time of transfer, while others were used to assist in sorting and creating reports.

While the original data entry was done into a spreadsheet, this information was imported into a Microsoft Access database. When the project was completed, certain data fields were combined. For instance, begin and end dates became date range.

Data Fields

Mine Location: Sterling, Franklin, Franklin Area, Franklin Sterling Area, and other locations as found

Group Name: Assigned by indexer based on how the maps were grouped. In some cases, this may be how they were labeled in a folder (as in Sterling Mine Sketches 12-24); how they were described in original New Jersey State Museum (NJSM) Staff inventory as in 1100-1580 Section) or that they were found together and appear to have a relationship (as in Sketches Regarding the West Dipping Fault and the Zero Fault). These titles are found in quotes "" with additional descriptions added by indexer in brackets []. There are also instances where the original grouping has been disrupted group name is assigned in brackets [].

Original

Group #: As assigned in original (NJSM) inventory. If this cannot be found have assigned numbers starting with 1001 to indicate maps that were clipped together when inventoried. As thing progressed in inventorying, finding original group numbers became more problematic as material was moved. In the end, I do not believe that being able to trace maps back to these original numbers is of any great importance.

New Group#: Sequential numbers assigned to each group to signify that they were found together. **[3/22/2020 – discovered that I have inadvertently skipped numbers 91 through 99 so the inventory uses 1-90 and 100-121.]**

Temp Map #

(NJSM No): Sequential decimal number using new group number as base identifier and NJSM (New Jersey State Museum) as a prefix. [NJSM 1.001) If maps were bound together by creators (using brass clips that have been removed) they are given the same base number even if their format is different (see maps in 47 series as an example) these numbers have been written in pencil near the title block. Note that all other written notations were present at the time of the inventory.

When I transferred the spreadsheet to an Access database, I added leading 0s to help in sorting by map number (NJSM 001.001). I've kept the original Temp Number field but have tended to use the extended number in reports.

Metsger Maps Inventory
Notes on Data Fields

Storage Location	As of August 2021 there are 3 locations where the maps are stored. Most of the maps are found in a small 15 drawer map case currently in Natural History's "wet lab." Numbers 1-15 in the storage location indicates in which of these drawers the folder holding the maps are. The large flat maps are in 2 drawers of the large map case in the offices of the Natural History Bureau. Each folder is numbered and designated as LMC (Large Map Case) Folder 1, Large Map folder 2, etc. Finally, the rolled maps are stored in a large two-piece map box.
Map/Item Type:	In general, this describes the type of map or document. The maps in this collection are predominantly level and section maps, but there are other items including stereogram drawing, aerials, published maps, etc.
Original Map #:	Not all maps are numbered. Those that are, often have the same number but cover different locations in the mine. In general, 7-AA is used as the prefix for Sterling mine maps, followed by a four digit number. 7-AB is used for Franklin mine maps, followed by a four digit number. However, in the 1657 subgroup of maps, there are maps that are clearly Sterling maps (labeled as such and looking like that structure) that are labeled 7-AB. I have assumed that this was a clerical error.
Title	Formal titles found in the title block or in a prominent place on the map or drawing. When there is no title, I generally created one to provide some description.
Begin Date:	This is either the date printed in the title block or the earliest date found on the map. Generally, if the title block includes the name or initials of the person who drew or traced the map listed in the title block, there is also a printed date which I believe indicates that this is an original or base map.
End Date:	This is the last date found on the drawing.
Begin Level:	Top level either written on the map or estimated using the scale if information goes beyond the level indicated. O indicates the map starts at the surface of the mine.
End Level:	Lowest level either written on the map or estimated using the scale of information goes beyond the level indicated
Begin Location:	First West/East location as written on bottom left of map. [The data entry for all directions is written to allow easy sorting (0900W rather than 900W)]. If map information goes beyond what the printed begin location is, I have estimated the correct begin location. [Used in section maps]
End Location:	Last West/East location as written on bottom right of map. If map information goes beyond what the printed end location is, I have estimated the correct begin location. [Used in section maps]
Begin Depth:	First depth as indicated on top right-hand side of map. [Used in section maps]
End Depth:	Last depth as indicated on bottom-right hand side of map. [Used in section maps]

Metsger Maps Inventory
Notes on Data Fields

N-S Begin: First North/South location reading from top to bottom of map

N-S End: Last North/South location reading from top to bottom of map

W-E Begin: First West/East location reading from right to left of map

W-E End: Last West/East location reading from right to left of map

Size: Physical measurement of map.

