PRELIMINARY MATERIALS MAP OF THE EAST LEE QUADRANGLE, MASSACHUSETTS

BY

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Weld - Int. 2905

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The U. S. Geological Survey is releasing in open files the following reports. Copies are available for consultation in the Geological Survey Libraries, 1033 GSA Bldg., Washington, D. C. 20242; Bldg. 25, Federal Center, Denver, Colo. 80225; 345 Middlefield Rd., Menlo Park, Calif. 94025; and in other offices as listed:

1. Sand and gravel pit data sheets and location map for the Torrington quadrangle, Connecticut, by Roger B. Colton. 1 map, 37 tables. U. S. Geological Survey, 80 Broad St., Boston, Mass. 02110; Connecticut Geological and Natural History Survey, Judd Hall, Wesleyan University, Middletown, Conn. 06457. Material from which copy can be made at private expense is available in the Boston office shown above.

2. Preliminary materials map of the East Lee quadrangle, Massachusetts, by G. William Holmes. 1 map, 16 tables. U. S. Geological Survey, 80 Broad St., Boston, Mass. 02110; Massachusetts Dept. of Public Works, 100 Nashua St., Boston, Mass. 02114. Material from which copy can be made at private expense is available in the USGS Office, Boston, shown above.

3. Map showing locations of continuous seismic profiler (CSP) lines of the Gulf of Mexico, Dry Tortugas, Florida, to Galveston, Texas, by the U. S. Geological Survey. 1 sheet. Single copies of the map may be obtained from the National Oceanographic Data Center, Bldg. 150, Washington Navy Yard, Washington, D. C. 20390, and arrangements may be made with them to secure material from which copies of the data may be made at private expense.

4. Summary report on historic faulting in continental United States and adjacent parts of Mexico, by M. G. Bonilla. 50 p., 10 figs., 1 large table. 504 Custom House, San Francisco, Calif. 94111; 7638 Federal Bldg., Los Angeles, Calif. 90012; 8102 Federal Office Bldg., Salt Lake City, Utah 84111; 15426 Federal Bldg., Denver, Colo. 80202; 602 Thomas Bldg., Dallas, Texas 75202; 108 Skyline Bldg., 508 2nd Ave., Anchorage, Alaska 99501; South 157 Howard St., Spokane, Wash. 99204.

* * * * *

Field and megascopic observations:

Station number 1

Location: County Berkshire Town Becket Pit ___ Active X Inactive

Road location Route 20, ½ mi. SW of Greenwater Pond Coordinates 42° 16' 00" 73° 8' 10"

Geologic unit or occurrence Ice-contact stratified drift in kame terrace

Textural description Cobble gravel Eng. Soil Type GP

Dimensions of deposit: Areal extent 1.8 M x 0.2 M Estimated thickness 60'

Dimensions of pit: Areal extent 300 x 150' Exposed thickness 30'

Lithologic composition (approximate %) See below

Grain size: Maximum 2'* Mean ½" Est. % of sand 20 Est. % fines 3

Rounding Subrounded Grading Poor Sorting Fair

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Rock type	
Quartzite	8
Gneiss	80
Igneous, granitic	2
Igneous, mafic	6
Miscellaneous	4

Section:

Slumped. Exploitation limited by outcrops of bedrock on sides of pit.

General Description:

Easily accessible, small supply of hard, clean coarse gravel.
*Rare giant boulder up to 12' in diameter.

East Lee QUADRANGLE Massachusetts STATE G. W. Holmes GEOLOGIST July, 1966 DATE Mass. Materials PROJECT

Field and magascopic observations:

Station number 2

Location: County Berkshire **Town** Becket **Pit** ___ Active X Inactive

Road location Route 20, NW end of Greenwater Pond **Coordinates** 42°17'10" 73°10'00"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble gravel **Eng. Soil Type** GP

Dimensions of deposit: **Areal extent** 2000 x 400' **Estimated thickness** 60'

Dimensions of pit: **Areal extent** 60 x 40' **Exposed thickness** 10'

Lithologic composition (approximate %) See below

Grain size: **Maximum** 2' **Mean** 1/8" **Est. % of sand** 60 **Est. % fines** 5

Rounding Subrounded **Grading** fair **Sorting** fair

Soil development Very thin soil **Color** ___

Oxidation or staining -- **Leaching** --

Secondary deposition -- **Reactive matter** --

Section:

Slumped

Rock type	
Quartzite	32
Gneiss	32
Schist	6
Igneous, granitic	12
Igneous, mafic	6
Miscellaneous	12

General Description: Accessible, very limited supply of hard,clean gravel.

