

**HUDSON RIVER PCBs REASSESSMENT RI/FS
PHASE 3 REPORT: FEASIBILITY STUDY**

DECEMBER 2000



For

**U.S. Environmental Protection Agency
Region 2
and
U.S. Army Corps of Engineers
Kansas City District**

**Book 3 of 6
Plates**

TAMS Consultants, Inc.

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NOTES FOR ALL PLATES

1) **Data Set Environment**

Arc View GIS

2) **Grid Coordinate System**

STATE PLANE New York, in Feet, East New York (NY E), FIPZONE 3101.

3) **Horizontal Datum Name**

The coordinate system is based upon a network of geodetic control points referred to as the North American Datum of 1927 (NAD27).

4) **Scale**

All plates and appendices (except for Plate 1) are presented at a 1:15000 scale. Therefore, on 11" x 17" size plot, one inch equals 1250 ft. Plate 1 is presented at a 1: 190,080 scale map for an effective scale of one inch to 3 miles.

5) **Base Map Data Source**

Database for the Hudson River PCBs Reassessment RI/FS, Release 5, October 2000, TAMS Consultants and Environmental Protection Agency.

6) **Bathymetry Specifications**

Above Lock 5, contour lines (in feet) were provided in elevation (New York State Barge Canal Datum). The elevation for the water surface was calculated for each pool based on a flow of 3,090 cfs. The water depth was obtained by subtracting the river bottom elevation from the water surface elevation, then rounded to the closest 0.5 foot. For this reason, the water depth is indicated as "Approximate Water Depth" on plates.

Below Lock 5, the bathymetry information was digitized from the NOAA Digital Nautical Charts (Charts: 14786-17, 14786-15, 14786-14, 14786-13, 14786-12, 14786-11, 14786-10, 14786-9, 14786-8). Only 6 foot and 12 foot contour lines were available with no elevation information.

7) **River Shoreline**

The river shoreline presented on plates is based on a flow of 8,471 cfs. (Source: Hudson River Database Release 5, based on Normandeau Associates, Inc. 1977.)

8) Sediment Texture Coverage

The Side-Scan Sonar coverage (Side Scan Sonar survey conducted in 1992) was used from Fort Edward Dam to Lock 5. LTI sediment texture coverage based on a pole survey directed by GE (Conducted in 1991), was used from Lock 5 to Federal Dam.

9) Incomplete Set of Sheets

A full set includes 7 sheets covering the Hudson River from the Former Fort Edward Dam to Federal Dam. However, some plates and appendices in the report are incomplete sets because there are no data to be presented for one or a number of sheets. Data for 1998 Composite Samples and 1984 Samples are available for Thompson Island Pool only (Section 1), therefore only one sheet is presented for both plates and appendices. Data for 1977 were presented for the river from Thompson Island Dam to Federal Dam only and, the set of plate or appendix for 1977 data only has 6 sheets, starting at River Section 2.

Similarly, all plates presenting the Full-Section Remediation Target Boundary include only the first two sheets, since the extent of remediation for this scenario includes only River Section 1 and Section 2.

10) Thiessen Polygons

Plates 4-a and 4-b, as well as Appendix A-3 are respectively presenting the Mass/Area (g/m^2) and the Length Weighted Average using 1984 Thiessen Polygons. These represent polygons of influence where each polygon contains all the area that is closer to a given sample point than to any other sample points. The method is called polygonal declustering and often successfully corrects for irregular sample coverage. The method used the samples location as well as the sediment texture information from the side scan sonar classification.

All samples were assigned a texture (cohesive, non-cohesive) according to their sediment content. Thiessen polygons are first formed around cohesive sample points only and then around non-cohesive sample points only. Polygons formed are respectively clip to cohesive and non-cohesive areas of the sediment texture coverage from the side scan sonar classification, to insure that cohesive samples are applied only to cohesive area of the river and non-cohesive sample to non-cohesive areas. Each polygon was then assigned the value (e.g., Length Weighted Average, Mass per Unit Area) of the sample point that formed it.

11) MPA

In all plates and appendices, MPA stands for PCB Mass per Unit Area in g/m^2 .

12) Alternatives

The specific alternatives are not numbered in this FS. Rather, they are identified by shorthand nomenclature which identifies the components of each alternative. The alternative identification

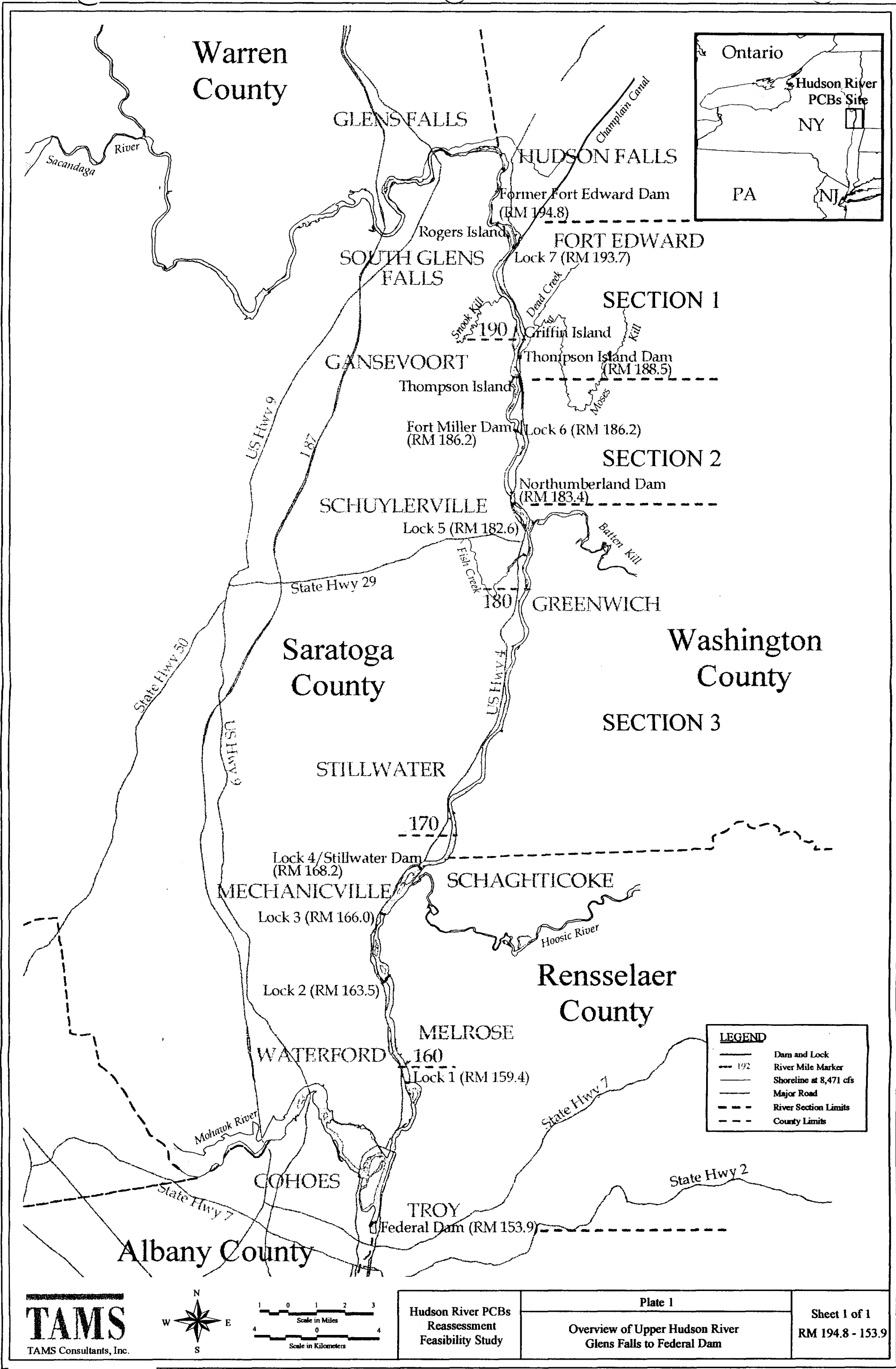
system is described below.

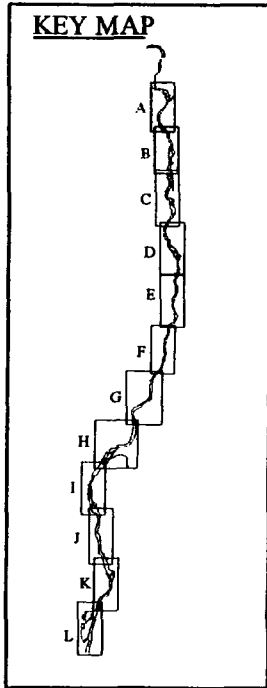
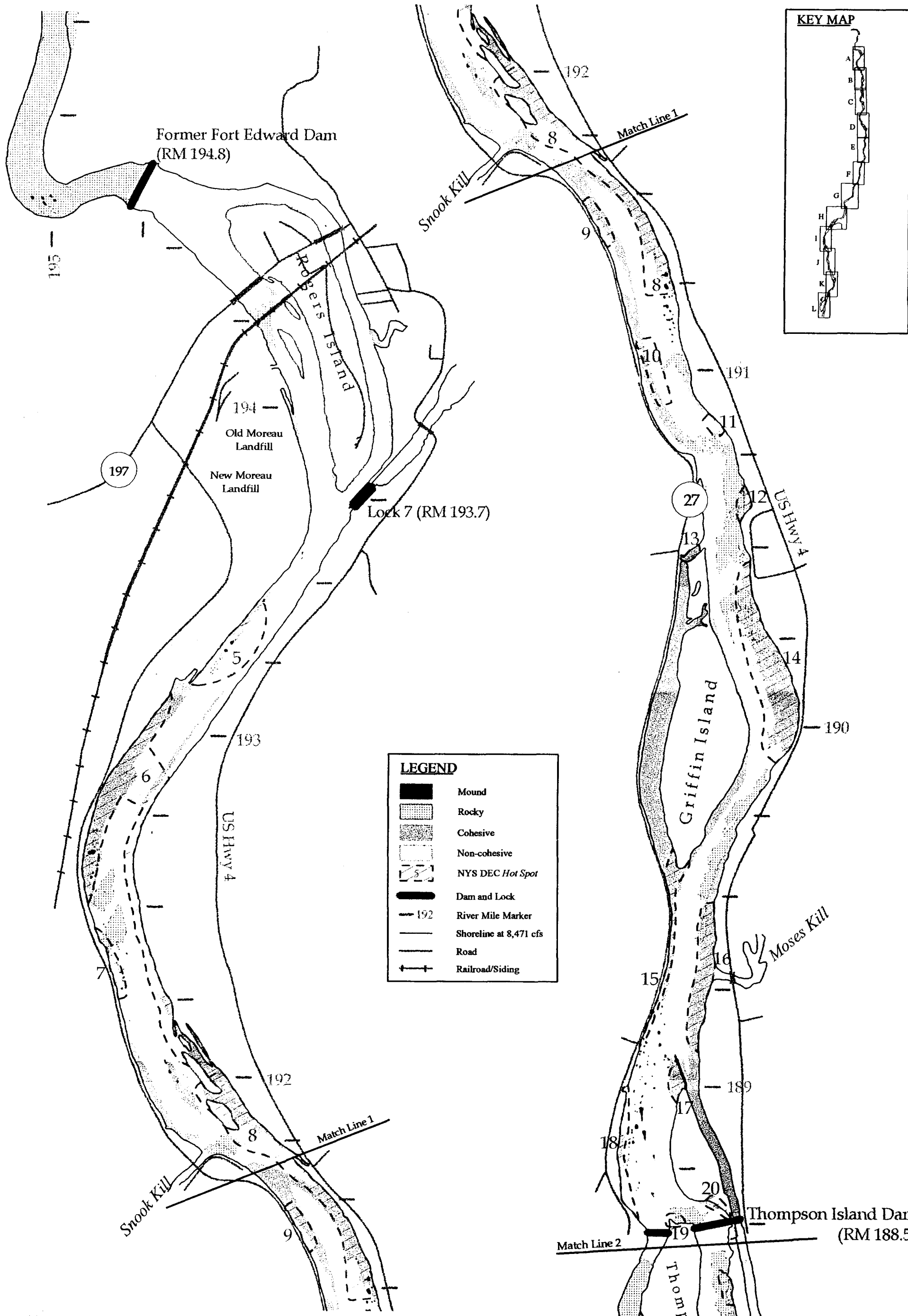
The first set of characters describes the alternative category, of which there are four.

- NA designates "No Action"
- MNA designates "Monitored Natural Attenuation"
- CAP designates containment by capping in conjunction with dredging
- REM designates Removal (without capping)

For alternatives which include capping or removal (*i.e.*, CAP or REM) as a component, the extent of remediation (*i.e.*, remediation target areas) is specified by river section, as described above and the extent of remediation within each river section, listed sequentially from River Section 1 to River Section 3. The remediation designations are:

- 0 Full-section remediation or target areas with PCB mass per unit area (MPA) of 0 g/m²; in other words, the remediation of all contaminated sediments within the river section
- 3 Expanded Hot Spot remediation or target areas with PCB MPA of 3 g/m² or greater
- 10 Hot Spot remediation or target areas with PCB MPA of 10 g/m² or greater
- MNA No target areas; monitored natural attenuation only in this section.

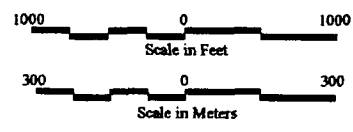
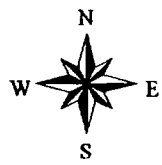




LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding

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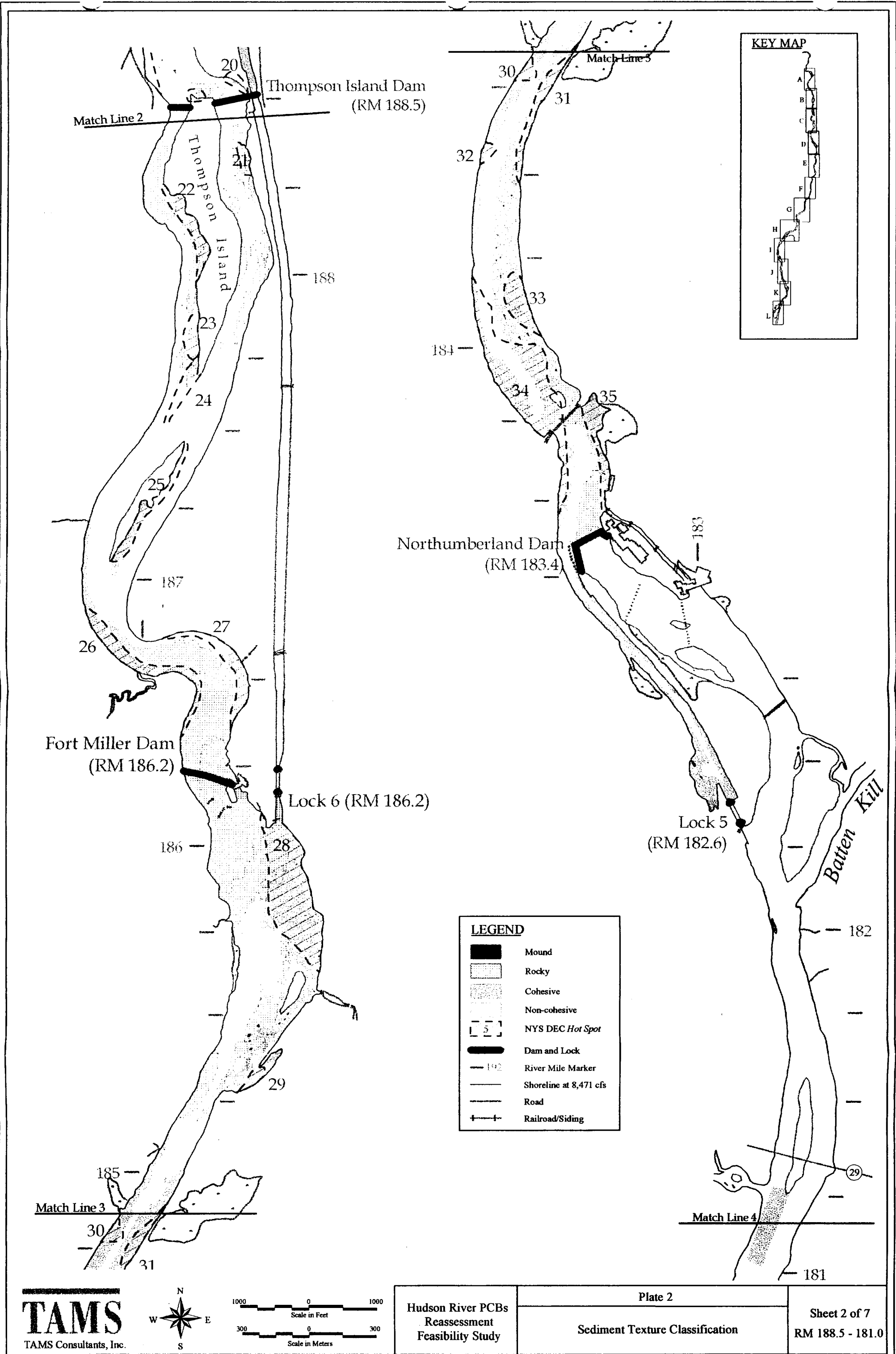


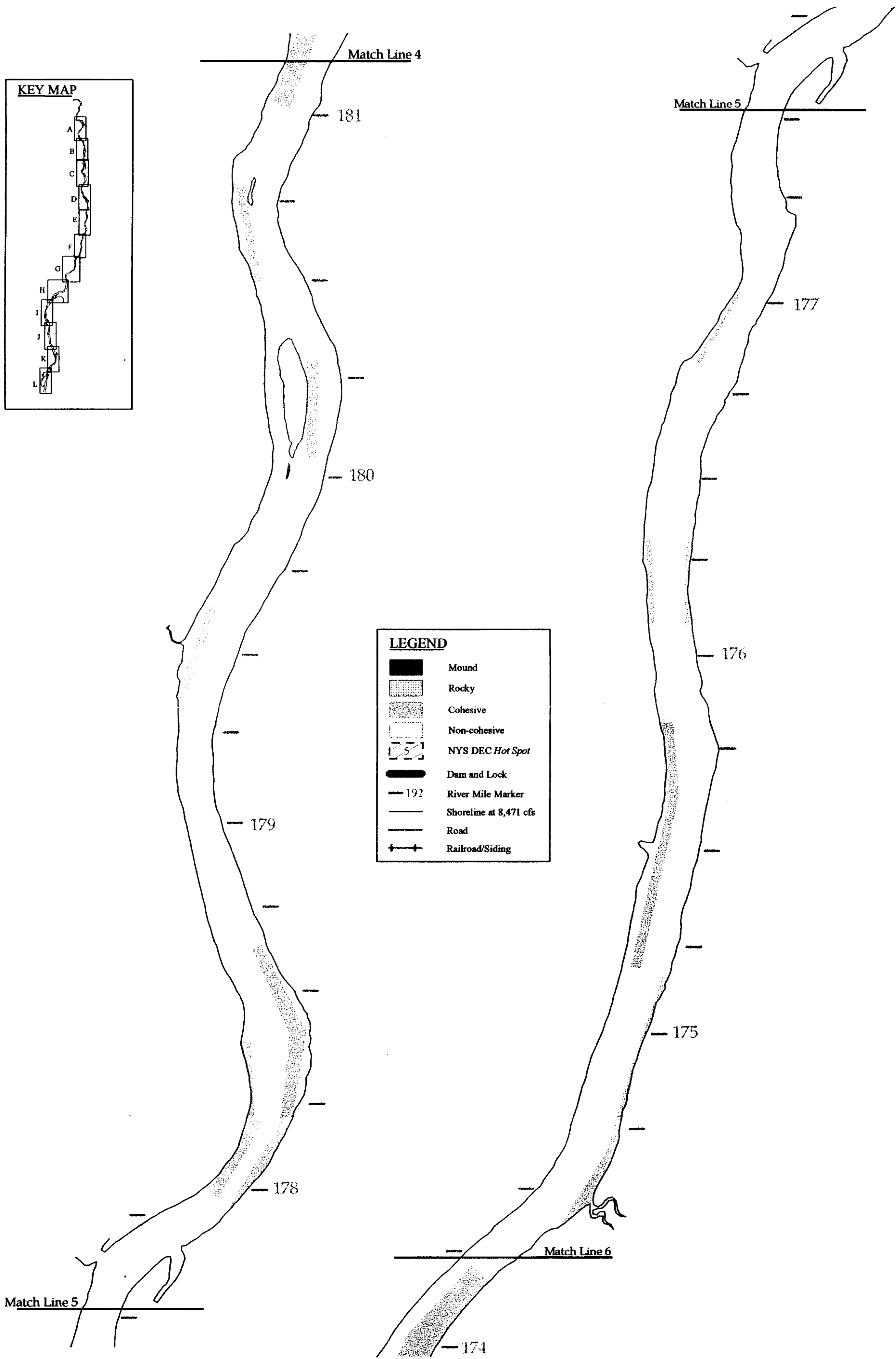
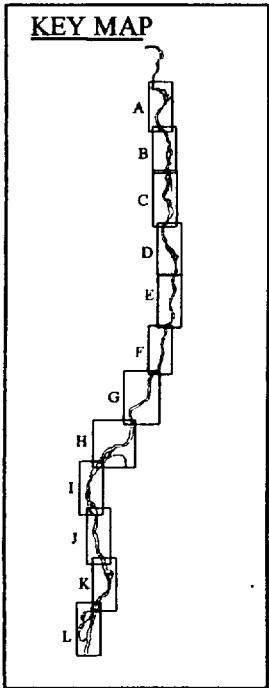
Hudson River PCBs
Reassessment
Feasibility Study

Plate 2
Sediment Texture Classification

Sheet 1 of 7
RM 194.8 - 188.5

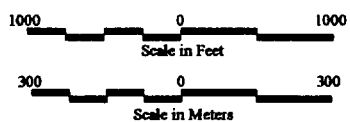
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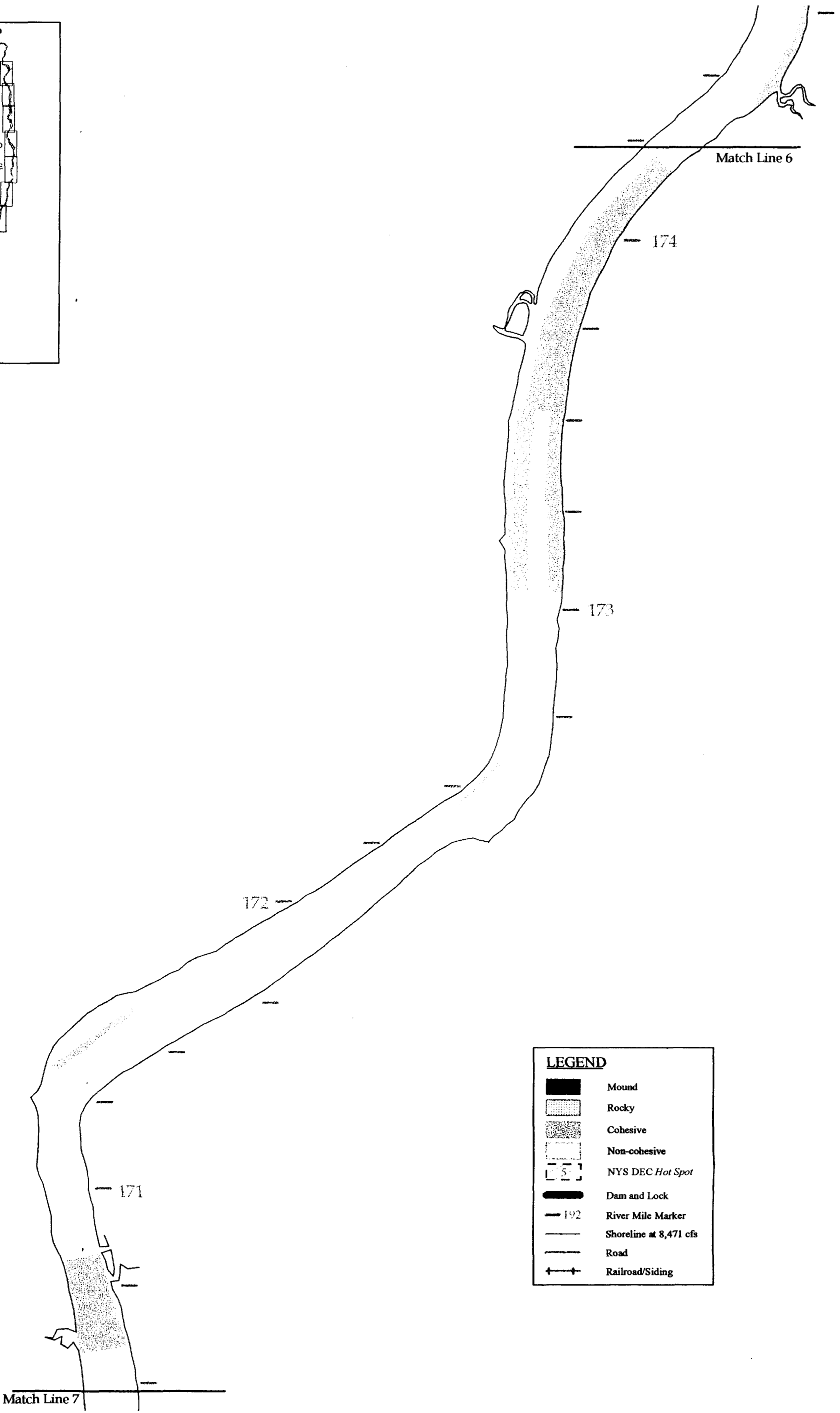
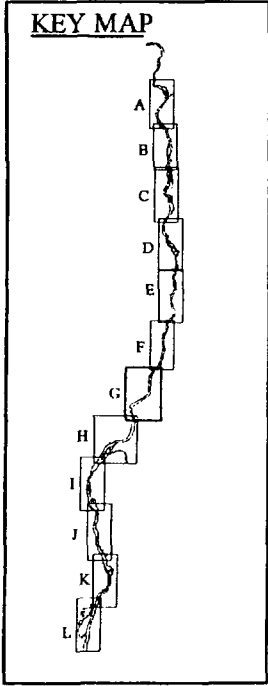




LEGEND

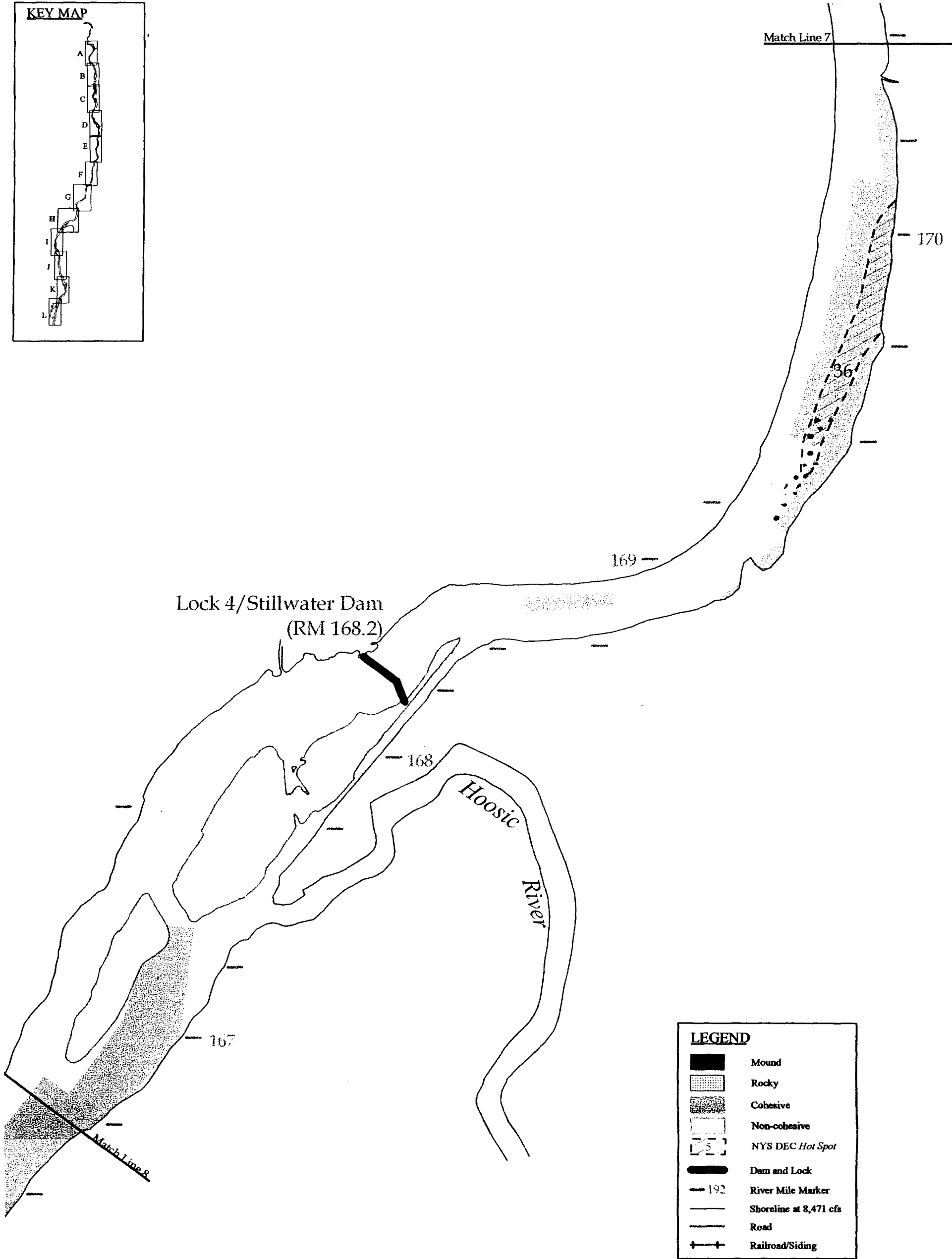
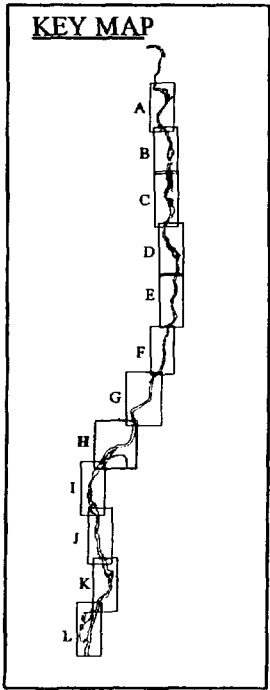
- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding

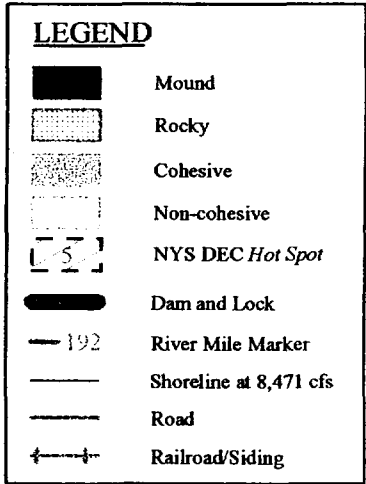
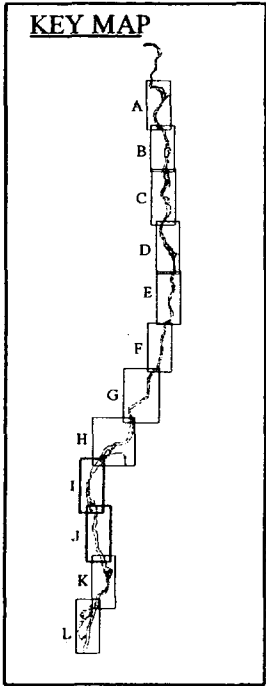
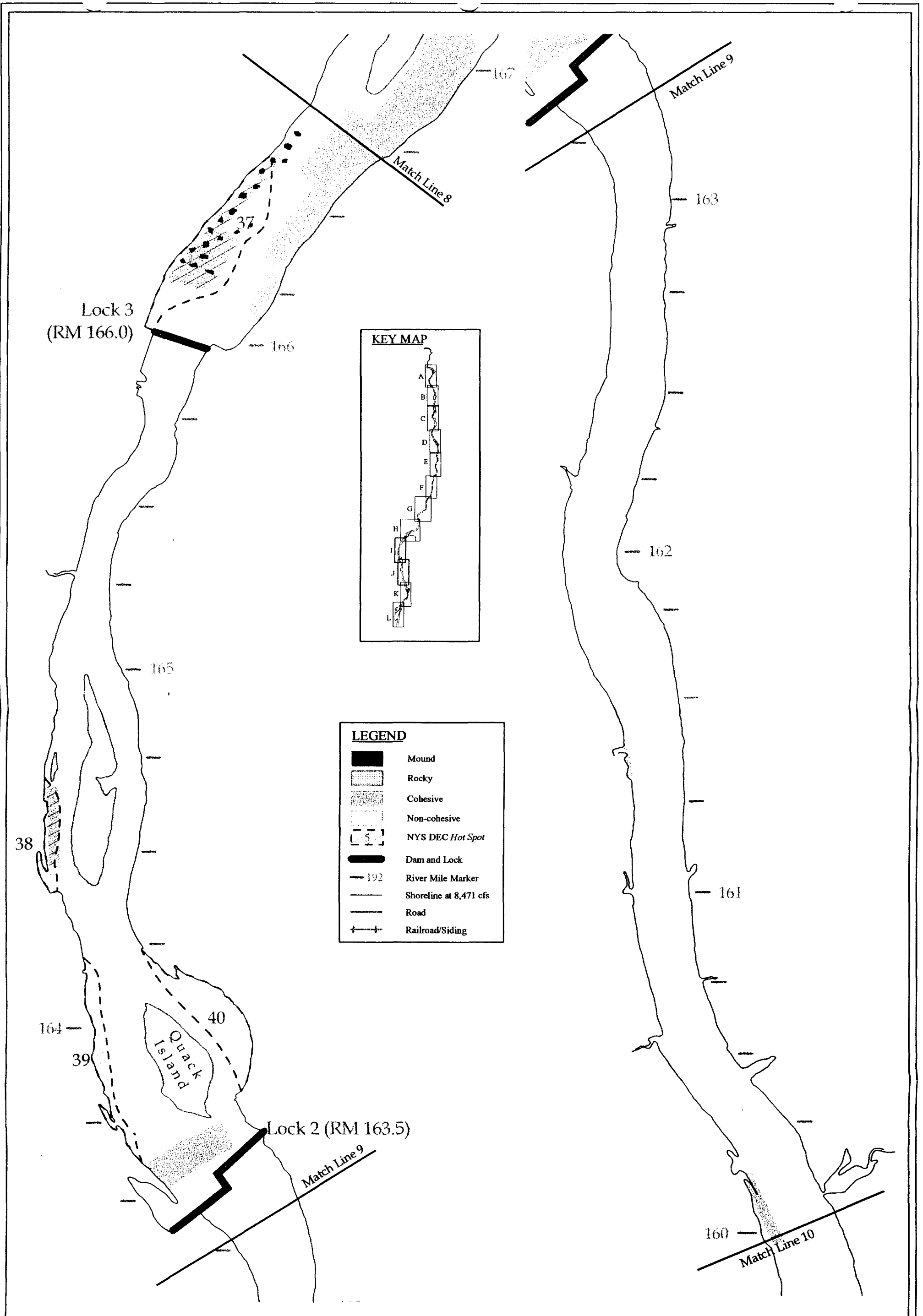


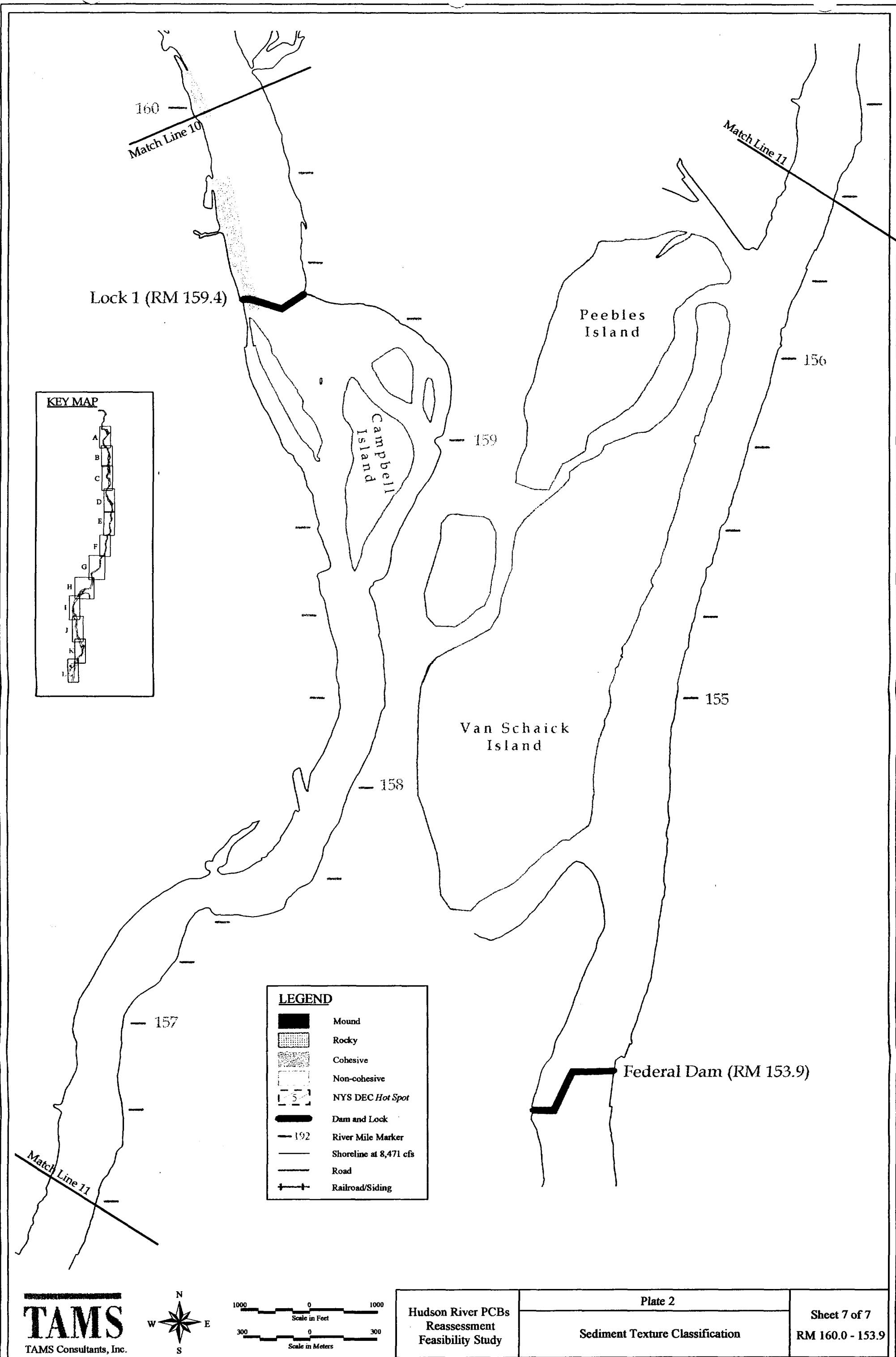


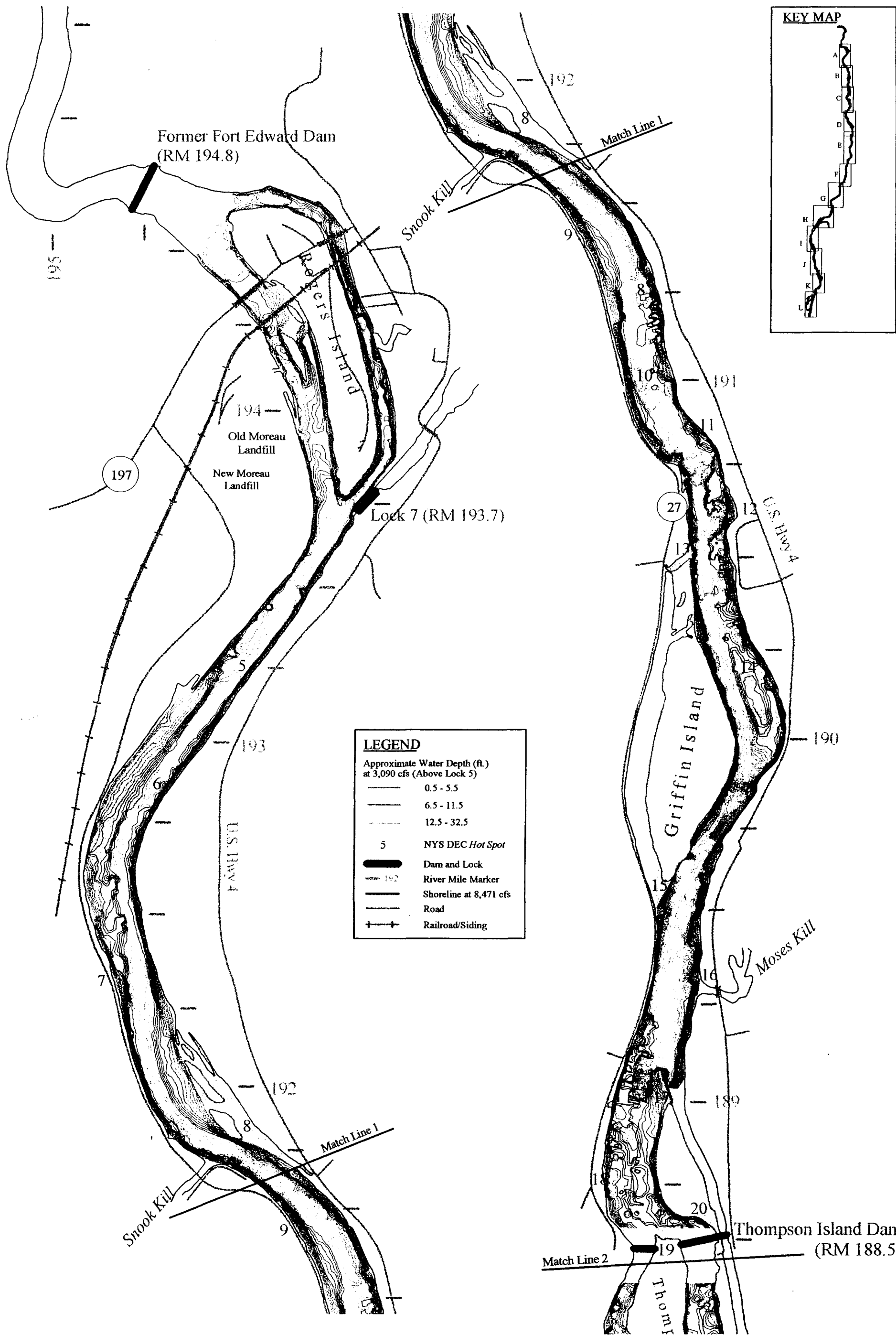
LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding









LEGEND

Approximate Water Depth (ft.)
at 3,090 cfs (Above Lock 5)

- 0.5 - 5.5
- 6.5 - 11.5
- 12.5 - 32.5

5 NYS DEC Hot Spot

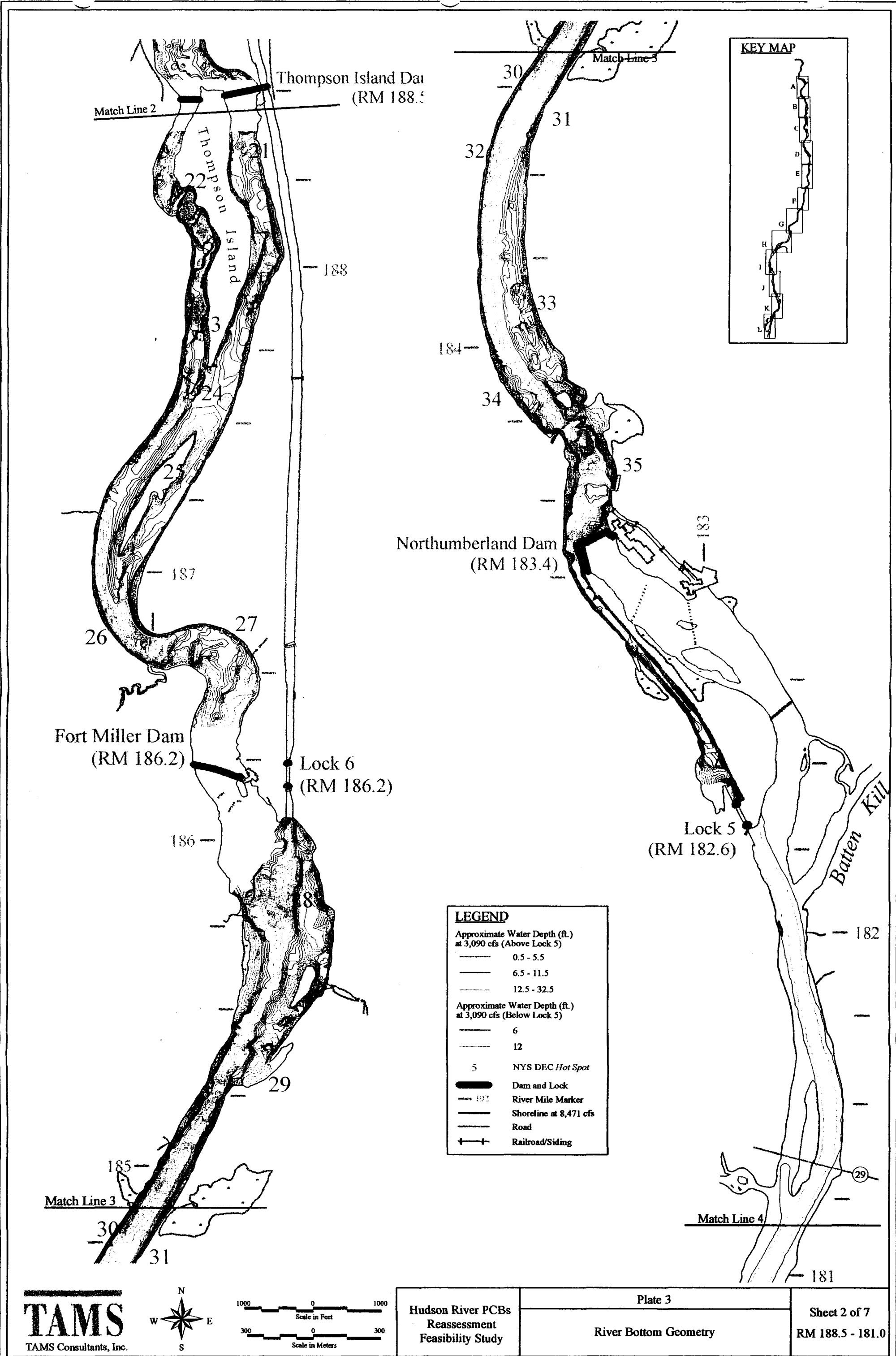
Dam and Lock

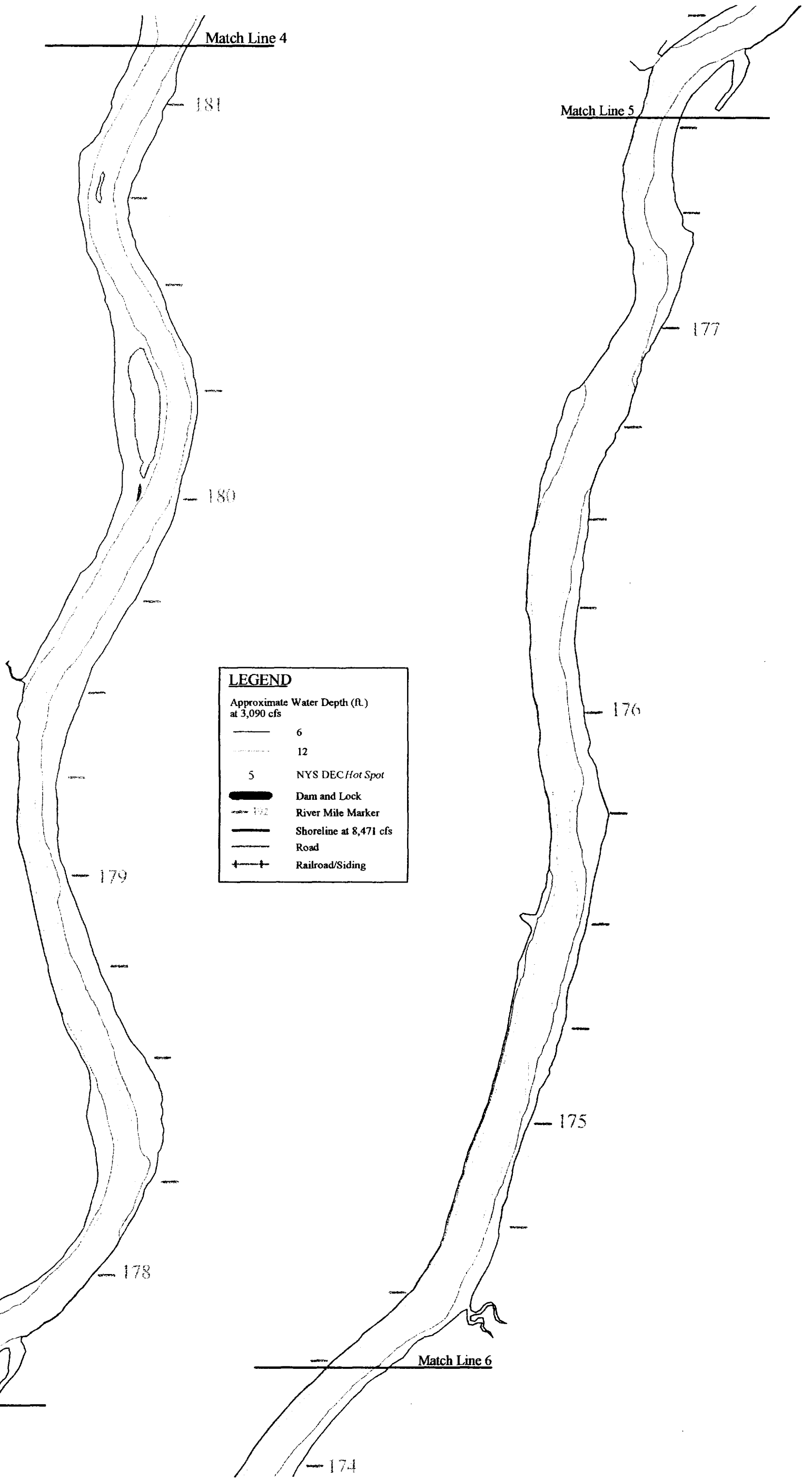
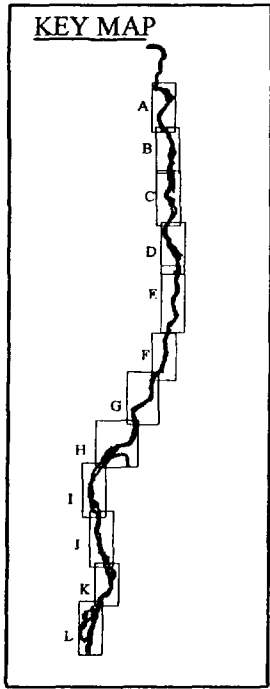
River Mile Marker

Shoreline at 8,471 cfs

Road

Railroad/Siding



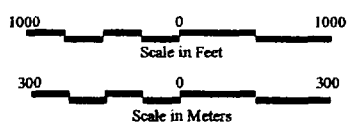


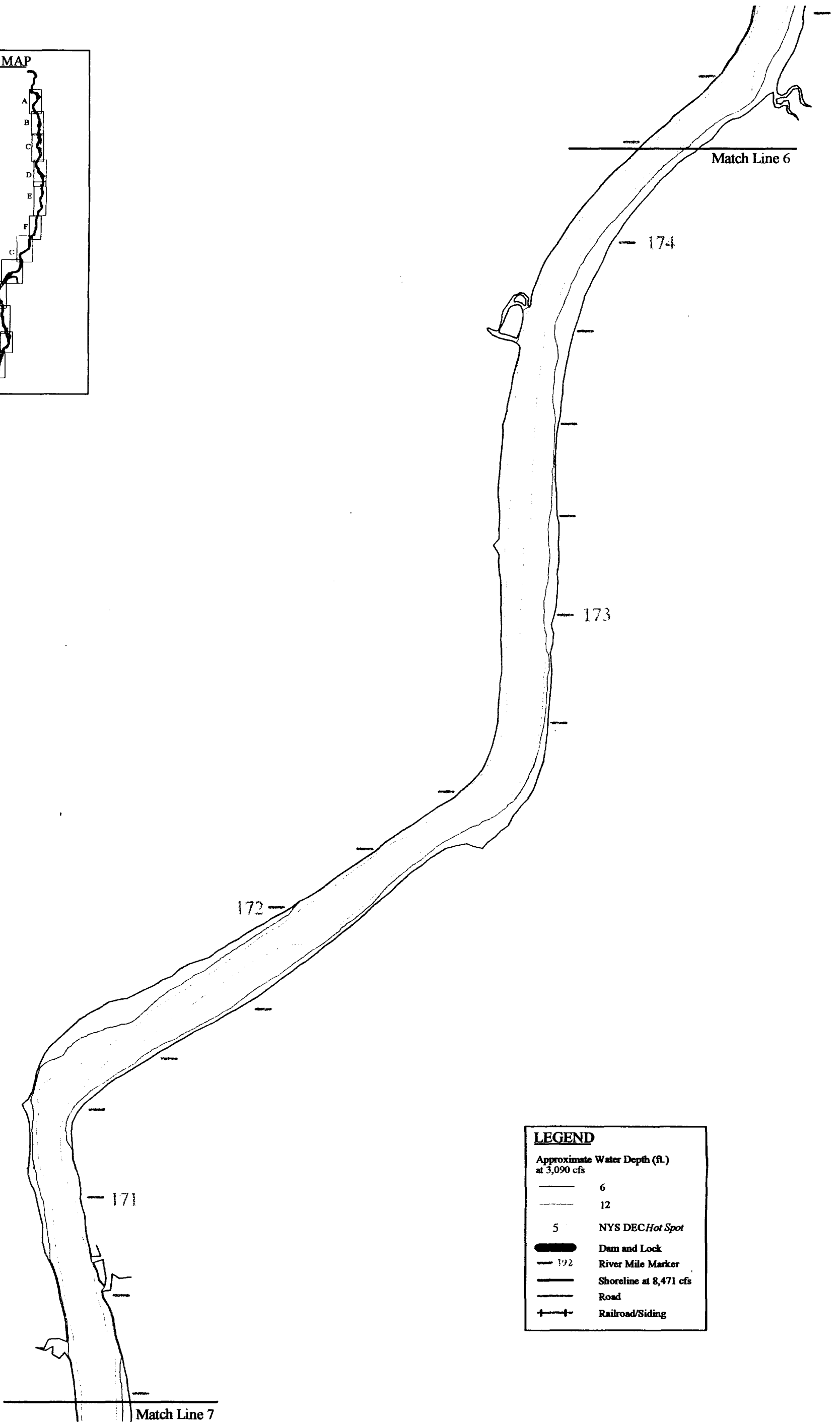
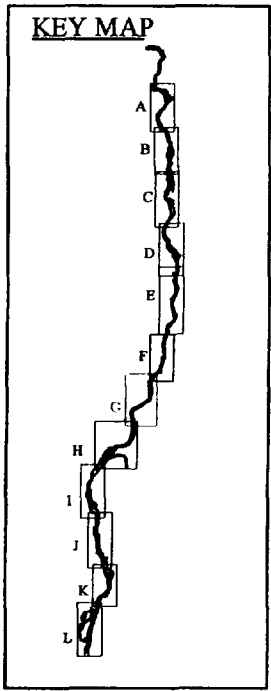
LEGEND

