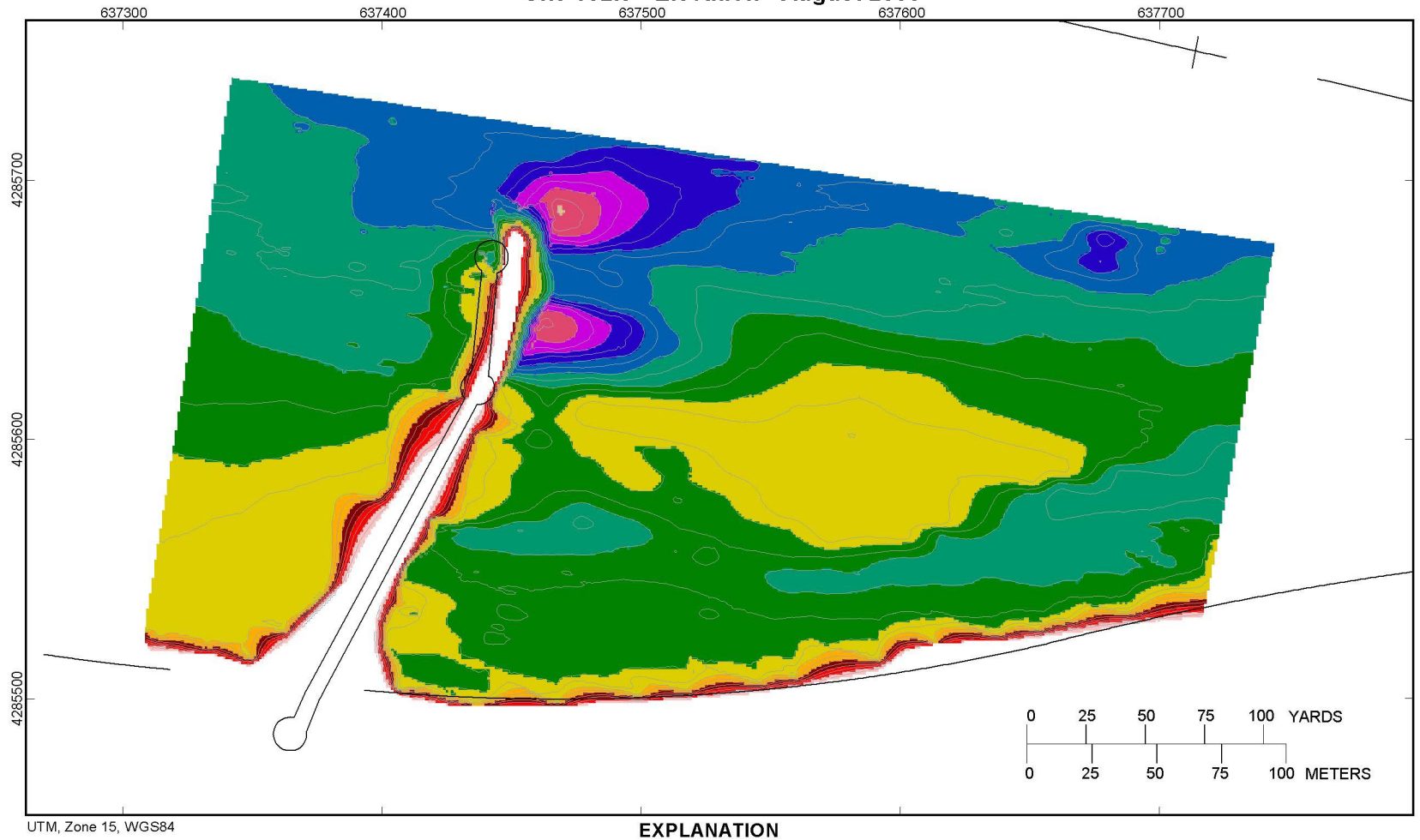
Site 102.5 - Elevation - August 2000



EXPLANATION

COE hydro survey

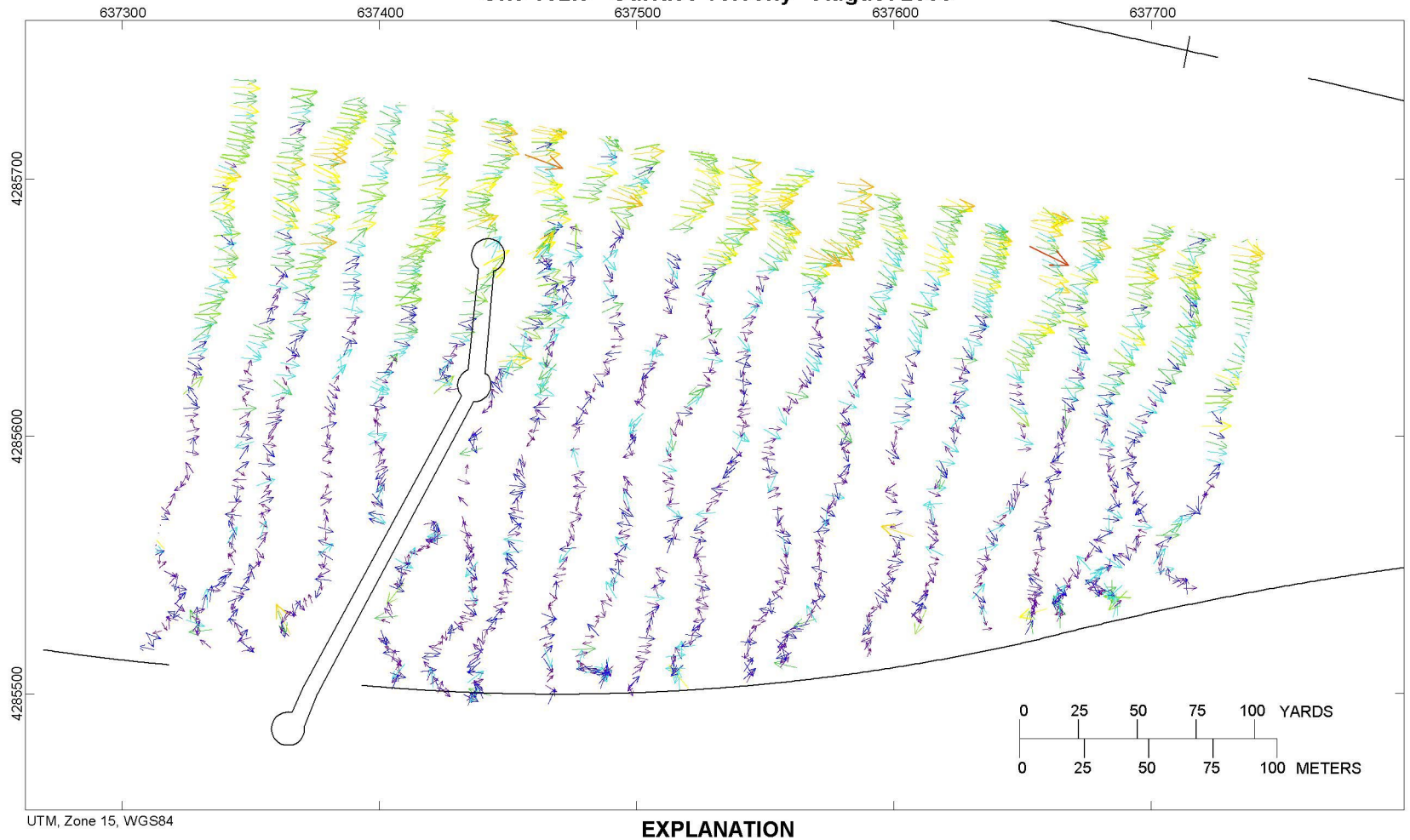
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Surface velocity - August 2000



EXPLANATION

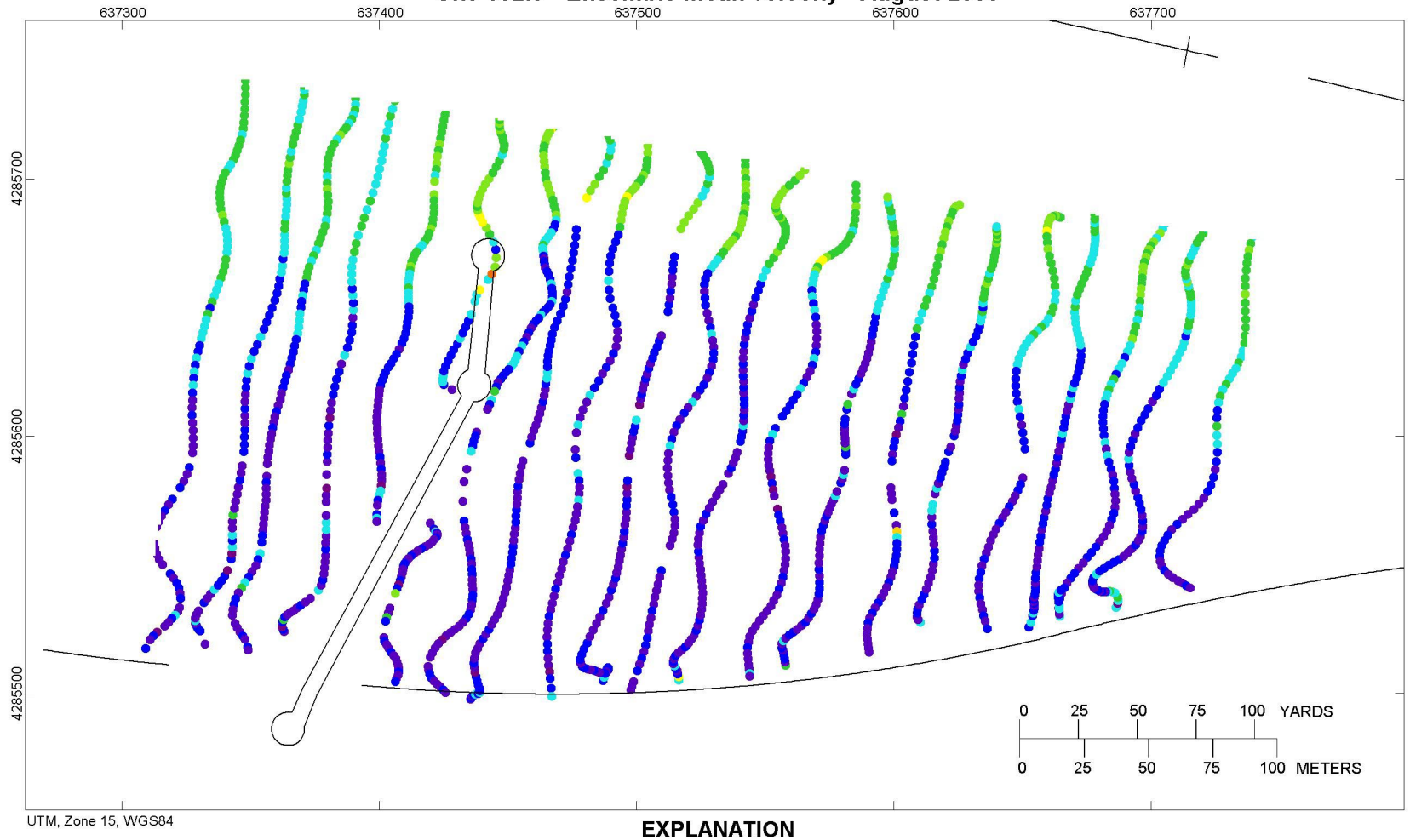
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Ensemble mean velocity - August 2000



EXPLANATION

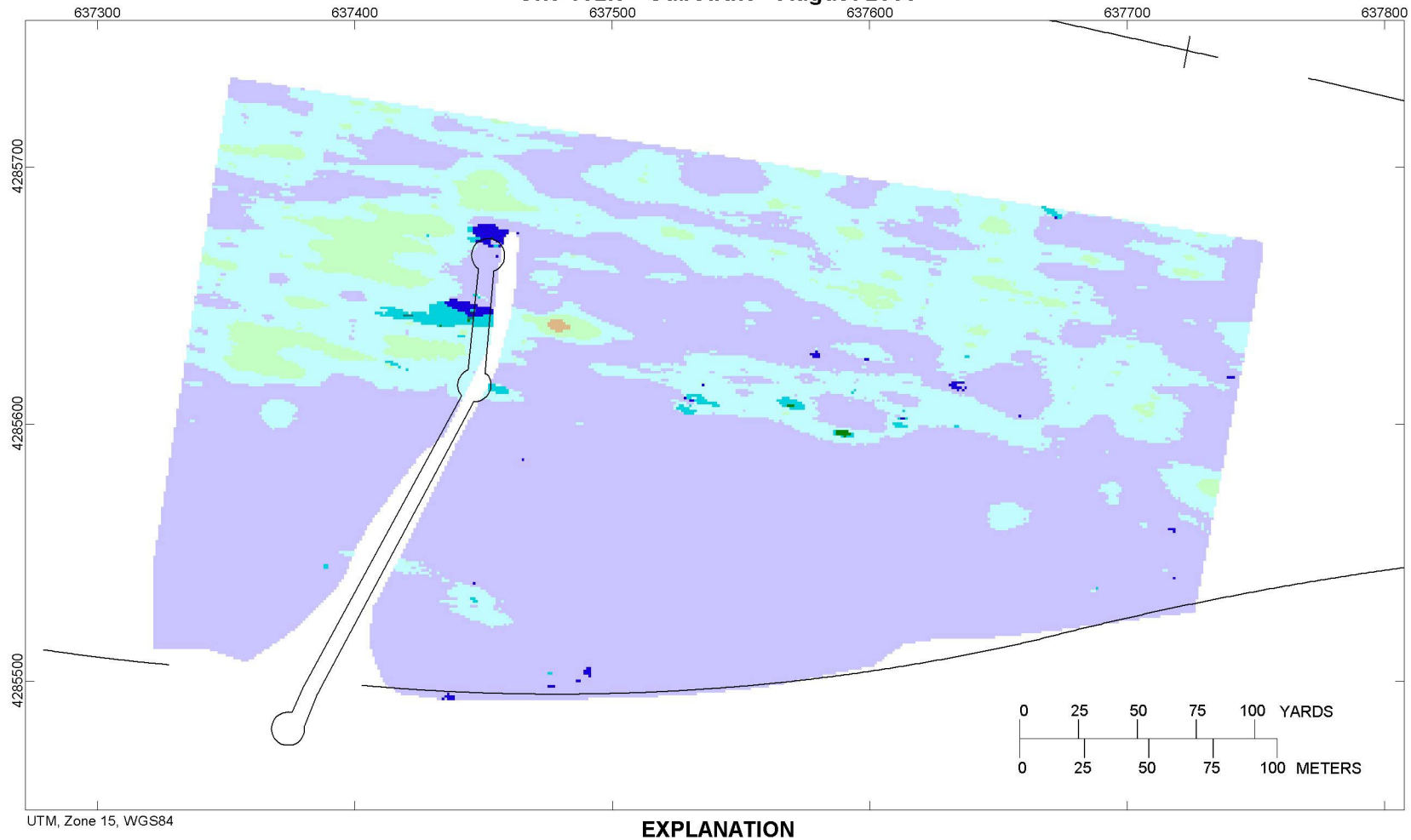
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Substrate - August 2000



EXPLANATION

COE hydro survey

Substrate

< increasing roughness <

> increasing hardness >

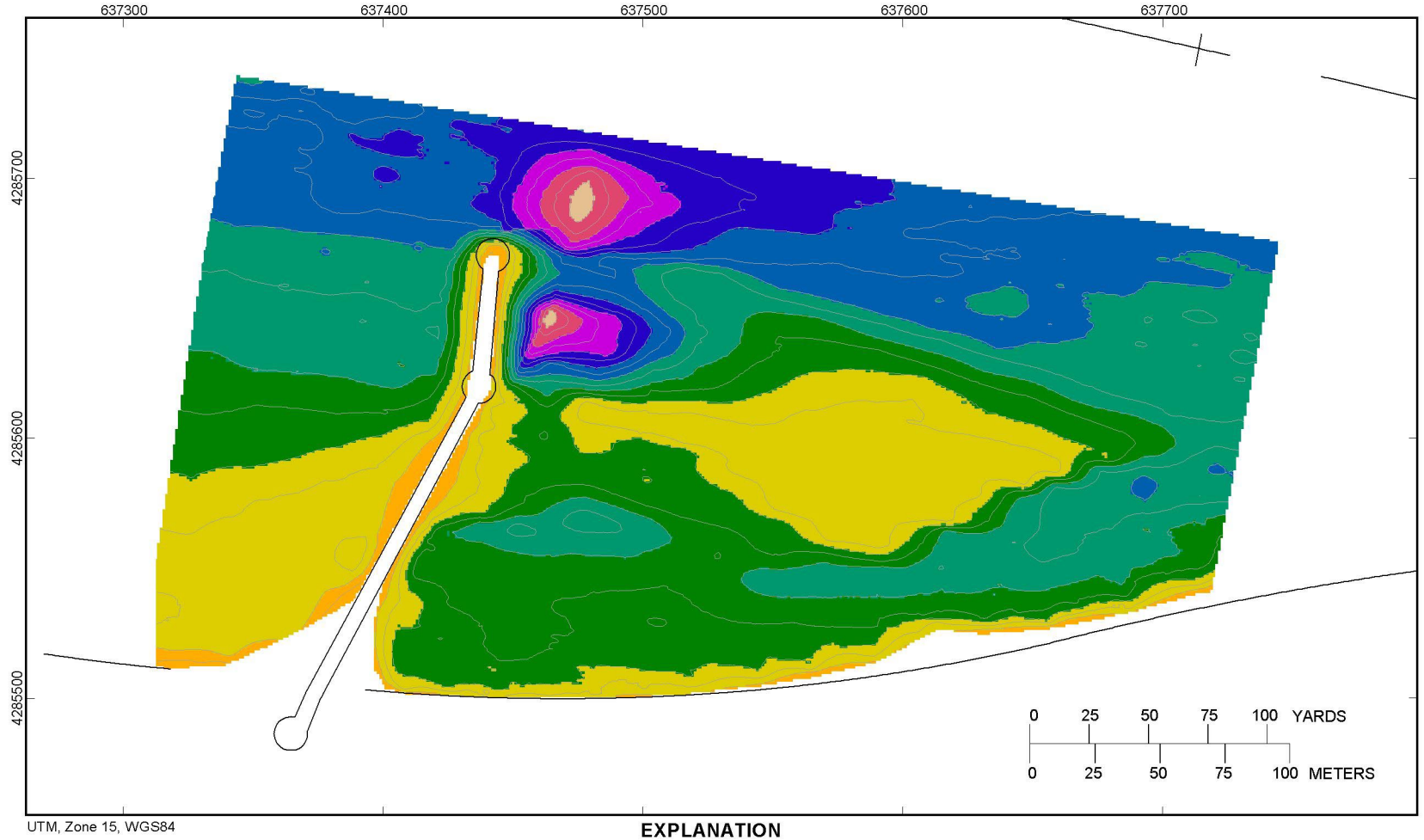
Mud, transporting sand	Sand, smooth	Coarse sand, smooth
Organics (?), rippled sand	Sand, rippled	Coarse sand, rippled
Soft, rough	Sand, dunes	

Gravel

Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation - November 2000



EXPLANATION

COE hydro survey

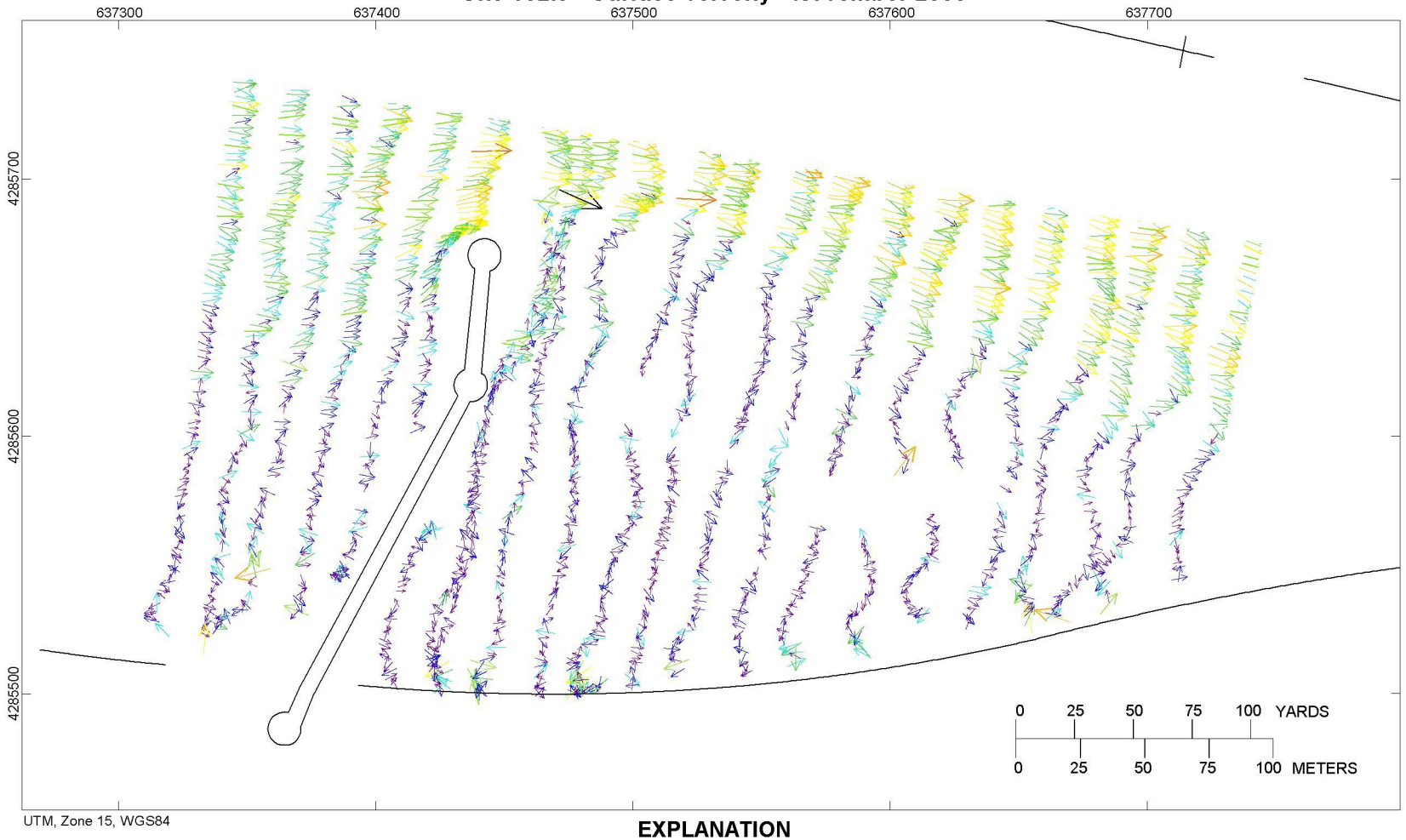
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Surface velocity - November 2000



EXPLANATION

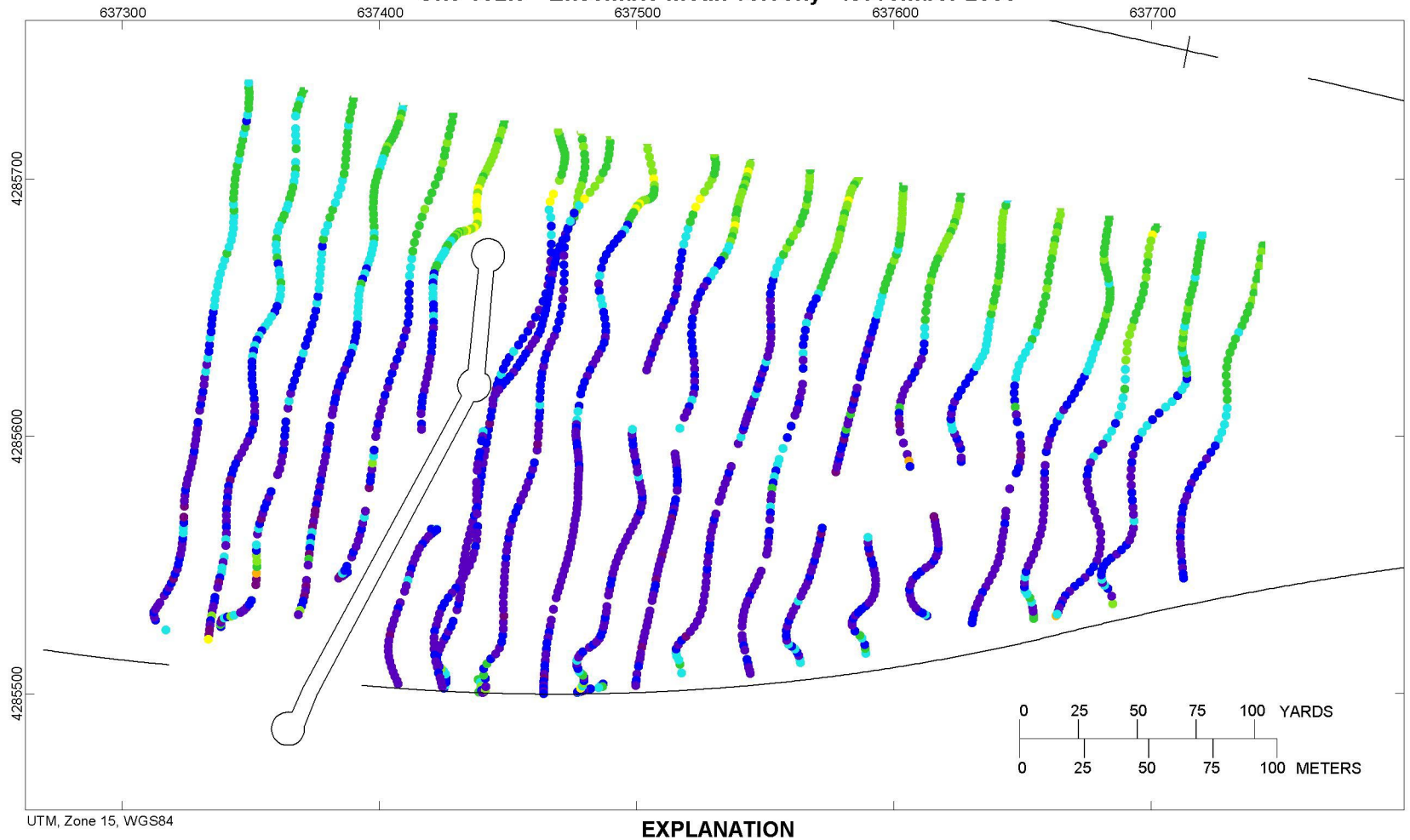
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Ensemble mean velocity - November 2000



EXPLANATION

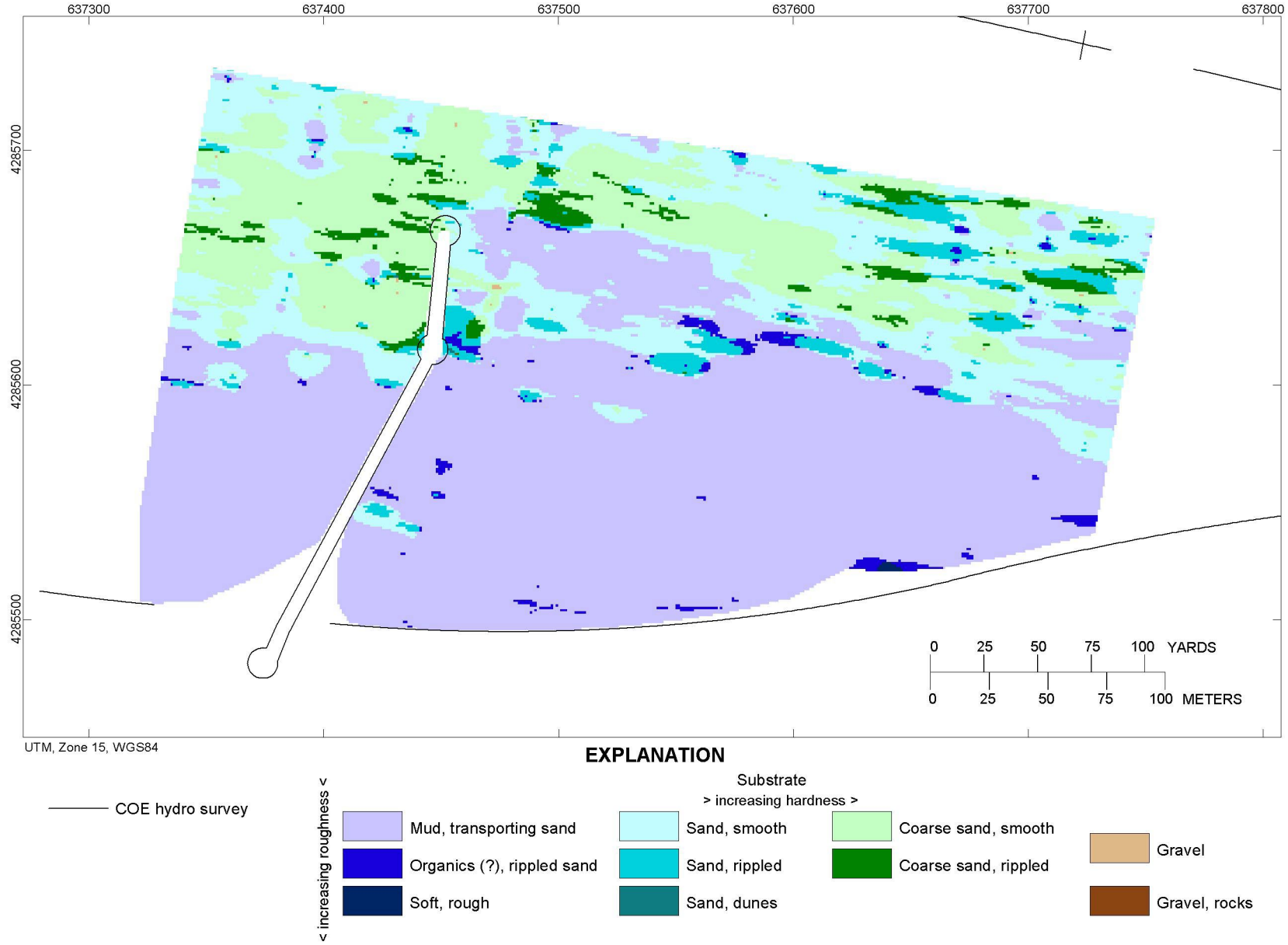
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

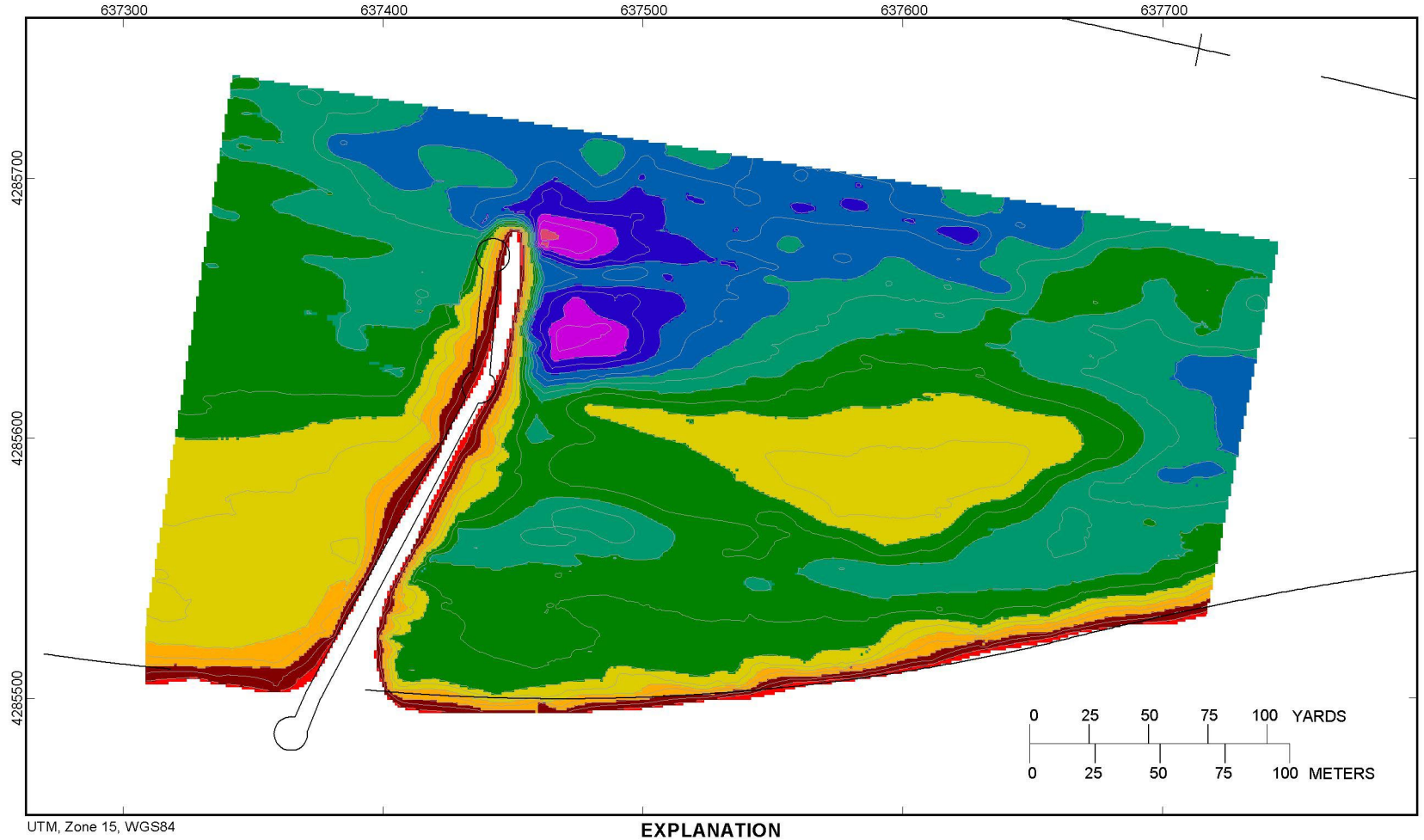
HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Substrate - November 2000



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation - March 2001



EXPLANATION

COE hydro survey

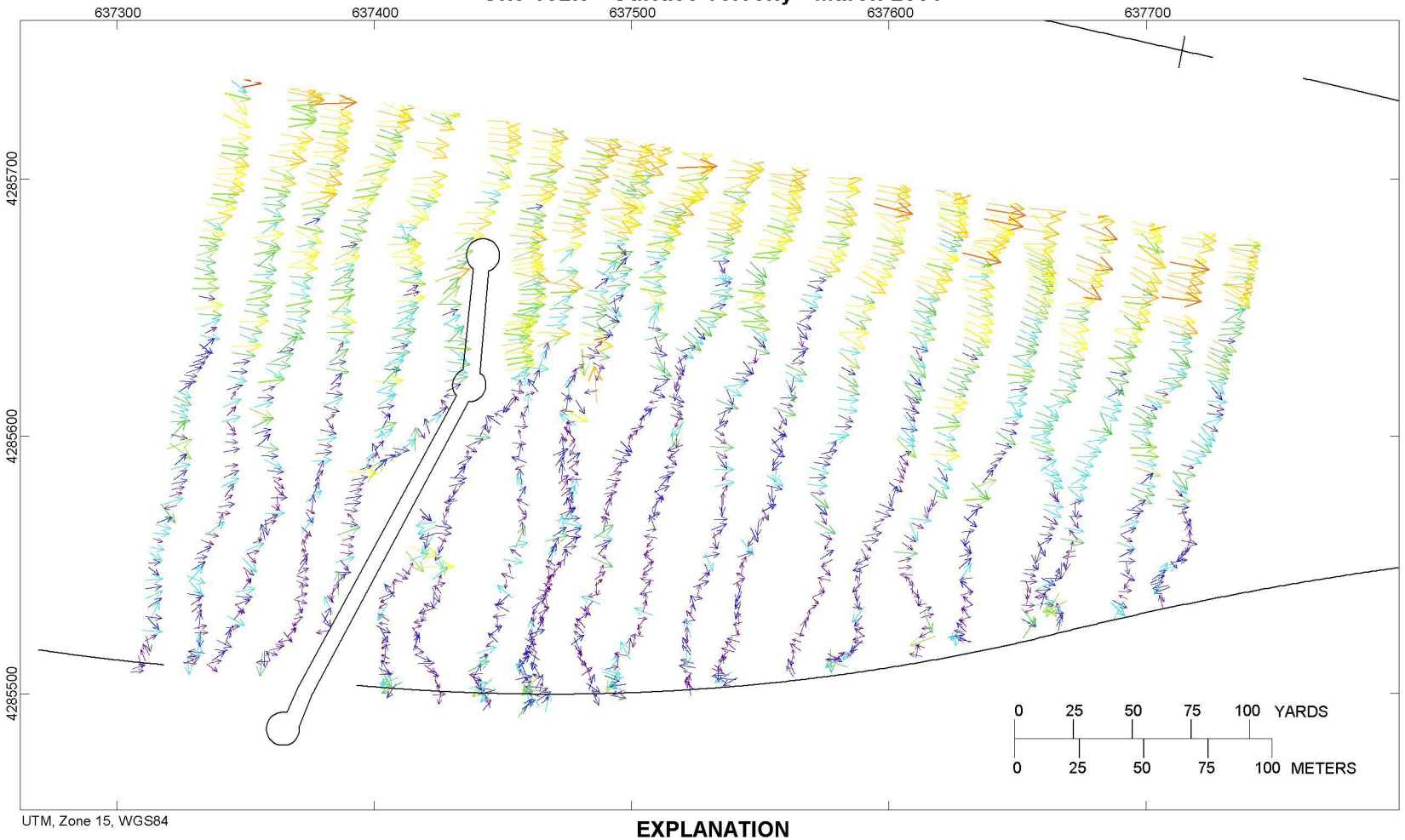
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Surface velocity - March 2001



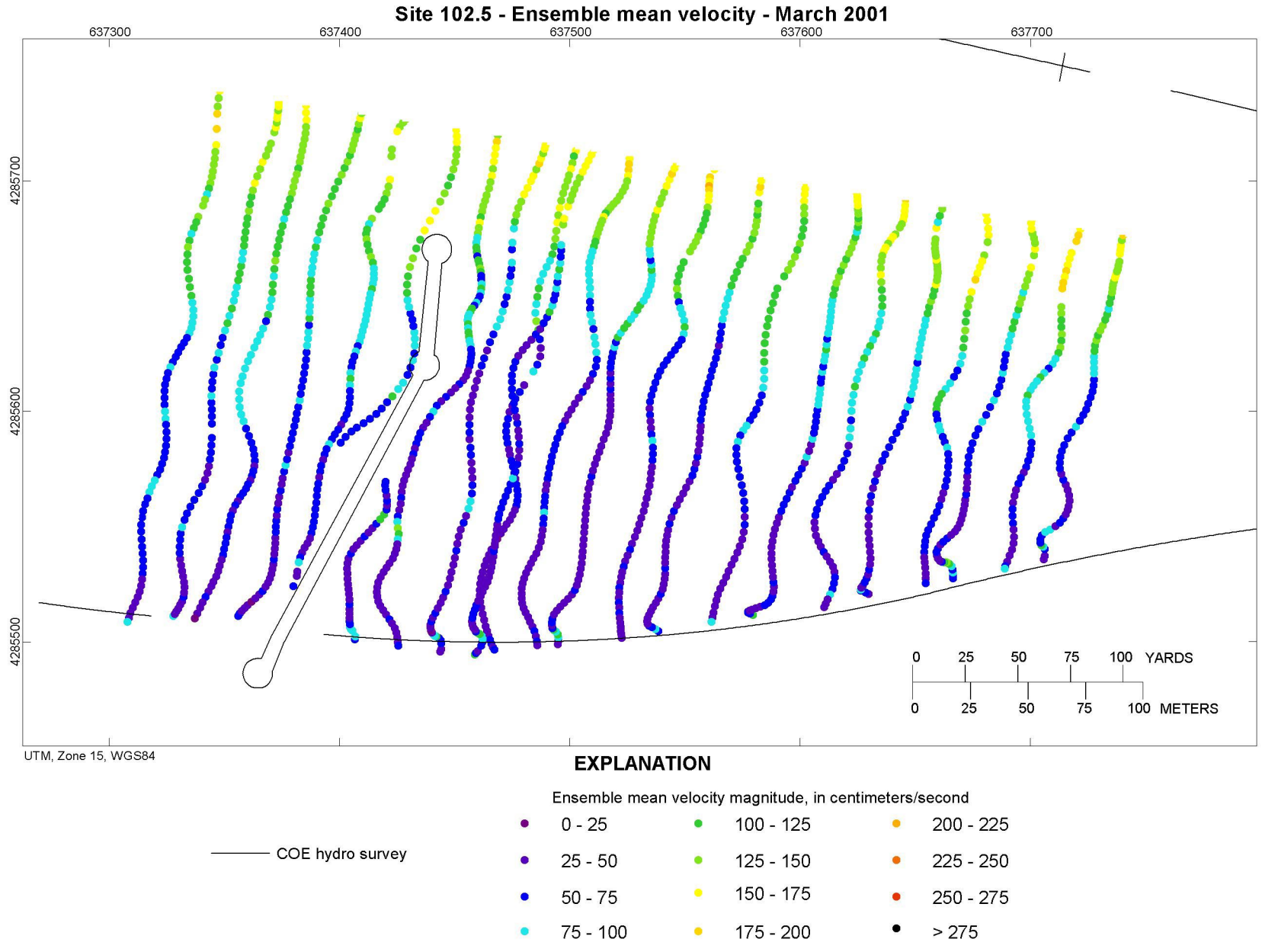
EXPLANATION

COE hydro survey

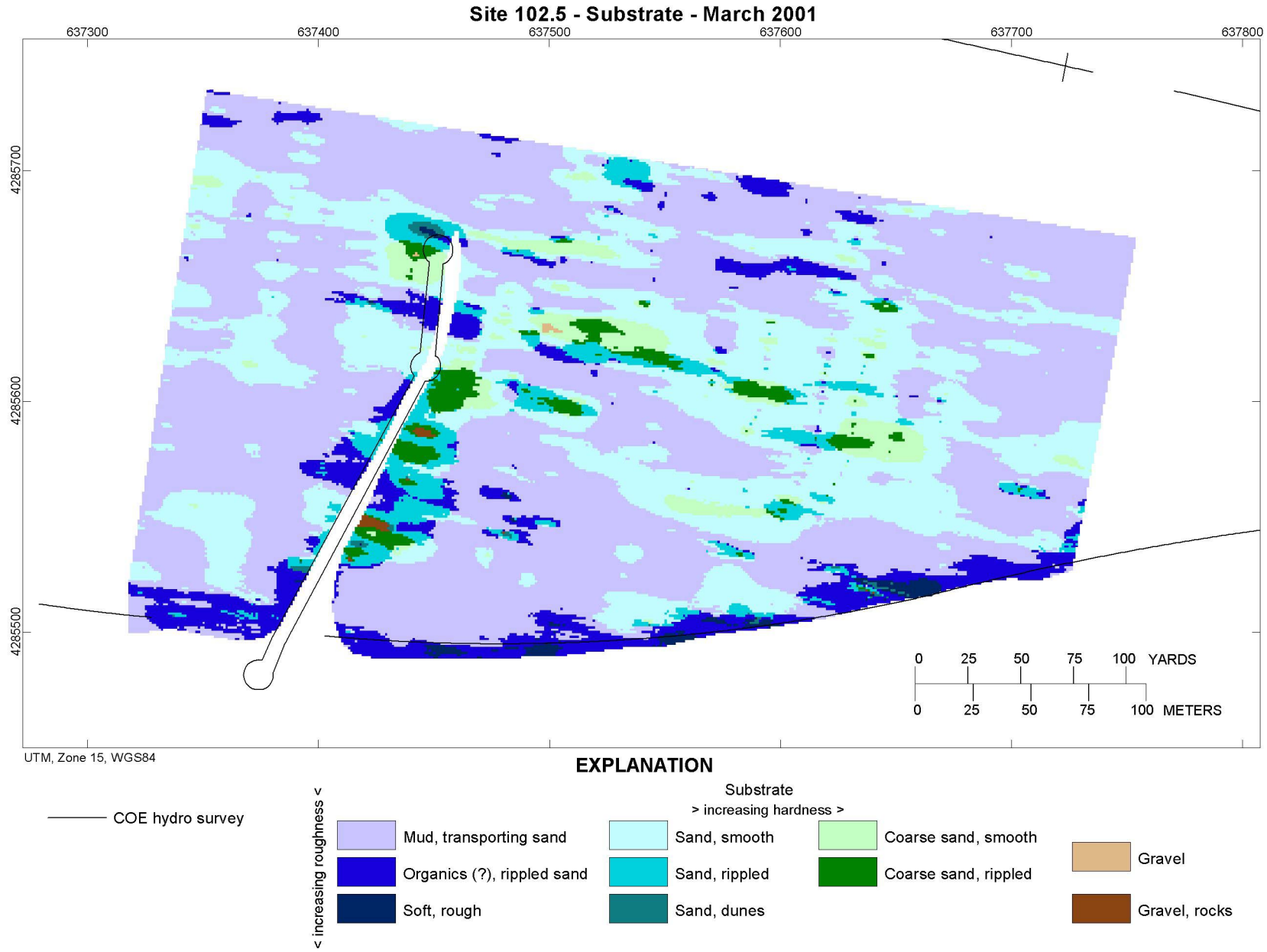
Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

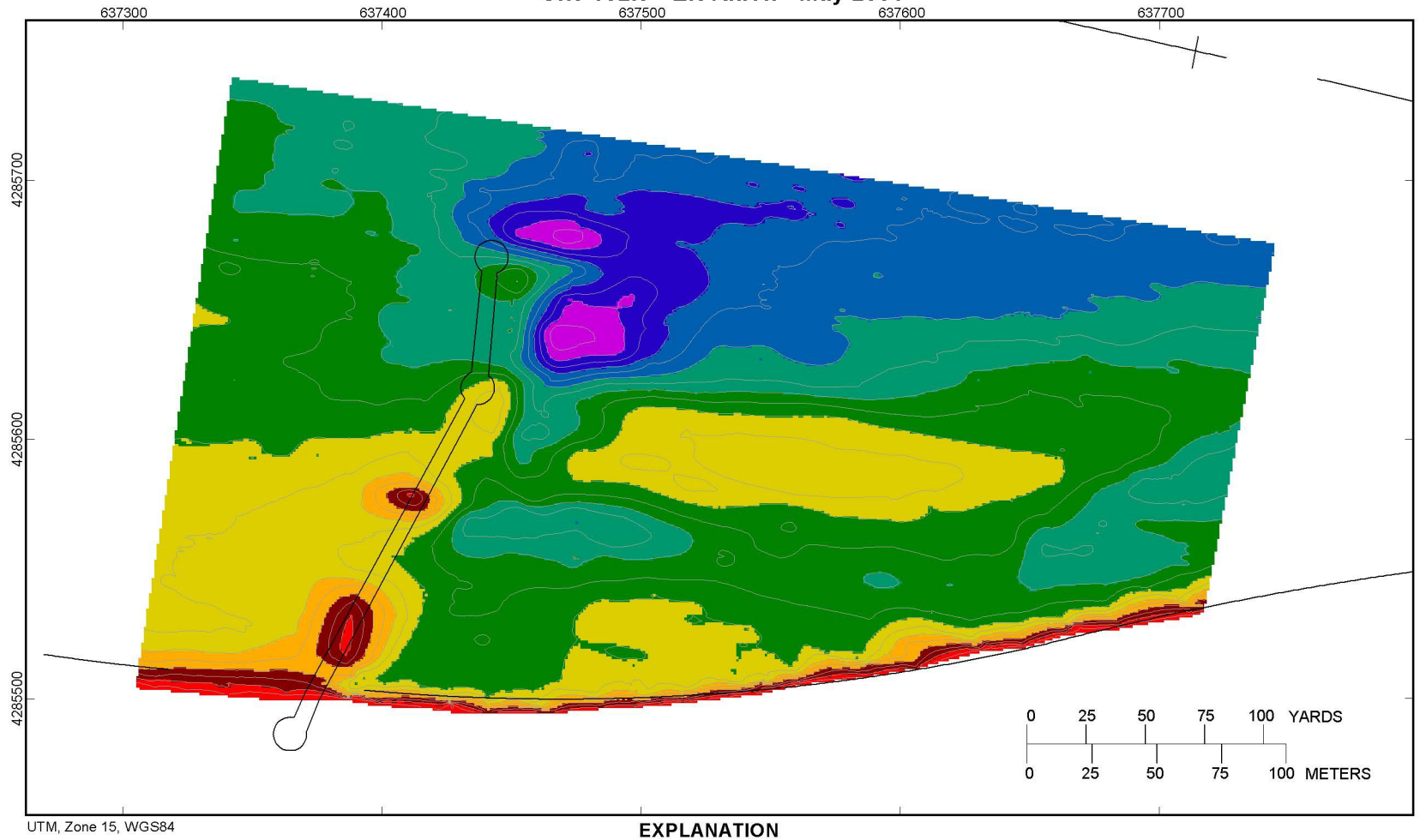


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation - May 2001



EXPLANATION

COE hydro survey

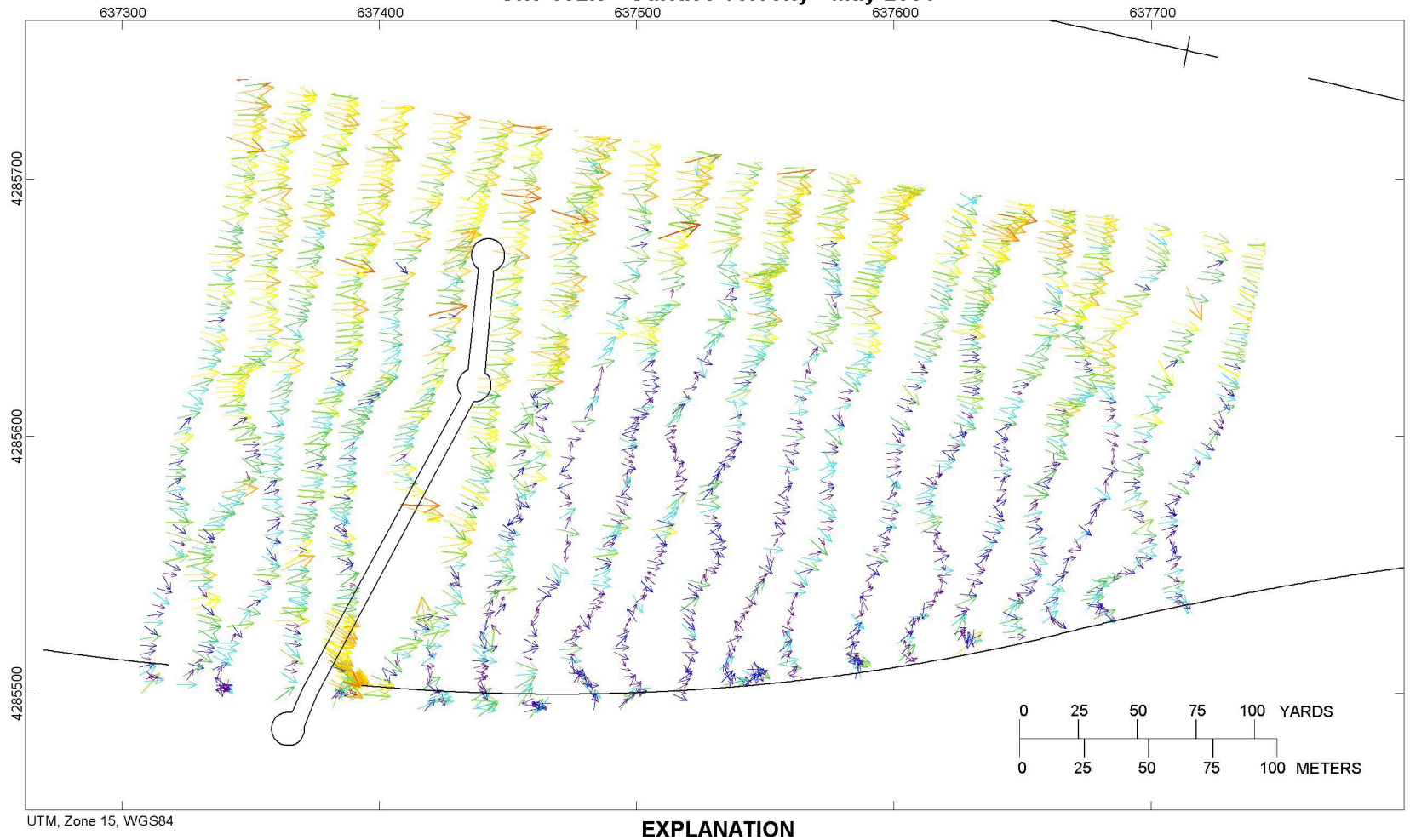
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Surface velocity - May 2001