QUADRANGLE East Lee **STATE** Massachusetts **GEOLOGIST** R. W. Heeley **DATE** July, 1966 **PROJECT** Mass. Materials

Field and megascopic observations:

Station number 3

Location: County Berkshire Town Lee Pit X Active / Inactive

Road location Route 20, 1.1 mi. W of Greenwater Pond Coordinates 42°17'35" 73°10'40"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble gravel Eng. Soil Type GP

Dimensions of deposit: Areal extent 1000 x 5000' Estimated thickness 100'

Dimensions of pit: Areal extent 50 x 20' Exposed thickness 8'

Lithologic composition (approximate %) See below

Grain size: Maximum 1' Mean 1/16" Est. % of sand 50 Est. % fines 3

Rounding Subrounded Grading poor Sorting fair

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	
Quartzite	42
Gneiss	28
Schist	20
Igneous, granitic	6
Miscellaneous	4

General Description: Easily accessible, but very limited supply. Gravel only of fair quality.

East Lee QUADRANGLE Massachusetts STATE R. W. Heeley GEOLOGIST July, 1966 DATE Mass. Materials PROJECT

Field and megascopic observations:

Station number 4

Location: **County** Berkshire **Town** Lee **Pit** ___ Active X Inactive

Road location Mass. Turnpike near Tyringham Road **Coordinates** 42°18' 73°14'

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble sand **Eng. Soil Type** SP

Dimensions of deposit: **Areal extent** 2000x1400' **Estimated thickness** 100'

Dimensions of pit: **Areal extent** 100x100' **Exposed thickness** 20'

Lithologic composition (approximate %) See below

Grain size: Maximum 6" **Mean** 1/32" **Est. % of sand** 70 **Est. % fines** 5

Rounding Subrounded **Grading** Poor **Sorting** Well

Soil development -- **Color** --

Oxidation or staining -- **Leaching** --

Secondary deposition -- **Reactive matter** --

Section:

Rock type	
Quartzite	76
Gneiss	6
Schist	10
Igneous, granitic	4
Miscellaneous	4

General Description: Easily accessible; large supply of clean sand.

QUADRANGLE East Lee STATE Massachusetts GEOLOGIST R. W. Heeley DATE July, 1966 PROJECT Mass. Materials

Field and megascopic observations:

Station number 5

Location: **County** Berkshire **Town** Lee **Pit** x **Active** **Inactive**

Road location Route 20 and Tyringham Rd **Coordinates** 42°17'35" 73°14'20"

Geologic unit or occurrence Ice-contact stratified drift overlying till

Textural description Sand/till **Eng. Soil Type** SP/GW

Dimensions of deposit: **Areal extent** 2000x1400' **Estimated thickness** 100'

Dimensions of pit: **Areal extent** 300x20' **Exposed thickness** 20'

Lithologic composition (approximate %) See below

Grain size: **Maximum** 3' **Mean** 1/16 **Est. % of sand** 30 **Est. % fines** 30

Rounding Subangular **Grading** good **Sorting** poor

Soil development -- **Color** --

Oxidation or staining -- **Leaching** --

Secondary deposition -- **Reactive matter** --

Section:

Rock type	
Quartzite	28
Gneiss	4
Schist	52
Igneous, granitic	10
Miscellaneous	6

General Description: Till is compact, stoney, with a silt-clay matrix, and contains many striated fragments. Stream in front of pit prevents easy access. Abundant clean gravel and sand in immediate area, but this is only recently worked pit for till, which is useful for dams and base course for light duty roads.

QUADRANGLE East Lee **STATE** Massachusetts **GEOLOGIST** R. W. Healey **DATE** July, 1966 **PROJECT** Mass. Materials

Field and megascopic observations:

Station number 6

Location: County Berkshire Town Lee Pit ___ Active x Inactive

Road location East St. and Mass. Pike Coordinates 42°18'00" 73°13'20"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble gravel Eng. Soil Type GP

Dimensions of deposit: Areal extent 1500x6000' Estimated thickness 100'

Dimensions of pit: Areal extent 200x75' Exposed thickness 35'

Lithologic composition (approximate %) Same as pit 7

Grain size: Maximum 10" * Mean 1/16" Est. % of sand 40 Est. % fines 5

Rounding Subrounded Grading fair Sorting fair-good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	

General Description: Readily accessible. One of a series of pits in same kame. Gravel plant in nearby pit. This pit used to store processed gravel.

* Rare boulder 10' or more in diameter.