Approximate Water Depth (ft.)
at 3,090 cfs

- 6
- 12
- 174
- 175
- 176
- 177
- 178
- 179
- 180
- 181

- 5 NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding





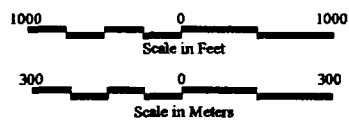
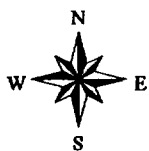
LEGEND

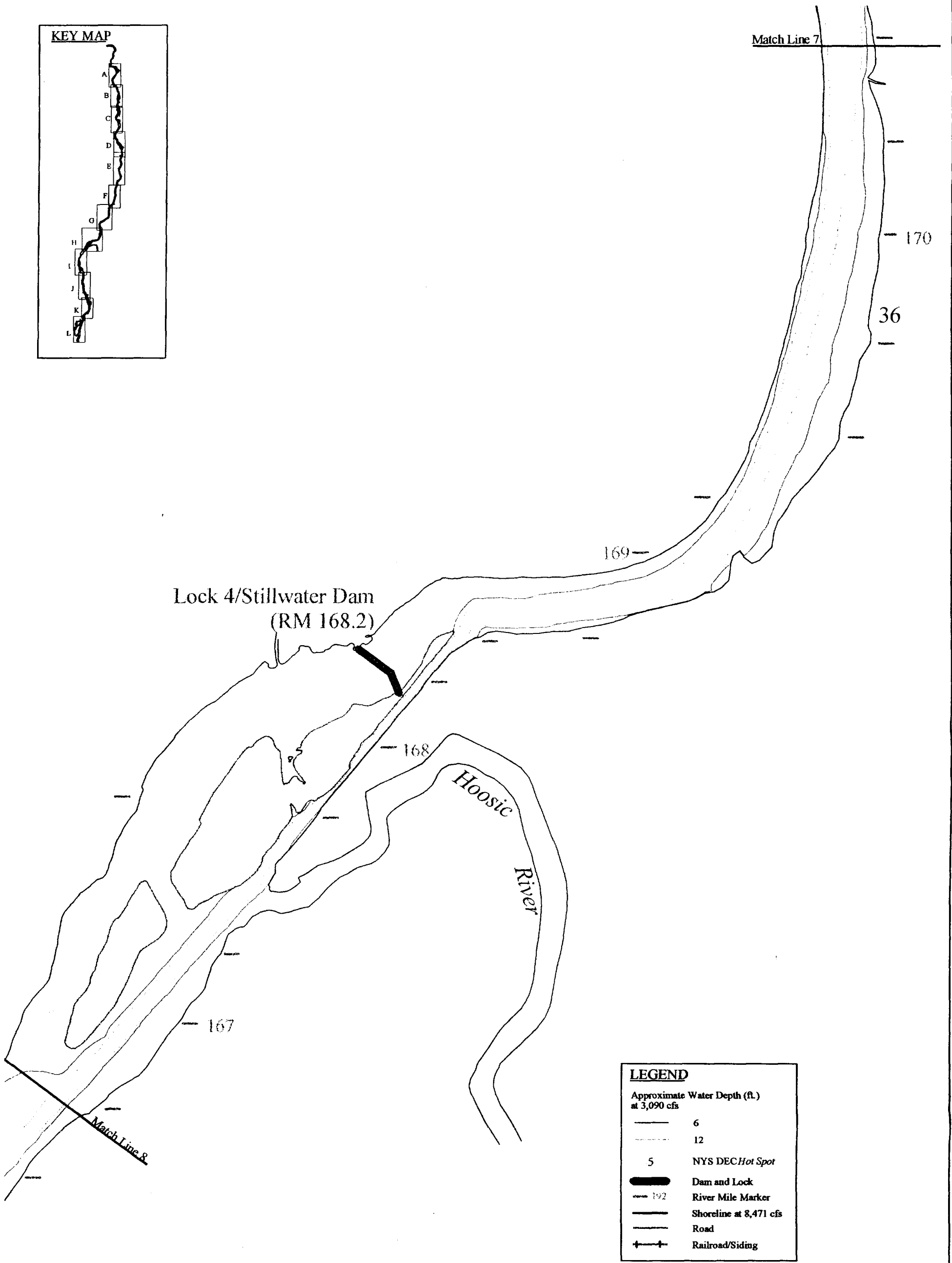
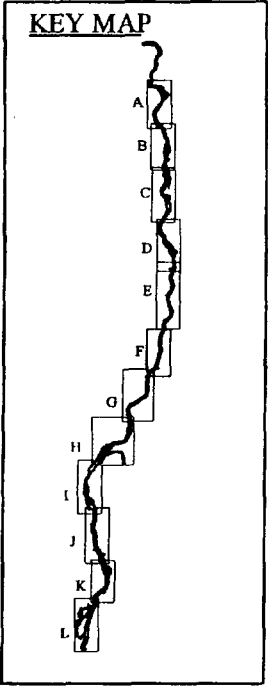
Approximate Water Depth (ft.)
at 3,090 cfs

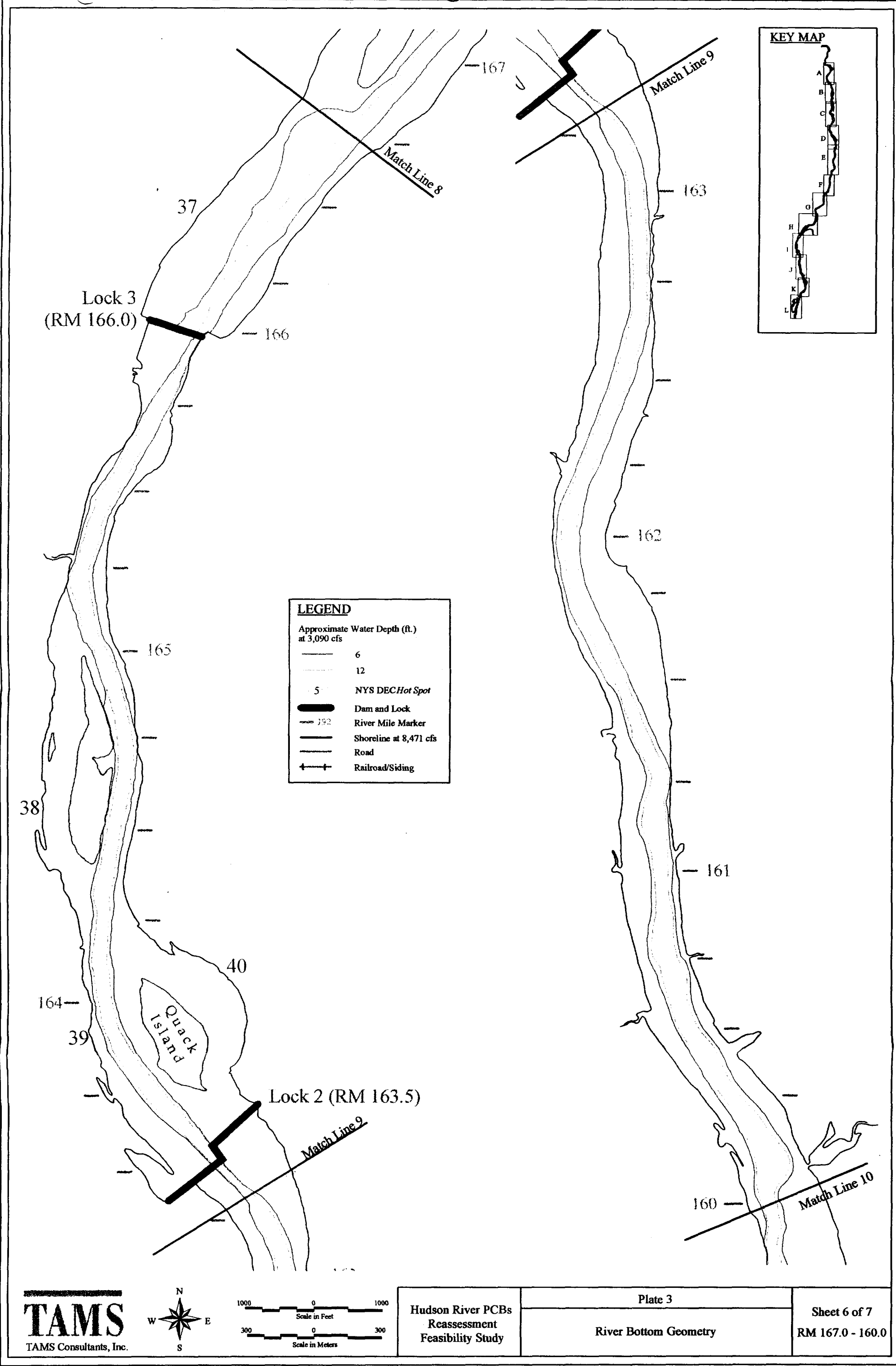
- 6
- 12
- 5

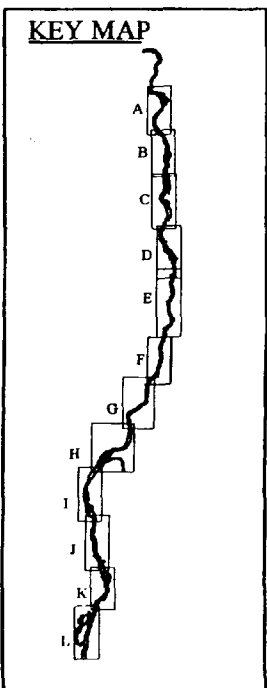
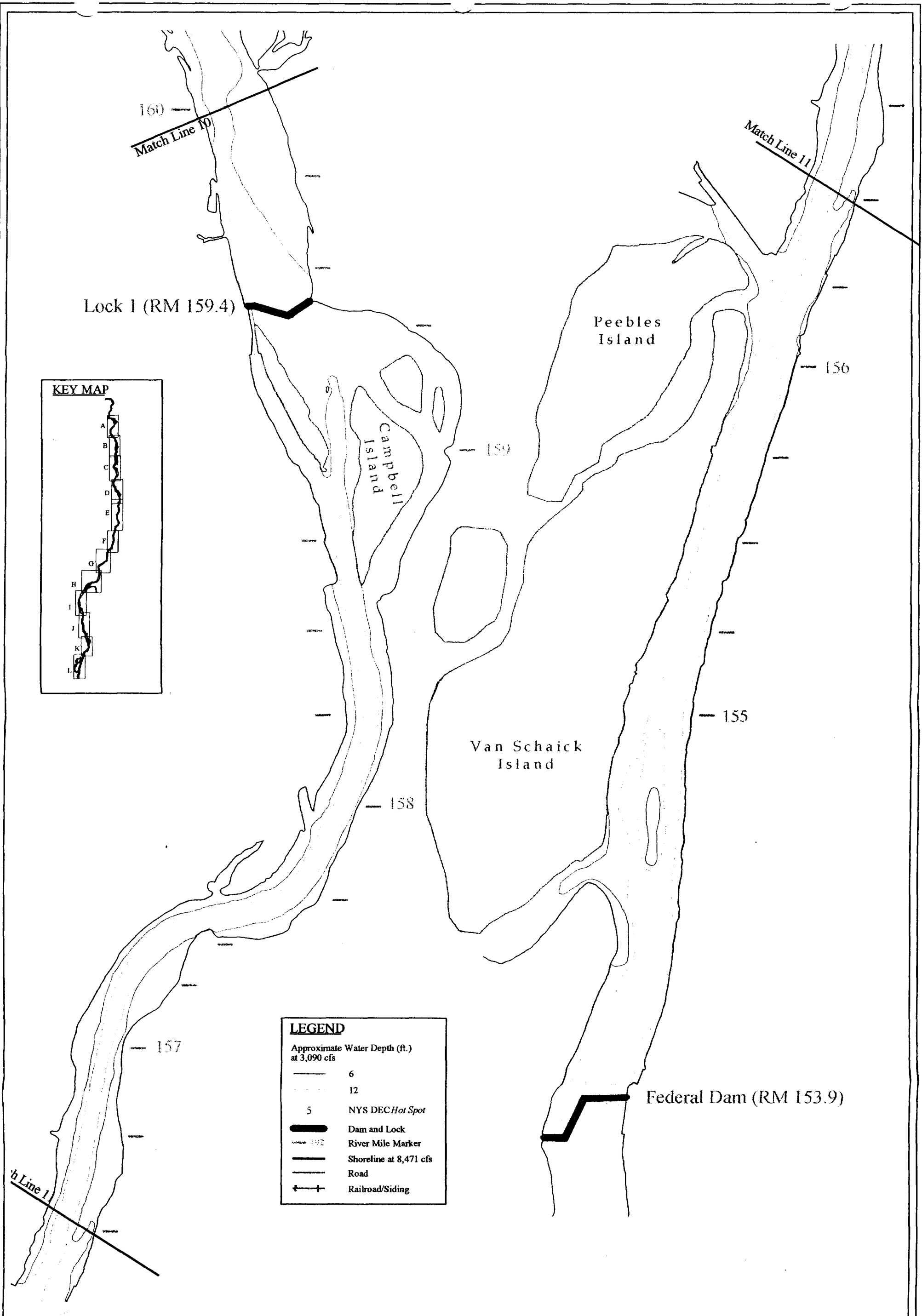
NYS DEC Hot Spot

- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding





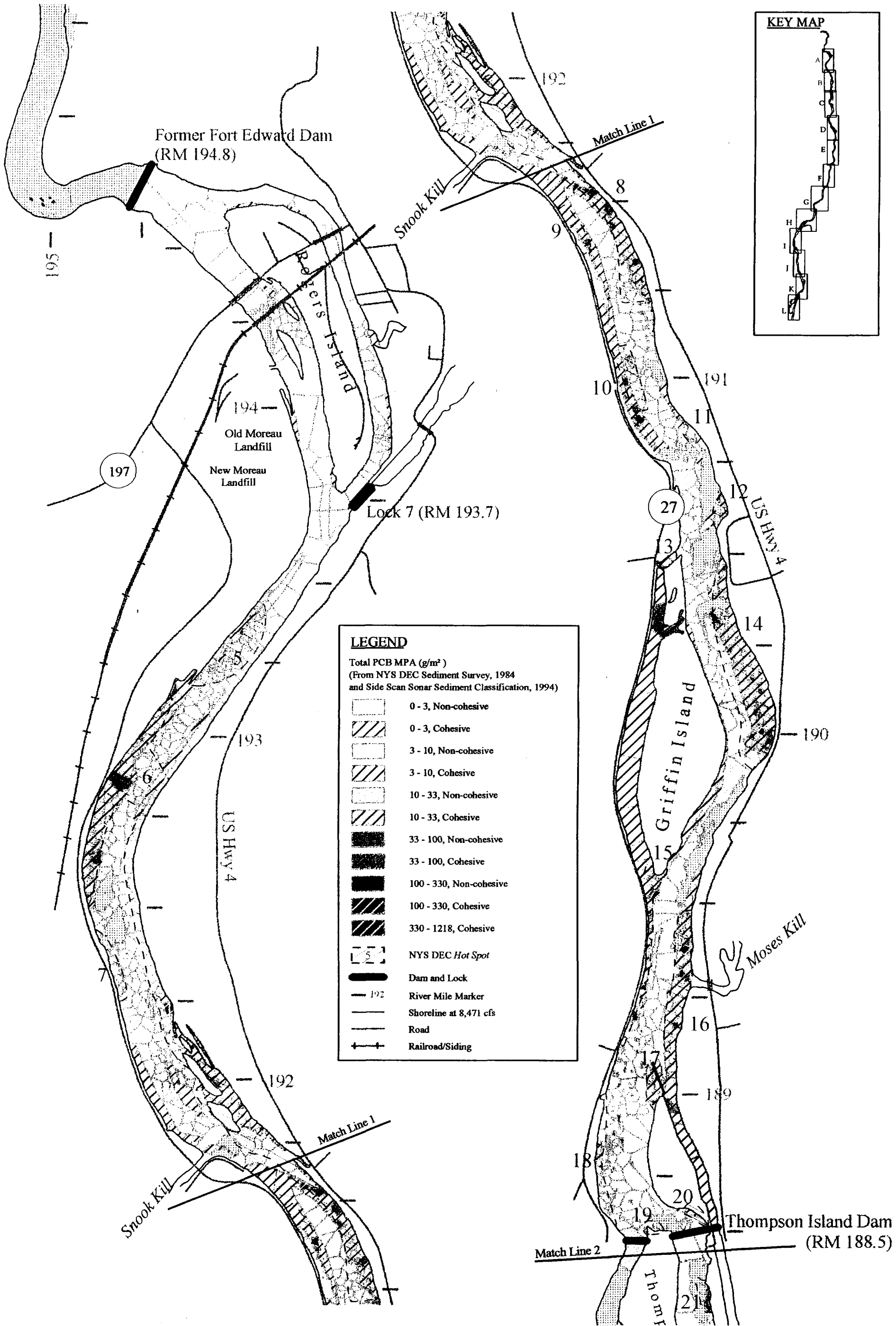




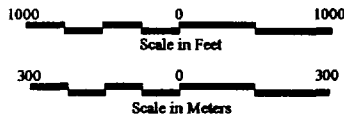
LEGEND

Approximate Water Depth (ft.)
at 3,090 cfs

- 6
- - - 12
- 5 NYS DECHot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- +— Railroad/Siding



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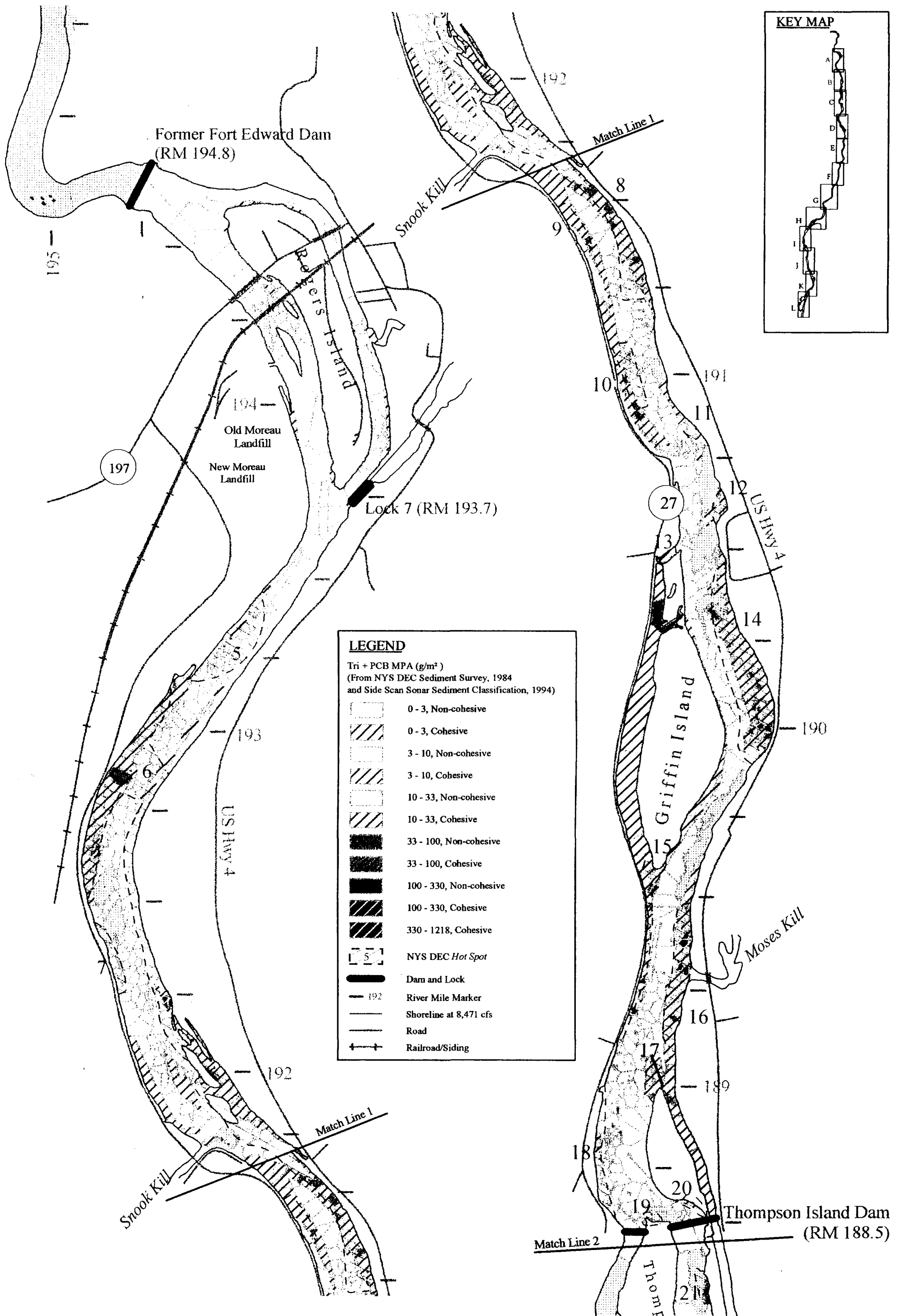


Hudson River PCBs
Reassessment
Feasibility Study

Plate 4-A

Sediment PCB Inventories in 1984
(Total PCB MPA)
Thompson Island Pool (River Section 1)

Sheet 1 of 1
RM 194.8 - 188.5

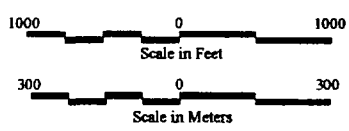
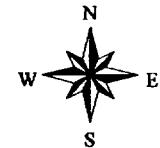


LEGEND

Tri + PCB MPA (g/m²)
 (From NYS DEC Sediment Survey, 1984
 and Side Scan Sonar Sediment Classification, 1994)

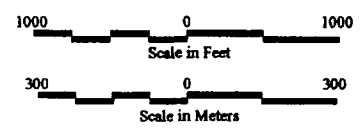
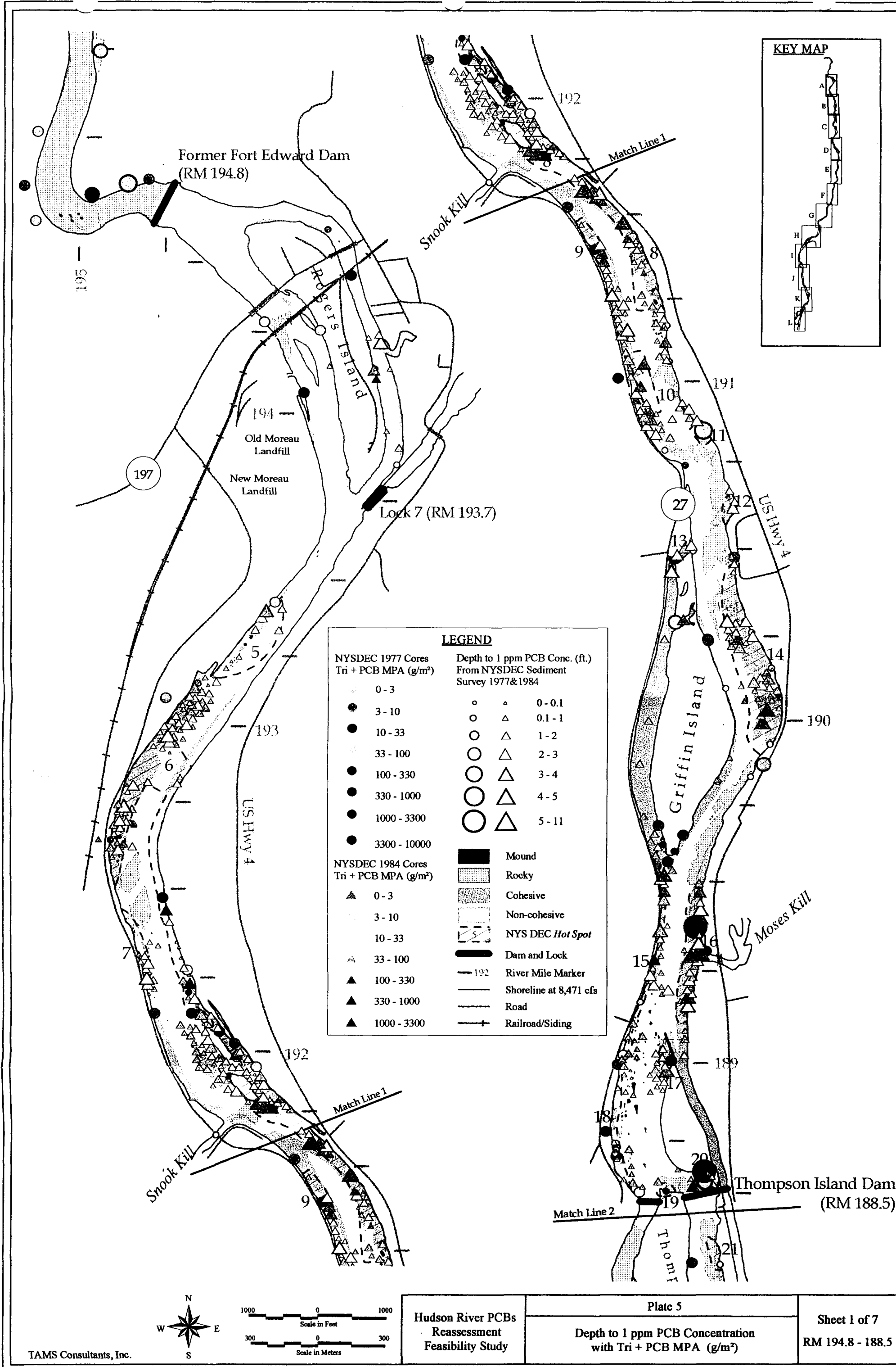
	0 - 3, Non-cohesive
	0 - 3, Cohesive
	3 - 10, Non-cohesive
	3 - 10, Cohesive
	10 - 33, Non-cohesive
	10 - 33, Cohesive
	33 - 100, Non-cohesive
	33 - 100, Cohesive
	100 - 330, Non-cohesive
	100 - 330, Cohesive
	330 - 1218, Cohesive
	NYS DEC Hot Spot
	Dam and Lock
	River Mile Marker
	Shoreline at 8,471 cfs
	Road
	Railroad/Siding

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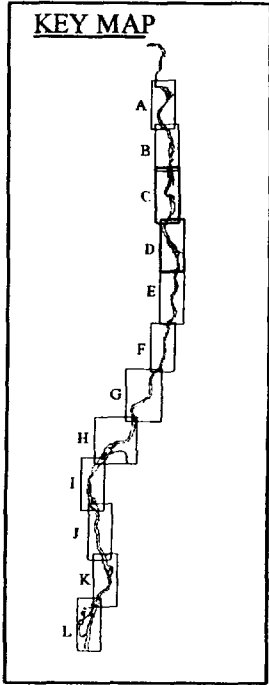
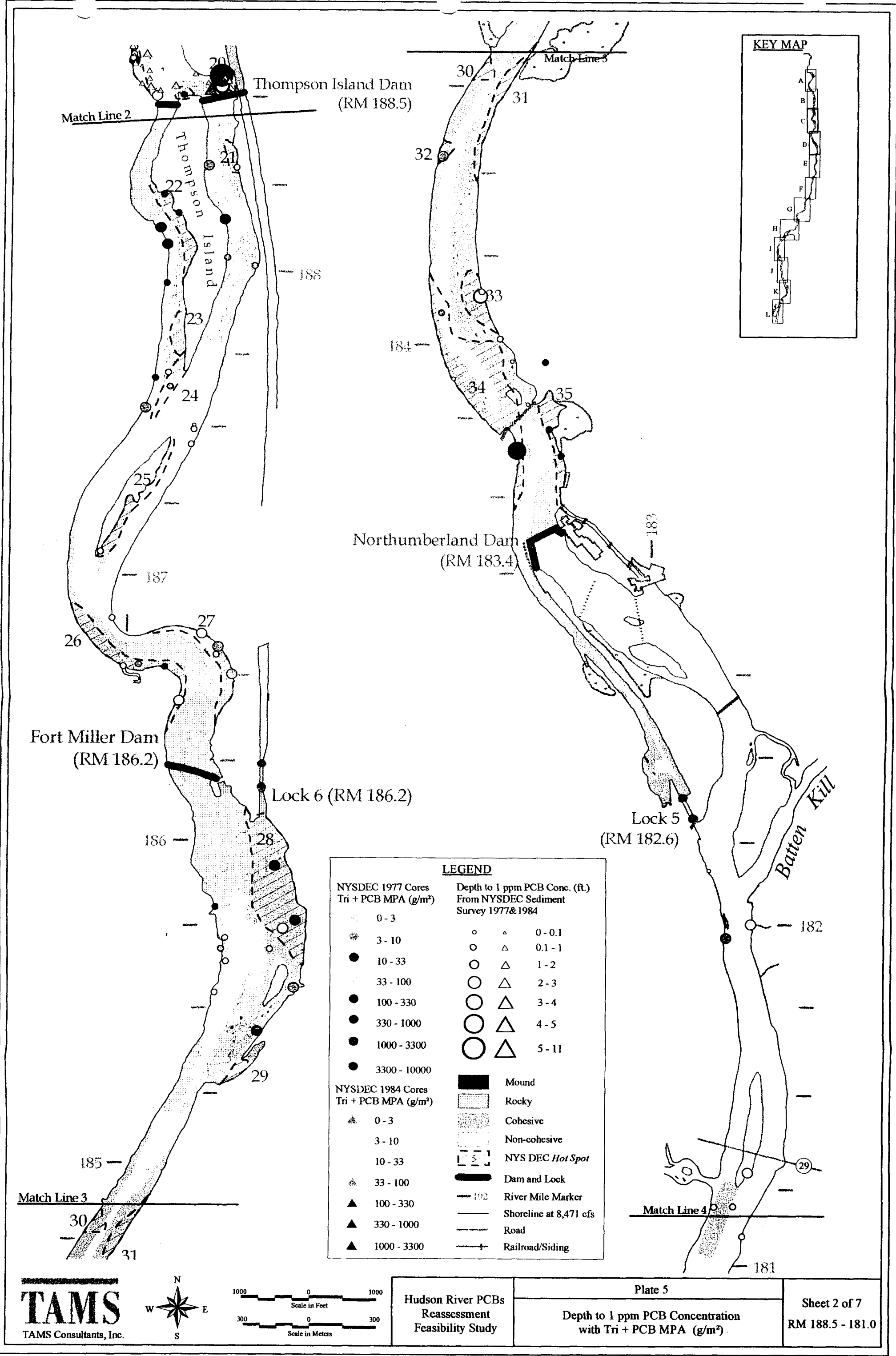
Hudson River PCBs Reassessment Feasibility Study	Plate 4-B	Sheet 1 of 1 RM 194.8 - 188.5
	Sediment PCB Inventories in 1984 (Tri + PCB MPA) Thompson Island Pool (River Section 1)	

401247



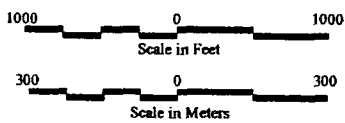
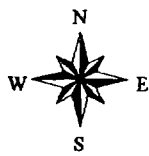
Hudson River PCBs Reassessment Feasibility Study	Plate 5	Sheet 1 of 7 RM 194.8 - 188.5
	Depth to 1 ppm PCB Concentration with Tri + PCB MPA (g/m ²)	

TAMS Consultants, Inc.



LEGEND	
NYSDEC 1977 Cores Tri + PCB MPA (g/m ²)	Depth to 1 ppm PCB Conc. (ft.) From NYSDEC Sediment Survey 1977&1984
○ 0 - 3	○ 0 - 0.1
● 3 - 10	○ 0.1 - 1
● 10 - 33	○ 1 - 2
● 33 - 100	○ 2 - 3
● 100 - 330	○ 3 - 4
● 330 - 1000	○ 4 - 5
● 1000 - 3300	○ 5 - 11
● 3300 - 10000	
NYSDEC 1984 Cores Tri + PCB MPA (g/m ²)	
▲ 0 - 3	
▲ 3 - 10	
▲ 10 - 33	
▲ 33 - 100	
▲ 100 - 330	
▲ 330 - 1000	
▲ 1000 - 3300	
	■ Mound
	■ Rocky
	■ Cohesive
	■ Non-cohesive
	■ NYS DEC Hot Spot
	■ Dam and Lock
	— 192 River Mile Marker
	— Shoreline at 8,471 cfs
	— Road
	— Railroad/Siding

TAMS
TAMS Consultants, Inc.

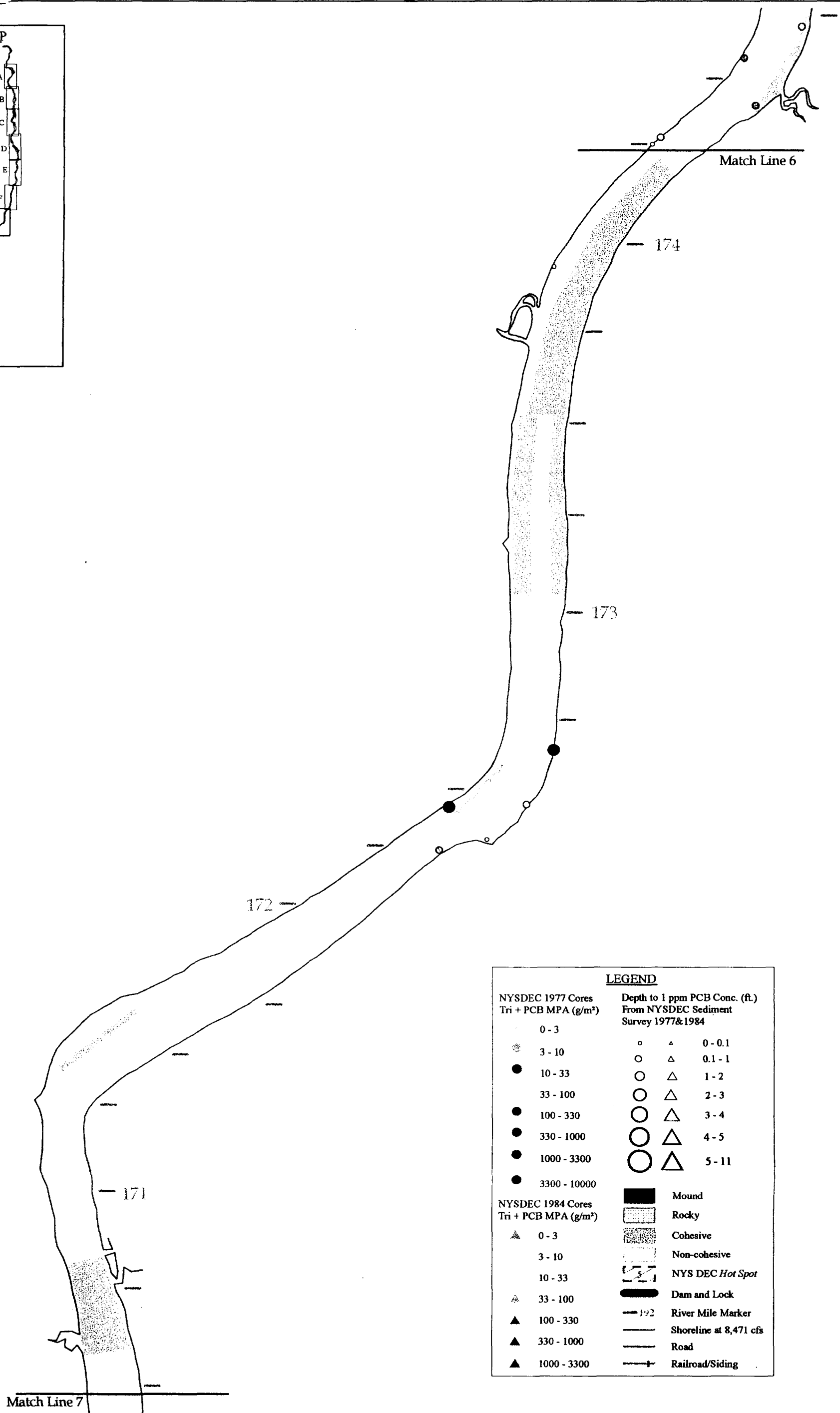
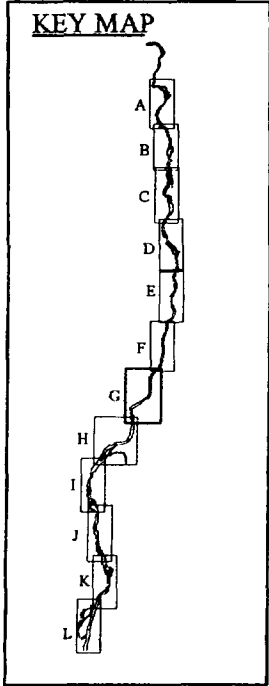


Hudson River PCBs
Reassessment
Feasibility Study

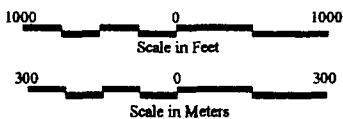
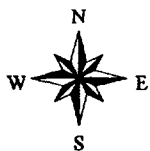
Plate 5

Depth to 1 ppm PCB Concentration
with Tri + PCB MPA (g/m²)

Sheet 2 of 7
RM 188.5 - 181.0



LEGEND	
NYSDEC 1977 Cores Tri + PCB MPA (g/m²)	Depth to 1 ppm PCB Conc. (ft.) From NYSDEC Sediment Survey 1977&1984
○ 0 - 3	○ △ 0 - 0.1
● 3 - 10	○ △ 0.1 - 1
● 10 - 33	○ △ 1 - 2
● 33 - 100	○ △ 2 - 3
● 100 - 330	○ △ 3 - 4
● 330 - 1000	○ △ 4 - 5
● 1000 - 3300	○ △ 5 - 11
● 3300 - 10000	
NYSDEC 1984 Cores Tri + PCB MPA (g/m²)	
▲ 0 - 3	■ Mound
▲ 3 - 10	■ Rocky
▲ 10 - 33	■ Cohesive
▲ 33 - 100	■ Non-cohesive
▲ 100 - 330	■ NYS DEC Hot Spot
▲ 330 - 1000	■ Dam and Lock
▲ 1000 - 3300	— 192 River Mile Marker
	— Shoreline at 8,471 cfs
	— Road
	— Railroad/Siding



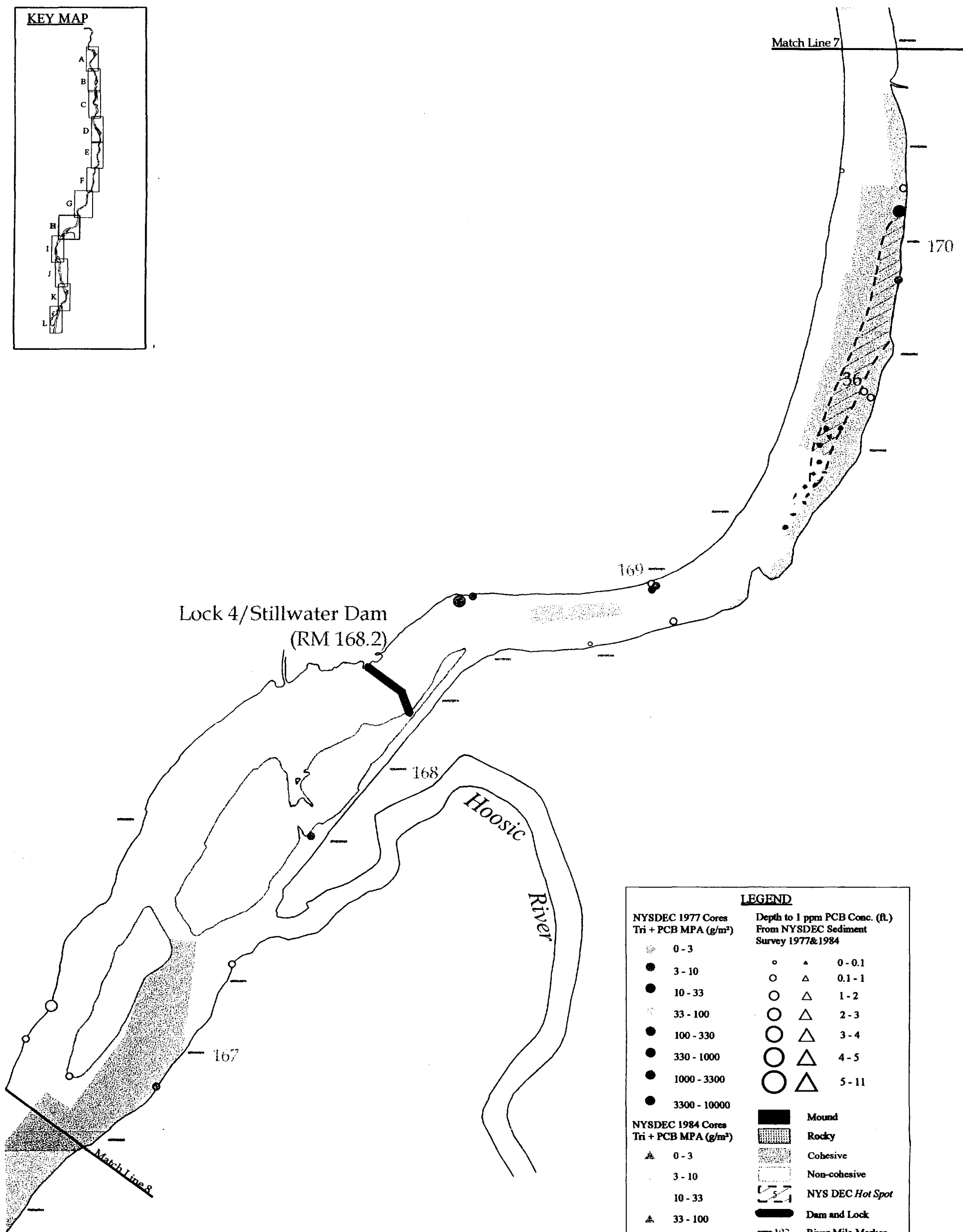
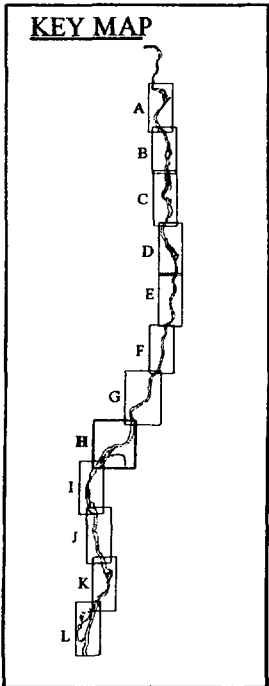
TAMS Consultants, Inc.

Hudson River PCBs
Reassessment
Feasibility Study

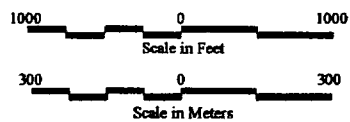
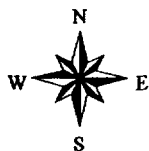
Plate 5

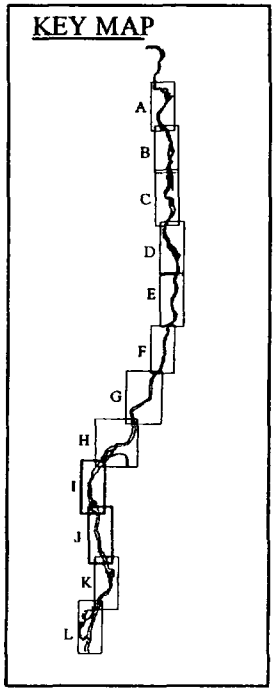
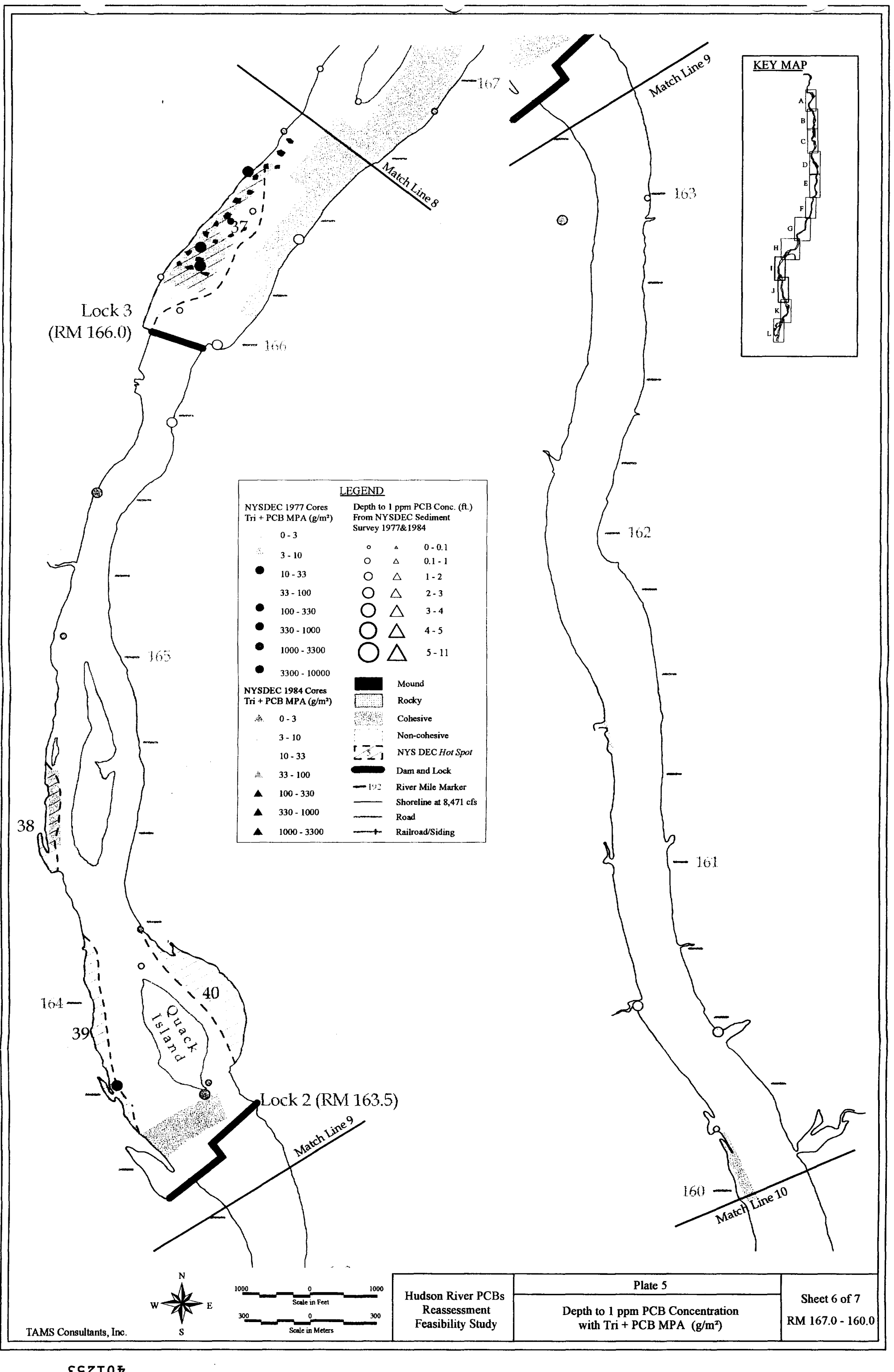
Depth to 1 ppm PCB Concentration
with Tri + PCB MPA (g/m²)

Sheet 4 of 7
RM 174.5 - 170.5

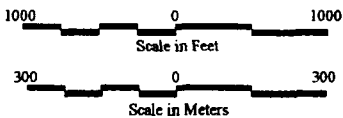
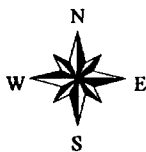


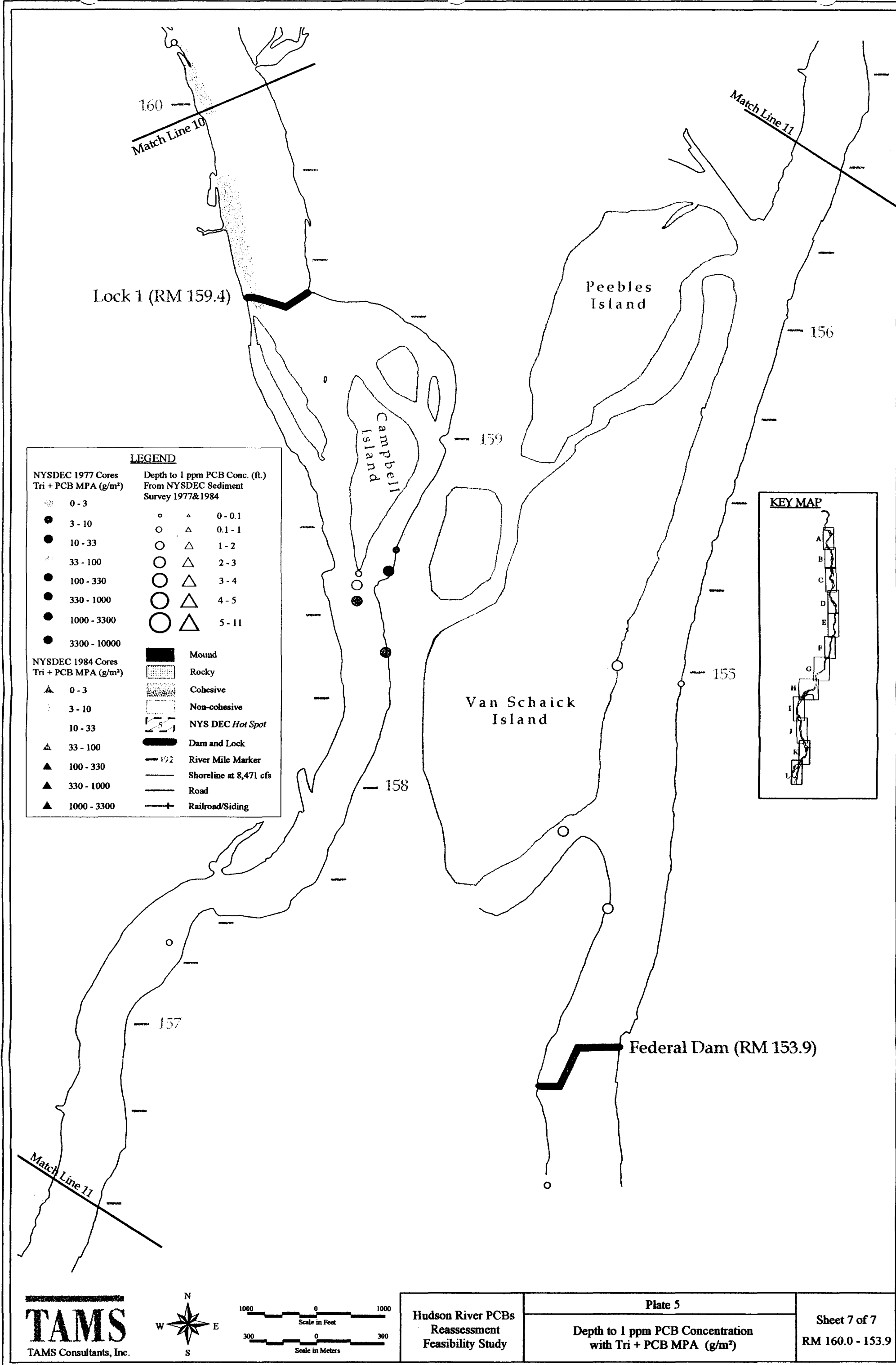
LEGEND	
NYSDEC 1977 Cores Tri + PCB MPA (g/m ²)	Depth to 1 ppm PCB Conc. (ft.) From NYSDEC Sediment Survey 1977&1984
● 0 - 3	○ ▲ 0 - 0.1
● 3 - 10	○ ▲ 0.1 - 1
● 10 - 33	○ ▲ 1 - 2
● 33 - 100	○ ▲ 2 - 3
● 100 - 330	○ ▲ 3 - 4
● 330 - 1000	○ ▲ 4 - 5
● 1000 - 3300	○ ▲ 5 - 11
● 3300 - 10000	
NYSDEC 1984 Cores Tri + PCB MPA (g/m ²)	
▲ 0 - 3	■ Mound
▲ 3 - 10	■ Rocky
▲ 10 - 33	■ Cohesive
▲ 33 - 100	■ Non-cohesive
▲ 100 - 330	■ NYS DEC Hot Spot
▲ 330 - 1000	■ Dam and Lock
▲ 1000 - 3300	— 192 River Mile Marker
	— Shoreline at 8,471 cfs
	— Road
	— Railroad/Siding