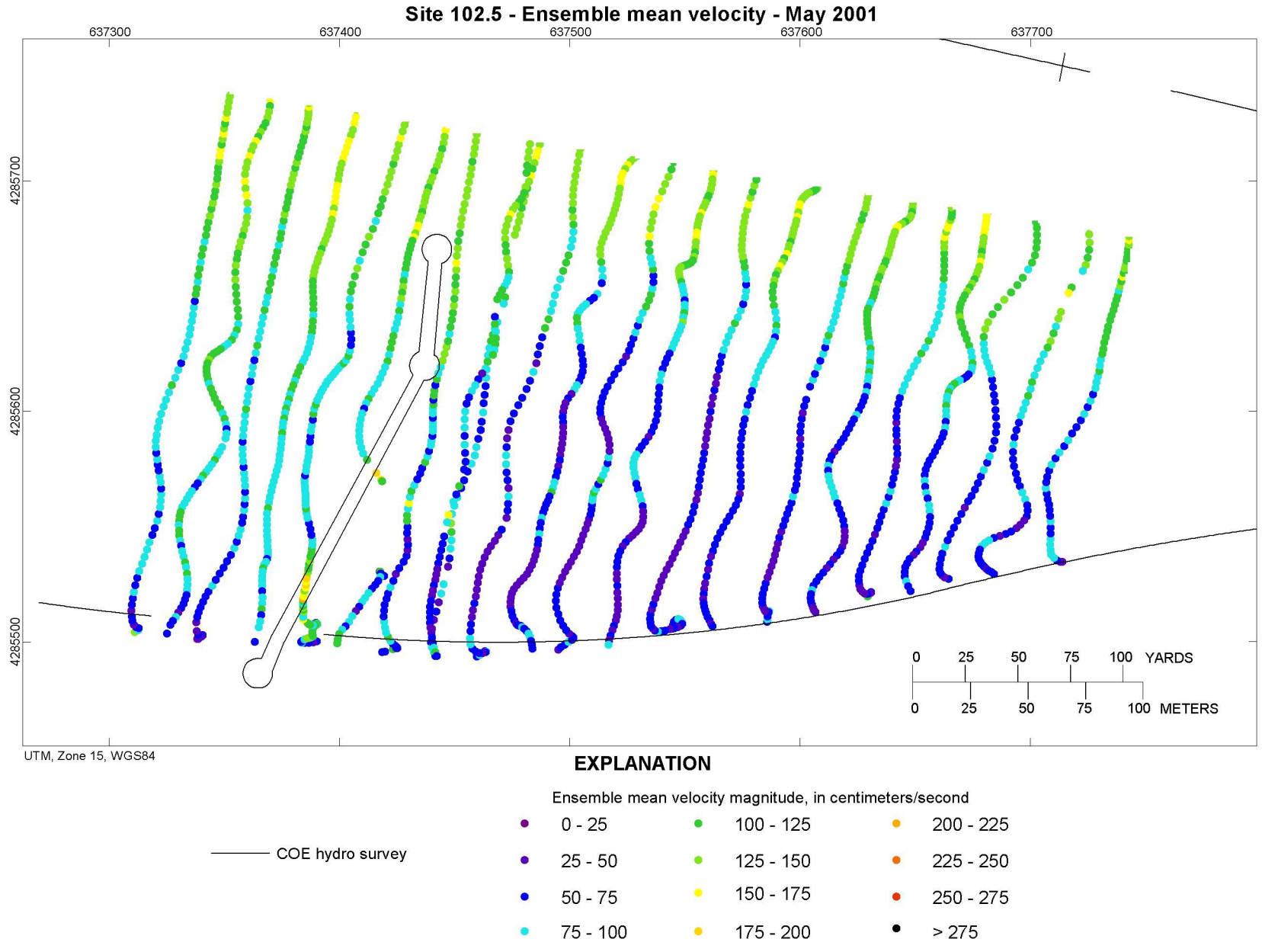
EXPLANATION

COE hydro survey

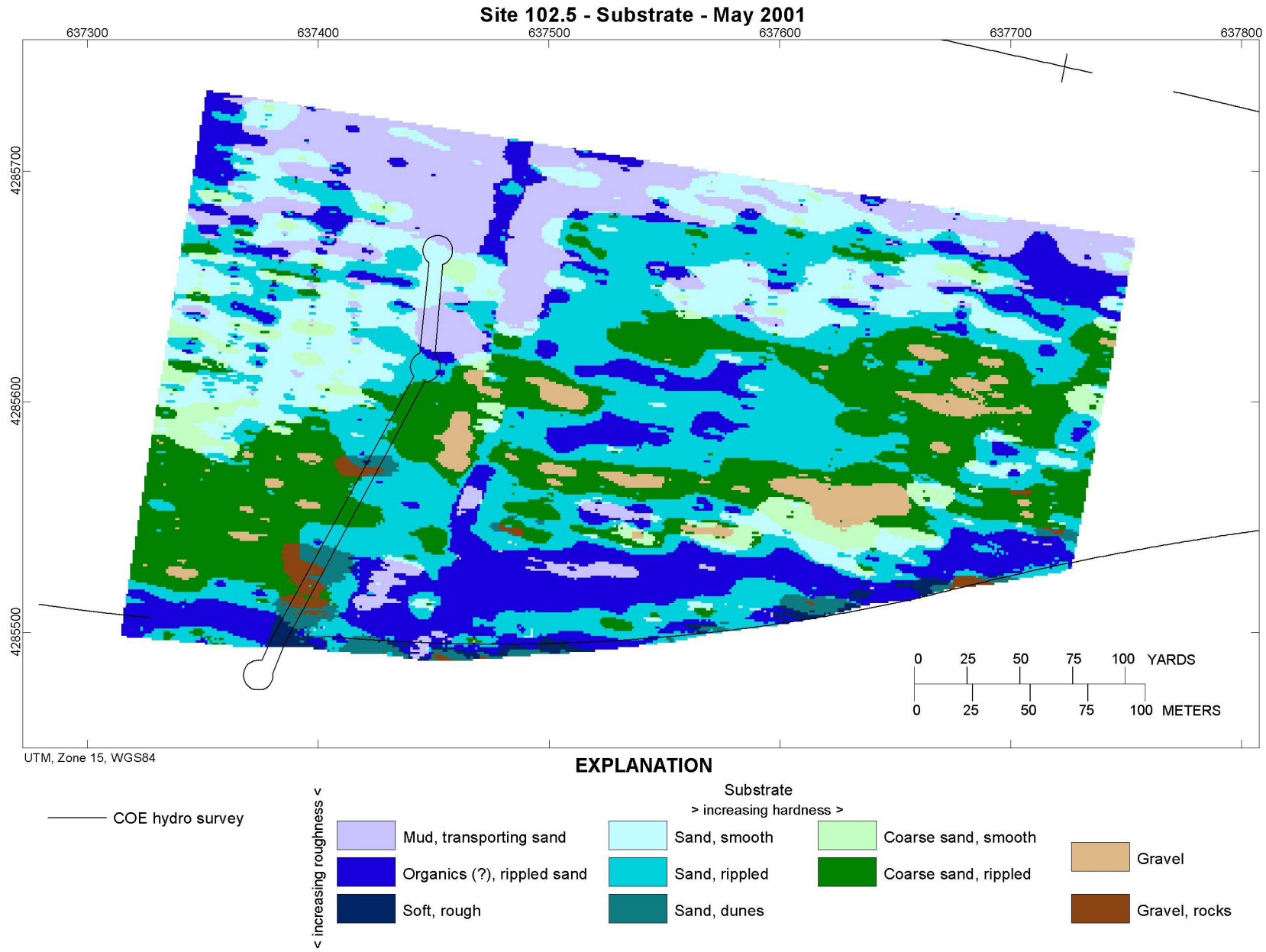
Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

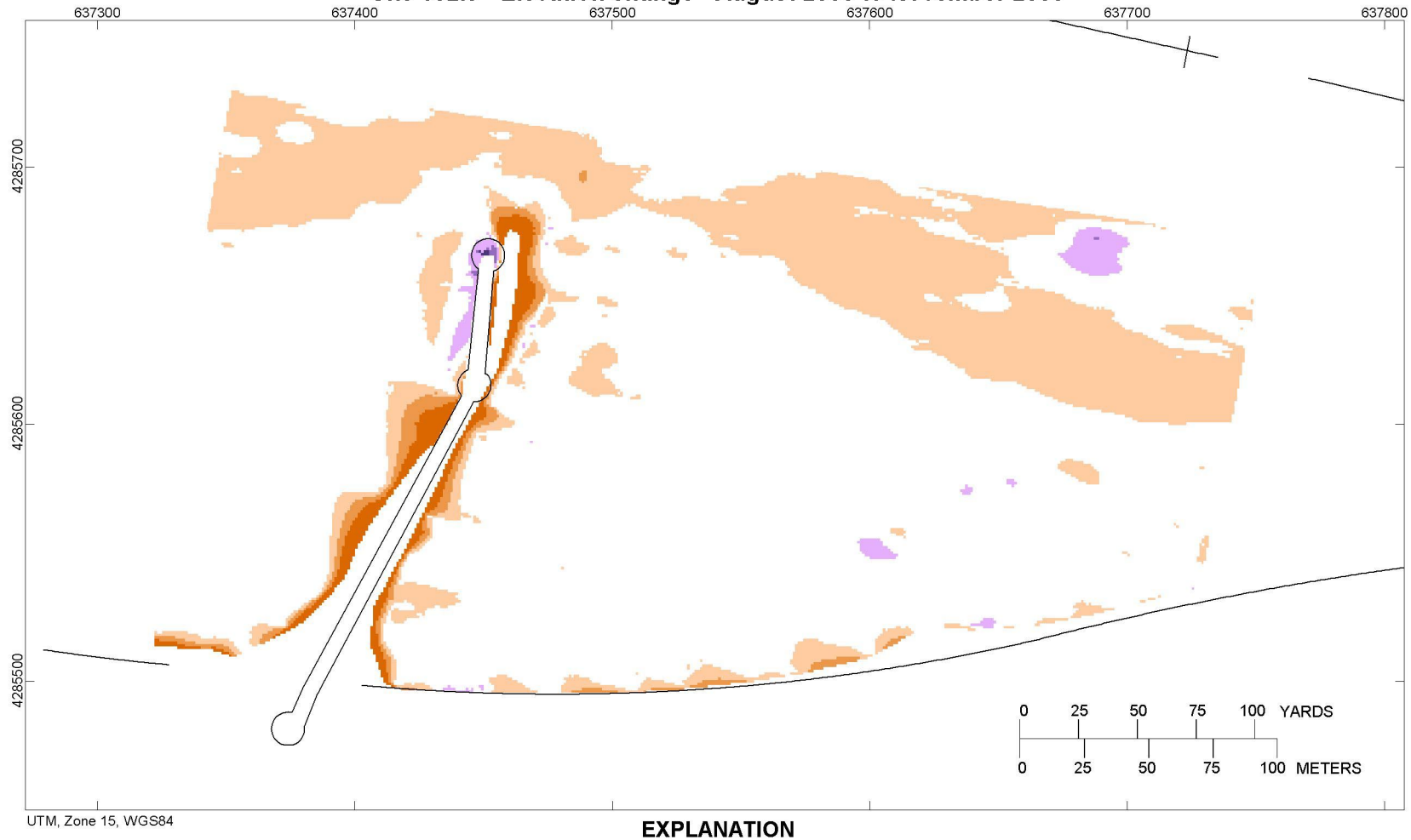


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation change - August 2000 to November 2000



EXPLANATION

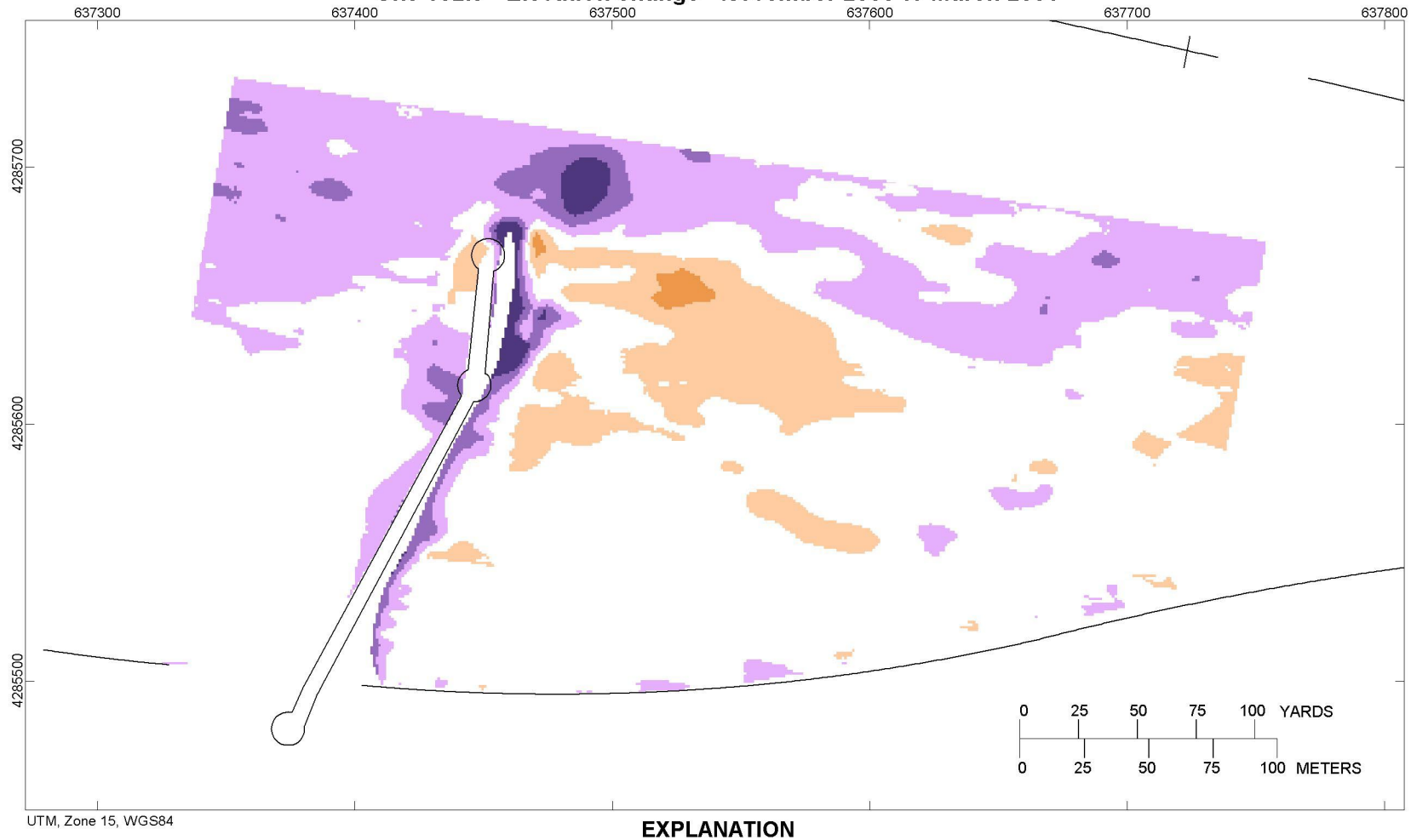
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation change - November 2000 to March 2001



EXPLANATION

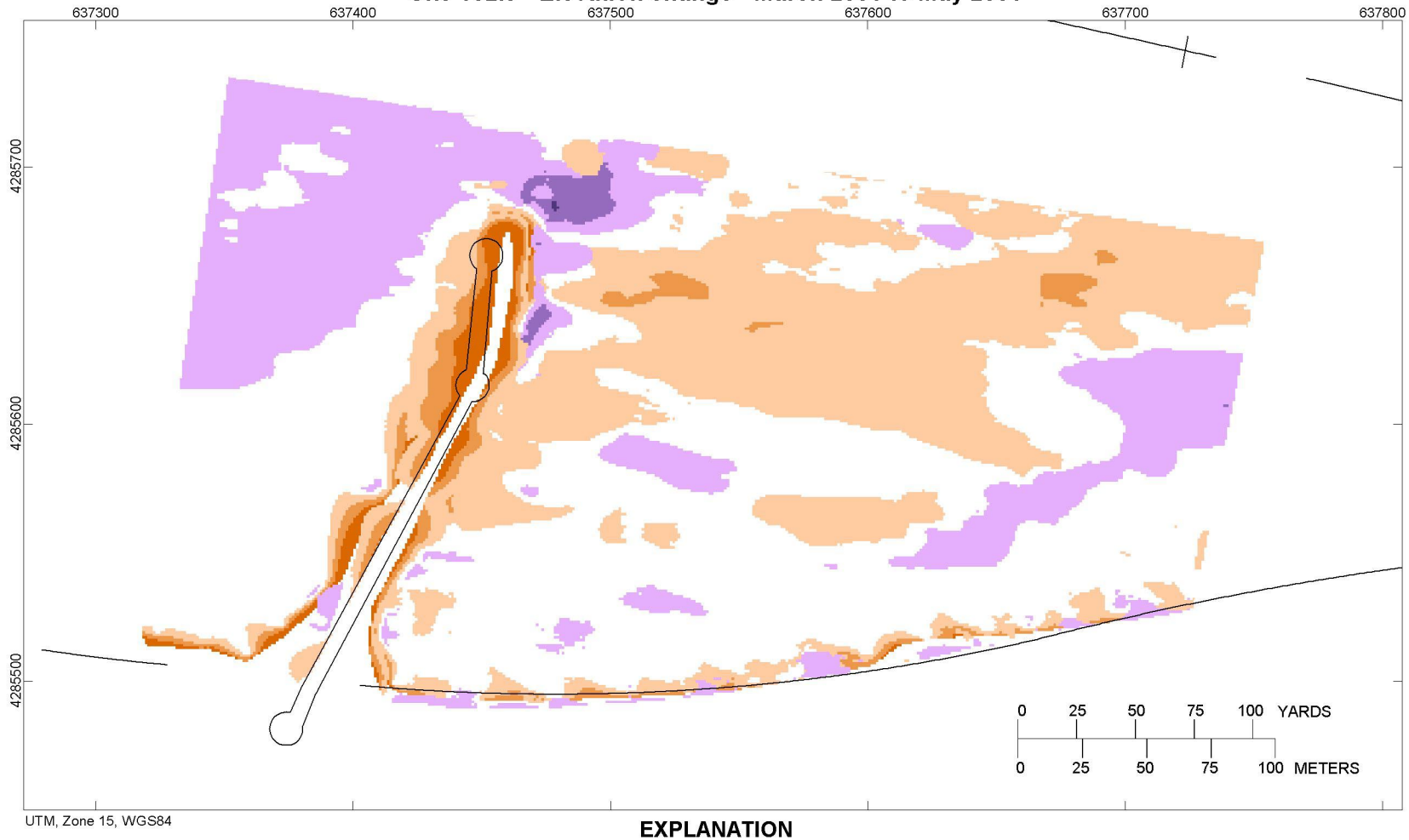
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation change - March 2001 to May 2001



EXPLANATION

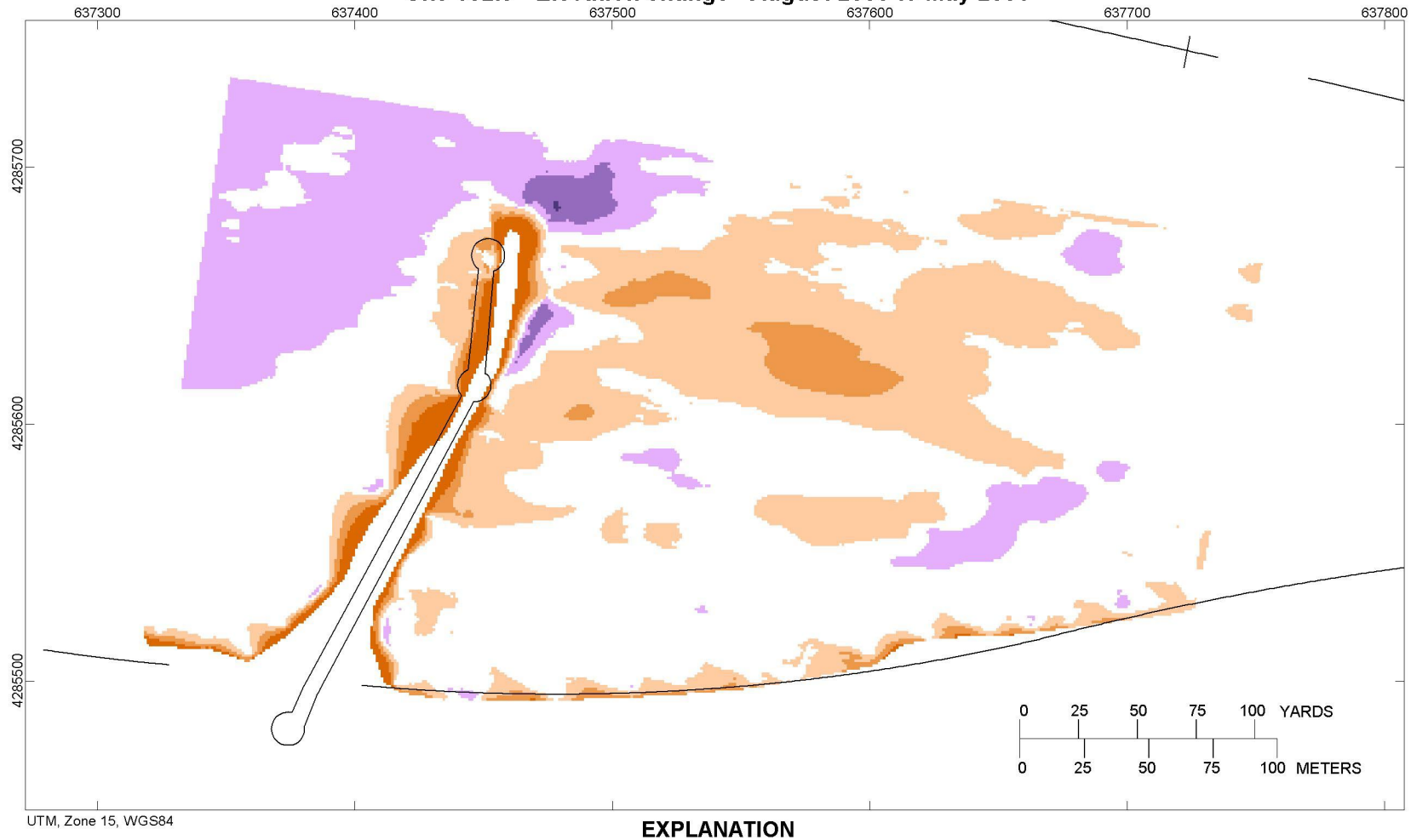
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.5 - Elevation change - August 2000 to May 2001



EXPLANATION

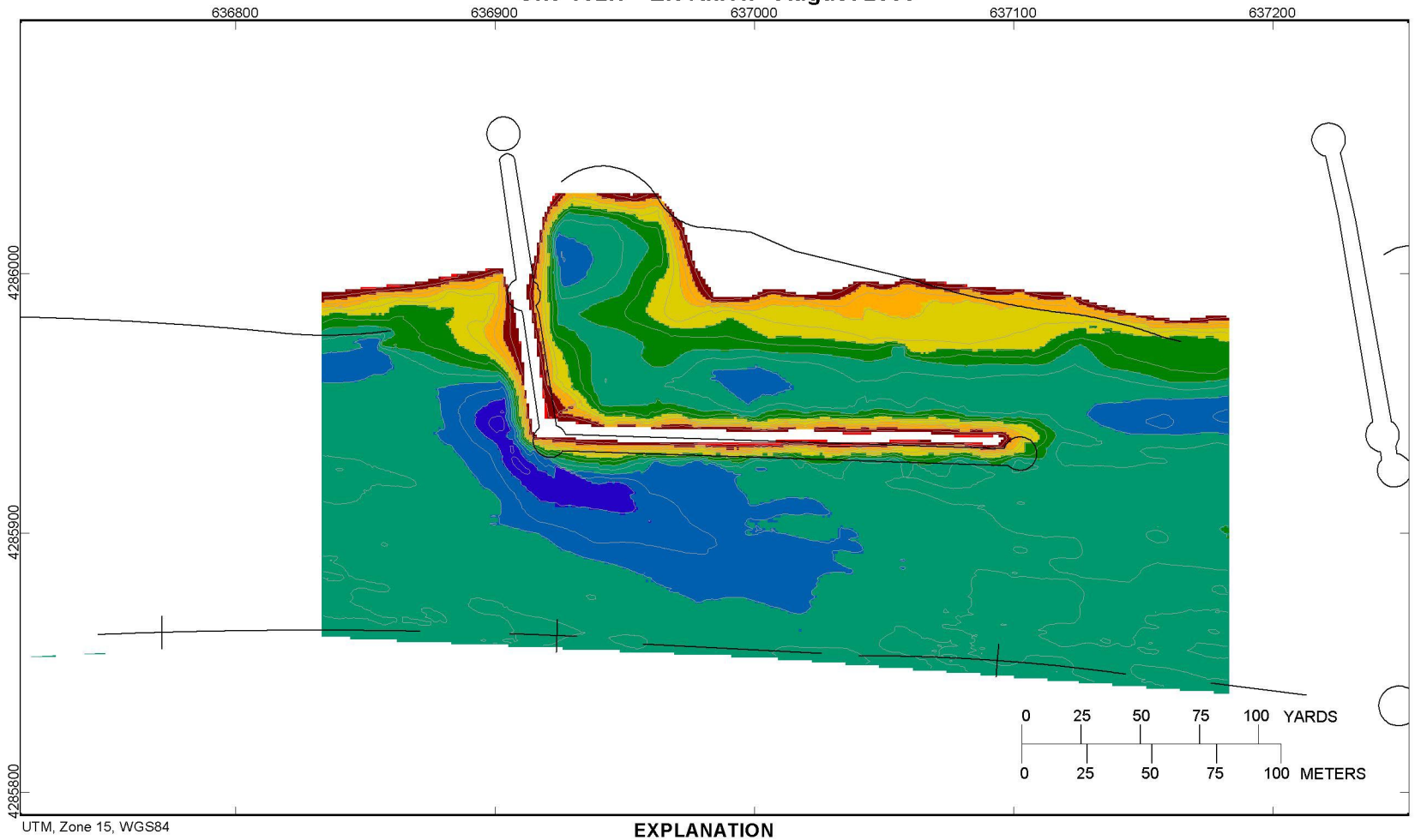
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation - August 2000



EXPLANATION

COE hydro survey

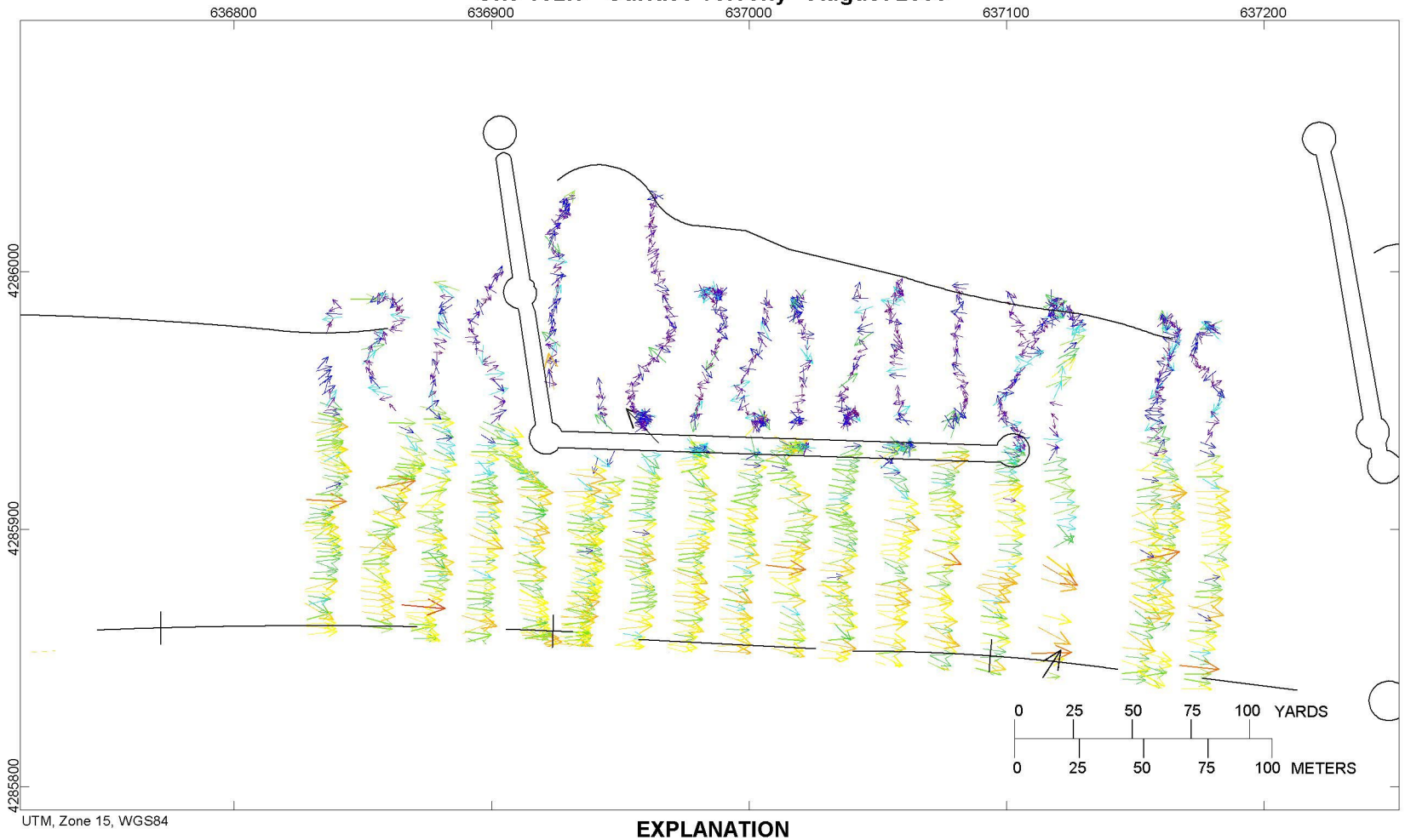
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Surface velocity - August 2000



EXPLANATION

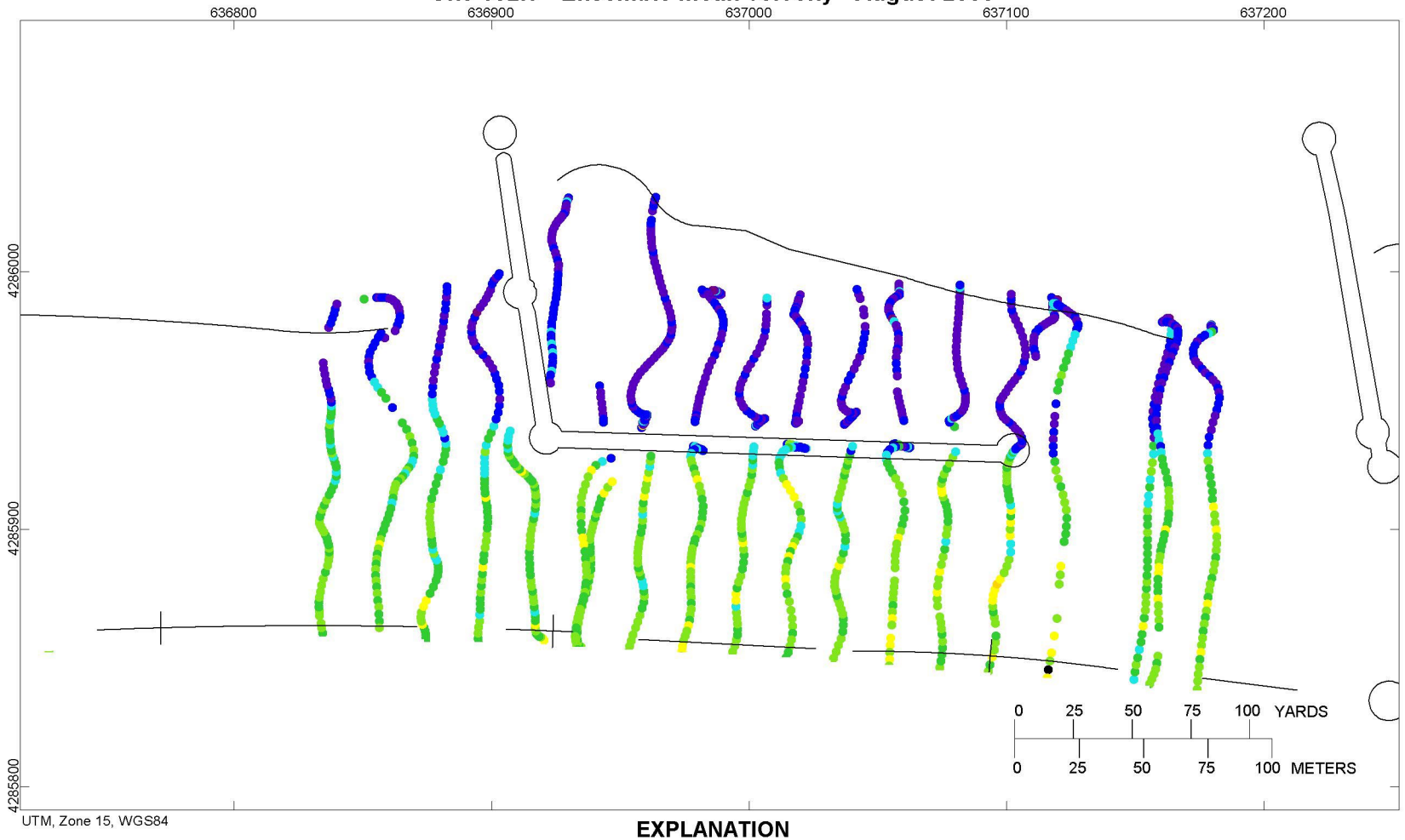
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Ensemble mean velocity - August 2000



EXPLANATION

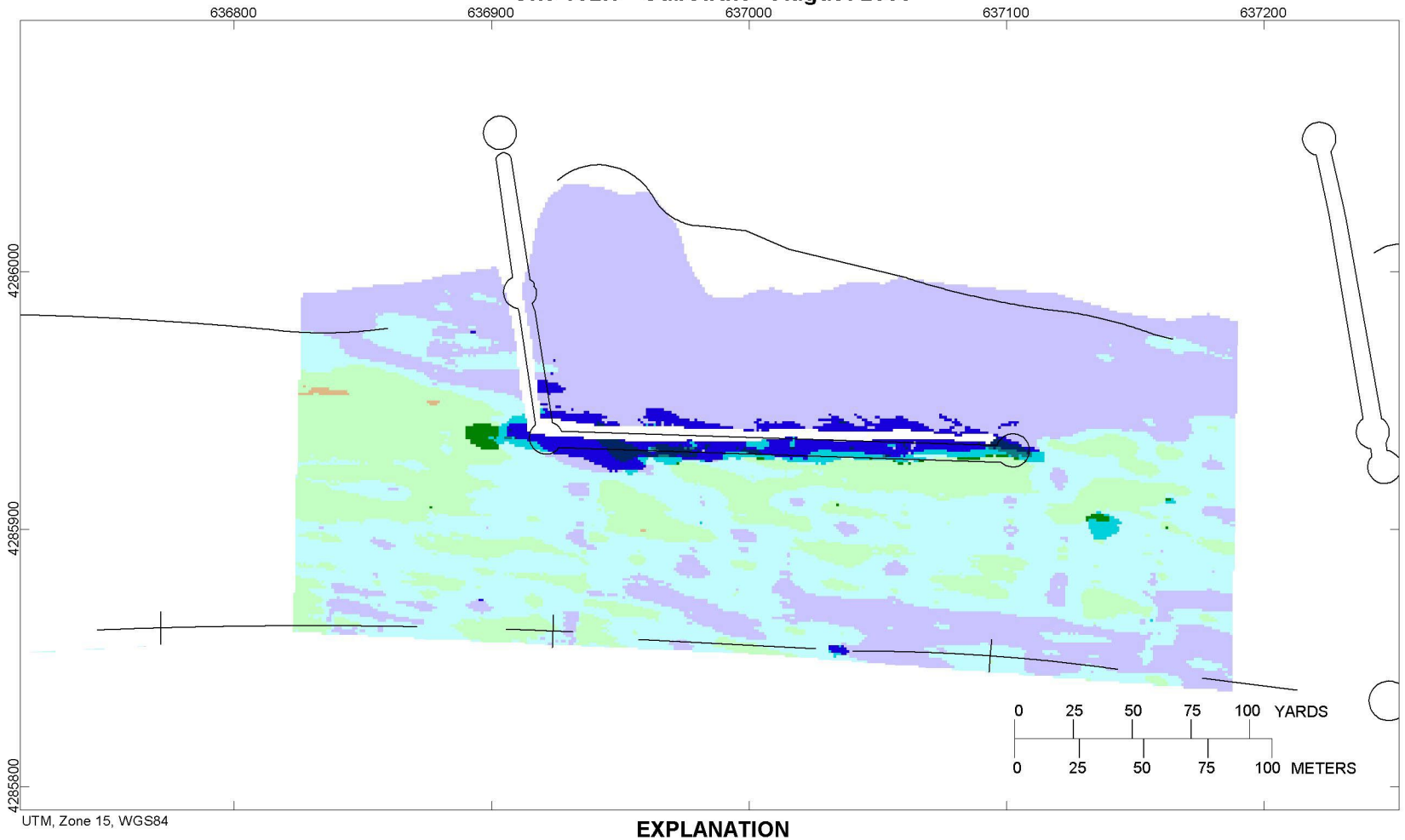
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Substrate - August 2000



EXPLANATION

COE hydro survey

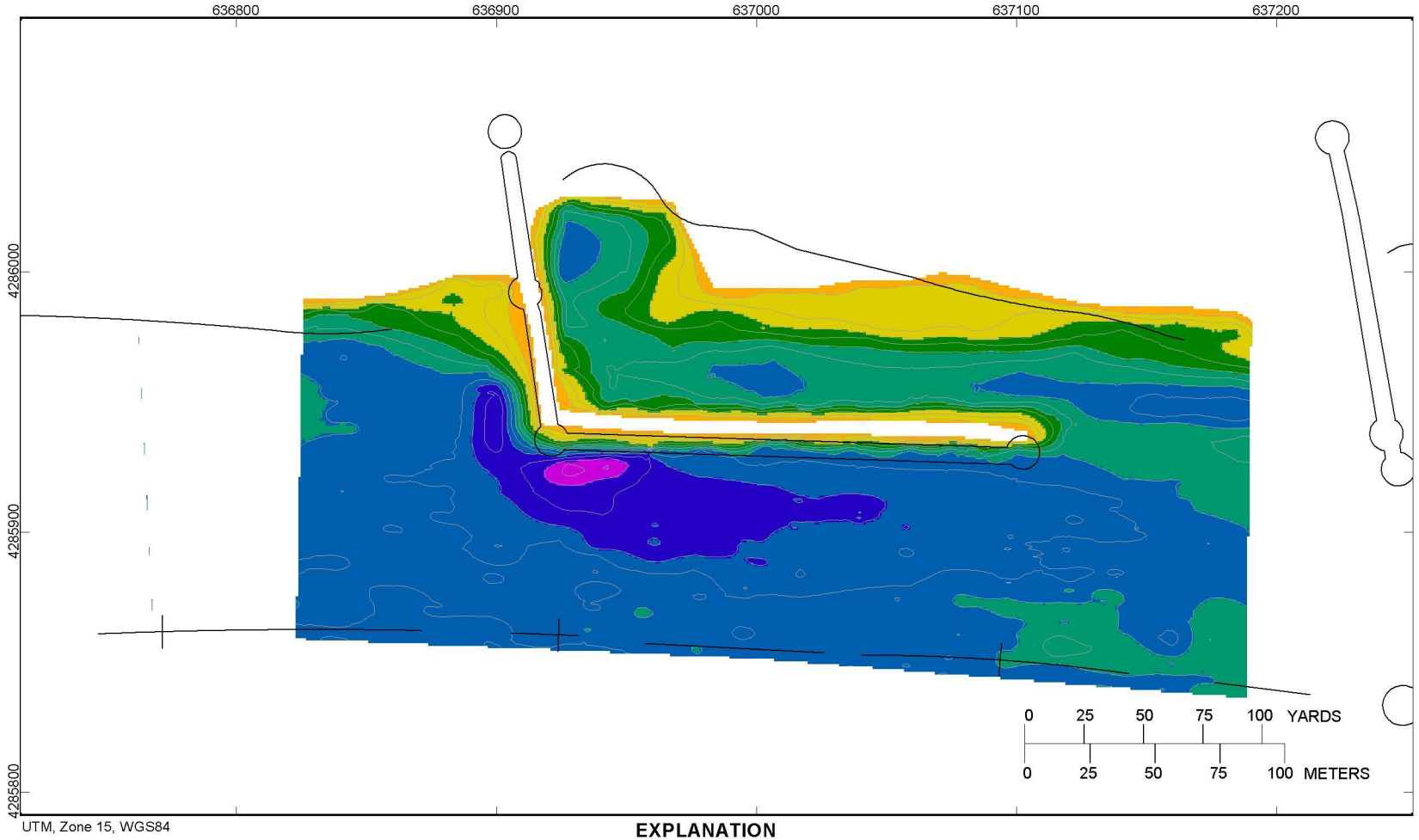
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation - November 2000



EXPLANATION

COE hydro survey

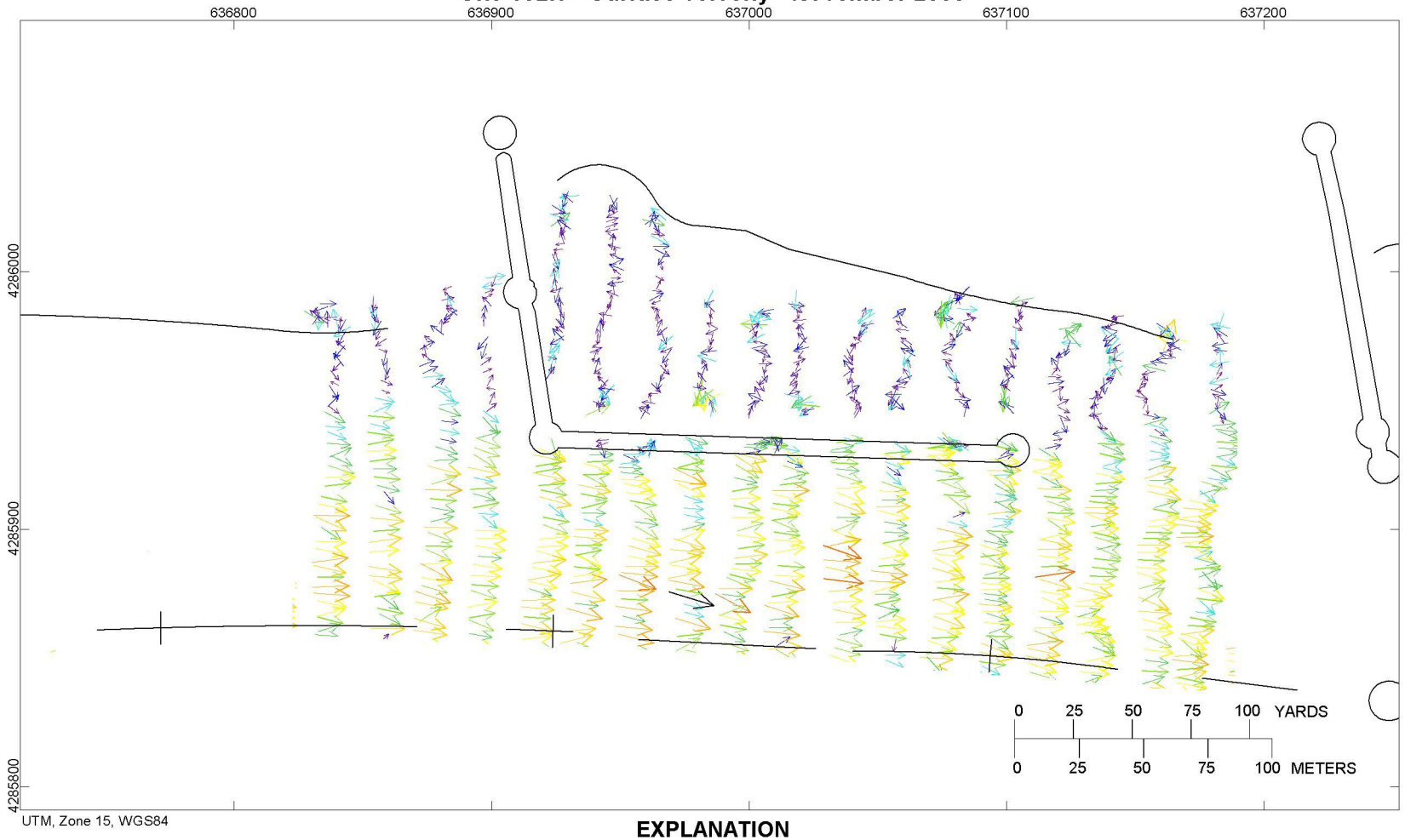
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Surface velocity - November 2000



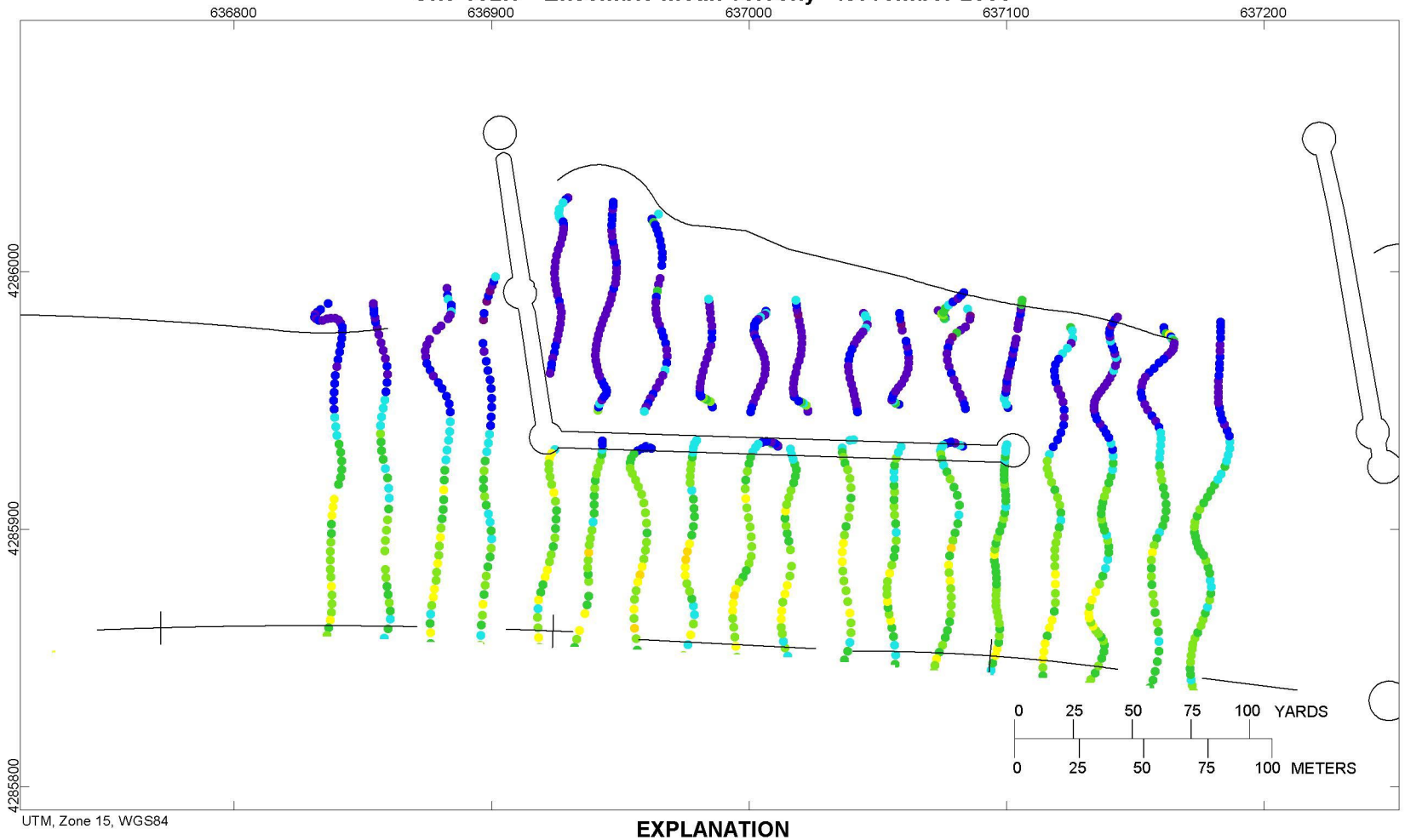
EXPLANATION

Surface velocity, in centimeters/second

- COE hydro survey
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Ensemble mean velocity - November 2000