QUADRANGLE East Lee
STATE Massachusetts
GEOLOGIST R. W. Heeley
DATE July, 1966
PROJECT Mass Materials

Field and magascopic observations:

Station number 7

Location: County Berkshire Town Lee Pit x Active ___ Inactive

Road location East St. and Mass. Pike Coordinates 42°18'00" 73°13'20"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble-cobble gravel Eng. Soil Type GW

Dimensions of deposit: Areal extent 1500x6000' Estimated thickness 100'

Dimensions of pit: Areal extent 100x75' Exposed thickness 50'

Lithologic composition (approximate %) See below

Grain size: Maximum 9" Mean 1/16" Est. % of sand 40 Est. % fines 5

Rounding Rounded-Subrounded Grading good Sorting fair*

Soil development faint Color reddish brown

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Rock type	
Quartzite	82
Gneiss	6
Schist	2
Igneous, granitic	2
Igneous, mafic	4
Miscellaneous	4

General Description: Easily accessible, large supply of good quality gravel of mixed sizes.

* Individual beds are well sorted by these vary widely in average grain size.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass Materials

Field and megascopic observations:

Station number 8

Location: County Berkshire Town Lee Sts. Pit x Active Inactive

Road location East of jct. Maple & East Coordinates 42°18'00" 73°13'40"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble-cobble gravel Eng. Soil Type GW

Dimensions of deposit: Areal extent 1500x6,000' Estimated thickness 100'

Dimensions of pit: Areal extent 20x75' Exposed thickness 50'

Lithologic composition (approximate %) See below

Grain size: Maximum 6" Mean 1/16" Est. % of sand 50 Est. % fines 5

Rounding Subrounded Grading fair Sorting good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Rock type	
Quartzite	80
Gneiss	6
Schist	2
Igneous, granitic	4
Igneous, mafic	4
Miscellaneous	4

General Description: Easily aceessible, very large supply of good quality gravel of mixed sizes, ranging from fine sand to cobbles. Two pits nearly adjacent.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Hegley

DATE July, 1966

PROJECT Mass. Materials

Field and megascopic observations:

Station number 9

Location: County Berkshire Town Lee Pit X Active ___ Inactive

Road location Landers Road Coordinates 42°18'40" 73°13'45"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble-cobble gravel and sand Eng. Soil Type SP/GW

Dimensions of deposit: Areal extent 1500x10,000' Estimated thickness 50-100'

Dimensions of pit: Areal extent 1000x75* Exposed thickness 50'*

Lithologic composition (approximate %) See below

Grain size: Maximum 1" Mean 1/16" Est. % of sand 60 Est. % fines 5

Rounding Subrounded Grading poor-good Sorting good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Rock type	
Quartzite	72
Gneiss	8
Schist	4
Igneous, granitic	6
Igneous, mafic	2
Miscellaneous	8

General Description: Very large supply of good quality gravel and sand with a wide range in grain size. Actively exploited.

*Typical dimensions of cluster of four pits.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass. Materials

Field and megascopic observations:

Station number 10

Location: County Berkshire Town Lee Pit X Active ___ Inactive

Road location West of jct. Greylock and East Streets Coordinates 43°20'00" 73°13'50"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble sand Eng. Soil Type GP

Dimensions of deposit: Areal extent 1500x10,000' Estimated thickness 100'

Dimensions of pit: Areal extent 100x200' Exposed thickness 15-20'

Lithologic composition (approximate %) Predominately quartzite

Grain size: Maximum 6"-8" Mean 1/32 Est. % of sand 70 Est. % fines 5

Rounding Subrounded Grading poor Sorting good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	

General Description: Accessible. Northern end of very large kame complex representing a hugh supply of gravel and sand of good quality.

*Some boulders up to 4'.

QUADRANGLE East Lee

STATE Massachustees

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass Materials

Field and megascopic observations:

Station number 11

Location: County Berkshire Town Lee Pit ___ Active Inactive

Road location Lexondale Crossroad Coordinates 42°20'00" 73°14'00"

Geologic unit or occurrence Ice-contact stratified drift in kame complex

Textural description Cobble gravel Eng. Soil Type GW

Dimensions of deposit: Areal extent 8000x2500' Estimated thickness 60'

Dimensions of pit: Areal extent 2000x2000'* Exposed thickness 20-40'

Lithologic composition (approximate %) See below

Grain size: Maximum 18" Mean 1/8" Est. % of sand 40 Est. % fines 5

Rounding Subrounded Grading fair Sorting fair

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	
Quartzite	88
Gneiss	4
Schist	0
Igneous, granitic	4
Igneous, mafic	2
Miscellaneous	2

General Description: Very large supply of well-graded, high quality gravel, easily accessible.