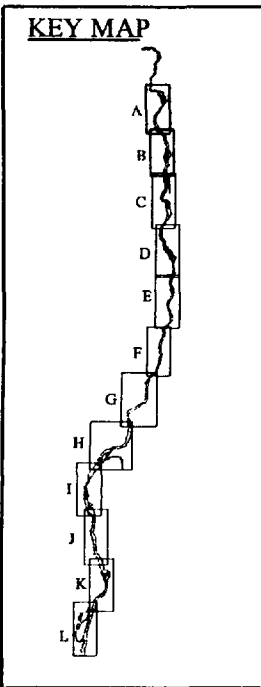
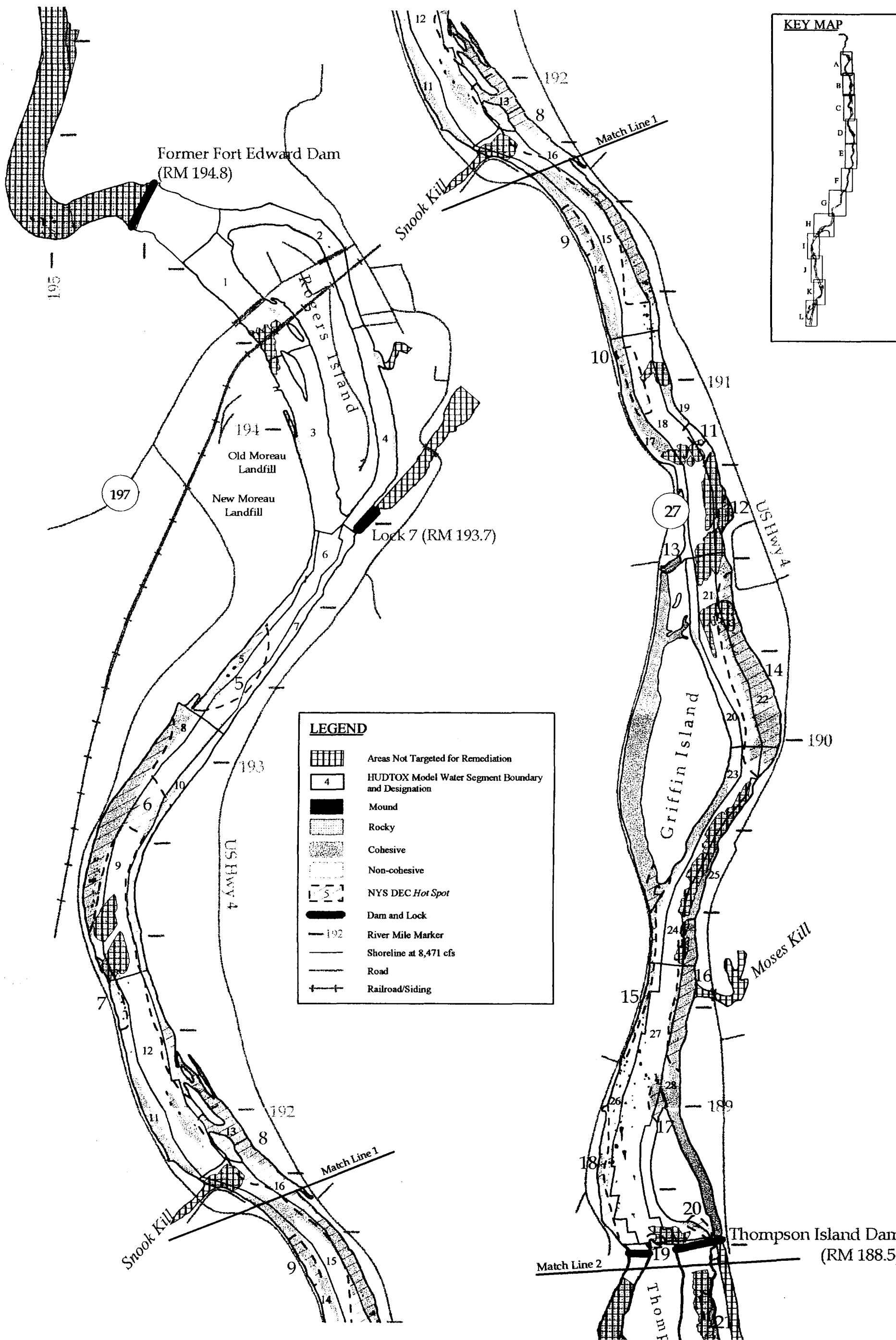


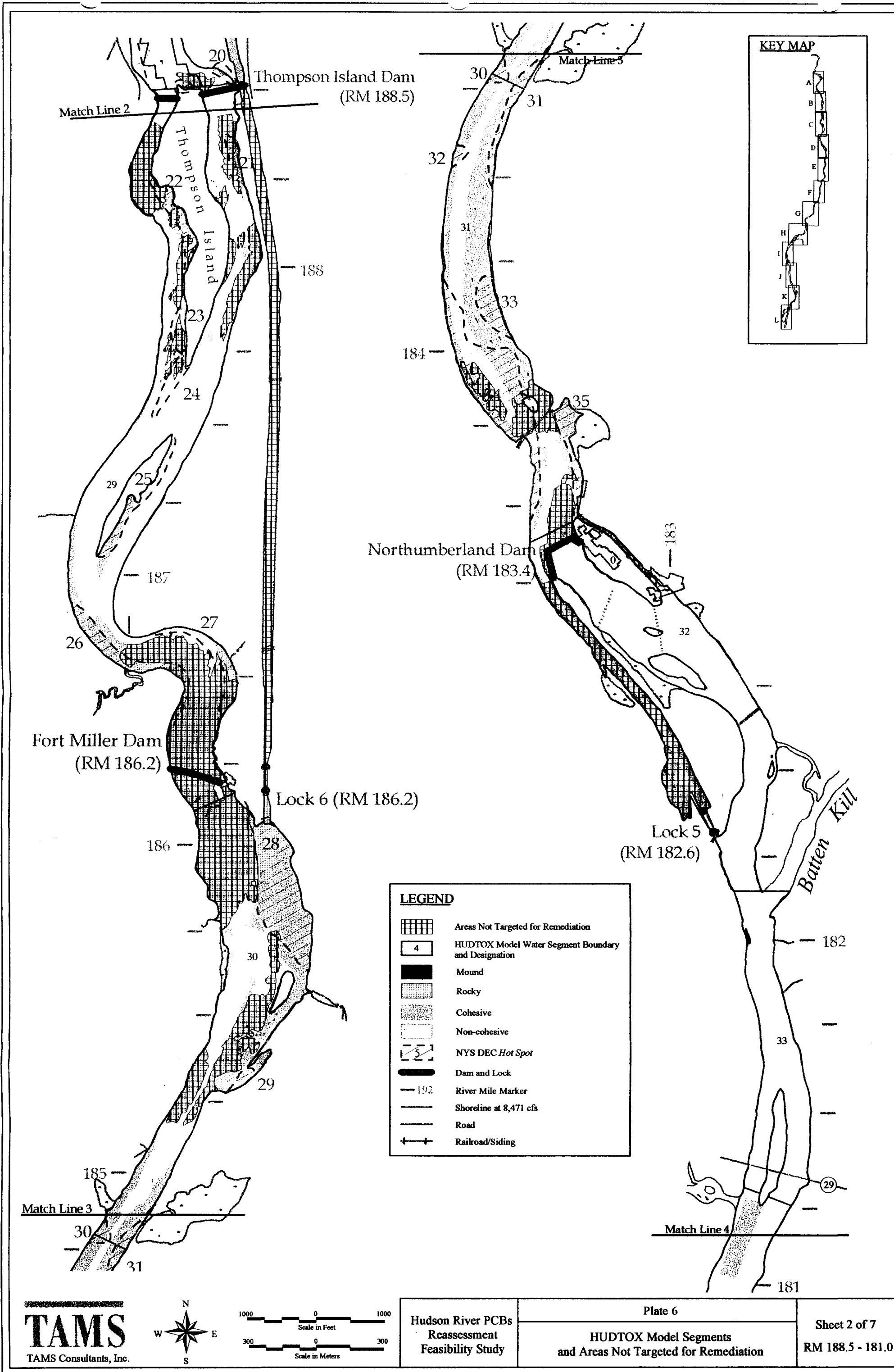


LEGEND	
NYSDEC 1977 Cores Tri + PCB MPA (g/m ²)	Depth to 1 ppm PCB Conc. (ft.) From NYSDEC Sediment Survey 1977&1984
0 - 3	0 - 0.1
3 - 10	0.1 - 1
10 - 33	1 - 2
33 - 100	2 - 3
100 - 330	3 - 4
330 - 1000	4 - 5
1000 - 3300	5 - 11
3300 - 10000	
NYSDEC 1984 Cores Tri + PCB MPA (g/m ²)	
0 - 3	
3 - 10	
10 - 33	
33 - 100	
100 - 330	
330 - 1000	
1000 - 3300	
	Mound
	Rocky
	Cohesive
	Non-cohesive
	NYS DEC Hot Spot
	Dam and Lock
	River Mile Marker
	Shoreline at 8,471 cfs
	Road
	Railroad/Siding

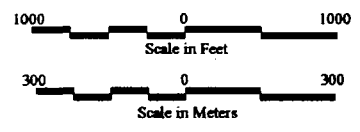




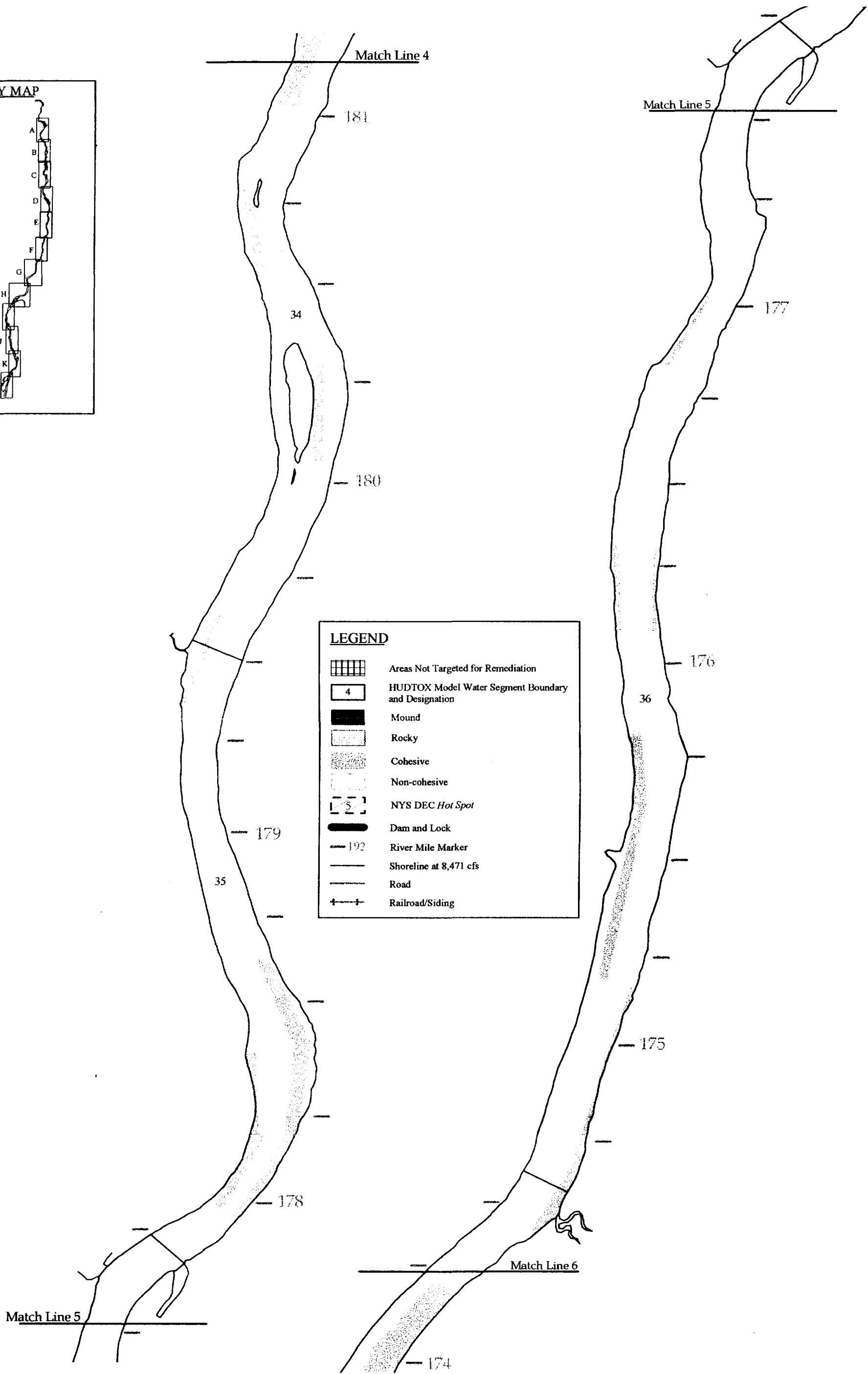
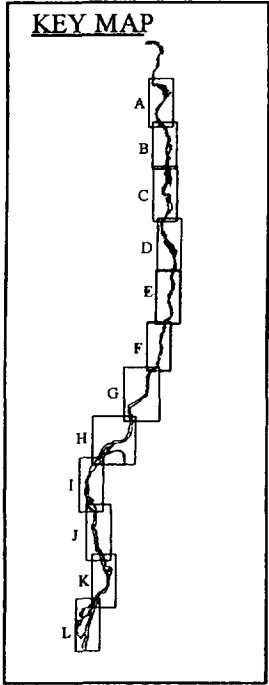




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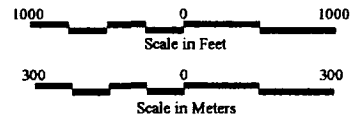
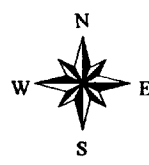


401256



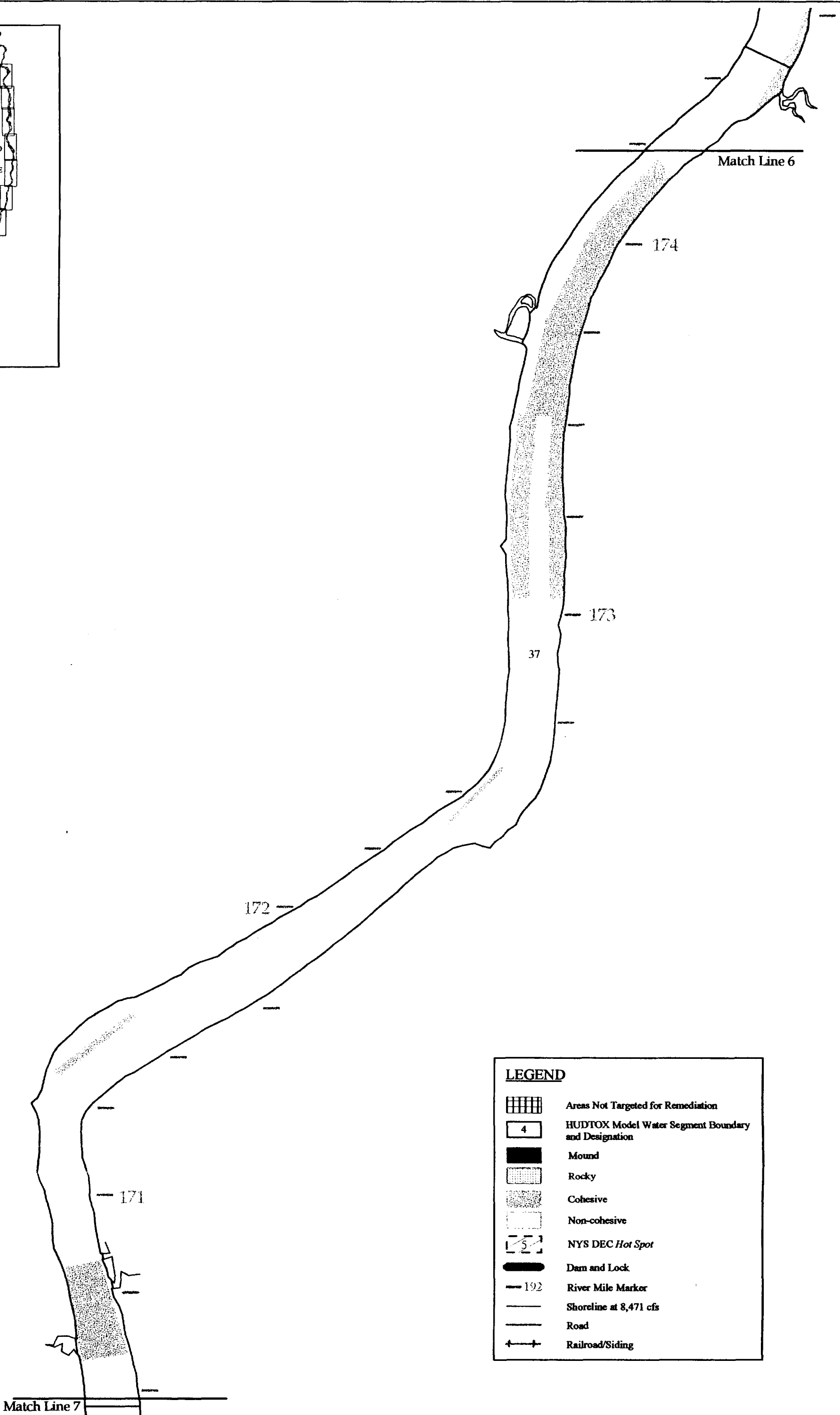
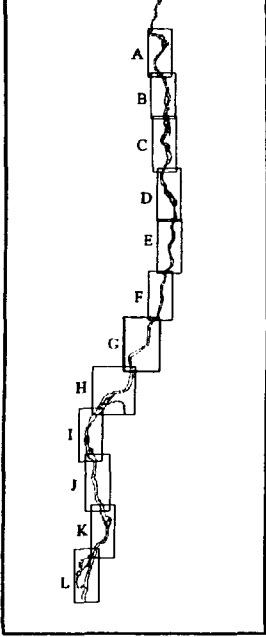
LEGEND

- Areas Not Targeted for Remediation
- HUDTOX Model Water Segment Boundary and Designation
- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding



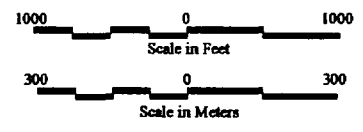
Hudson River PCBs Reassessment Feasibility Study	Plate 6	Sheet 3 of 7 RM 181.0 - 174.0
	HUDTOX Model Segments and Areas Not Targeted for Remediation	

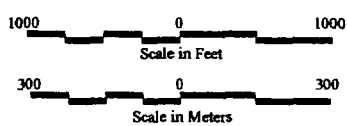
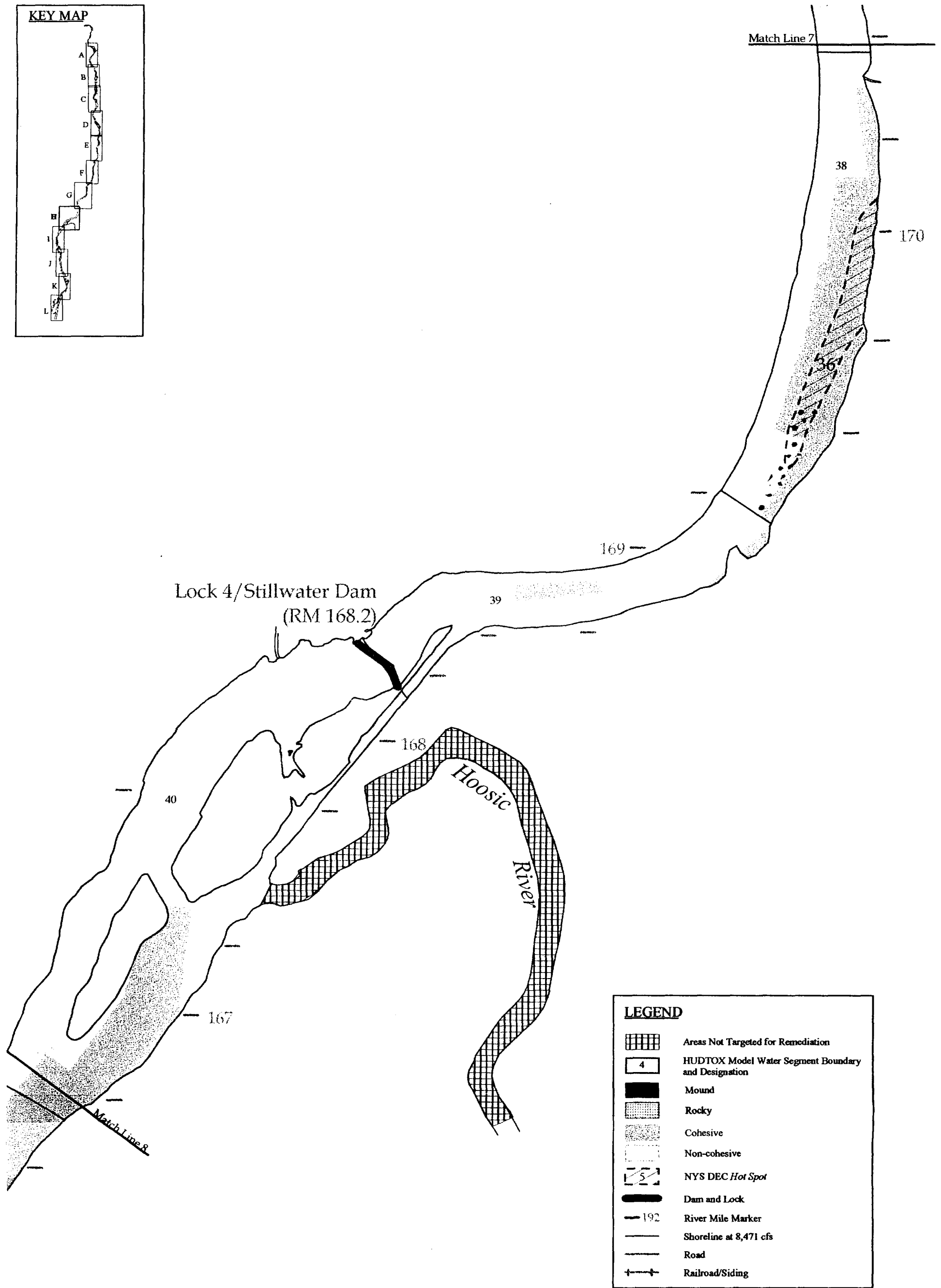
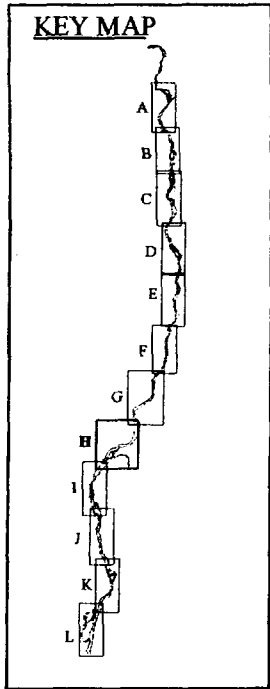
KEY MAP

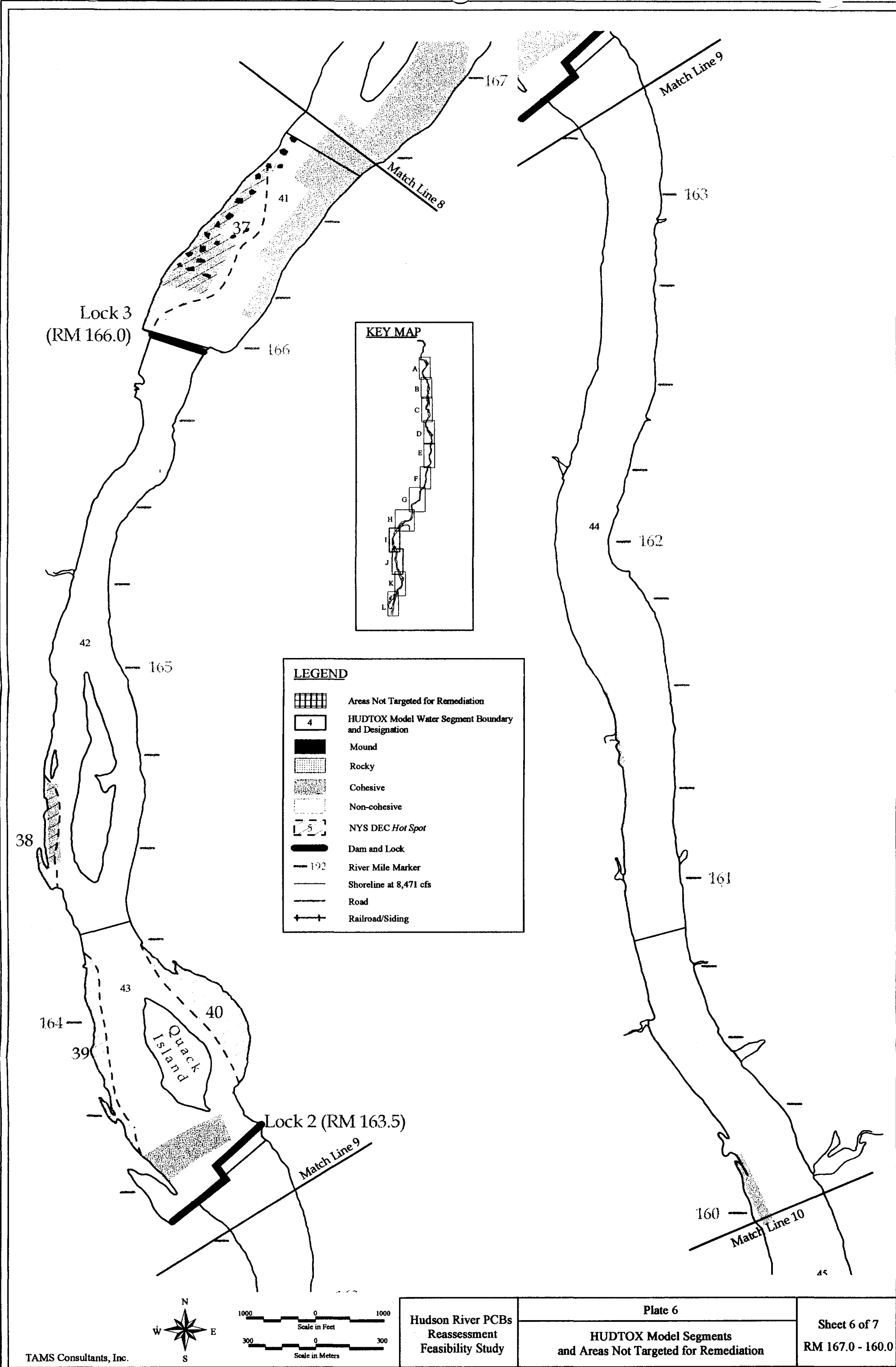


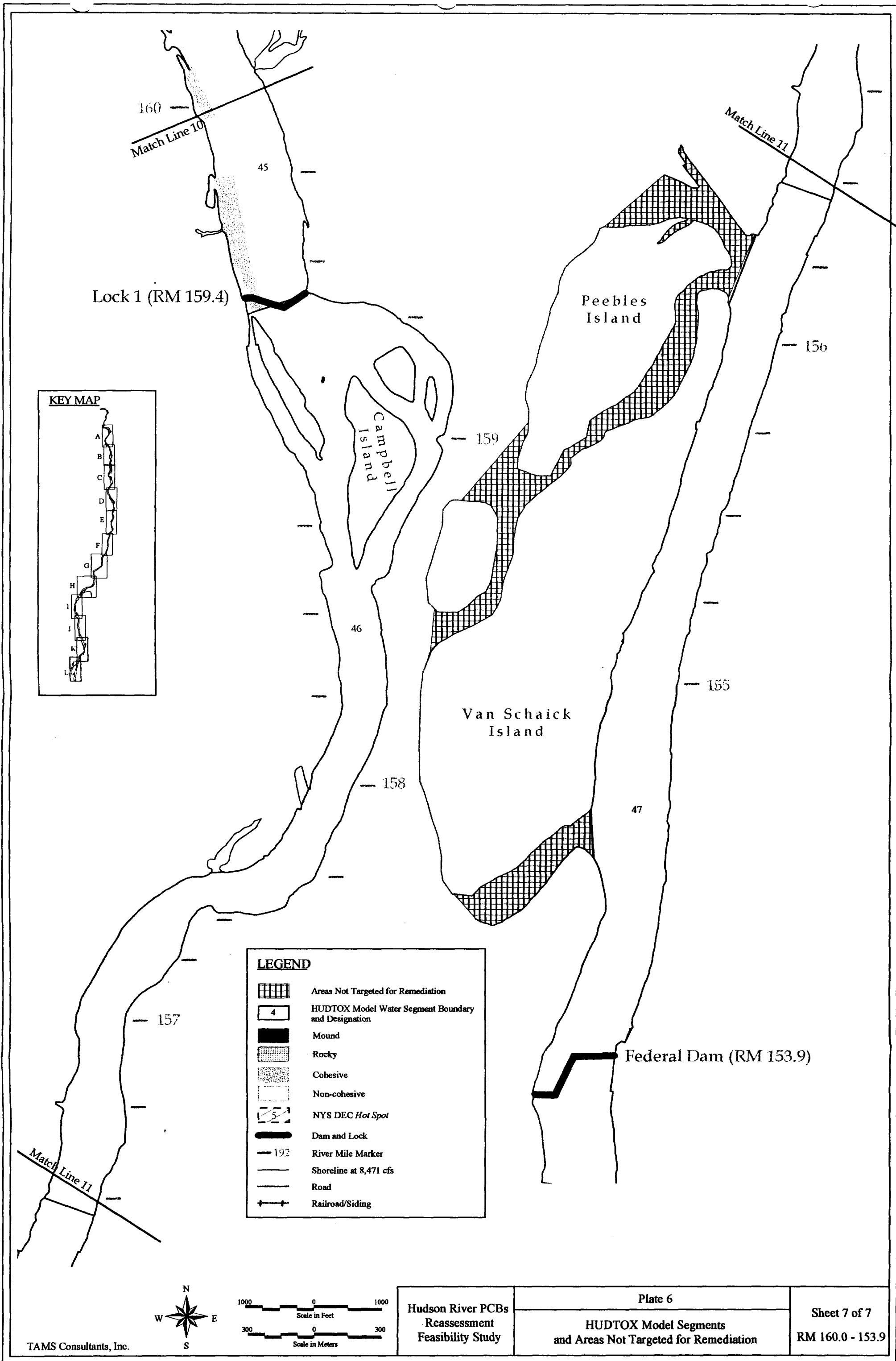
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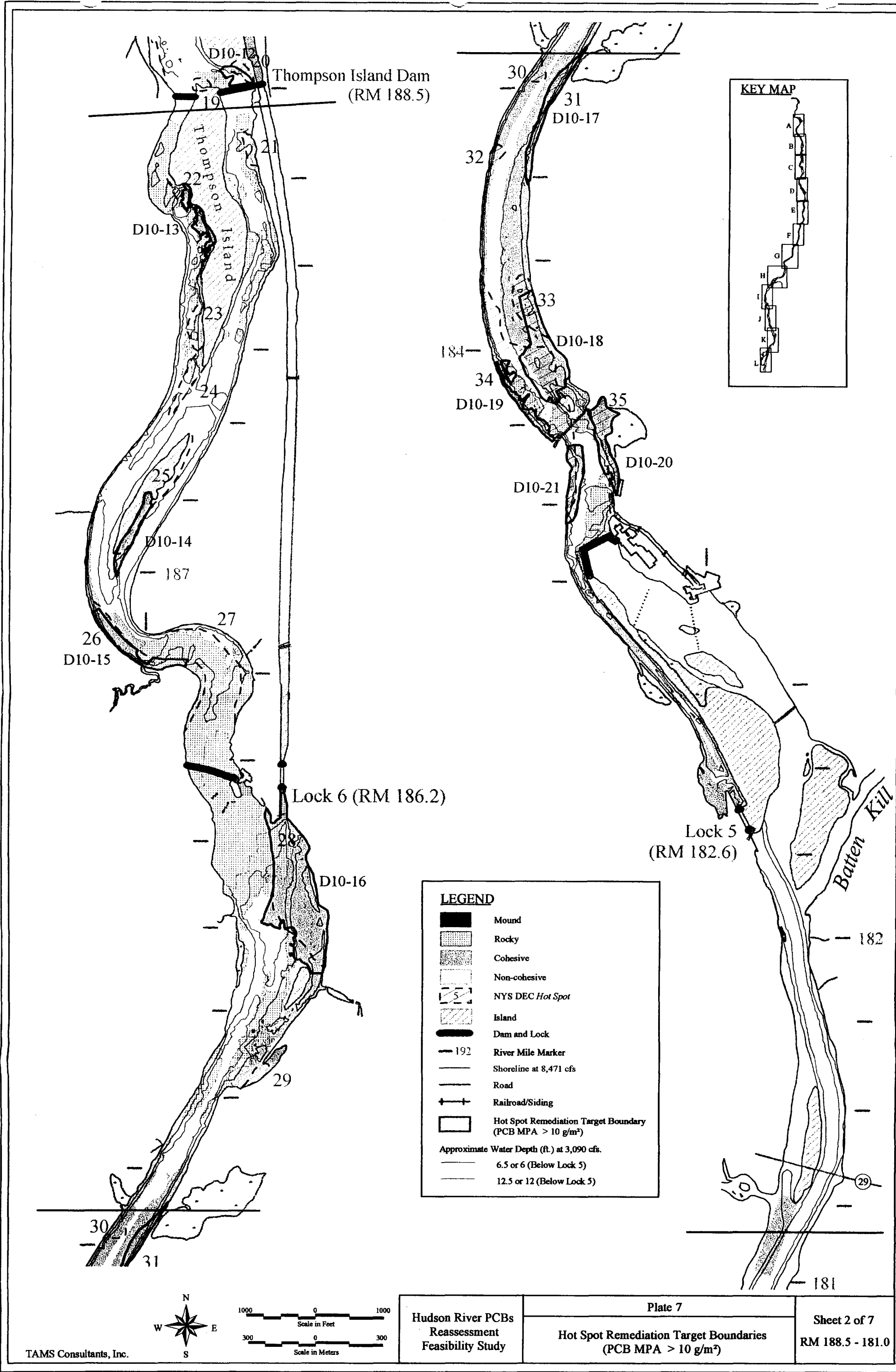
	Areas Not Targeted for Remediation
	HUDTOX Model Water Segment Boundary and Designation
	Mound
	Rocky
	Cohesive
	Non-cohesive
	NYS DEC Hot Spot
	Dam and Lock
	River Mile Marker
	Shoreline at 8,471 cfs
	Road
	Railroad/Siding

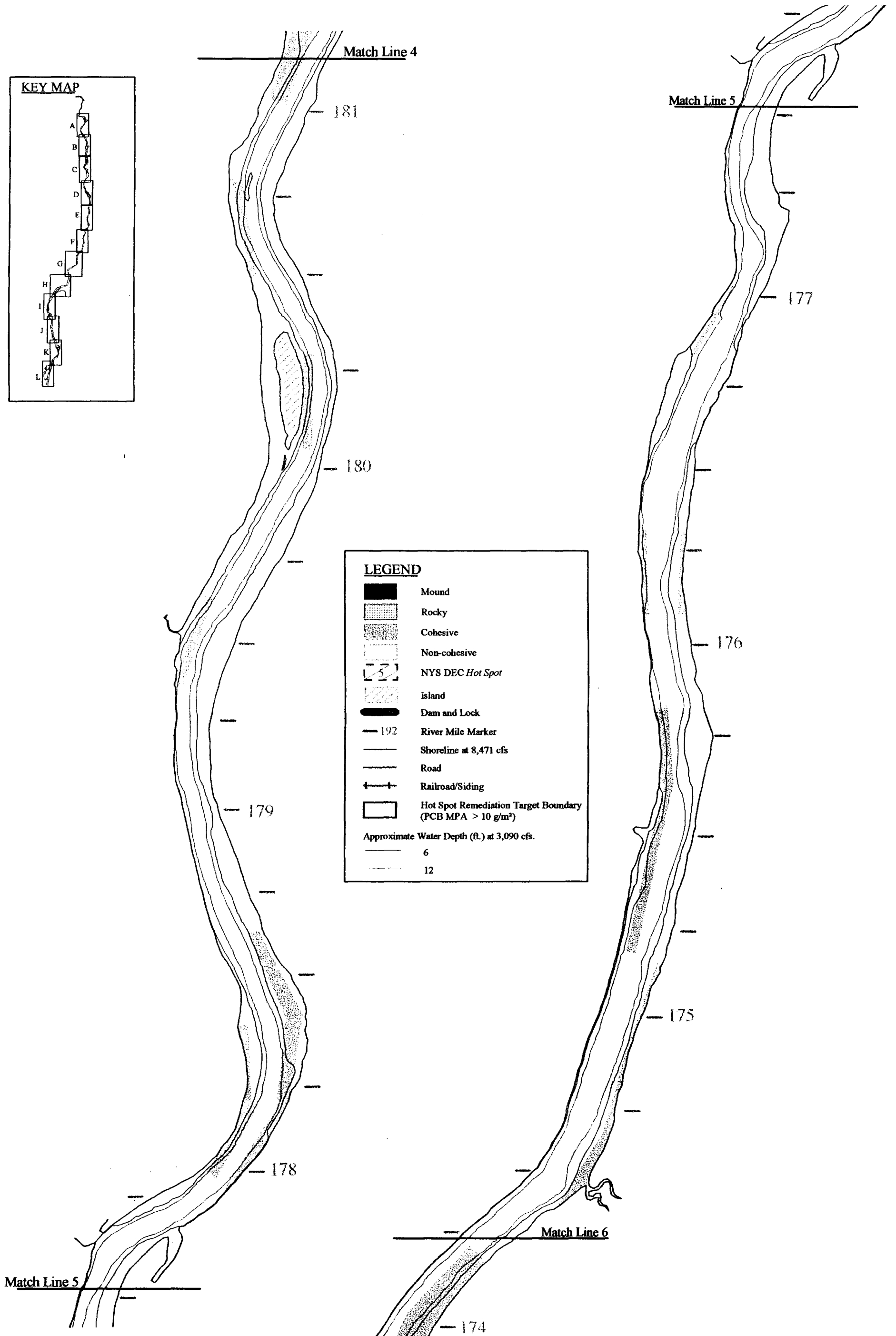
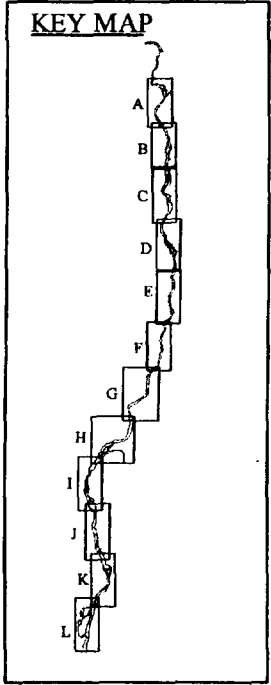






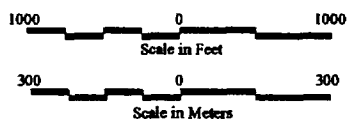


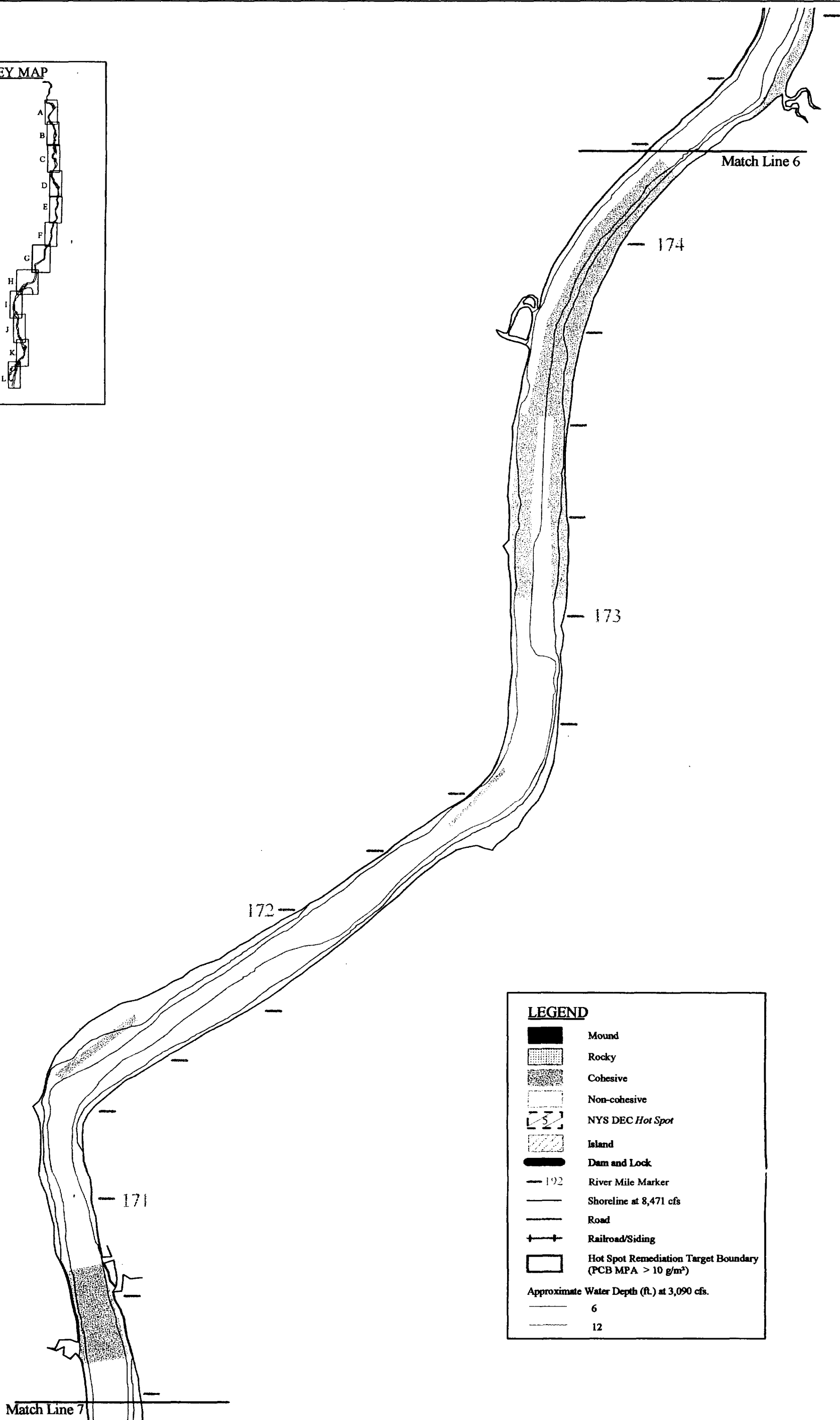
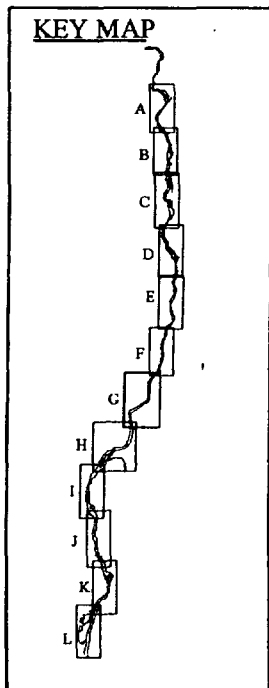




LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Boundary (PCB MPA > 10 g/m²)
- Approximate Water Depth (ft.) at 3,090 cfs.
- 6
- 12





LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Boundary (PCB MPA > 10 g/m²)

Approximate Water Depth (ft.) at 3,090 cfs.

- 6
- 12

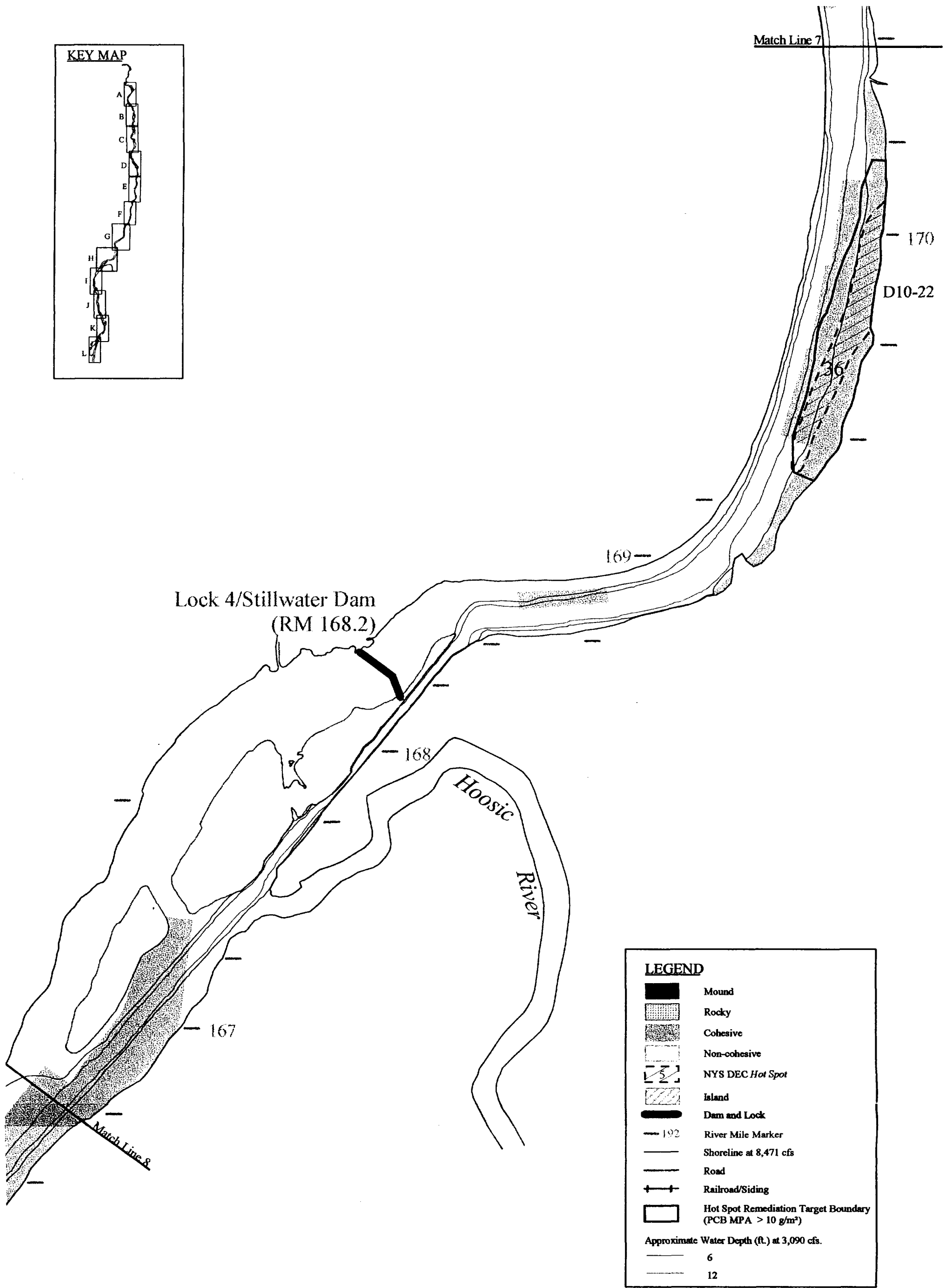
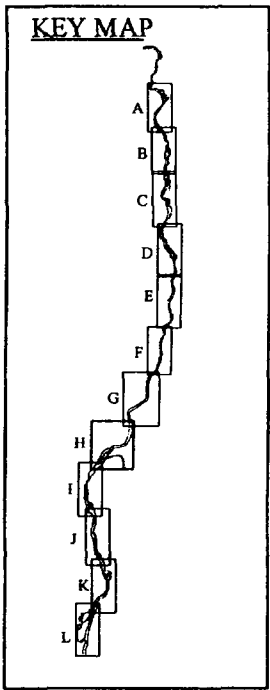
Match Line 7

Scale in Feet

Scale in Meters

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Hudson River PCBs Reassessment Feasibility Study	Plate 7	Sheet 4 of 7 RM 174.5 - 170.5
	Hot Spot Remediation Target Boundaries (PCB MPA > 10 g/m²)	

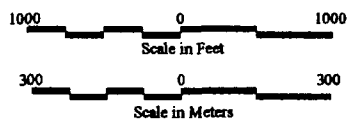


LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Boundary (PCB MPA > 10 g/m²)

Approximate Water Depth (ft.) at 3,090 cfs.

- 6
- 12



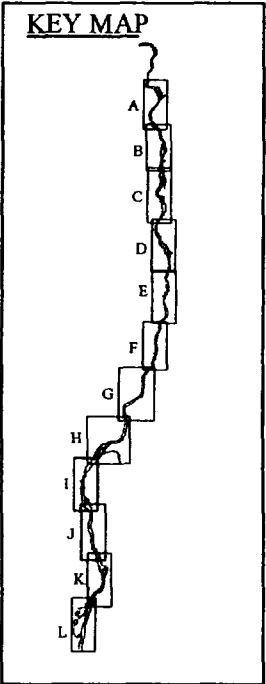
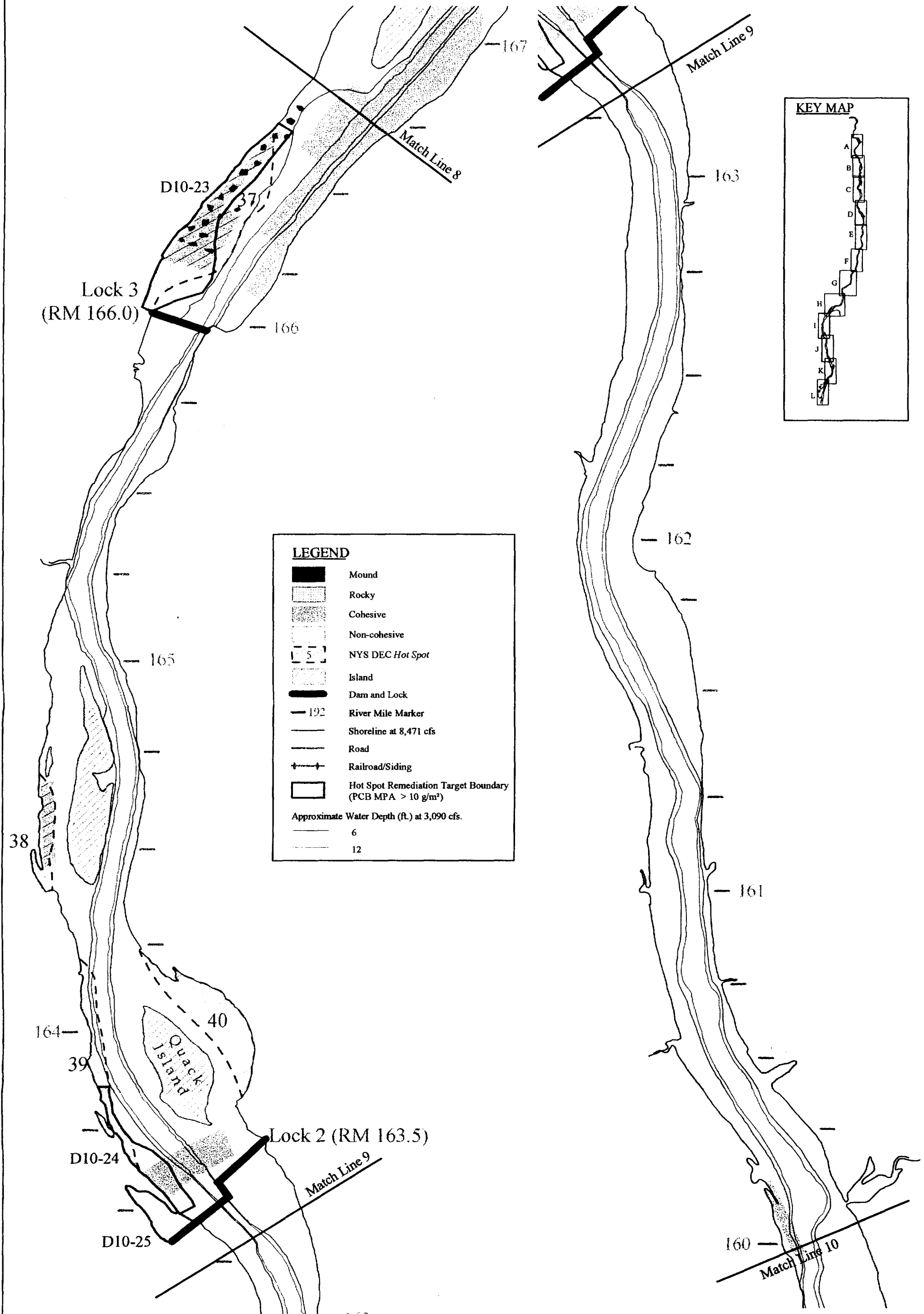
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Hudson River PCBs
Reassessment
Feasibility Study

Plate 7

Hot Spot Remediation Target Boundaries
(PCB MPA > 10 g/m²)

Sheet 5 of 7
RM 170.5 - 166.5

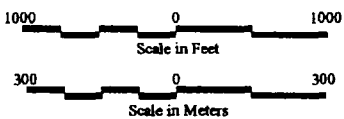


LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Boundary (PCB MPA > 10 g/m²)

Approximate Water Depth (ft.) at 3,090 cfs.