EXPLANATION

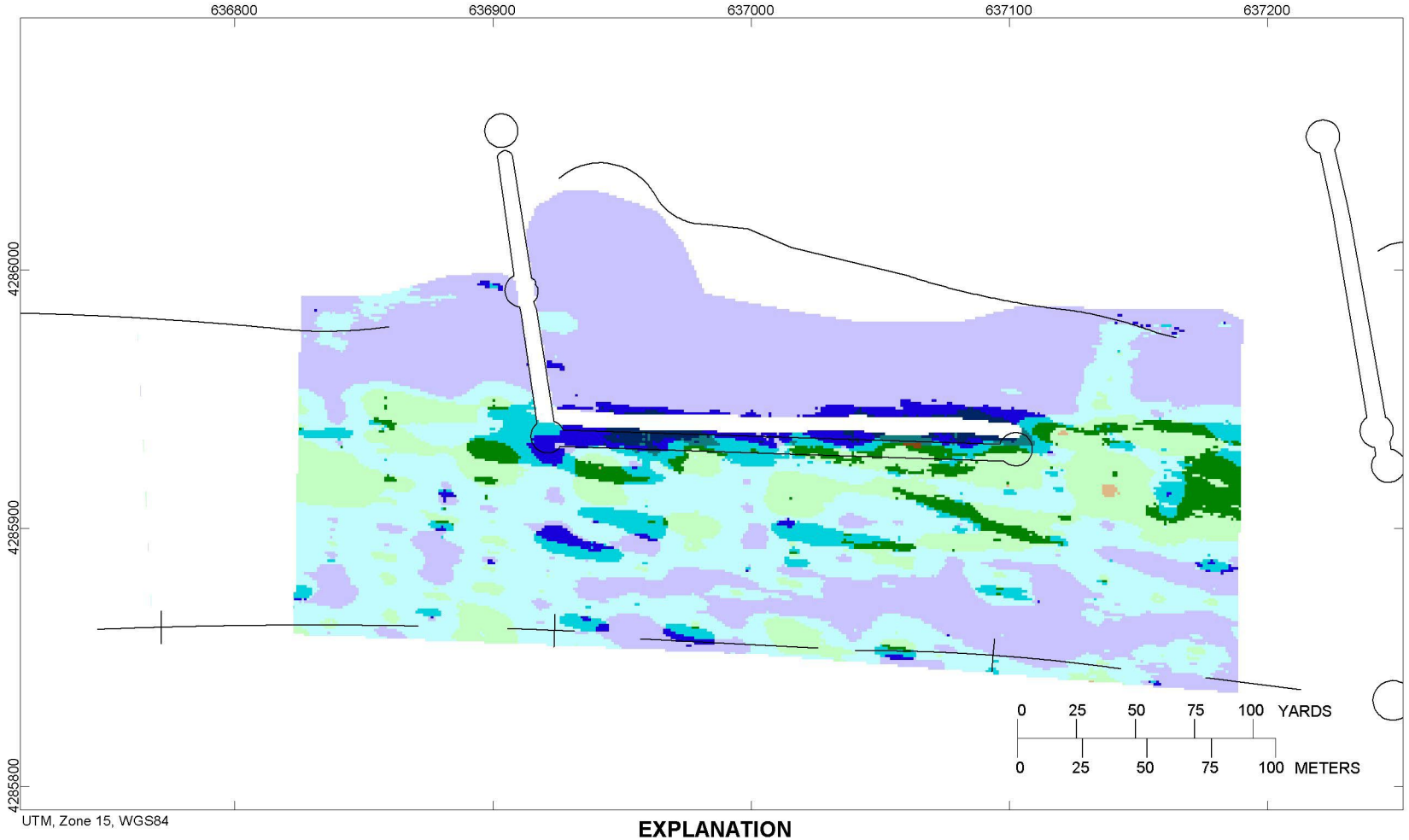
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Substrate - November 2000



EXPLANATION

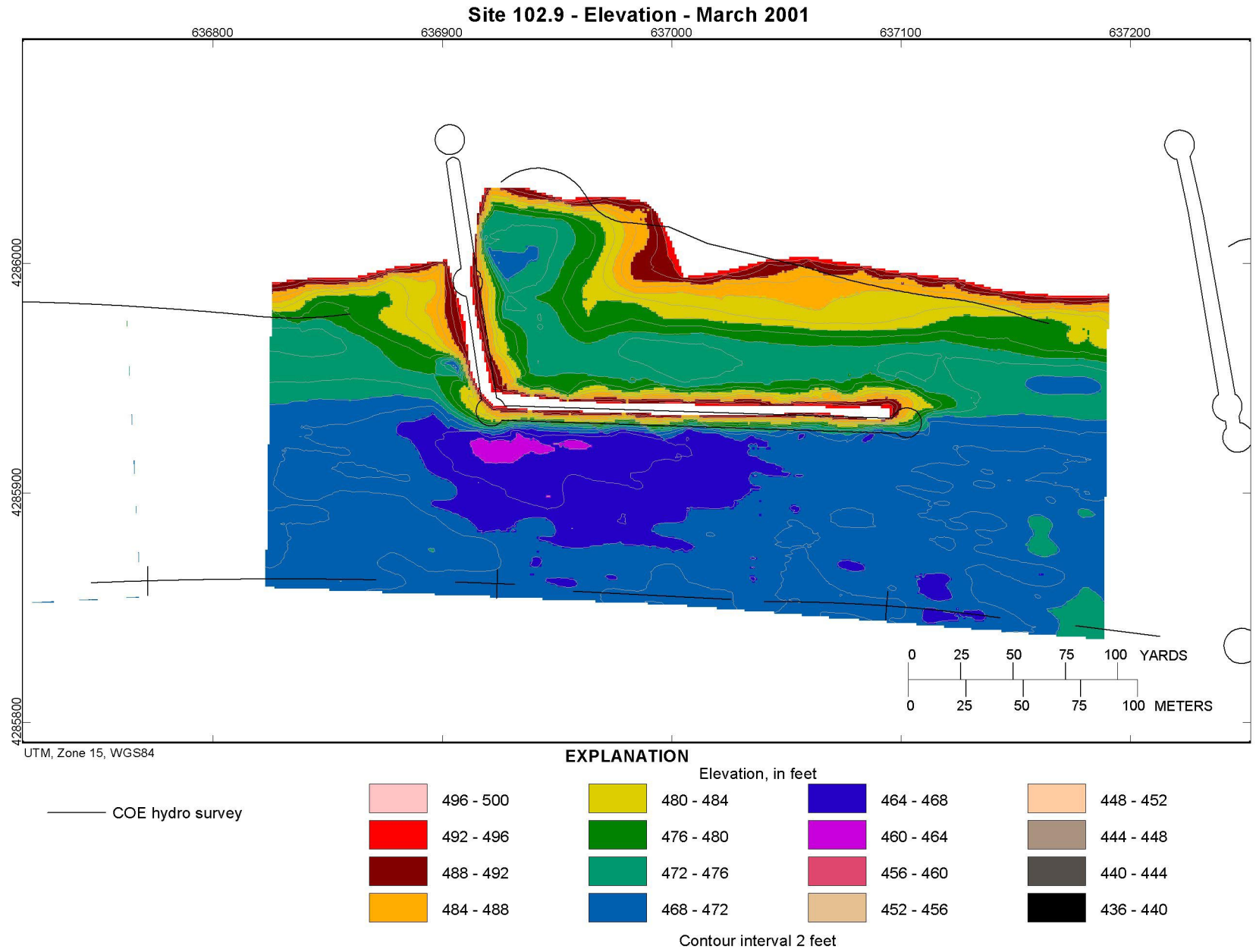
COE hydro survey

< increasing roughness <

Substrate
> increasing hardness >

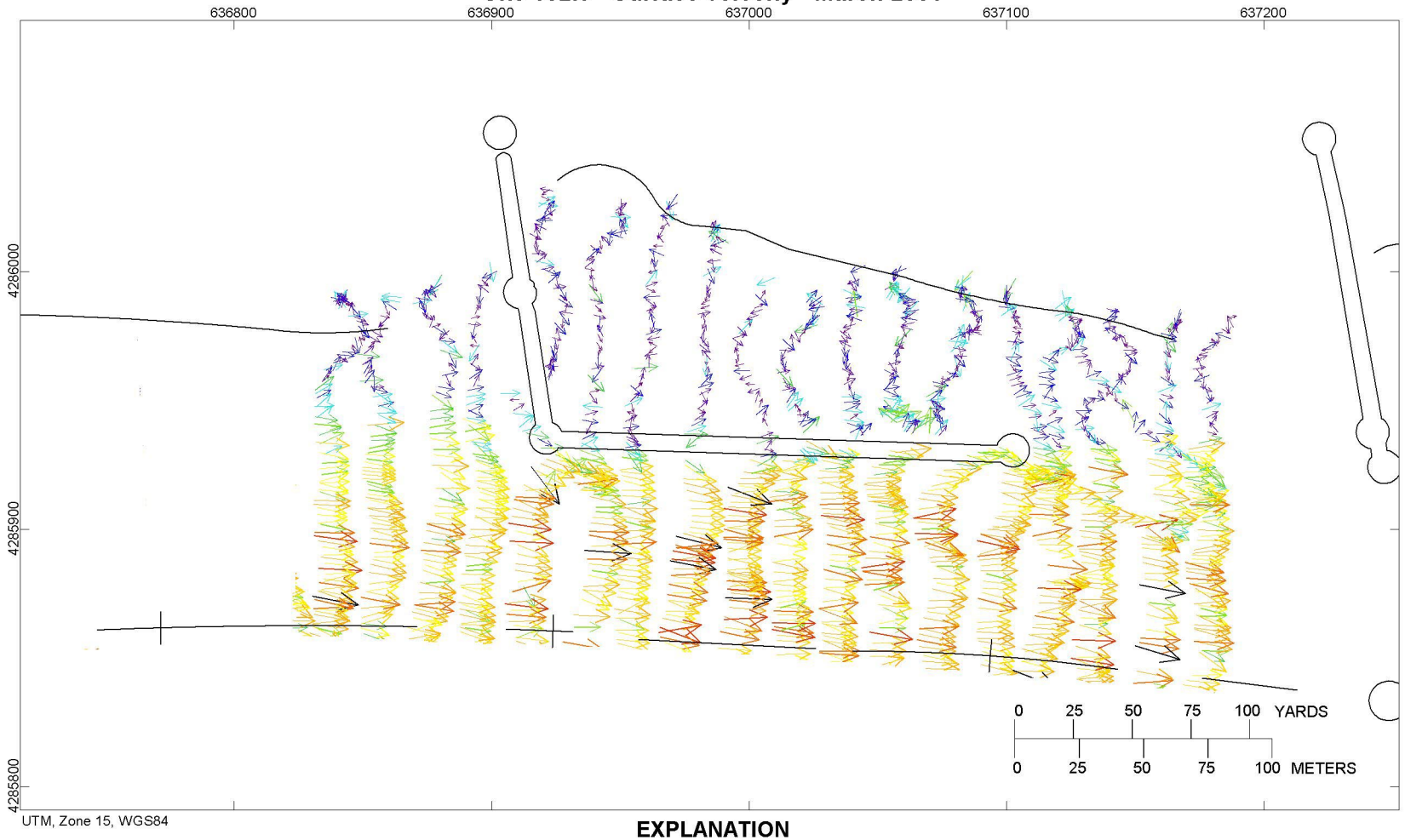
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Surface velocity - March 2001



EXPLANATION

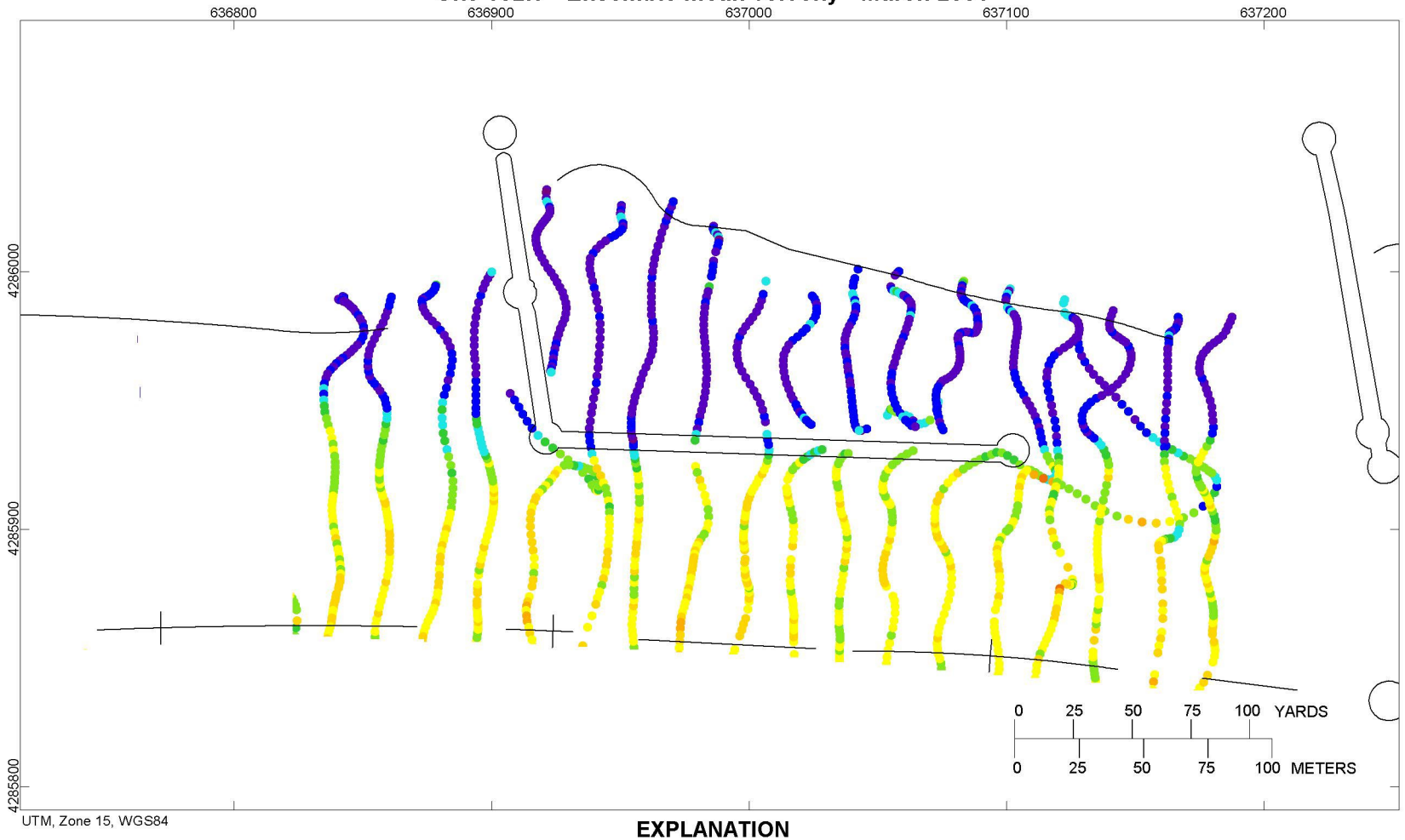
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Ensemble mean velocity - March 2001



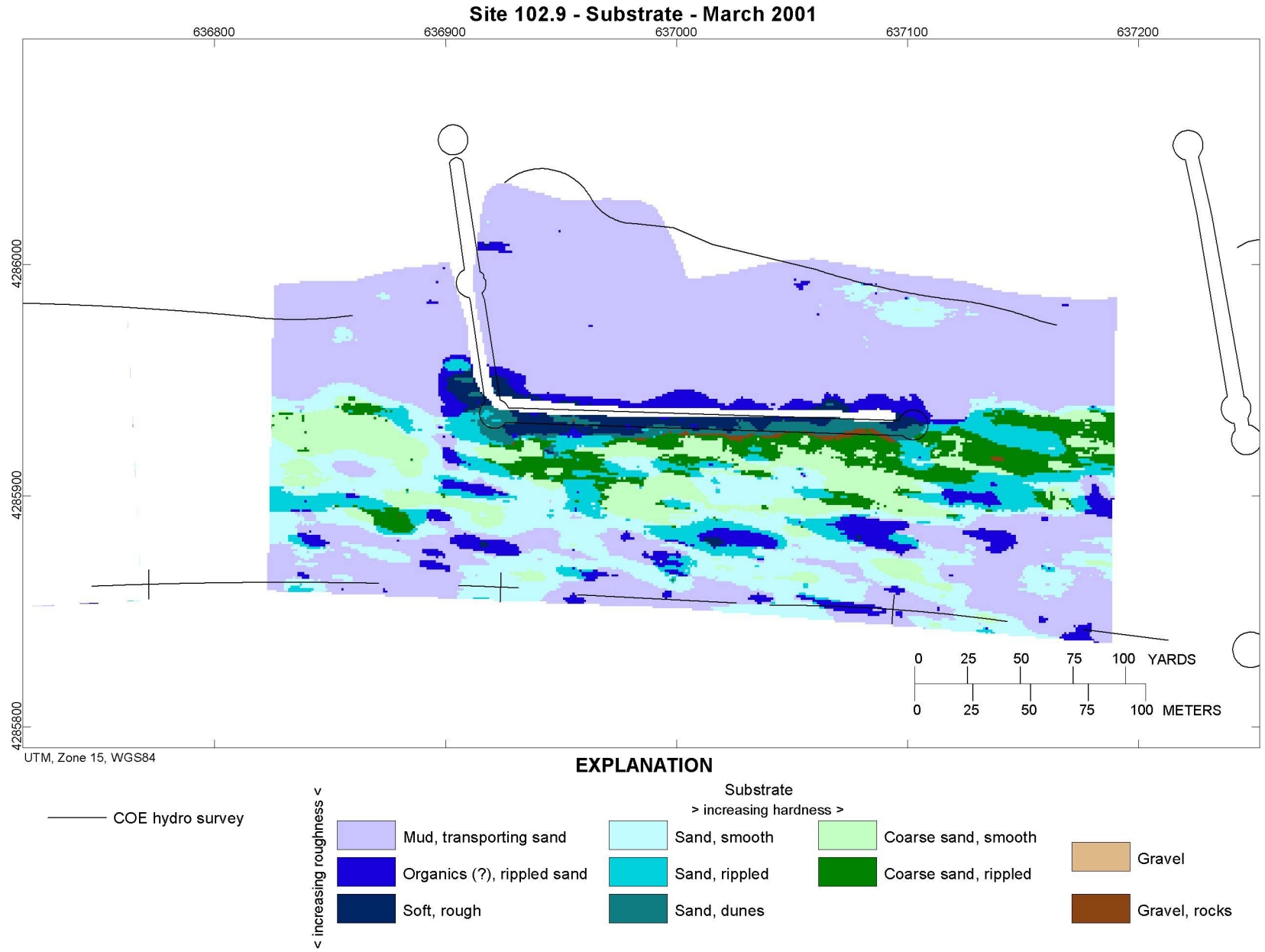
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

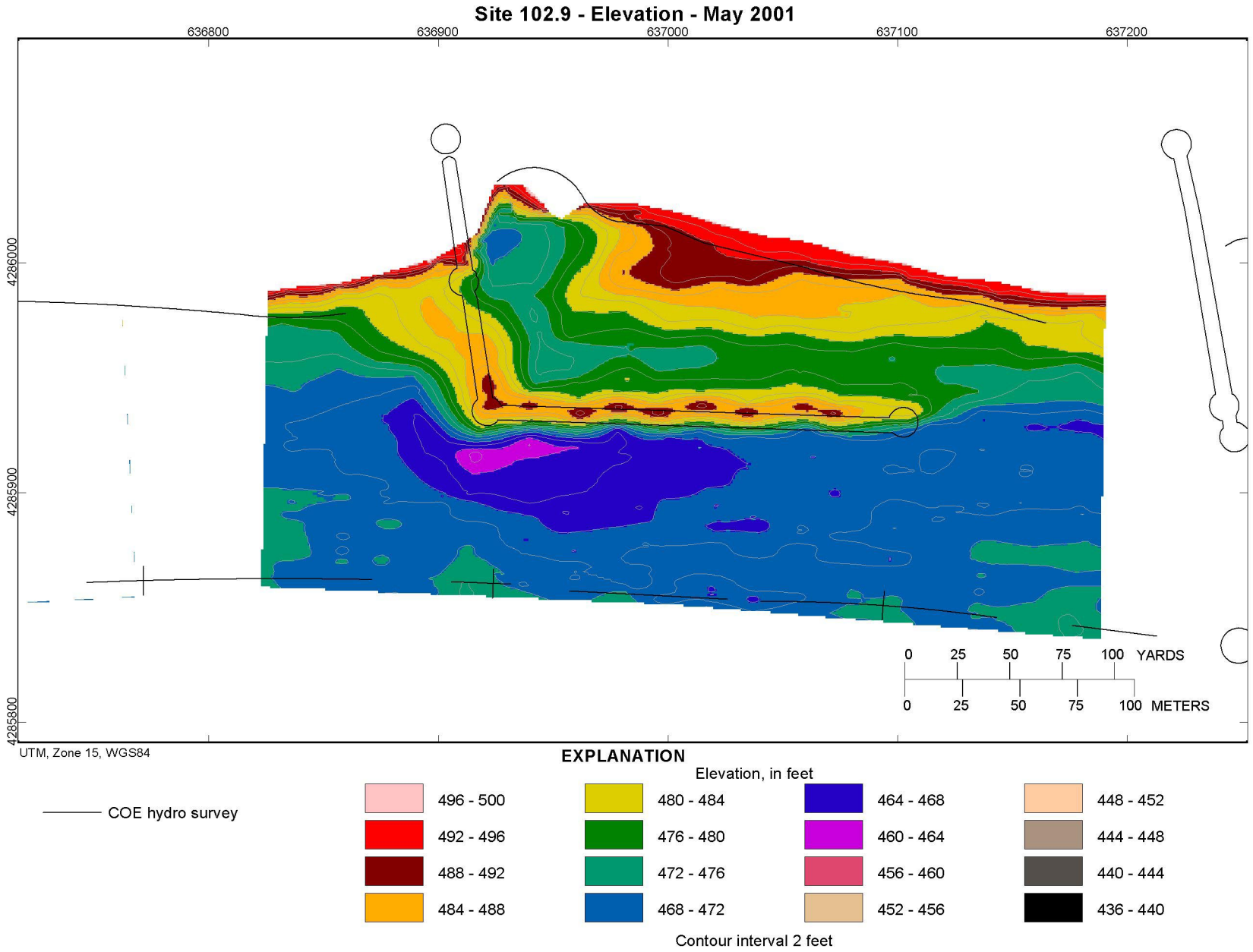
0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

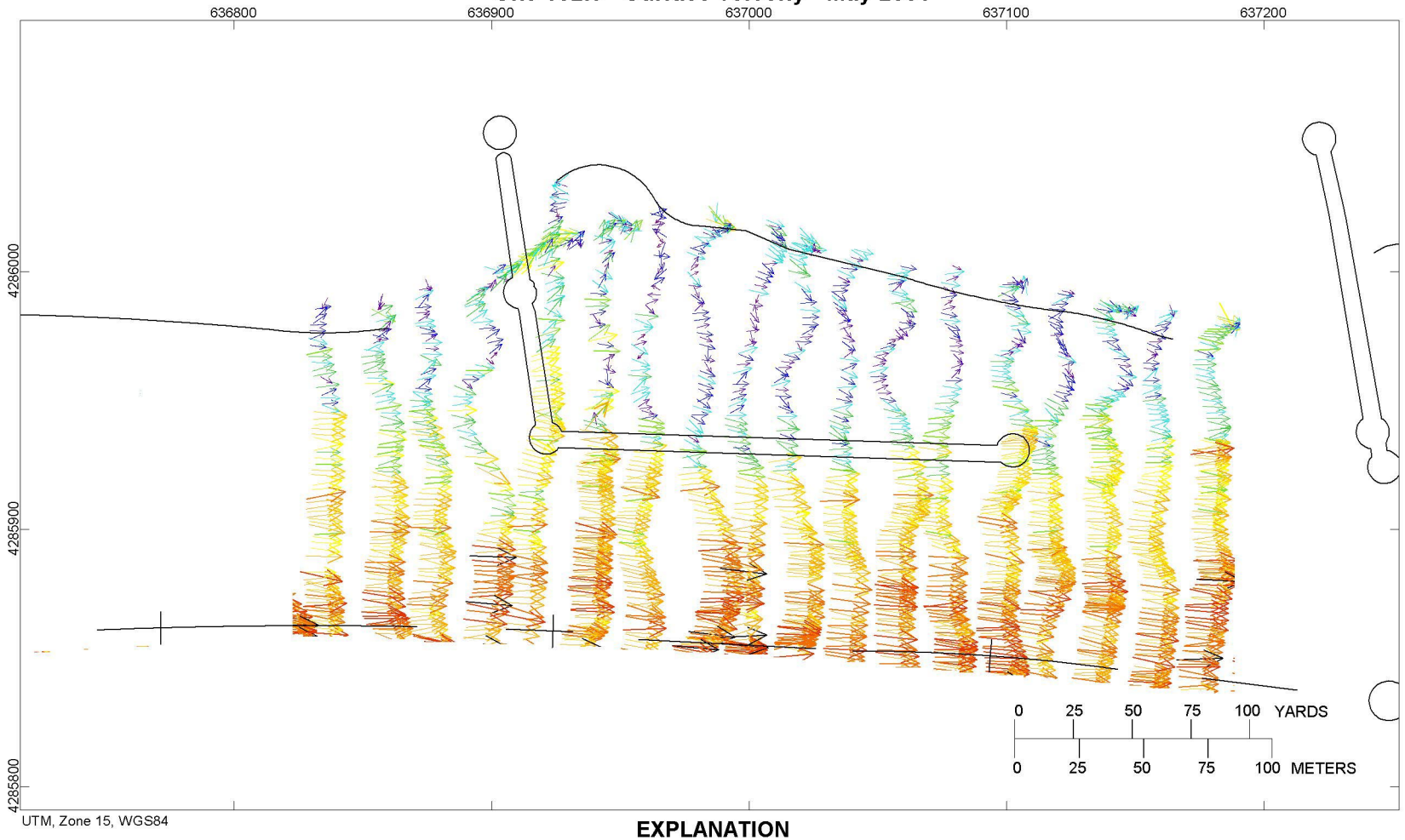


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Surface velocity - May 2001



EXPLANATION

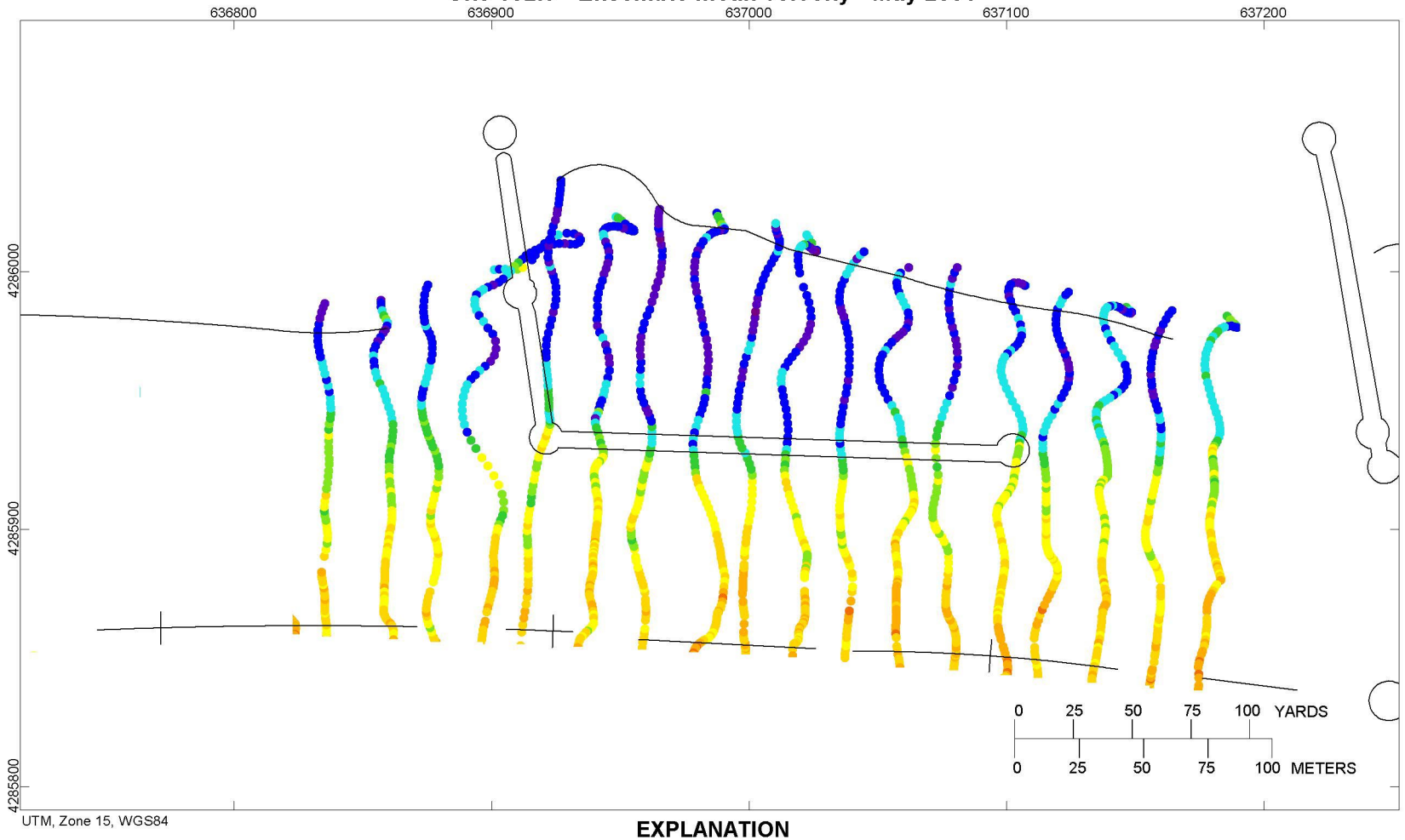
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Ensemble mean velocity - May 2001



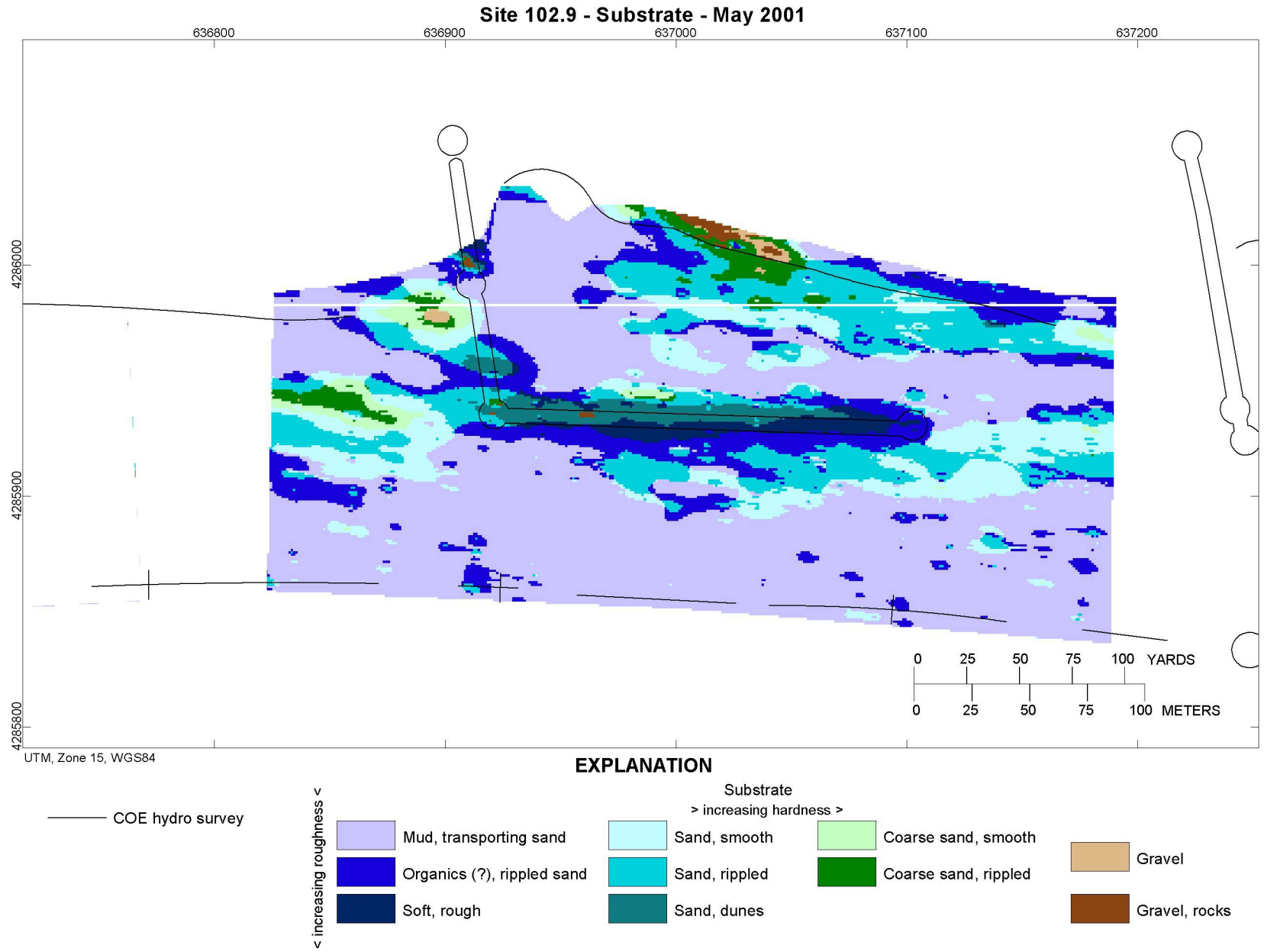
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

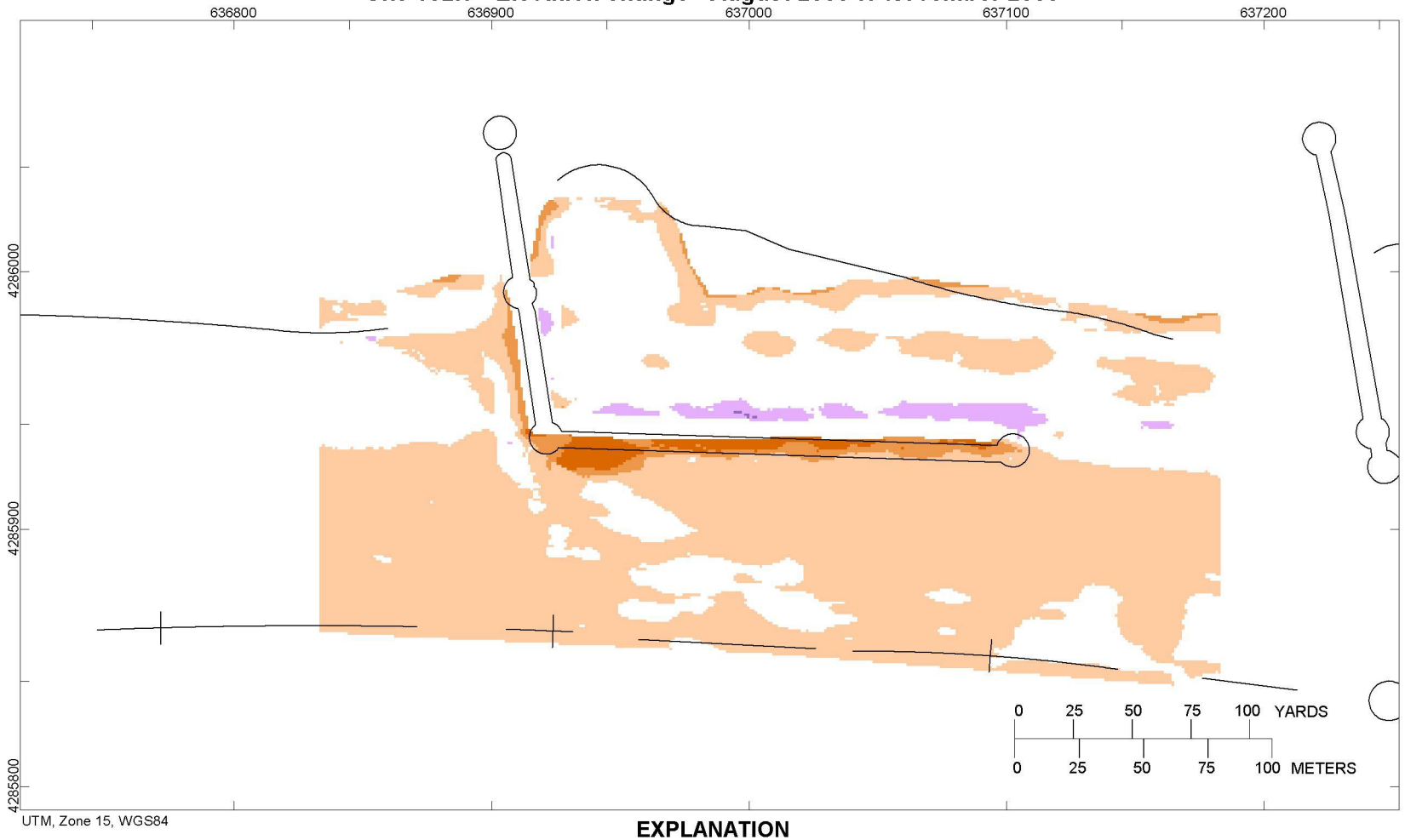
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation change - August 2000 to November 2000



EXPLANATION

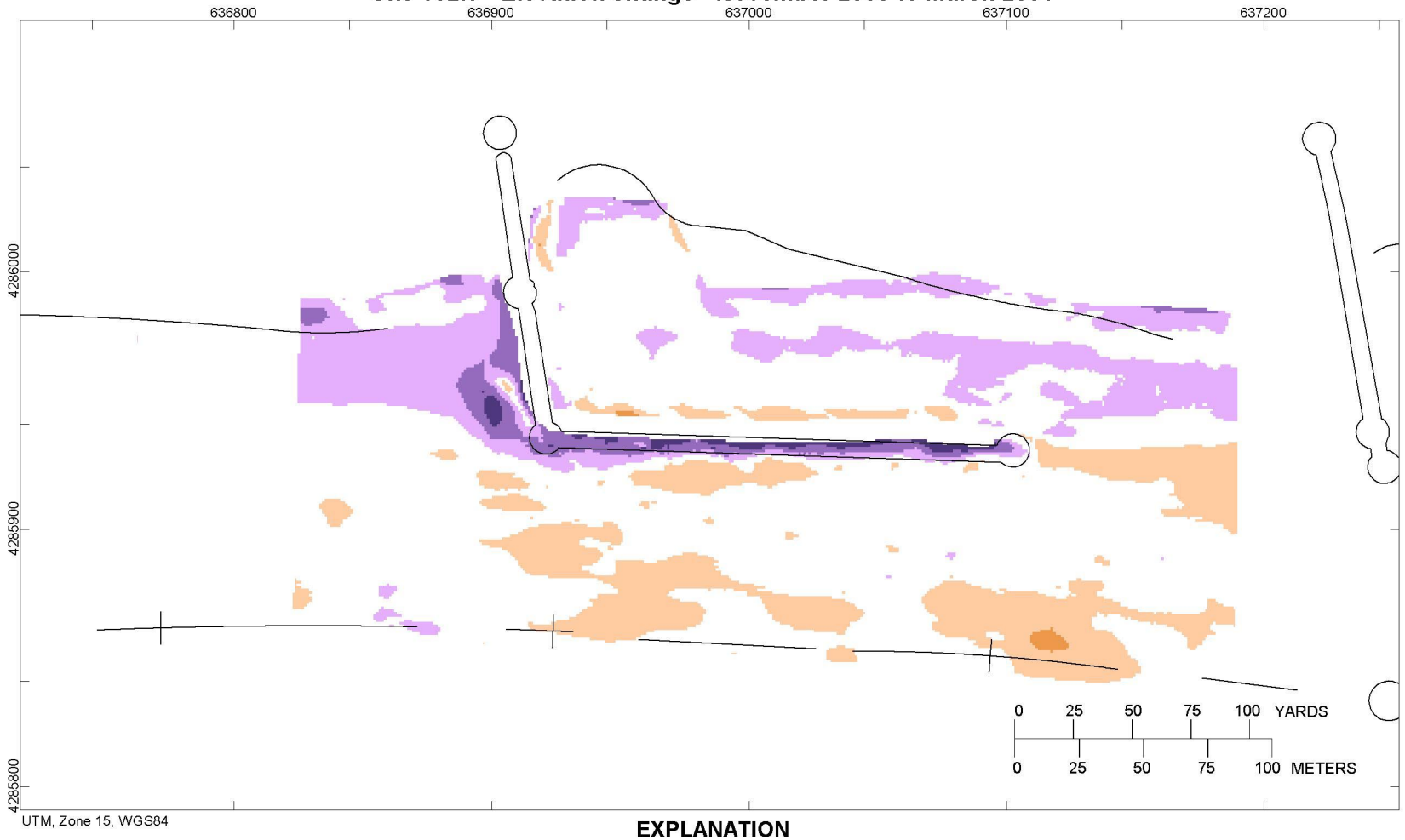
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation change - November 2000 to March 2001



EXPLANATION

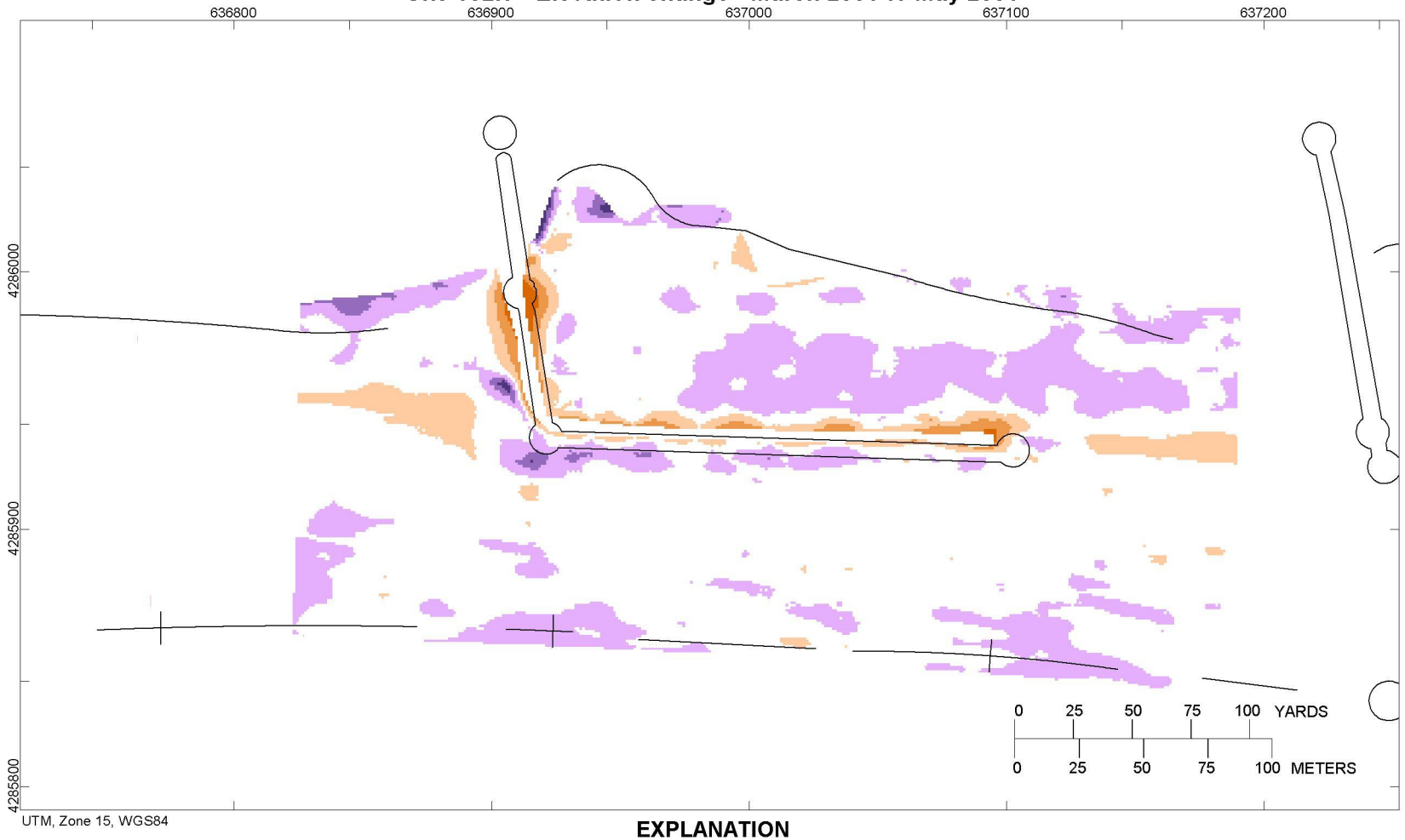
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation change - March 2001 to May 2001



EXPLANATION

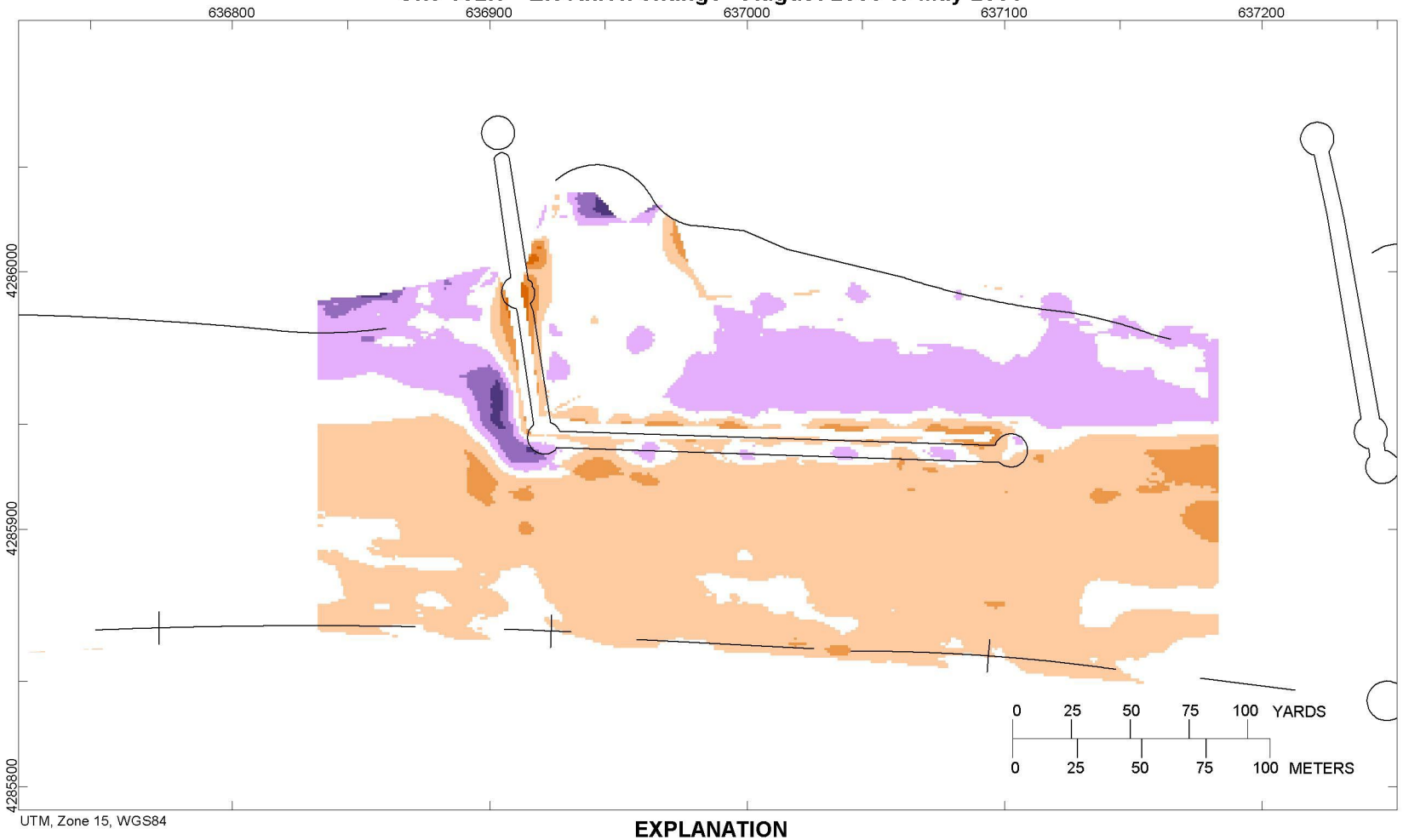
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 102.9 - Elevation change - August 2000 to May 2001