* Represents total area of interconnected group of 5 pits.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass. Materials

Field and megascopic observations:

Station number 12

Location: County Berkshire Town Lee Pit X Active Inactive

Road location Woodland St. Coordinates 42°20'30" 73°14'30"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Cobble sand Eng. Soil Type SW

Dimensions of deposit: Areal extent 8000x2500' Estimated thickness 50'

Dimensions of pit: Areal extent 1000x200* Exposed thickness 25' *

Lithologic composition (approximate %) See below

Grain size: Maximum 18" Mean 1/16" Est. % of sand 5 Est. % fines 5

Rounding Subrounded Grading fair-good Sorting fair

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	
Quartzite	84
Gneiss	4
Schist	2
Igneous, granitic	4
Igneous, mafic	2
Miscellaneous	4

General Description:

* Aggregate dimensions of two adjoining pits.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass. Materials

Field and megascopic observations:

Station number 13

Location: County Berkshire Town Lee Pit X Active ___ Inactive

Road location Woodland St. Coordinates 43°20'30" 73°14'30"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble sand Eng. Soil Type SP

Dimensions of deposit: Areal extent 8000x2500' Estimated thickness 100'

Dimensions of pit: Areal extent 50x50' Exposed thickness 20'

Lithologic composition (approximate %) Predominately quartzite

Grain size: Maximum 8" Mean 1/32" Est. % of sand 60 Est. % fines 5

Rounding Subrounded Grading Poor Sorting Good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Rock type	

General Description:

QUADRANGLE East Lee Massachusetts

STATE

GEOLOGIST R. W. Healey

DATE July, 1966

PROJECT Mass. Materials

Field and megascopic observations:

Station number 14

Location: County Berkshire Town Lee Pit X Active ___ Inactive

Road location Woodland St. Coordinates 43°20'30" 73°14'30"

Geologic unit or occurrance Ice-contact stratified drift in kame

Textural description Pebble sand Eng. Soil Type SP

Dimensions of deposit: Areal extent 8000x2500' Estimated thickness 100'

Dimensions of pit: Areal extent 50x50' Exposed thickness 20'

Lithologic composition (approximate %) Predominately quartzite

Grain size: Maximum 8" Mean 1/32" Est. % of sand 60 Est. % fines <5

Rounding Subrounded Grading Poor Sorting Good

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Rock type	

Section:

Slumped

General Description: Good quality gravel in plentiful supply.

QUADRANGLE East Lee STATE Massachusetts GEOLOGIST R. W. Heeley DATE July, 1966 PROJECT Mass. Materials

Field and megascopic observations:

Station number 15

Location: County Berkshire Town Lee Pit ___ Active x Inactive

Road location Woodland St. Coordinates 42°21'40" 73°14'30"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Boulder gravel Eng. Soil Type GW

Dimensions of deposit: Areal extent 8000x2500' Estimated thickness 60'

Dimensions of pit: Areal extent 100x75' Exposed thickness 30'

Lithologic composition (approximate %) See below

Grain size: Maximum 2" Mean 1/16" Est. % of sand 50 Est. % fines 2

Rounding Subrounded Grading good Sorting fair

Soil development -- Color --

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	
Quartzite	88
Gneiss	4
Schist	2
Igneous, granitic	2
Miscellaneous	4

General Description: Not easily accessible. Pit used for wells.

QUADRANGLE East Lee STATE Massachusetts GEOLOGIST R. W. Heeley DATE July, 1966 PROJECT Mass. Materials

Field and megascopic observations:

Station number 16

Location: County Berkshire Town Lenox Pit ___ Active X Inactive

Road location 1500' N. of Lenox Sta. Coordinates 42°21'30" 73°14'30"

Geologic unit or occurrence Ice-contact stratified drift in kame

Textural description Pebble gravel Eng. Soil Type GP

Dimensions of deposit: Areal extent 300x600' Estimated thickness k 30'

Dimensions of pit: Areal extent 50x100' Exposed thickness 15'

Lithologic composition (approximate %) See below

Grain size: Maximum 6" Mean 1/16" Est. % of sand 50 Est. % fines < 5

Rounding Subangular-subrounded Grading fair-poor Sorting fair

Soil development 9" A and B horizon Color reddish brown

Oxidation or staining -- Leaching --

Secondary deposition -- Reactive matter --

Section:

Slumped

Rock type	
Quartzite	40
Gneiss	20
Schist	10
Igneous, granitic	14
Igneous, mafic	6
Miscellaneous	10

General Description:

Very limited supply.

QUADRANGLE East Lee

STATE Massachusetts

GEOLOGIST R. W. Heeley

DATE July, 1966

PROJECT Mass. Materials