- 6
- 12



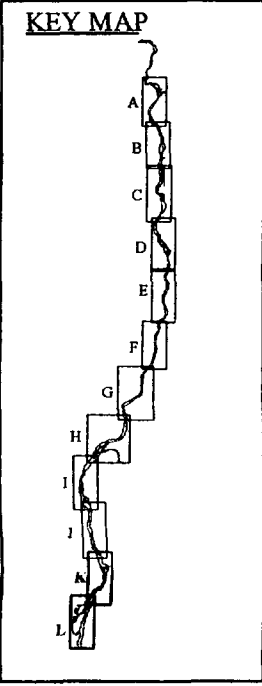
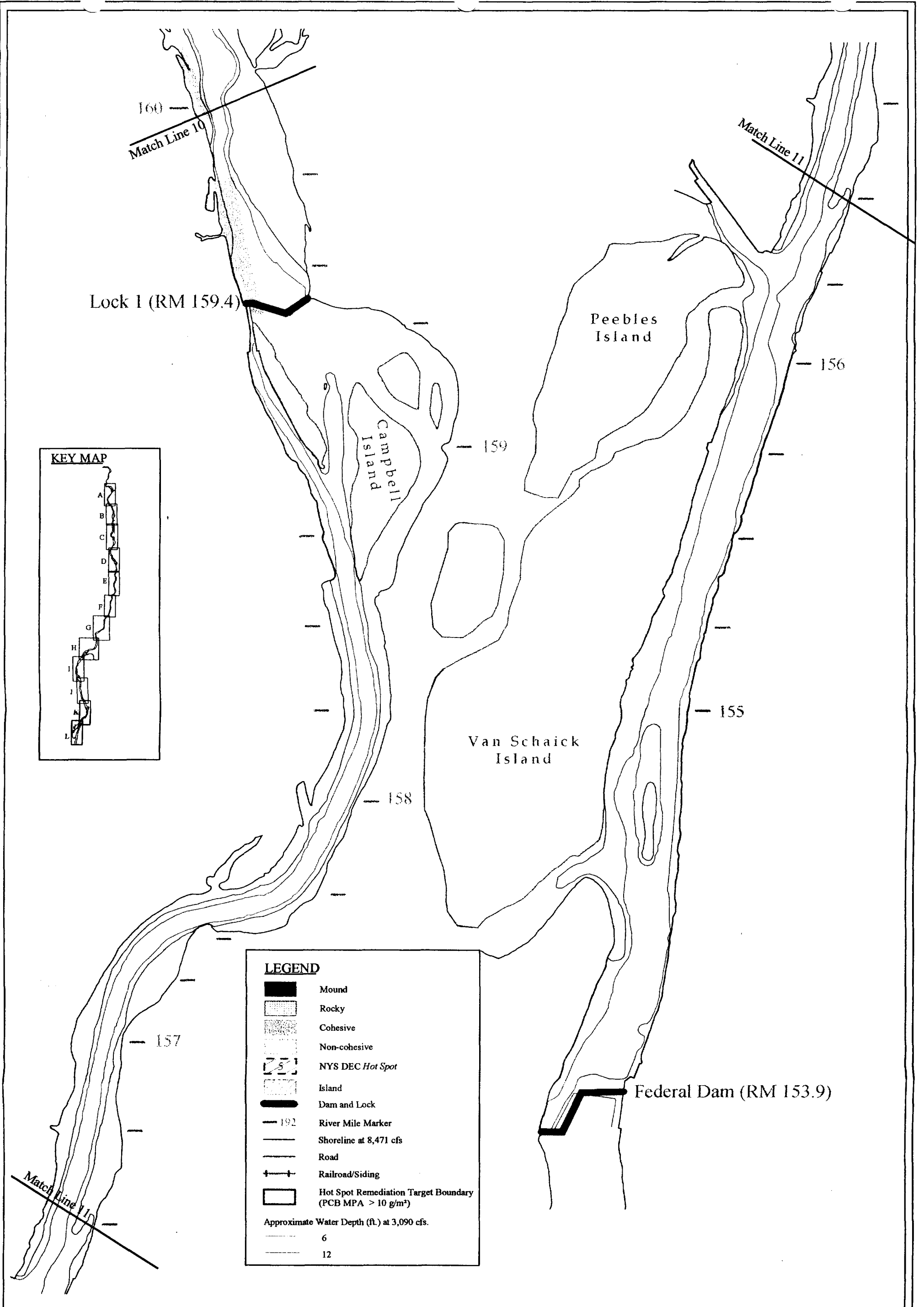
TAMS Consultants, Inc.

Hudson River PCBs
Reassessment
Feasibility Study

Plate 7

Hot Spot Remediation Target Boundaries
(PCB MPA > 10 g/m²)

Sheet 6 of 7
RM 167.0 - 160.0

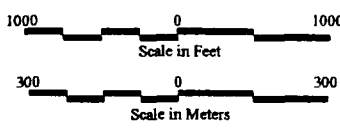
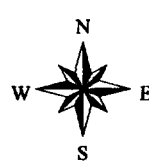


LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Boundary (PCB MPA > 10 g/m²)

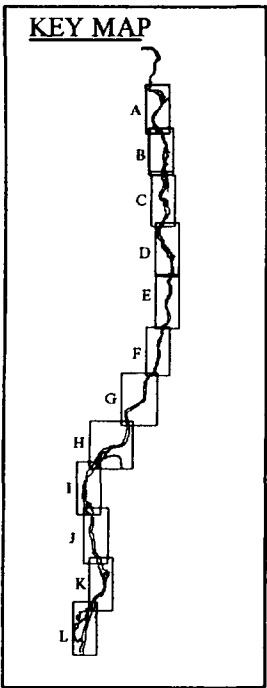
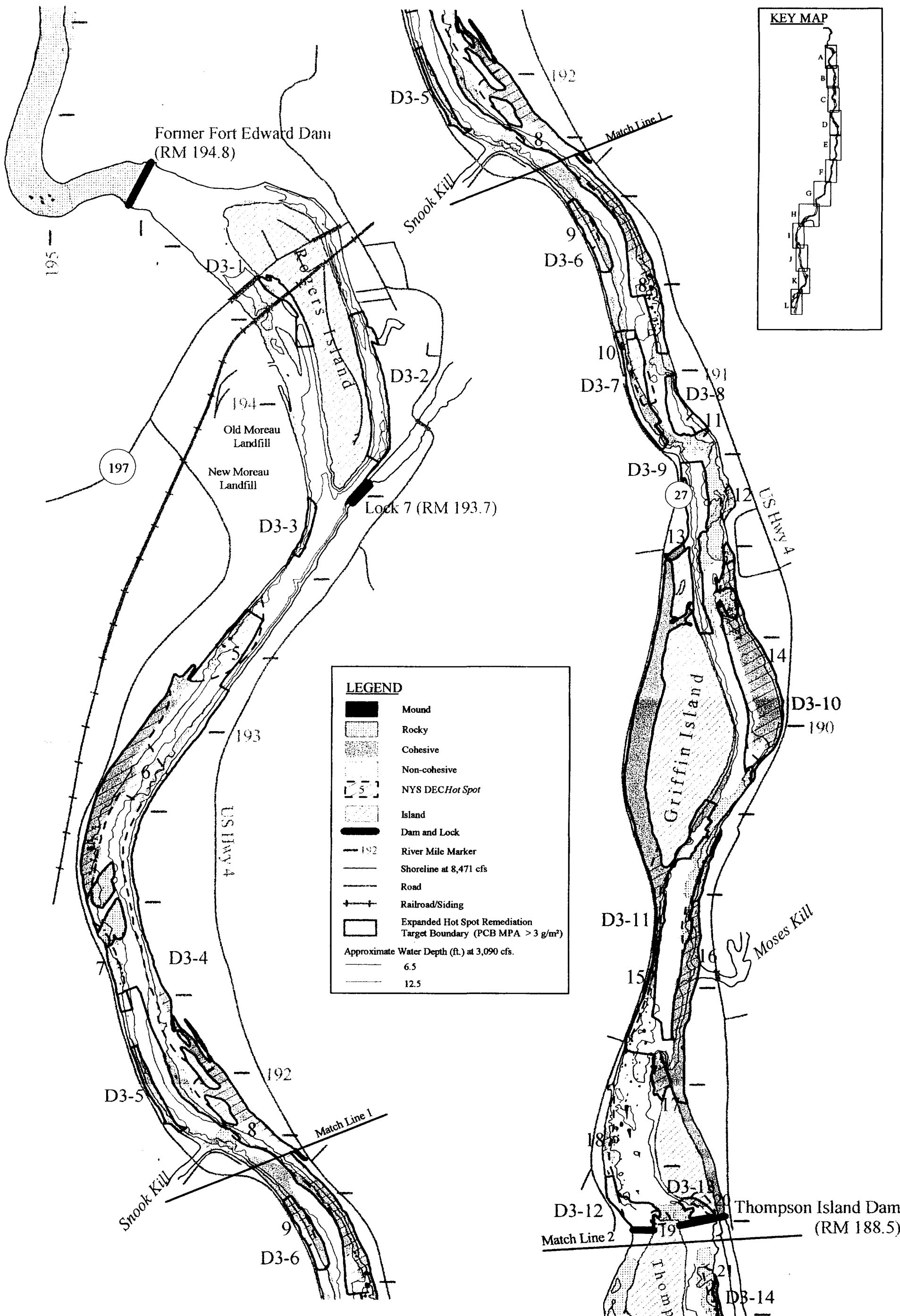
Approximate Water Depth (ft.) at 3,090 cfs.

- 6
- 12



Hudson River PCBs Reassessment Feasibility Study	Plate 7	Sheet 7 of 7 RM 160.0 - 153.9
	Hot Spot Remediation Target Boundaries (PCB MPA > 10 g/m²)	

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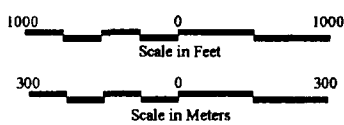


LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Boundary (PCB MPA > 3 g/m²)

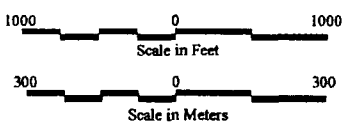
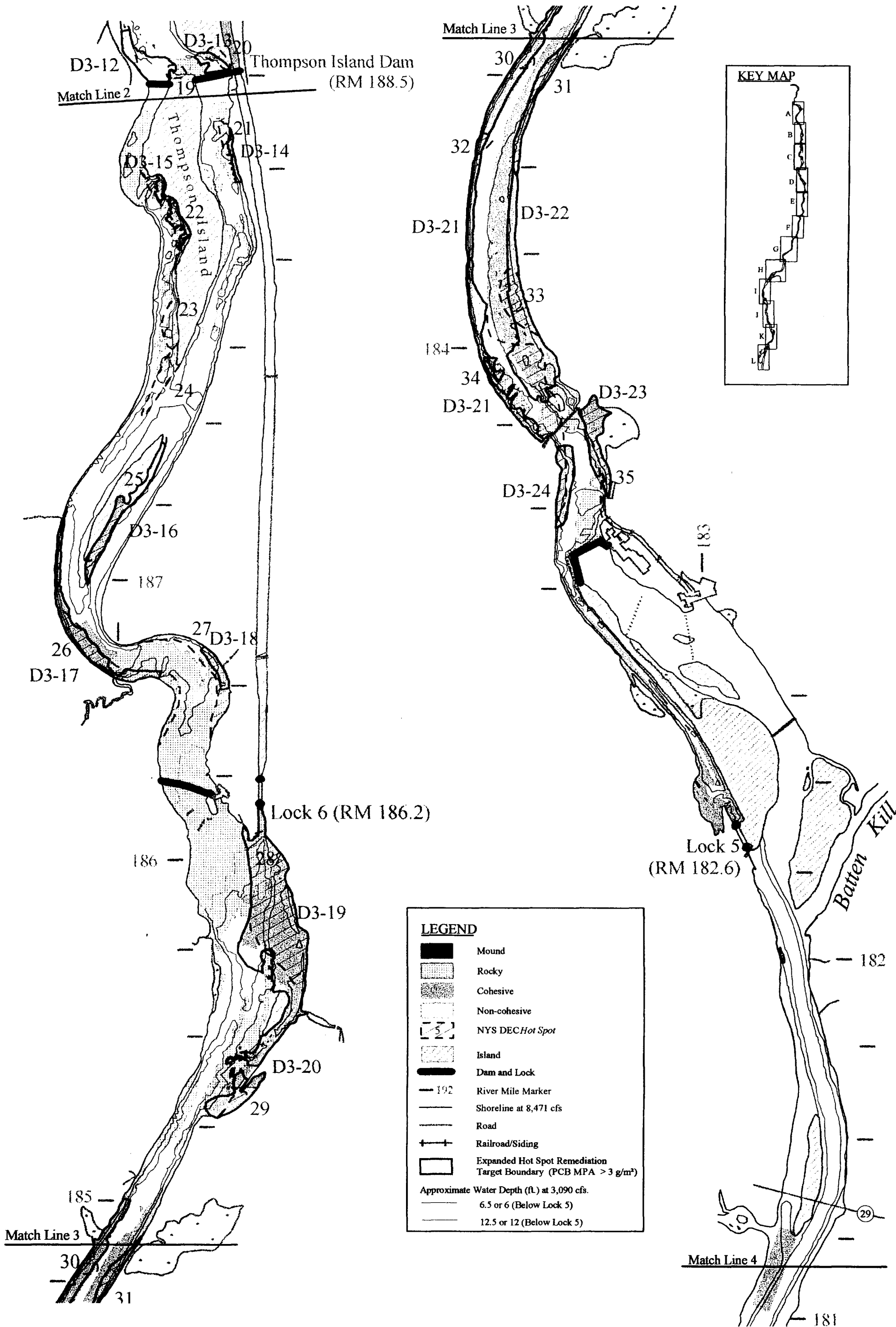
Approximate Water Depth (ft.) at 3,090 cfs.

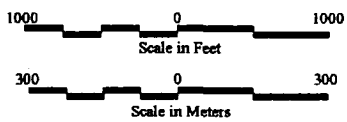
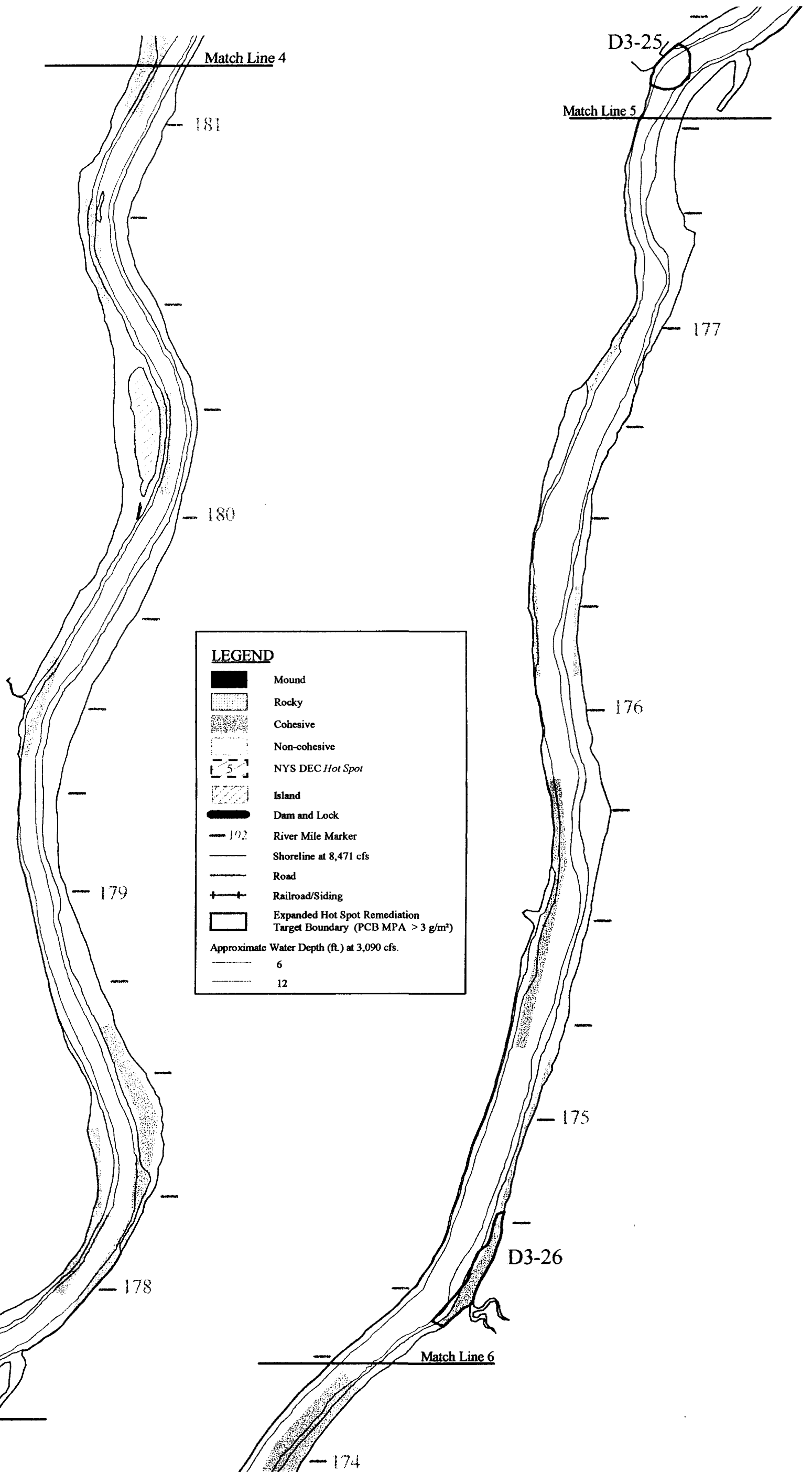
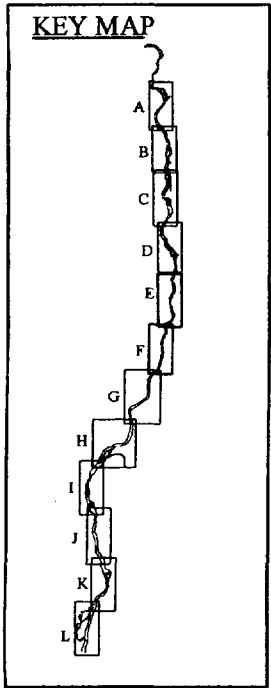
- 6.5
- 12.5

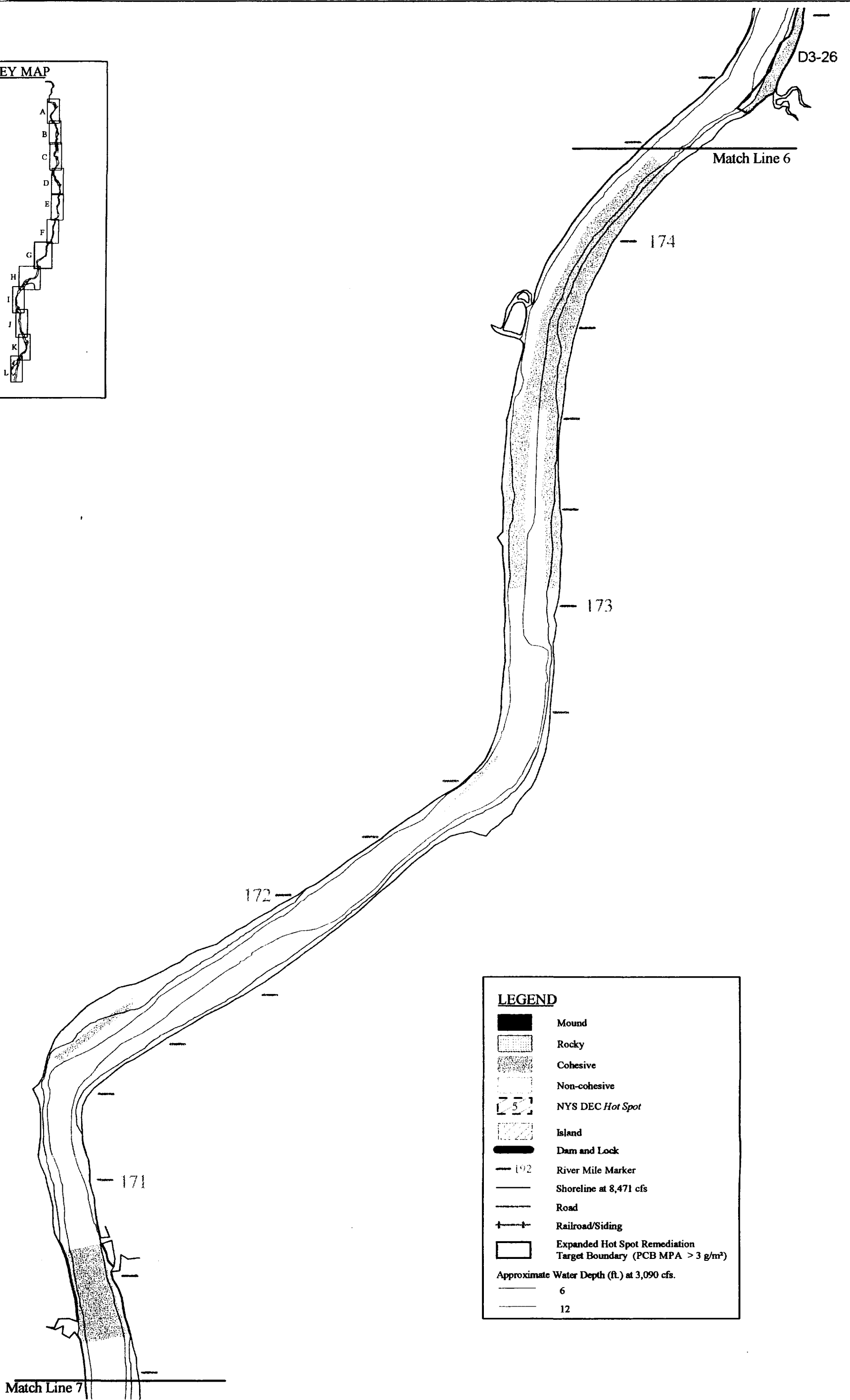
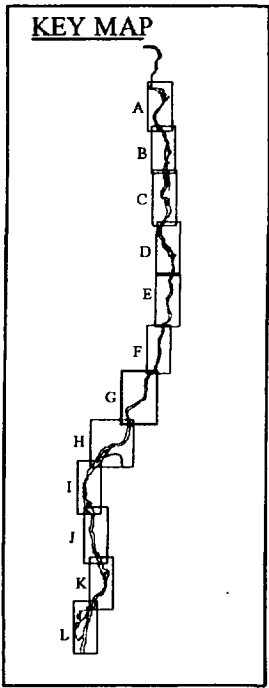


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Hudson River PCBs Reassessment Feasibility Study	Plate 8	Sheet 1 of 7 RM 194.8 - 188.5
	Expanded Hot Spot Remediation Target Boundaries (PCB MPA > 3 g/m²)	





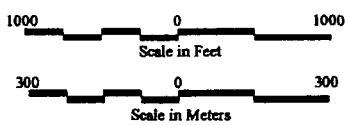
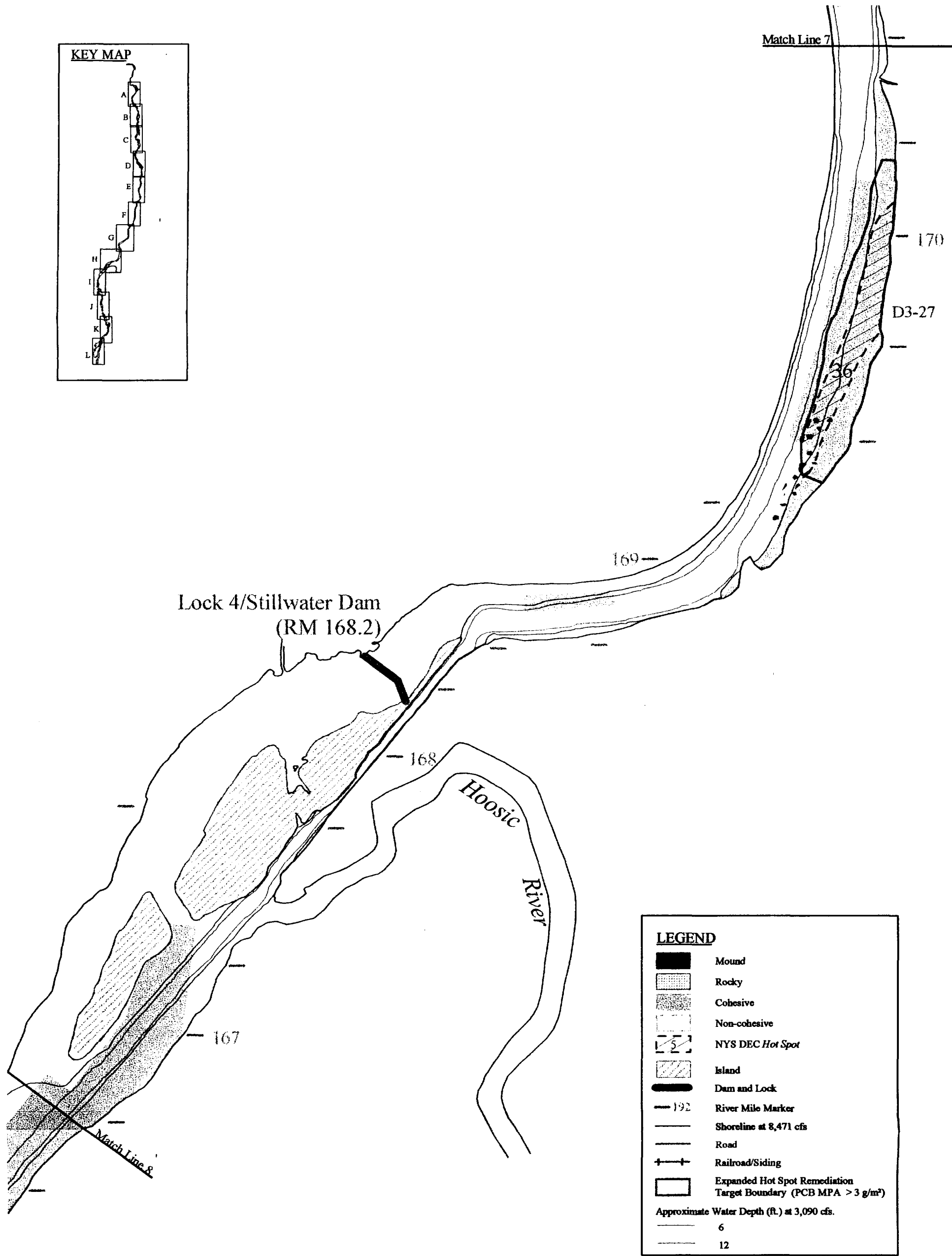
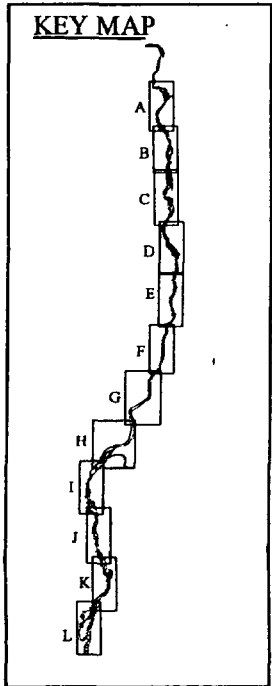


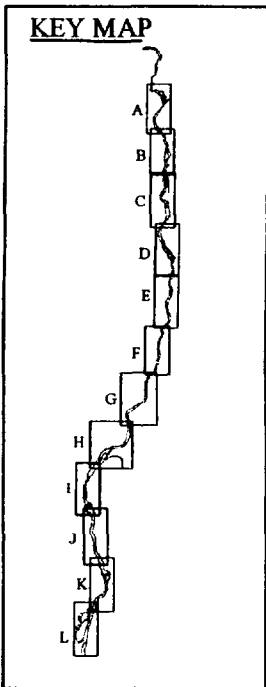
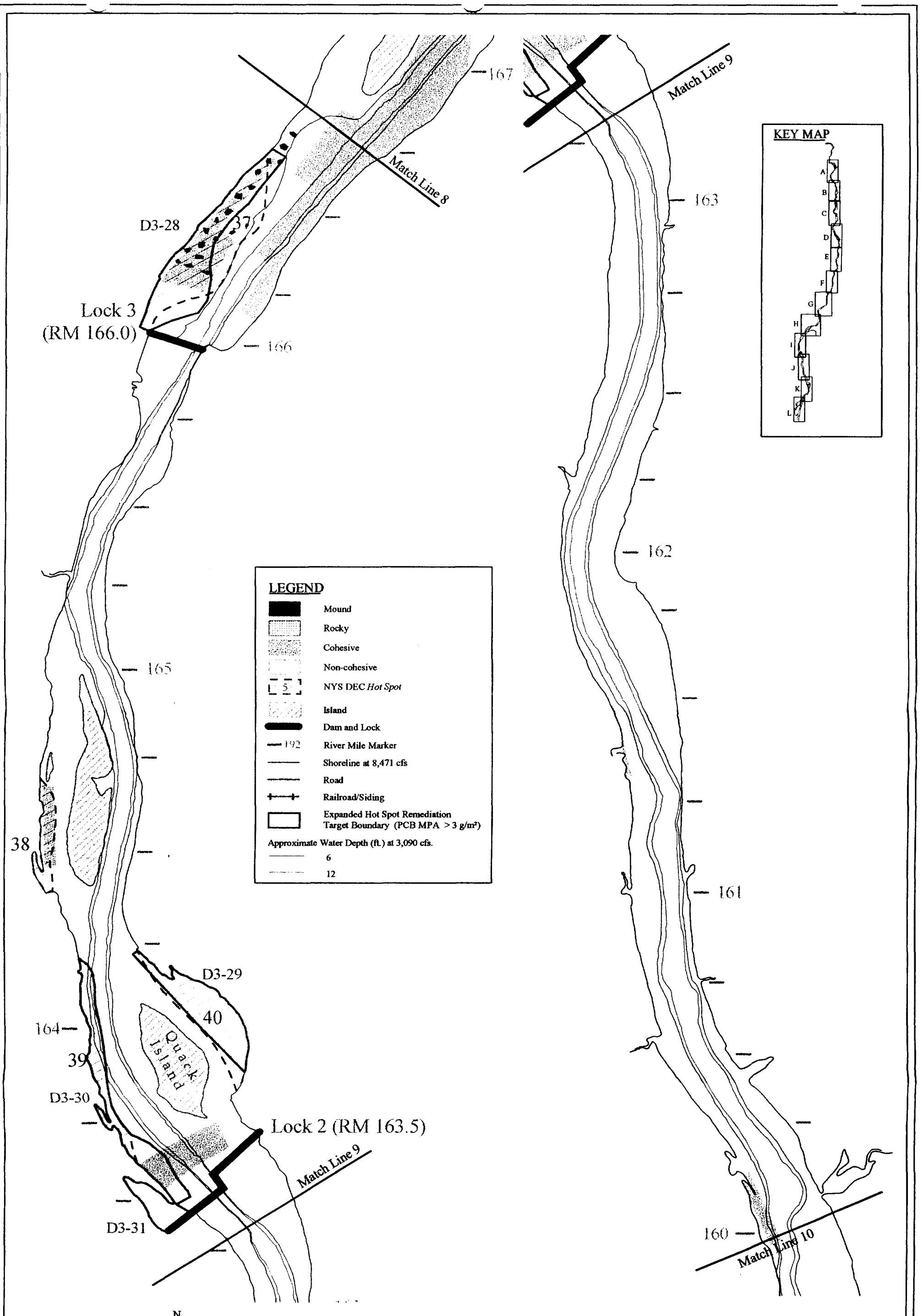
LEGEND

- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Boundary (PCB MPA > 3 g/m²)

Approximate Water Depth (ft.) at 3,090 cfs.

- 6
- 12



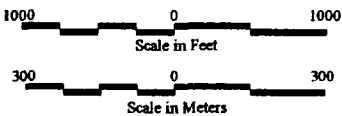
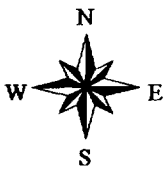


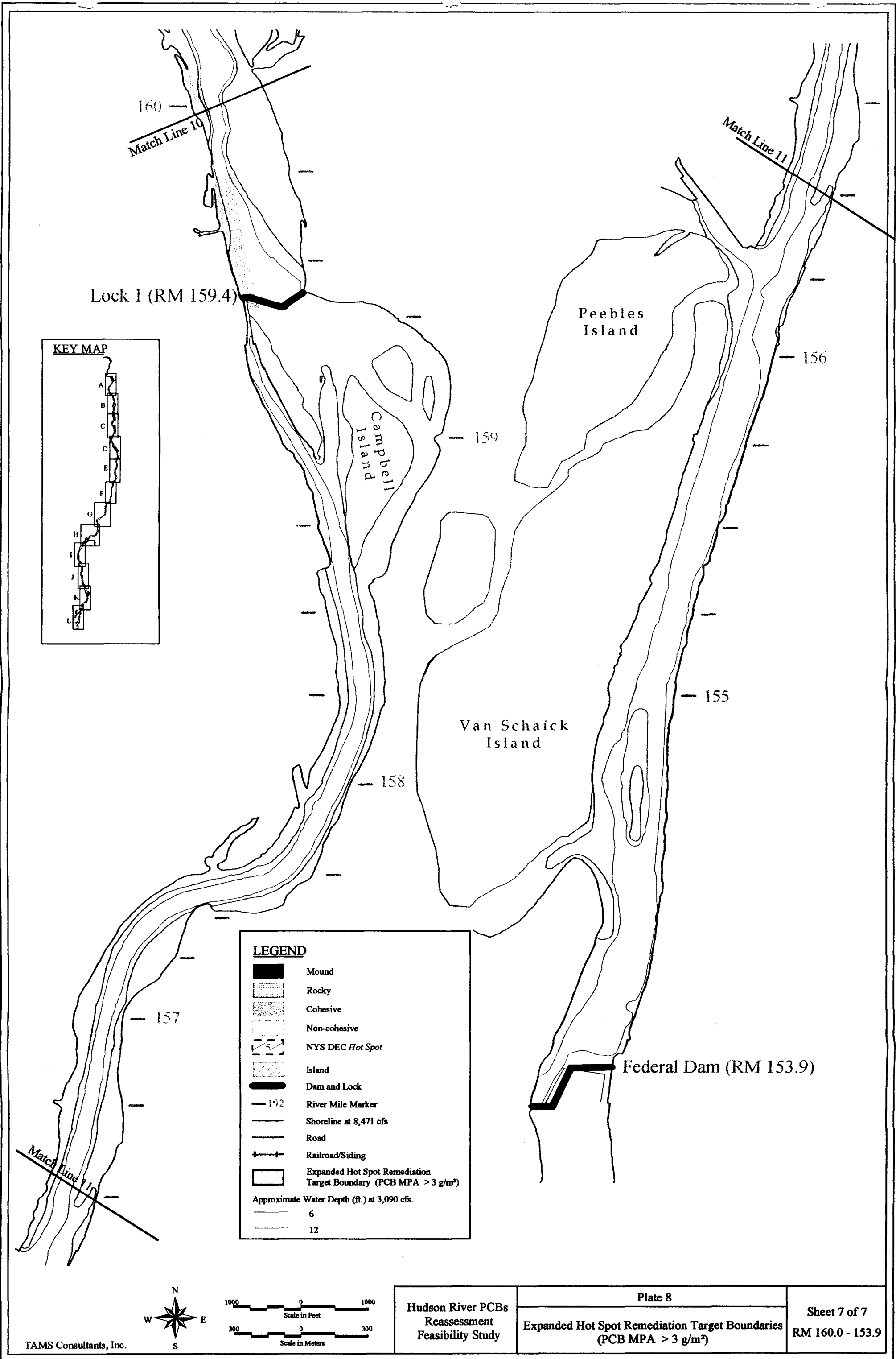
LEGEND

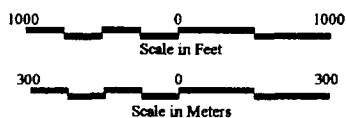
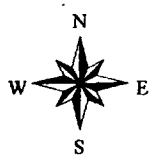
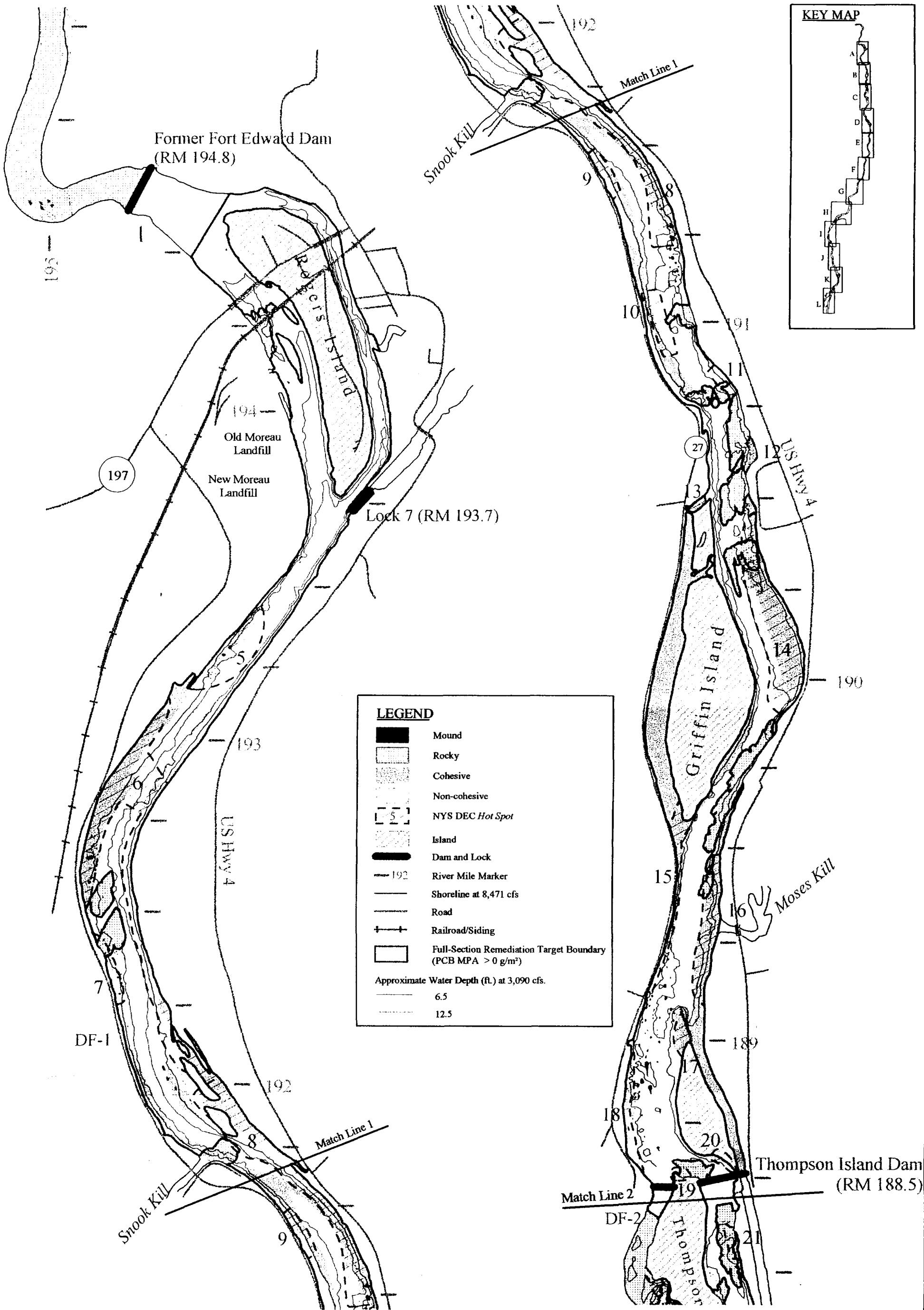
- Mound
- Rocky
- Cohesive
- Non-cohesive
- NYS DEC Hot Spot
- Island
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Boundary (PCB MPA > 3 g/m²)

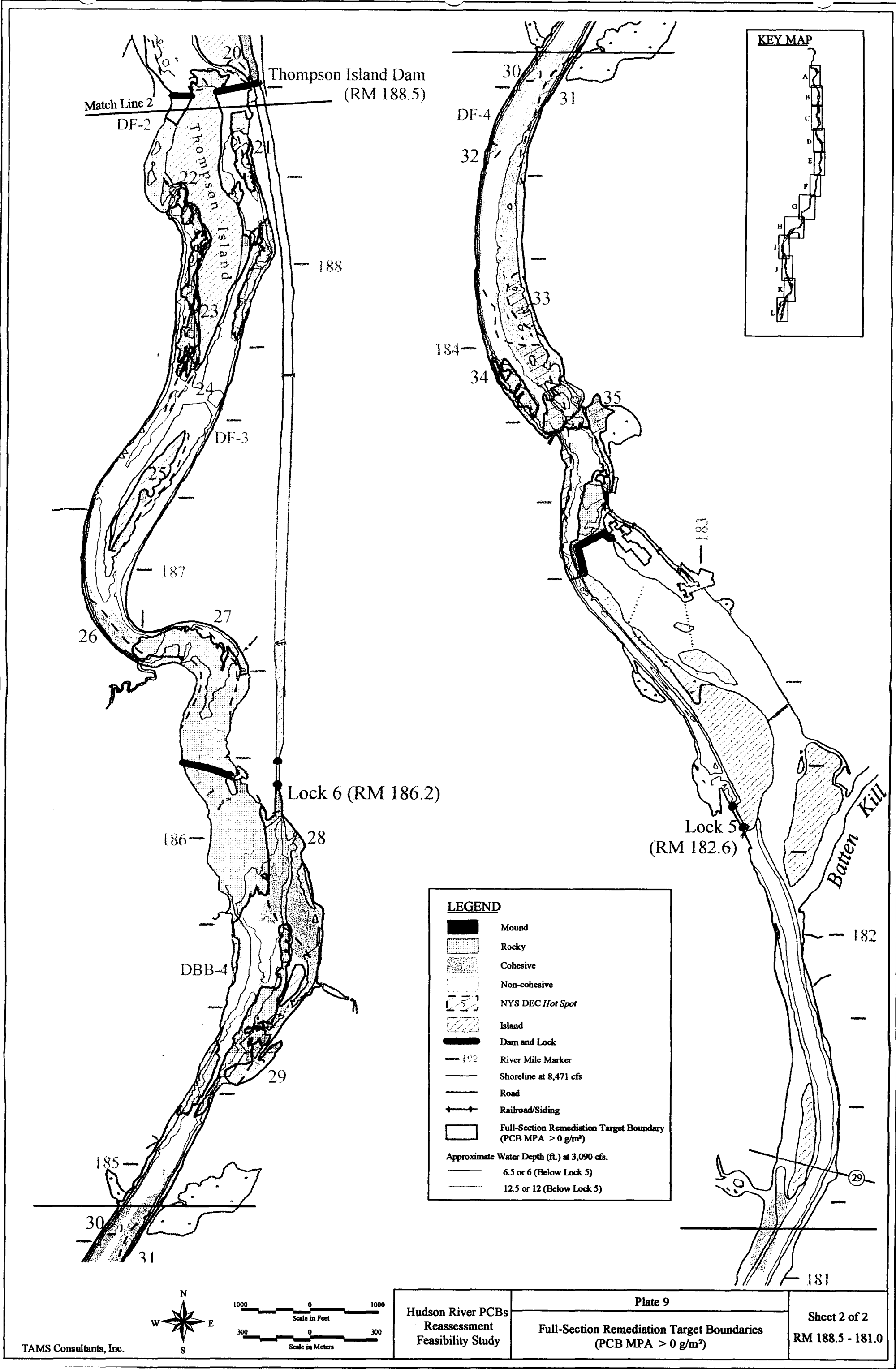
Approximate Water Depth (ft.) at 3,090 cfs.

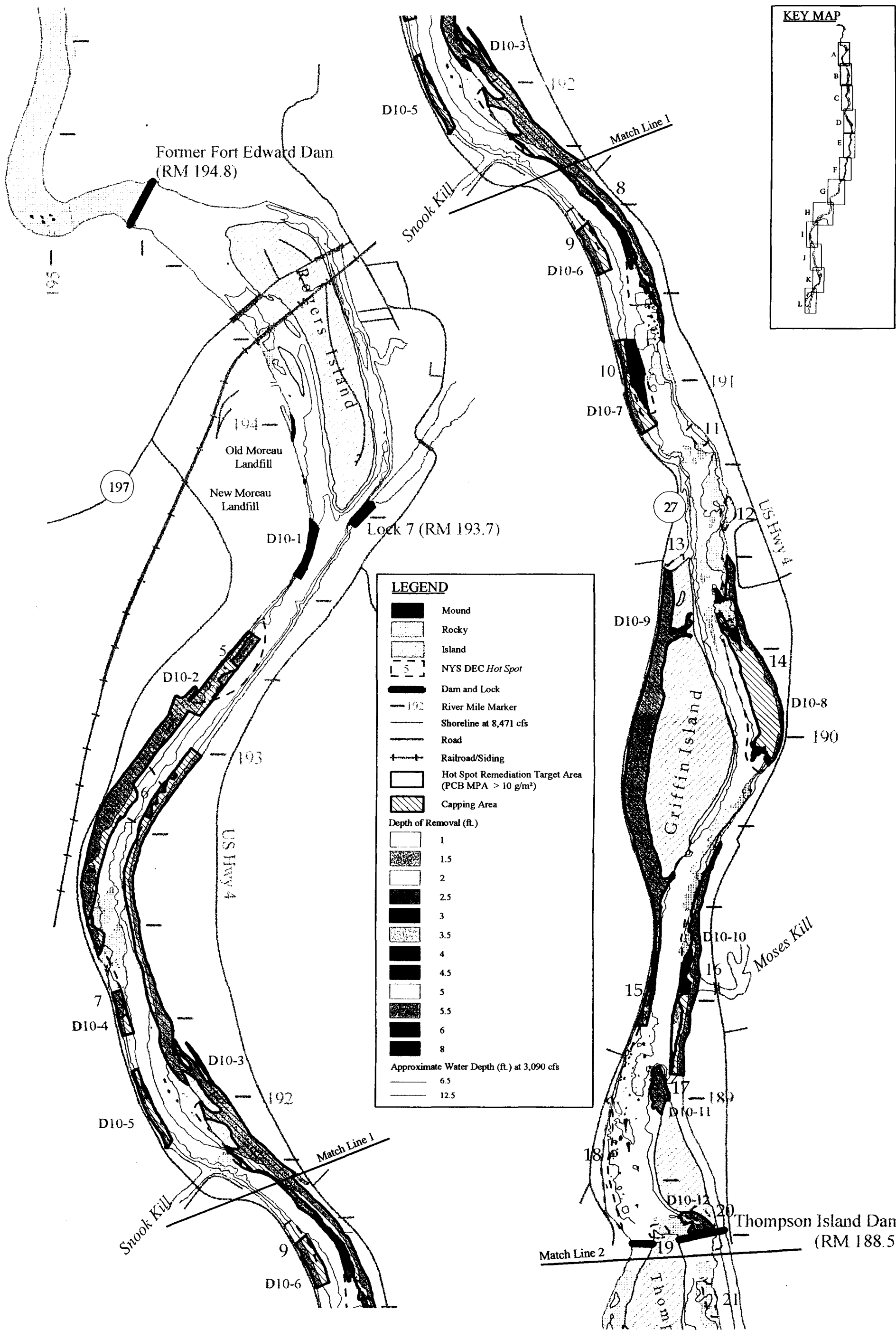
- 6
- 12

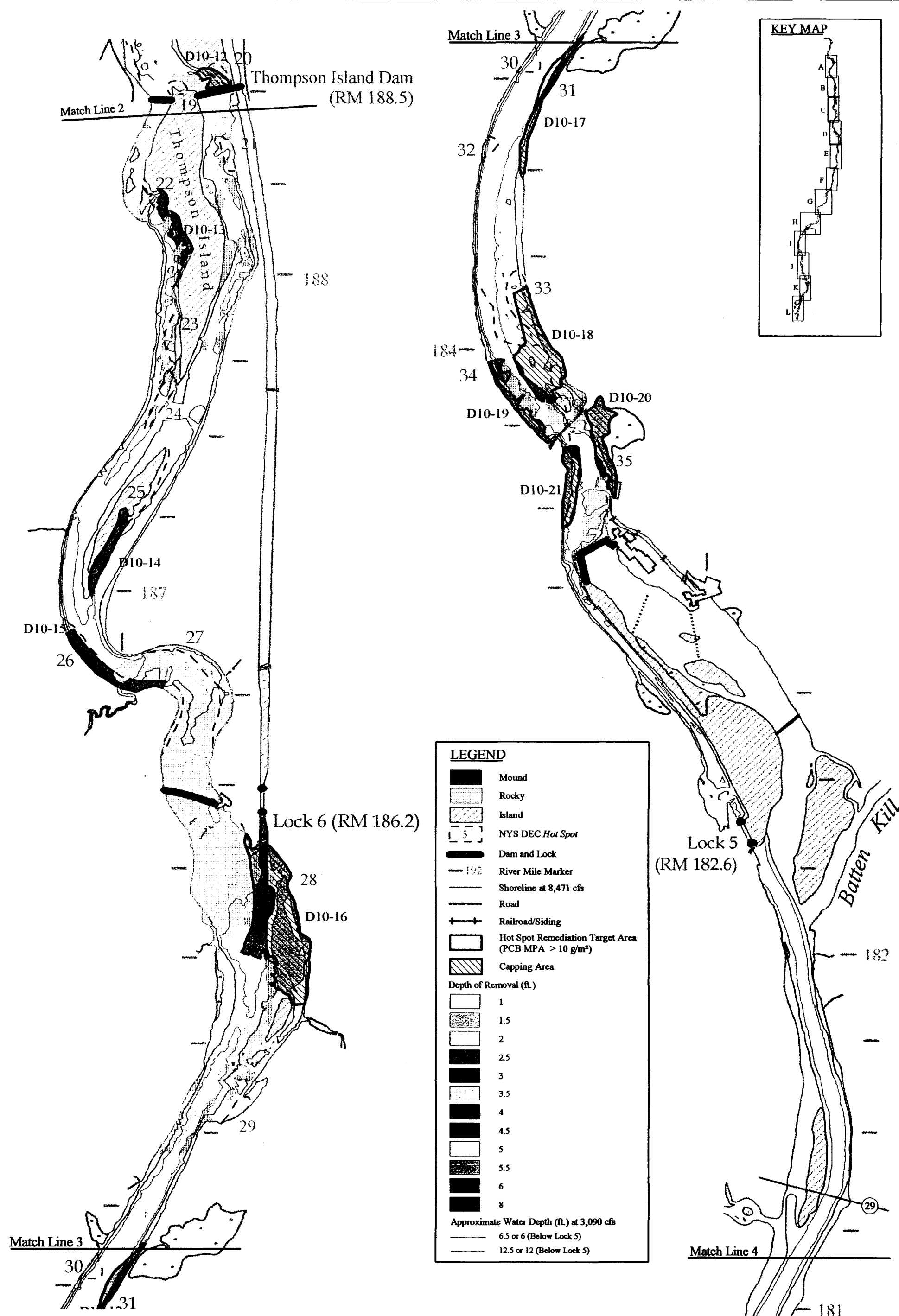


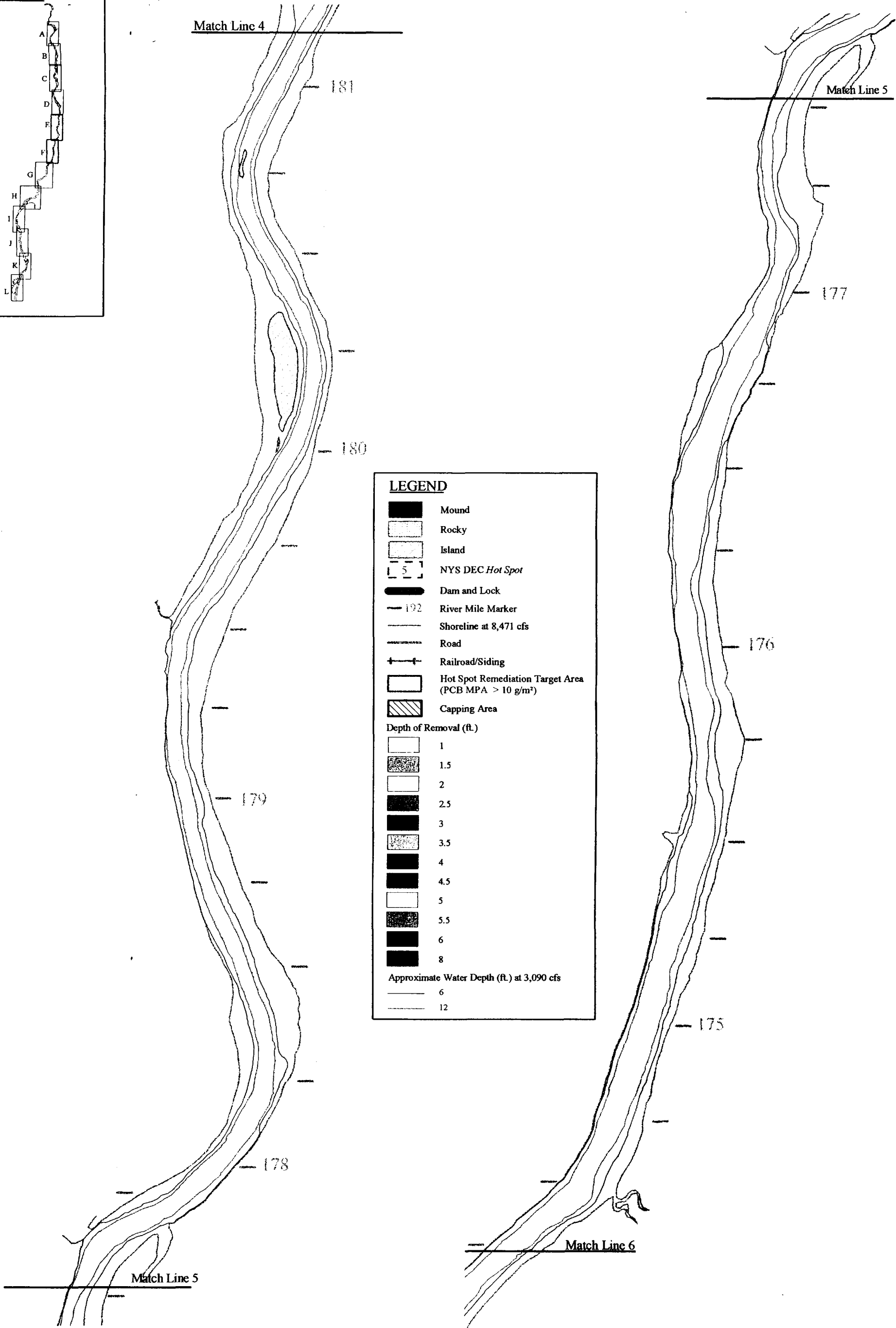
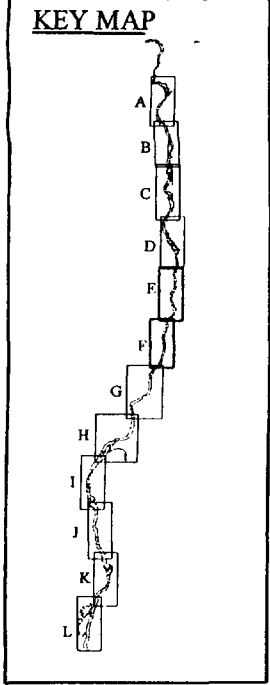