Material: Base material used to create drawing: blueprint, vellum, tracing paper, etc.

Scale: Found in title block or elsewhere on map.

Personnel: Individuals who made the original maps or made notations on map. Usually indicated by initials or at best, first initial and a last name. Sometimes the initials are written in pencil next to a notation.

Notes: These are my idiosyncratic notes on the nature of the information I was finding on the maps. As the project went forward, I began to focus less on specific details for each item and more on what the groupings (series) of map seemed to be recording.

Series Name: Assigned by indexer

Primary Key: Unique number assigned in data base for each record.

Report: Field in database used to create queries for different types of reports.

Metsger Maps Inventory
Notes on Observations and Decisions Made During Inventory

When the project began, I made a habit of taking notes on things I found, and problems David Paris and I discussed. The more maps I itemized, the more I realized that providing overall descriptions of groups of maps would be the most useful thing to do, so my notations here and in the inventory became a less detailed.

2/28/2019 no need to note the DDH#s

3/7/2019 no need to add color variations but note that they are present

£ denotes Center Line

3/14/2019 using "color added" instead of "colors added presumably to indicate specific minerals"

Agreed that within groups, should arrange by direction rather than by depth since the shaft will move further north across the land as it goes down. (See 3/21/2019 note)

3/28/2019 – In many (most?) cases there are generally indications of the types of deposits found that appear to coincide with abbreviations found in Legend of Abbreviations (original group 37). Specific colors and color patterns (orange with dashes; green with dots, etc.) were latter added in colored pencil to further distinguish the deposits. For brevity's sake, I'll just note "colors added" to indicate that someone provided this visual cue in addition to the abbreviations.

3/21/2019 Working on my group 8 I see that they are arranged first by section numbers (1100 North, 1120 North) and within these they are arranged by depth (-900 to -1400; -1400 to -1900) this projection moves the drawings in a west to east direction. Generally, there are 3 to 4 drawings for each section that if lined up, shows the projection of the shaft going down. This is how this group and group 2 were arranged and I believe is the correct approach.

In instances where drawer was using a blue line as a base map and penciling in information (like group 8) I am describing the penciled sketches and using the penciled dates

3/28/2019 It appears to me that when there are drawer and tracer listed on the title block, a date is also inked in which I believe is a solid date for when the map was created. When there is no drawer or tracer listed in the block, there is also no printed ink date. Because of this, I will no longer be including a notation regarding penciled dates. It adds little and slows down the inventorying.

5/16/2019 Group 14 (revise W directions to go from w to east so you are reading left to right) revise n to s direction to read from highest to lowest so you will be reading down the page.

5/23/2019 Group 15 drawings are level maps; that is looking at a slice of the ore body at a specific level that goes North South and West to East. Dave agrees that the direction West to East

Metsger Maps Inventory
Notes on Observations and Decisions Made During Inventory

is appropriate even though Pete Dunn uses East West. He probably did this because at the point of interest (the line the engineers drew as the West East line they designated as the starting point) the line is labeled 00EW. Unsure why since the direction to the left of this is West and the direction to right of this is east.

6/13/2019 - New Group 18 is large and varied with no idea of original grouping. I'm going to call it 1002 and give the first unlabeled group the designation of 1001

I am starting with largest group which appears to be studies of Level 1850 including cross sections and drift depictions.

Something I am encountering with this is the way in which they read and label their maps. I have been reading and recording the directions on this maps going North to South (top of the page to bottom of the page) and west to East (left of page to right.