EXPLANATION

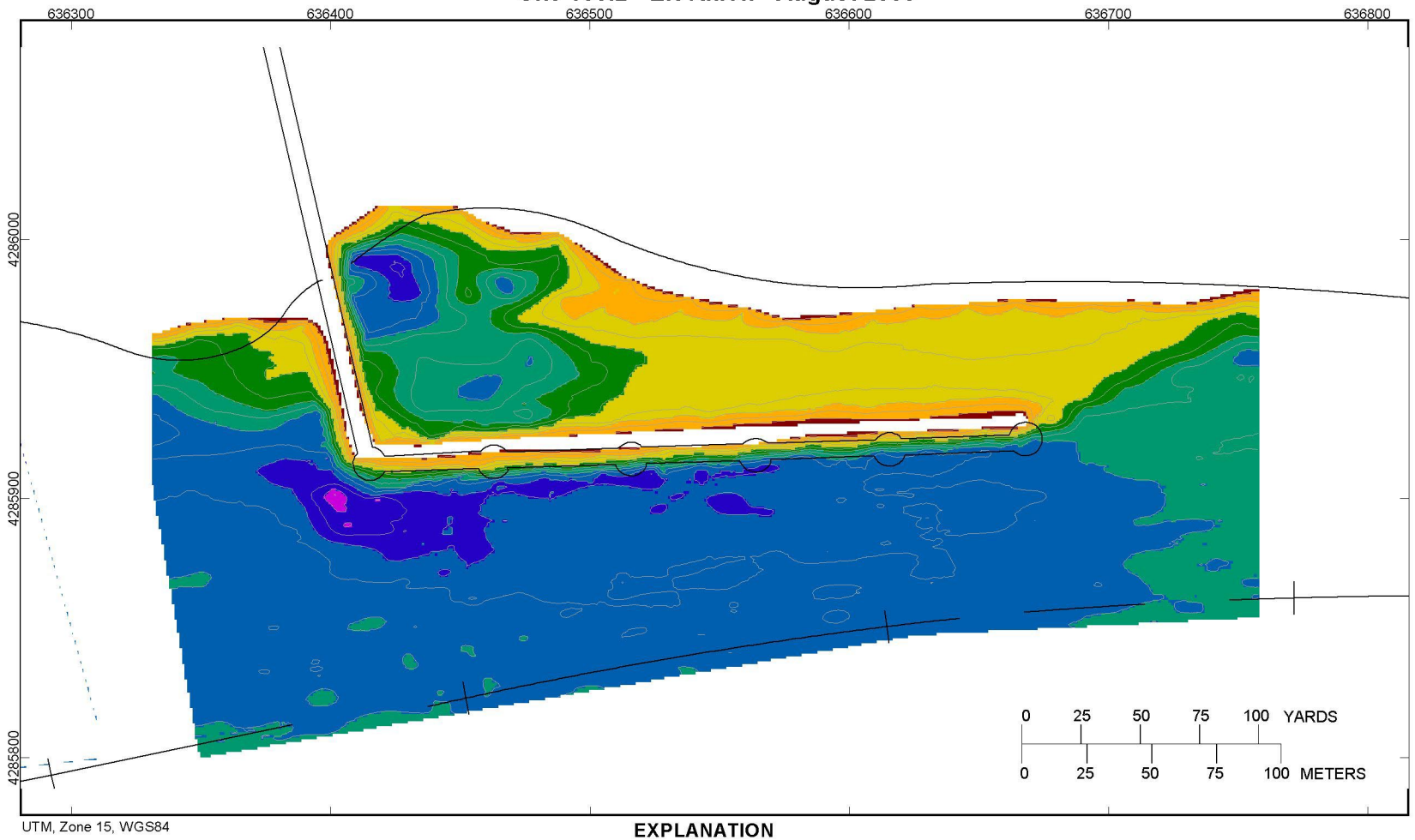
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation - August 2000



EXPLANATION

COE hydro survey

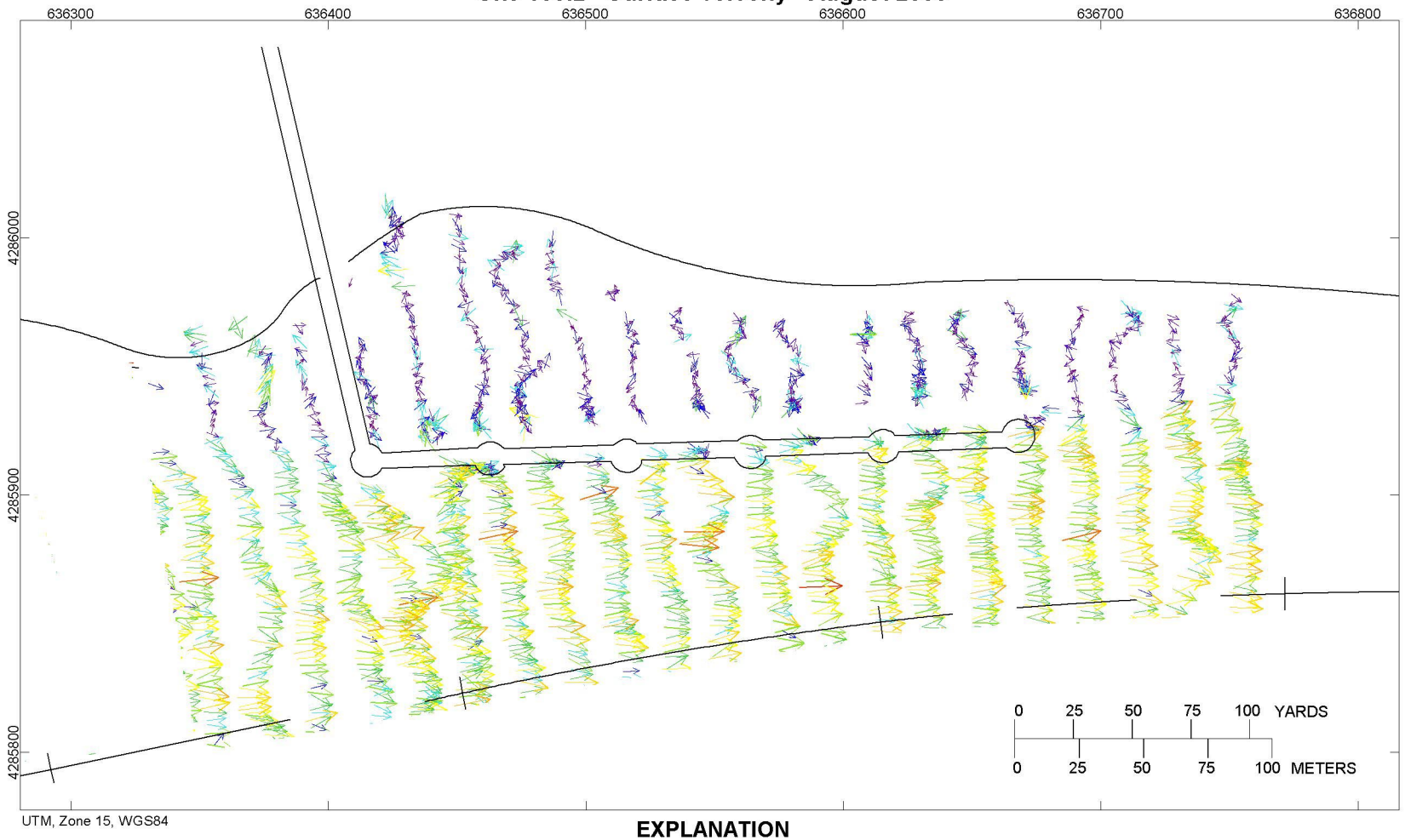
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Surface velocity - August 2000



EXPLANATION

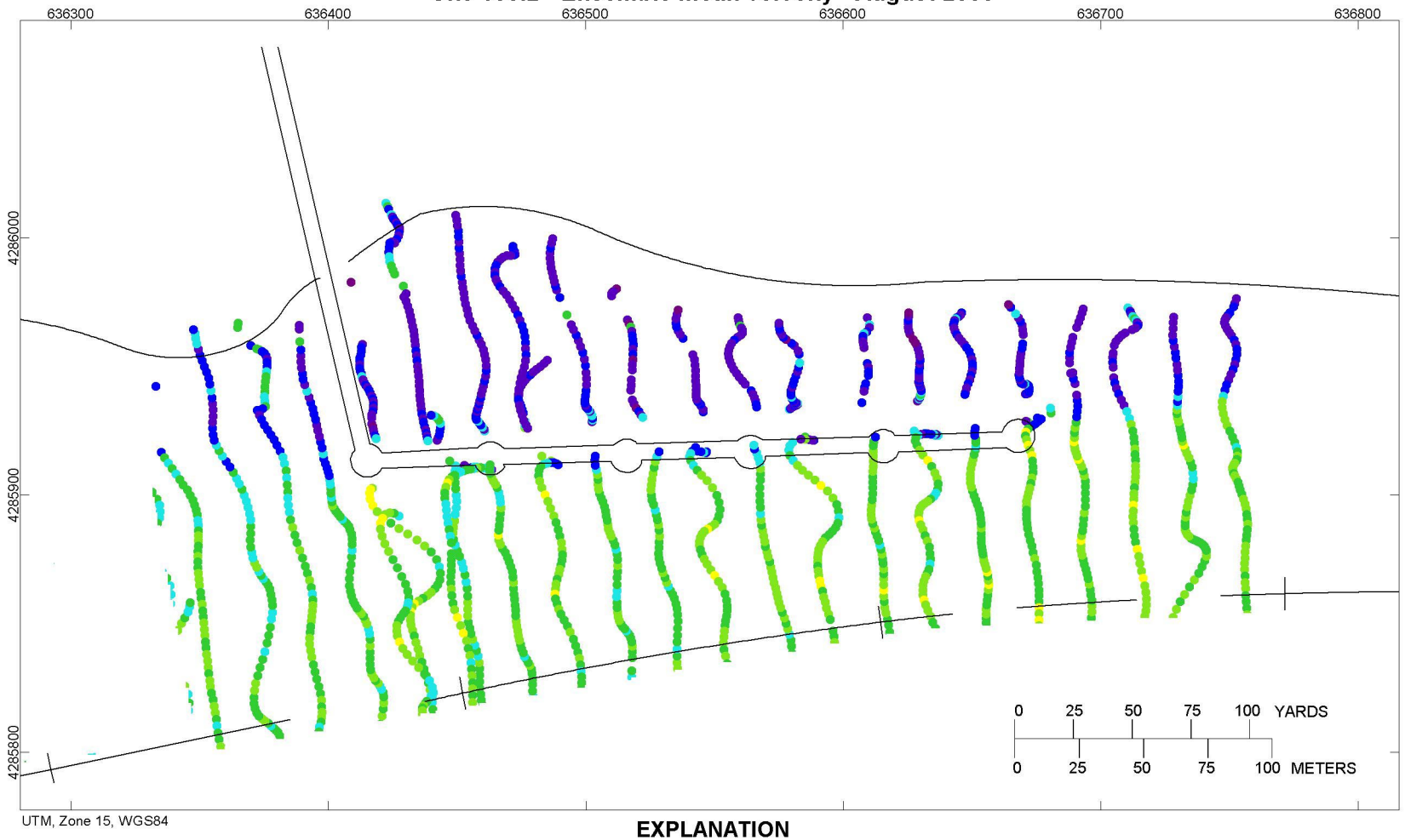
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Ensemble mean velocity - August 2000



EXPLANATION

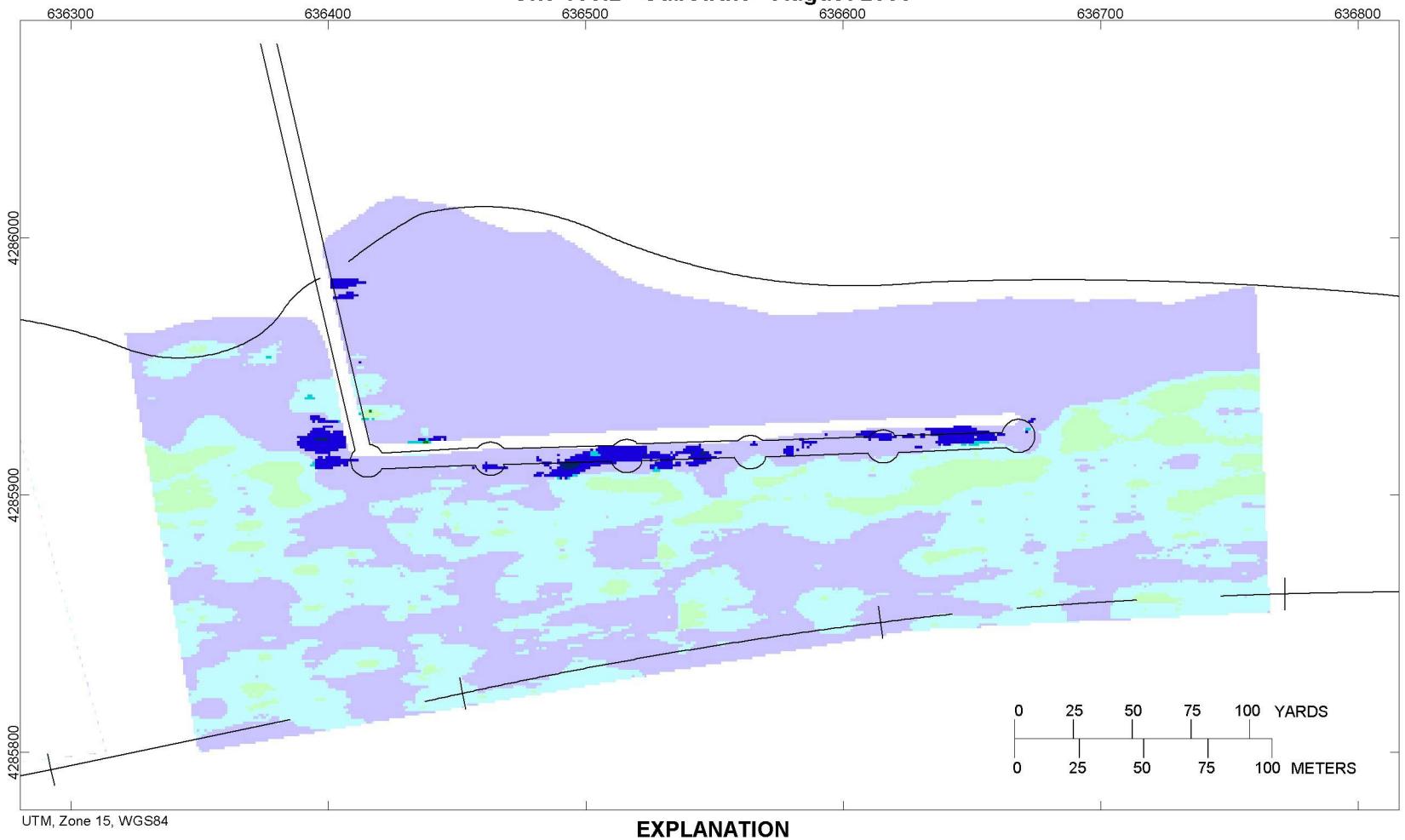
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Substrate - August 2000



EXPLANATION

COE hydro survey

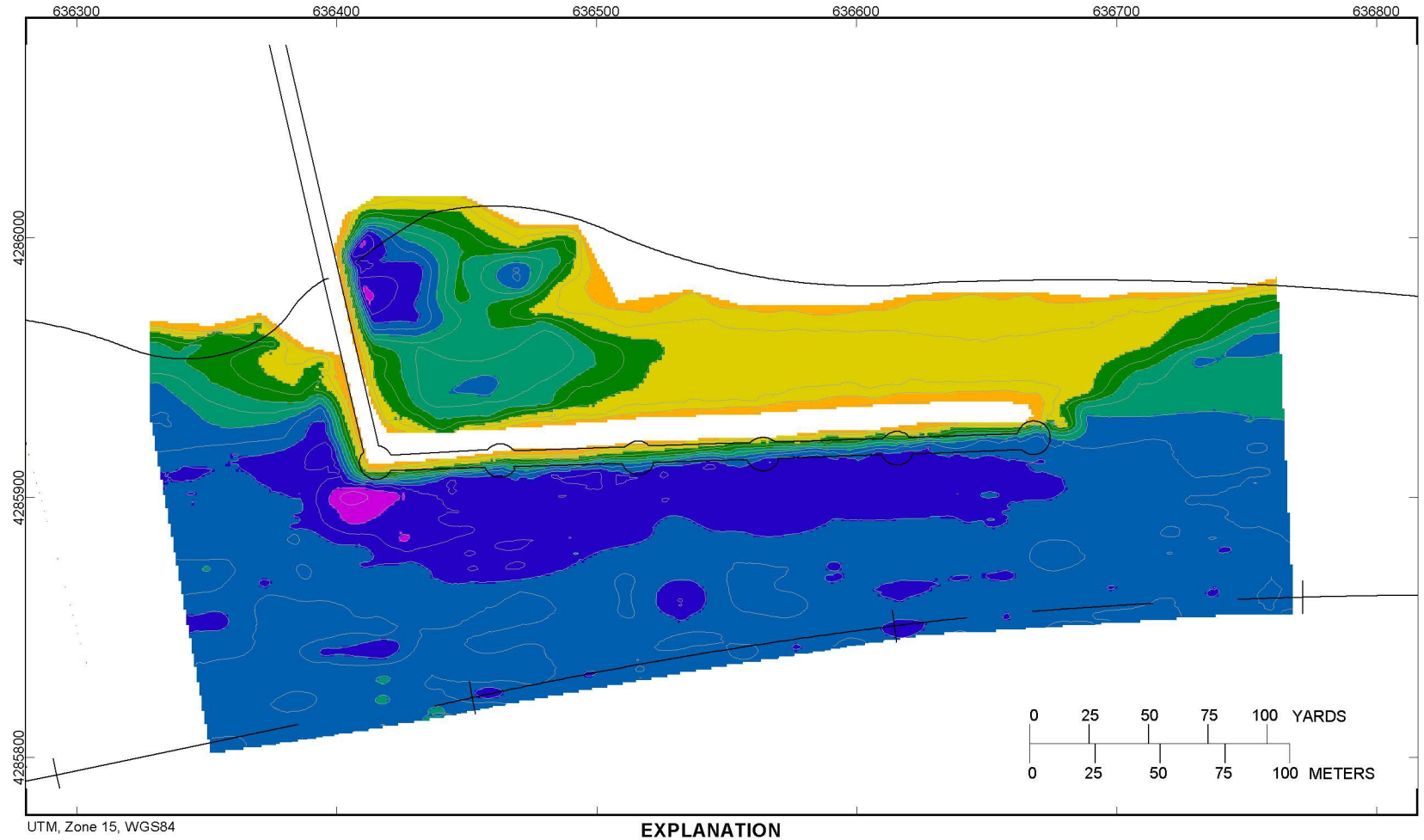
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation - November 2000



EXPLANATION

COE hydro survey

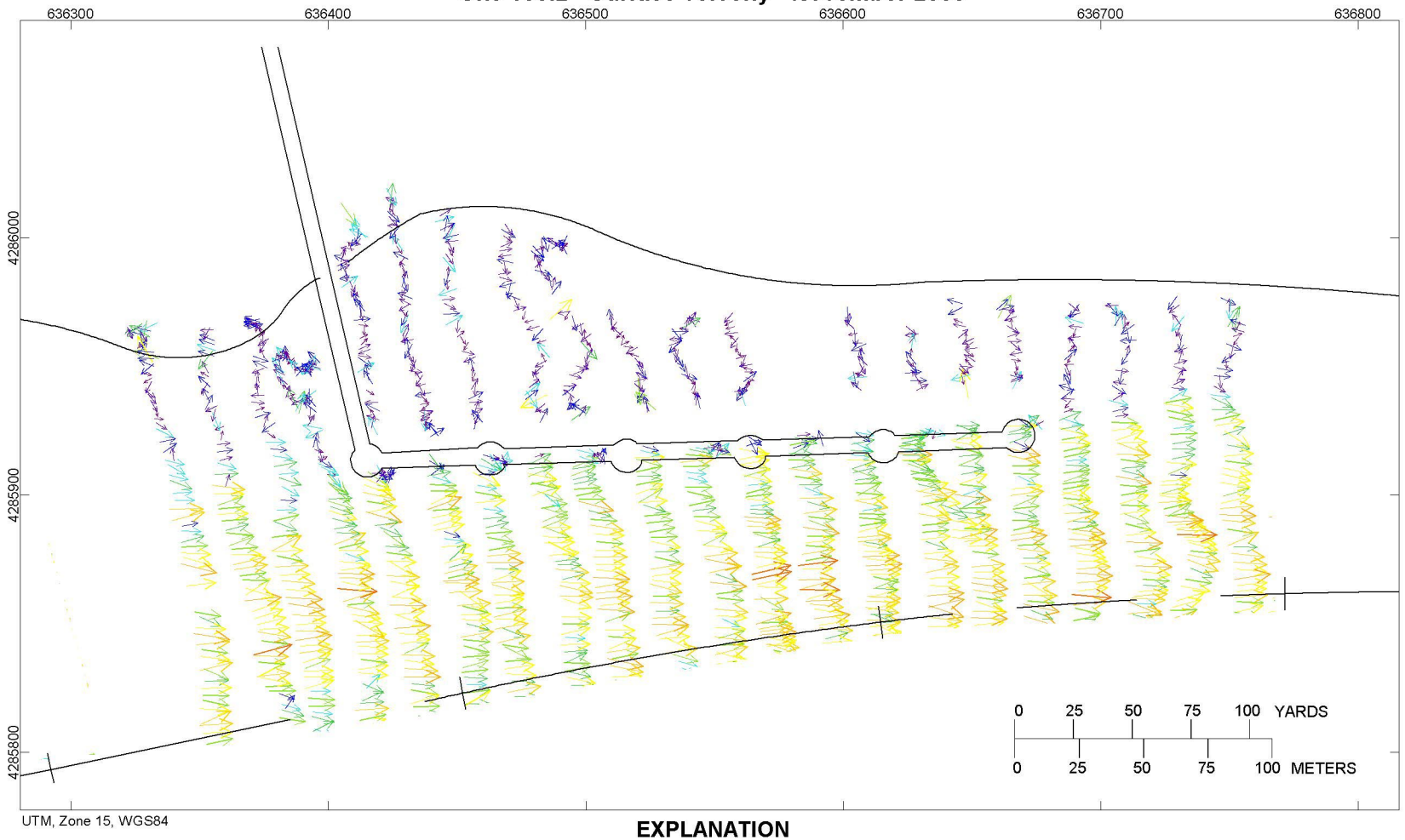
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Surface velocity - November 2000



EXPLANATION

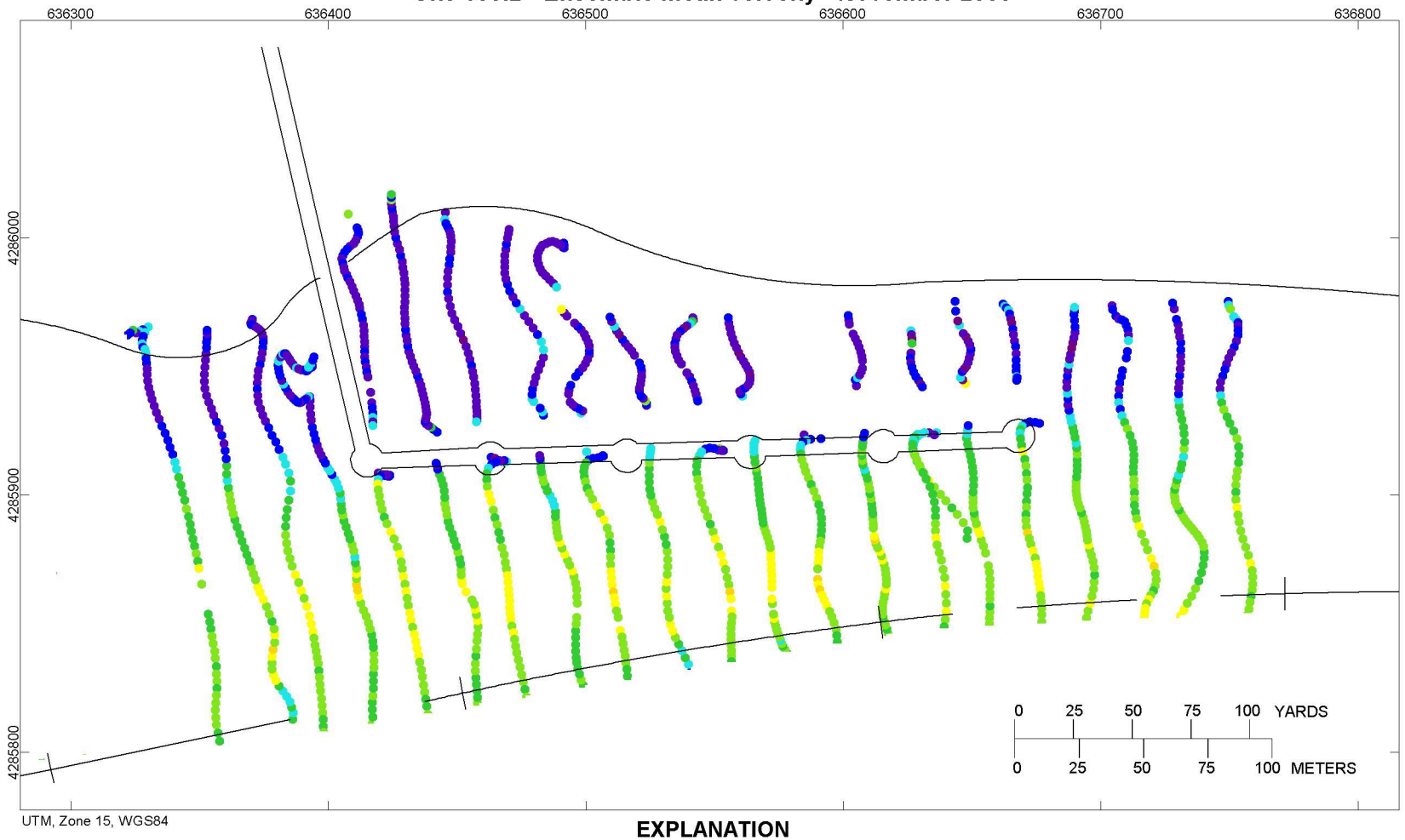
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Ensemble mean velocity - November 2000



EXPLANATION

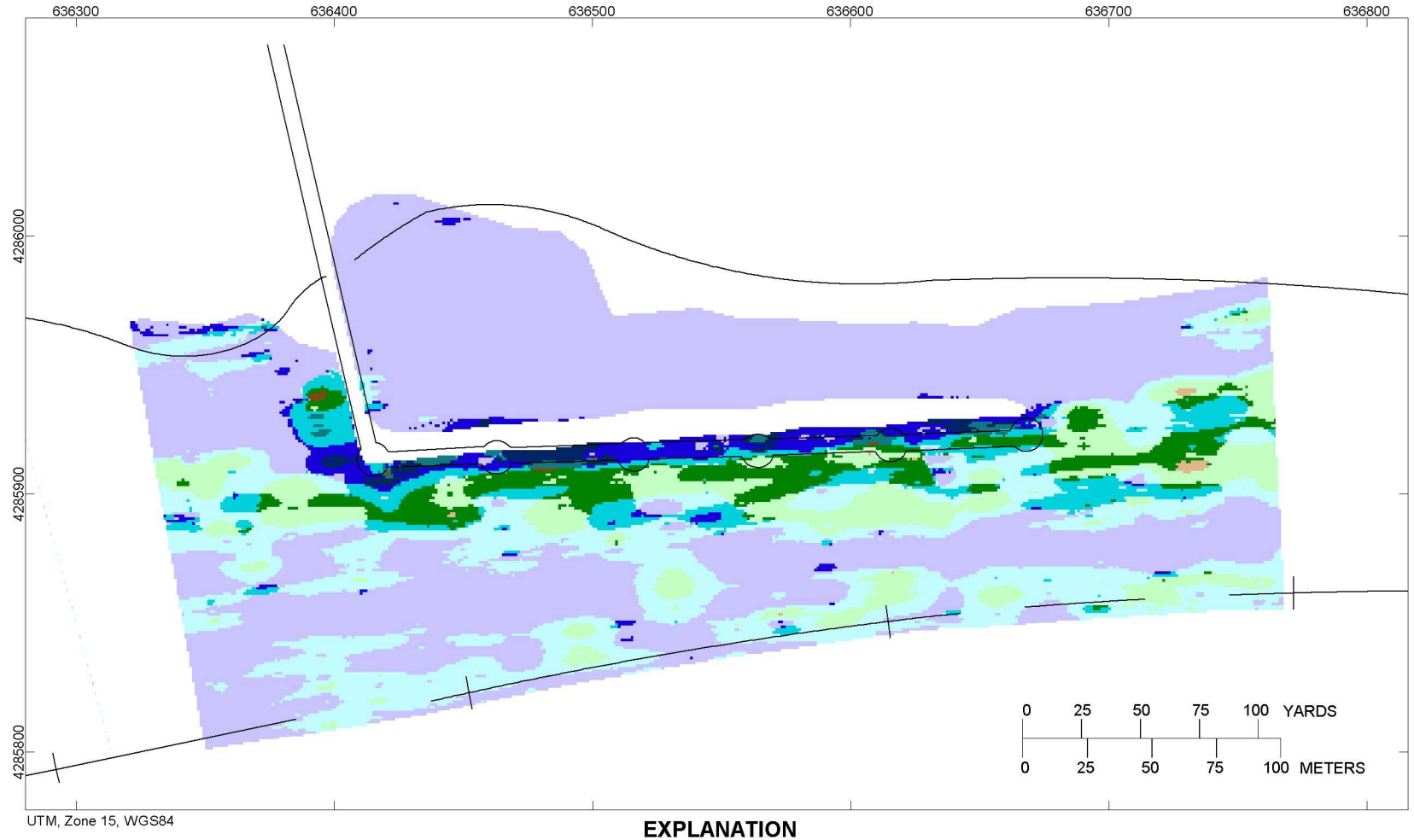
Ensemble mean velocity magnitude, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Substrate - November 2000



EXPLANATION

COE hydro survey

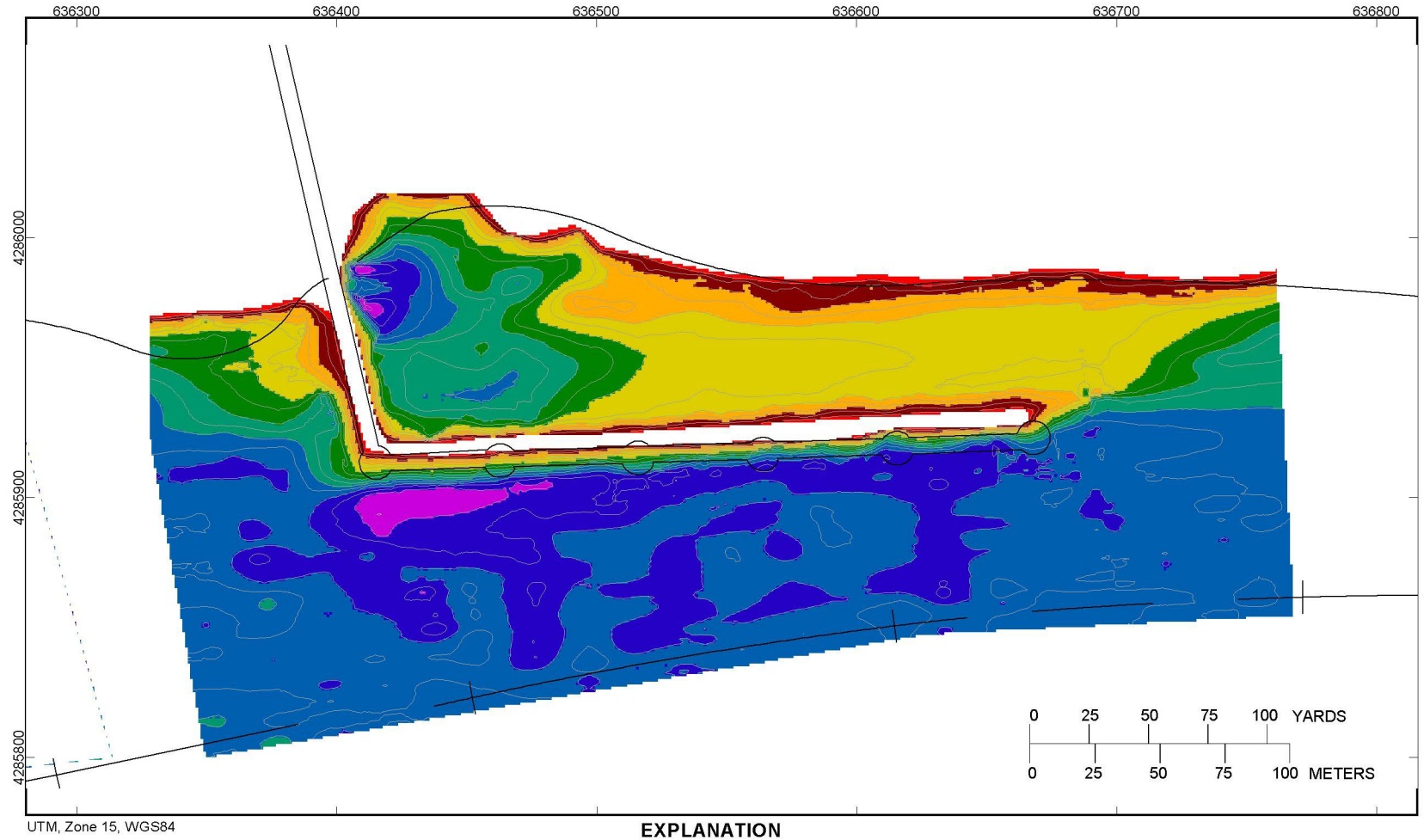
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation - March 2001



EXPLANATION

COE hydro survey

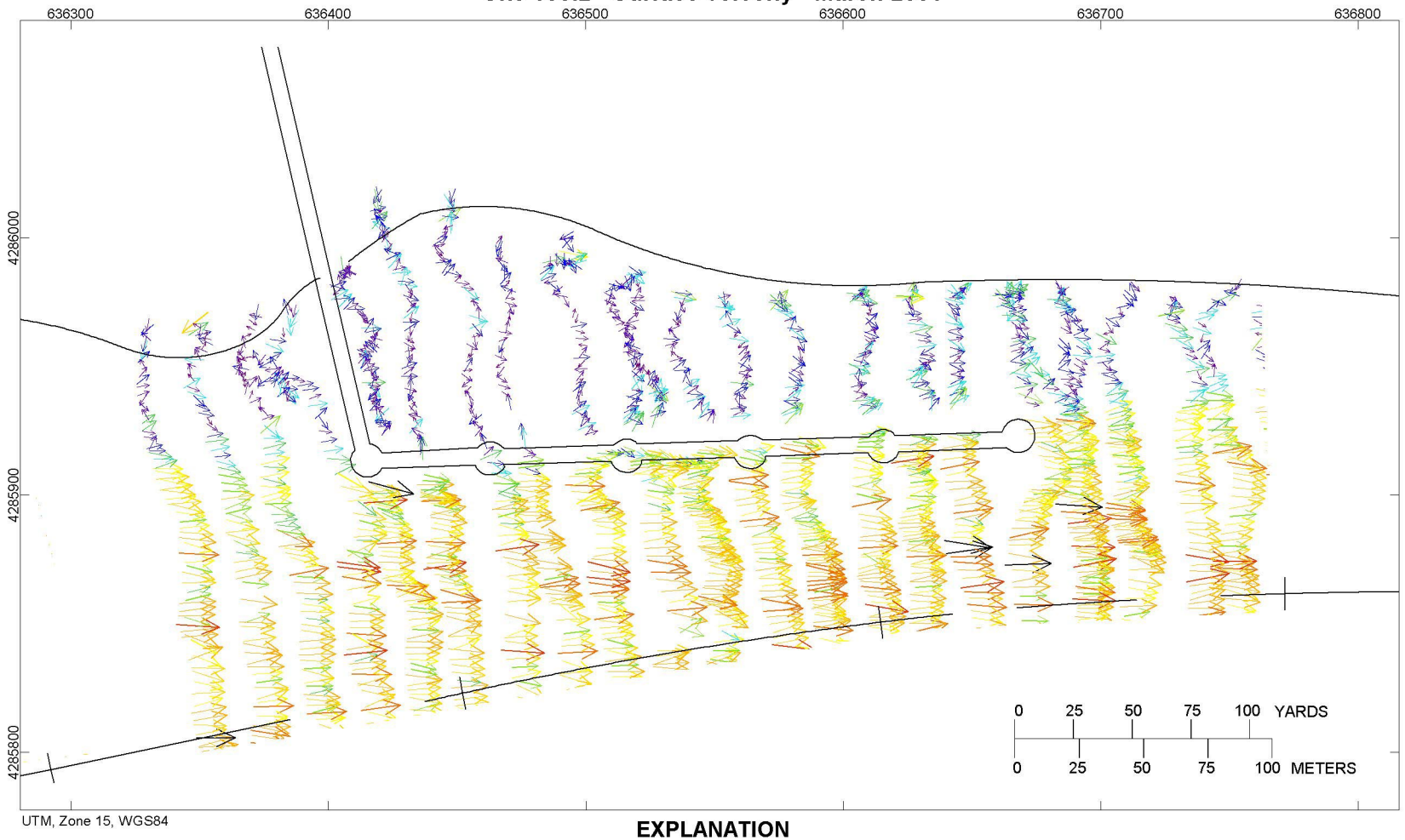
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Surface velocity - March 2001



EXPLANATION

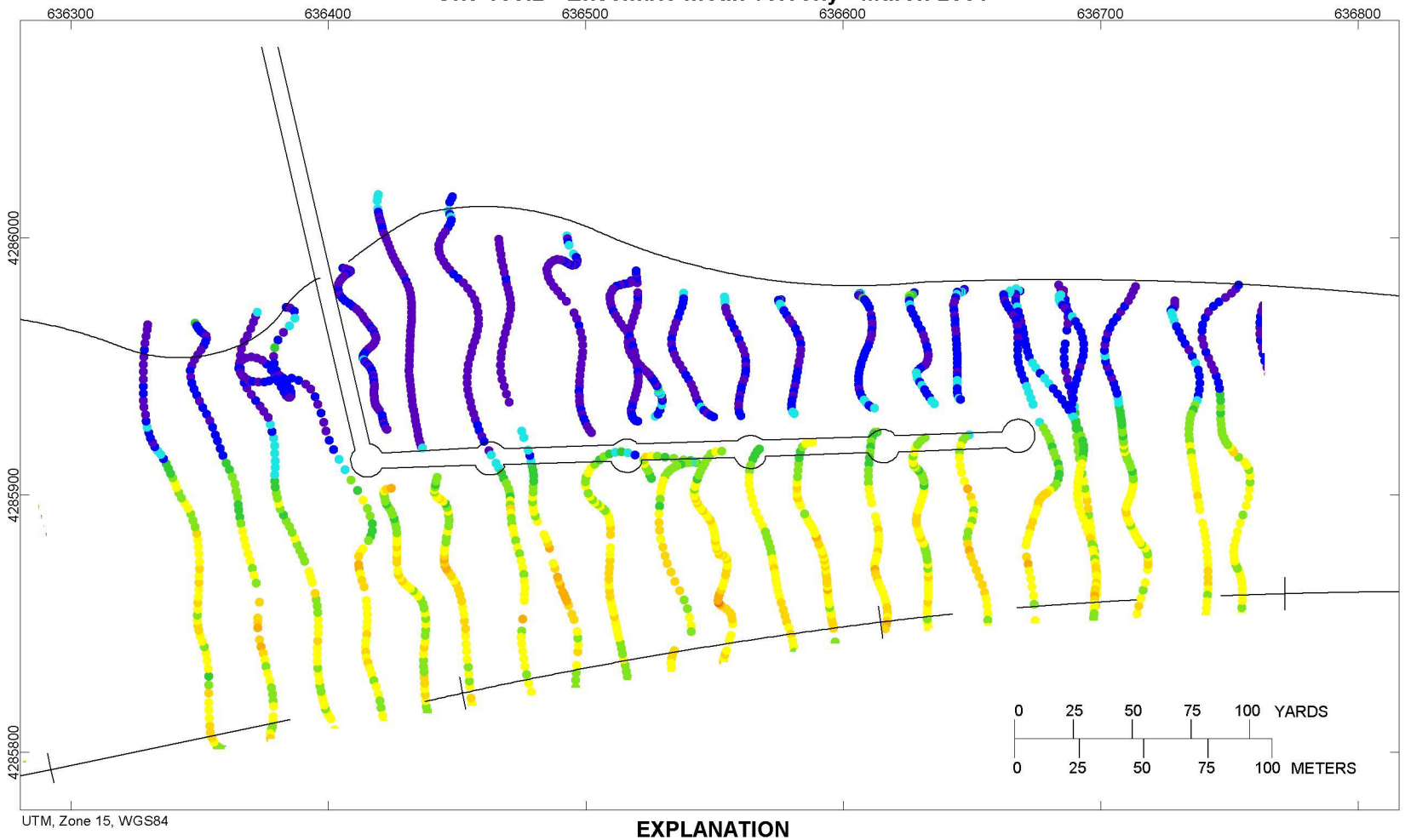
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Ensemble mean velocity - March 2001



EXPLANATION

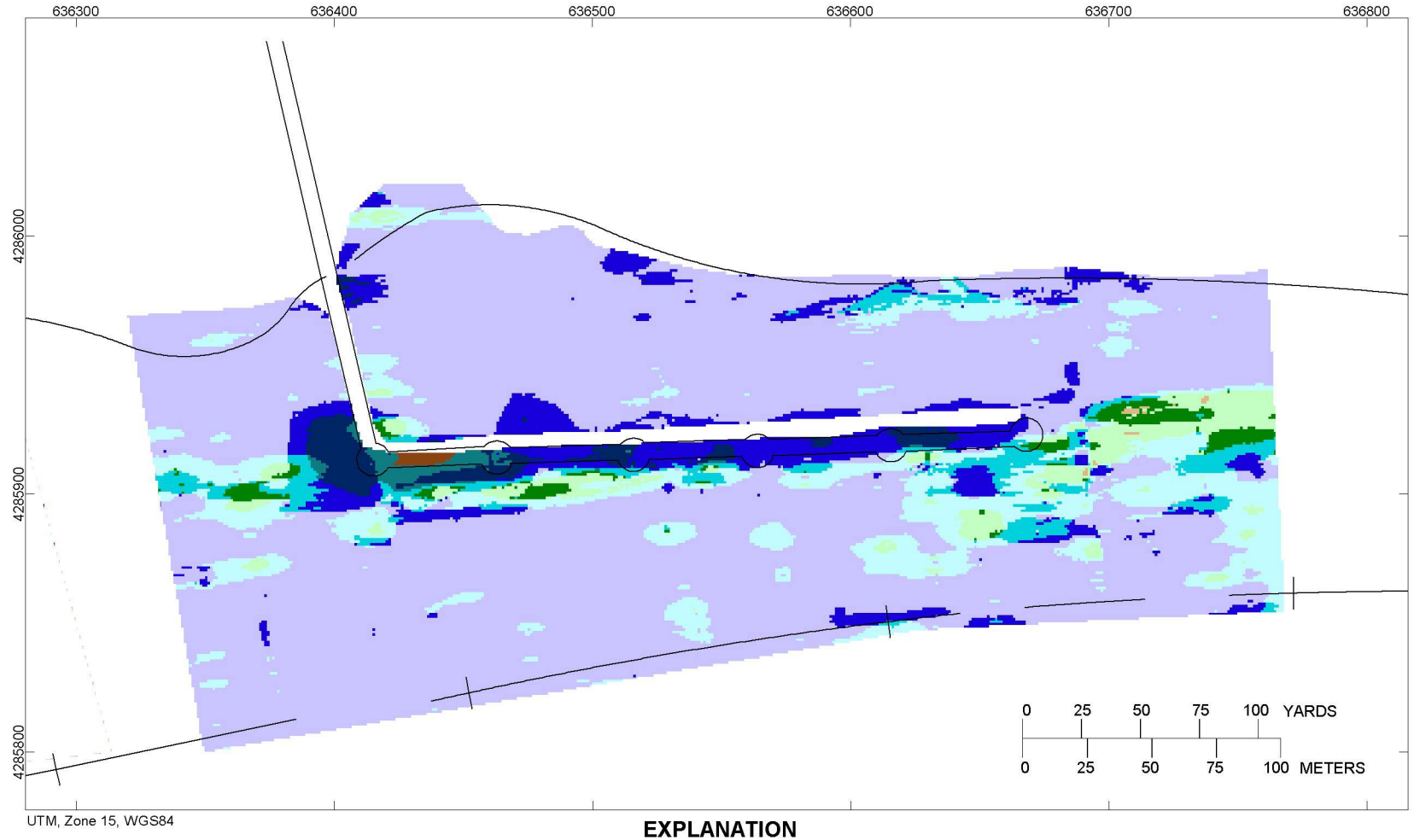
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Substrate - March 2001



EXPLANATION

COE hydro survey

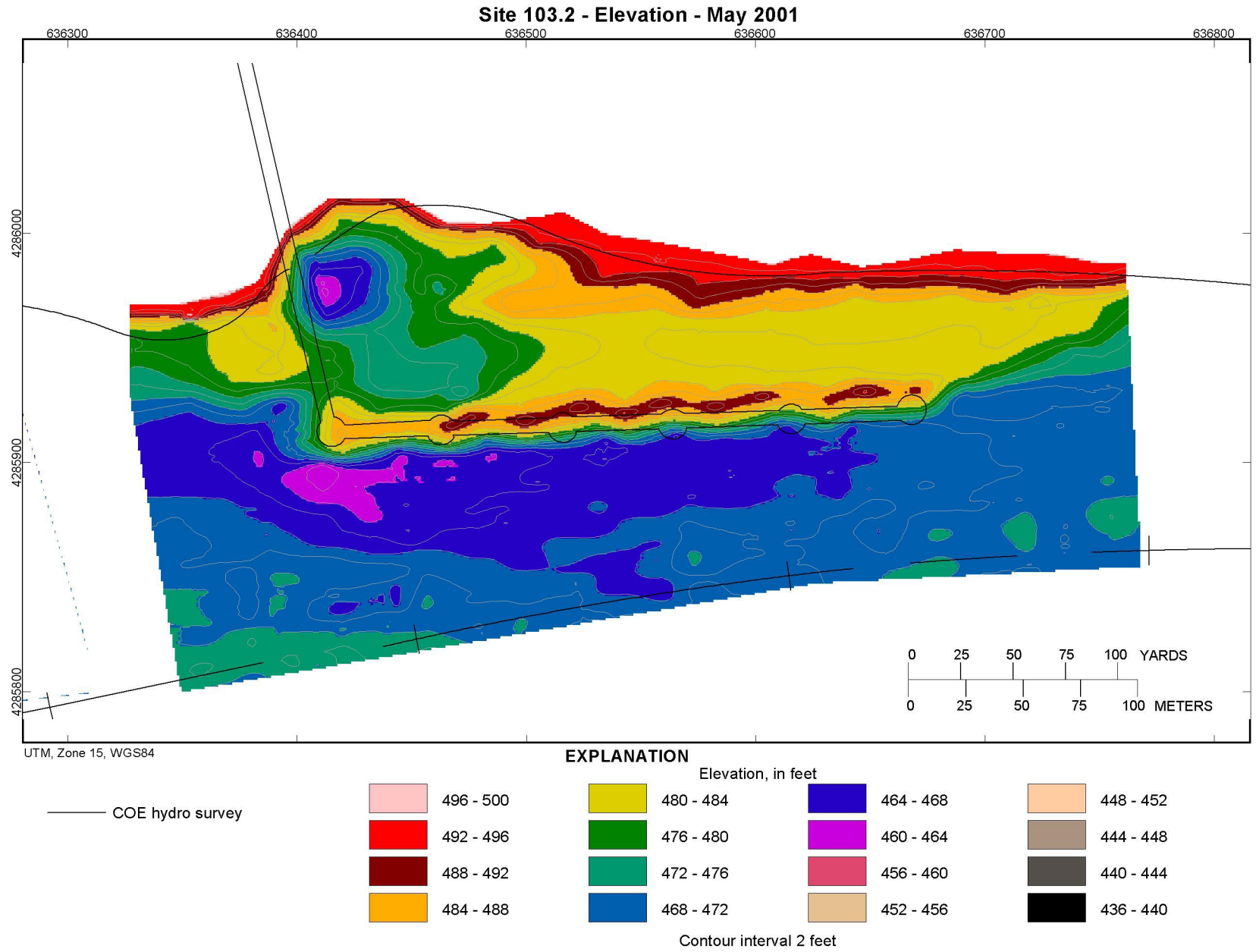
Substrate

< increasing roughness <

> increasing hardness >

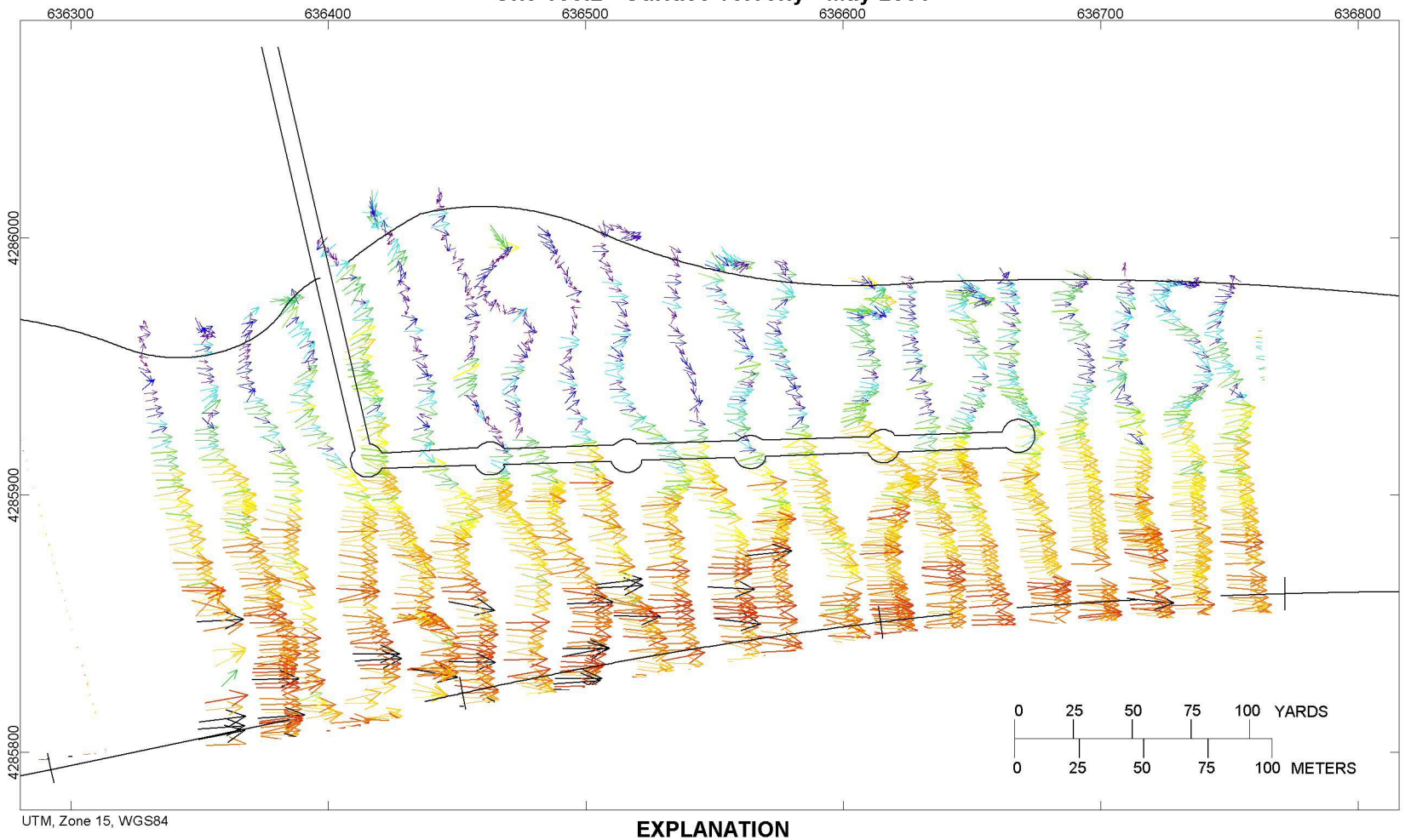
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Surface velocity - May 2001