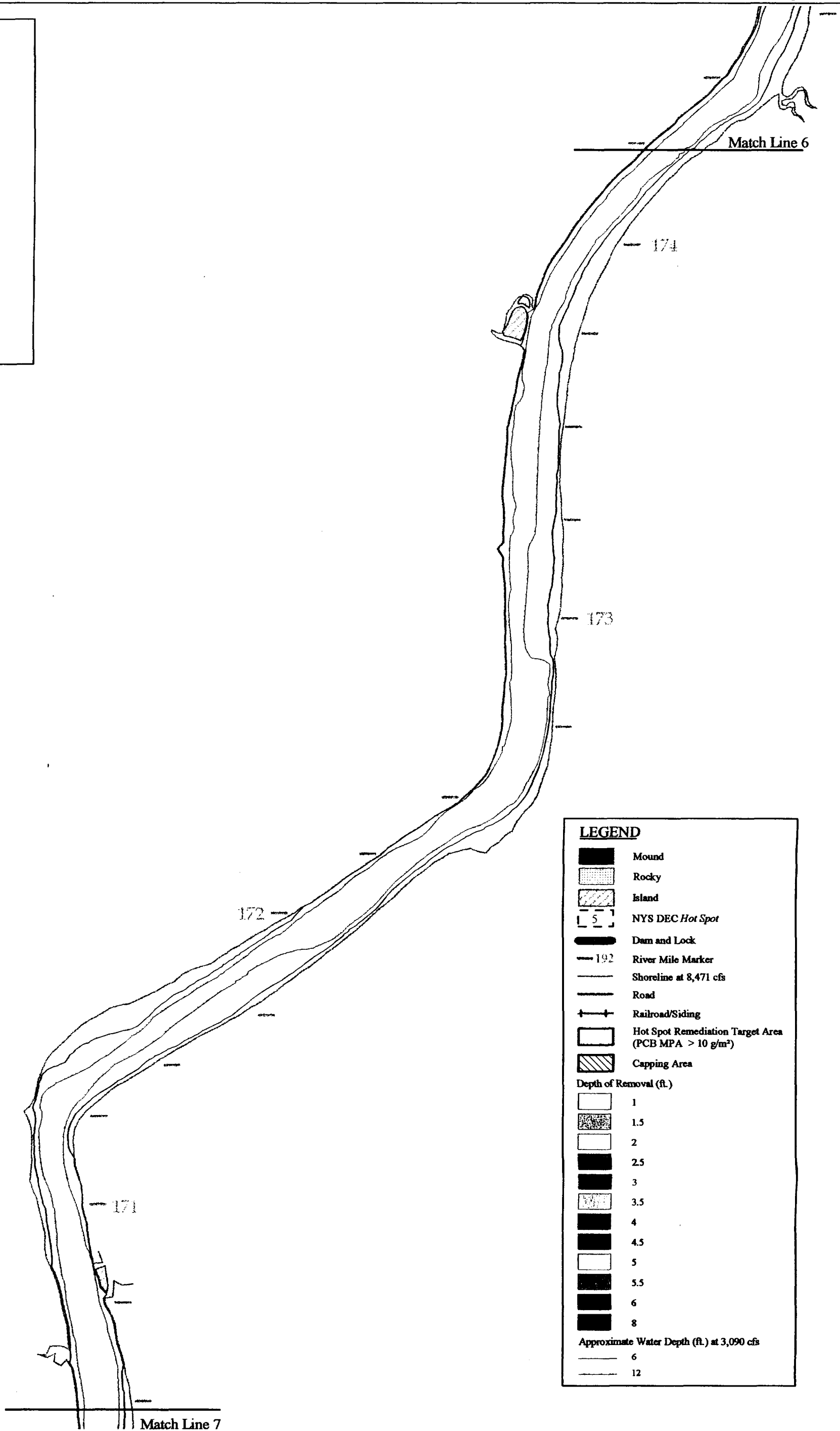
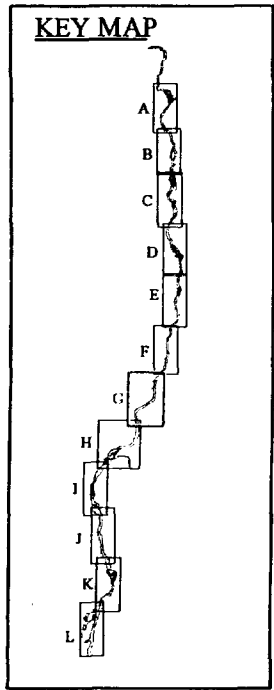












LEGEND

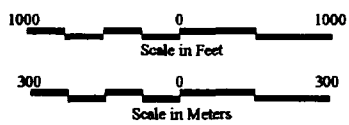
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Area (PCB MPA > 10 g/m²)
- Capping Area

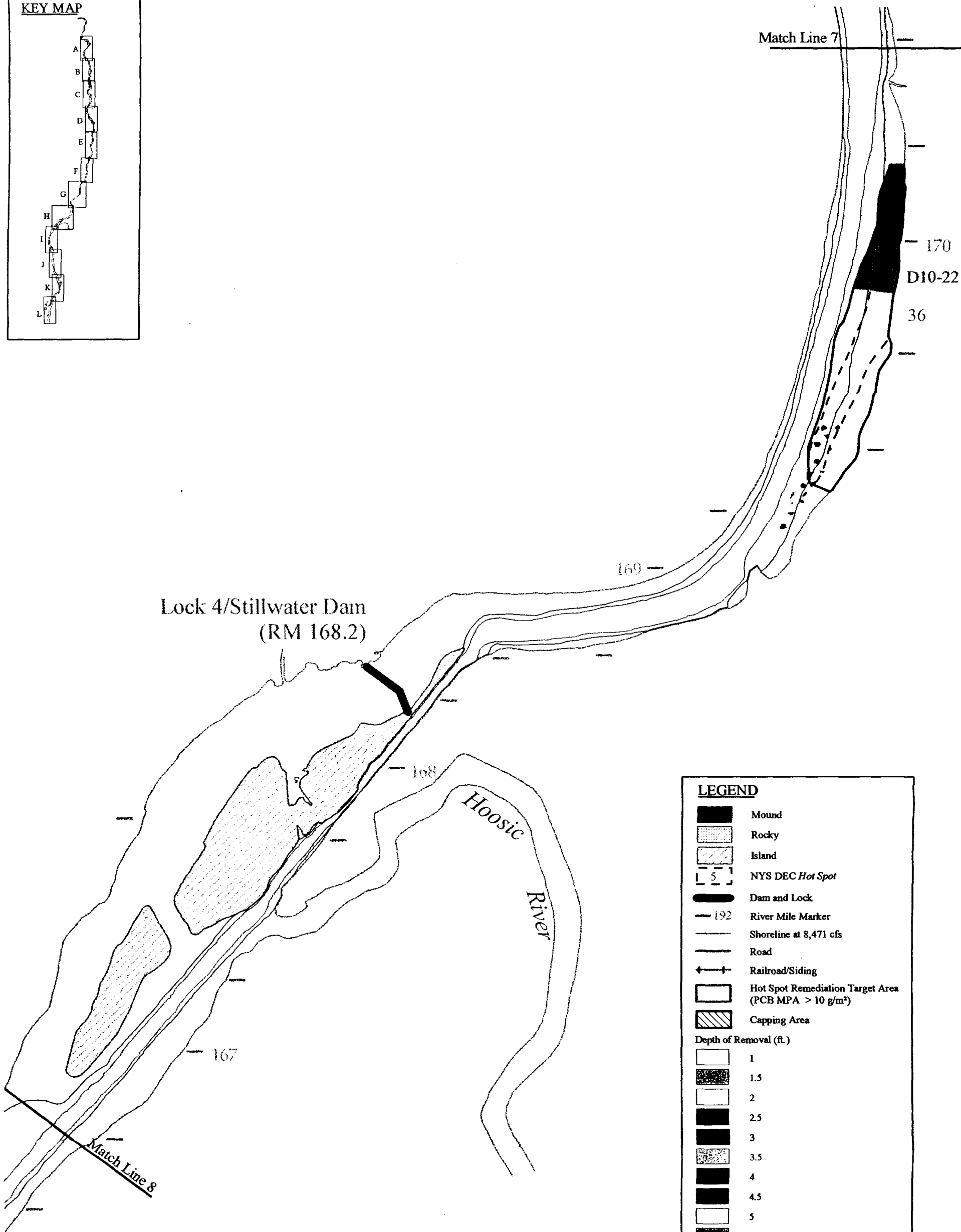
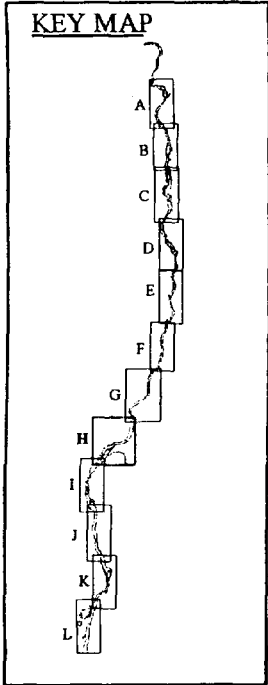
Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12





LEGEND

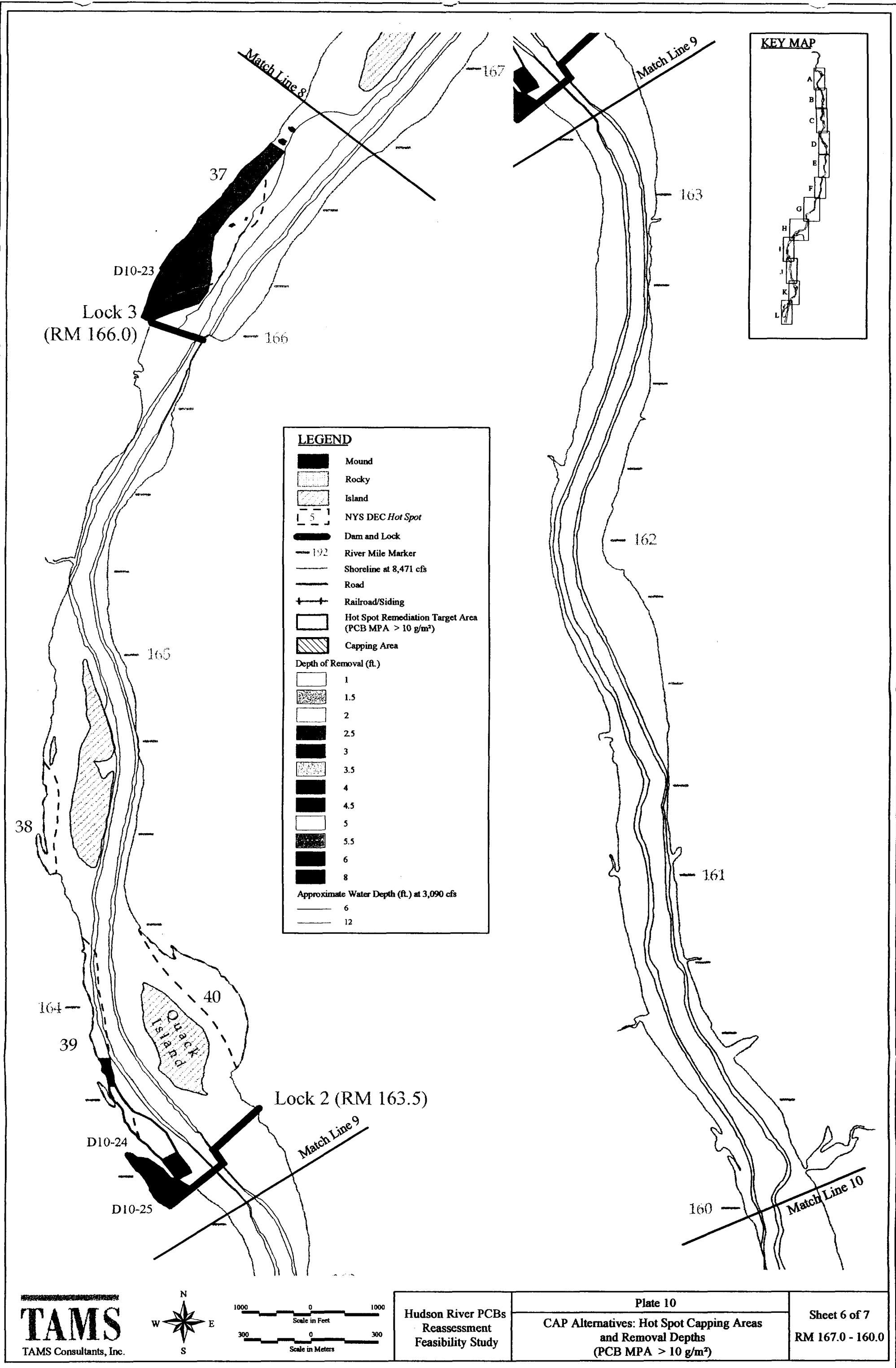
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Area (PCB MPA > 10 g/m²)
- Capping Area

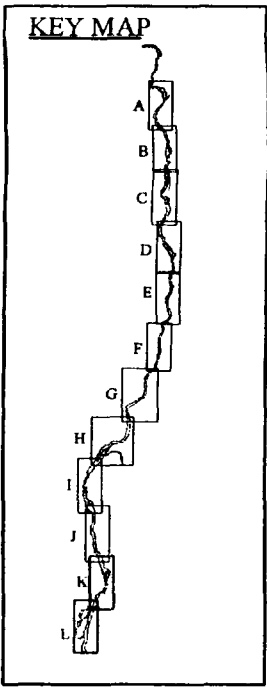
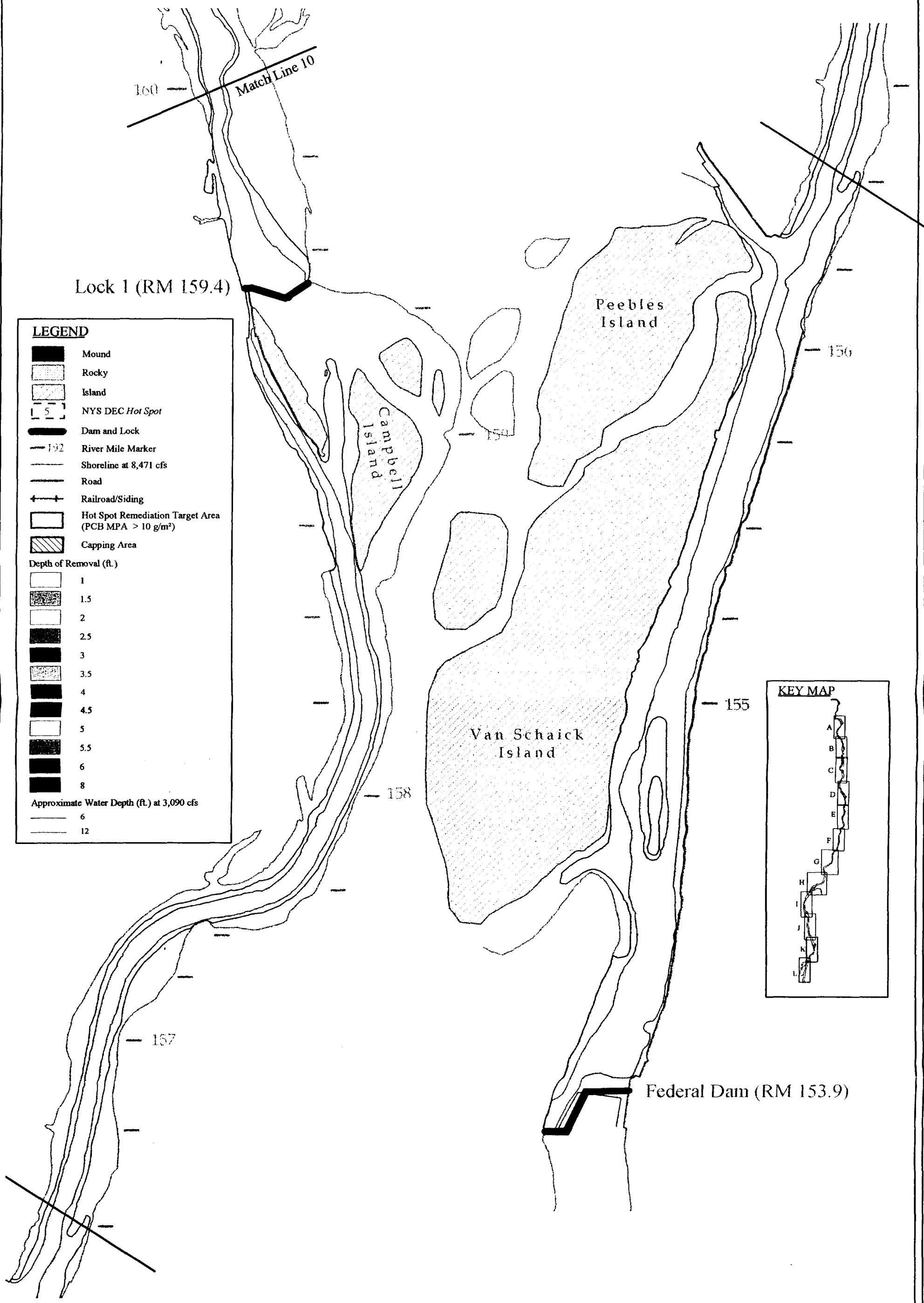
Depth of Removal (ft.)

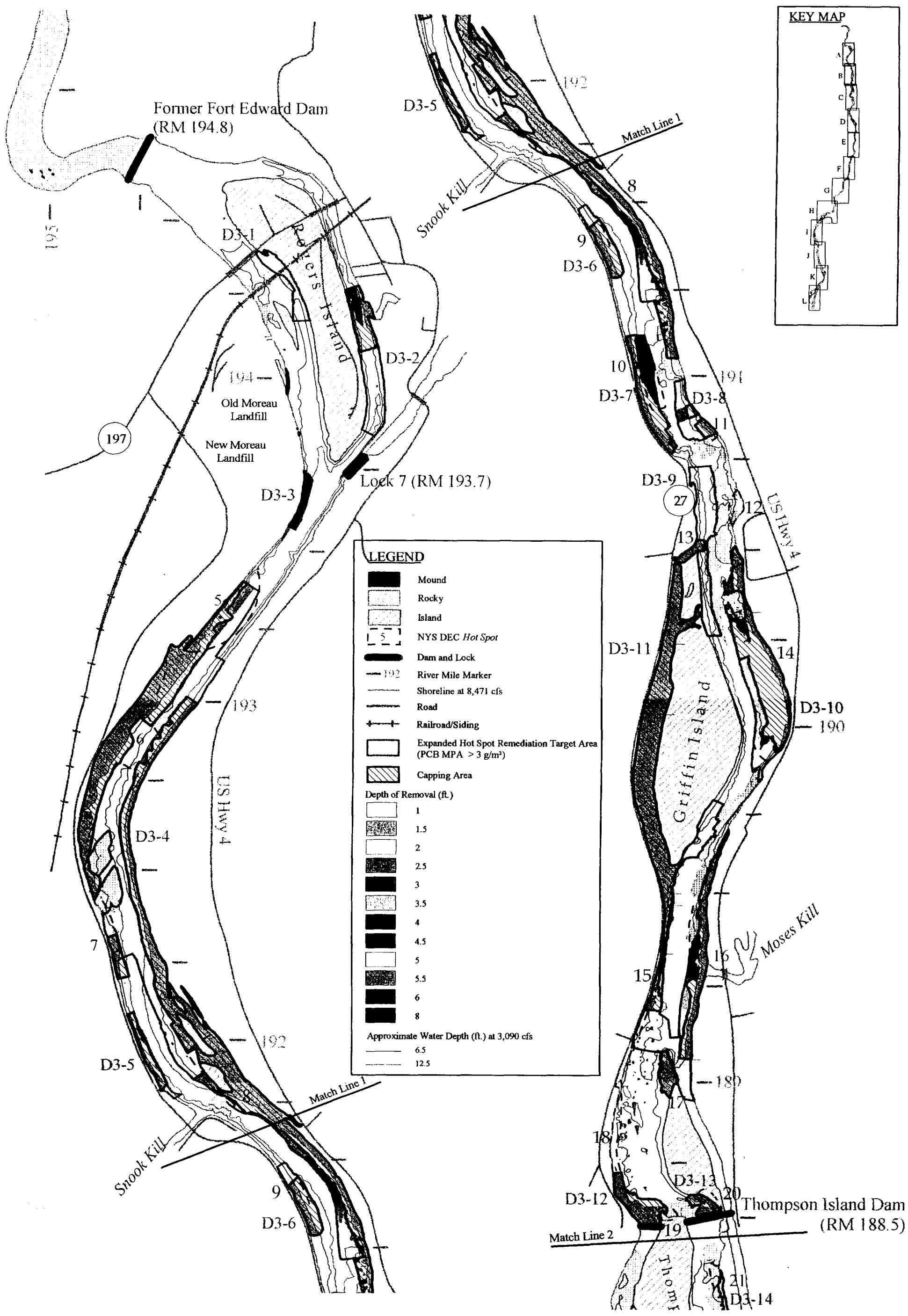
	1
	1.5
	2
	2.5
	3
	3.5
	4
	4.5
	5
	5.5
	6
	8

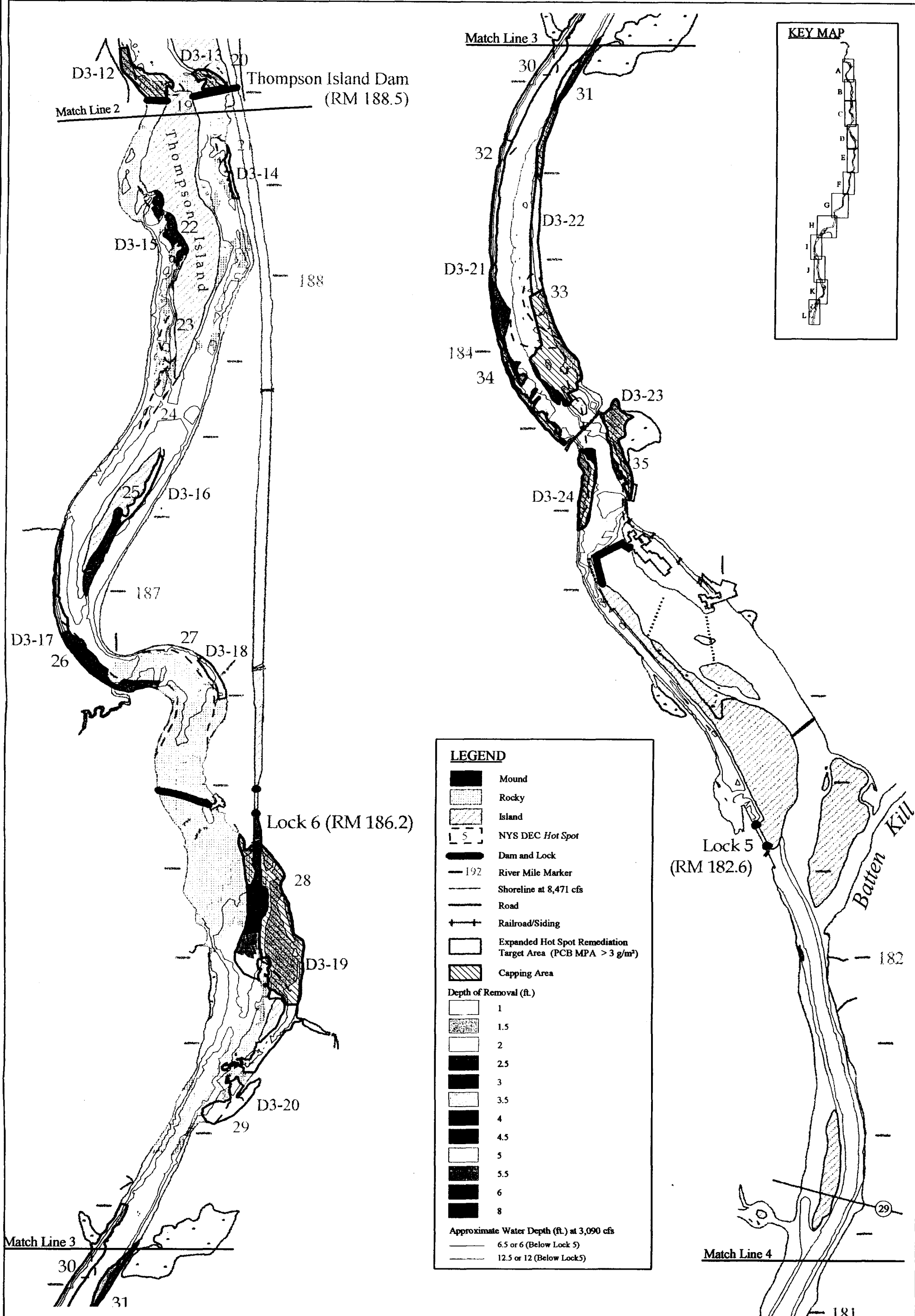
Approximate Water Depth (ft.) at 3,090 cfs

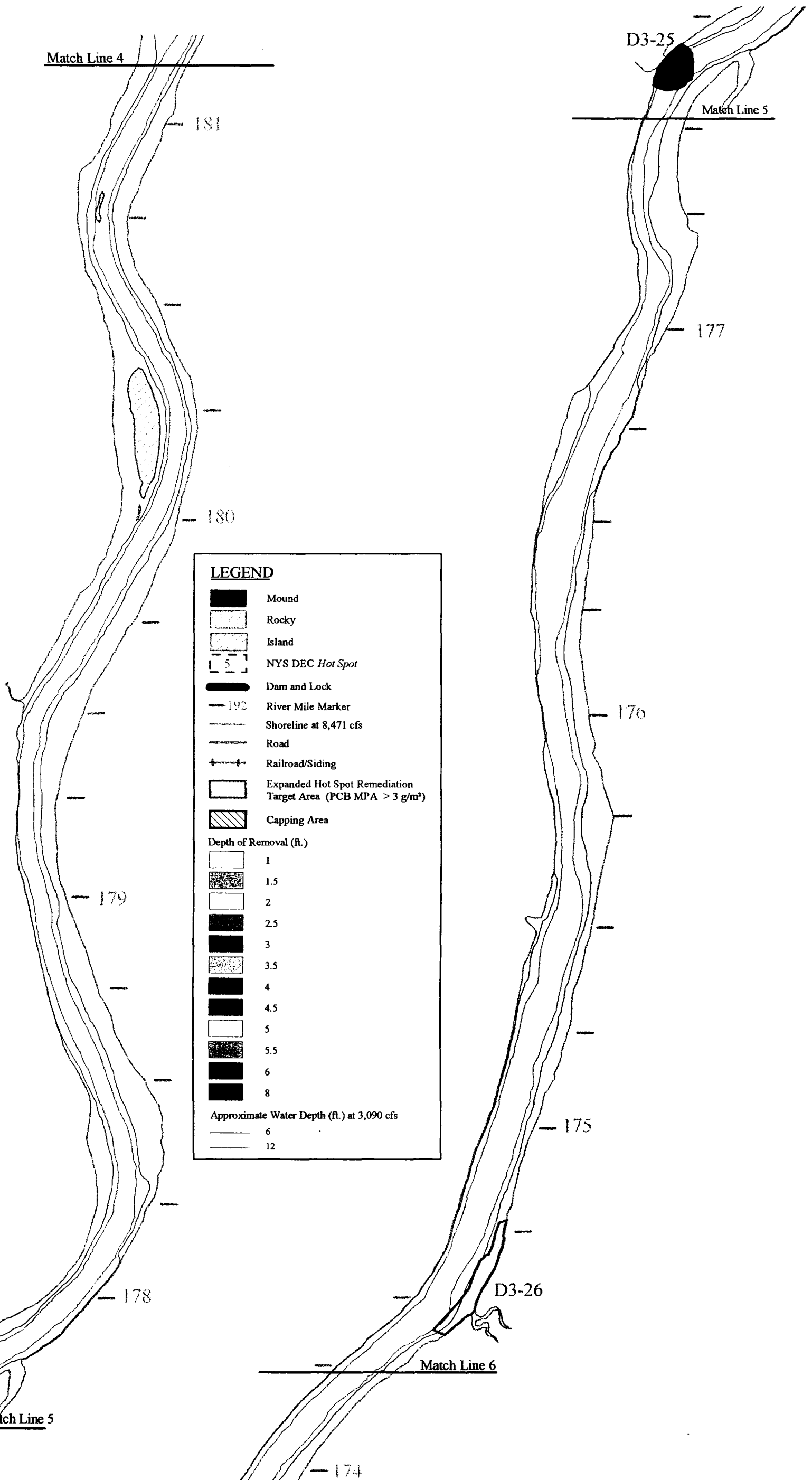
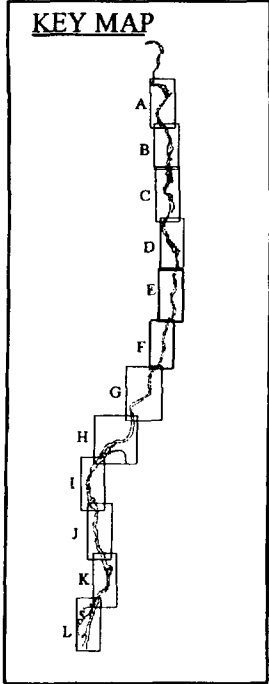
	6
	12



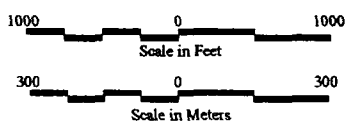








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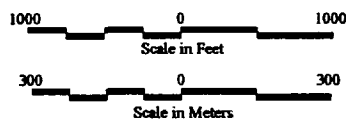
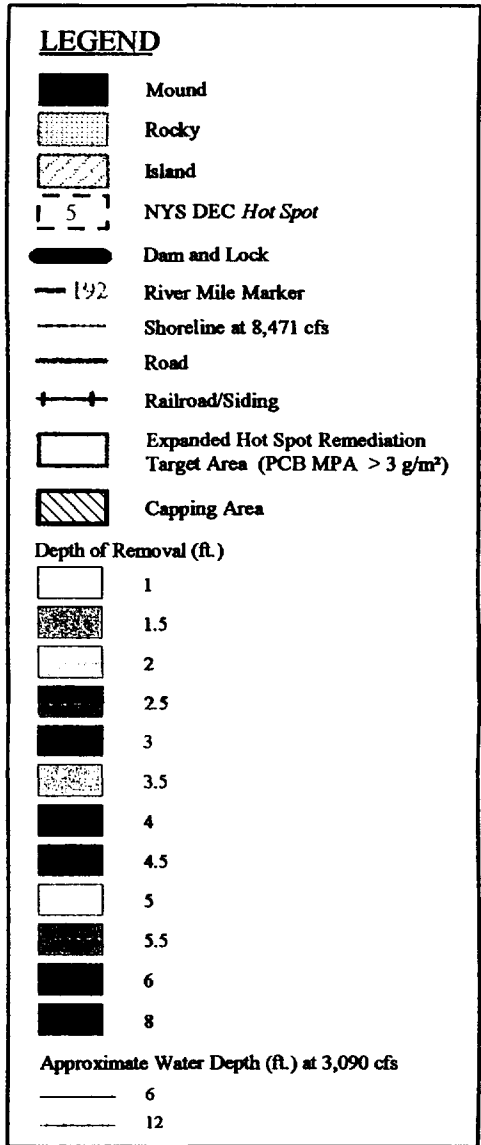
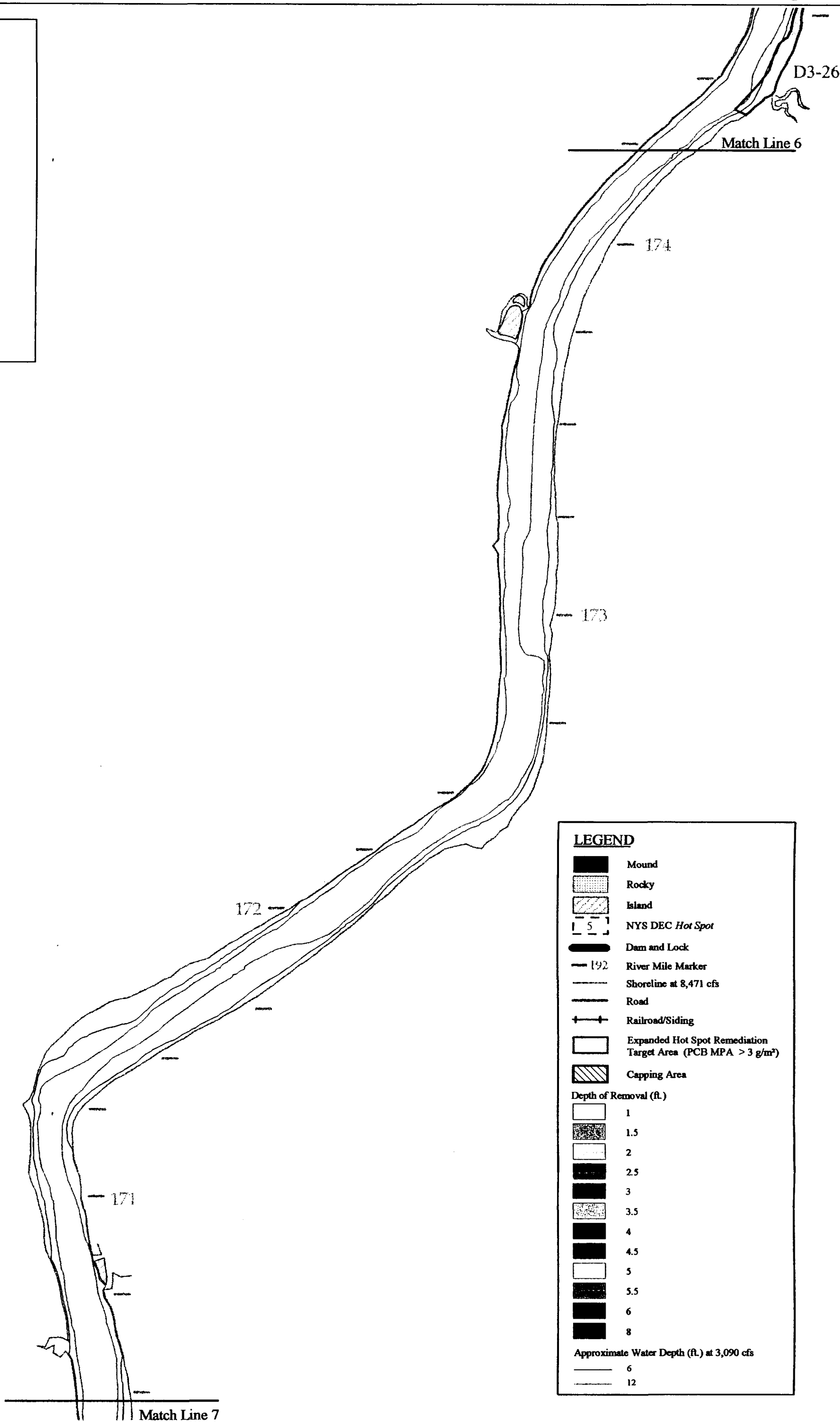
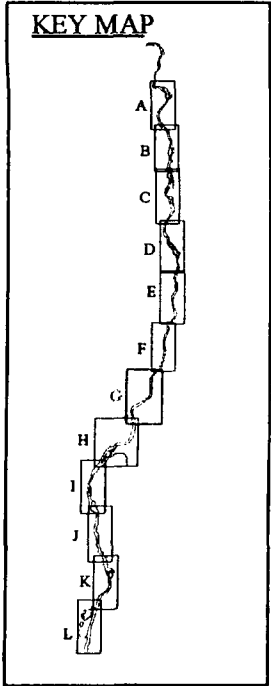


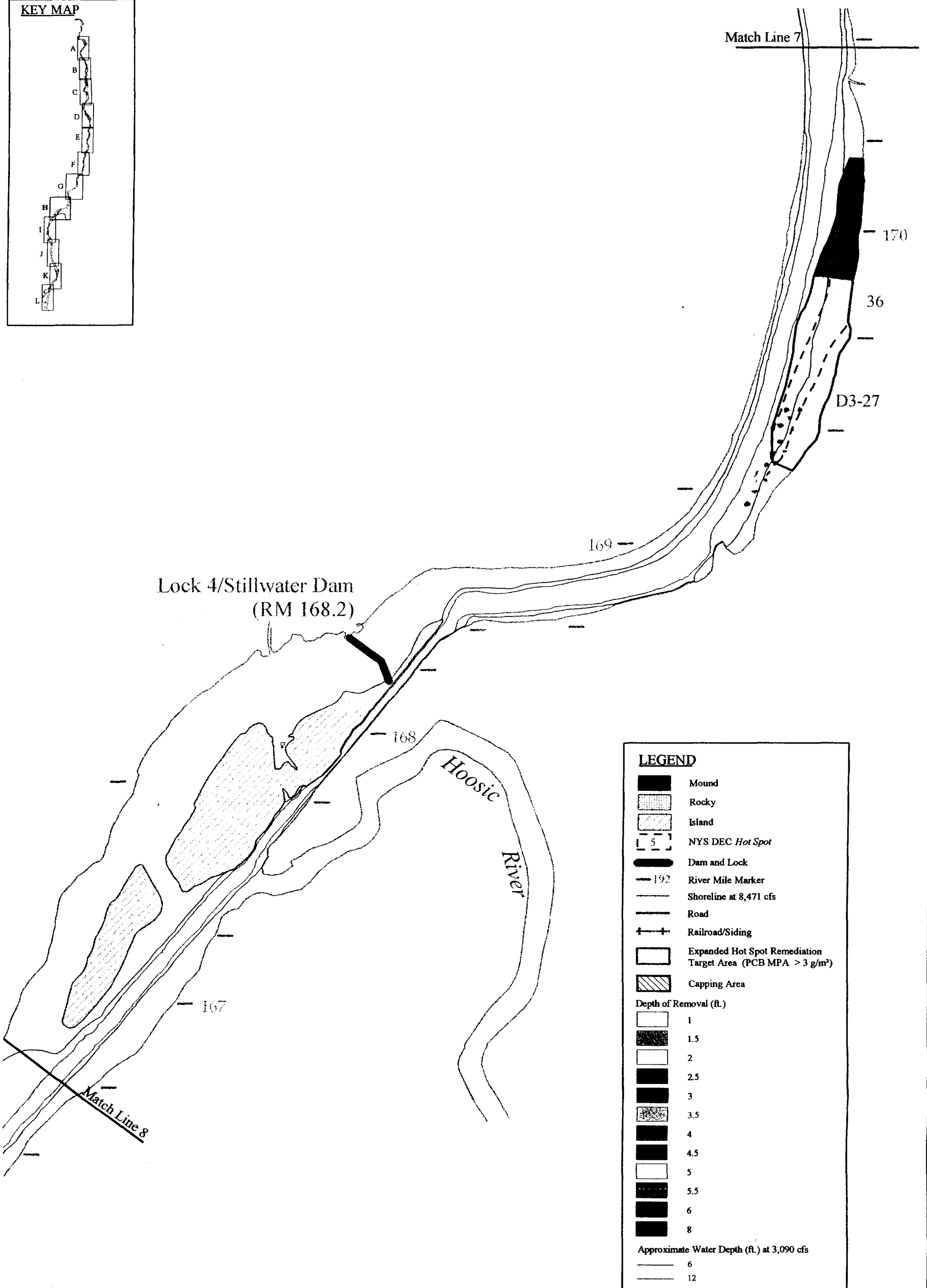
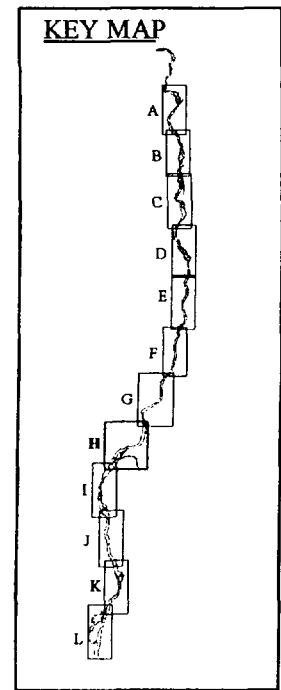
Hudson River PCBs
Reassessment
Feasibility Study

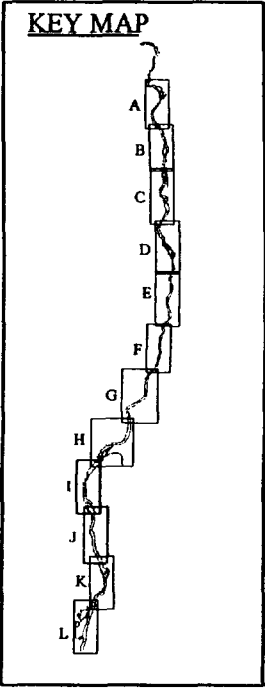
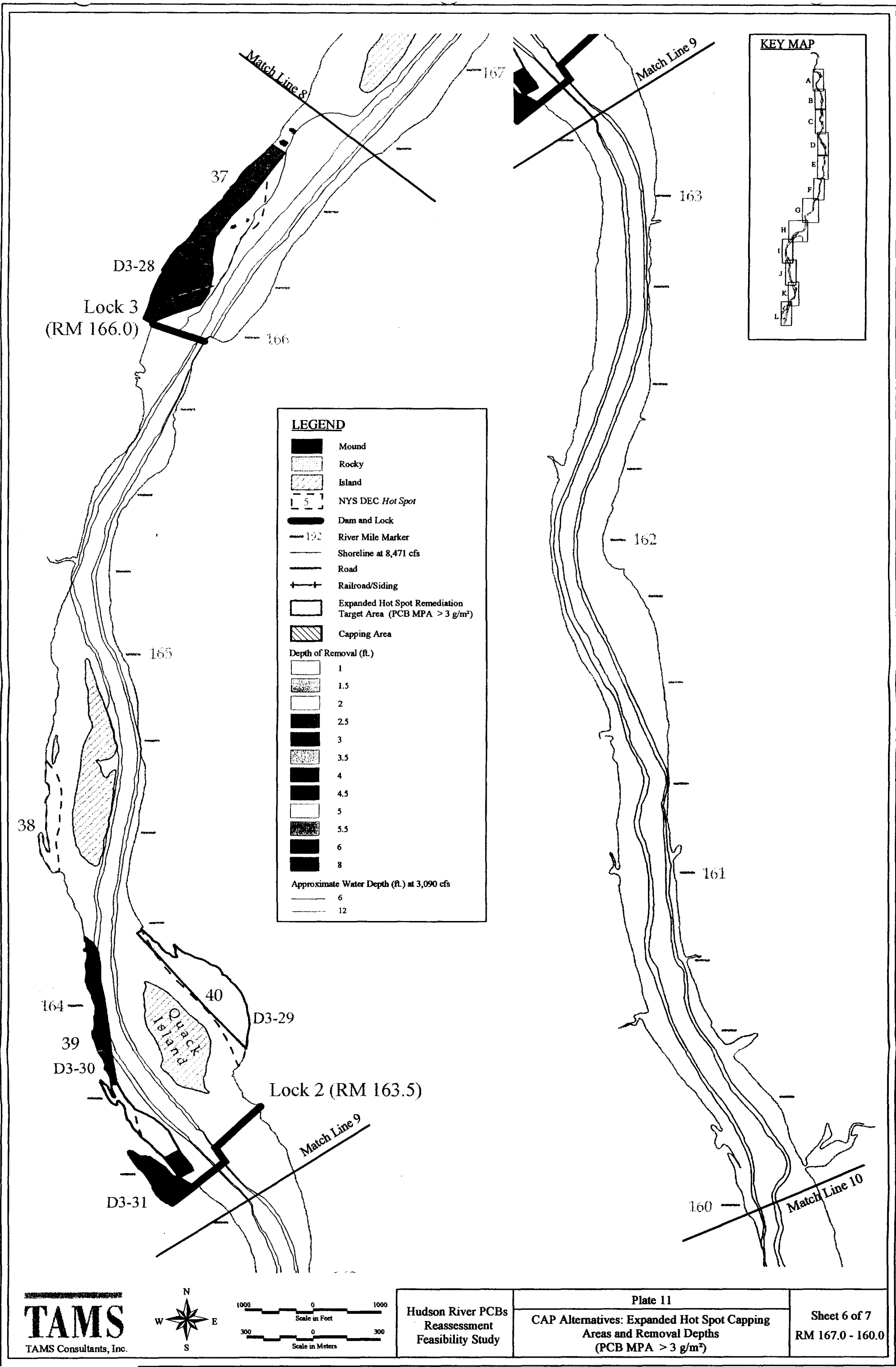
Plate 11

CAP Alternatives: Expanded Hot Spot Capping
Areas and Removal Depths
(PCB MPA > 3 g/m²)

Sheet 3 of 7
RM 181.0 - 174.0







LEGEND

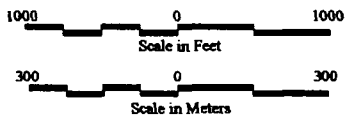
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Area (PCB MPA > 3 g/m²)
- Capping Area

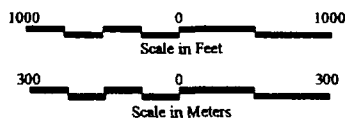
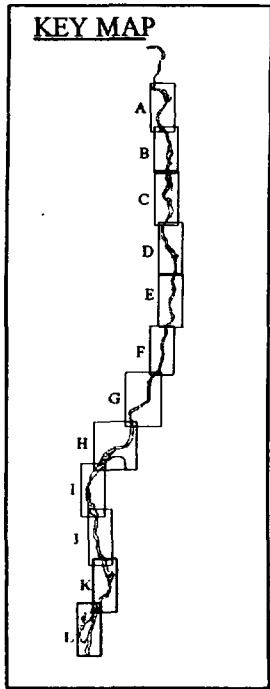
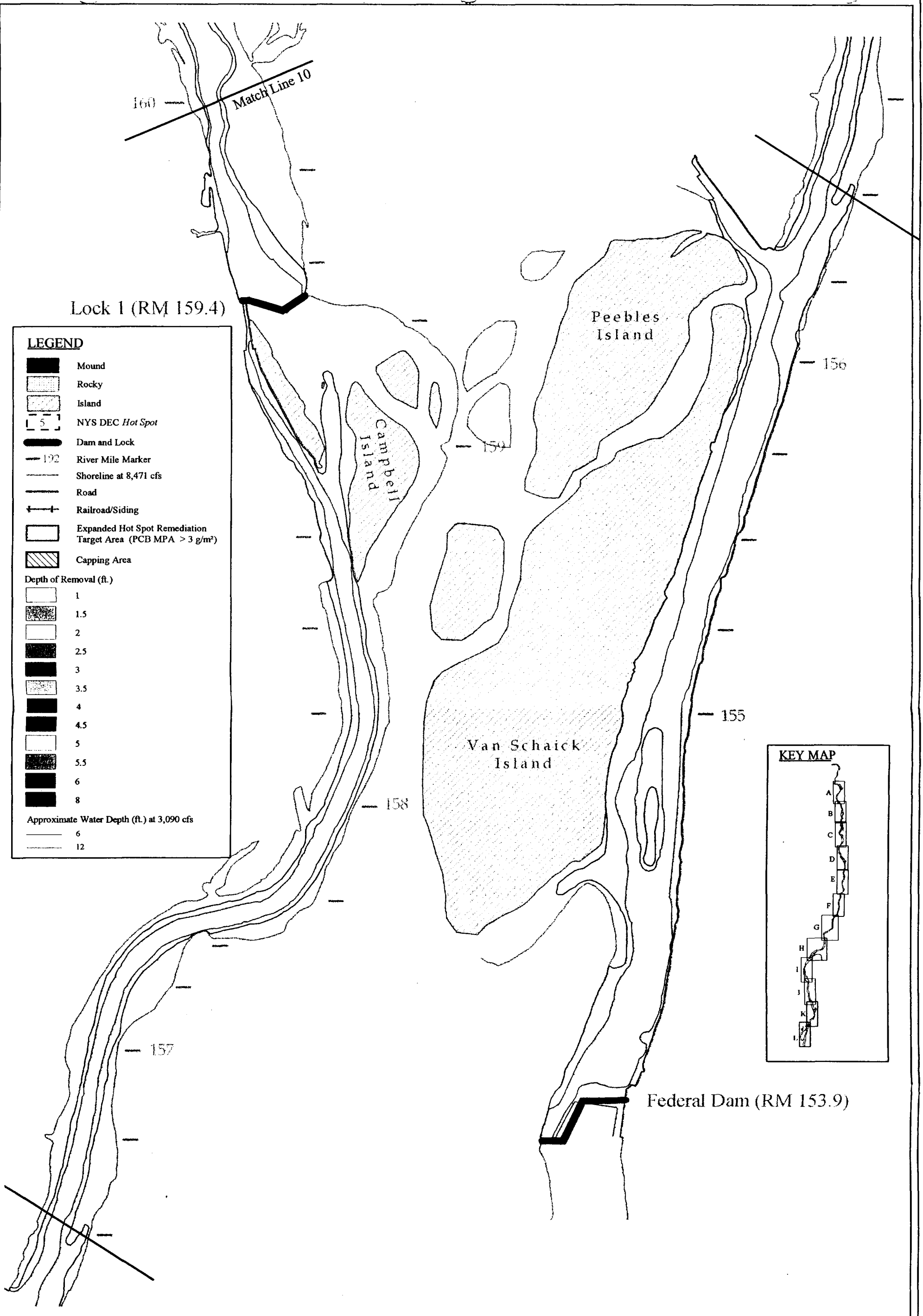
Depth of Removal (ft.)