The creators tend to label (at least in the N-S direction) from south to east. Basically, they are looking from their center line (designated as 00) out towards the north (at least in these cases.) I am going to use their labeling in the title but continue to use my coordinates top to bottom, left to right.

7/18/2019 – set group 19 aside. Dave will look at these. I've inventoried these but can't seem to make them jibe now nor can I figure out the logical order of the material.

7/25/2019 Group 10 is a mixture of maps with no numbers (the "Section thru" of stopes and pillars), 7-AA-1657 and 7-AB-1657) maps. They are similar in nature and seem to be move from one section to another, west to east and from the near the surface to the bottom of the mine. There are 7-AB maps listed in the one index we have, but no description for 7—AB-1657. Whether these are 2 different series that have been intermingled and where the stope and pillar maps fit in is unclear.

Groups 19 and 22 are very similar. Dave would describe them as schematics of actual mine working that in part at least, were done during WWII when many of the engineers and miners would have been in the army and replaced by others unfamiliar with the mine working. His theory is that they did not do a lot of exploration to find new veins but continued working on areas that mining had already begun in. For the most part, they are at level 1850

9/19/2019 New Group 40 (7-AA-1624) is like other maps I have seen (but those with same number but are in a larger format). They include notations of what I now believe are strike and dip notations as outlined by the "Geology and Structure of the Franklin Sterling Area, New Jersey 1946-1954" which Dave and I were discussing today. Will need to go back through maps and identify those that have these notations.

Metsger Maps Inventory
Notes on Observations and Decisions Made During Inventory

10/17/2019 Thoughts on summarizing material: it might be possible to do broad series descriptions and then take pictures to produce sample pages showing what the maps look like. This could be created as both a hard copy index and a digital file.

12/24/2019

Groups 19 and 22 – these are similar maps that Dave suspects deal with mining during the war period when there was a shortage of labor and expert engineers. I am going to ditch the order that I have described them and the descriptions and try to re-order them. 19 will be everything but the 1850 level maps. 22 will be 1850 [1/16/2020- according to Pete Dunn Sterling has always been less important than Franklin. As Franklin became less productive (it closed completely in 1954) attention was refocused on Sterling which was “refurbished” starting in about 1945.¹ Given that, I assume that these 1940s maps were related to this activity.

1/16/2020

Have hit the final group of miscellaneous flat maps.

1/23/2020

Miscellaneous Folder includes the following maps and will be stored in the first drawer: 17, 21, 23, 29, 30, 32, 41, 105, and 106. Other miscellaneous material is stored throughout

Historical Note: On March 13, 2020, New Jersey State Government (and most of the country) shut down because of the COVID-19 pandemic. As a result, I did not return to this project until June 2, 2021. In the interim, I imported the spreadsheet into an Access database and broke the maps into series.

6/30/2021

Since coming back, I have found 3 more groups of 7-AA-1624 or 7-AA-1624-like maps that are of the same dates with similar info. Specifically, 119, 121 and 126. I am opting to keep them separate at this point reasoning that it will be best if all these maps are taken out and reviewed as a whole.

7/7/2021

¹ Dunn, Pete J. Franklin and Sterling Hill, New Jersey: the World's most magnificent mineral deposits. Part One. Page 149.

Metsger Maps Inventory
Notes on Observations and Decisions Made During Inventory

Have found more Franklin Palmer Shaft Pillar maps like group 6. Will reorder in database and renumber when I file these with them.