EXPLANATION

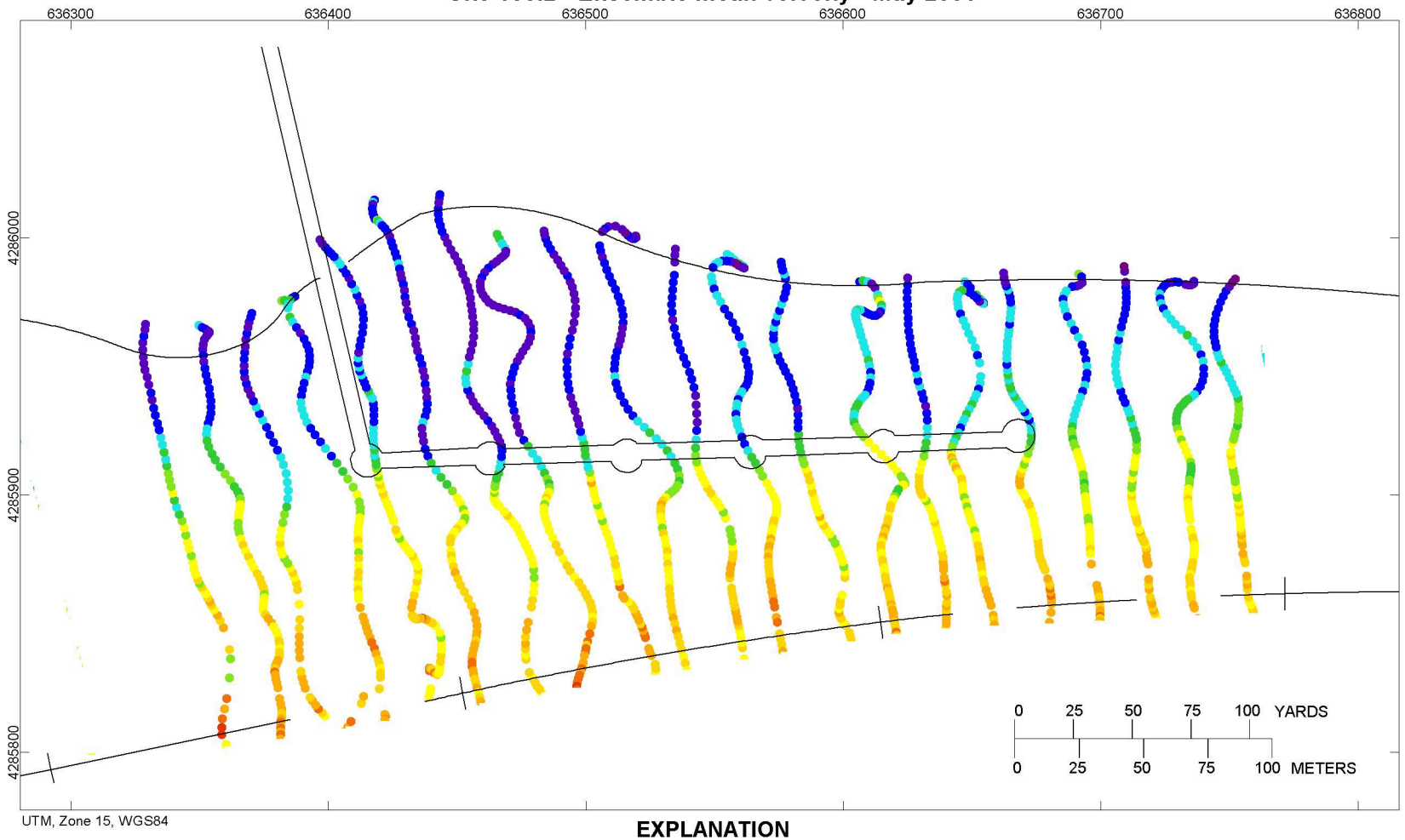
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Ensemble mean velocity - May 2001



EXPLANATION

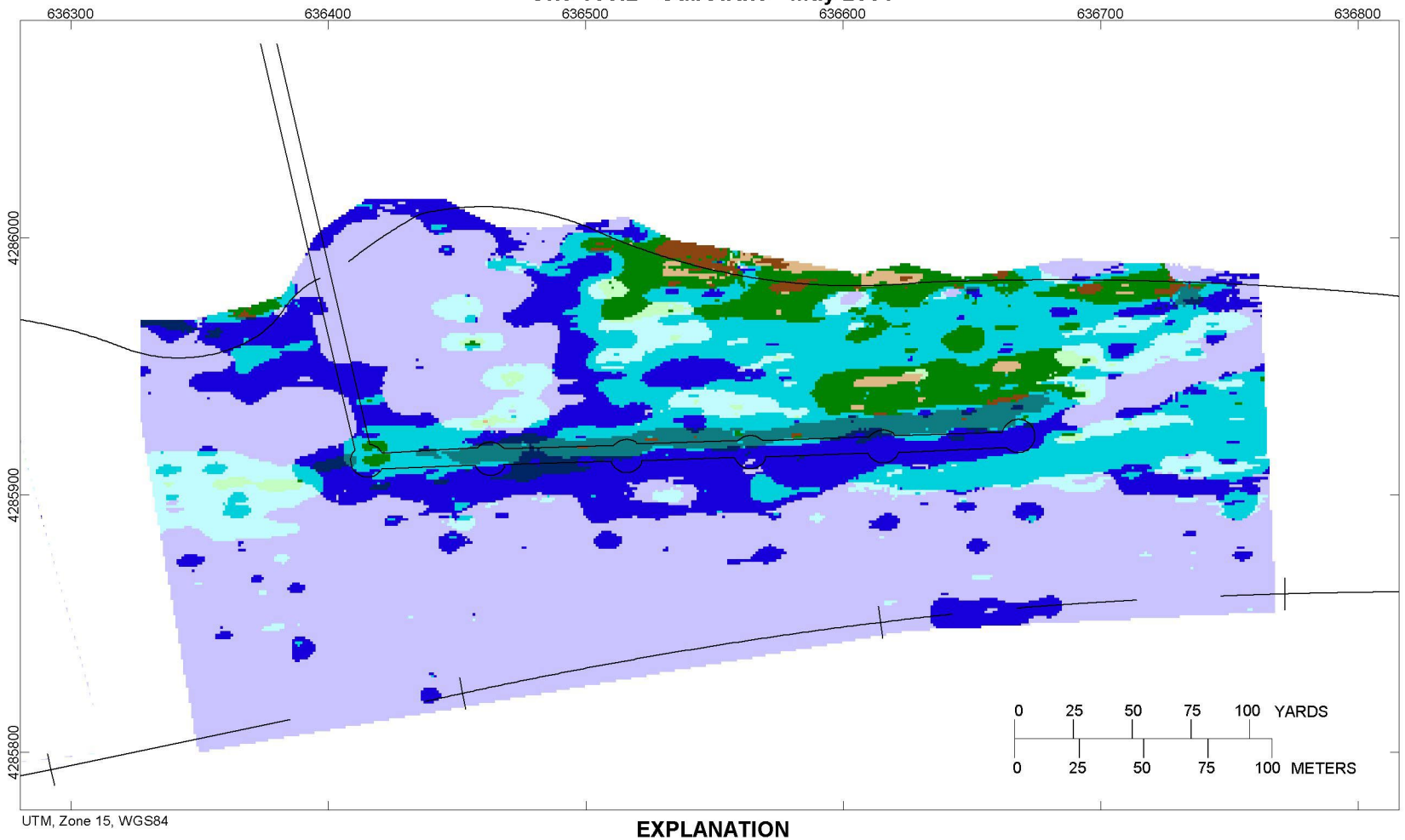
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Substrate - May 2001



EXPLANATION

COE hydro survey

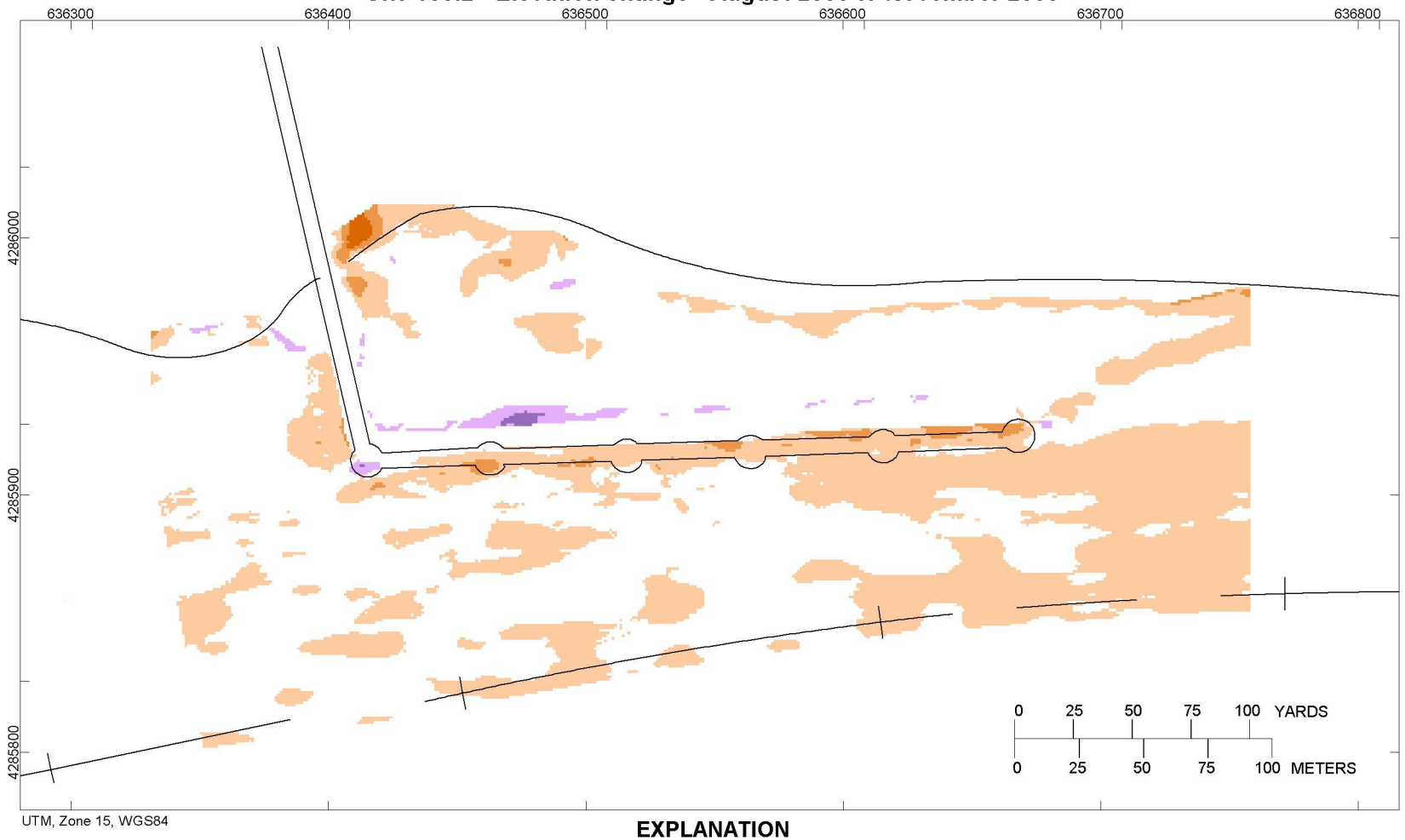
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation change - August 2000 to November 2000



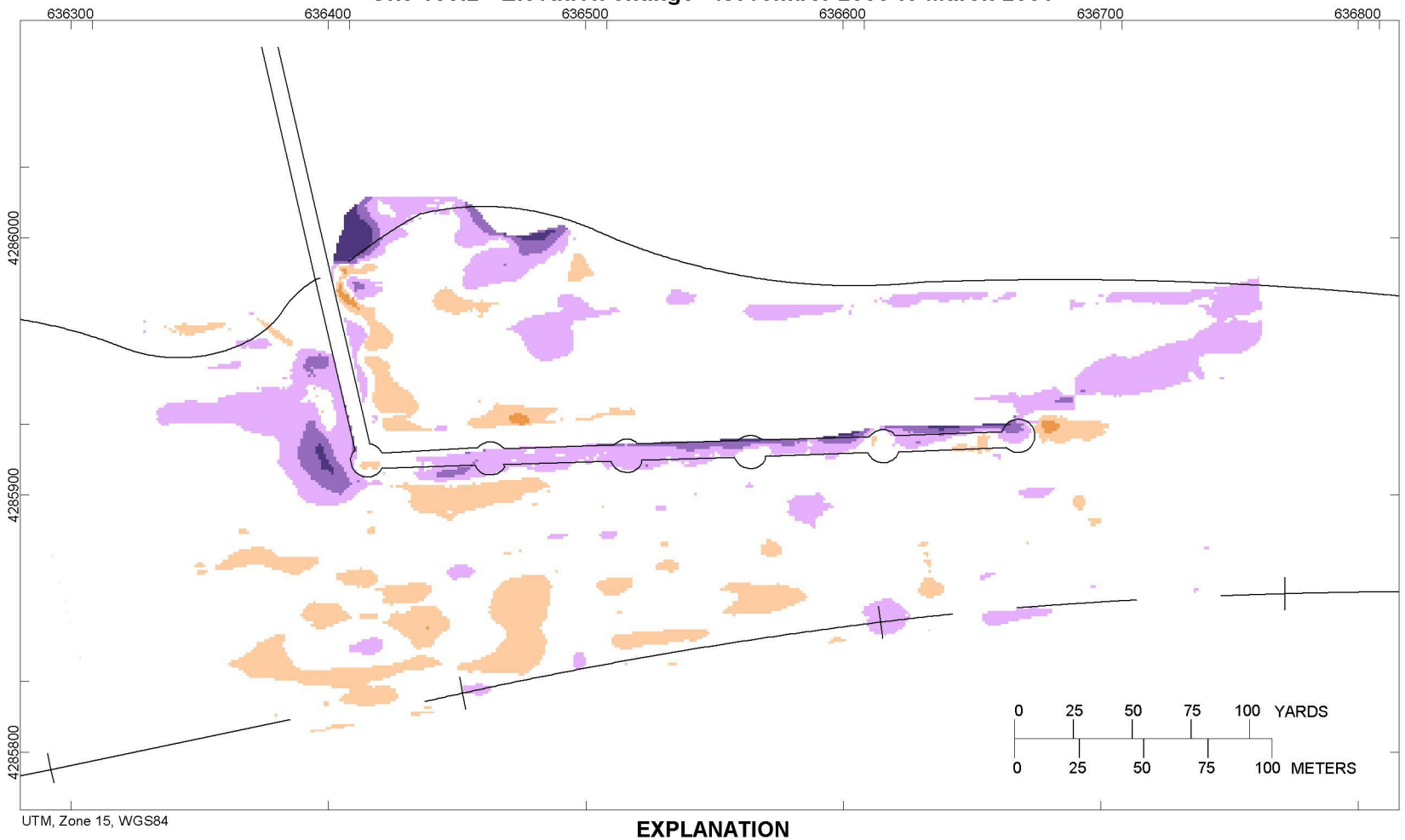
EXPLANATION

COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

Site 103.2 - Elevation change - November 2000 to March 2001



EXPLANATION

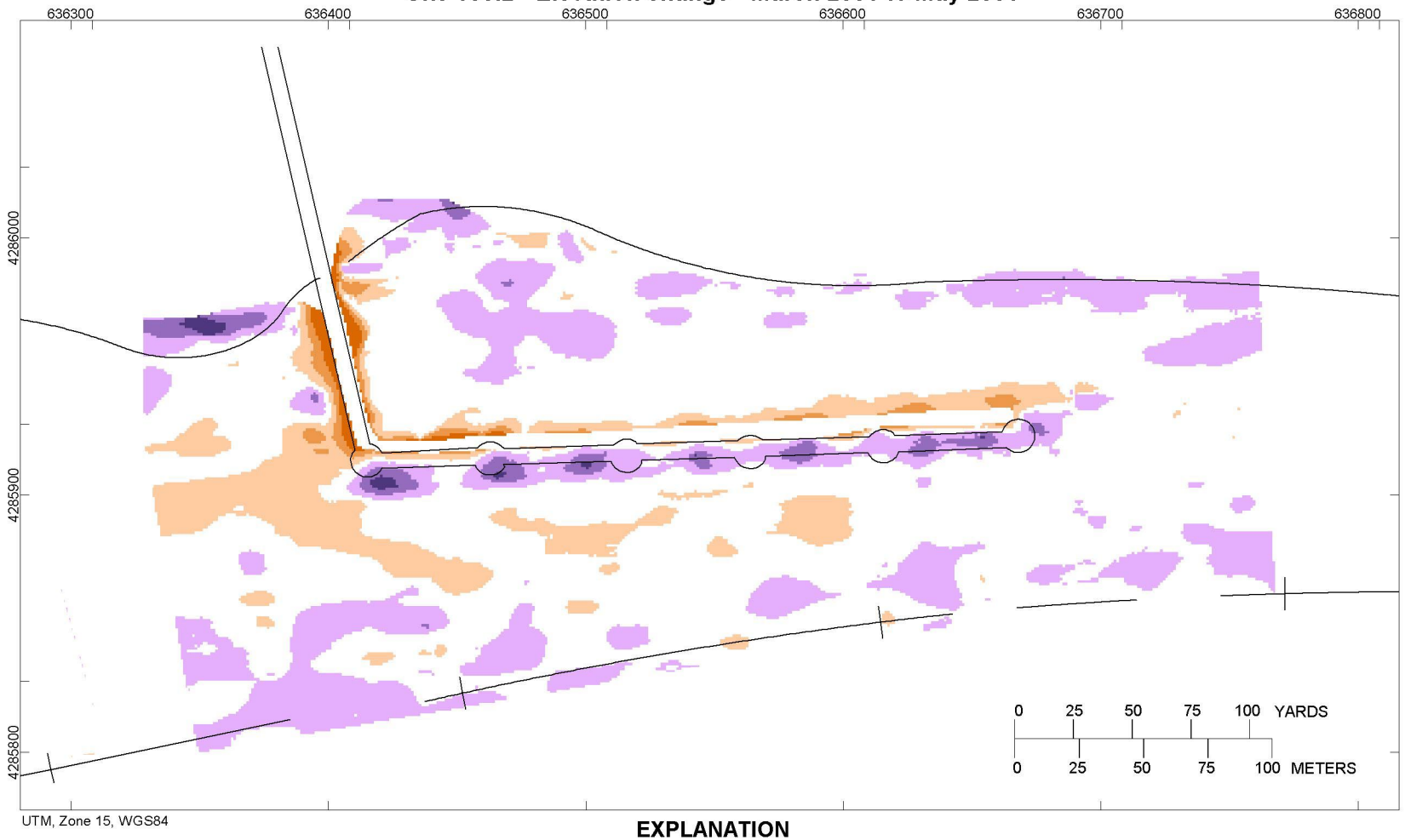
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation change - March 2001 to May 2001



EXPLANATION

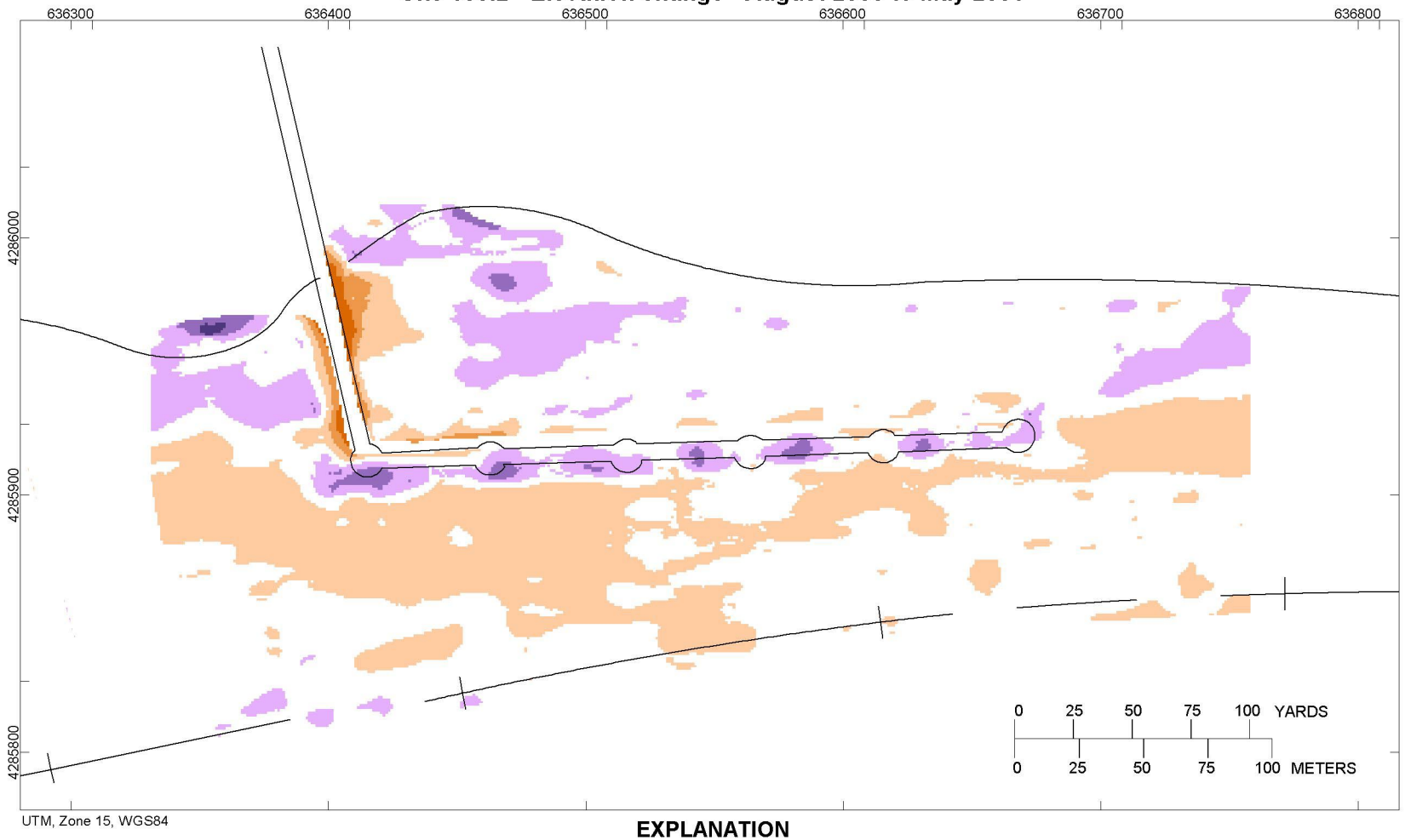
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.2 - Elevation change - August 2000 to May 2001



EXPLANATION

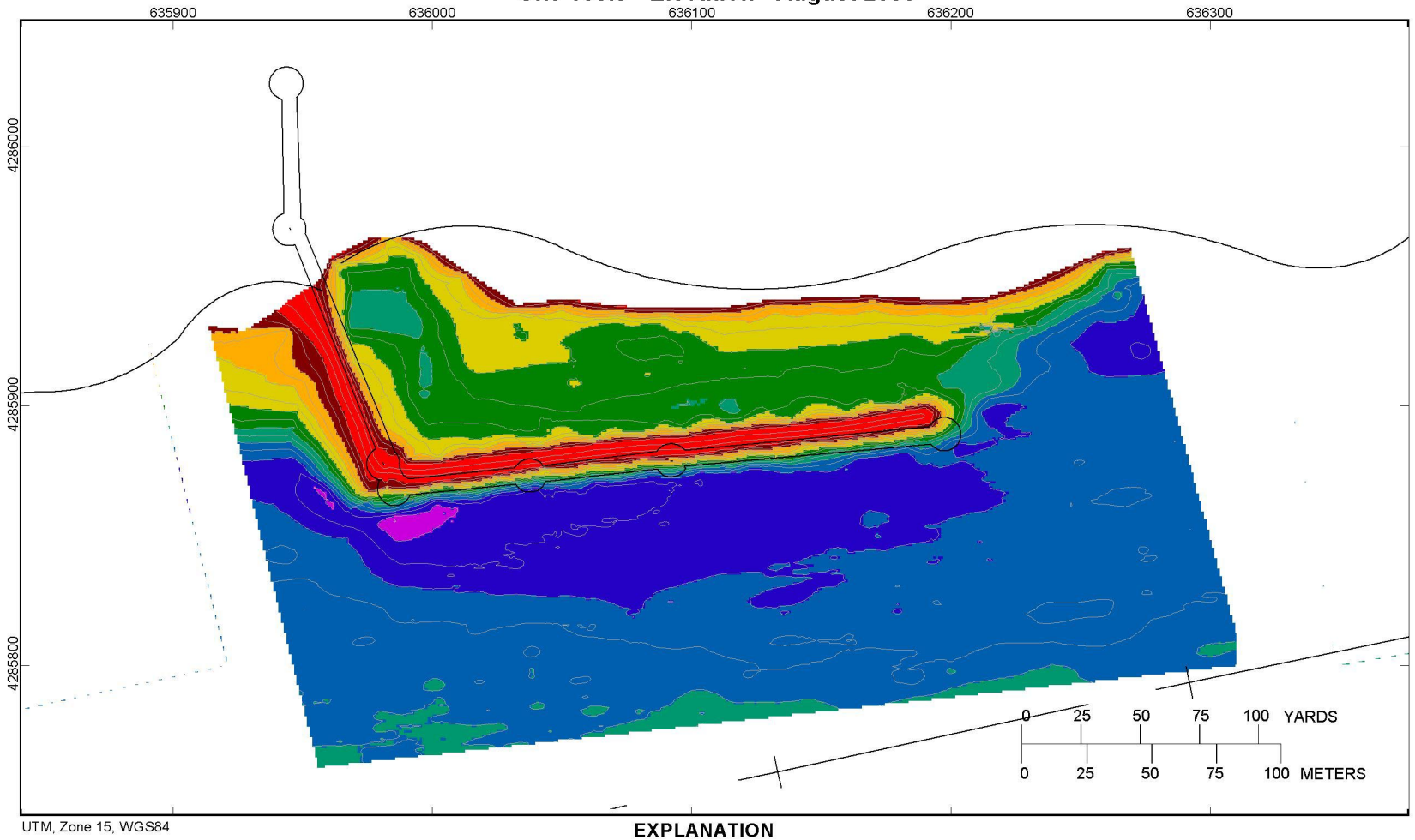
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation - August 2000



EXPLANATION

COE hydro survey

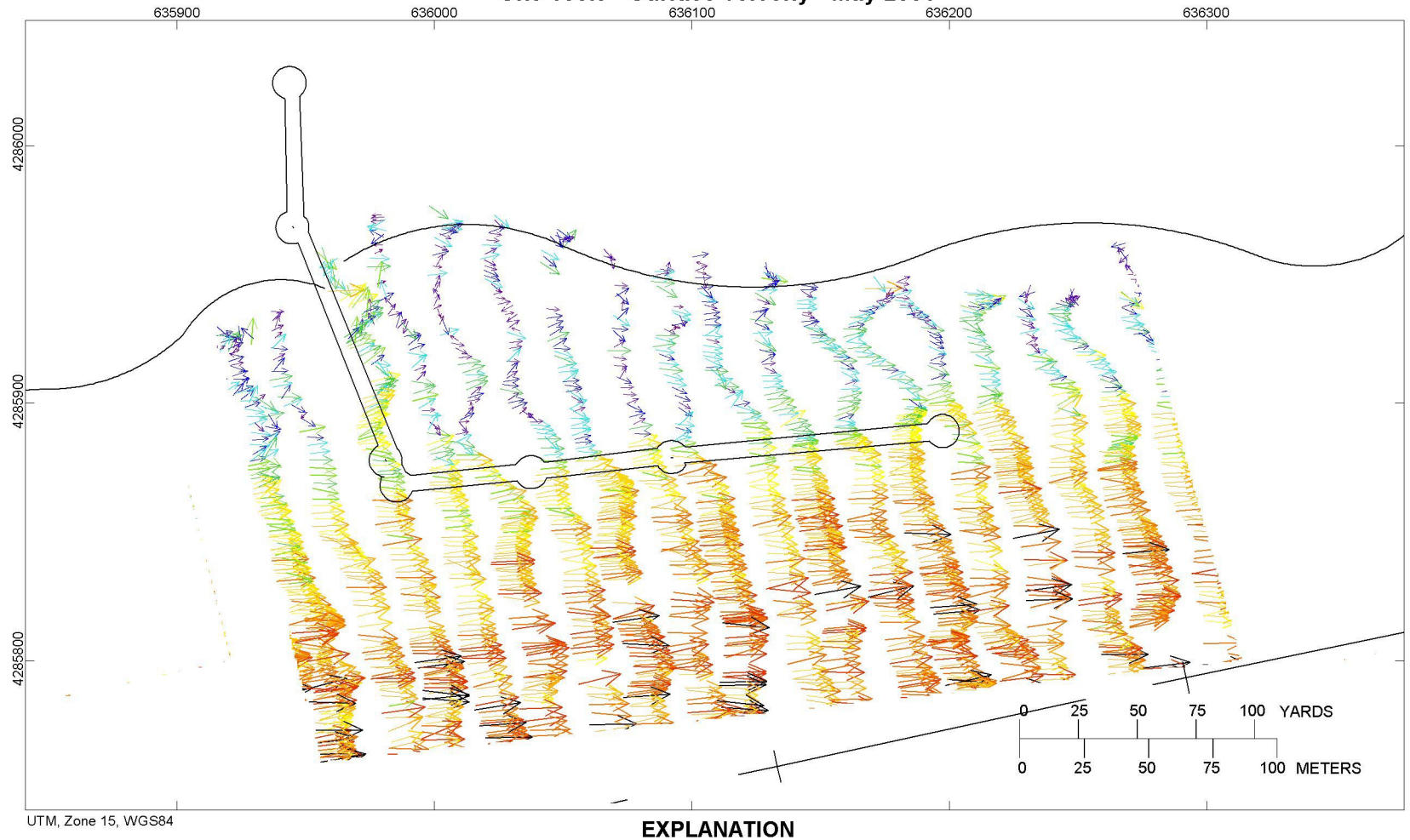
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Surface velocity - May 2001



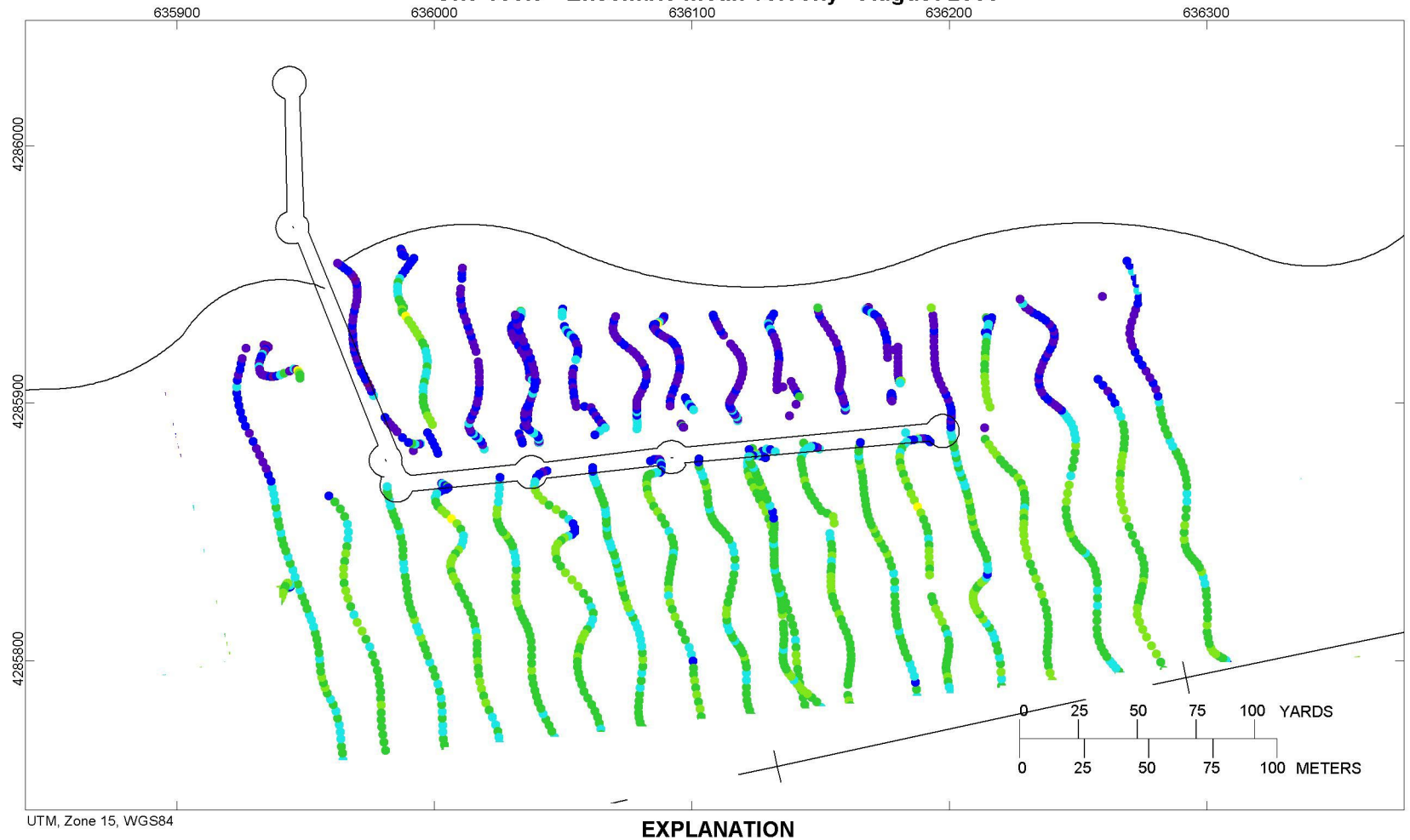
EXPLANATION

Surface velocity, in centimeters/second

- COE hydro survey
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Ensemble mean velocity - August 2000



EXPLANATION

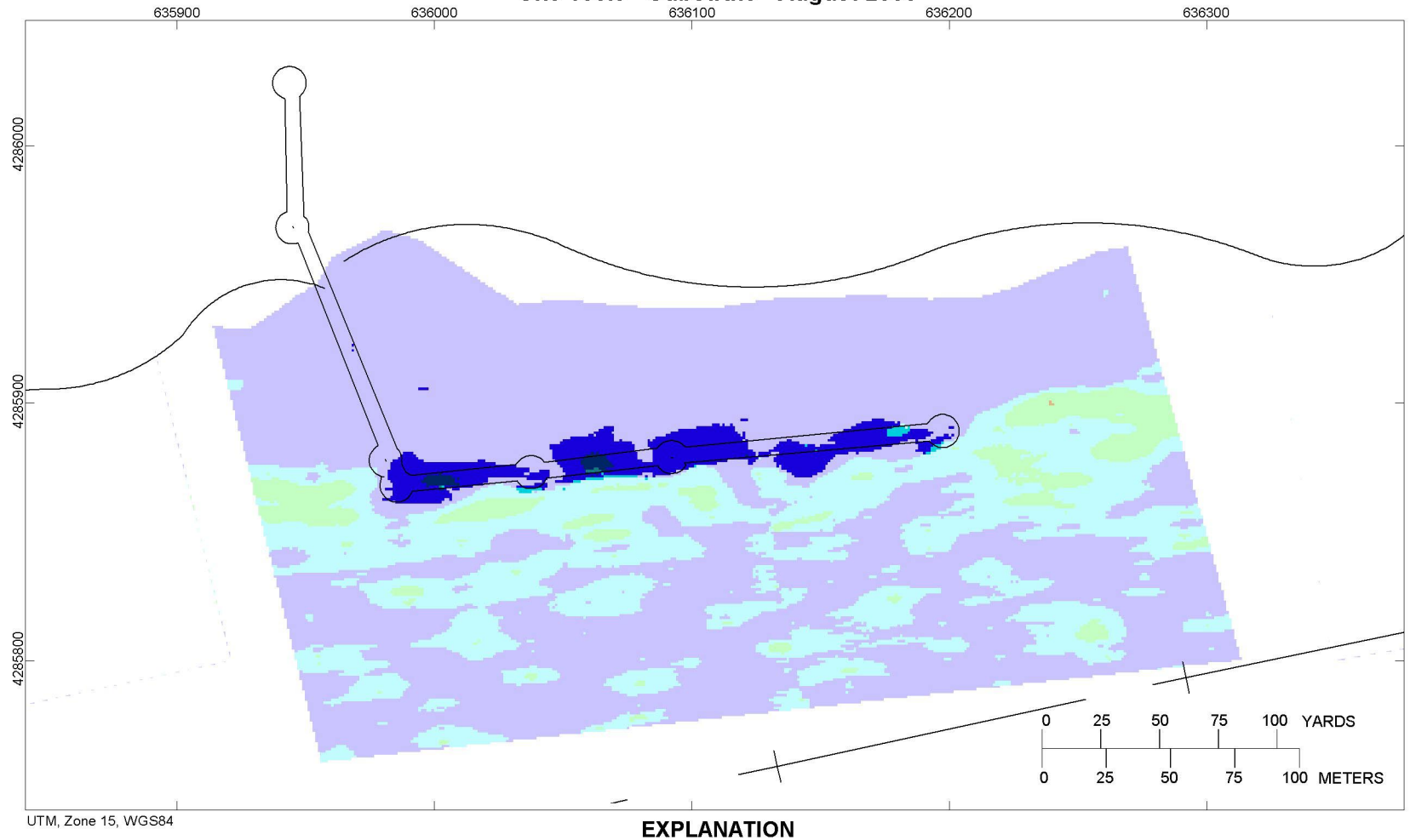
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Substrate - August 2000



EXPLANATION

COE hydro survey

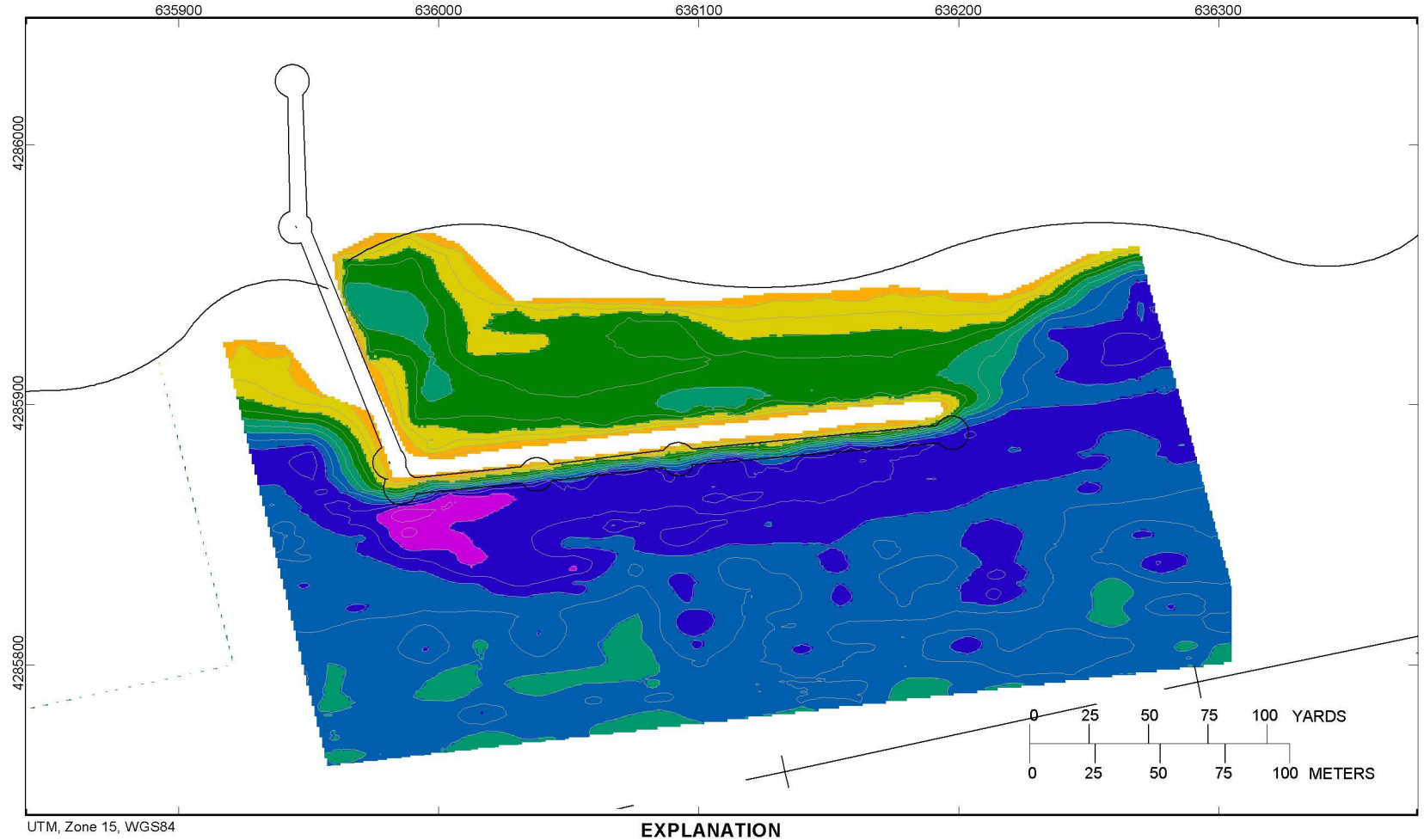
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation - November 2000



EXPLANATION

COE hydro survey

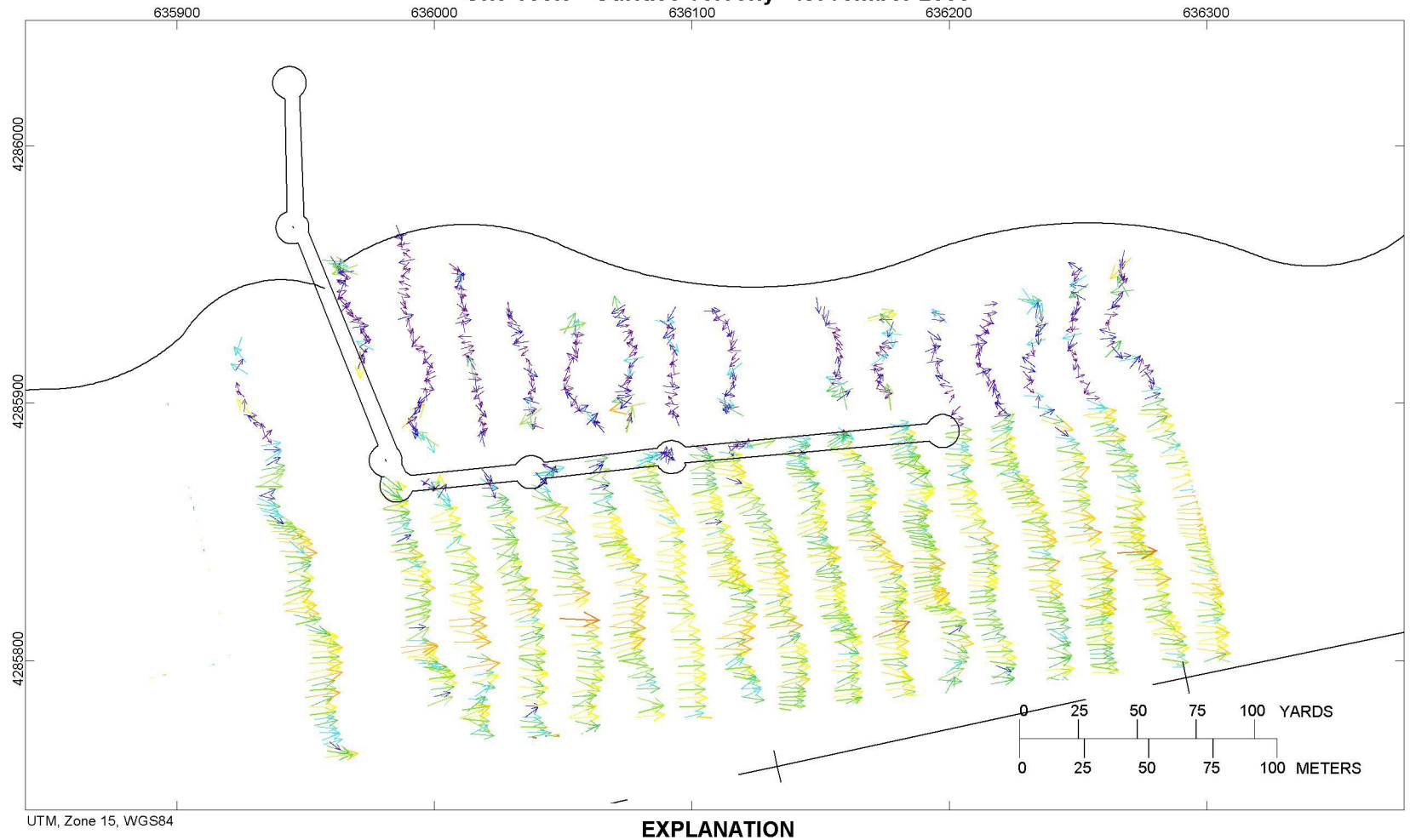
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Surface velocity - November 2000



EXPLANATION

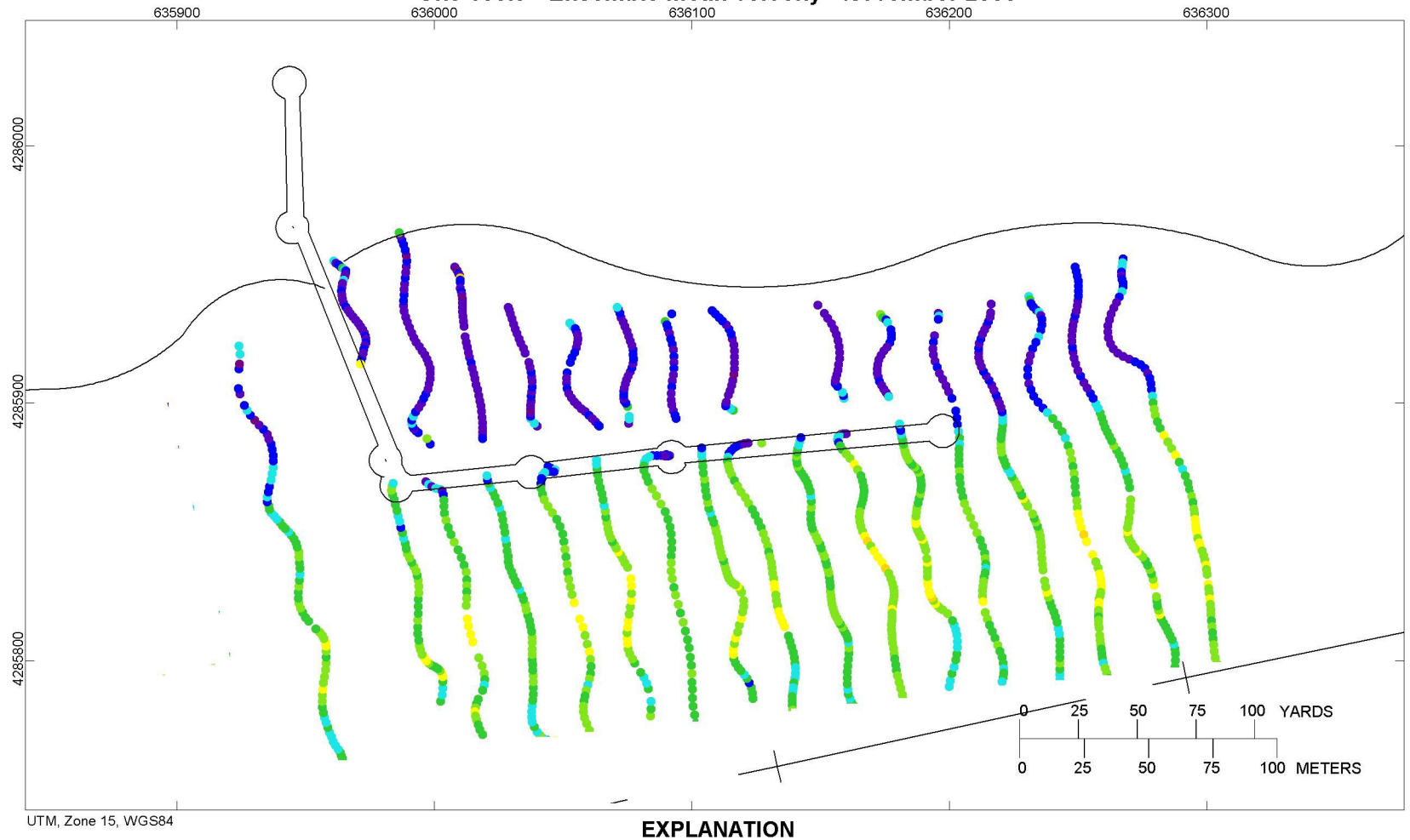
Surface velocity, in centimeters/second

COE hydro survey

0 - 25
25 - 50
50 - 75
75 - 100
100 - 125
125 - 150
150 - 175
175 - 200
200 - 225
225 - 250
250 - 275
> 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Ensemble mean velocity - November 2000