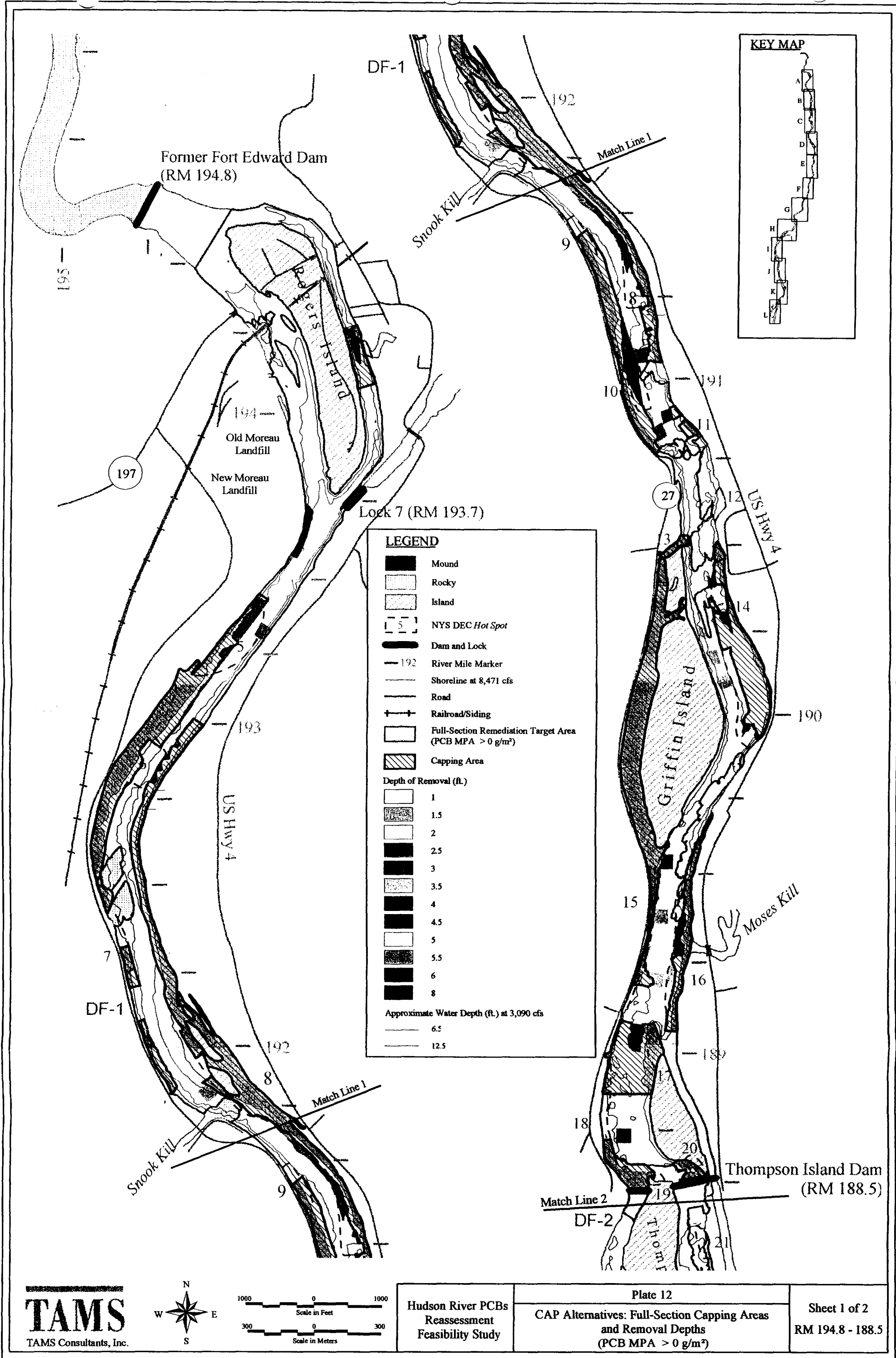
- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

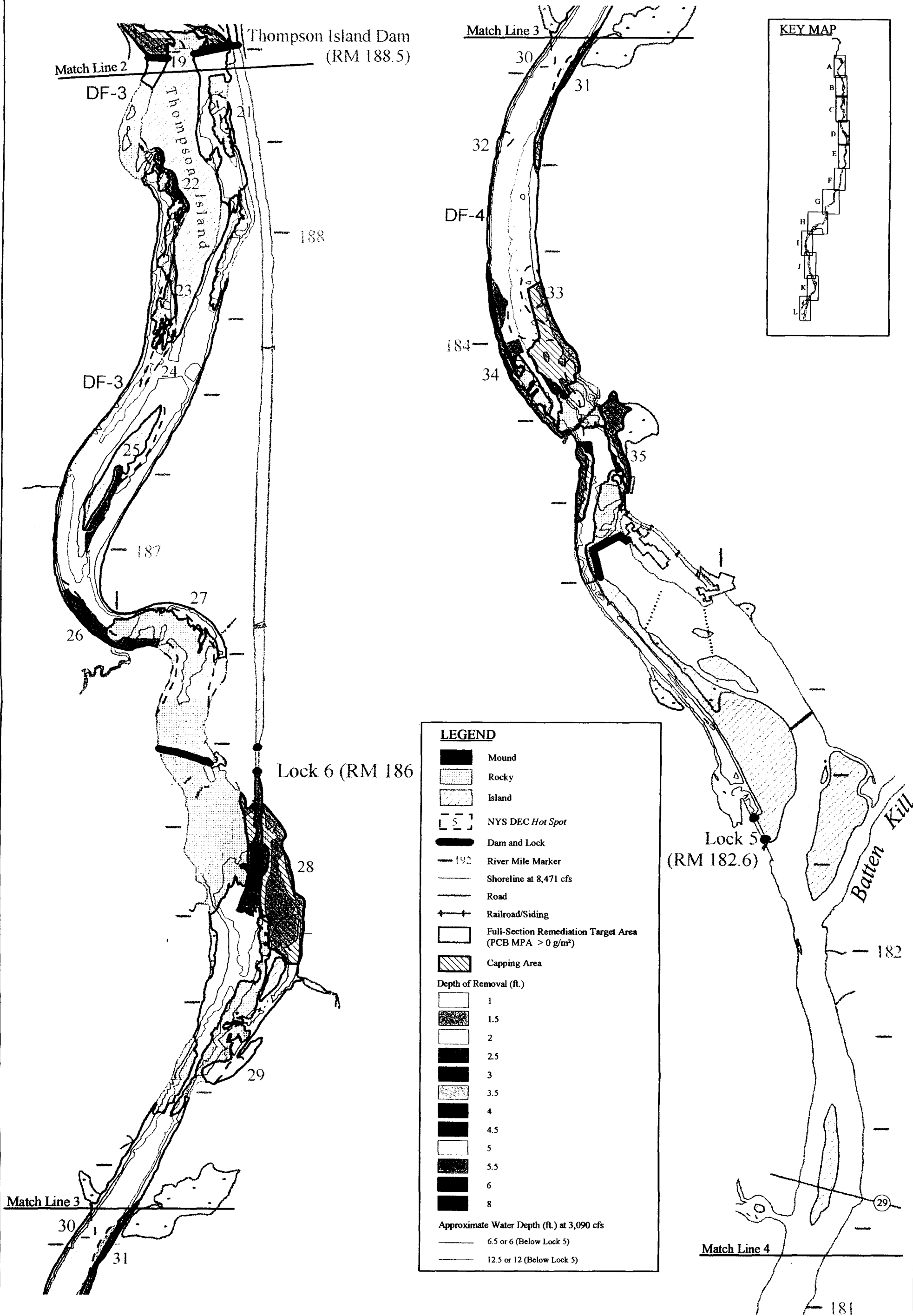
Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12

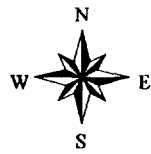








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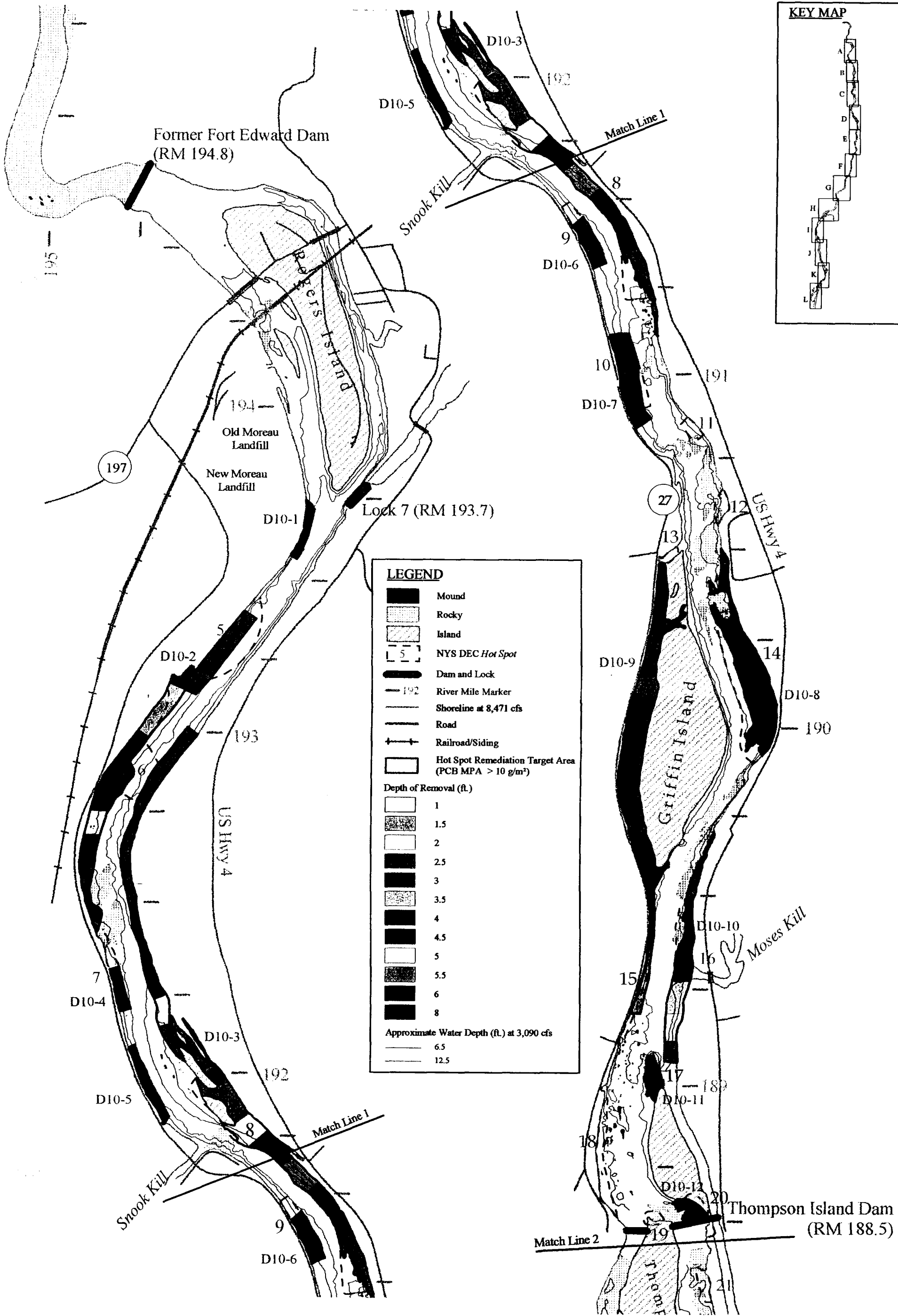
1000 0 1000
Scale in Feet
300 0 300
Scale in Meters

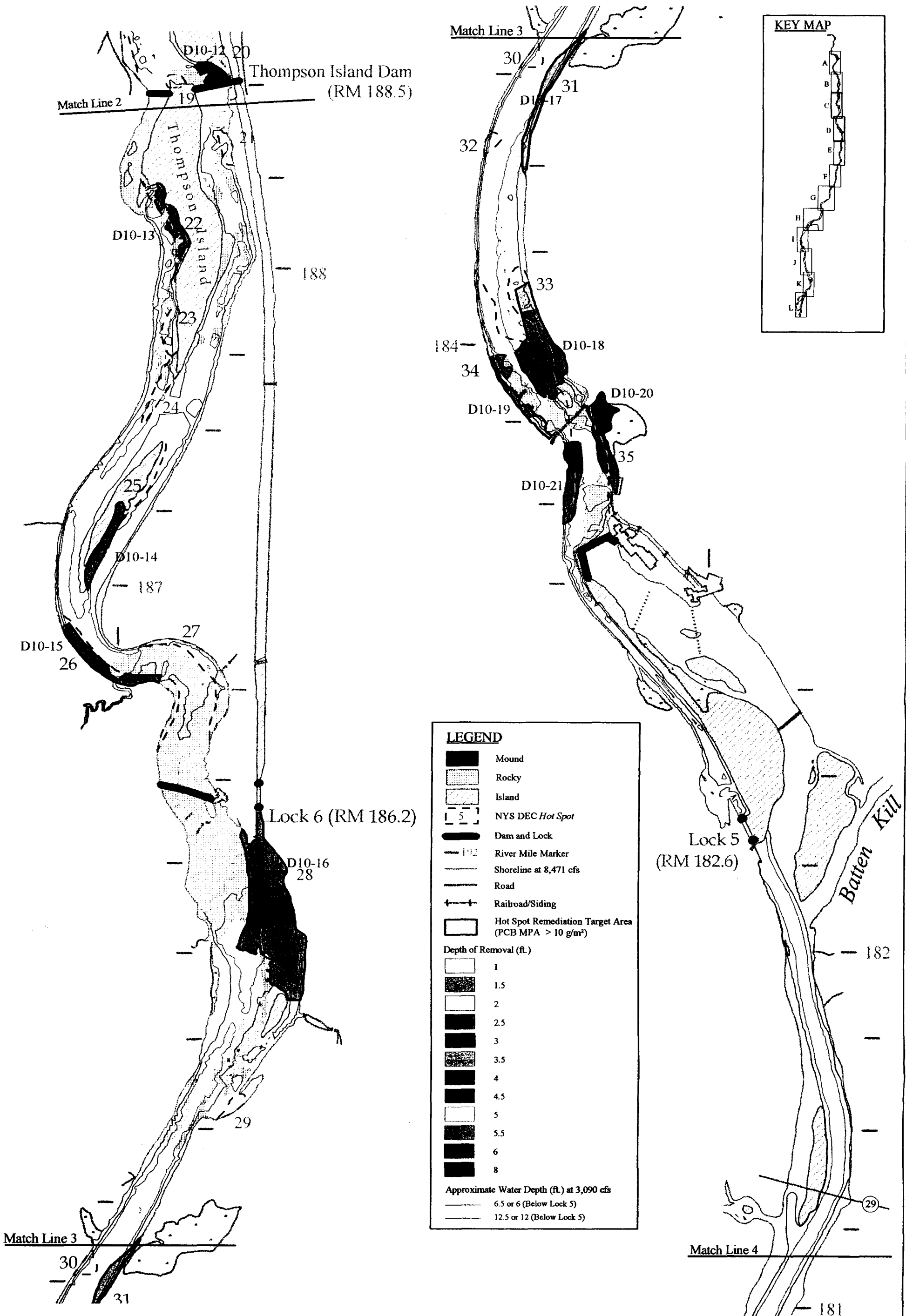
Hudson River PCBs
Reassessment
Feasibility Study

Plate 12

CAP Alternatives: Full-Section Capping Areas
and Removal Depths
(PCB MPA > 0 g/m²)

Sheet 2 of 2
RM 188.5 - 181.0



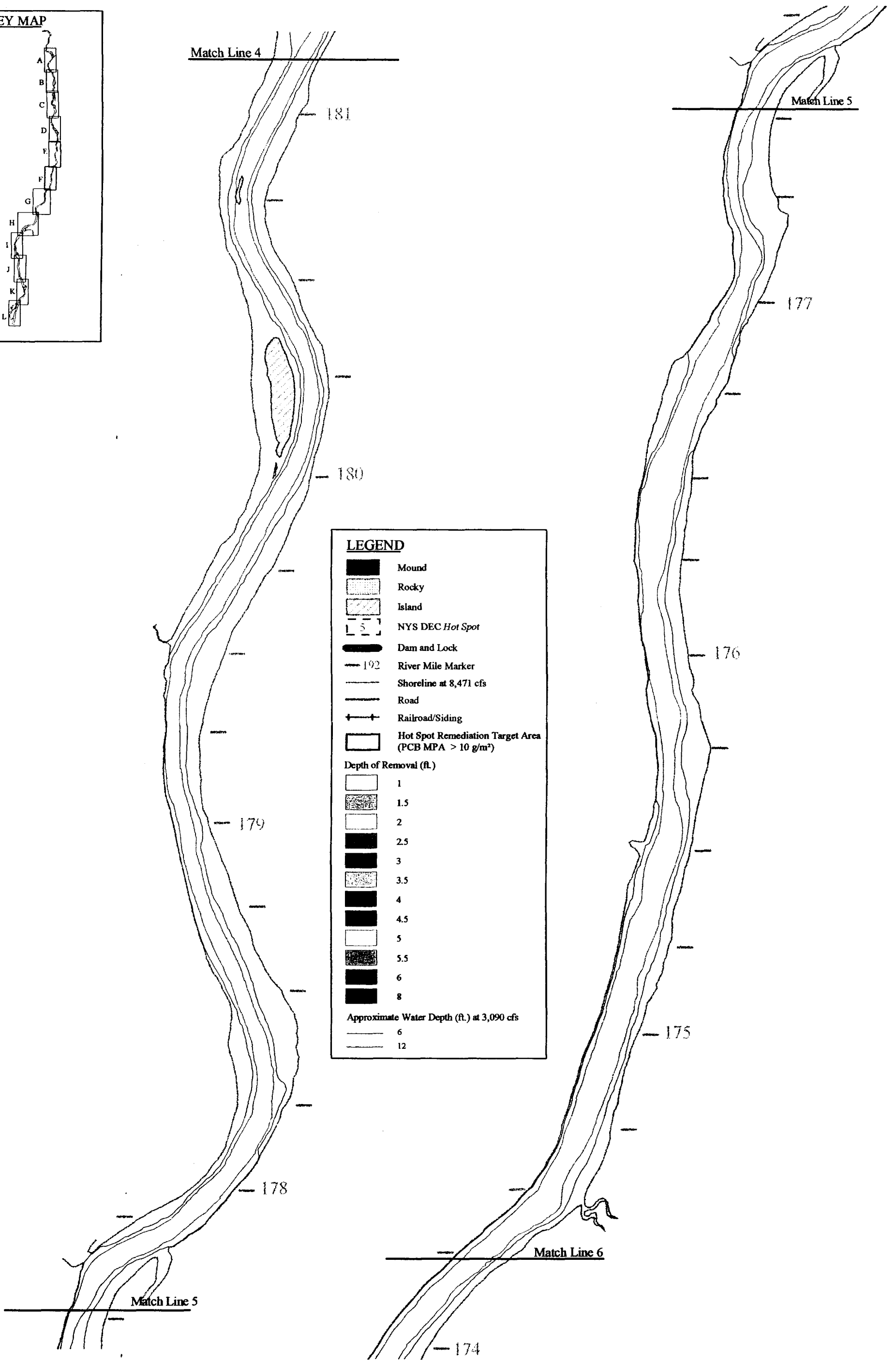
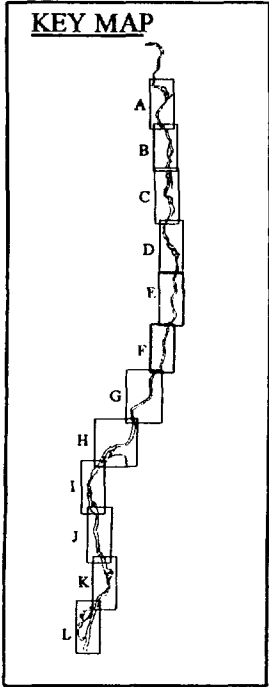


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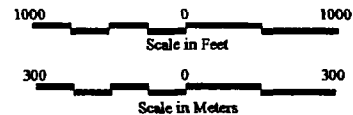
Hudson River PCBs
Reassessment
Feasibility Study

Plate 13
REM Alternatives: Hot Spot Removal
Areas and Depths
(PCB MPA > 10 g/m²)

Sheet 2 of 7
RM 188.5 - 181.0



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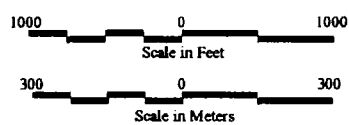
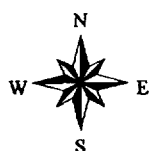
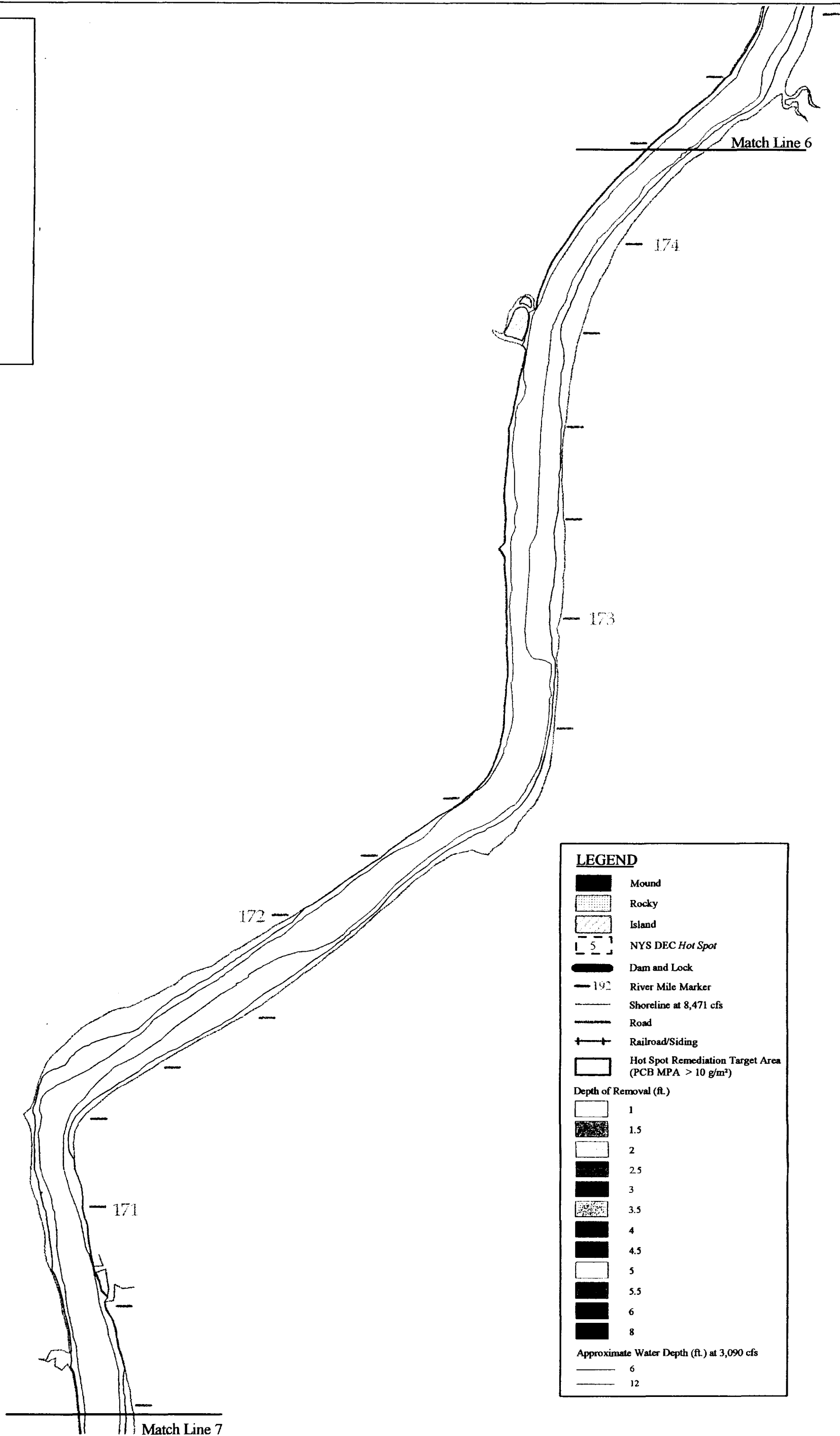
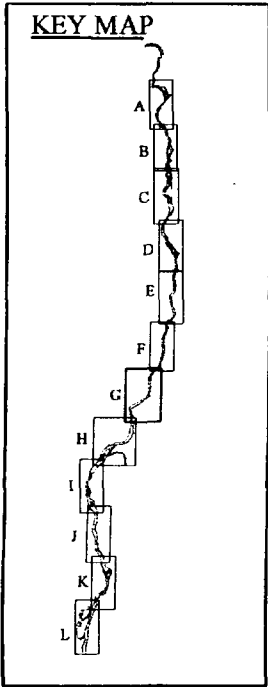


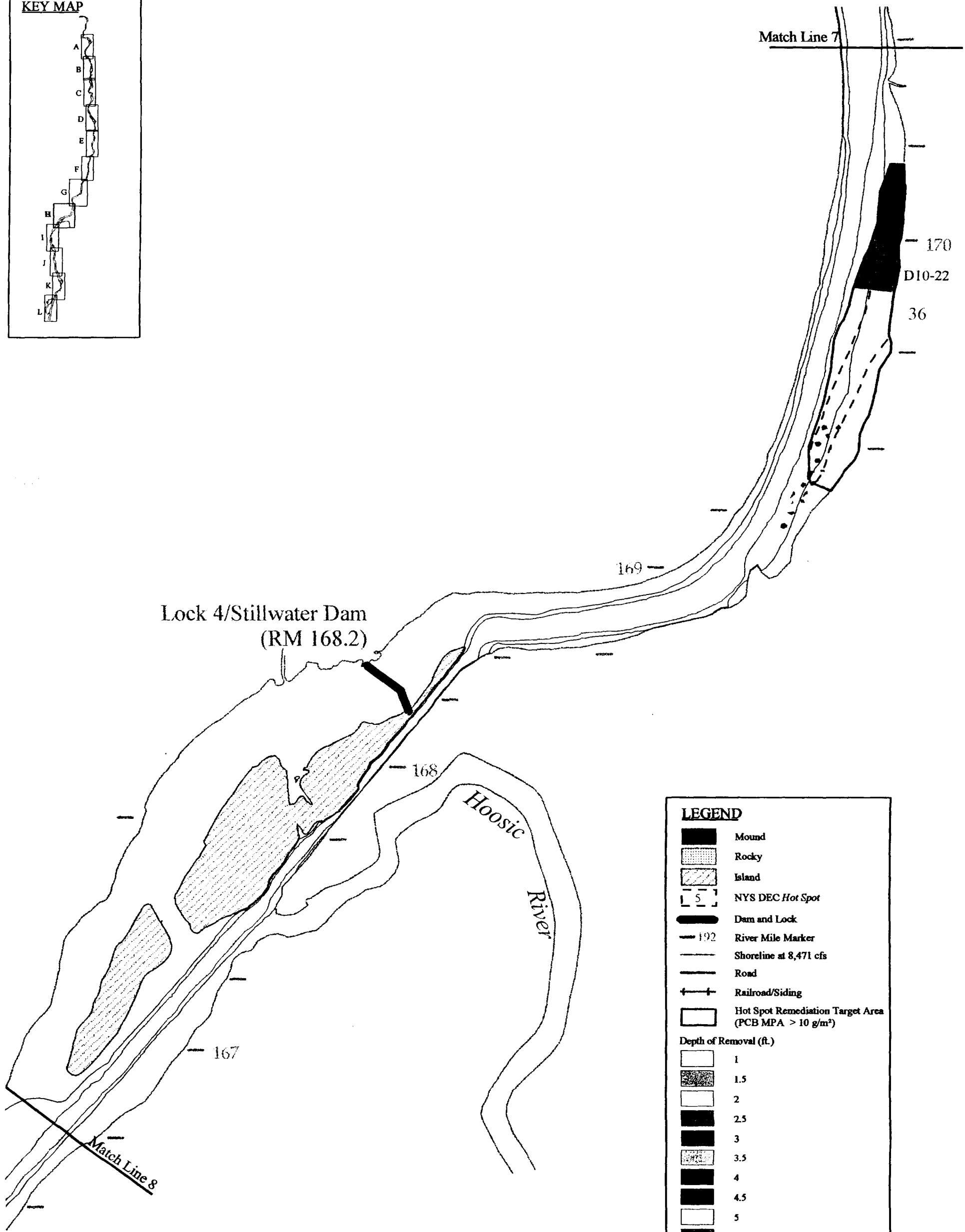
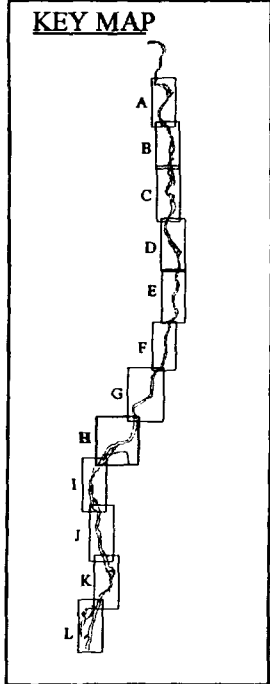
Hudson River PCBs
Reassessment
Feasibility Study

Plate 13

REM Alternatives: Hot Spot Removal
Areas and Depths
(PCB MPA > 10 g/m²)

Sheet 3 of 7
RM 181.0 - 174.0





LEGEND

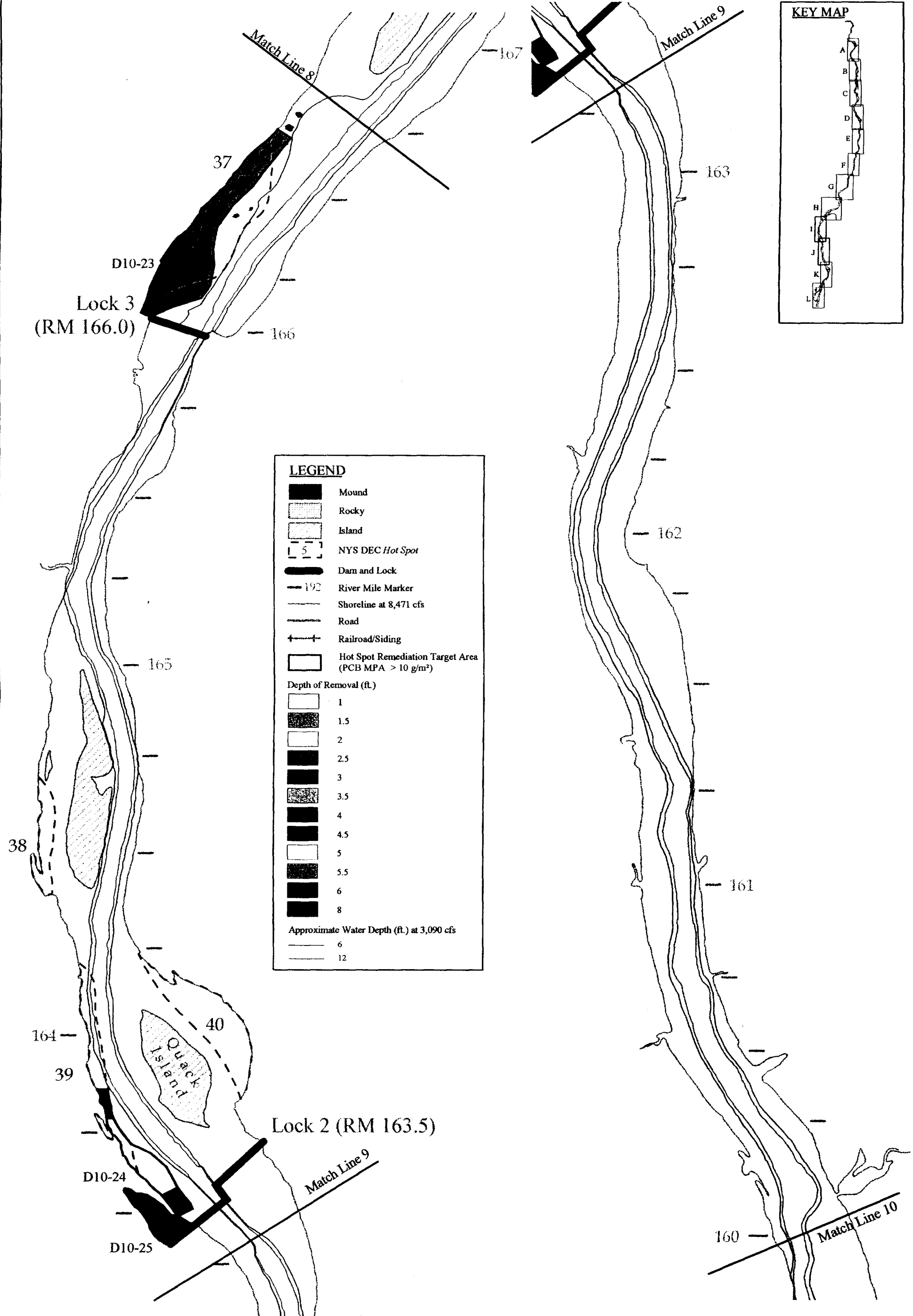
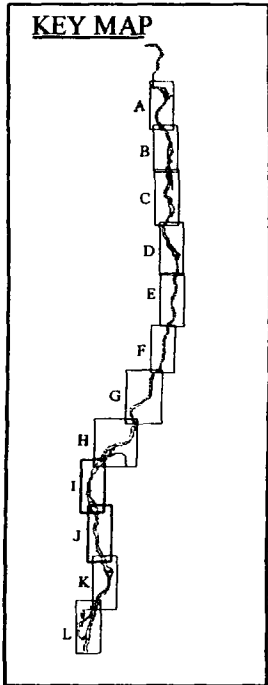
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Area (PCB MPA > 10 g/m²)

Depth of Removal (ft.)

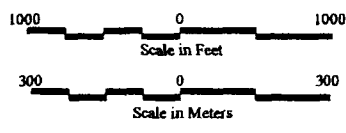
- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

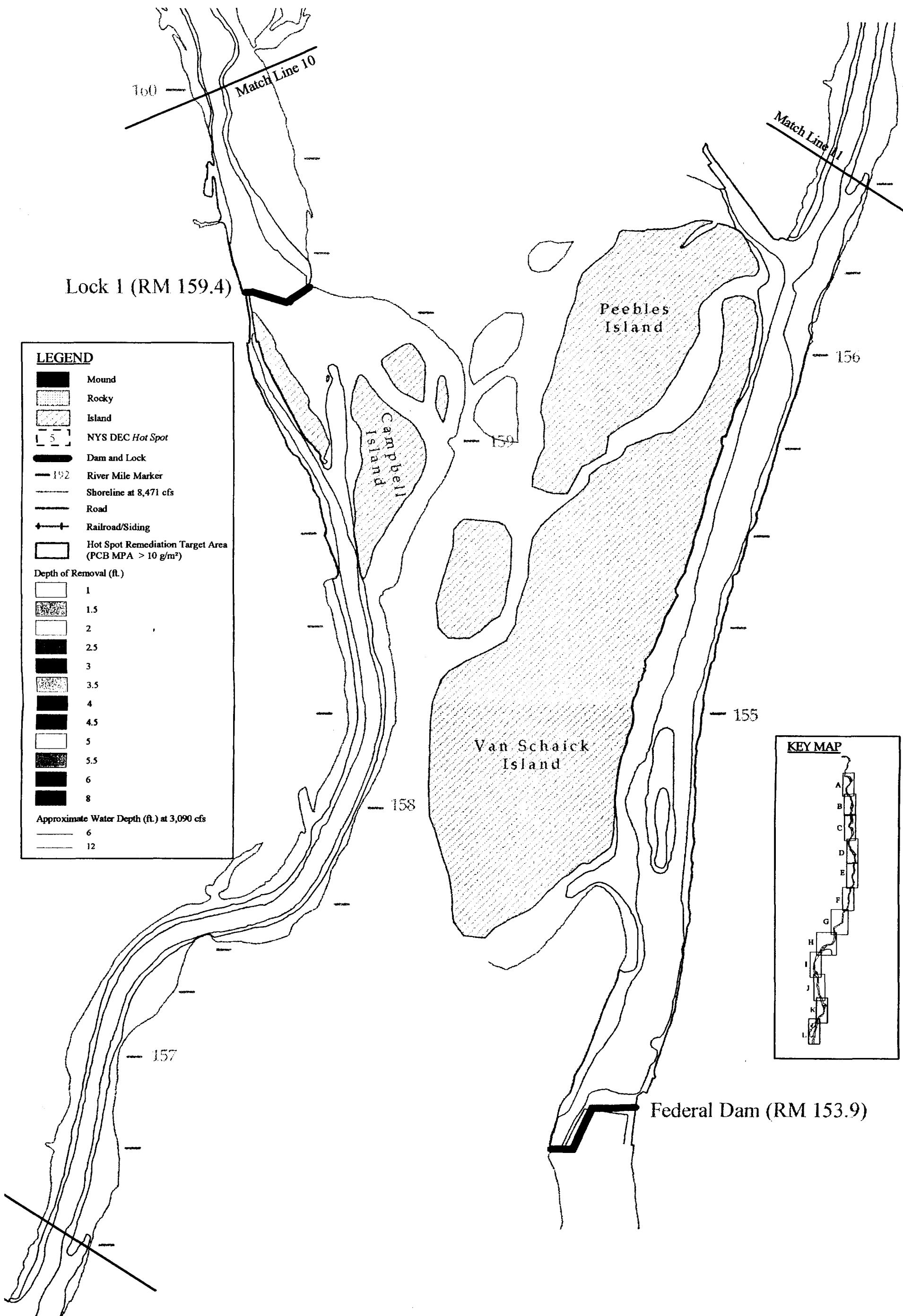
- 6
- 12



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Hudson River PCBs Reassessment Feasibility Study	Plate 13	Sheet 6 of 7 RM 167.0 - 160.0
	REM Alternatives: Hot Spot Removal Areas and Depths (PCB MPA > 10 g/m ²)	



LEGEND

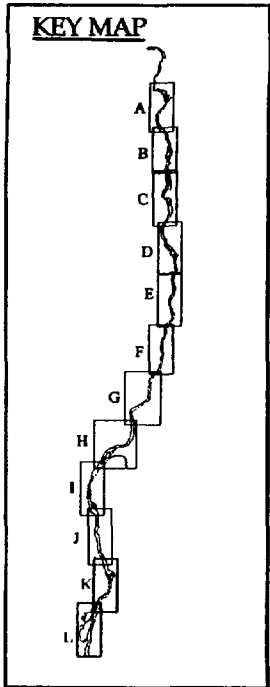
- Mound
- Rocky
- Island
- 5 NYS DEC Hot Spot
- Dam and Lock
- 192 River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Hot Spot Remediation Target Area (PCB MPA > 10 g/m²)

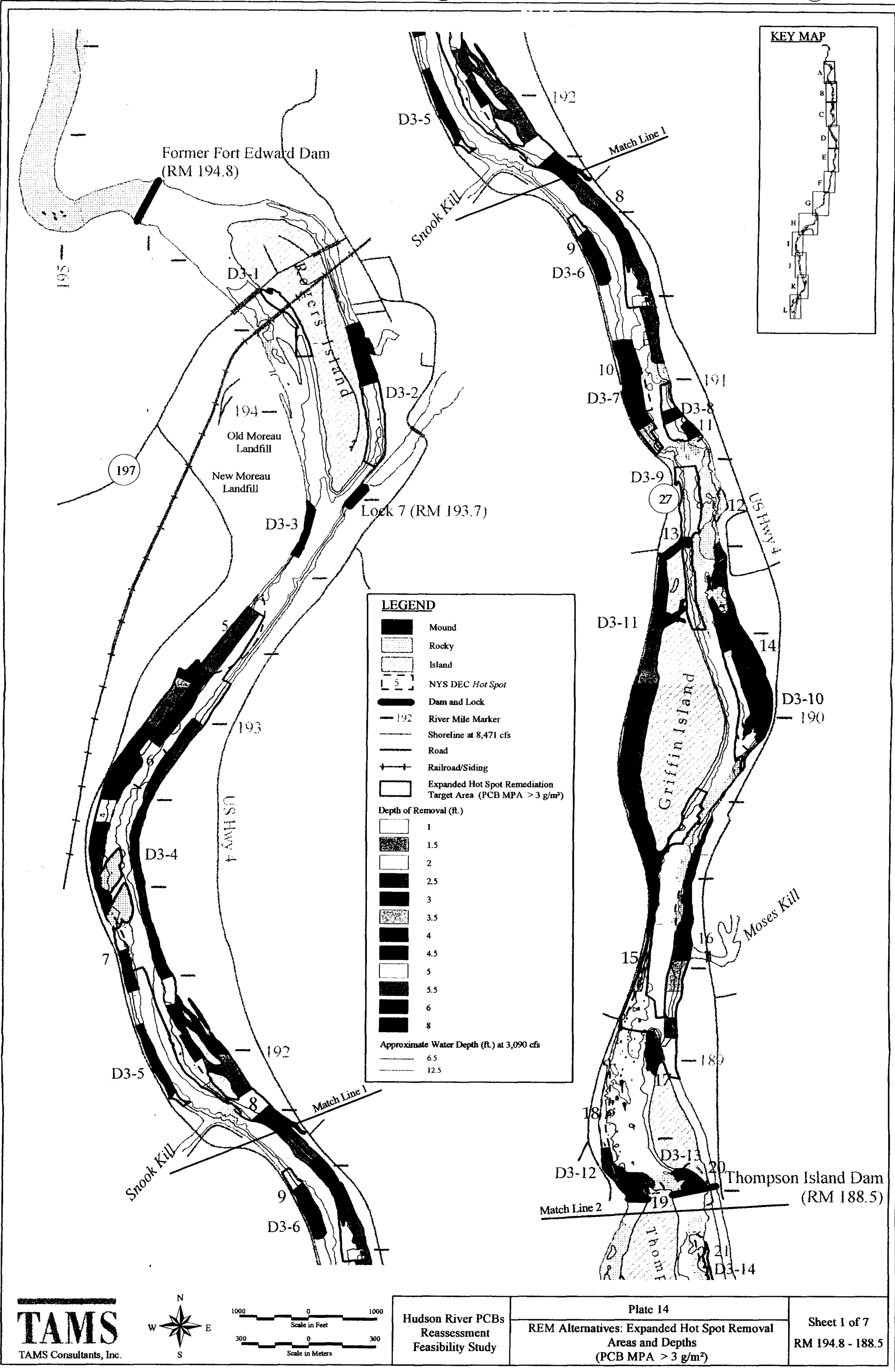
Depth of Removal (ft.)

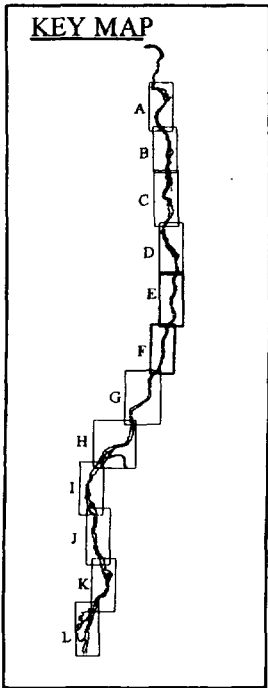
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
8

Approximate Water Depth (ft.) at 3,090 cfs

6
12







Match Line 4

D3-25

Match Line 5

LEGEND

- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Area (PCB MPA > 3 g/m²)

Depth of Removal (ft.)

1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
8

Approximate Water Depth (ft.) at 3,090 cfs

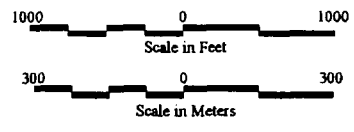
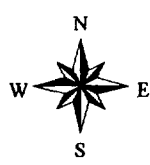
6
12

D3-25

Match Line 5

D3-26

Match Line 6



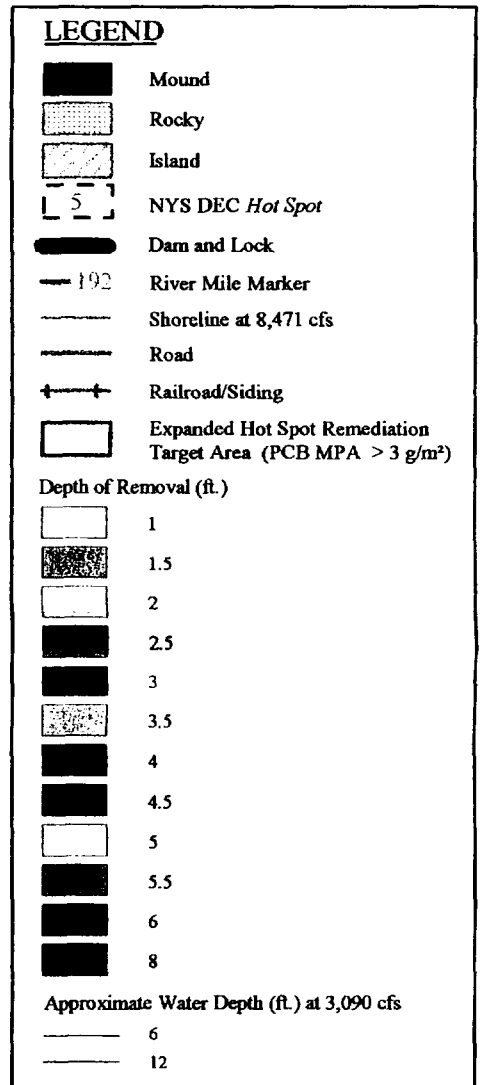
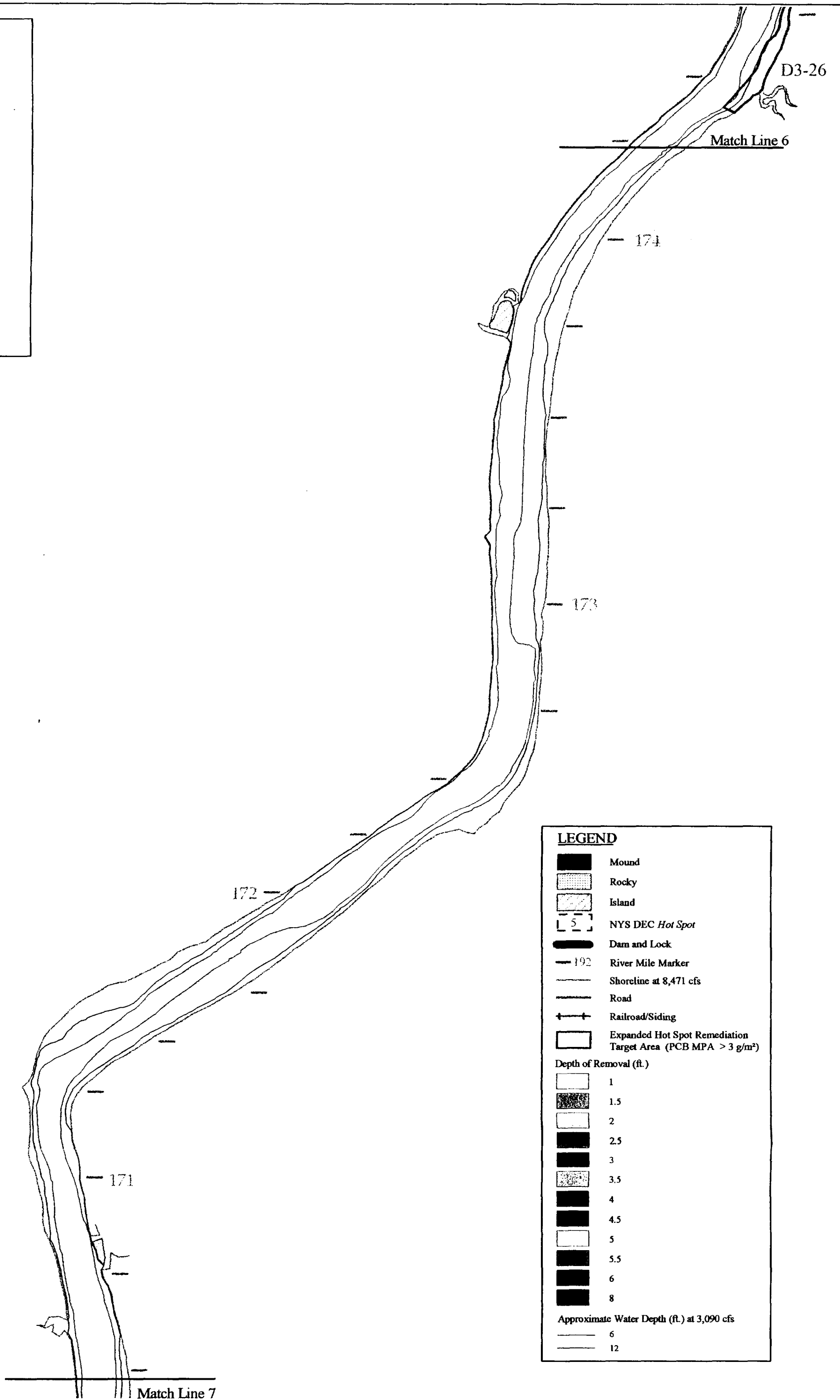
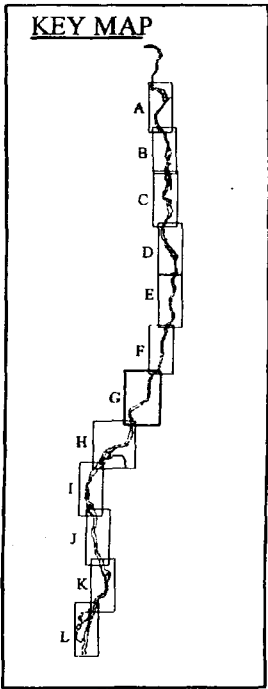
Hudson River PCBs
Reassessment
Feasibility Study

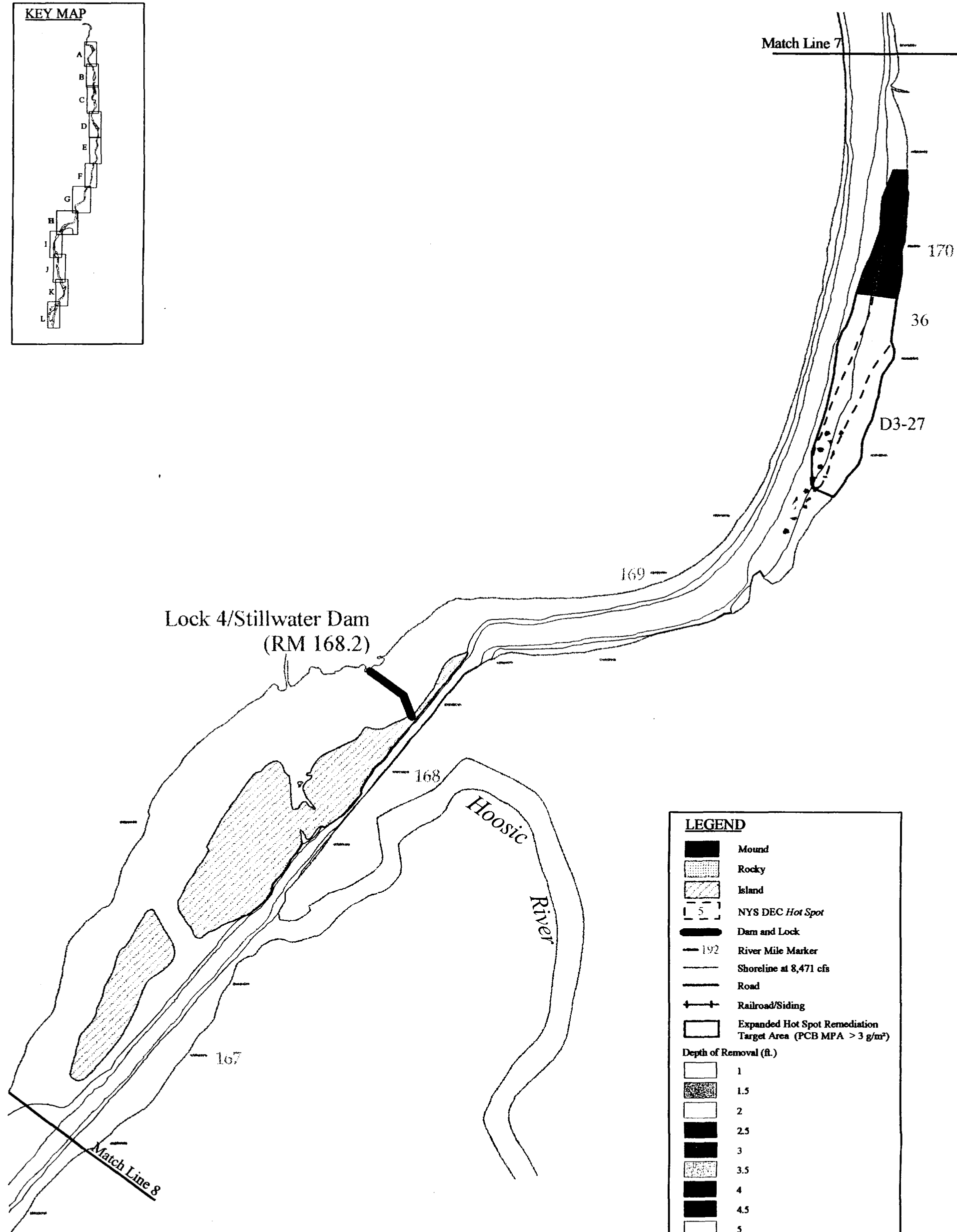
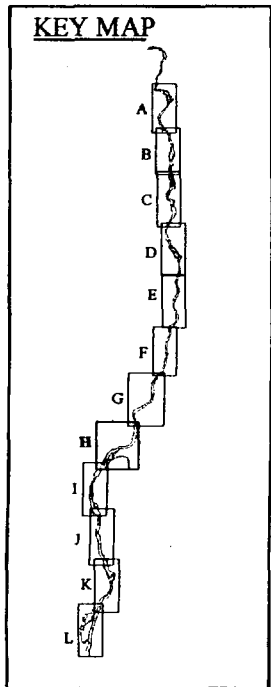
Plate 14
REM Alternatives: Expanded Hot Spot Removal
Areas and Depths
(PCB MPA > 3 g/m²)

Sheet 3 of 7
RM 181.0 - 174.0

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401303





LEGEND

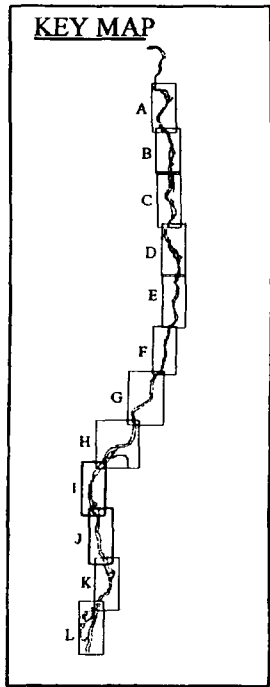
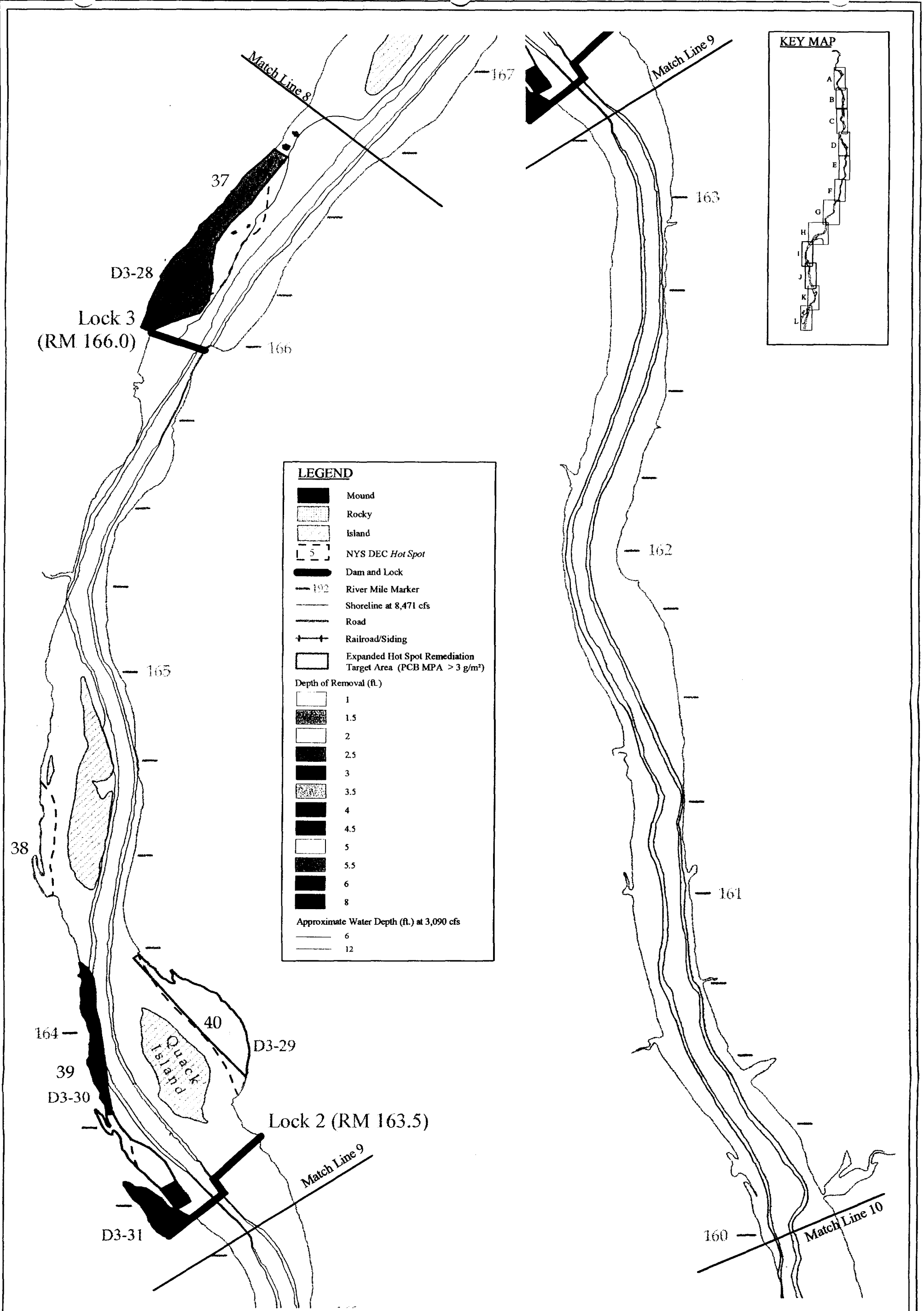
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Area (PCB MPA > 3 g/m²)

Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12



LEGEND

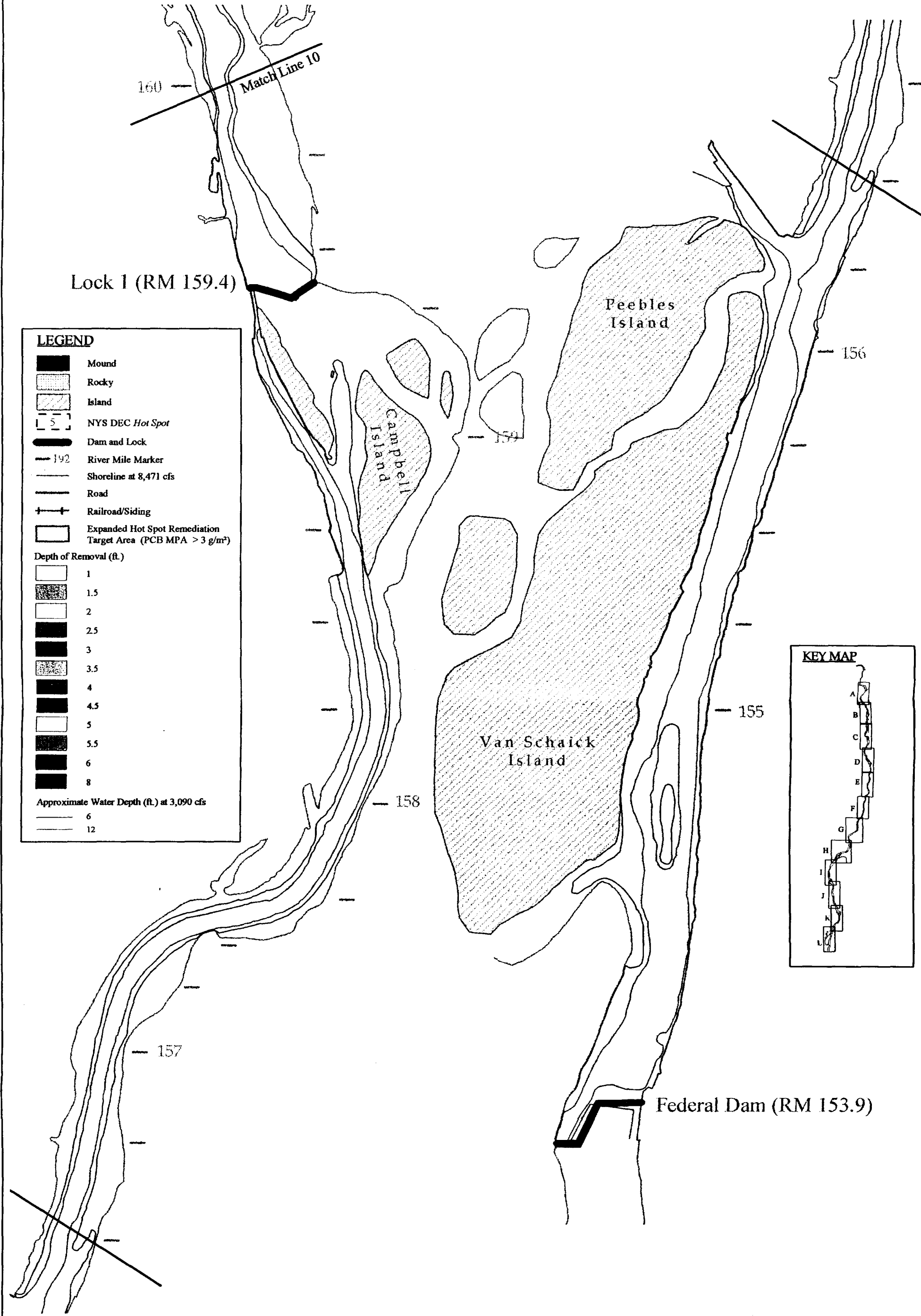
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Area (PCB MPA > 3 g/m²)

Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12



LEGEND

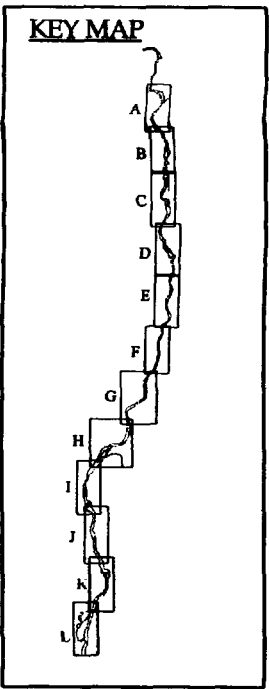
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Expanded Hot Spot Remediation Target Area (PCB MPA > 3 g/m²)

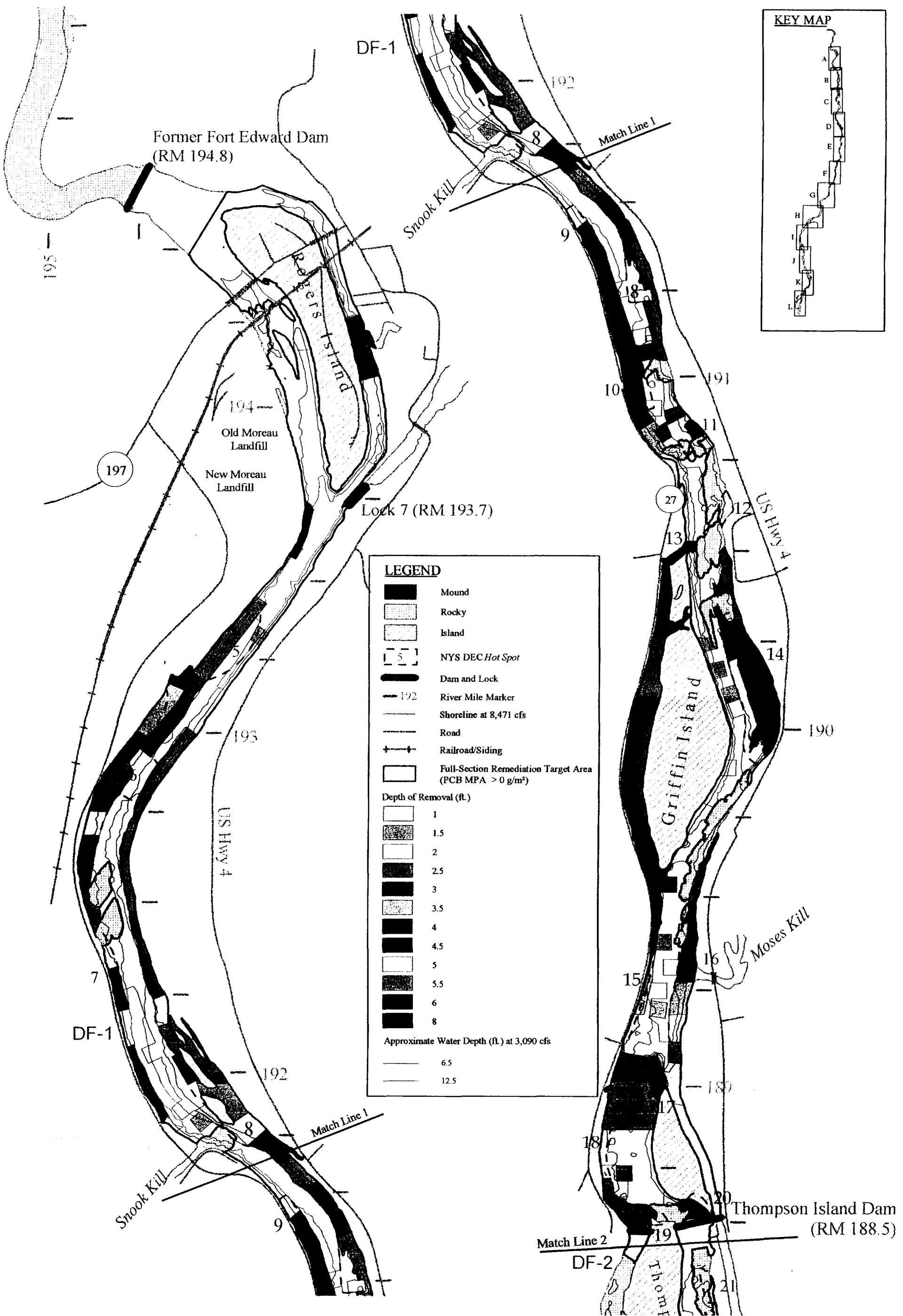
Depth of Removal (ft.)

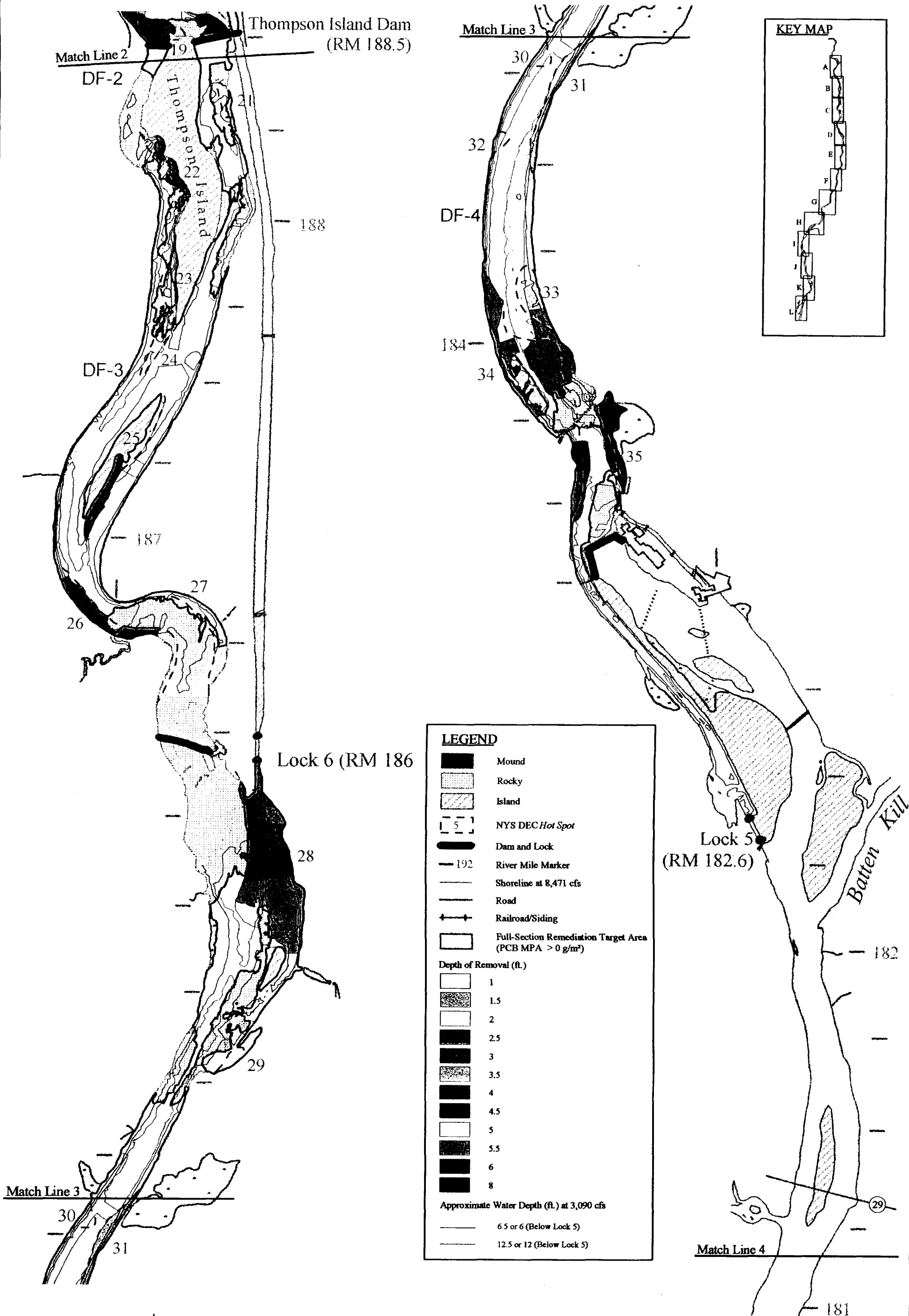
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
8

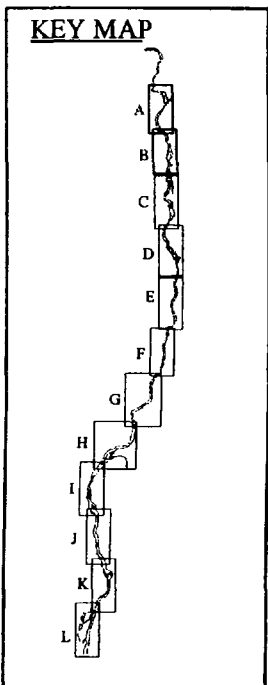
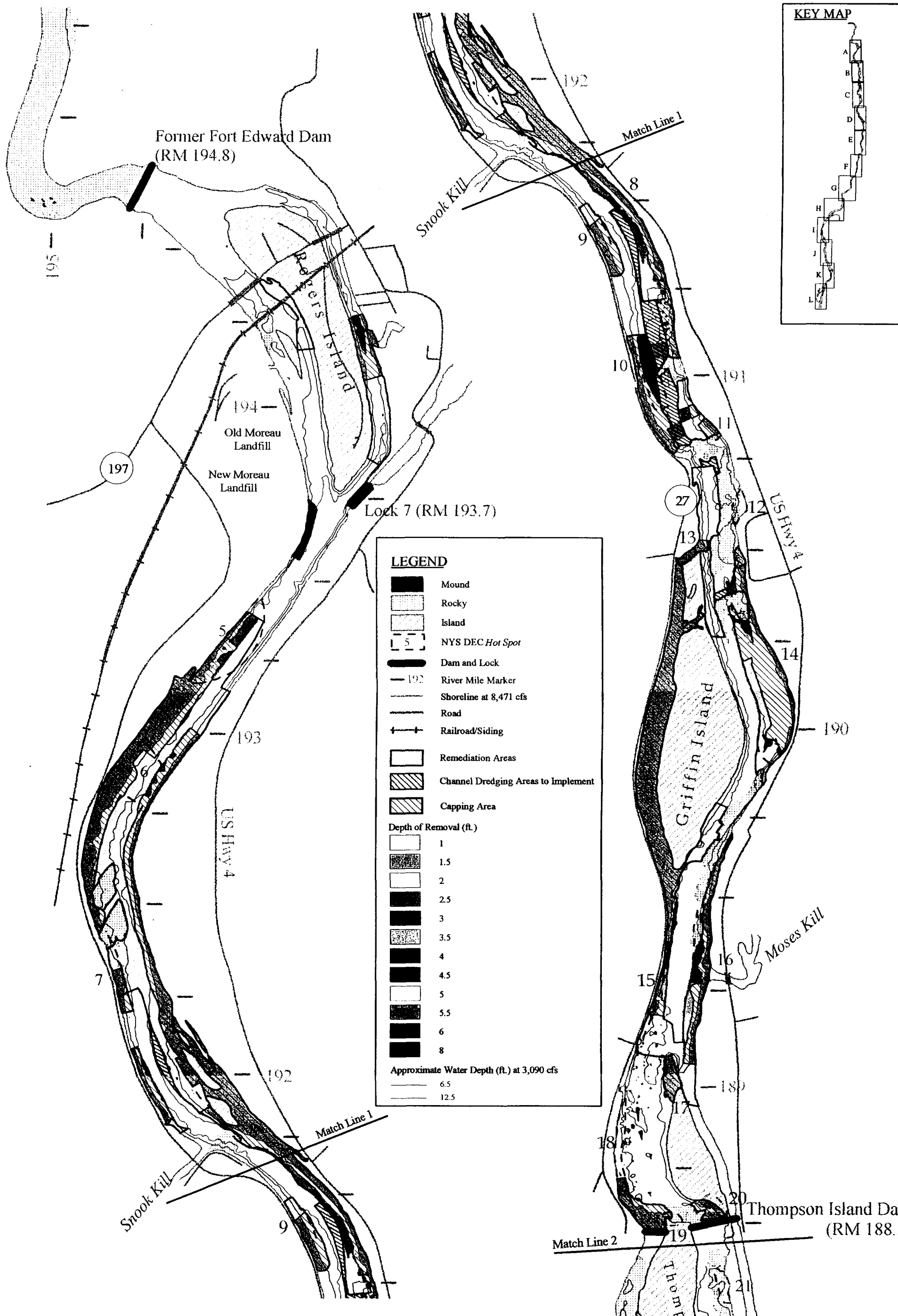
Approximate Water Depth (ft.) at 3,090 cfs

6
12









LEGEND

- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement
- Capping Area

Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6.5
- 12.5

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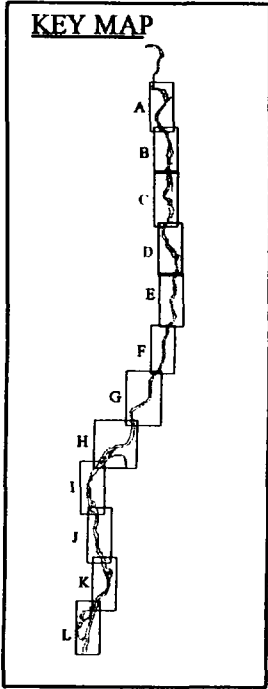
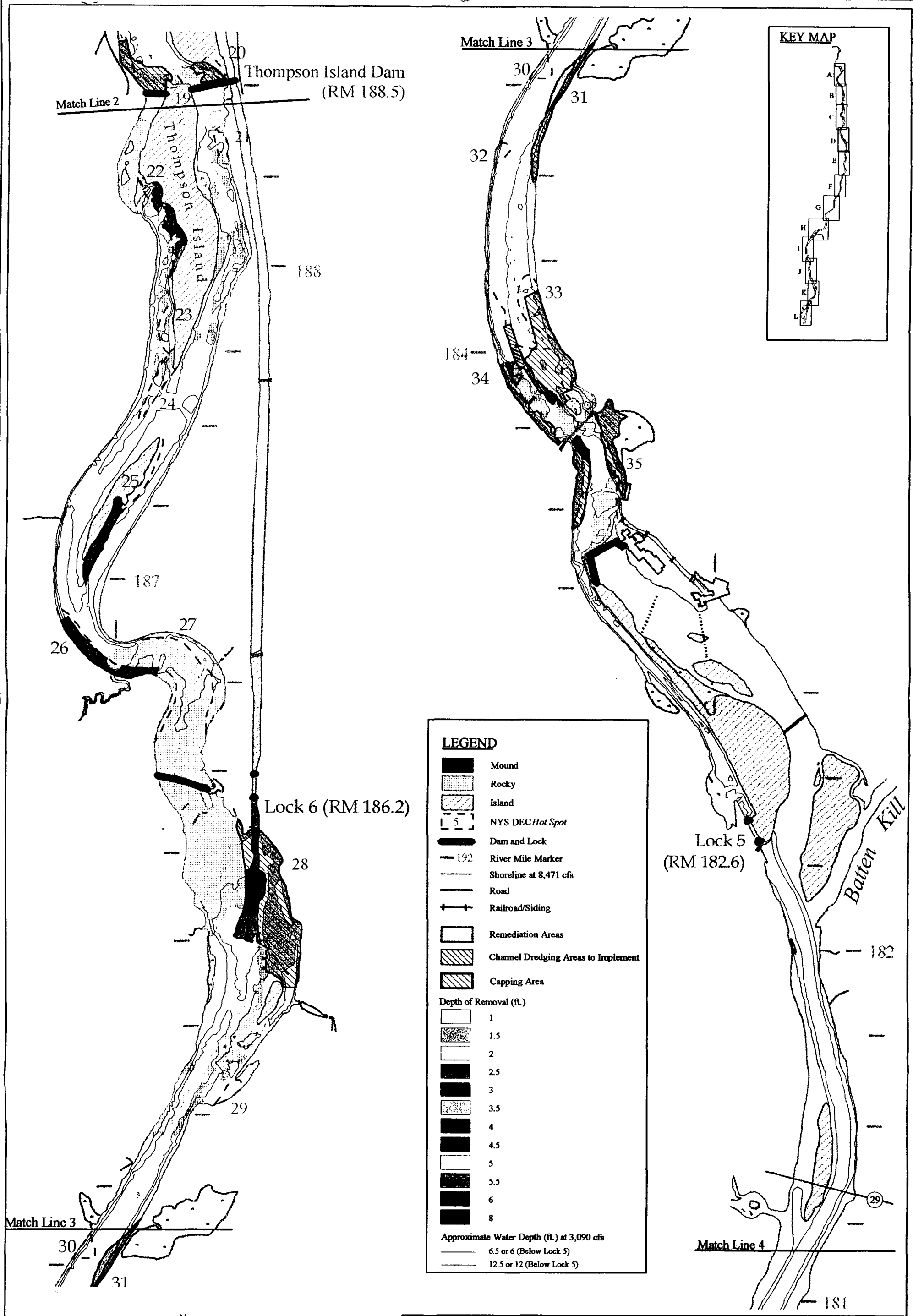
N
W E
S

1000 0 1000
Scale in Feet

300 0 300
Scale in Meters

Hudson River PCBs Reassessment Feasibility Study	Plate 16	Sheet 1 of 7
	Alternative CAP - 3/10/Select Capping Areas and Removal Depths	RM 194.8 - 188.5

4013107



LEGEND

- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- 192 River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement
- Capping Area

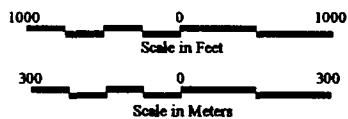
Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6.5 or 6 (Below Lock 5)
- 12.5 or 12 (Below Lock 5)

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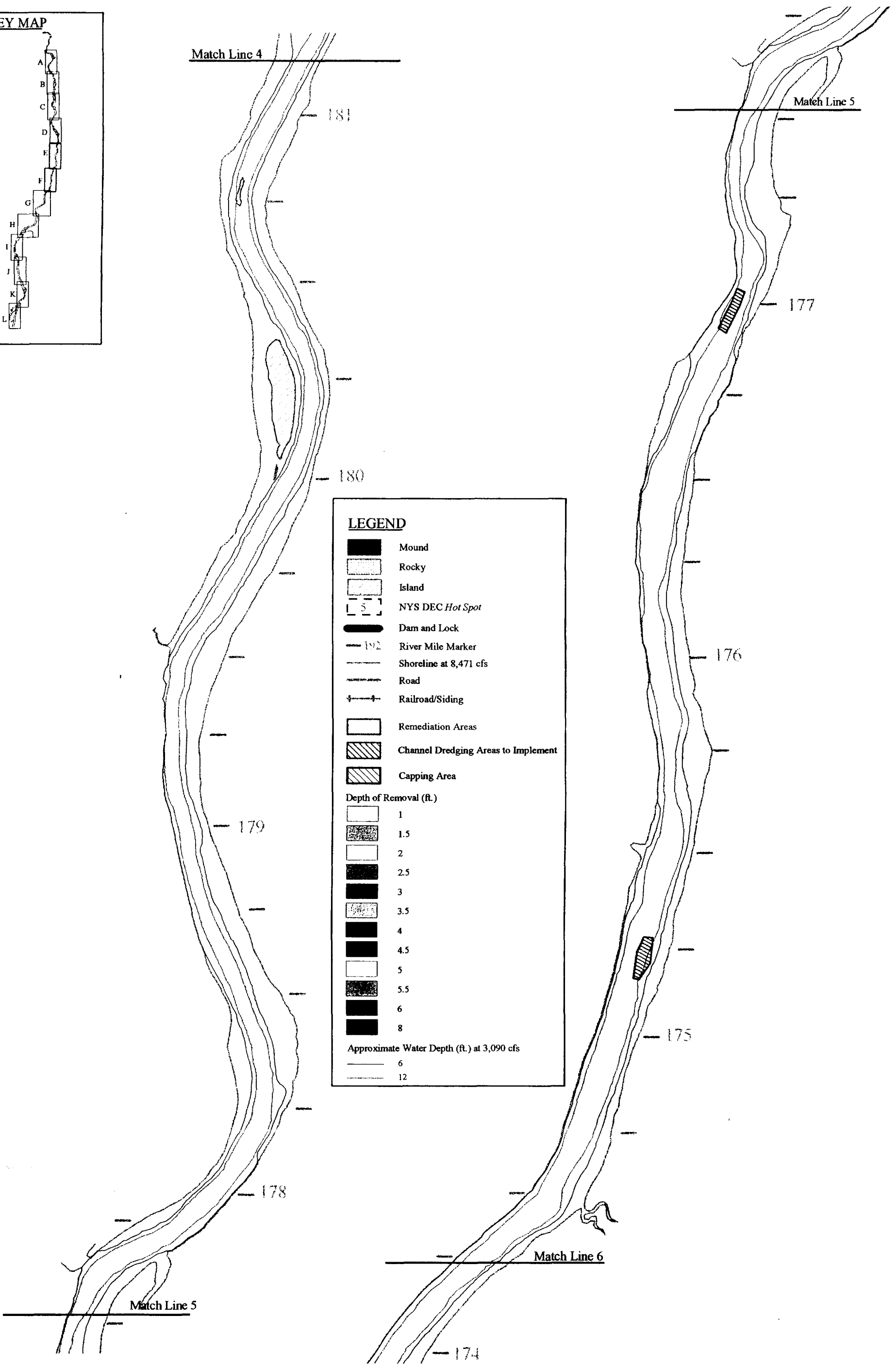
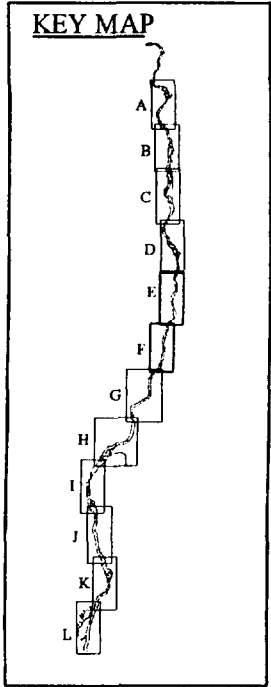


Hudson River PCBs
Reassessment
Feasibility Study

Plate 16

Alternative CAP - 3/10/Select
Capping Areas and Removal Depths

Sheet 2 of 7
RM 188.5 - 181.0



LEGEND

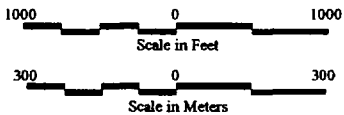
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement
- Capping Area

Depth of Removal (ft.)

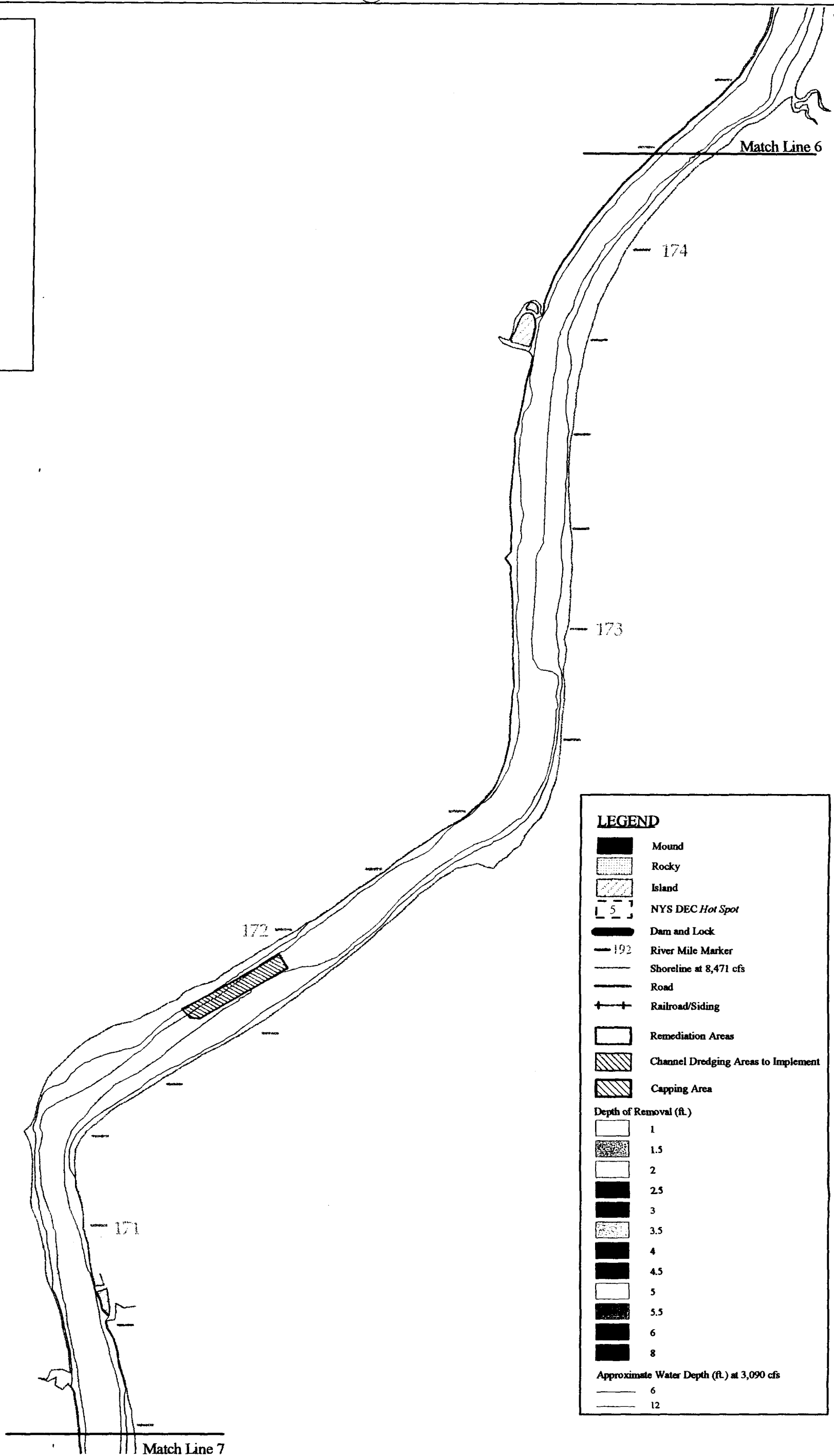
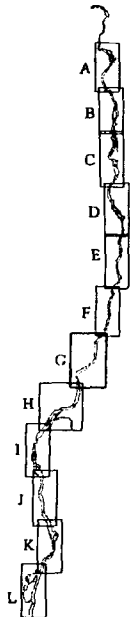
- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12



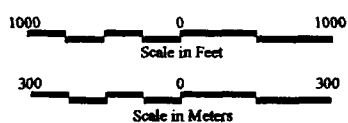
KEY MAP



LEGEND

- Mound
 - Rocky
 - Island
 - NYS DEC Hot Spot
 - Dam and Lock
 - River Mile Marker
 - Shoreline at 8,471 cfs
 - Road
 - Railroad/Siding
 - Remediation Areas
 - Channel Dredging Areas to Implement
 - Capping Area
- Depth of Removal (ft.)
- 1
 - 1.5
 - 2
 - 2.5
 - 3
 - 3.5
 - 4
 - 4.5
 - 5
 - 5.5
 - 6
 - 8
- Approximate Water Depth (ft.) at 3,090 cfs
- 6
 - 12

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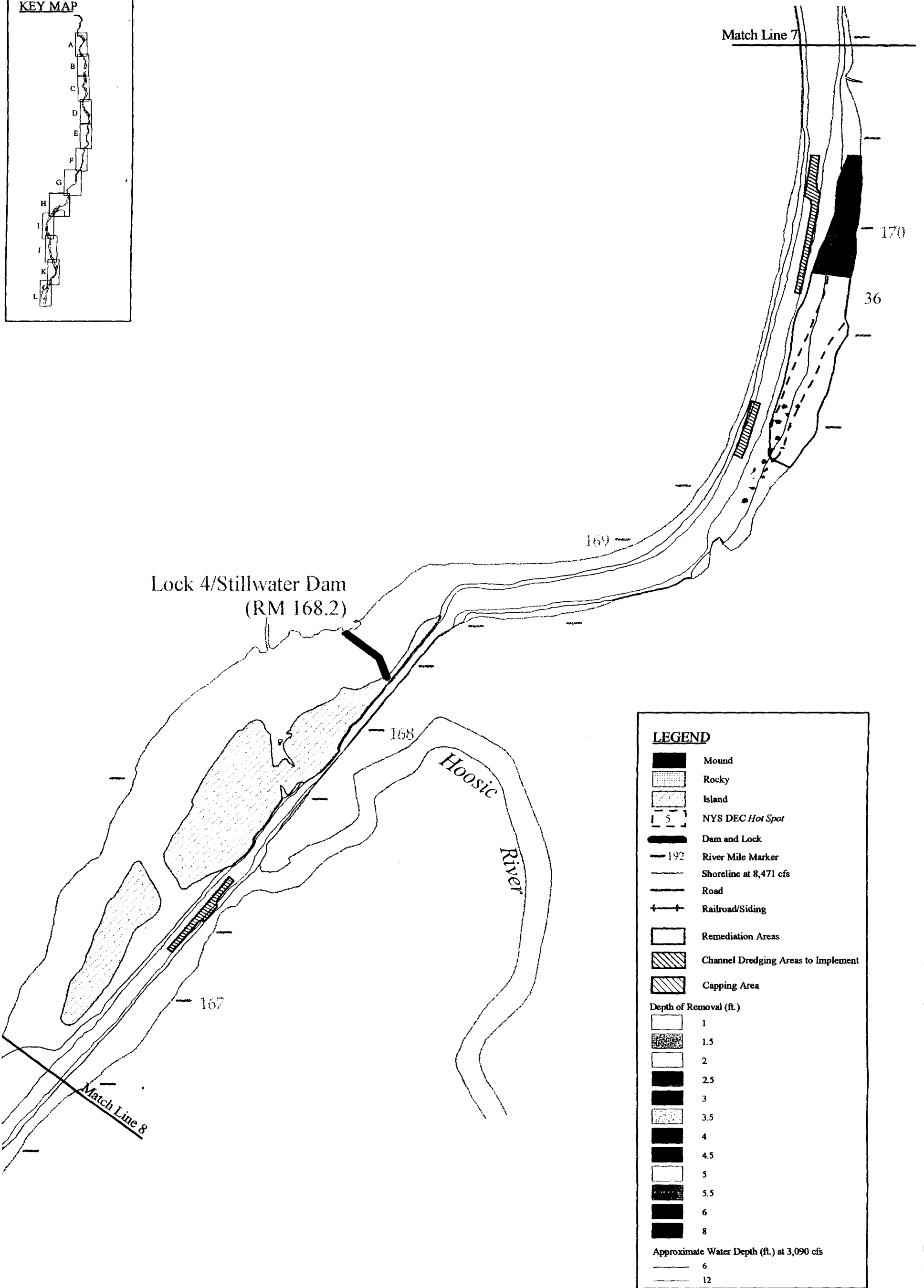
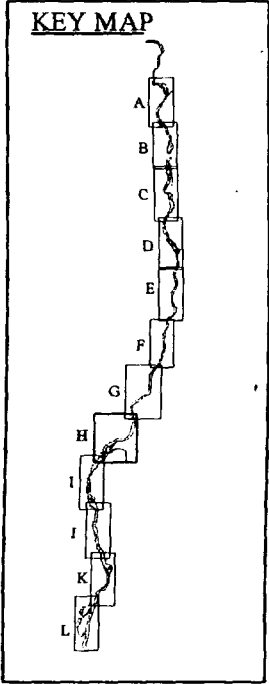


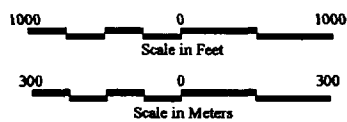
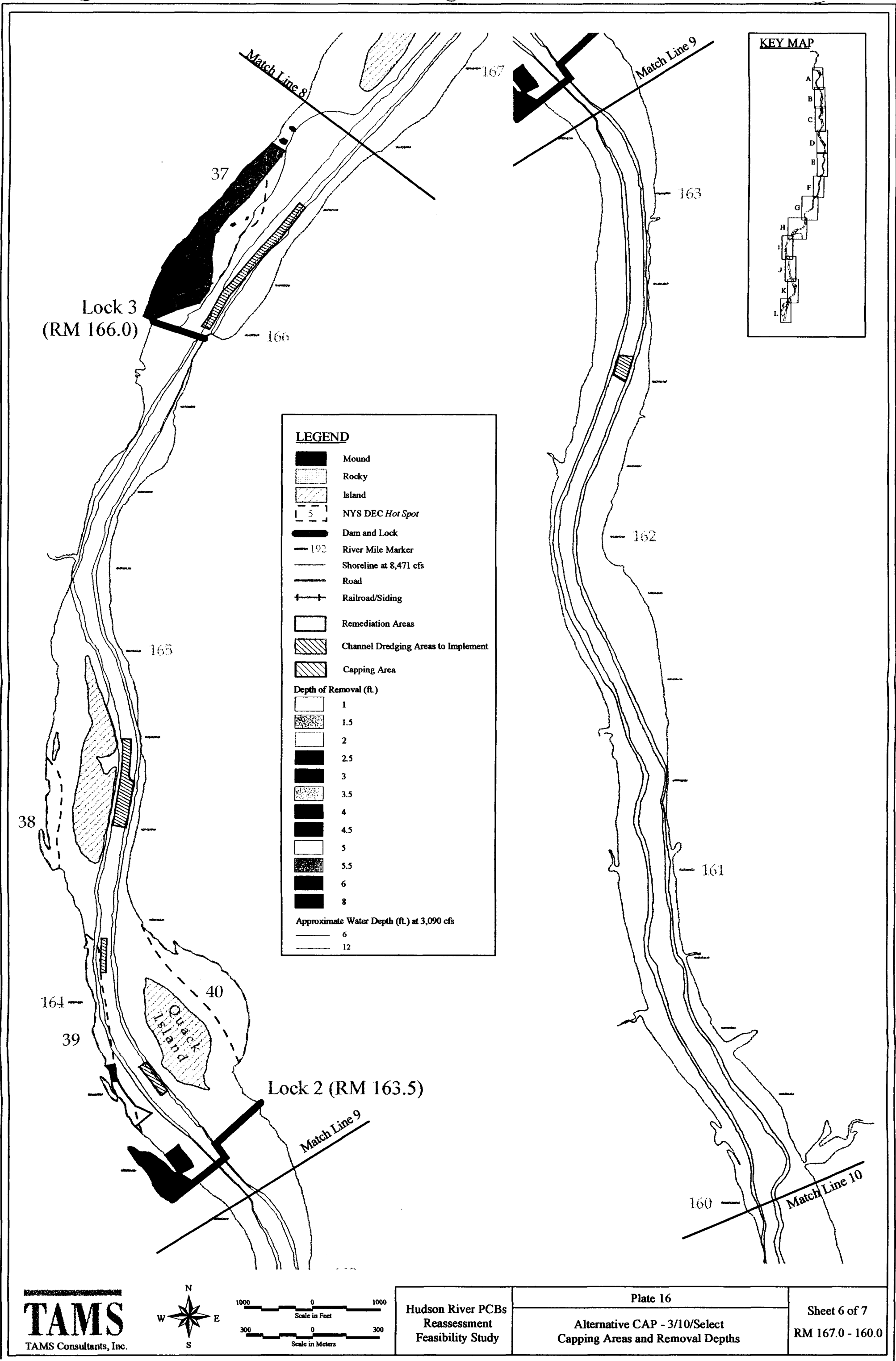
Hudson River PCBs
Reassessment
Feasibility Study

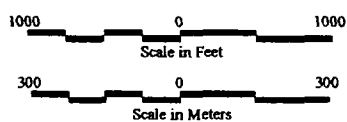
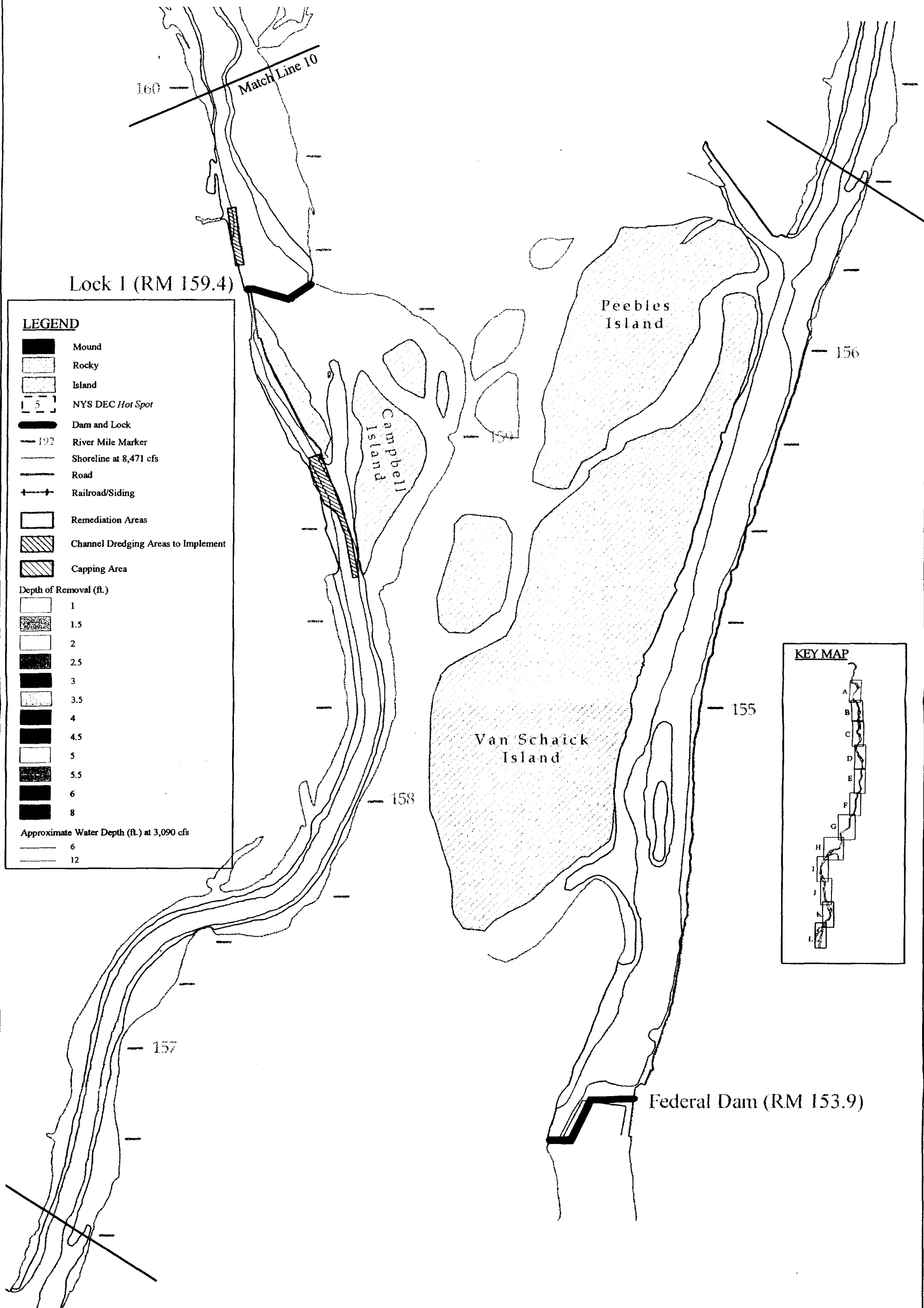
Plate 16

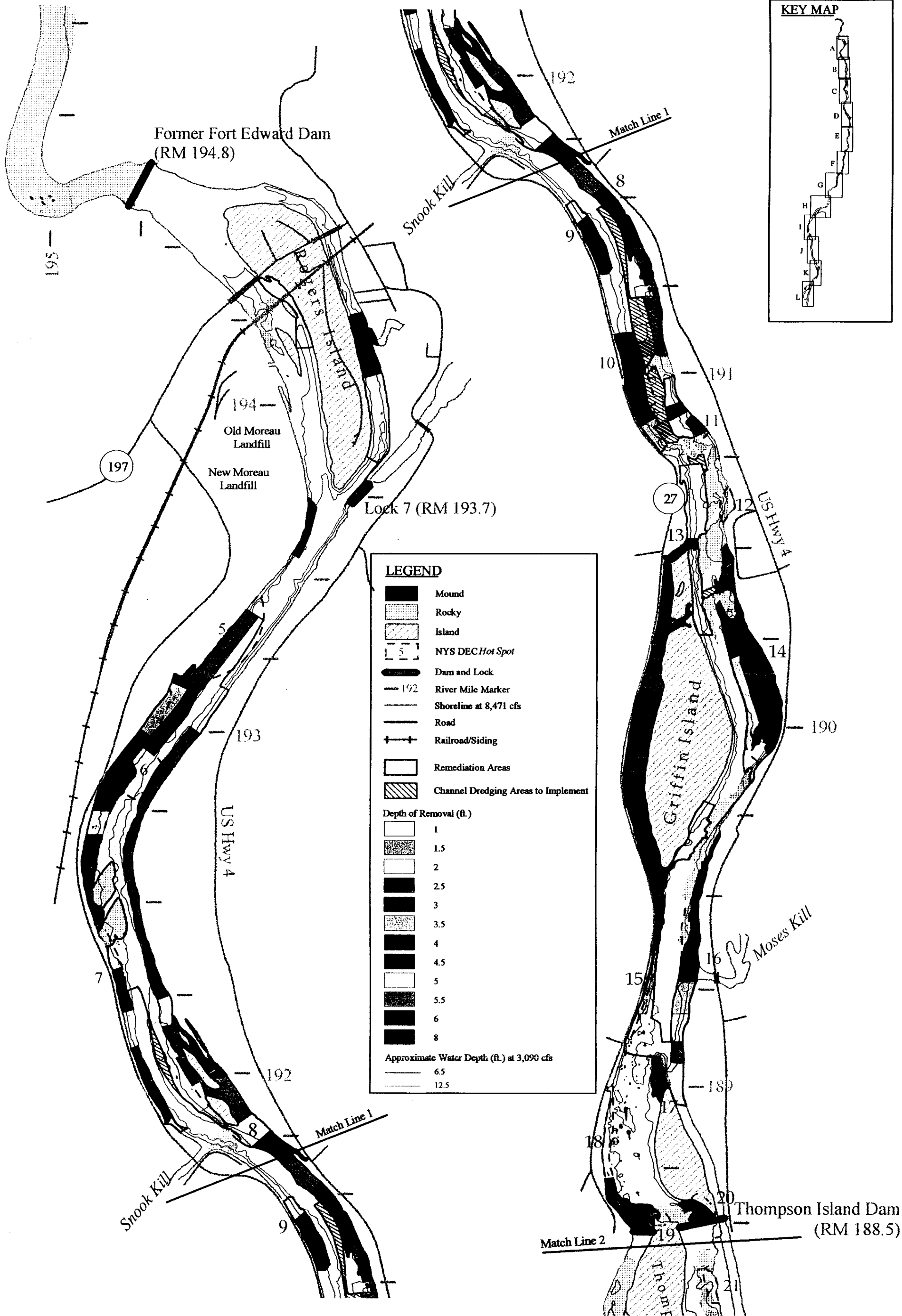
Alternative CAP - 3/10/Select
Capping Areas and Removal Depths

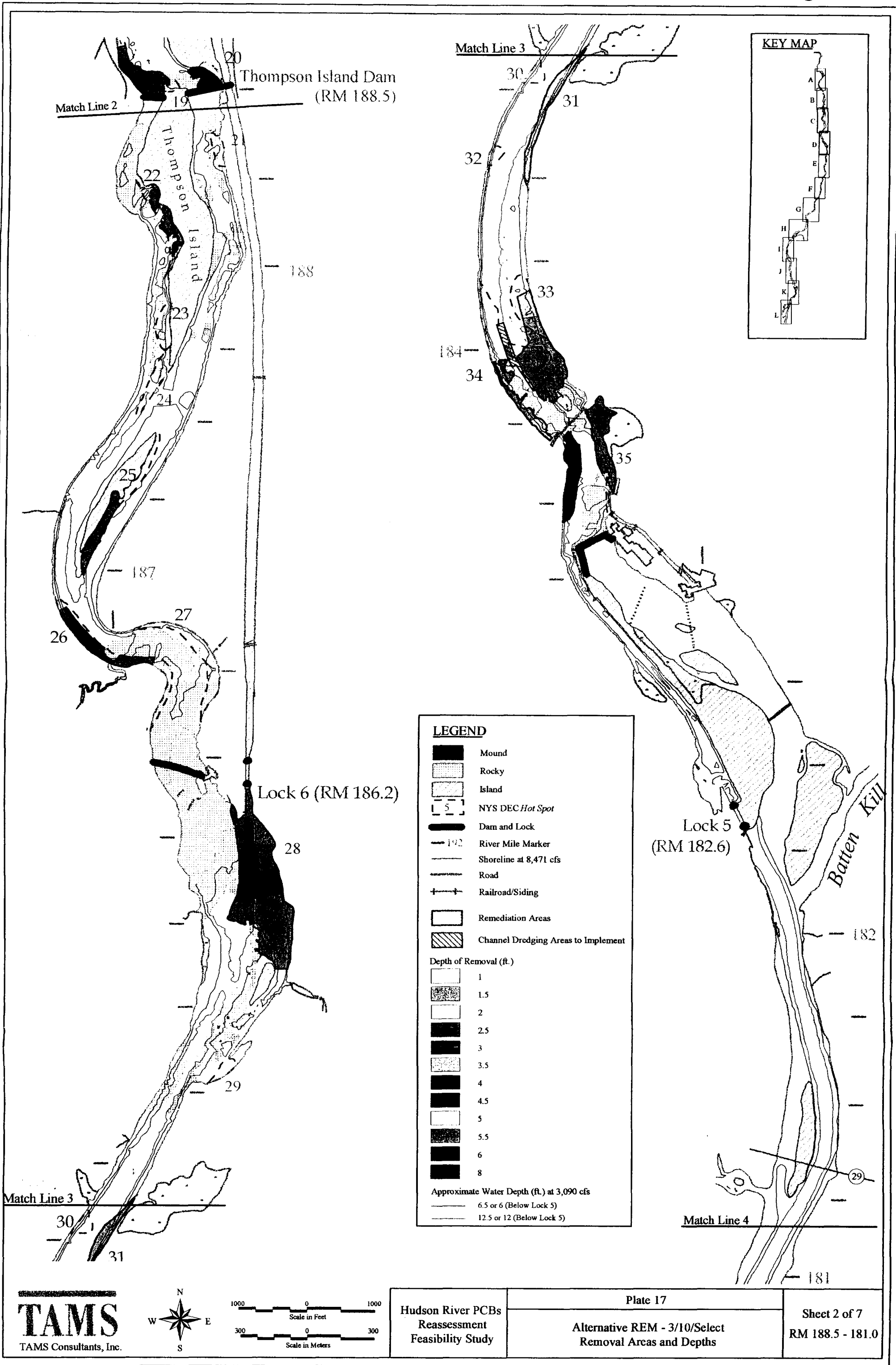
Sheet 4 of 7
RM 174.5 - 170.5

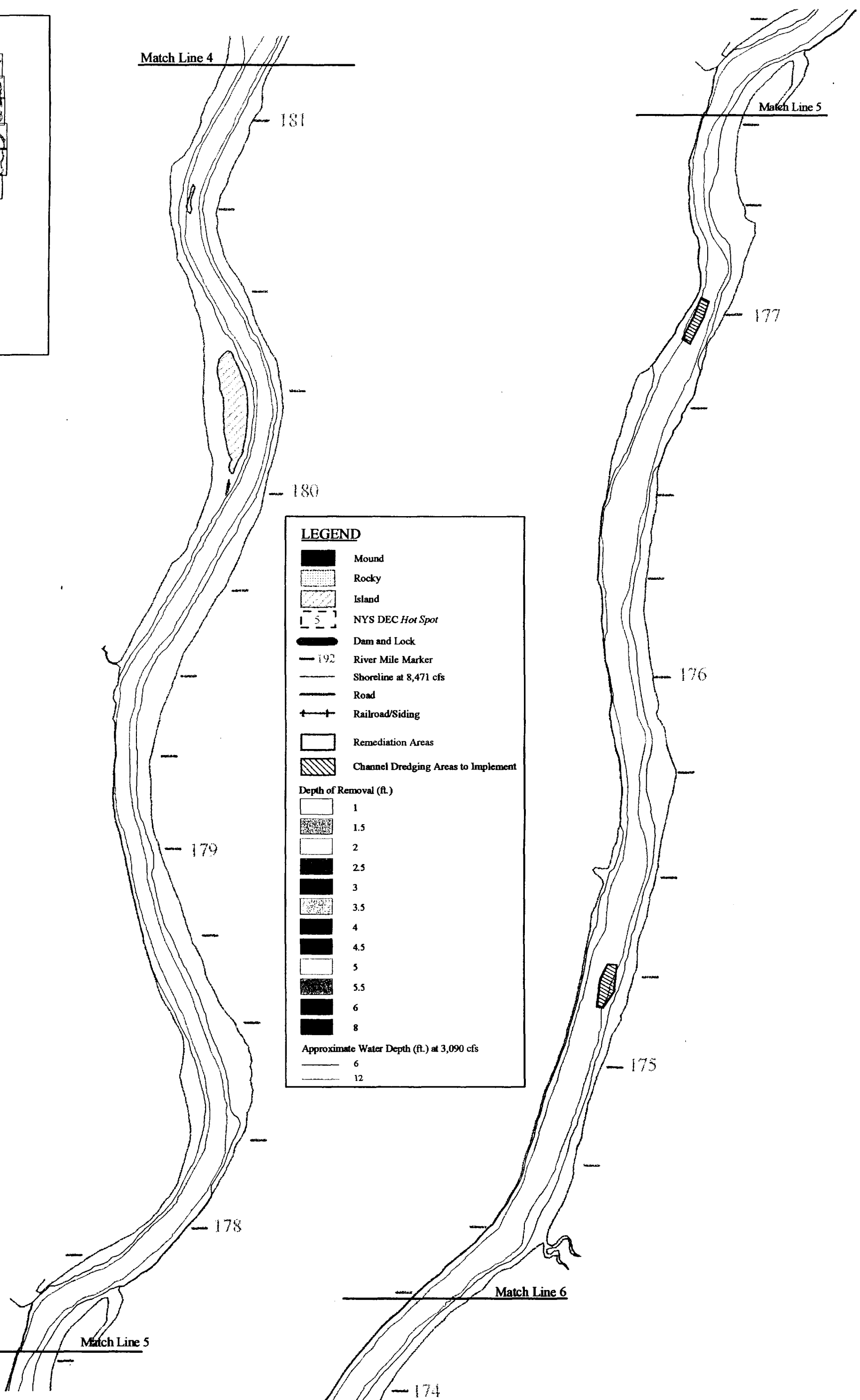
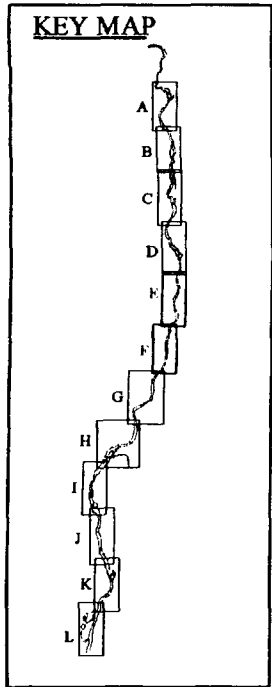












LEGEND

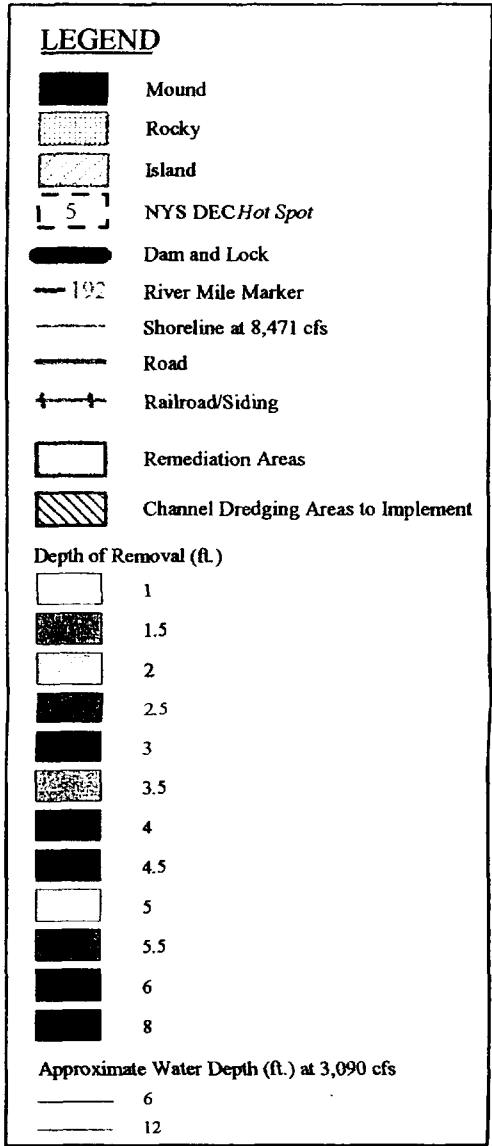
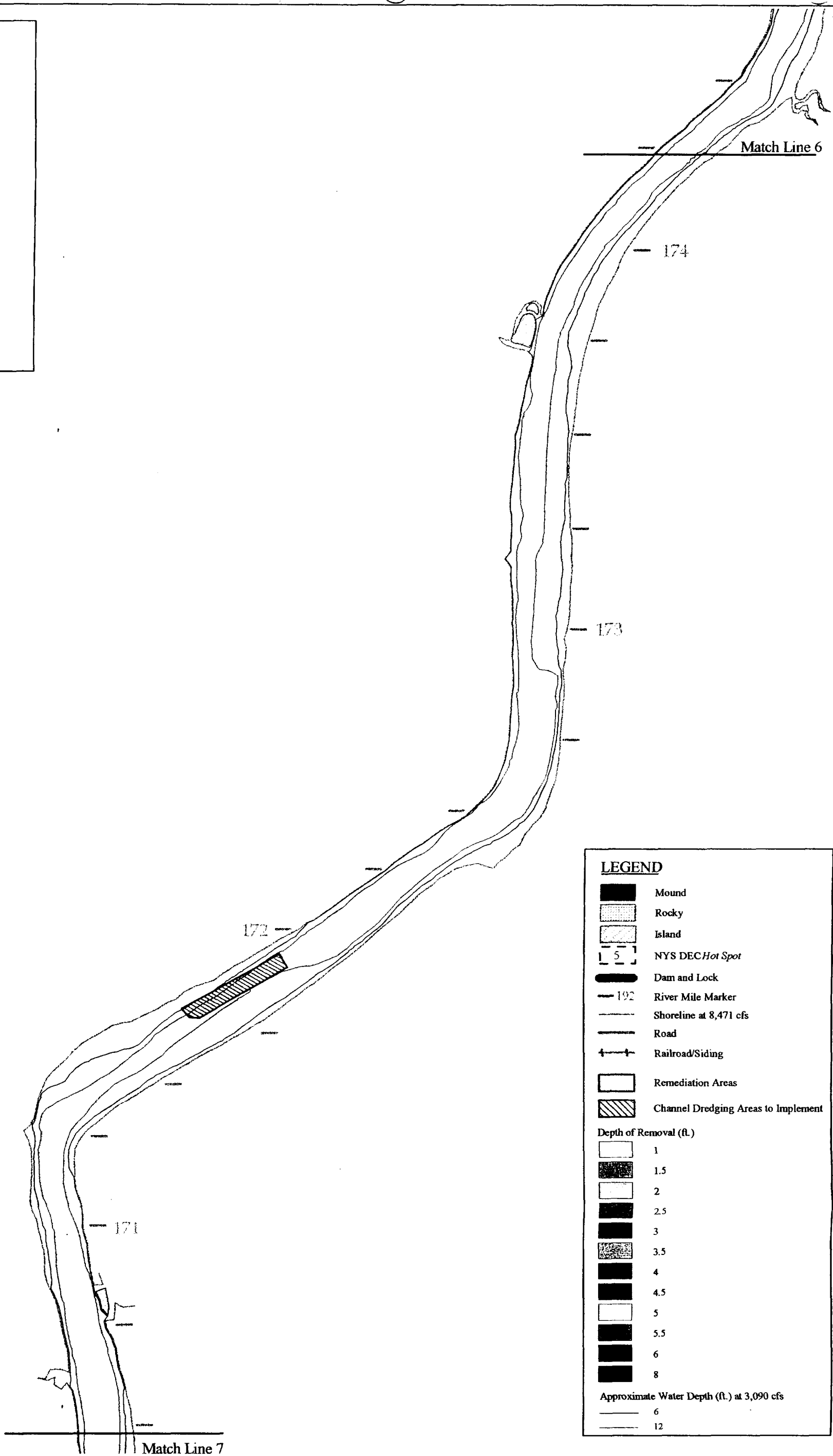
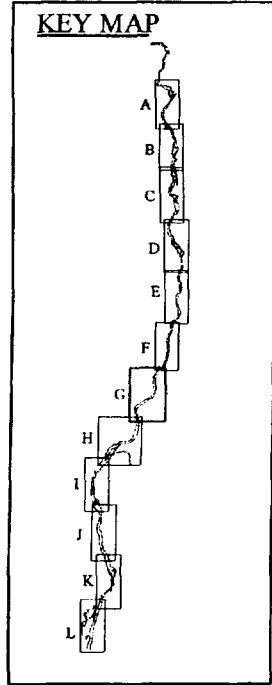
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement

Depth of Removal (ft.)