Legend of Abbreviations¹

Abdt	Abundant
Blk	Black
Bn ^d	Banded
BR	Black Rock
Br	Breccia
Brn	Brown
C	Coarse (crystalline)
Calc	Calcite
Cdt	Chondrodite
Cr	Crushed
DDH	Diamond Drill Hole
Dis	Disseminated
Dol	Dolomite
Dol ^{ie}	Dolomitic
El	Elevation
F	Fine (crystalline)
Fa	Fault
Fd	Feldspar
Fdt	Friedelite
Fit	Fluorite
Fr	Fractures
Ft	Franklinite
Fz	"Fuzzy" texture (Black Willemite)
Gft	Graphite
Gg	Gouge
G-Gar	Garnet
Gl	Galena
Gr	Gray
HDH	Hammer Drill
Hmt	Hematite
Irreg	Irregular
L or Ls	Limestone
L.O.	Lean Ore

Found on documentation with the maps that included the following label:

Date: 1937	Scale: 1=100
Sterling Hill Geological Level Maps	
The New Jersey Zinc Co	
DR: AWP	7-AA-1718

L-FT	Line with disseminated Franklinite
L-Lo	Very Lean Ore
Lmt	Limonite
L-Px	Lime with disseminated Pyroxene
M	Medium (crystalline textures)
Mass	Massive
Mc	Mica
Mt	Magnetite
O	Ore
Pnk	Pink
Pt	Pegmatite
Px	Pyroxene
Pxt	Pyroxenite
Py	Pyrite
Q	Quartz
Qt	Quartzite
Rdt	Rhodonite
Sil	Siliceous
Sl	Sphalerite
Srp	Serpentine
Sul	Sulphites
Tft	Tephritic
W	White
Wt	Willemite
Zt	Zincite

NJSM - Mine Maps - Description of Electronic Documents created by E. Callahan during project and transferred to David Paris in August 2021

Folders/Item	Contents
NJGS [New Jersey Geological Survey]	<p>Meeting with Dick Dalton - summary of E. Callahan's meeting with Dick Dalton, Geologist at NJGS discussing maps that NJGS had, what they sent to the New Jersey State Archives and his assessment of the types of maps Metzger eventually transferred to the New Jersey State Museum [Word documents]</p> <p>NJzinc_Sterling Hill_mine_maps - scans of some of the mine maps held by the New Jersey Geological Survey [PDF]</p>
NJSA [New Jersey State Archives]	<p>NJ State Archives Inventory 199311 - Material in New Jersey State Archives Accession File 1993.001 including inventory of New Jersey Zinc Company records transferred from NJGS. [PDF]</p>
Rutgers	<p>Rutgers Contacts - contact info for Special Collections and Archives and Rutgers Geology Museum [Word Document]</p> <p>Rutgers MC 672 New Jersey Zinc Company - Inventory of Records at Rutgers Special Collections and Archives [PDF]</p> <p>Note: Rutgers University Special Collections and Archives received a large collection of New Jersey Zinc Company records which is cataloged as MC 672. I reviewed some of the material based on this inventory but was not able to find any key to the maps at NJSM. The guide to the NJ Zinc material noted that the collection included "several hundred manuscripts and printed maps, charts, and drawings in storage at the Rutgers University Libraries Annex and the New Jersey Geological Survey." This note was crossed out with a handwritten note "at Museum to which given by NJGS" I was told this was the Geology Museum and contacted them. They reported that everything they had went to the New Jersey Geological Survey. See NJGS [New Jersey Geological Survey] folder information above.</p>
Inventory of electronic files created by ERC	This document [Word document]
Legend of Abbreviations Used on Mine Maps	List of abbreviations commonly used on maps. [Word]
Metsger Mine Inventory Notes on Data Fields etc.	Listing of data fields used and a diary of information and decisions made, things to check into made as EC inventoried. [Word Document]
Metsger Mine Map Collection Series Description - Inventory	Inventory of maps broken into series [Word Document]

Folders/Item	Contents
Metsger Mine Map Collection Series Descriptions	Series Descriptions (cross-referenced to Inventory) [Word Document]
Metsger Mine Maps Full Inventory with sub reports	Spreadsheet which includes entire inventory in first tab followed by listings of inventory arranged by mine location and then by map type. [Excel Spreadsheet]
Metsger Mine Map Collection inventory August 2021	An Access database of the entire inventory in table form as well as queries created to for various sub-reports for the Appendix. The Excel spreadsheet data was exported from these tables and queries.