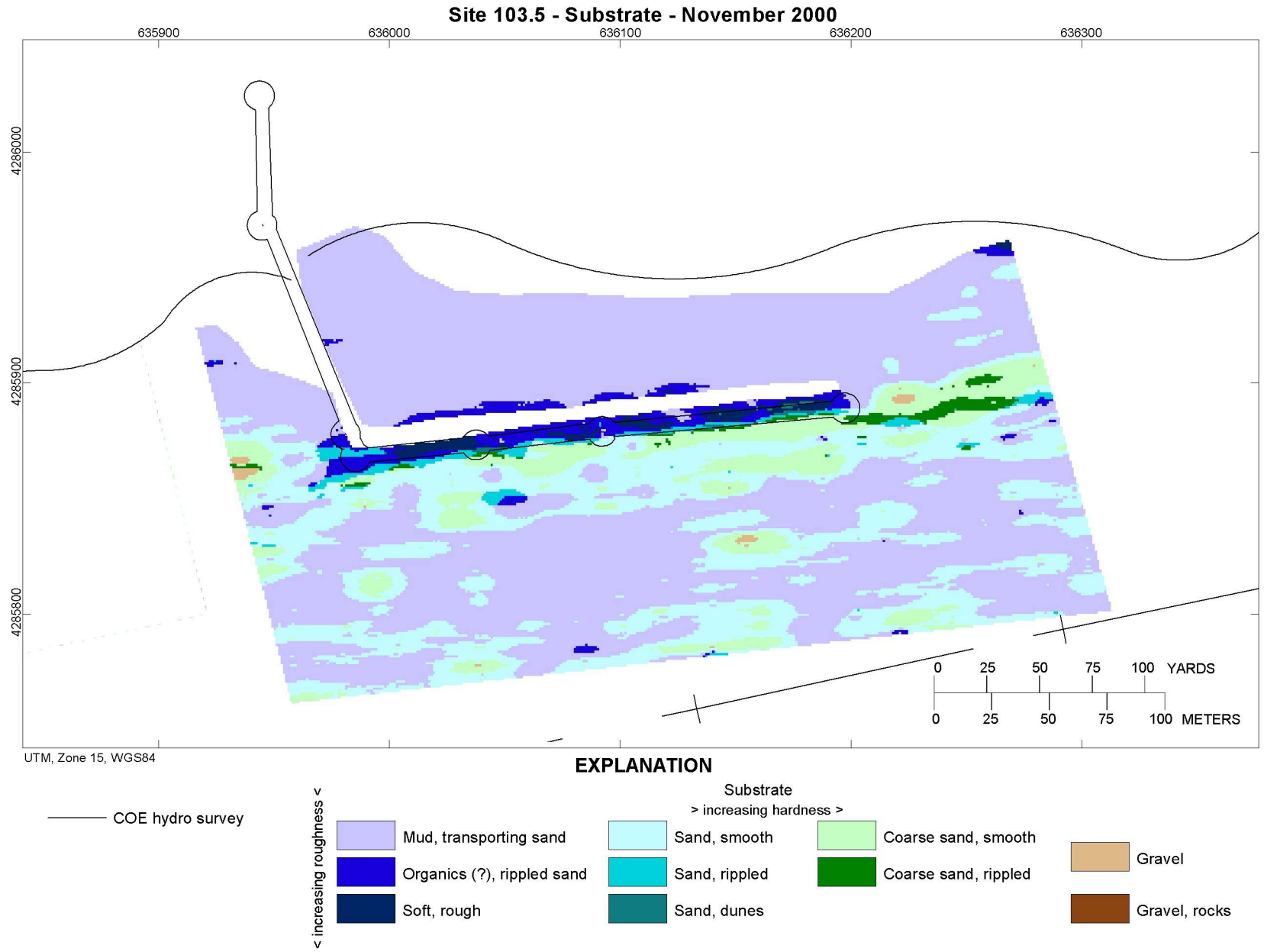
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

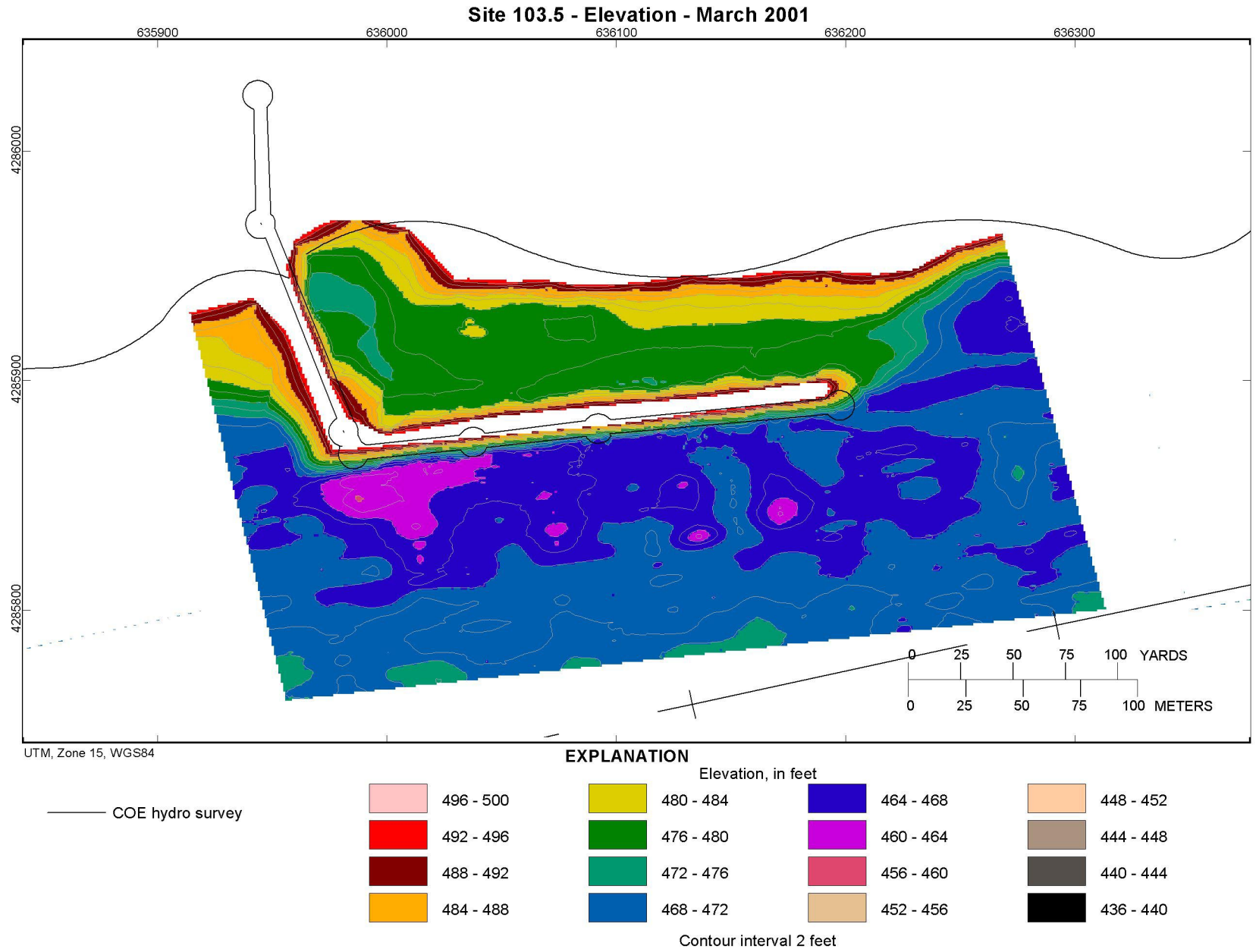
0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

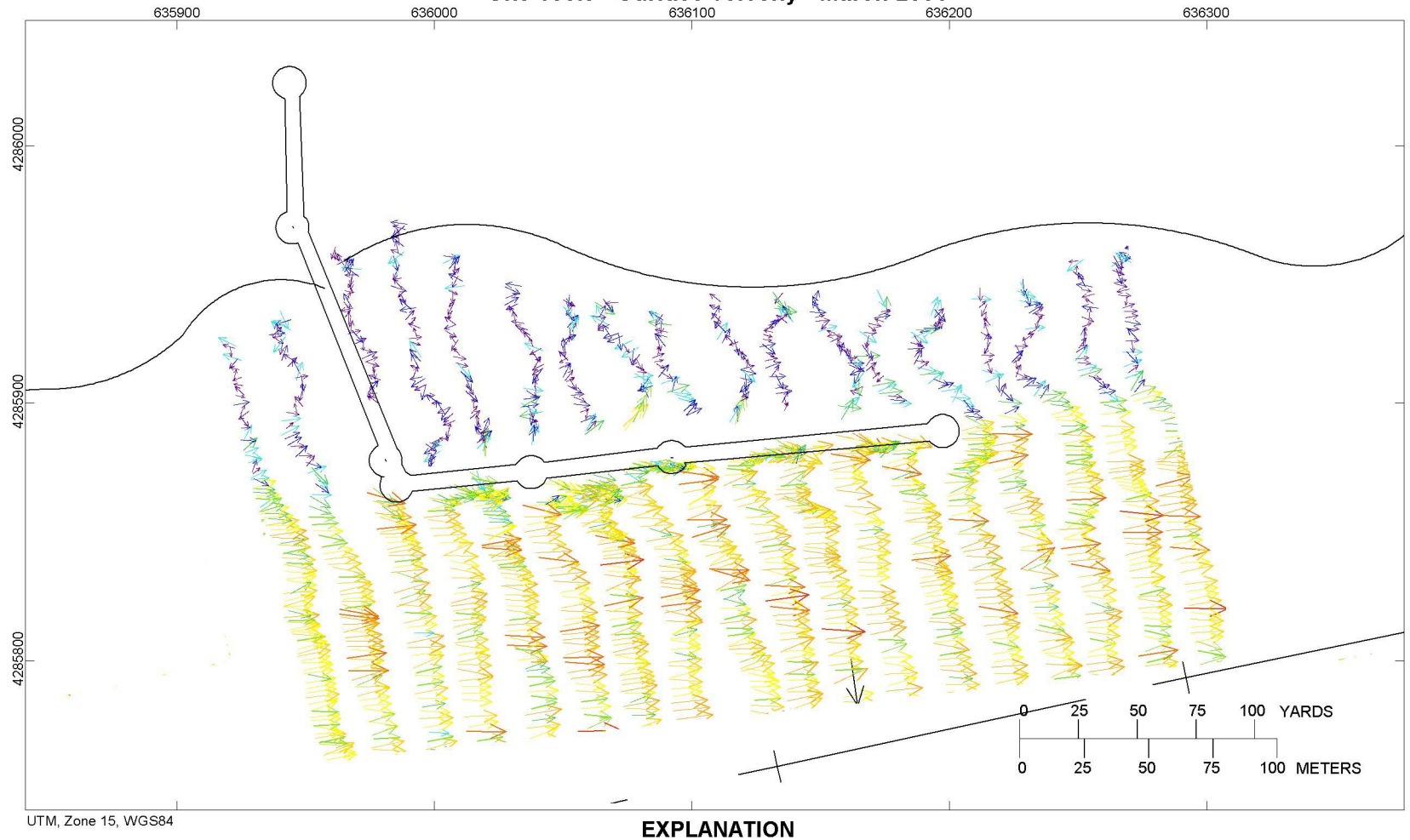


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Surface velocity - March 2001



EXPLANATION

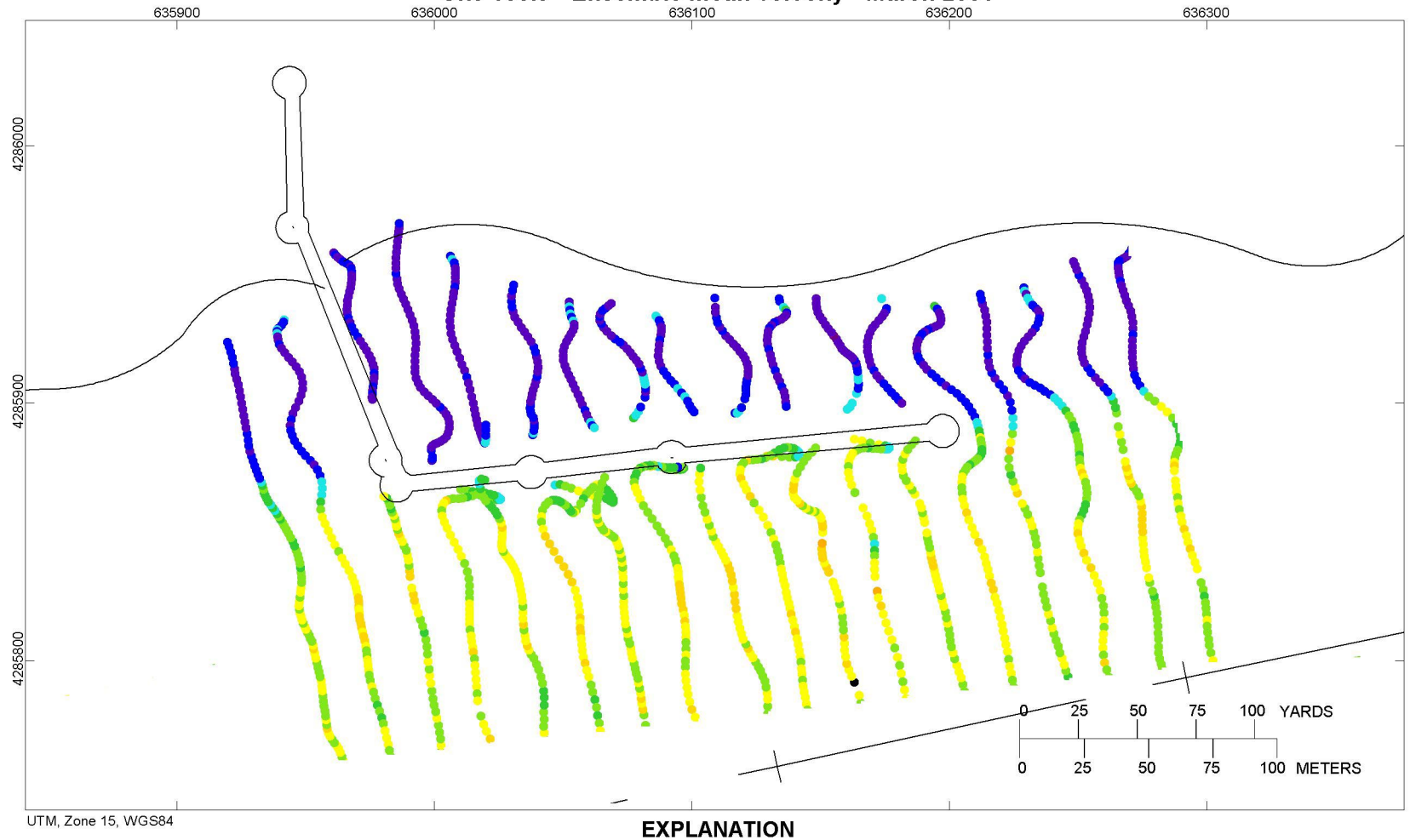
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Ensemble mean velocity - March 2001



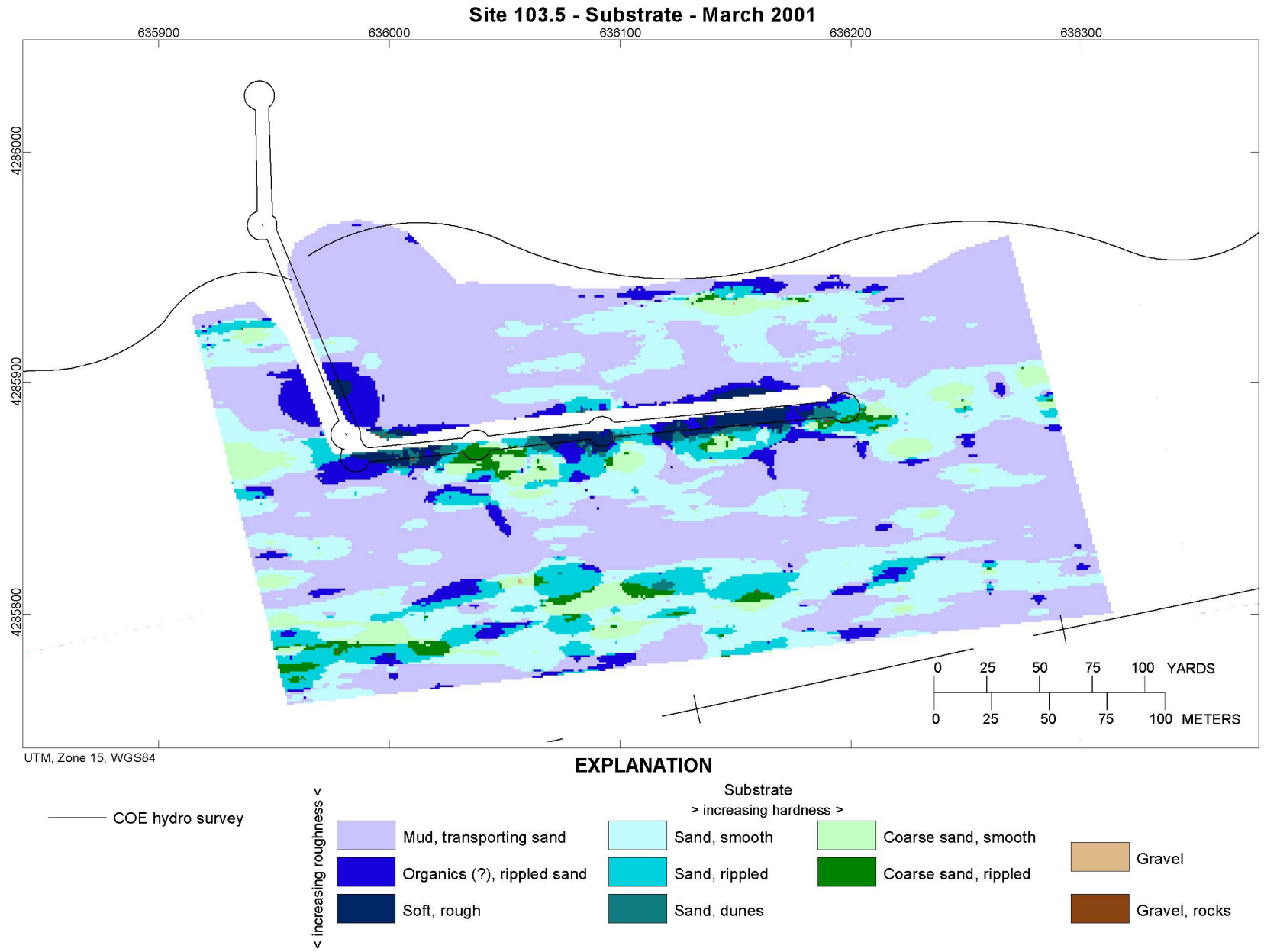
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

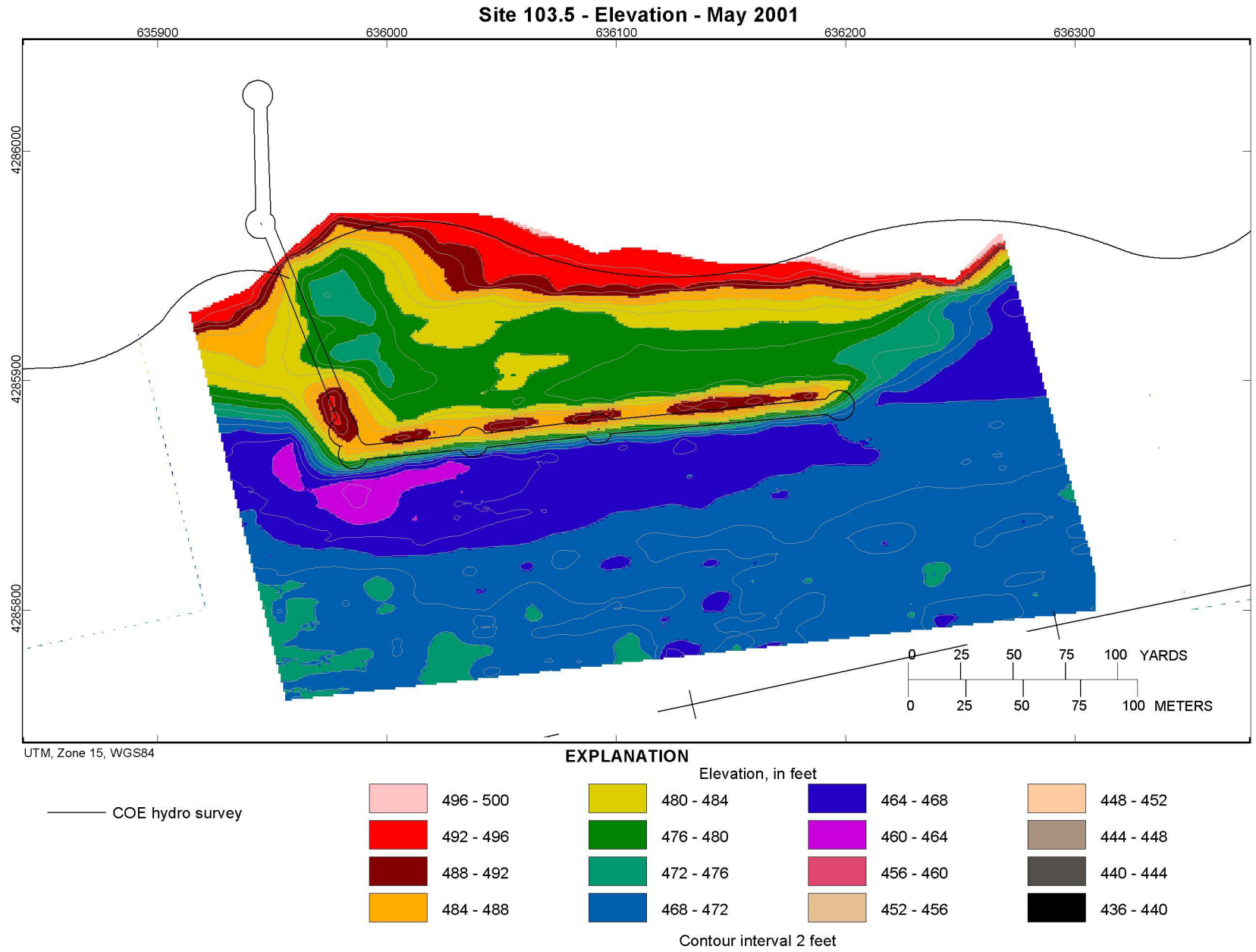
0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

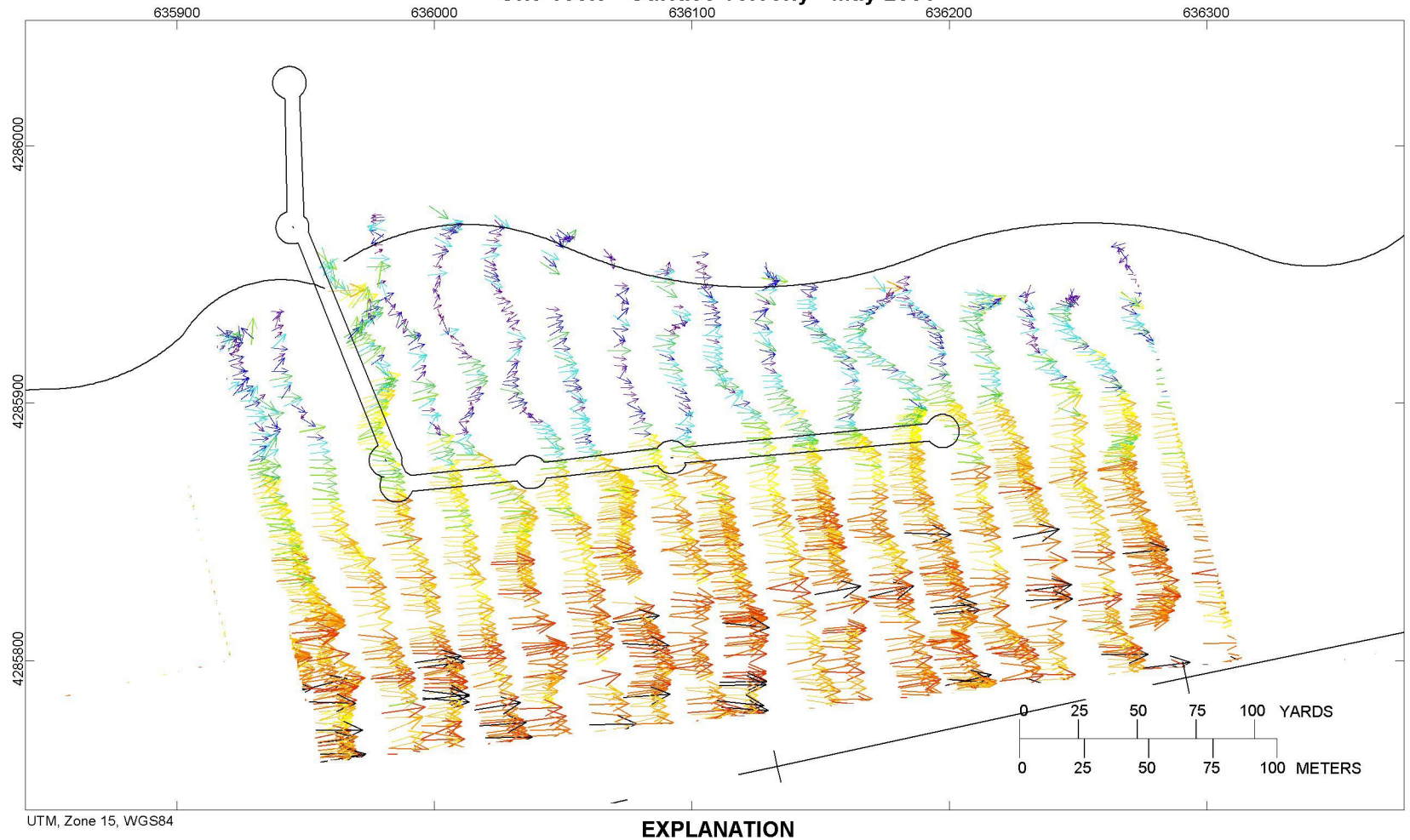


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Surface velocity - May 2001



EXPLANATION

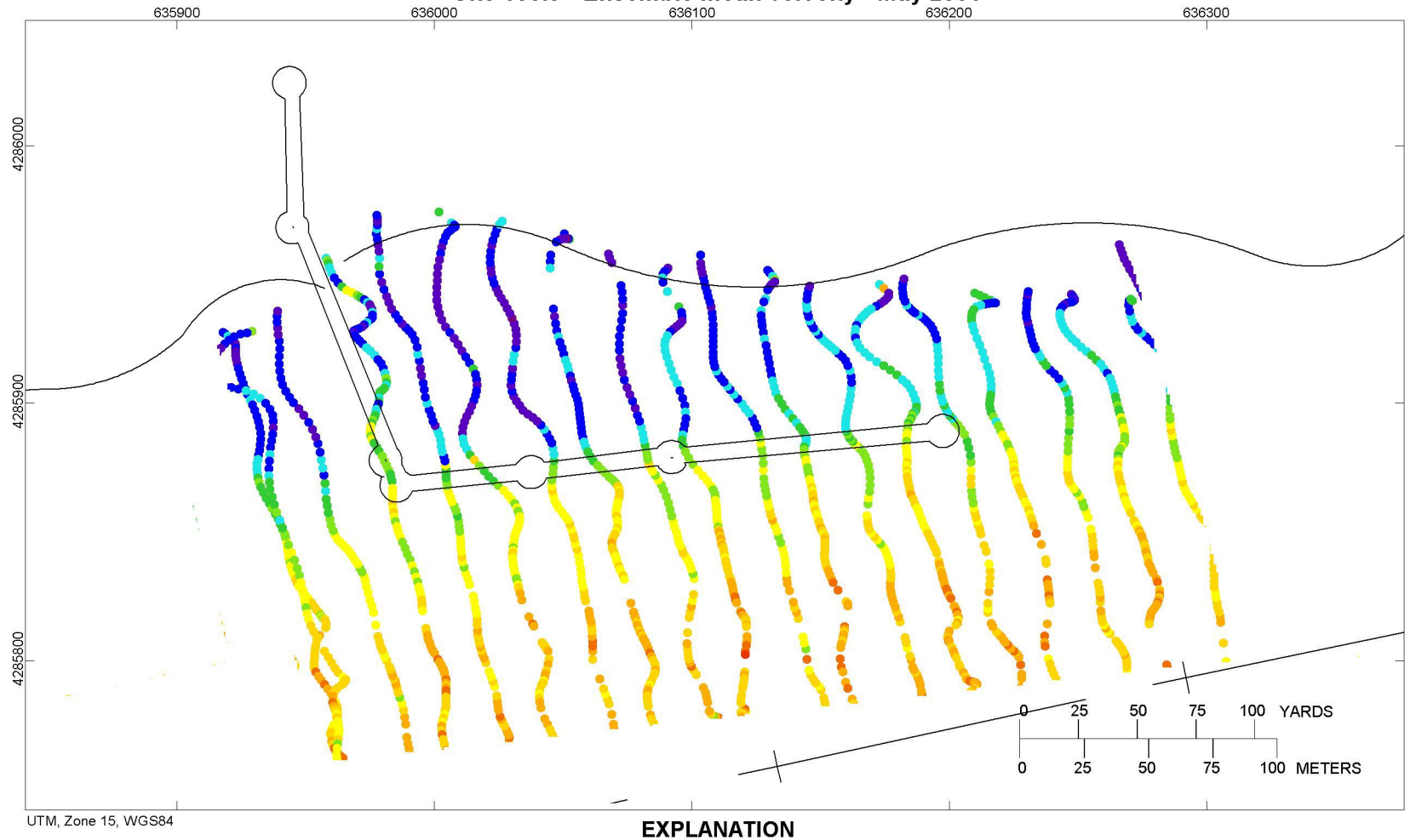
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Ensemble mean velocity - May 2001



EXPLANATION

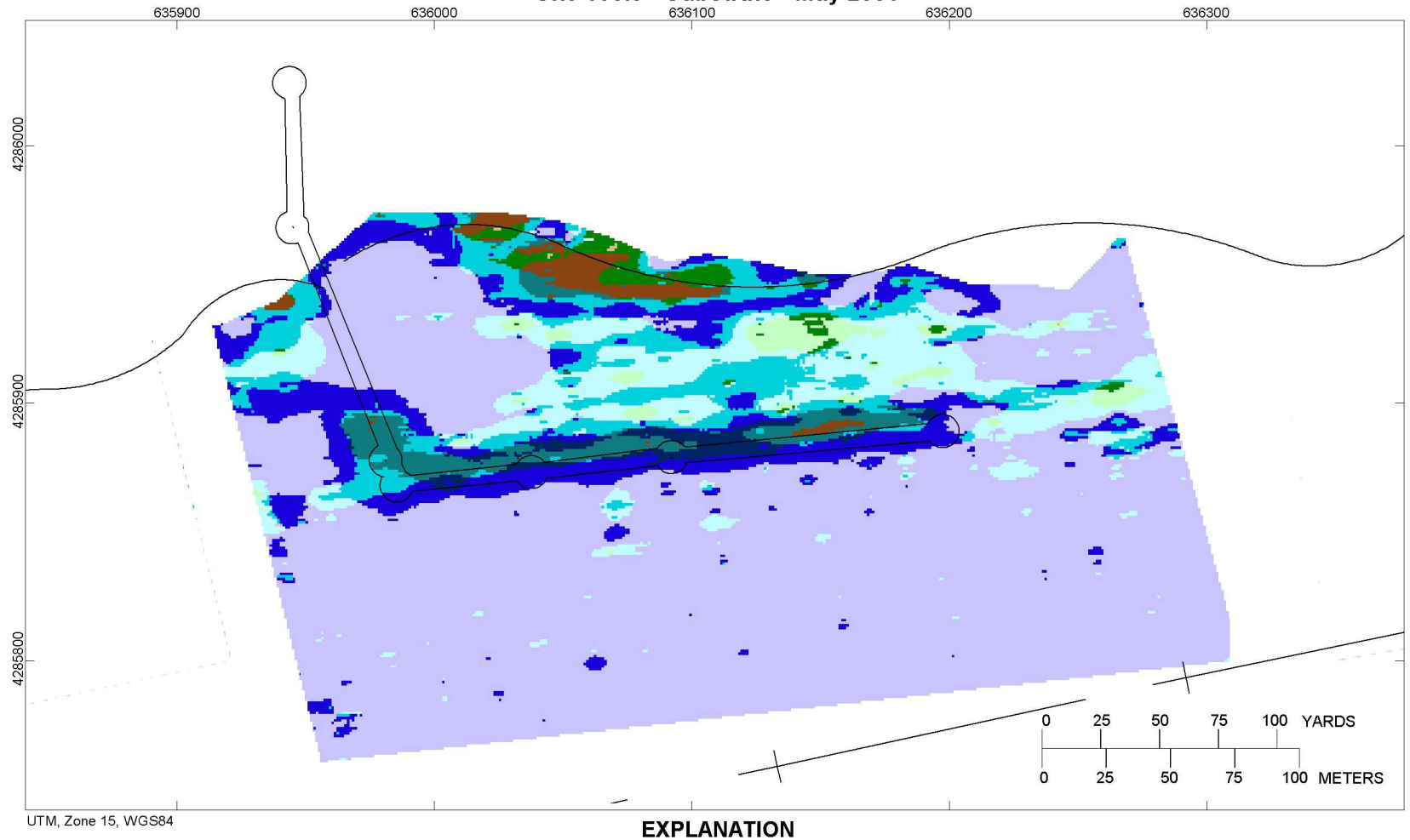
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Substrate - May 2001



EXPLANATION

COE hydro survey

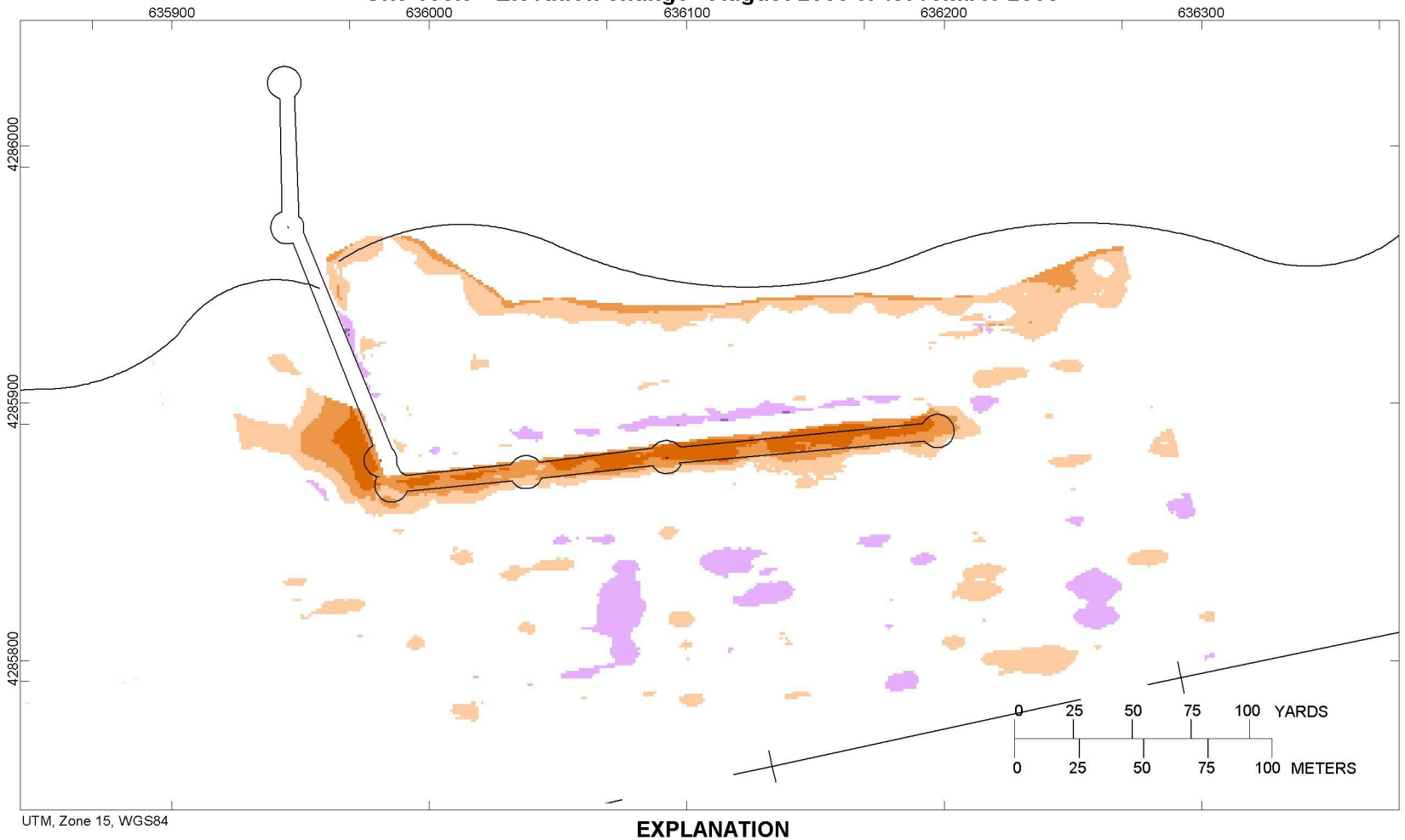
< increasing roughness <

Substrate
> increasing hardness >

Mud, transporting sand	Sand, smooth	Coarse sand, smooth	Gravel
Organics (?), rippled sand	Sand, rippled	Coarse sand, rippled	
Soft, rough	Sand, dunes		Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation change - August 2000 to November 2000



EXPLANATION

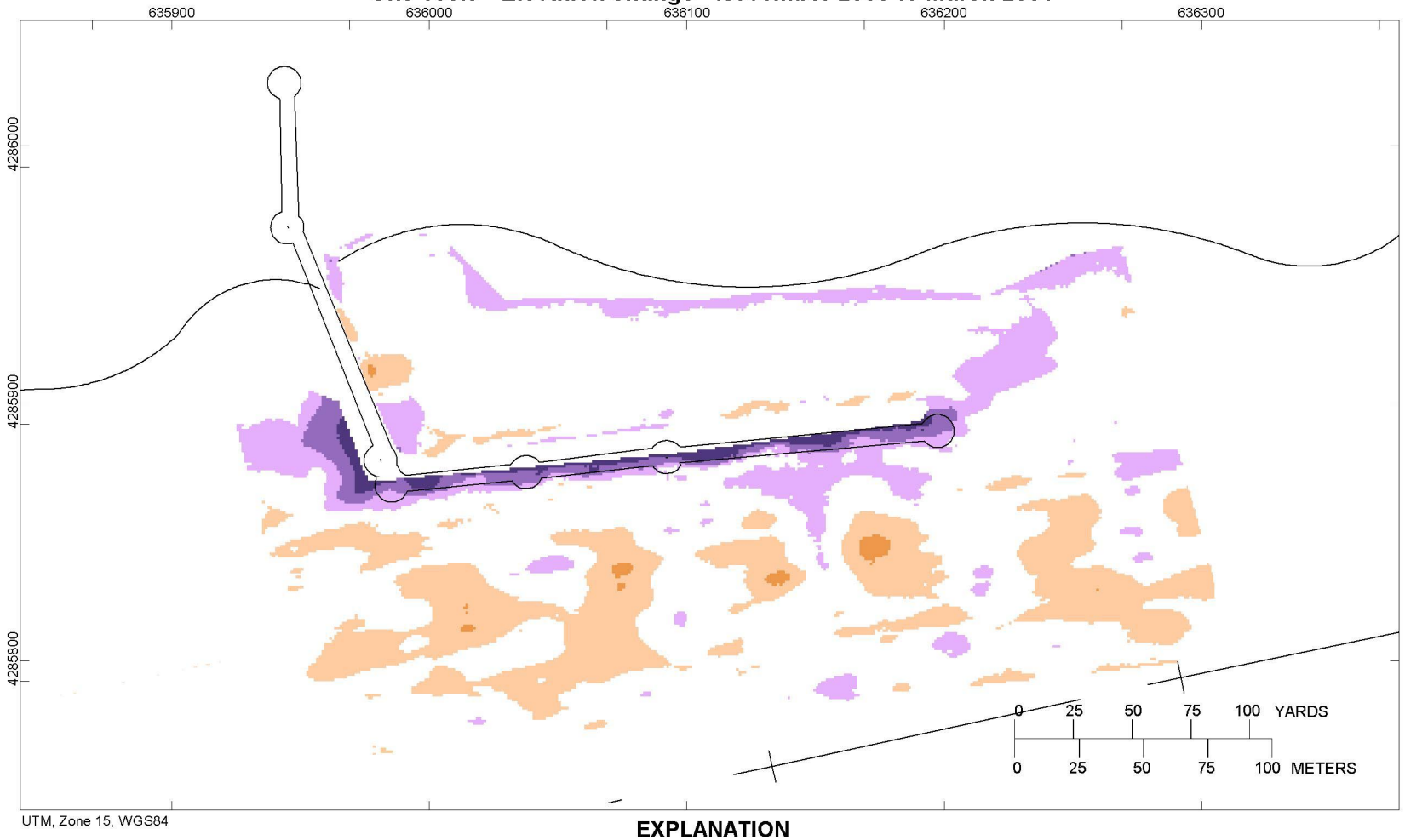
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation change - November 2000 to March 2001



EXPLANATION

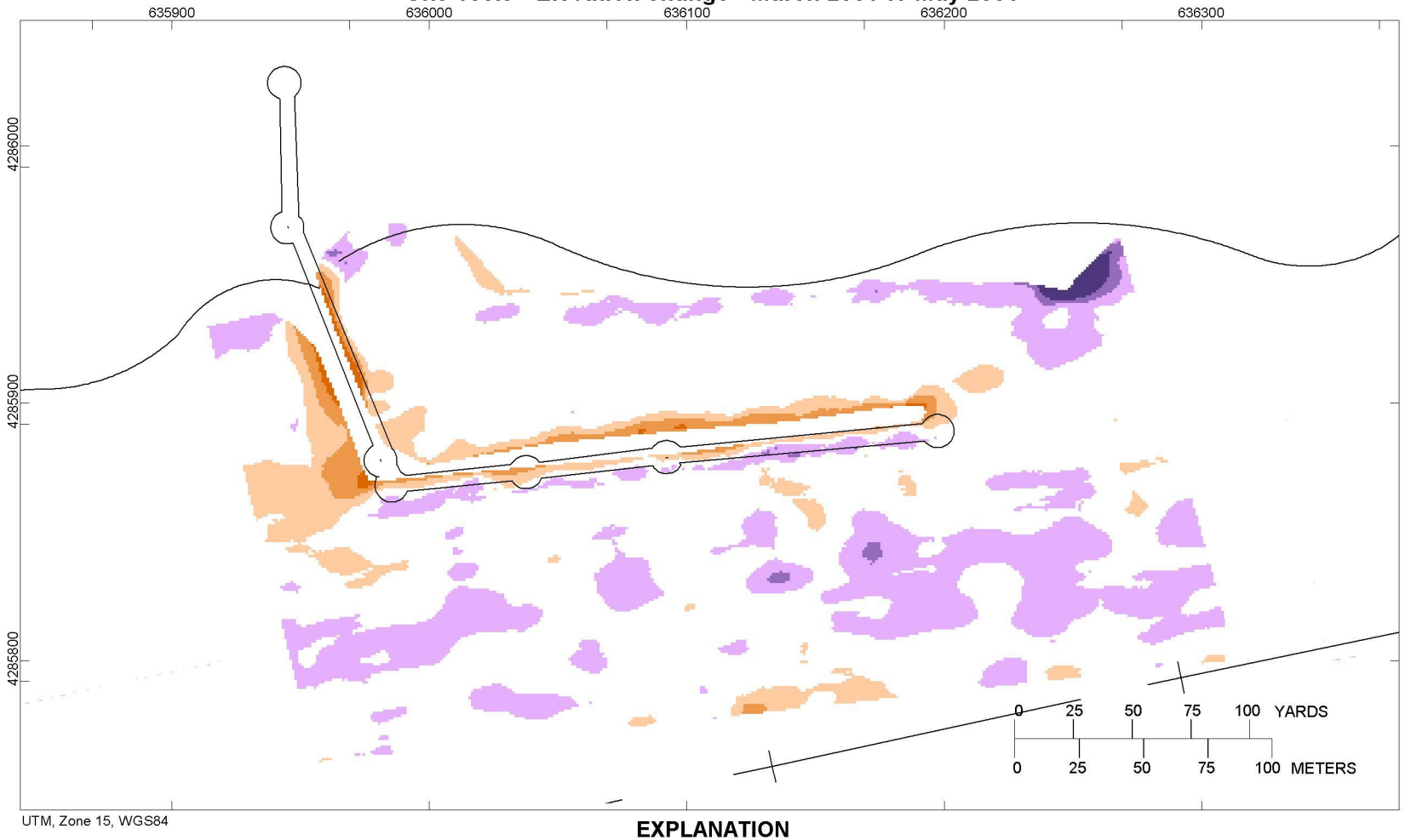
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation change - March 2001 to May 2001



EXPLANATION

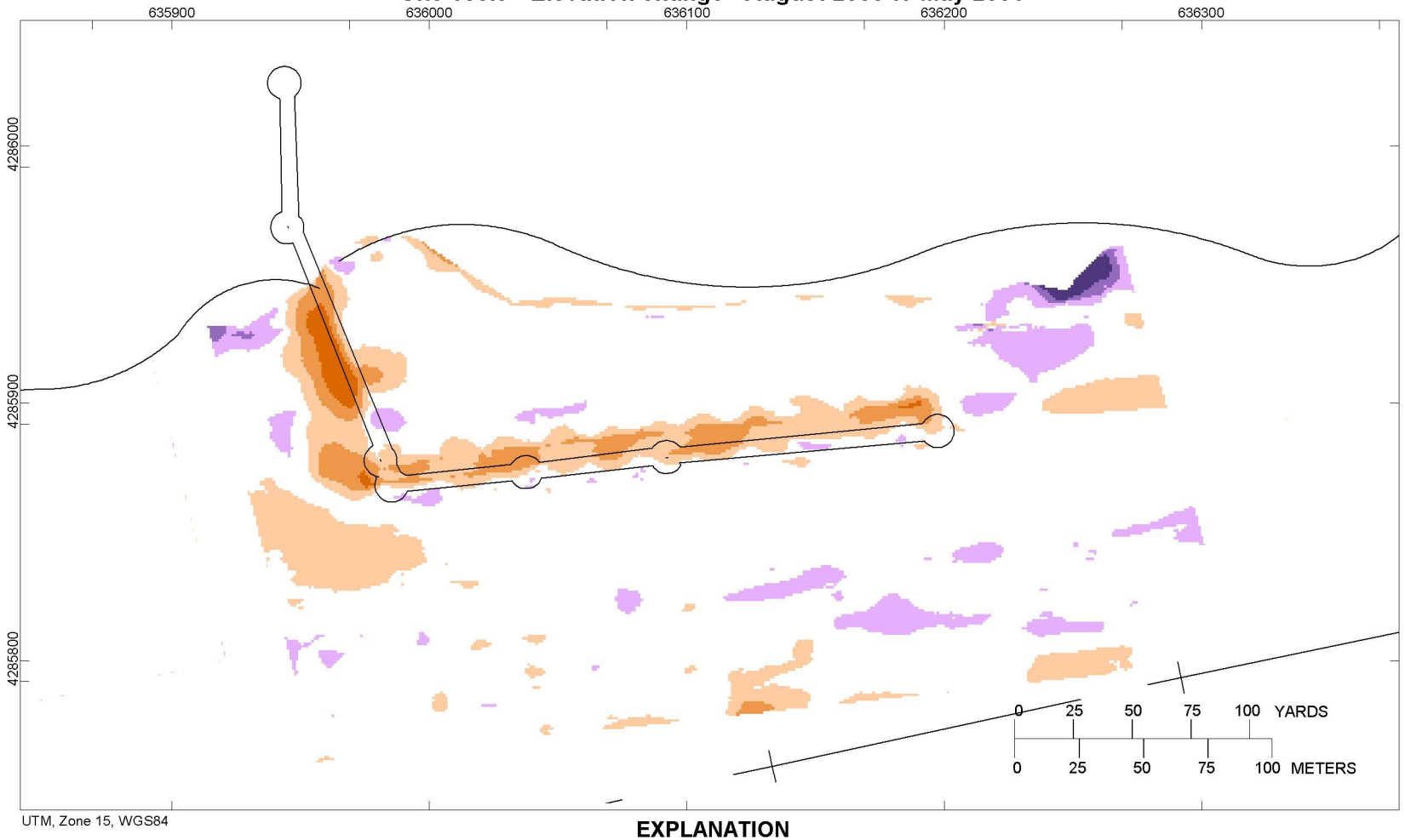
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.5 - Elevation change - August 2000 to May 2001