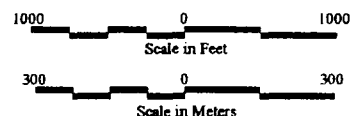
- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12



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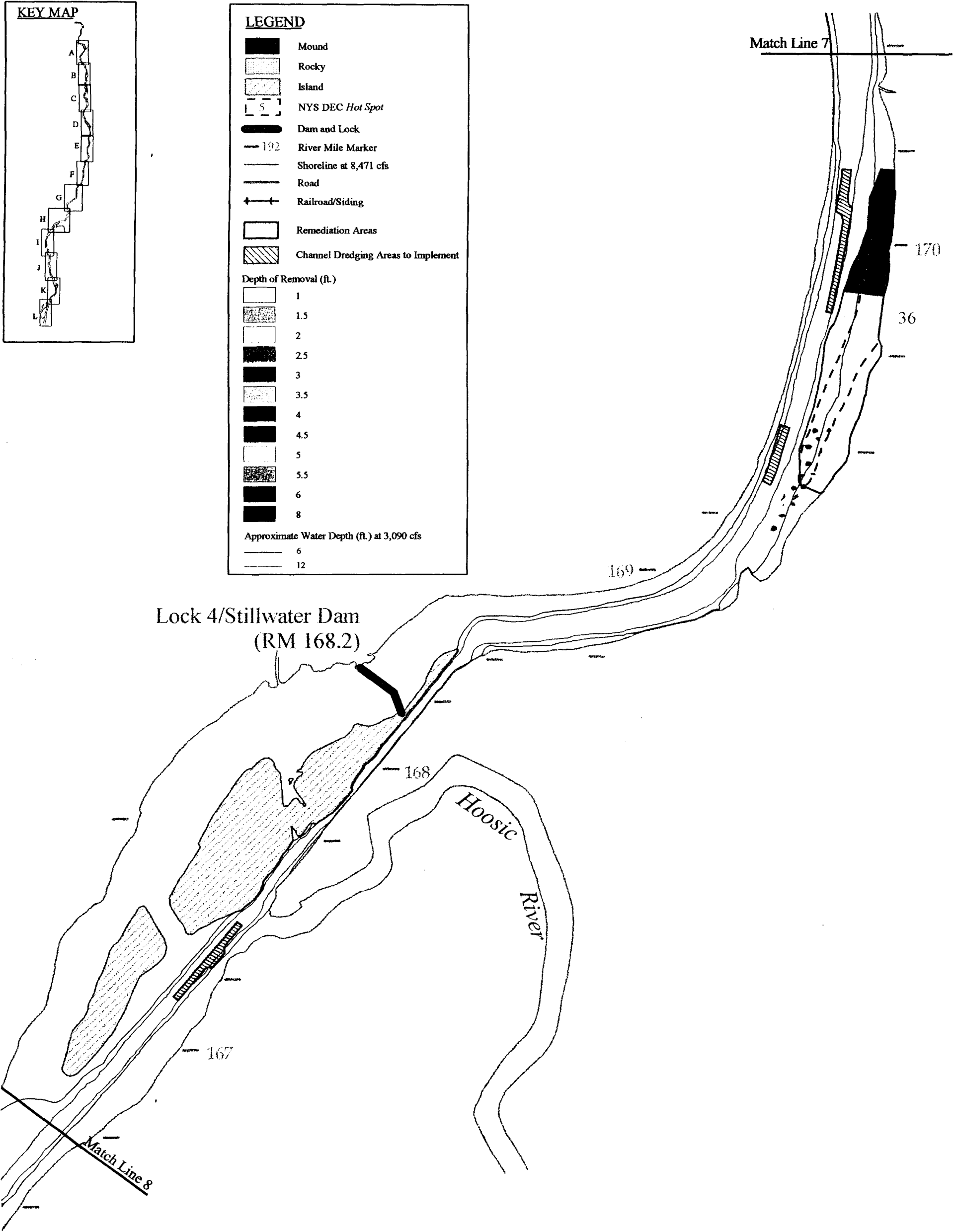
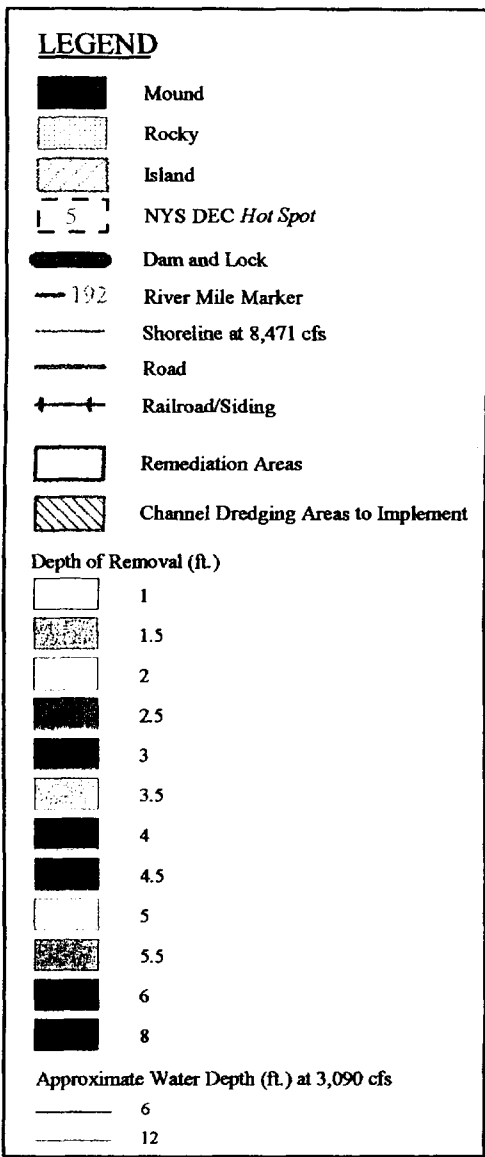
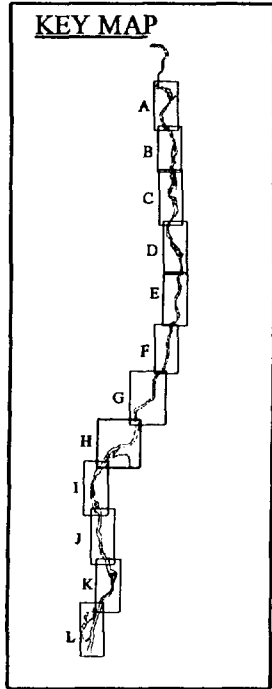


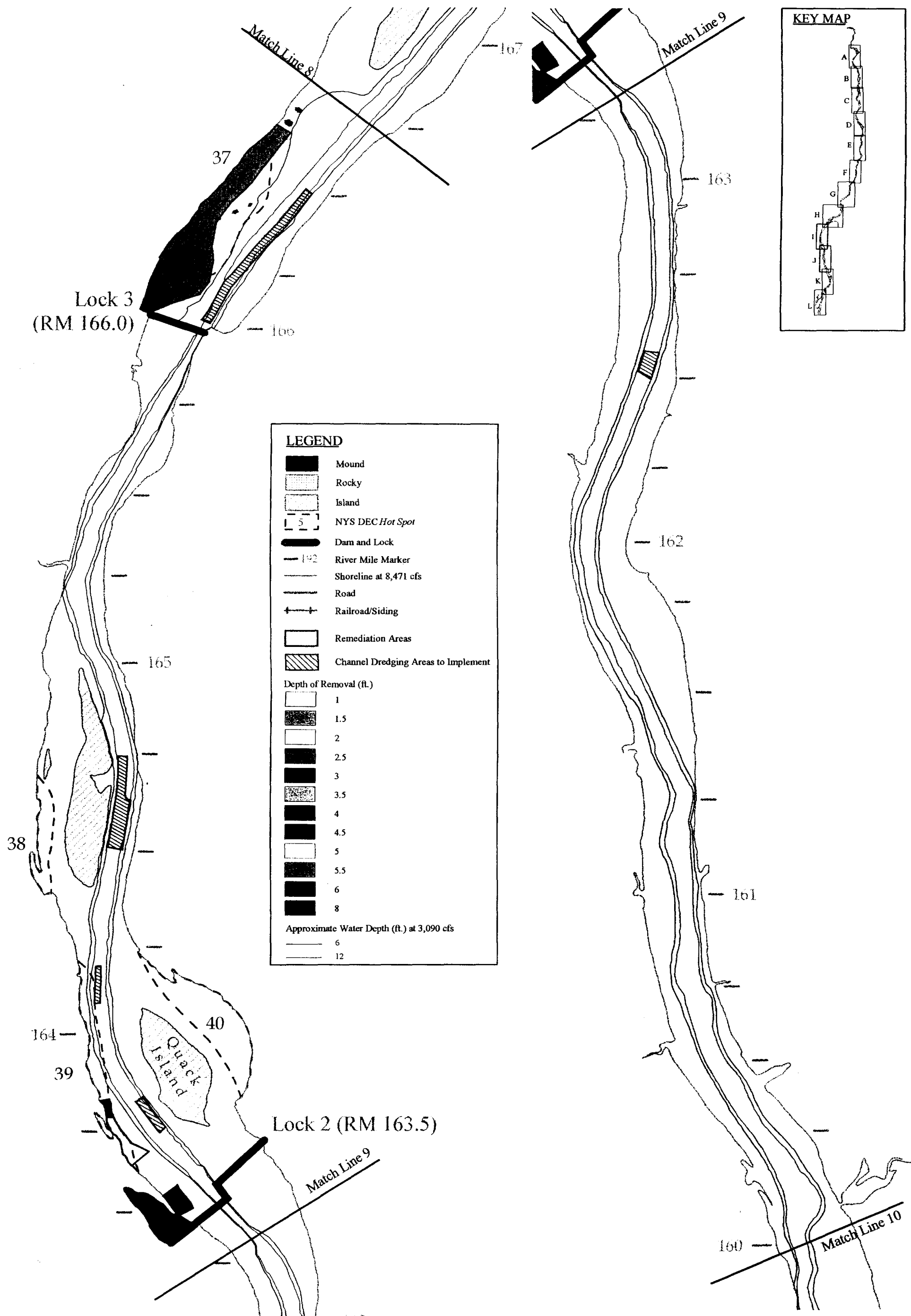
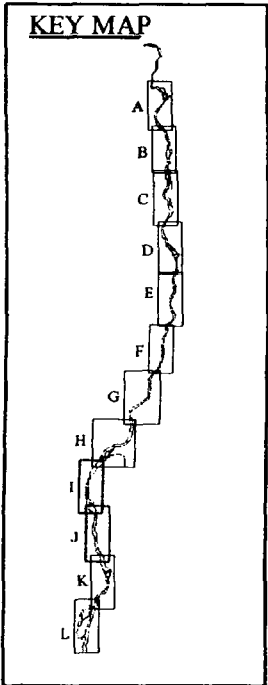
Hudson River PCBs
Reassessment
Feasibility Study

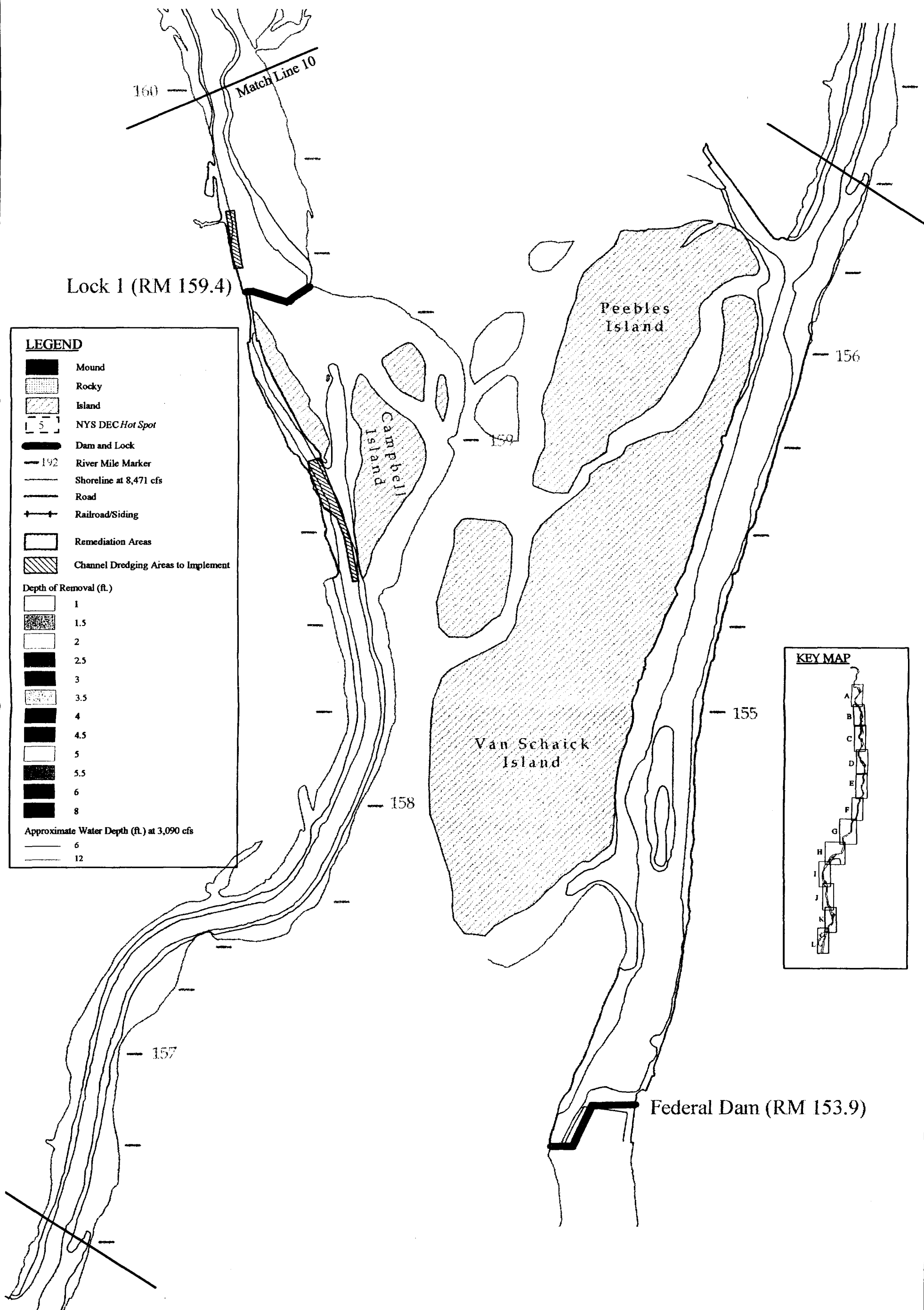
Plate 17

Alternative REM - 3/10/Select
Removal Areas and Depths

Sheet 4 of 7
RM 174.5 - 170.5







LEGEND

- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement

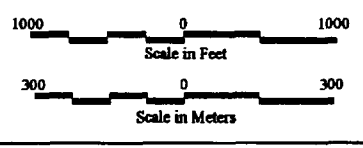
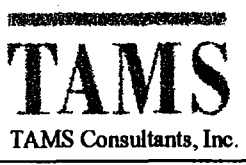
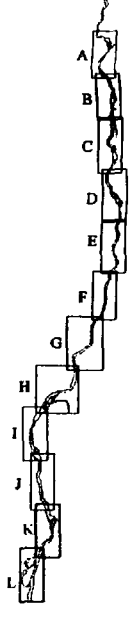
Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

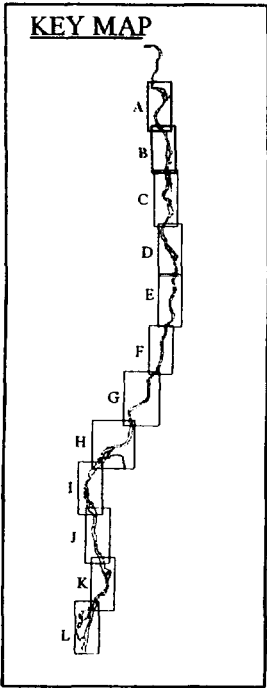
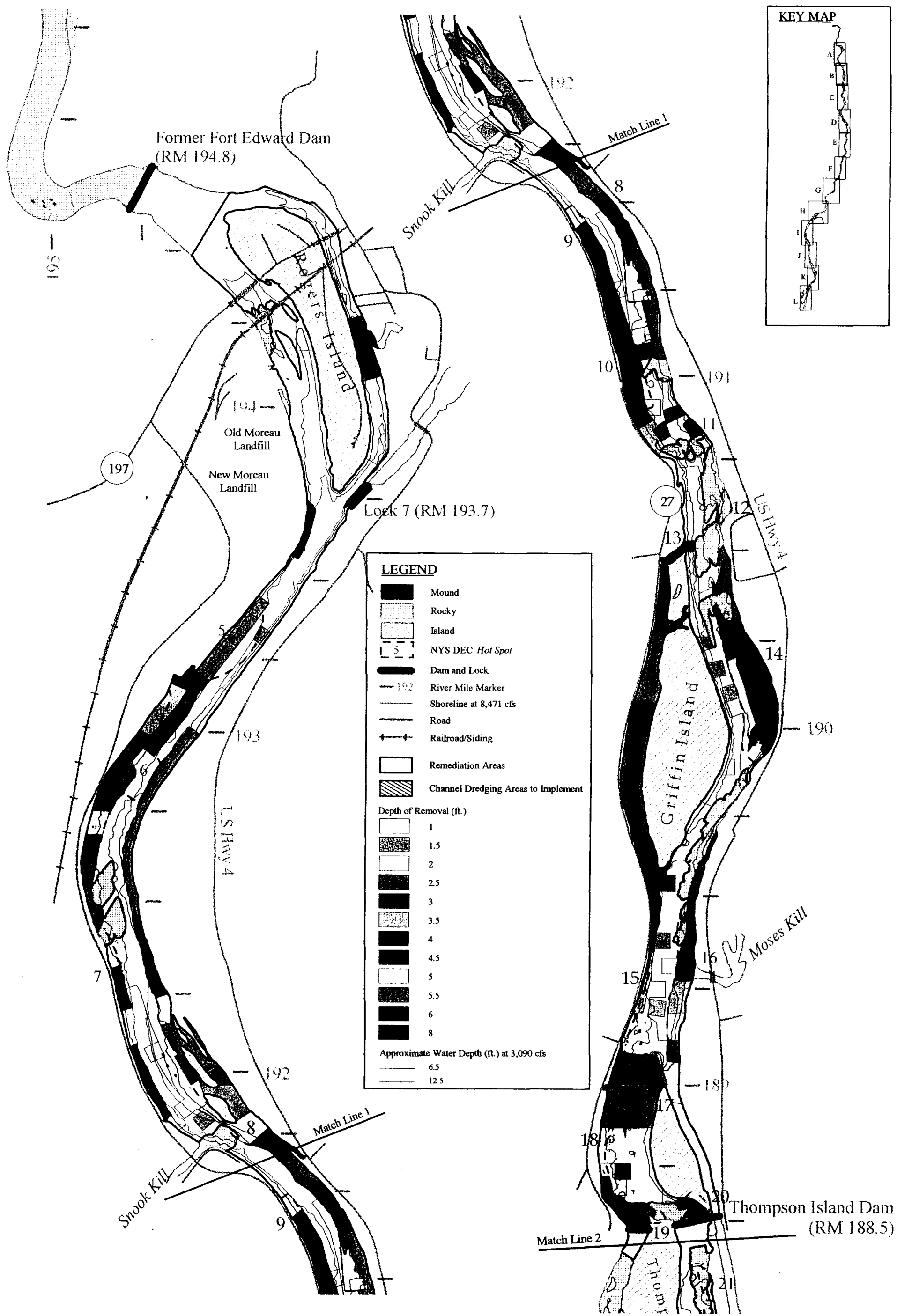
Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12

KEY MAP



Hudson River PCBs Reassessment Feasibility Study	Plate 17	Sheet 7 of 7 RM 160.0 - 153.9
	Alternative REM - 3/10/Select Removal Areas and Depths	



LEGEND

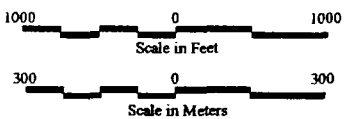
- Mound
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- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement

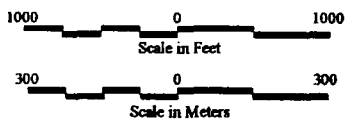
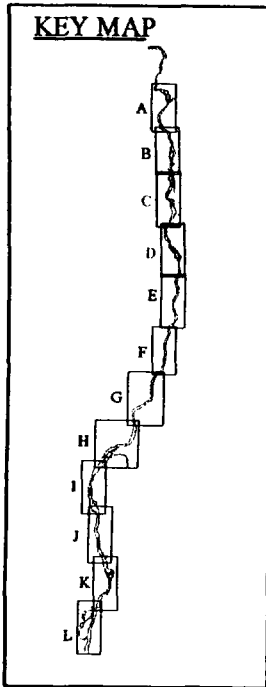
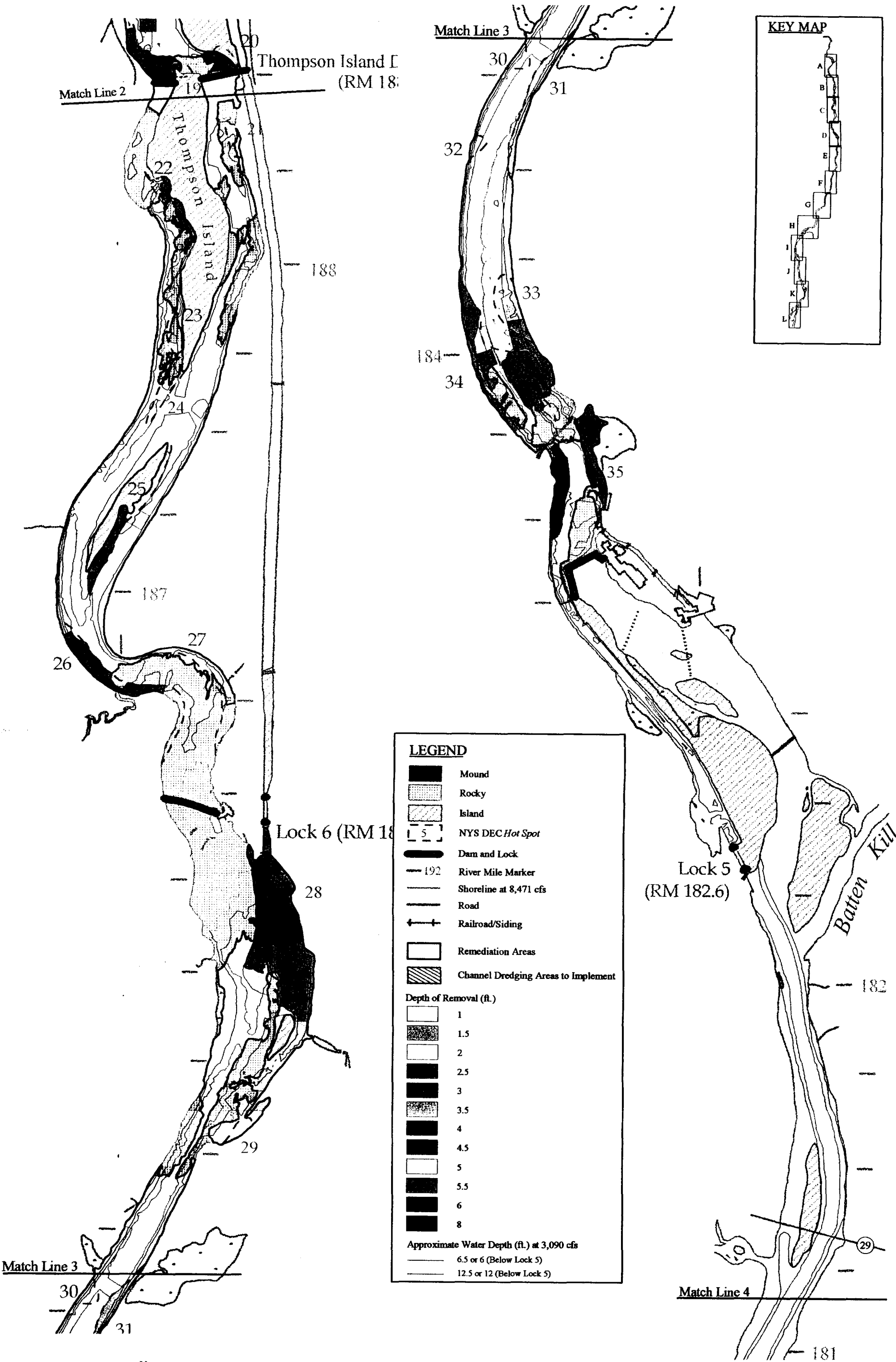
Depth of Removal (ft.)

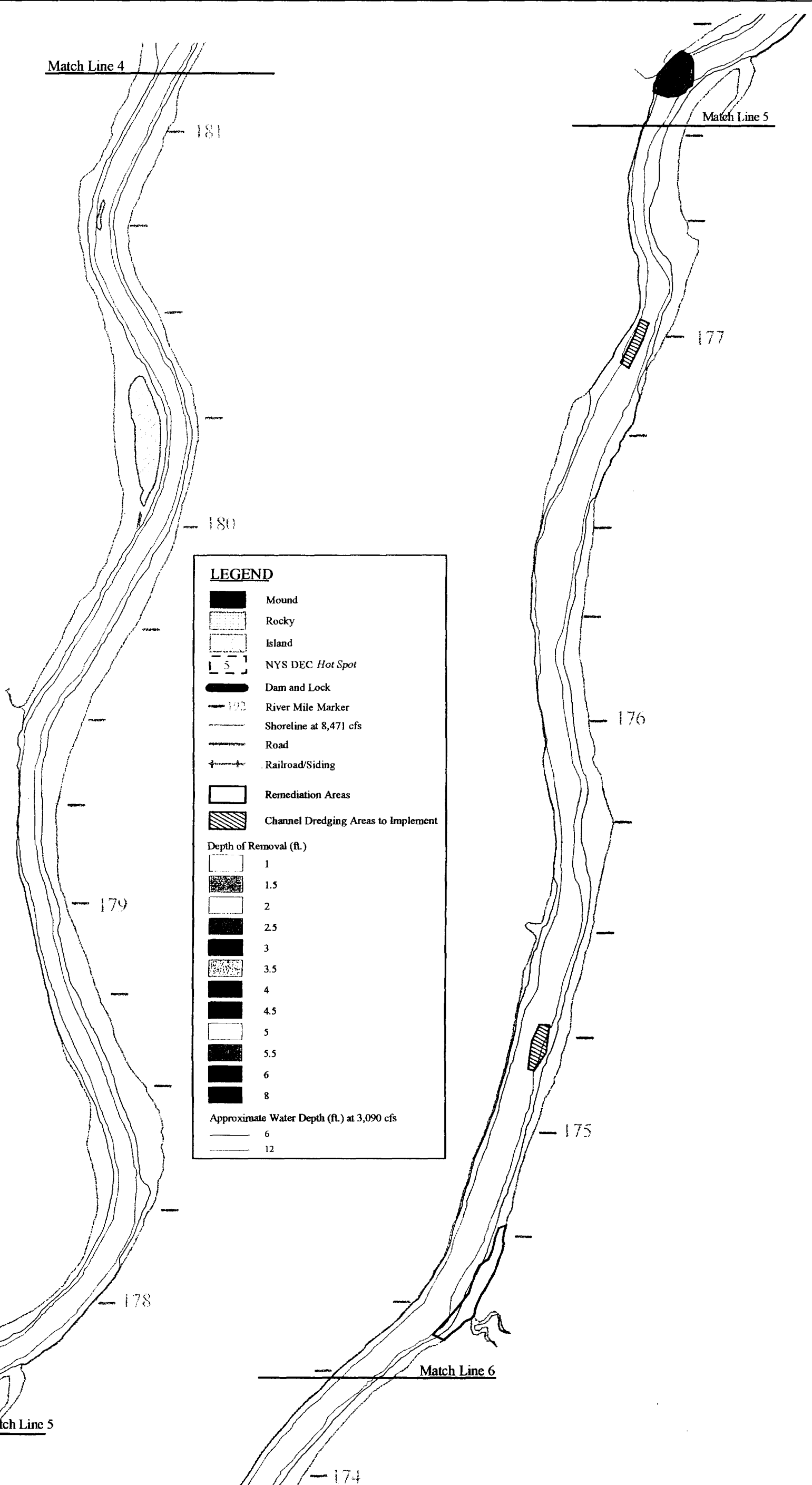
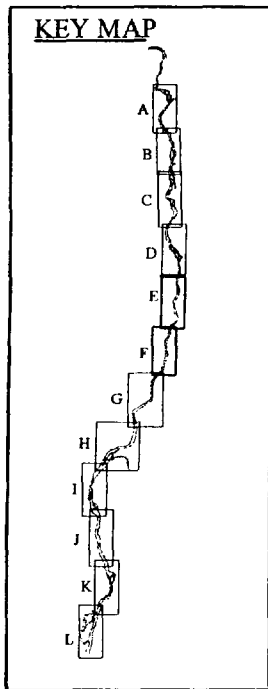
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
8

Approximate Water Depth (ft.) at 3,090 cfs

6.5
12.5







LEGEND

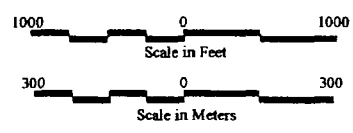
- Mound
- Rocky
- Island
- NYS DEC Hot Spot
- Dam and Lock
- River Mile Marker
- Shoreline at 8,471 cfs
- Road
- Railroad/Siding
- Remediation Areas
- Channel Dredging Areas to Implement

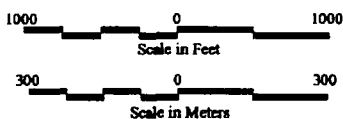
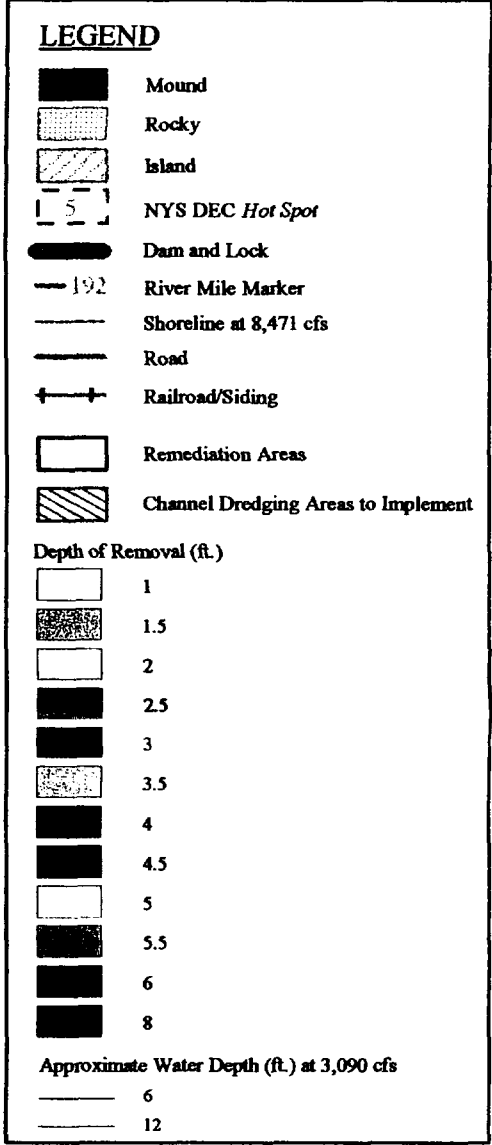
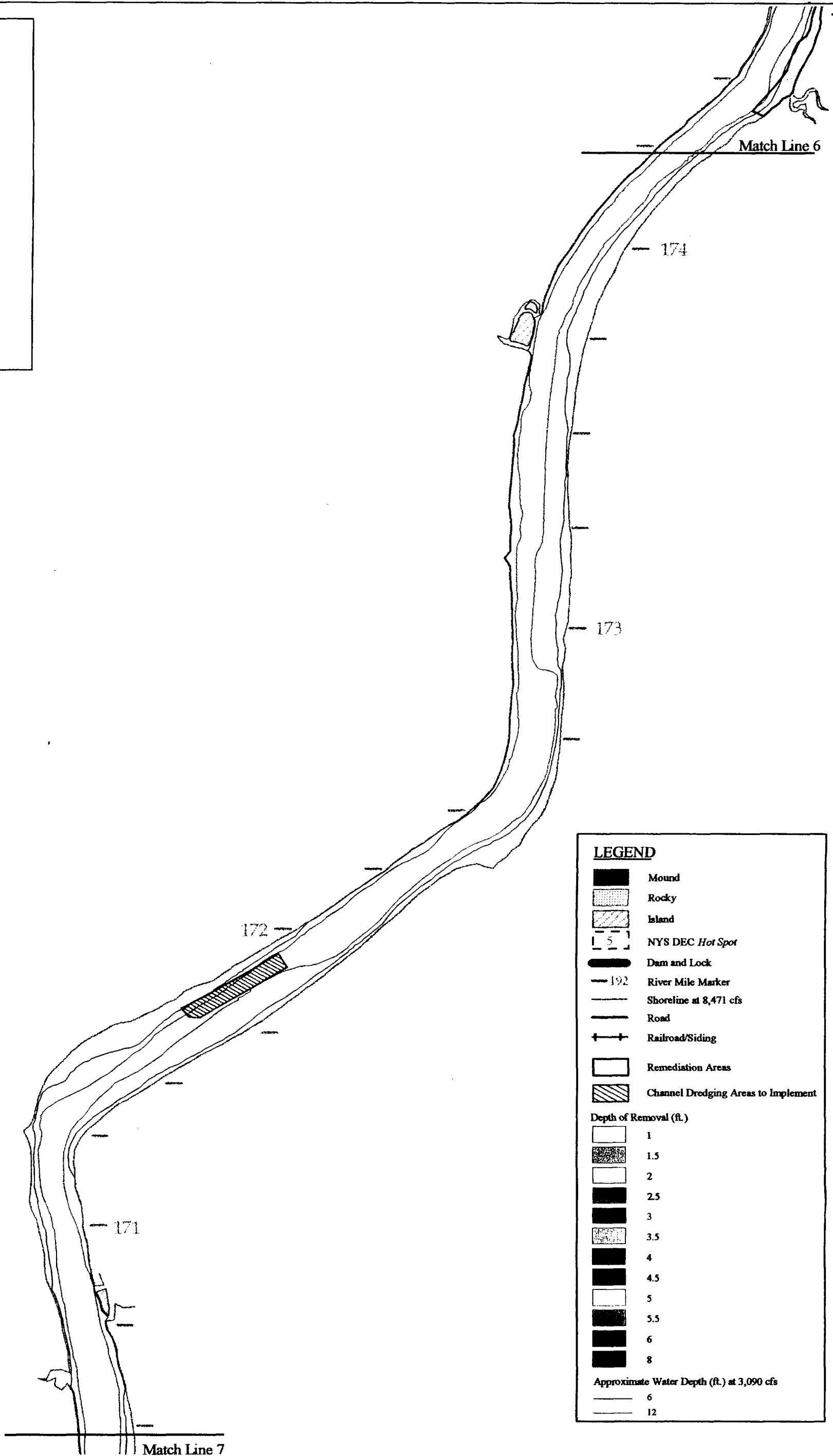
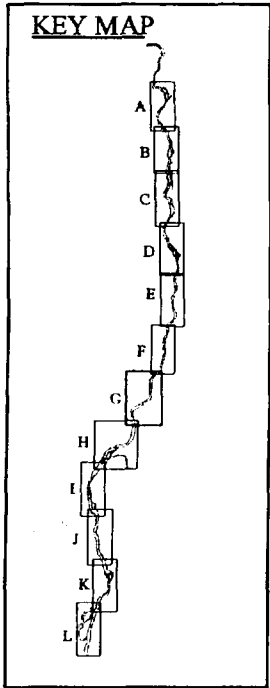
Depth of Removal (ft.)

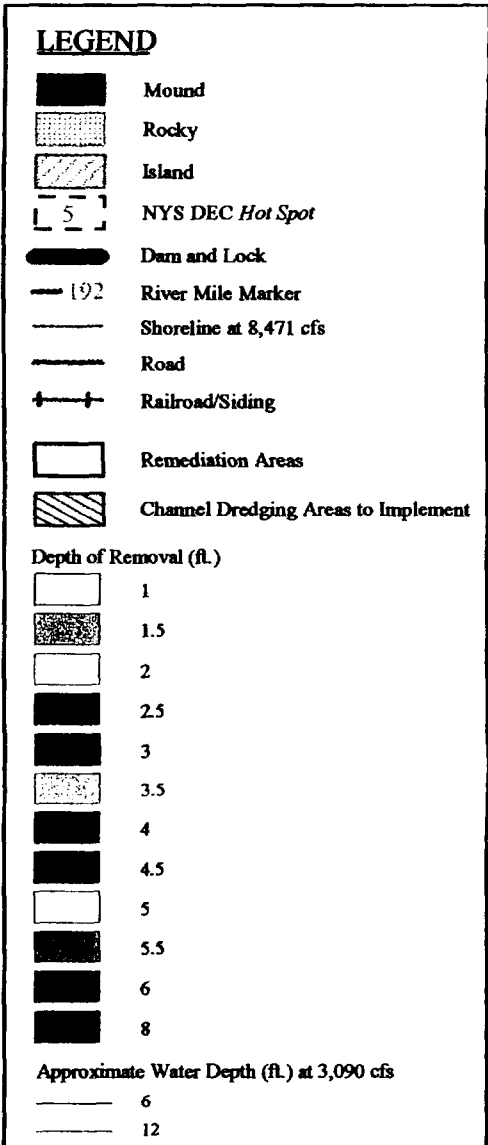
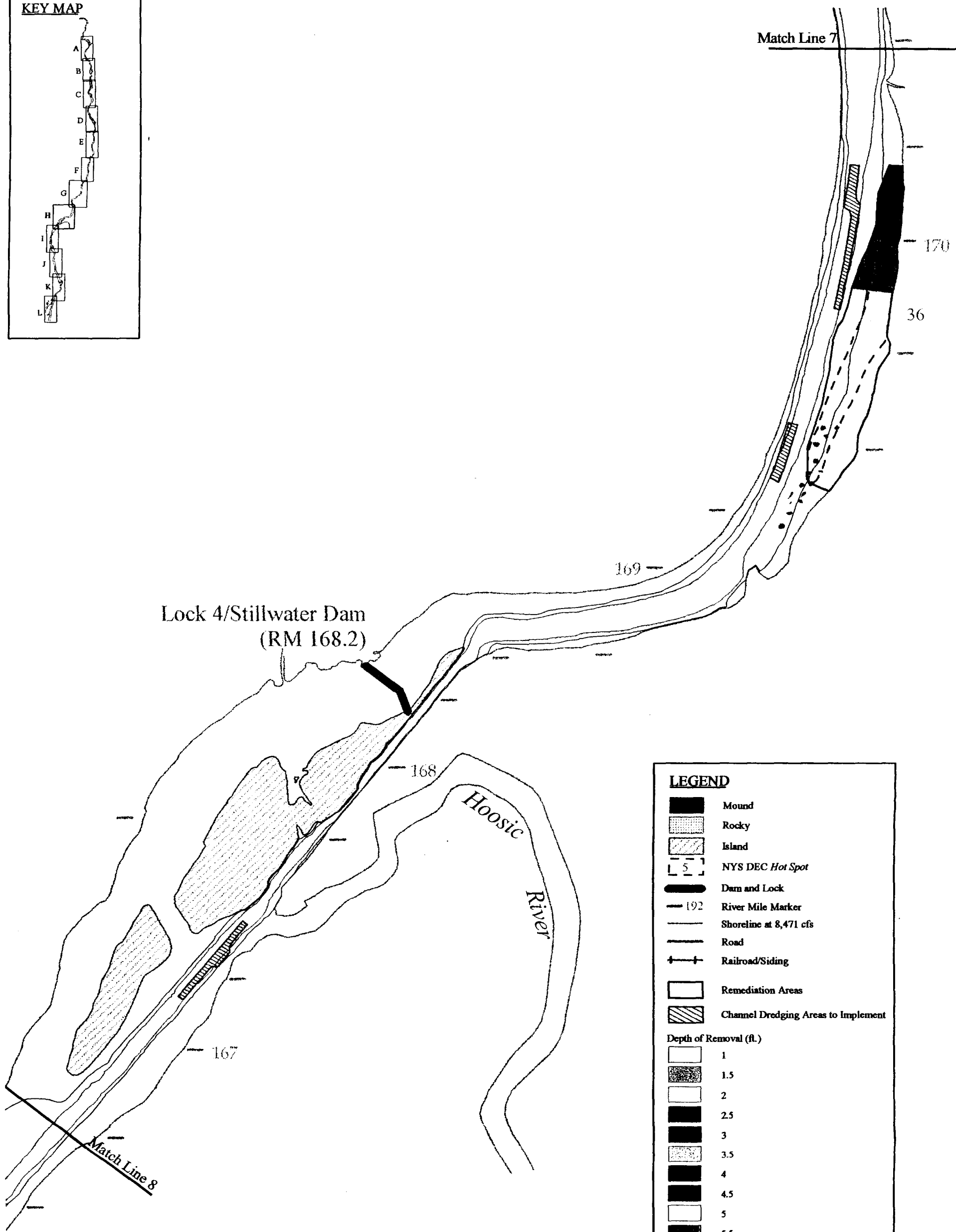
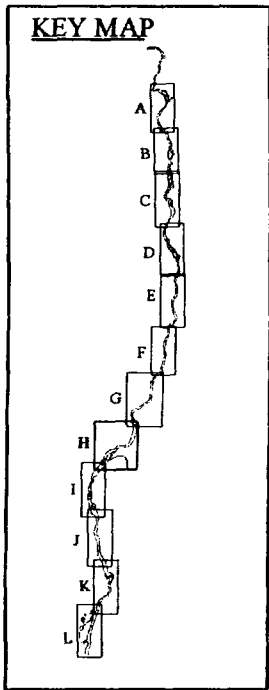
- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

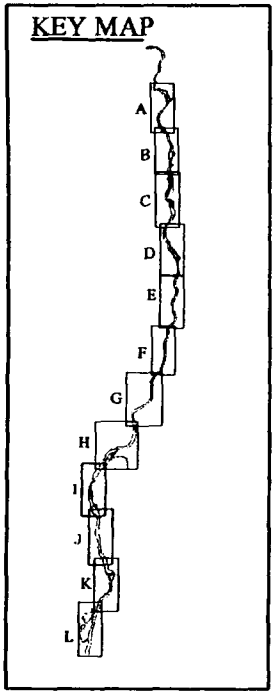
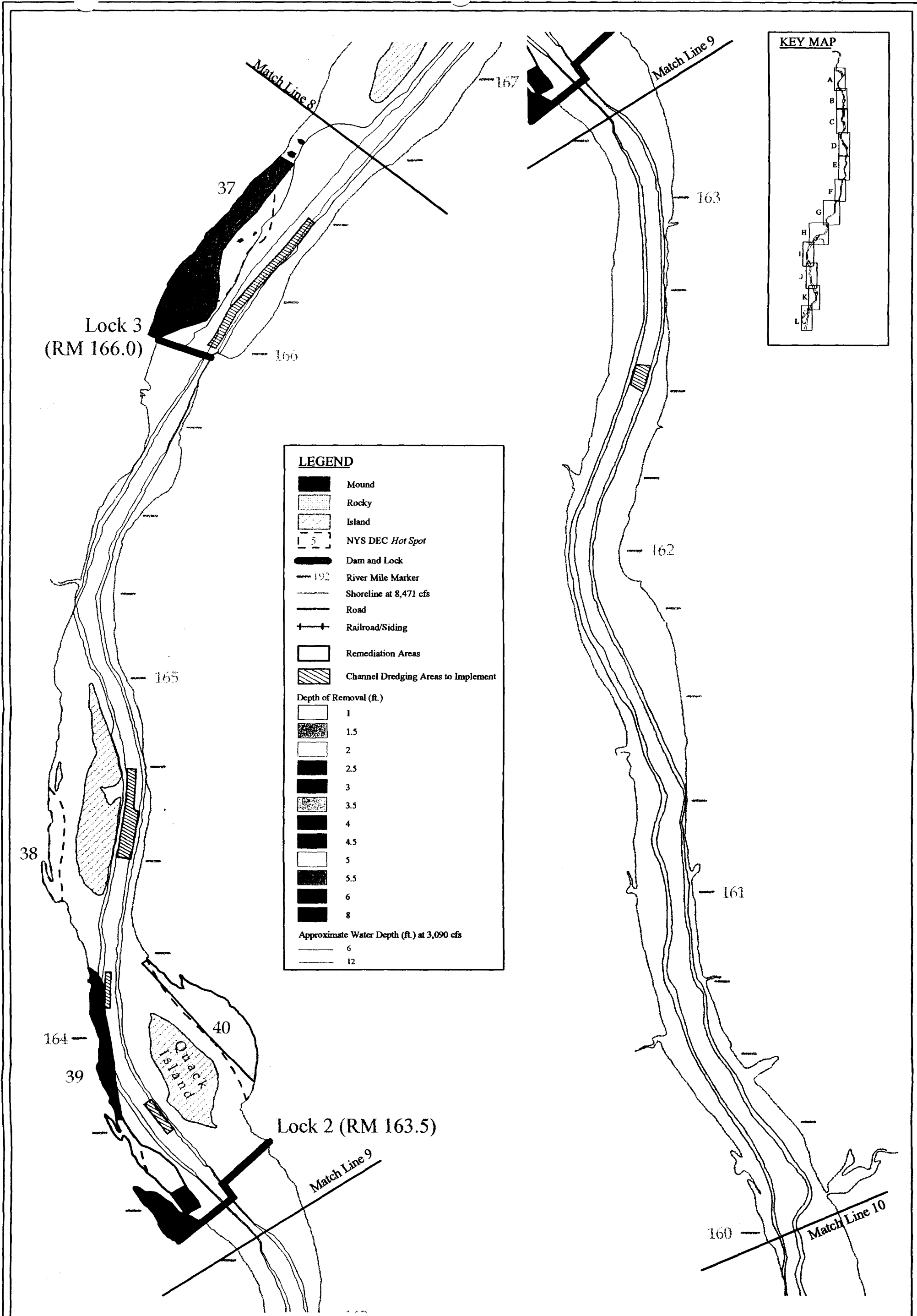
Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12









LEGEND

- Mound
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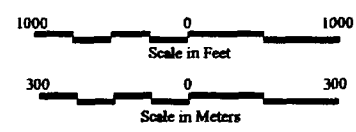
Depth of Removal (ft.)

- 1
- 1.5
- 2
- 2.5
- 3
- 3.5
- 4
- 4.5
- 5
- 5.5
- 6
- 8

Approximate Water Depth (ft.) at 3,090 cfs

- 6
- 12

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Hudson River PCBs Reassessment Feasibility Study	Plate 18	Sheet 6 of 7 RM 167.0 - 160.0
	Alternative REM - 0/0/3 Removal Areas and Depths	

401329