EXPLANATION

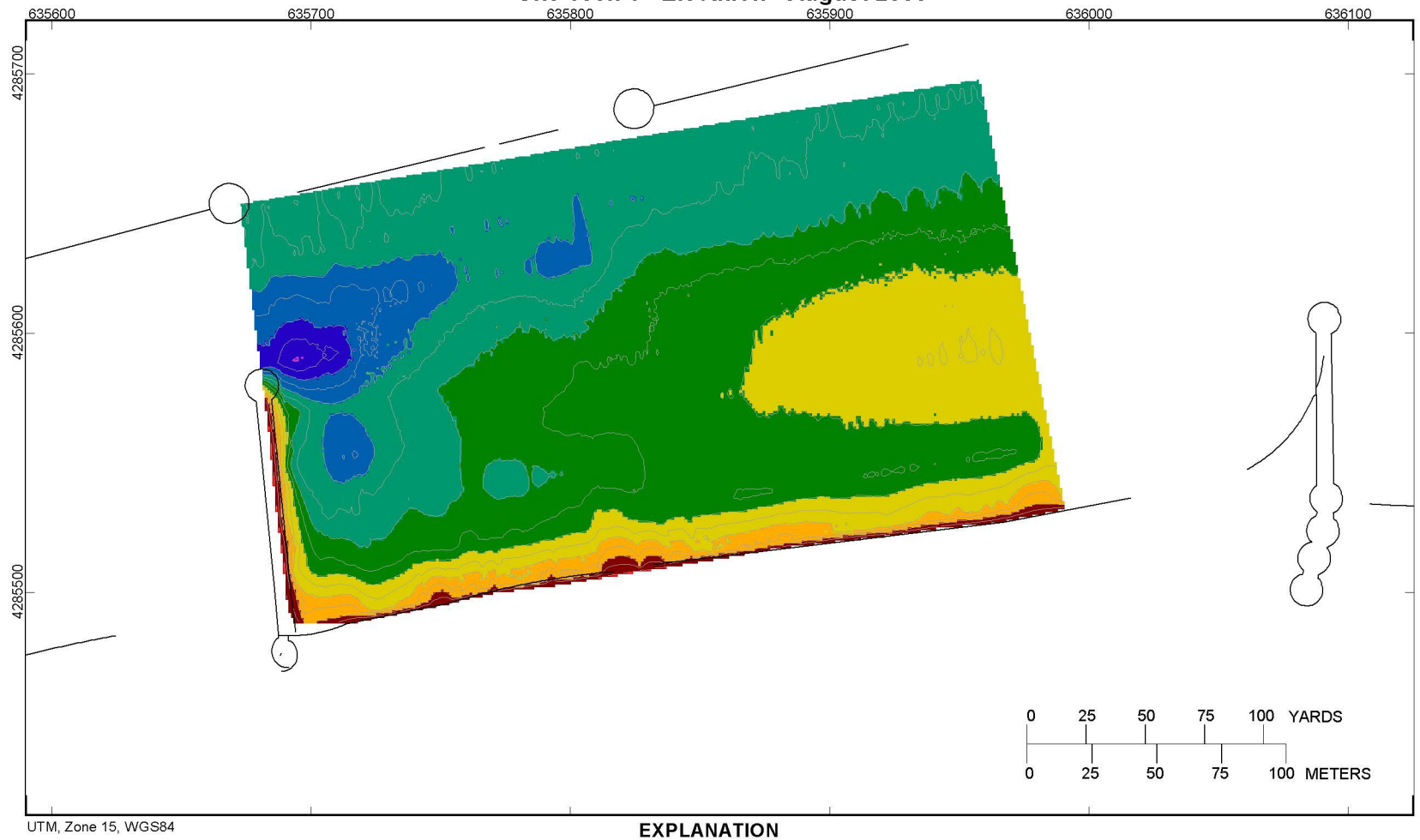
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation - August 2000



EXPLANATION

COE hydro survey

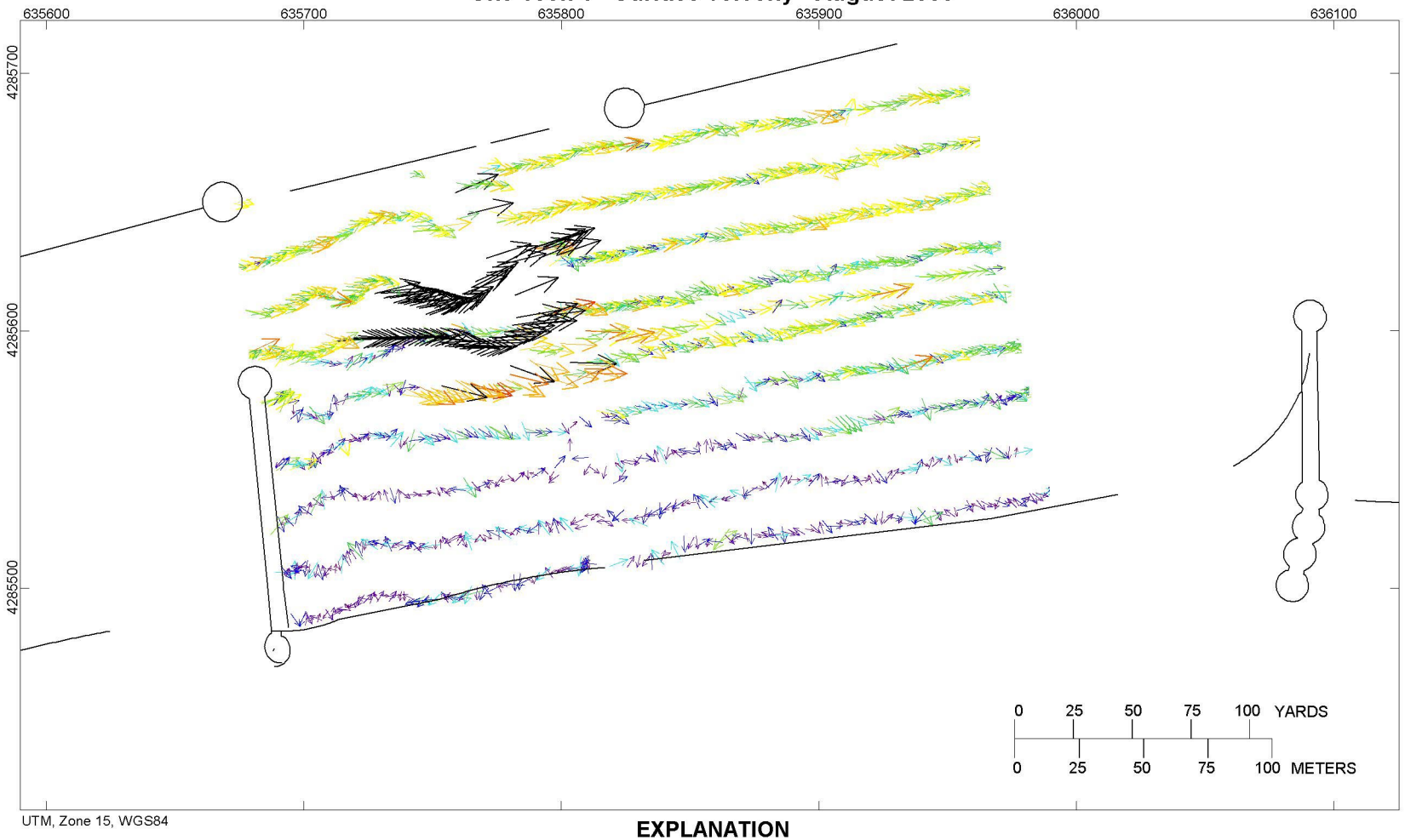
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Surface velocity - August 2000



EXPLANATION

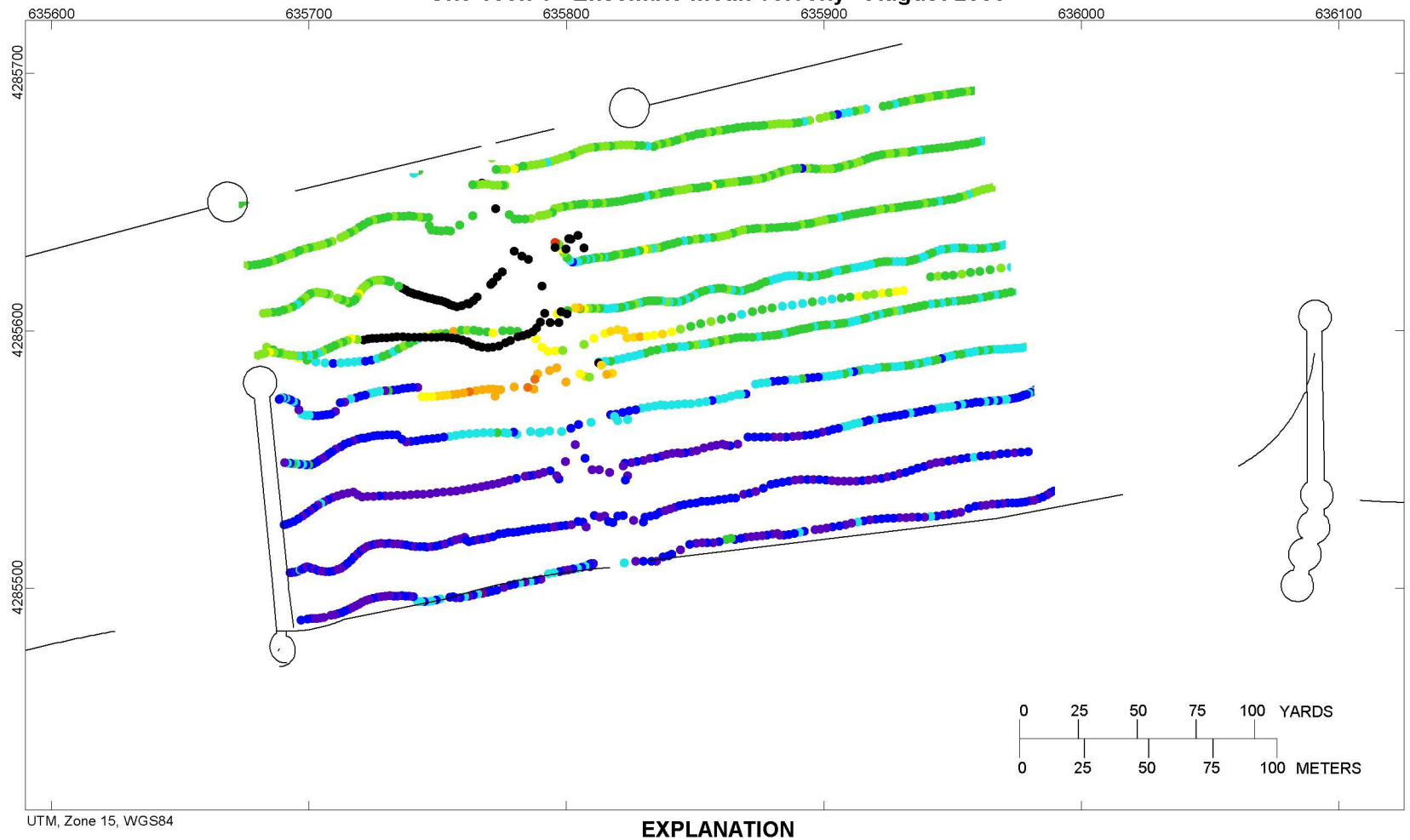
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Ensemble mean velocity - August 2000



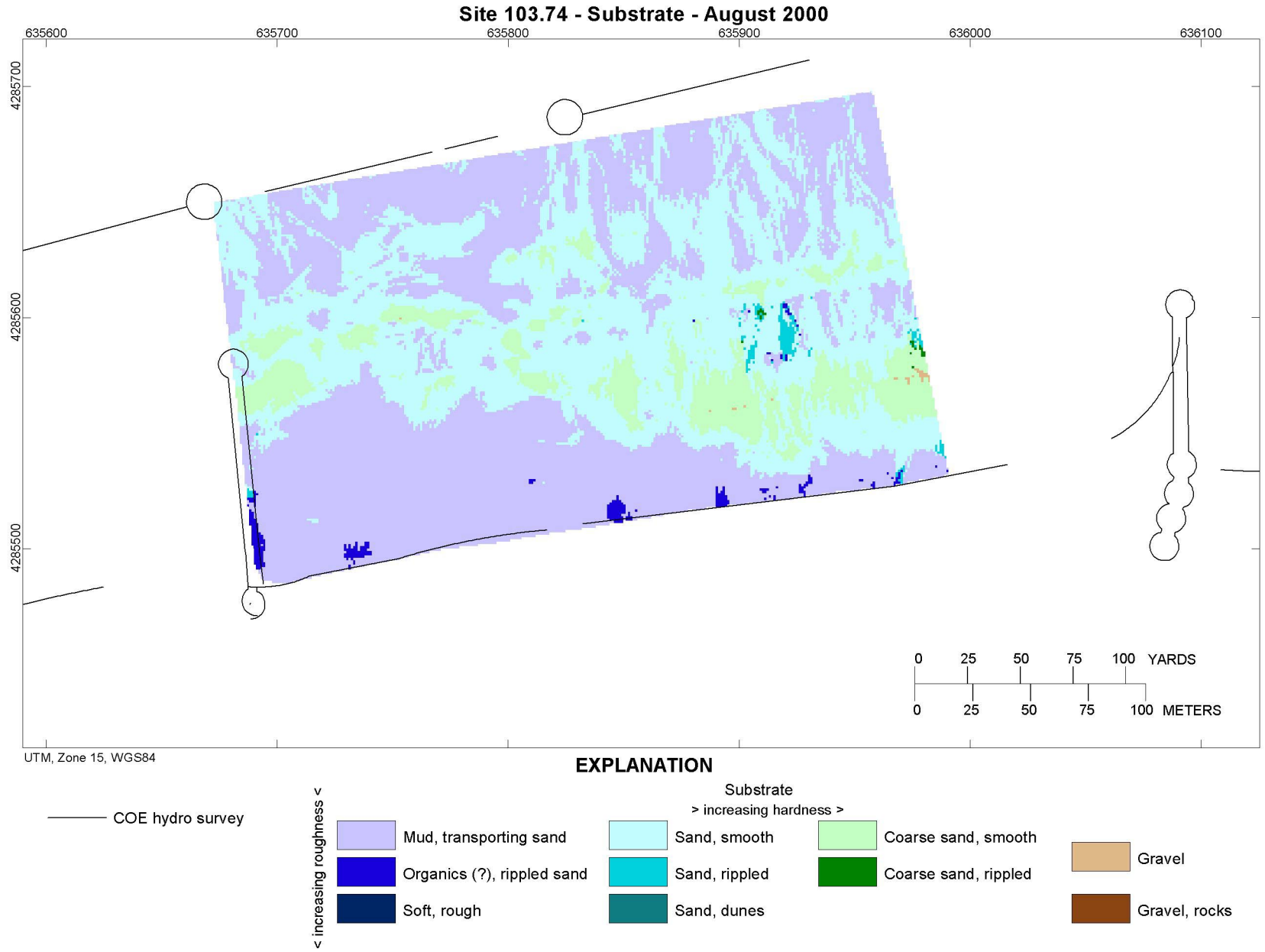
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

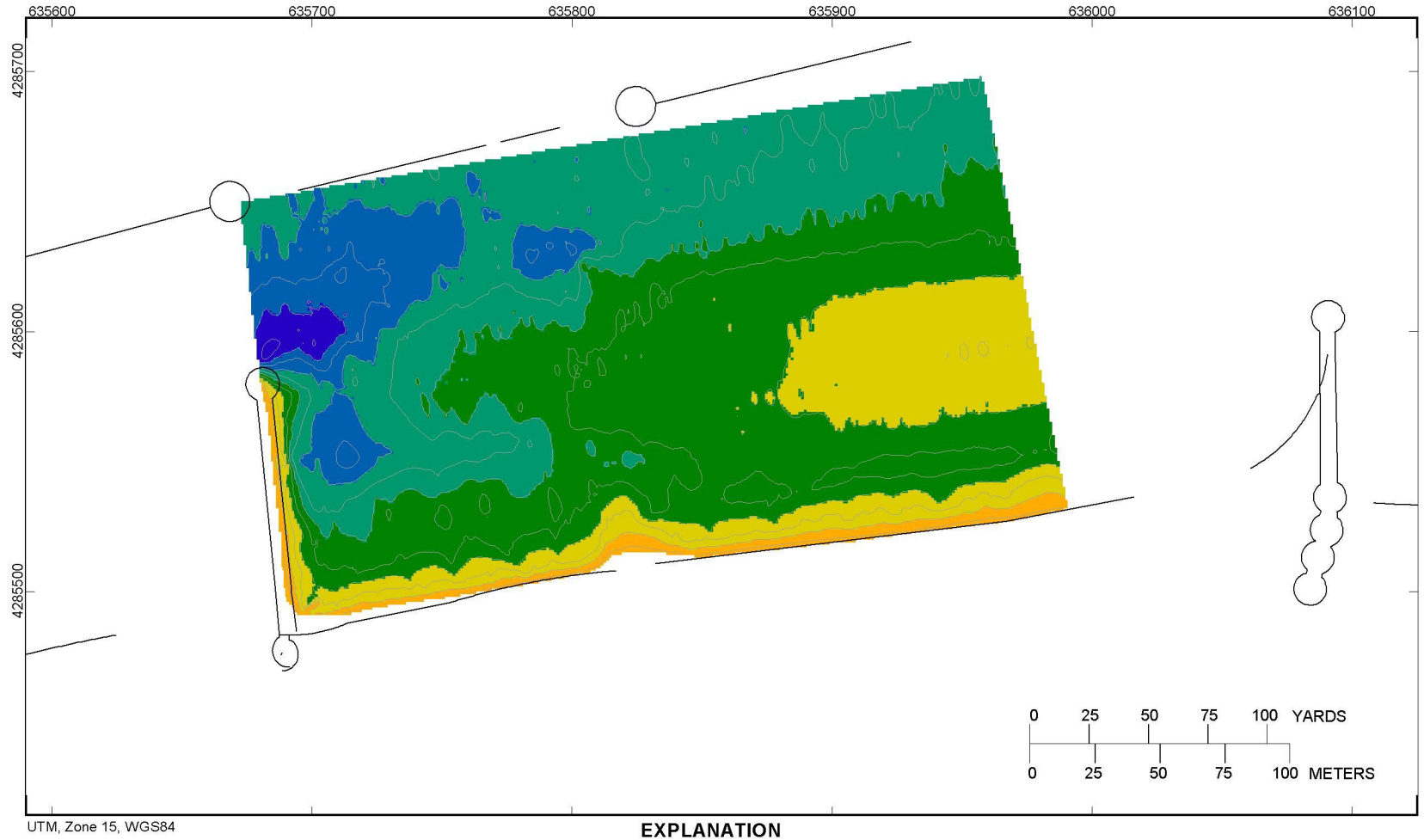
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation - November 2000



EXPLANATION

COE hydro survey

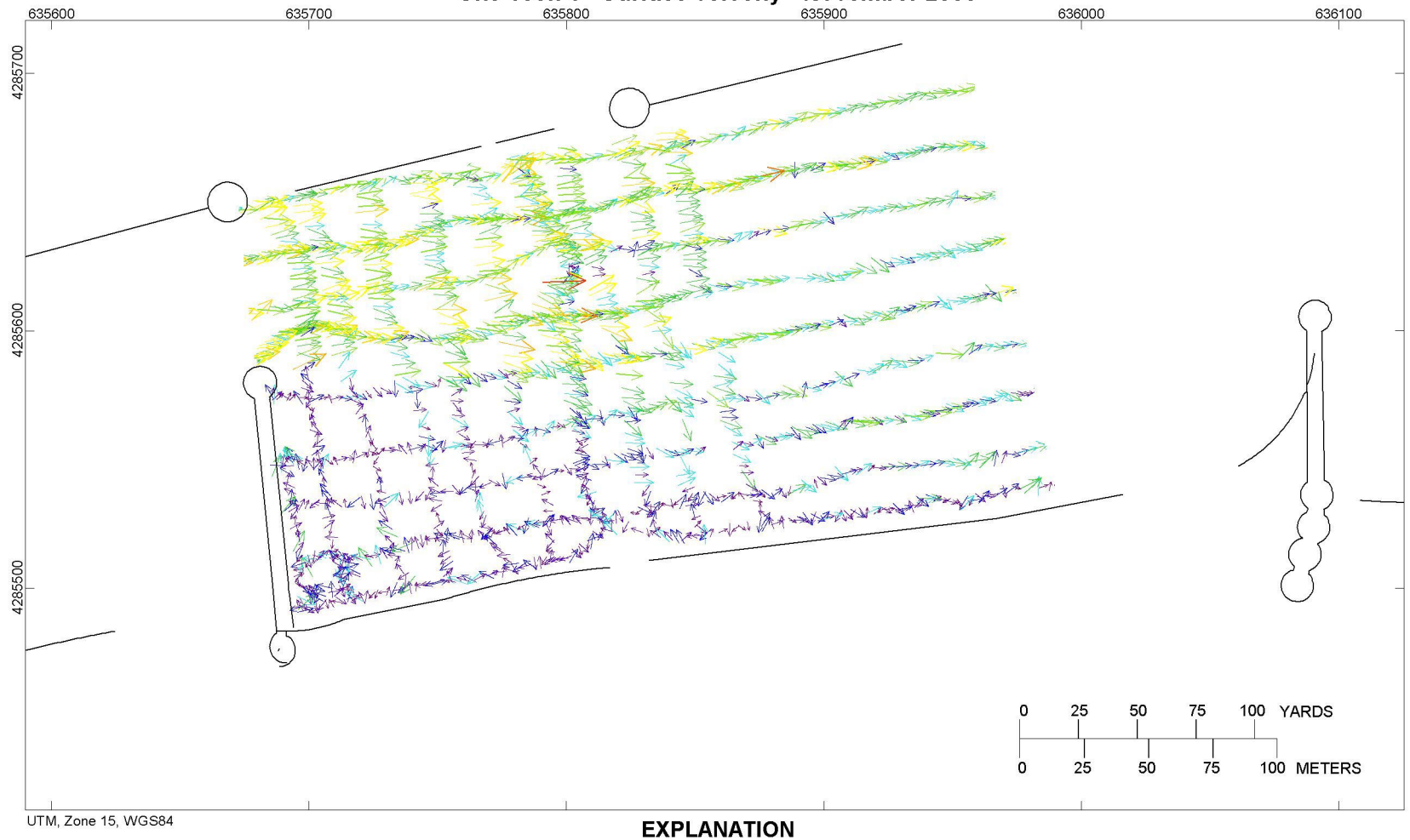
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Surface velocity - November 2000



EXPLANATION

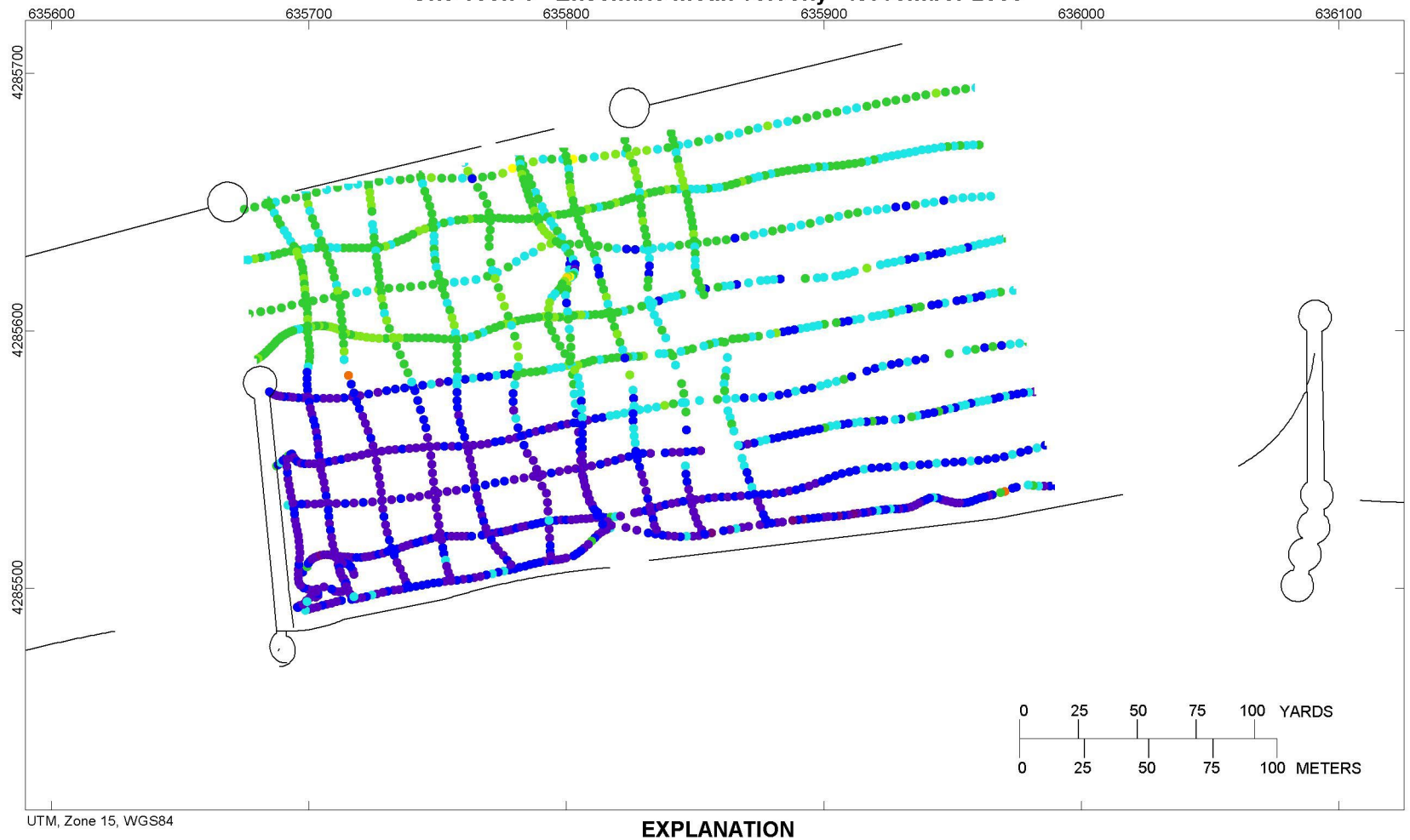
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Ensemble mean velocity - November 2000



EXPLANATION

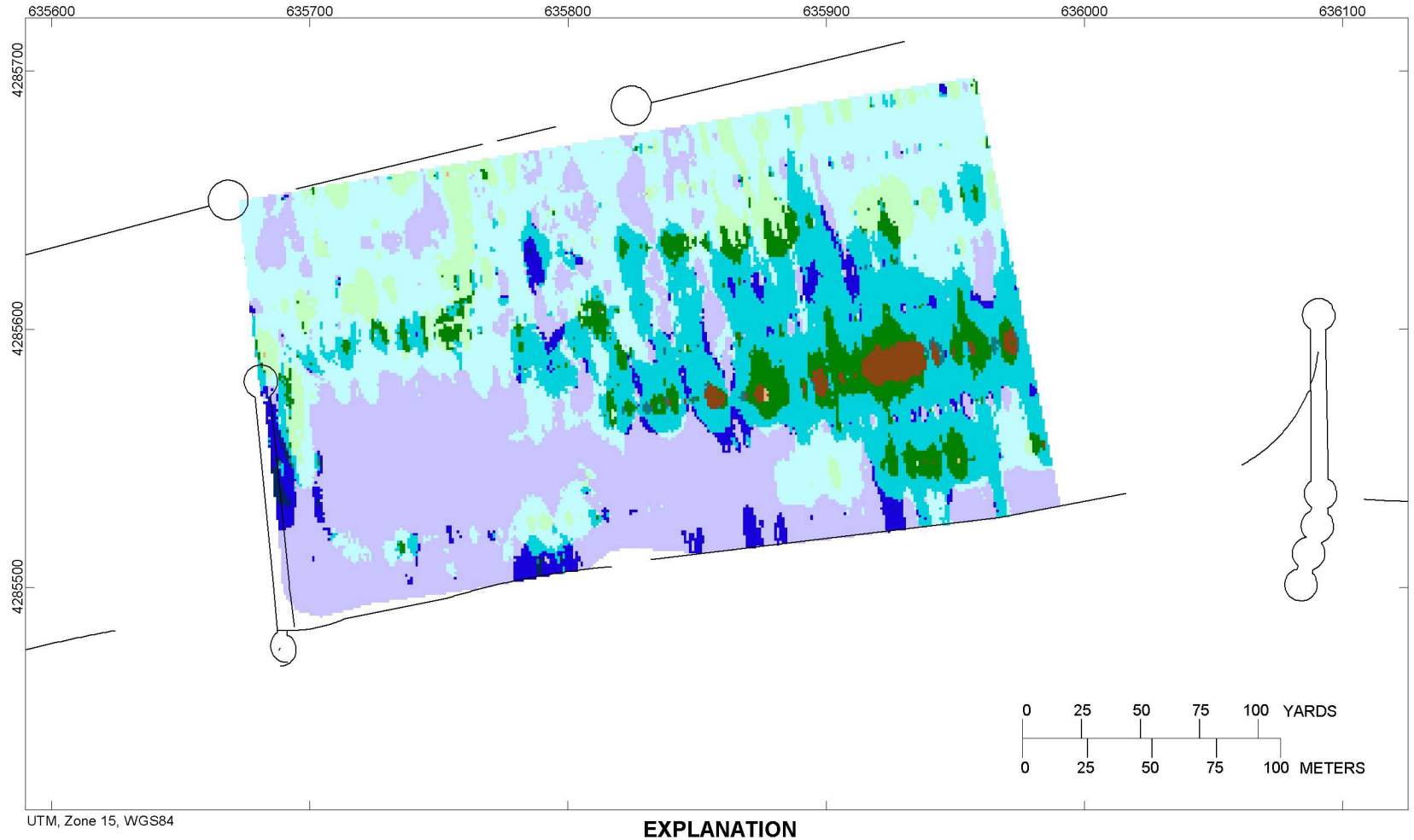
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Substrate - November 2000



EXPLANATION

COE hydro survey

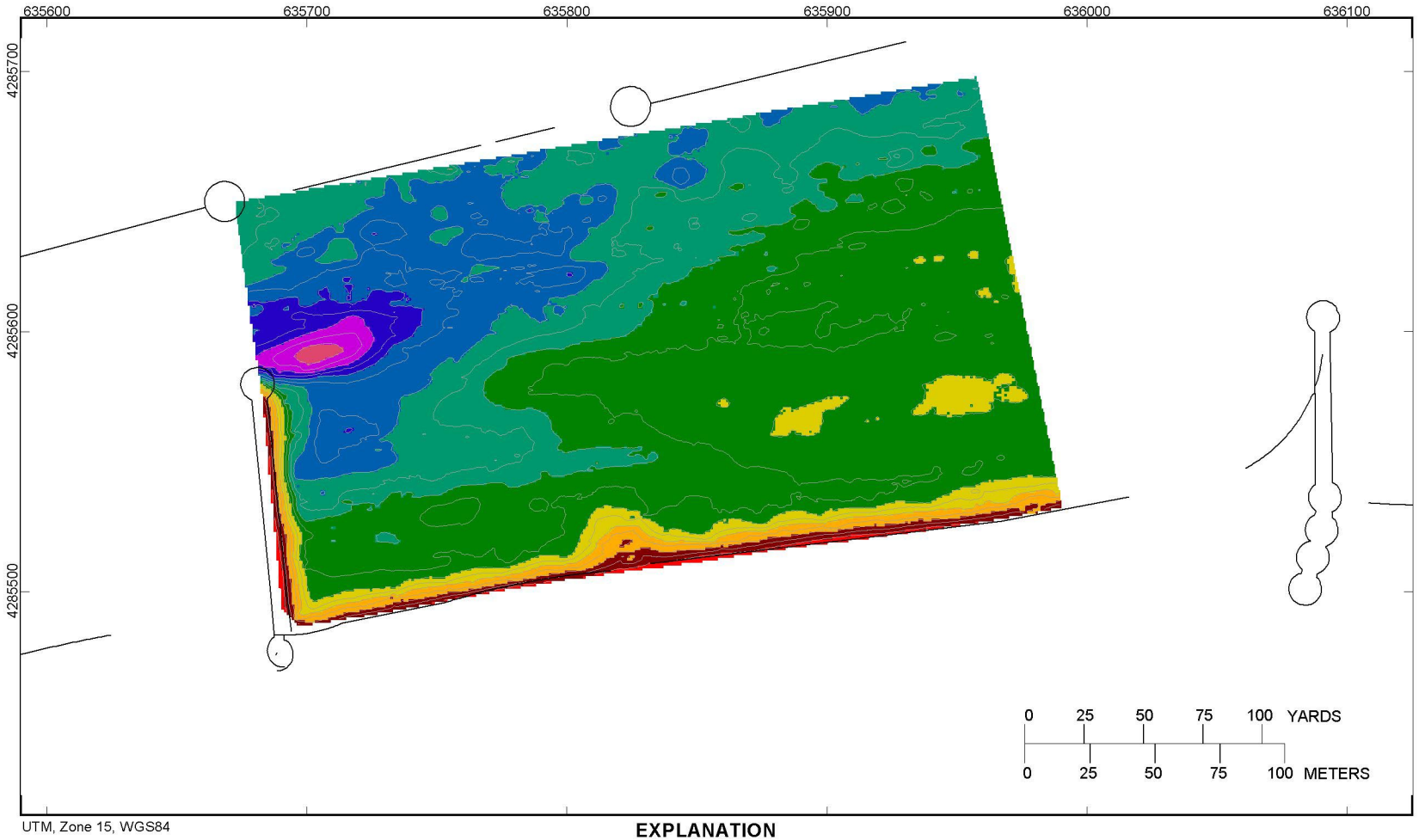
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation - March 2001



EXPLANATION

COE hydro survey

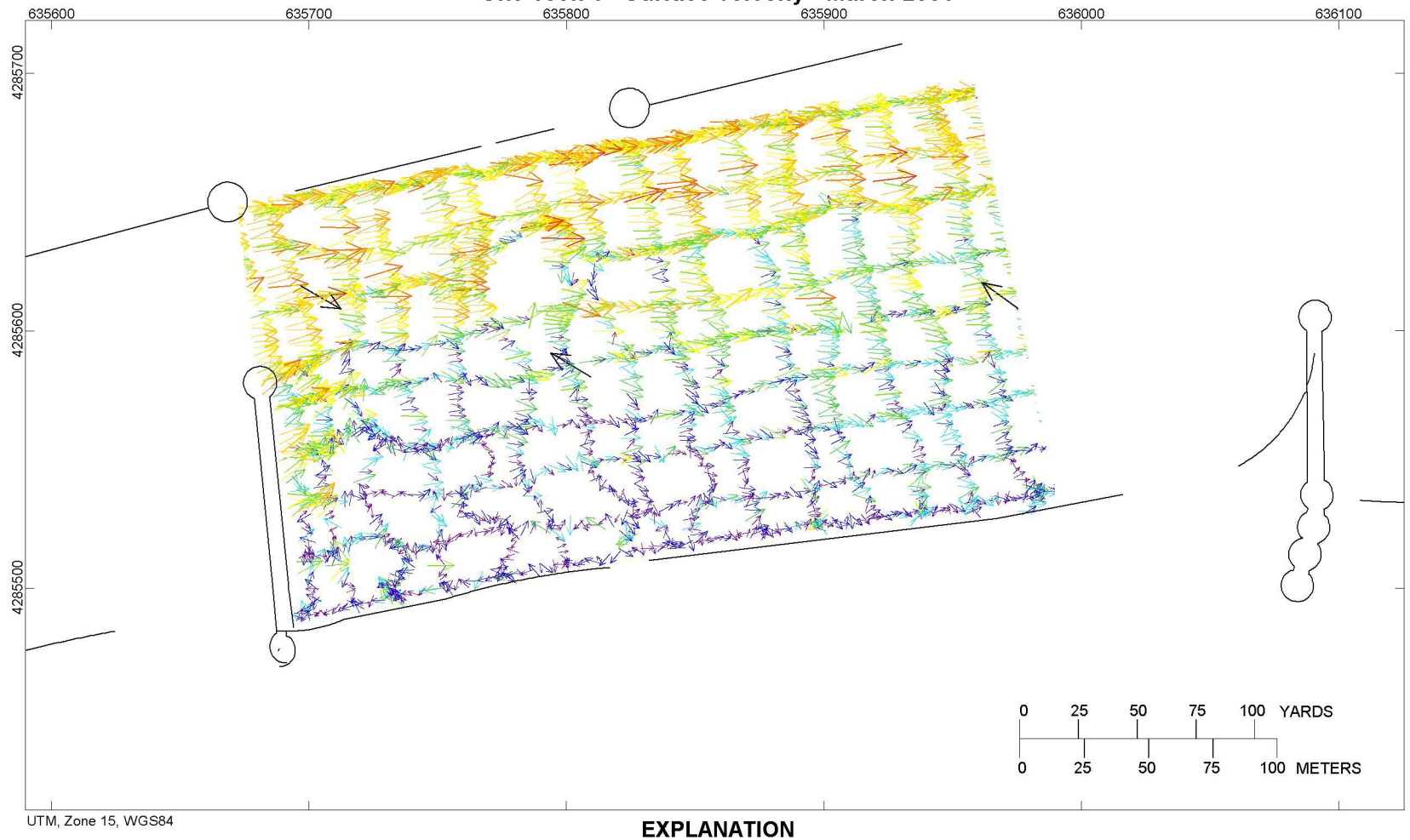
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Surface velocity - March 2001



EXPLANATION

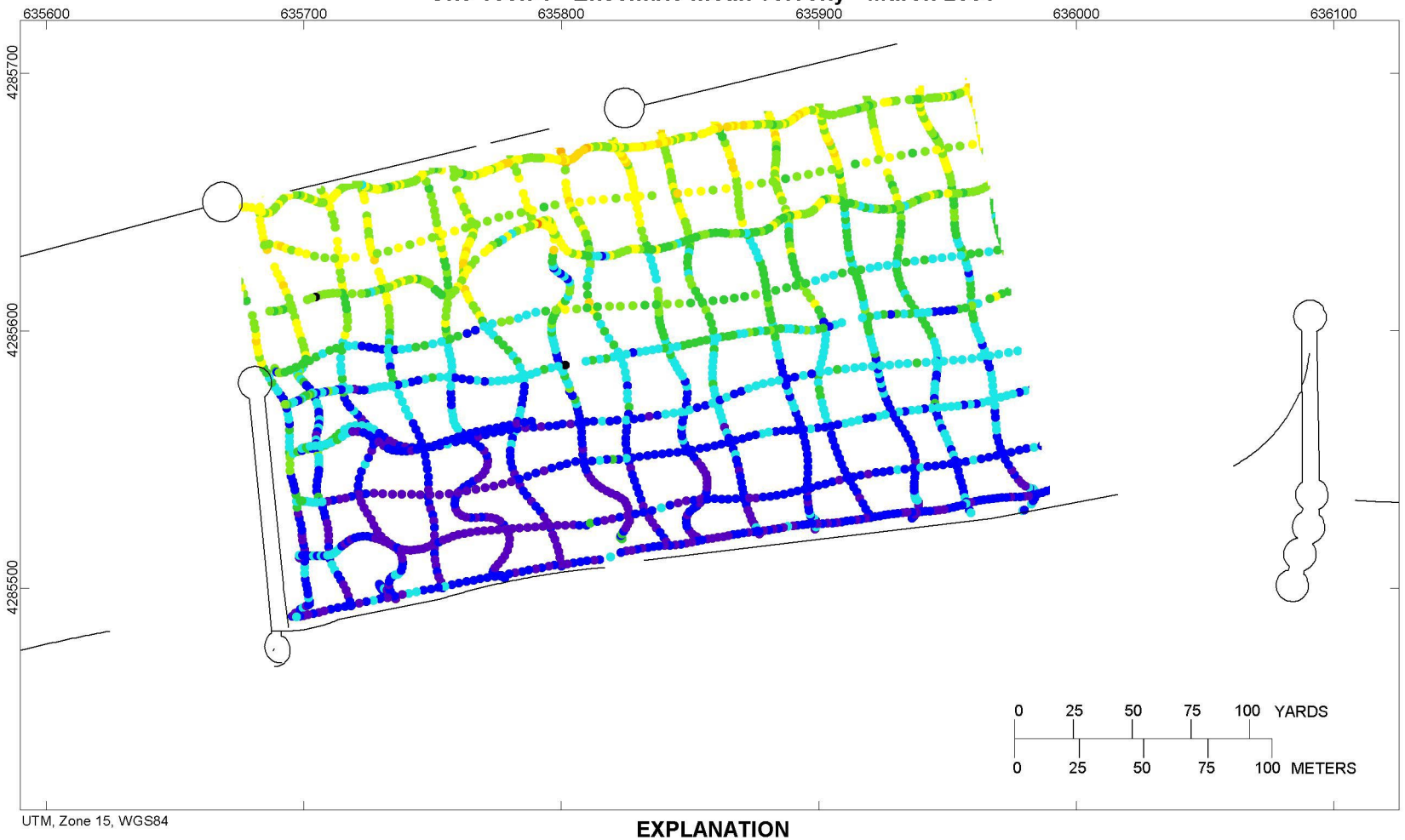
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Ensemble mean velocity - March 2001



EXPLANATION

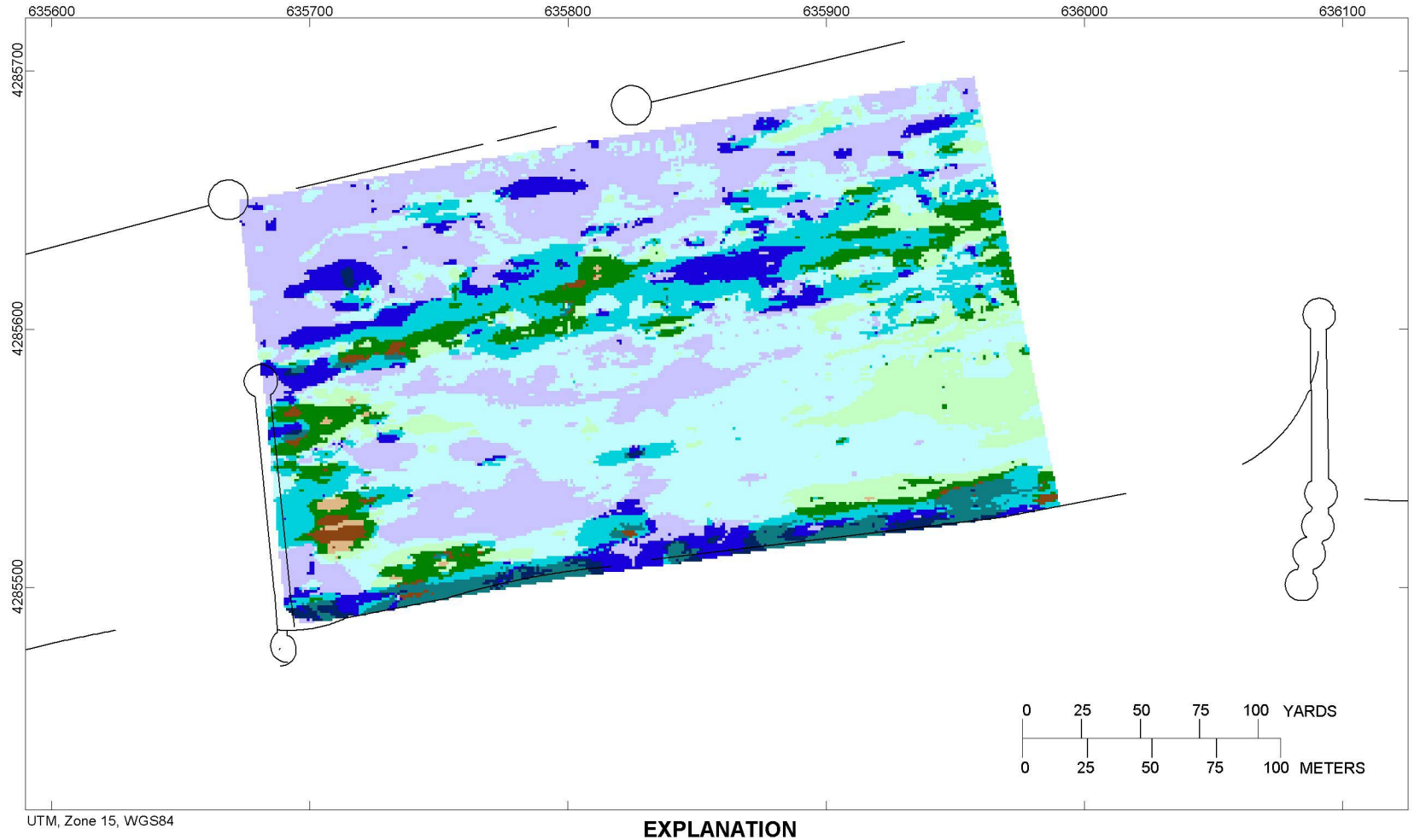
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Substrate - March 2001



EXPLANATION

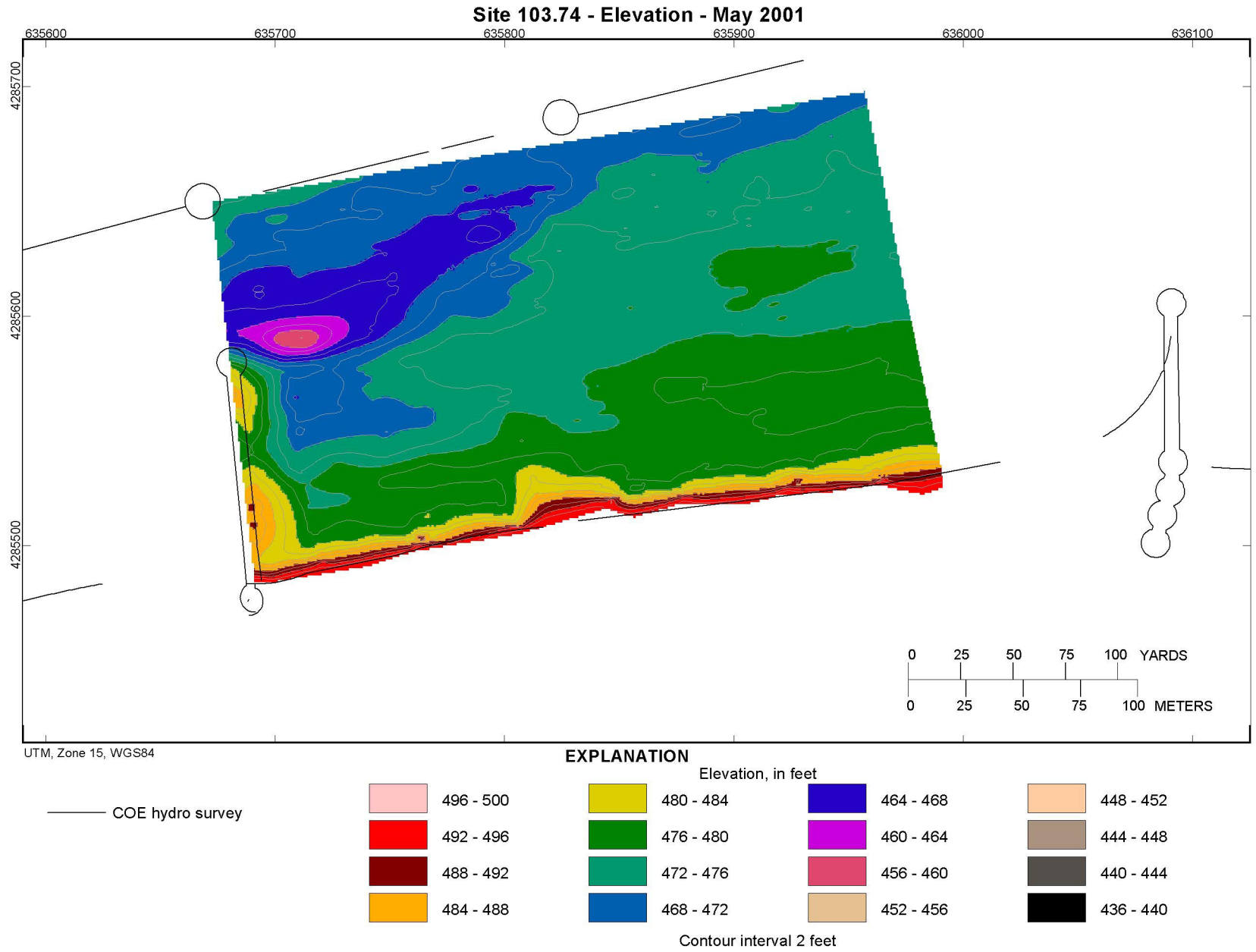
COE hydro survey

< increasing roughness <

Substrate
> increasing hardness >

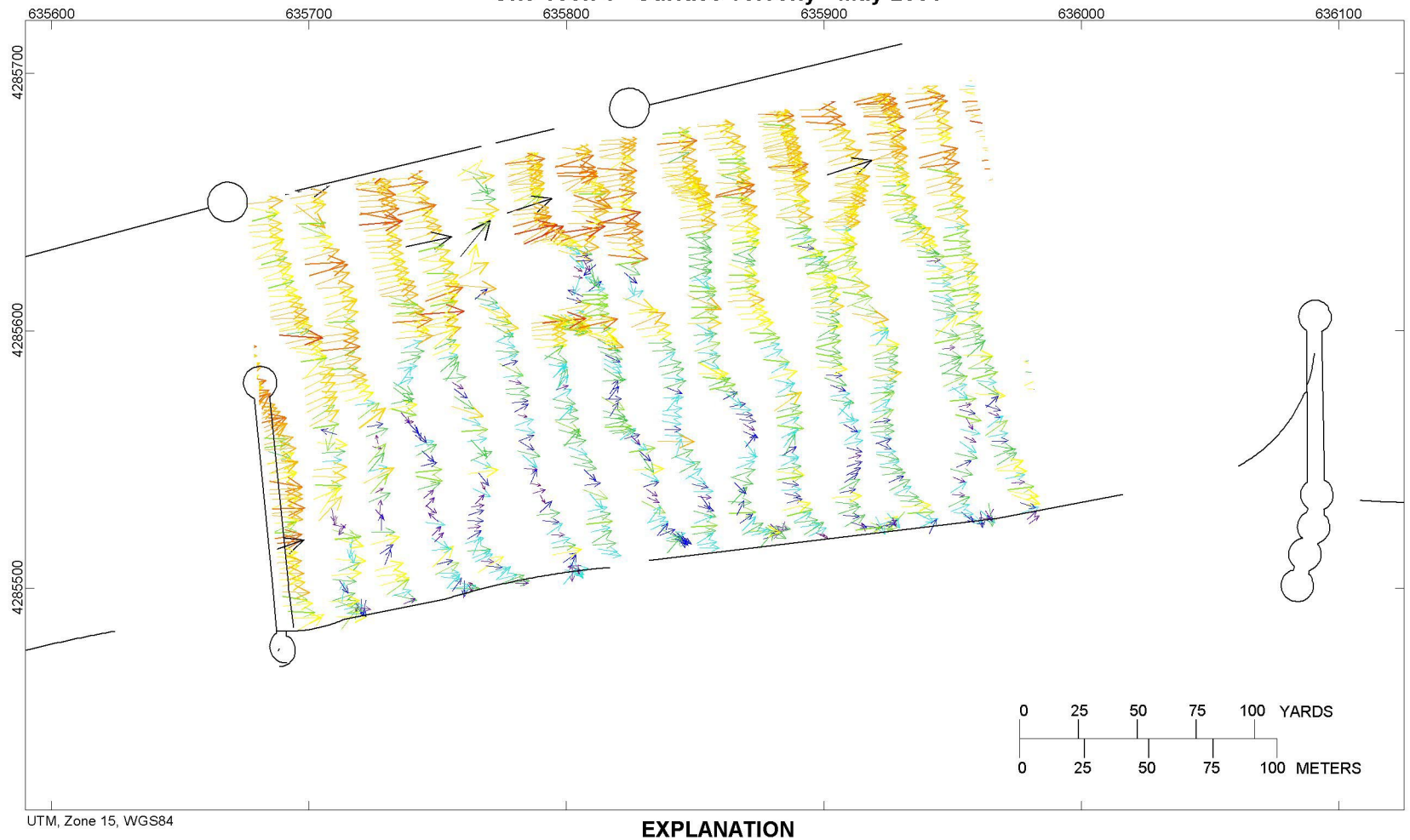
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Surface velocity - May 2001



EXPLANATION

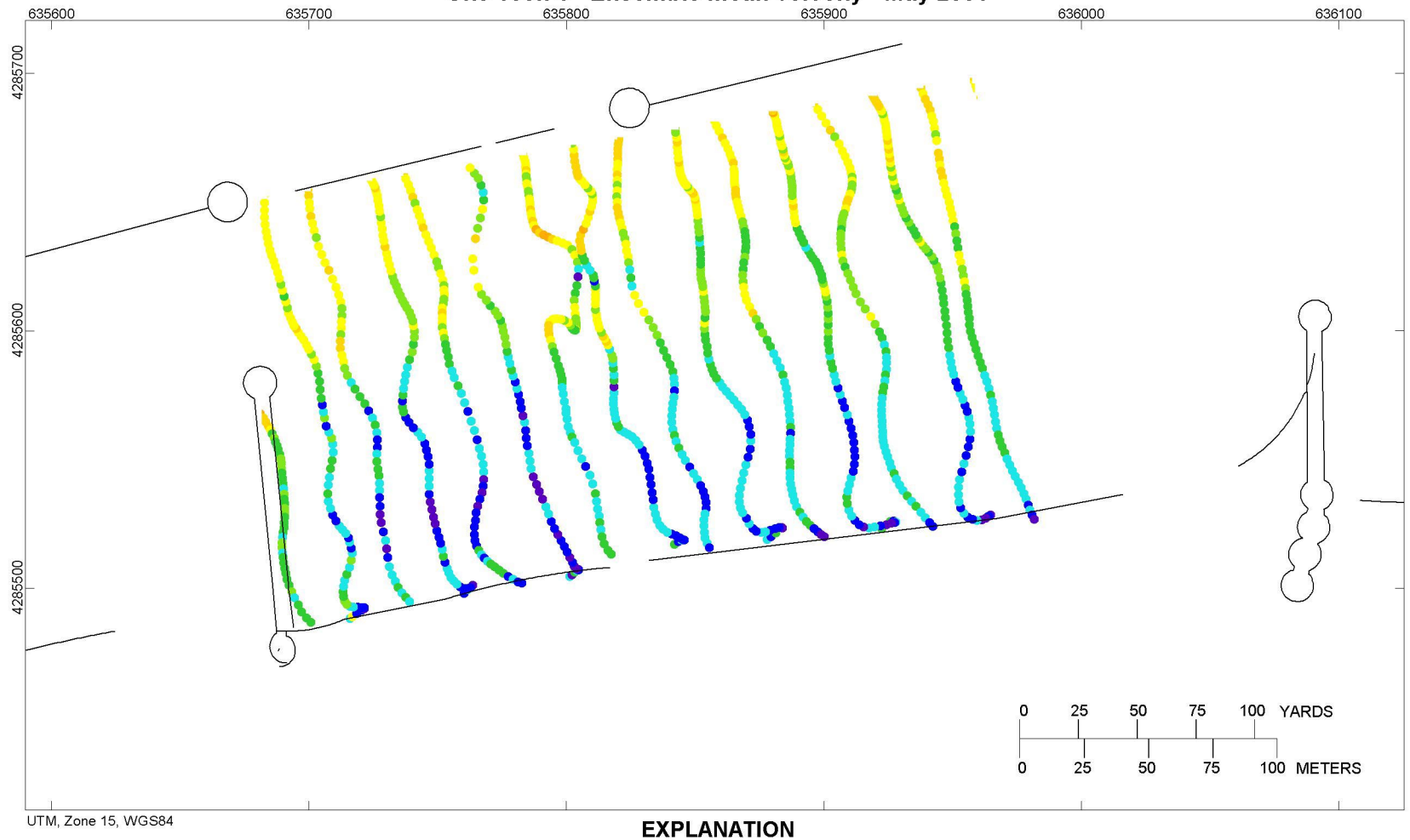
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Ensemble mean velocity - May 2001



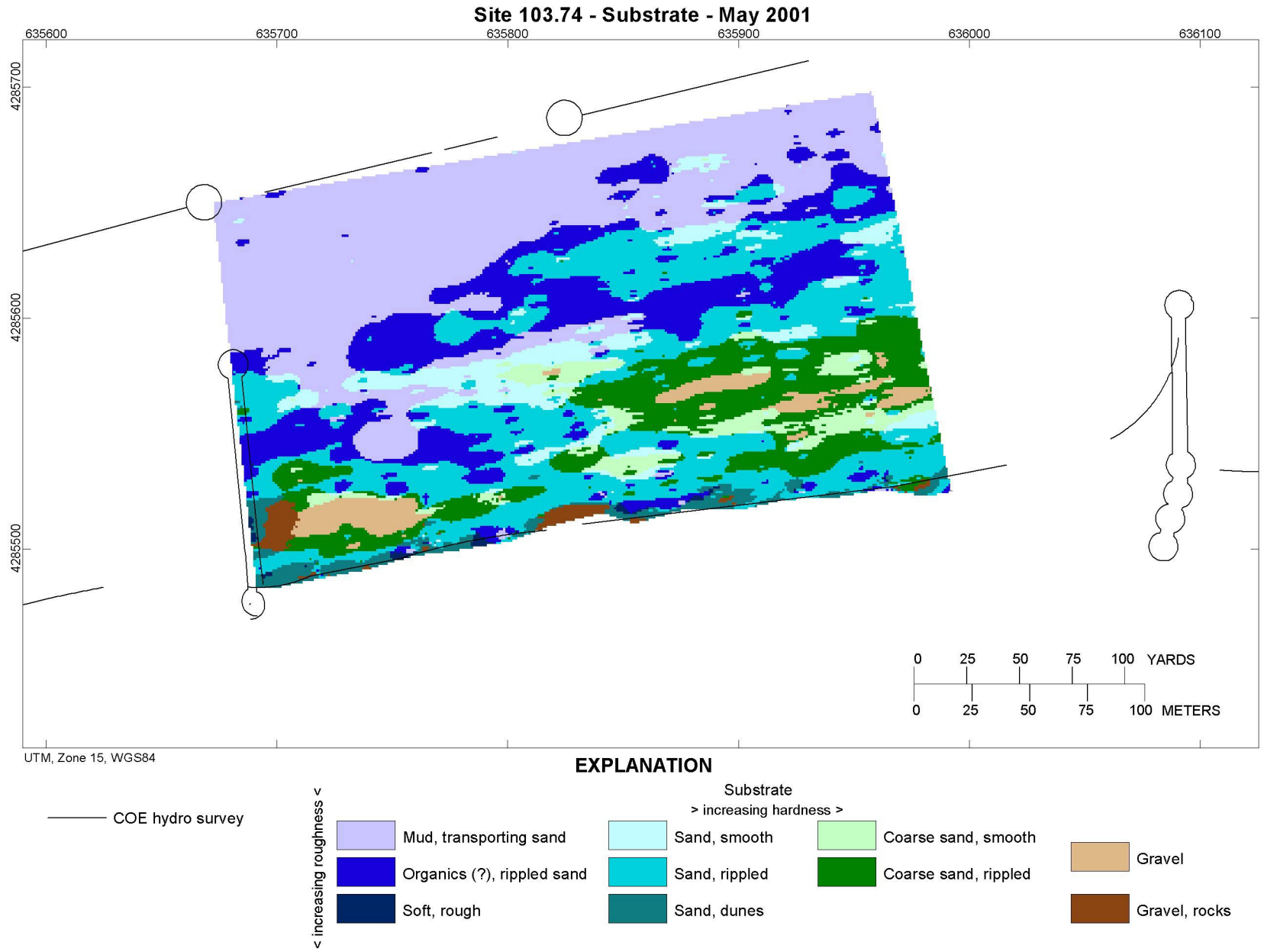
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

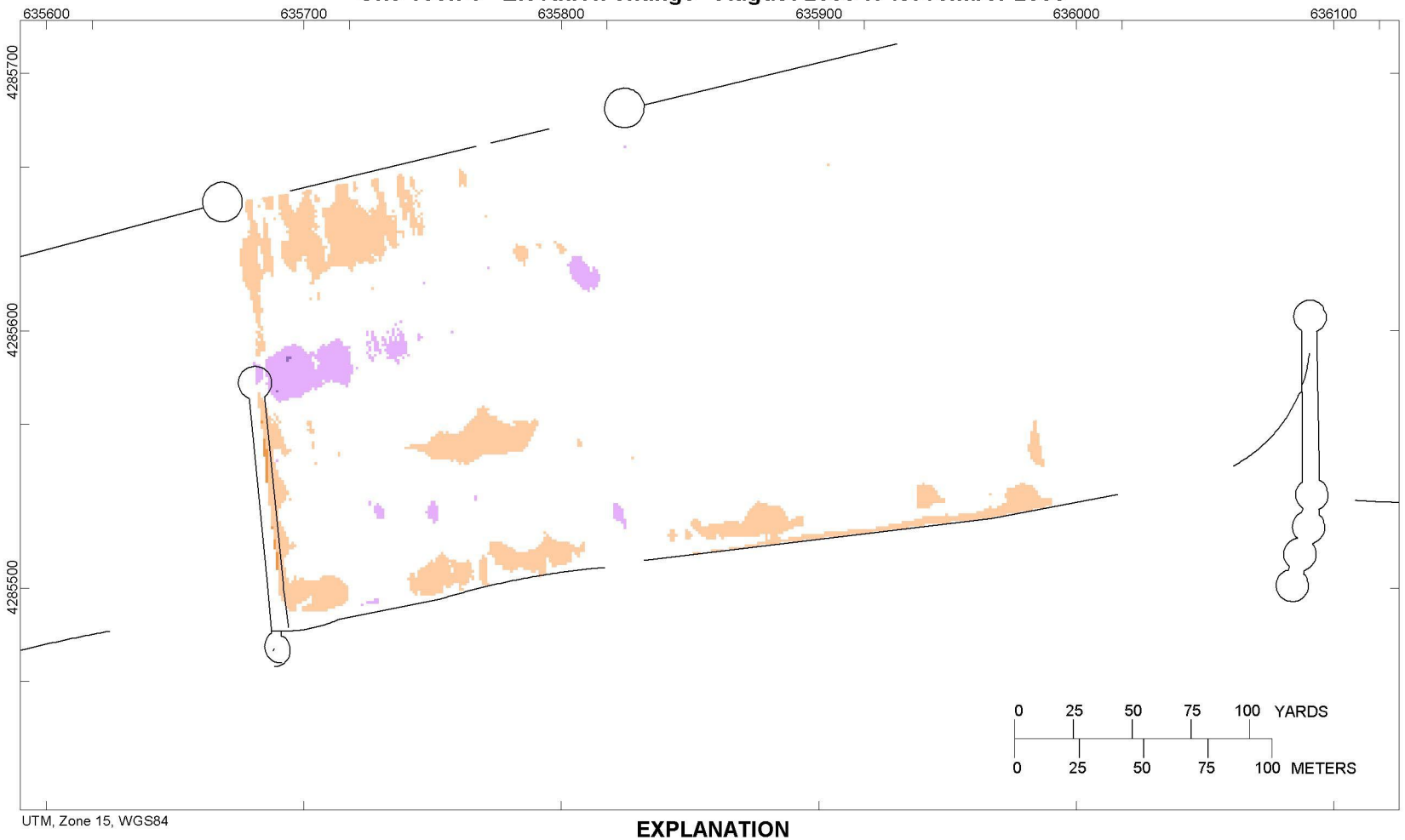
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation change - August 2000 to November 2000



EXPLANATION

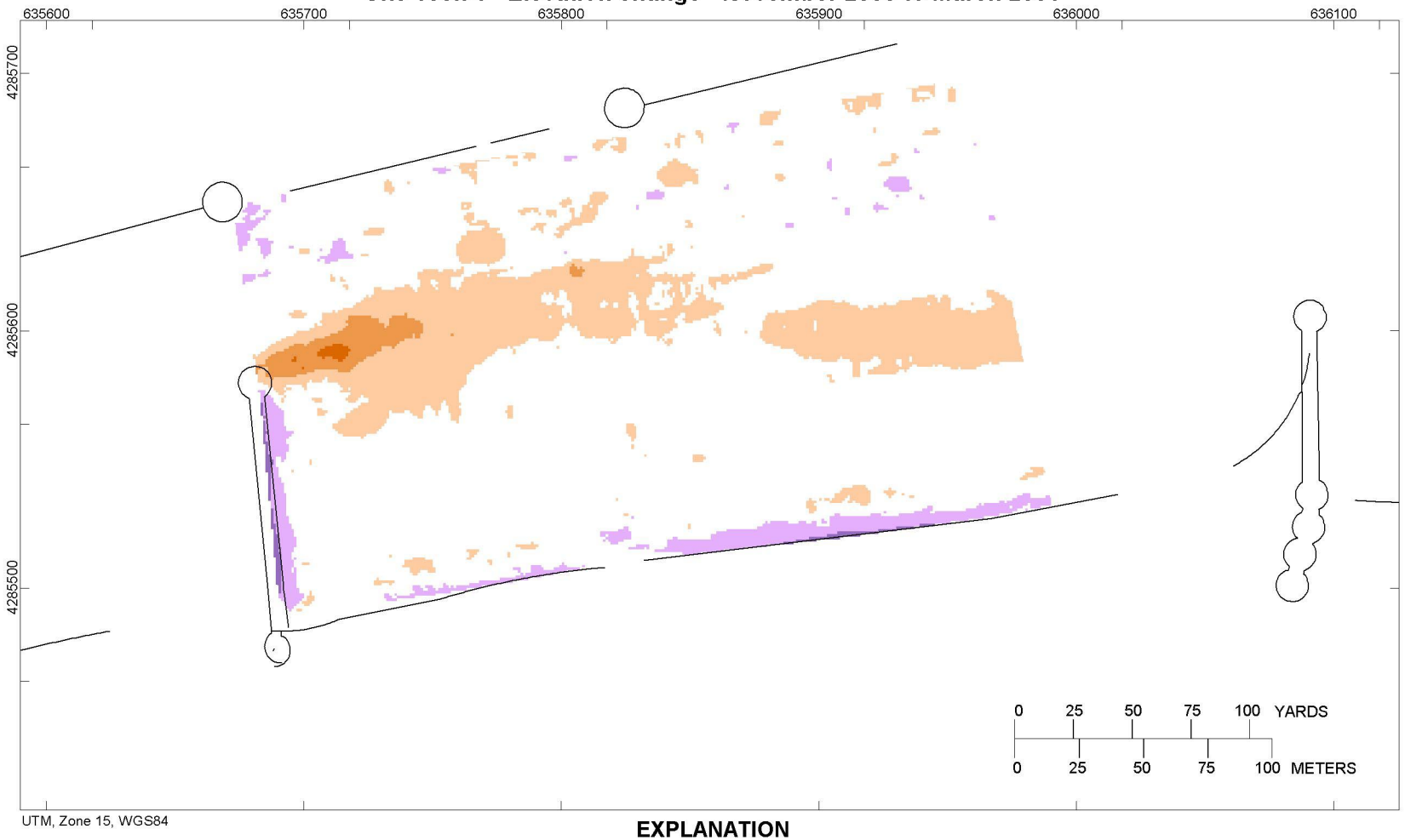
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation change - November 2000 to March 2001



EXPLANATION

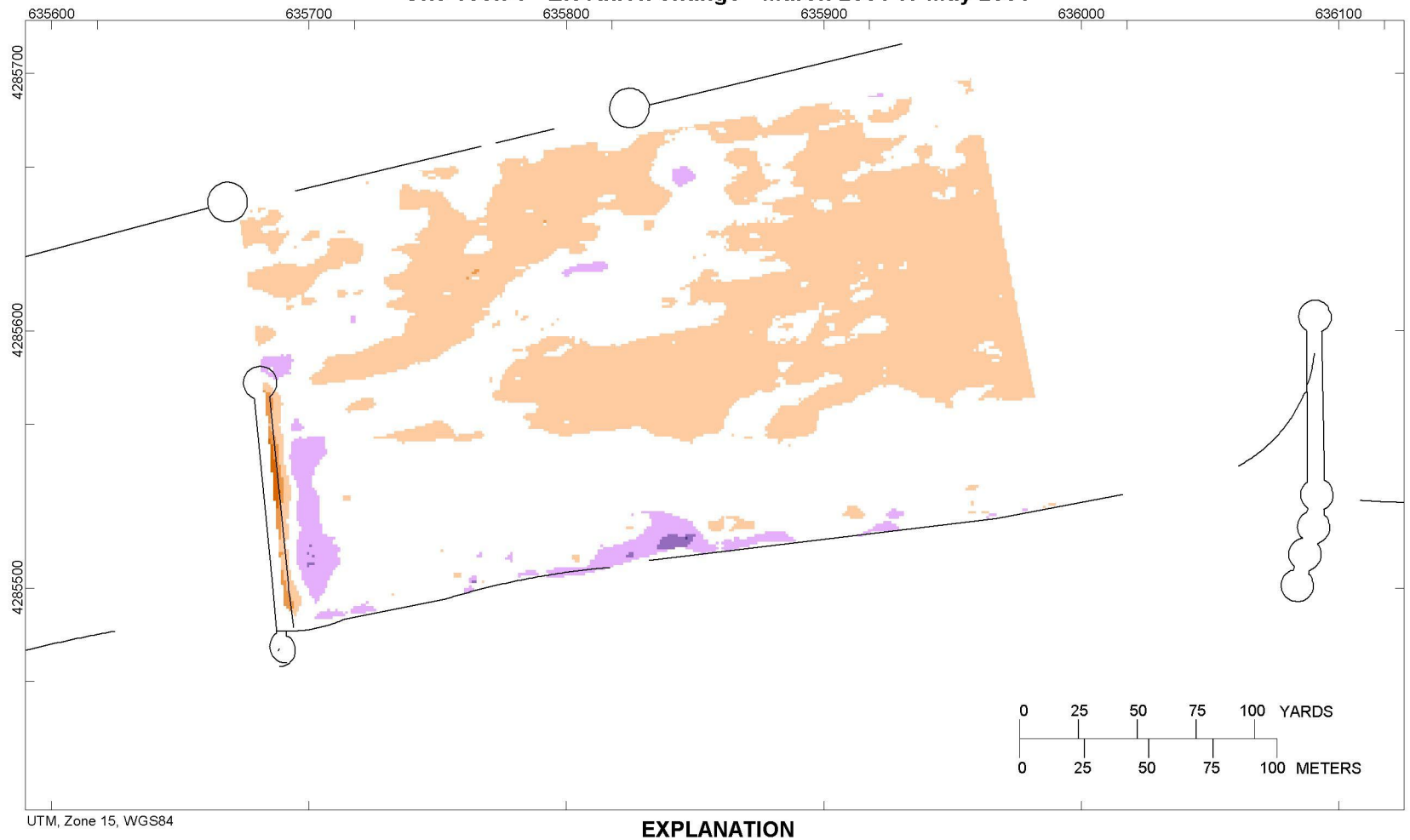
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation change - March 2001 to May 2001



EXPLANATION

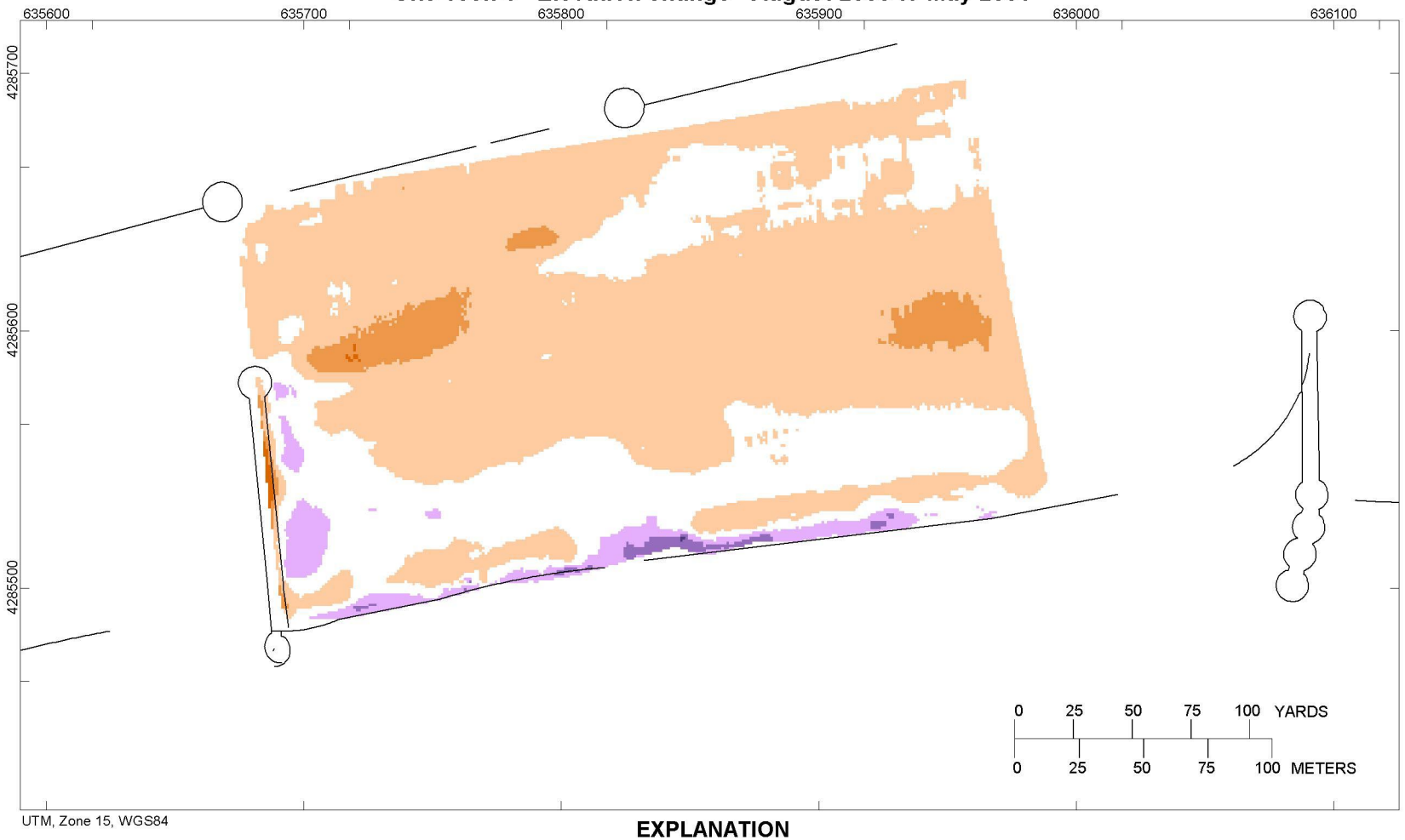
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.74 - Elevation change - August 2000 to May 2001



EXPLANATION

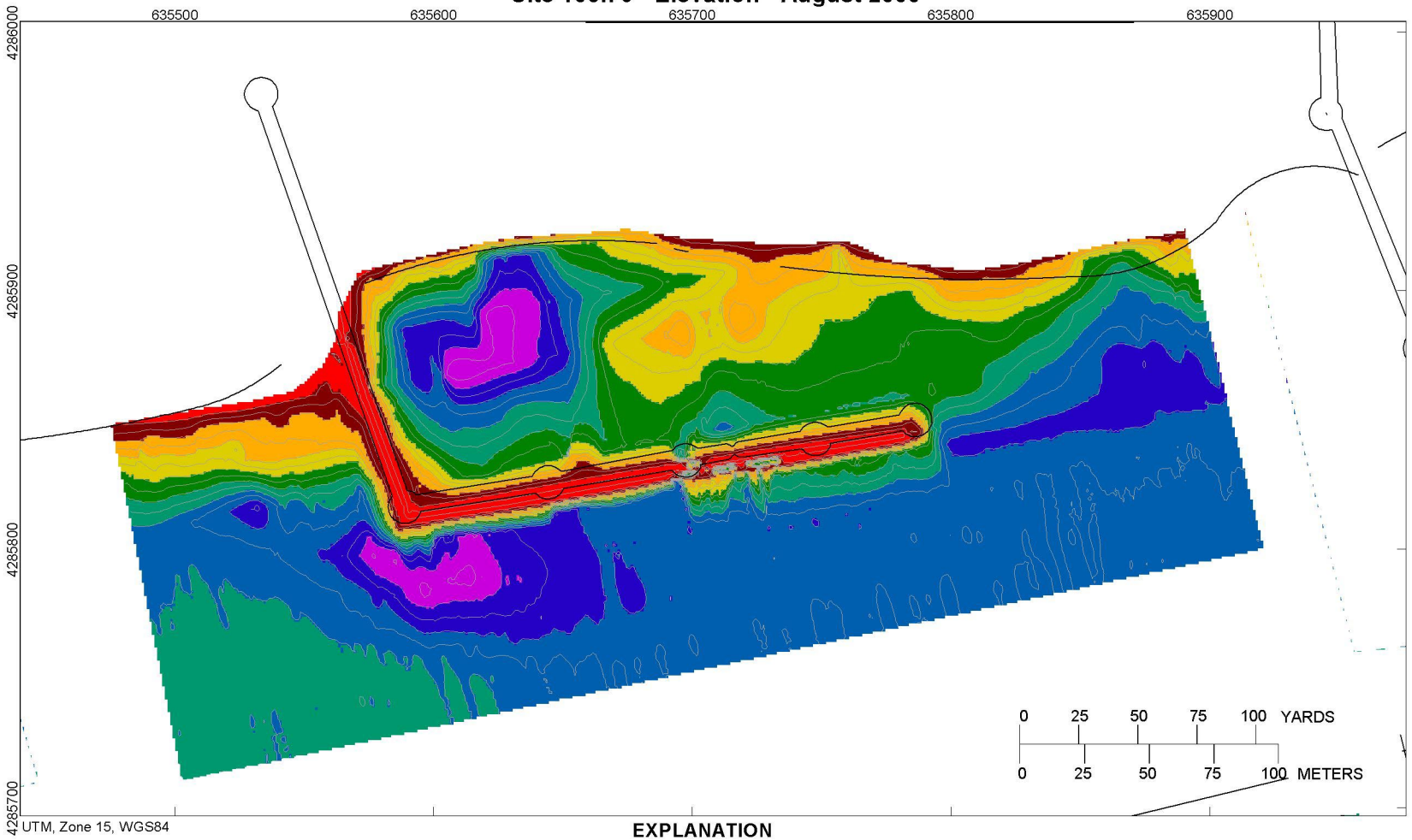
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation - August 2000



EXPLANATION

COE hydro survey

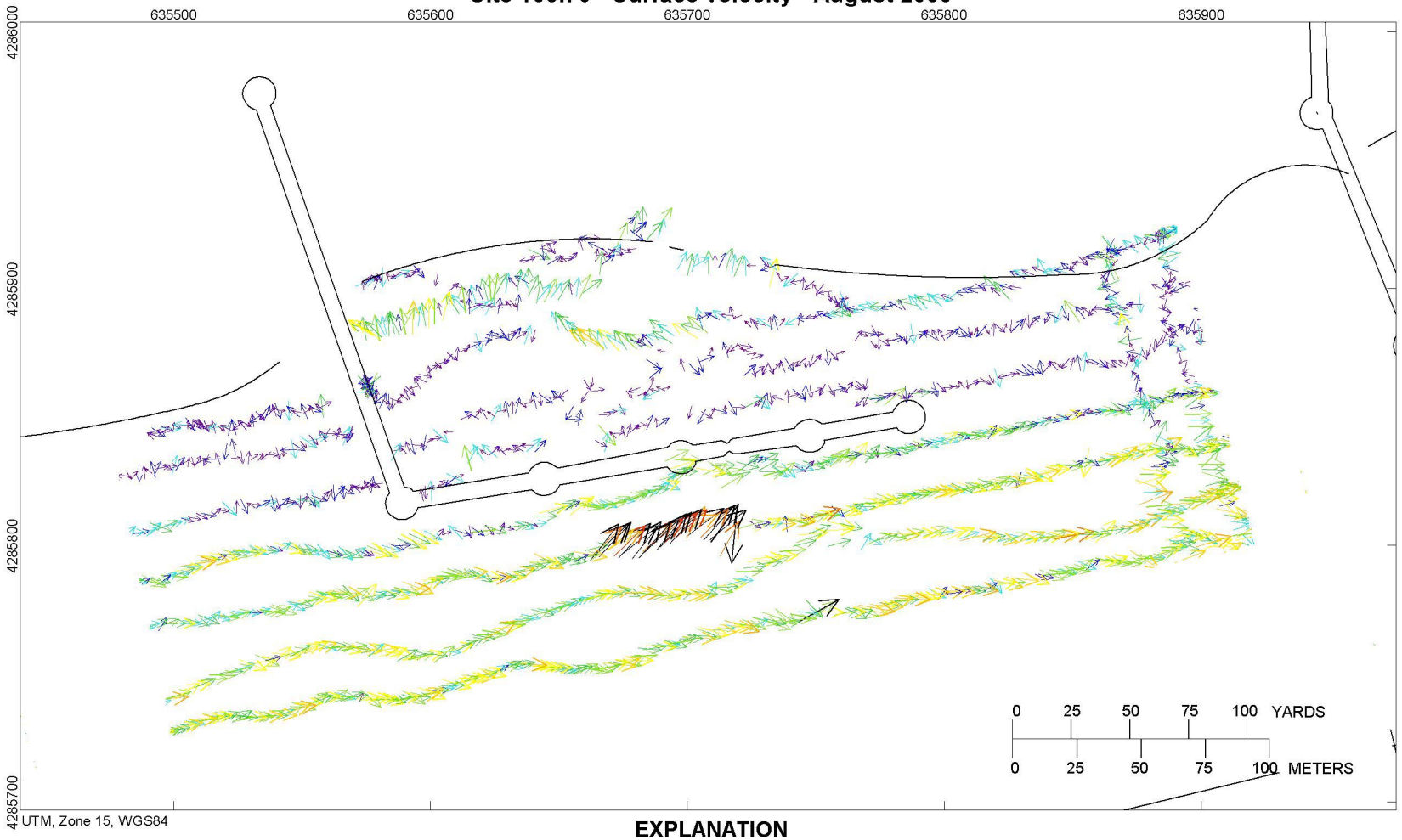
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Surface velocity - August 2000

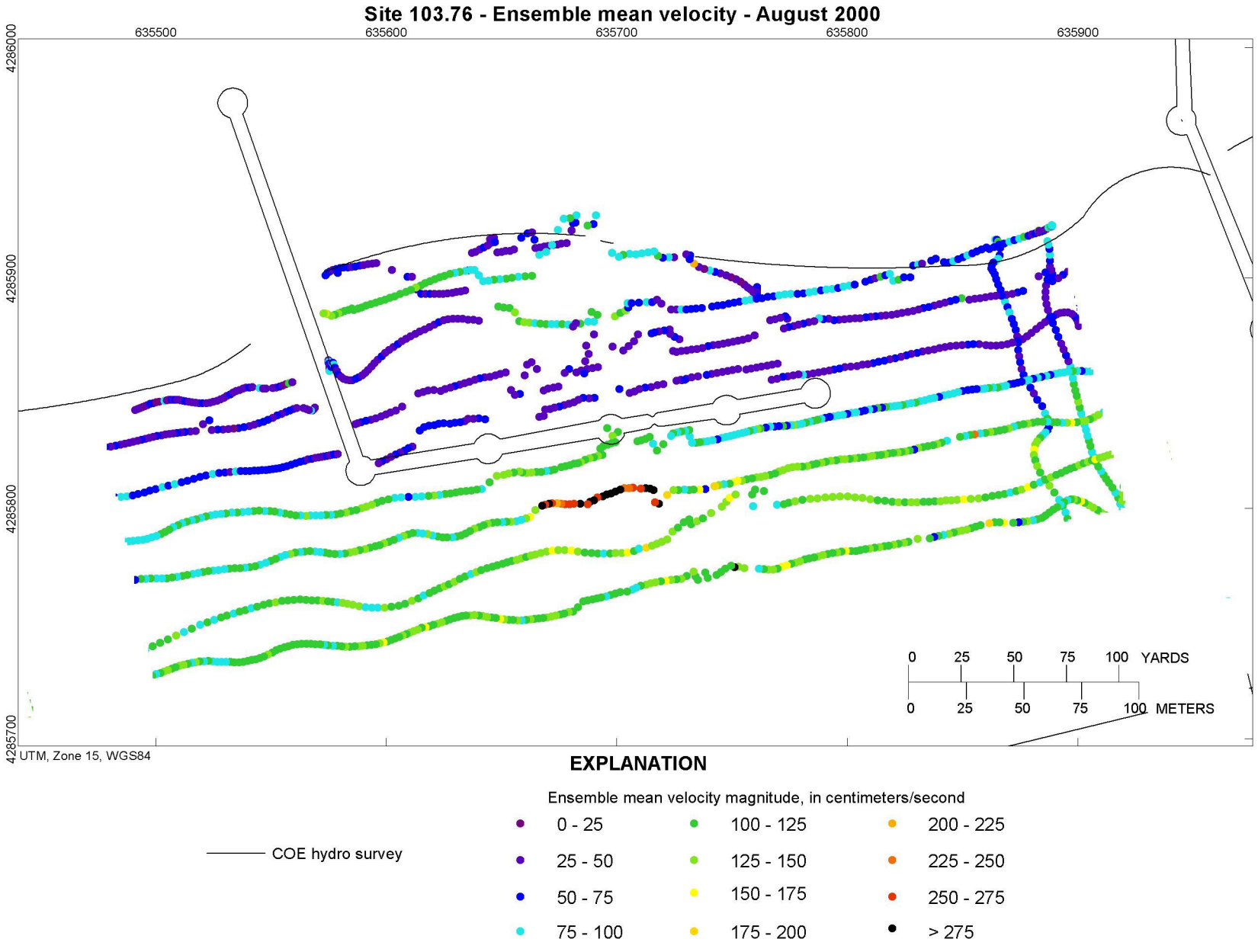


EXPLANATION

Surface velocity, in centimeters/second

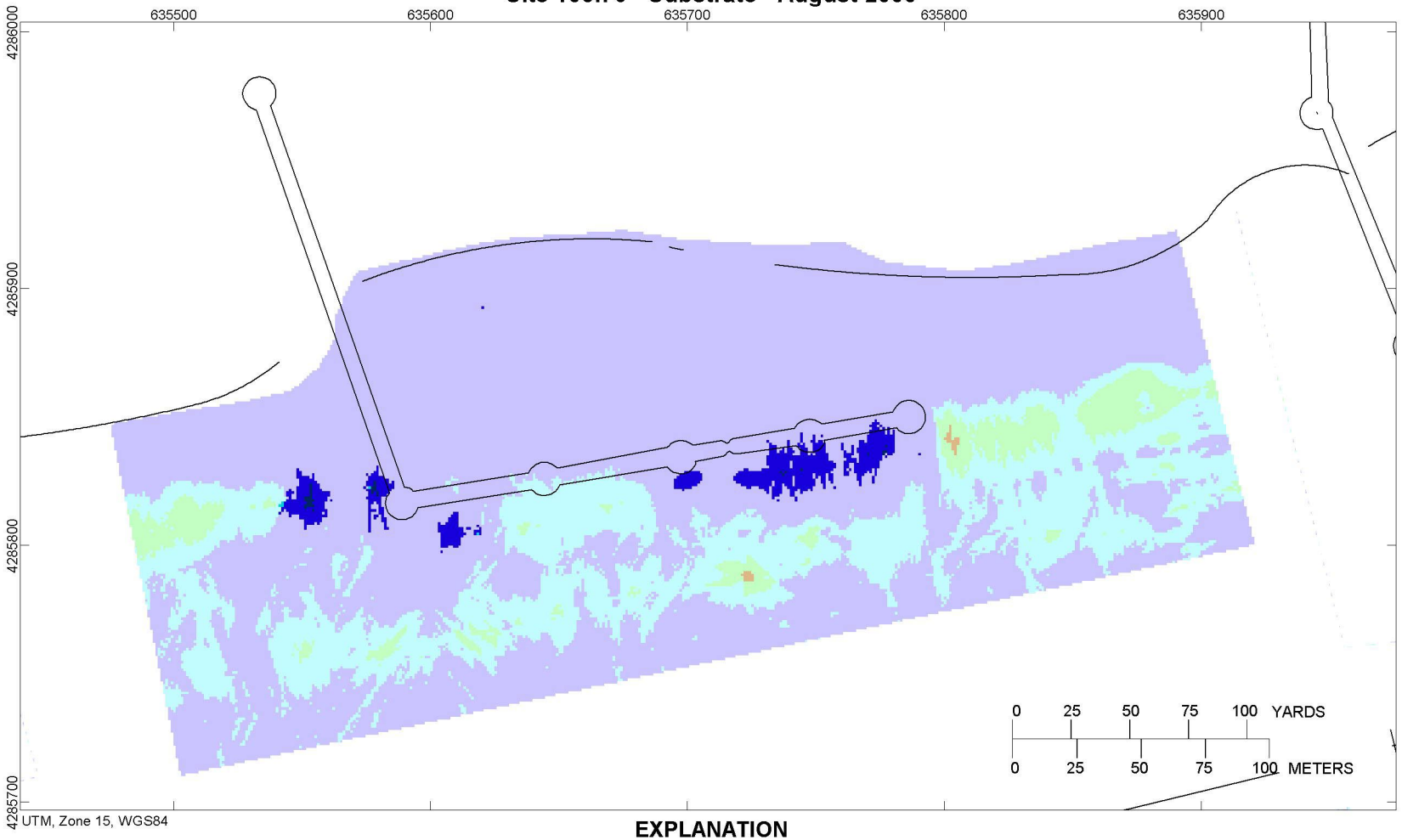
- COE hydro survey
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Substrate - August 2000



EXPLANATION

COE hydro survey

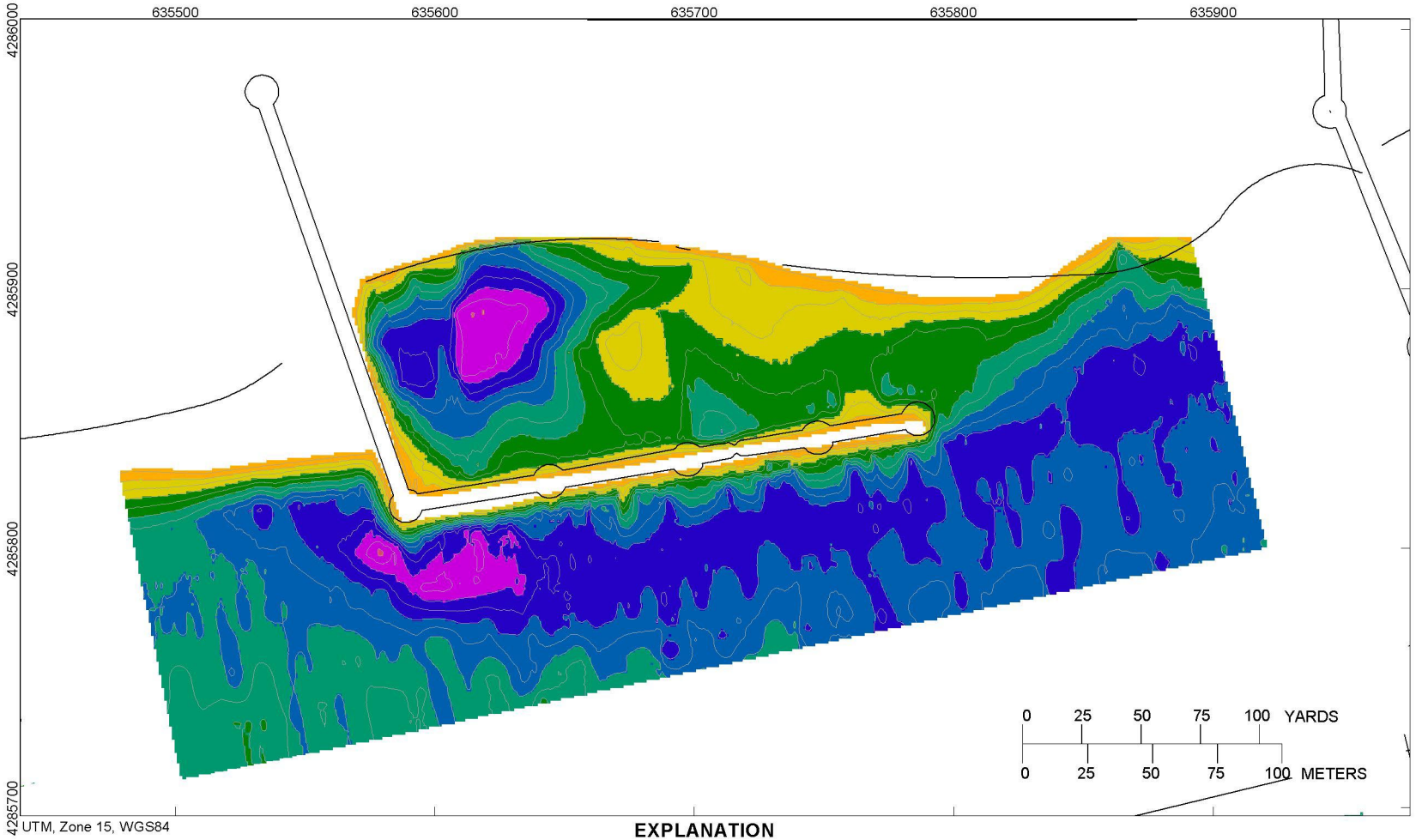
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation - November 2000



EXPLANATION

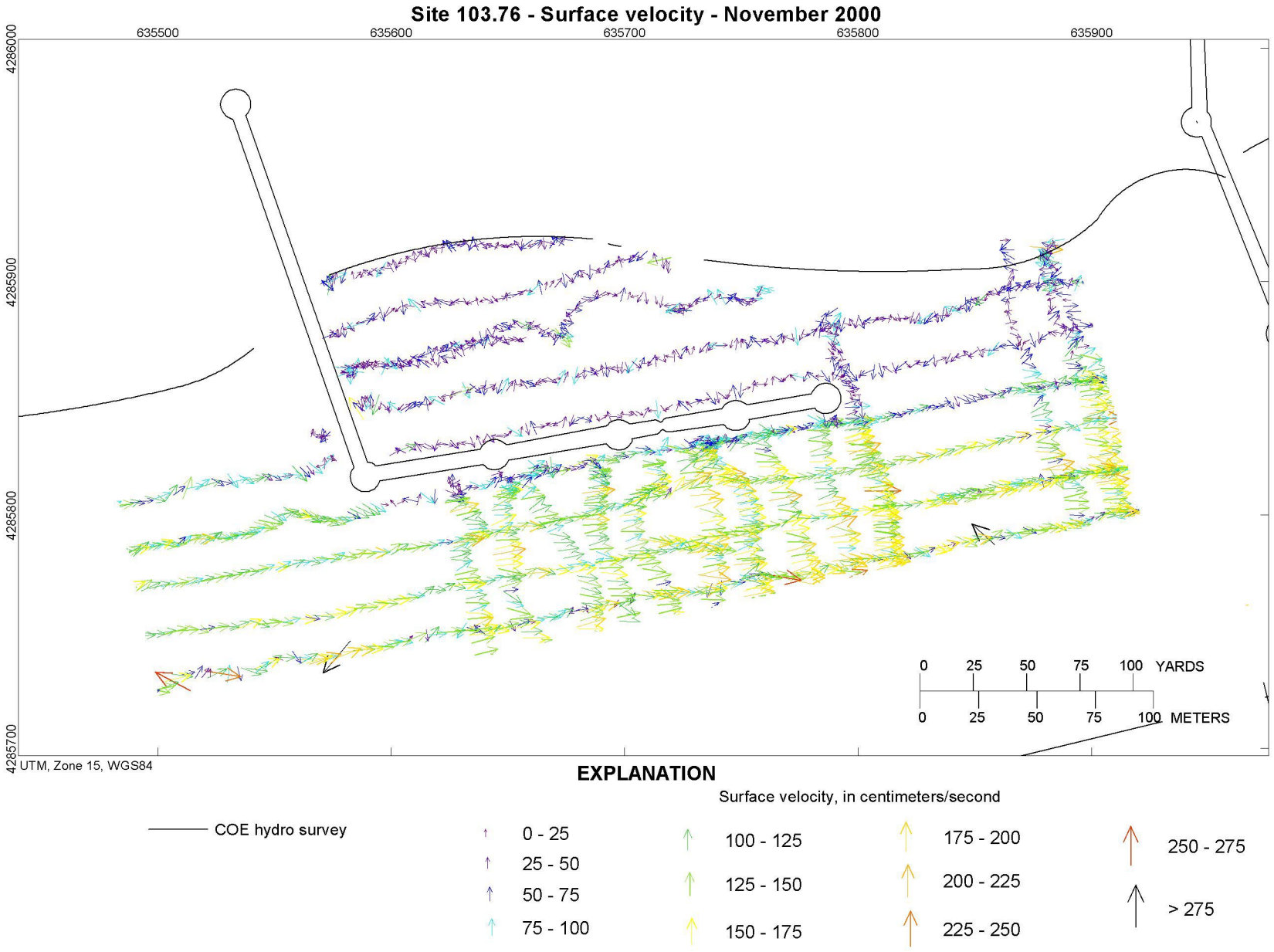
COE hydro survey

Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

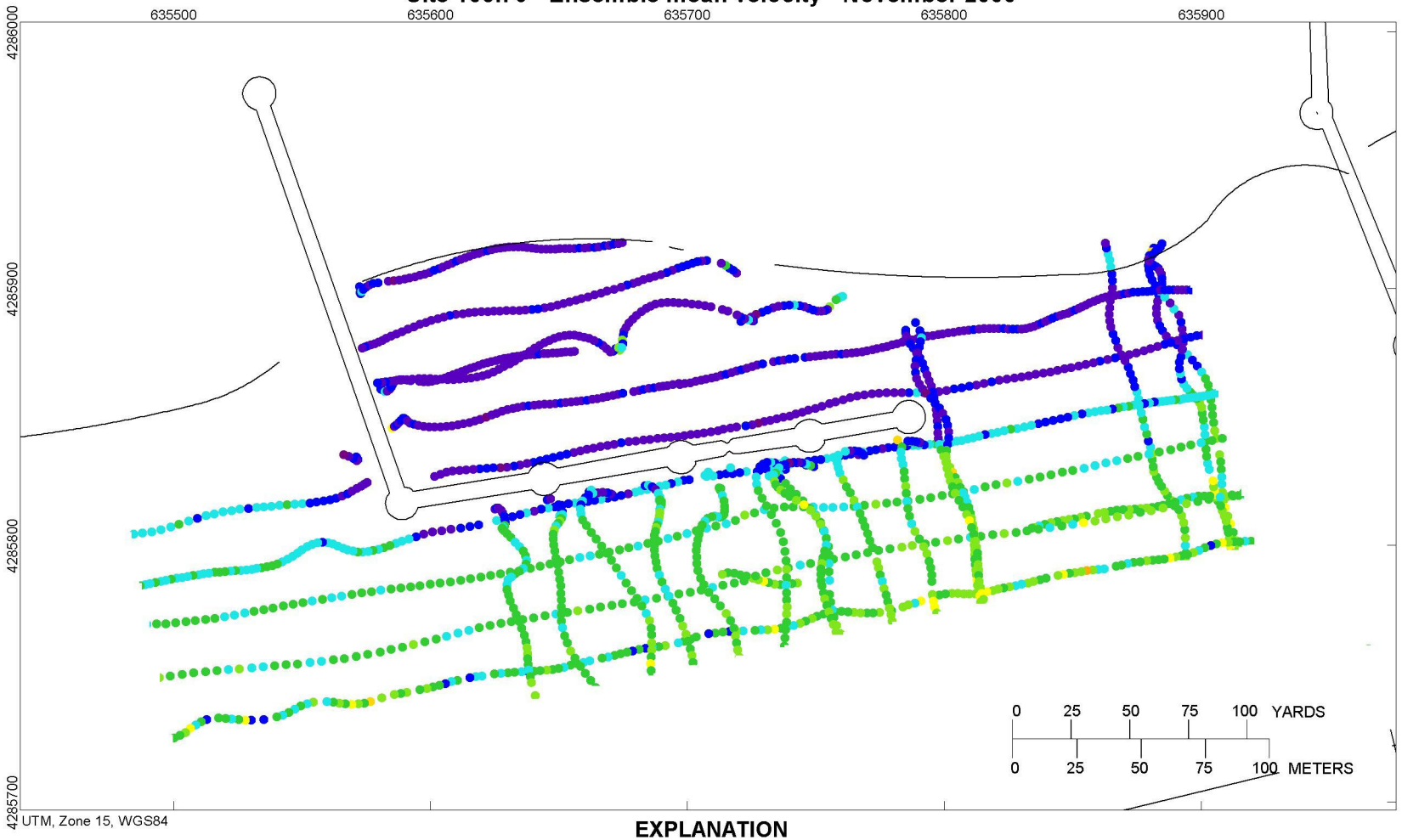
Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Ensemble mean velocity - November 2000



EXPLANATION

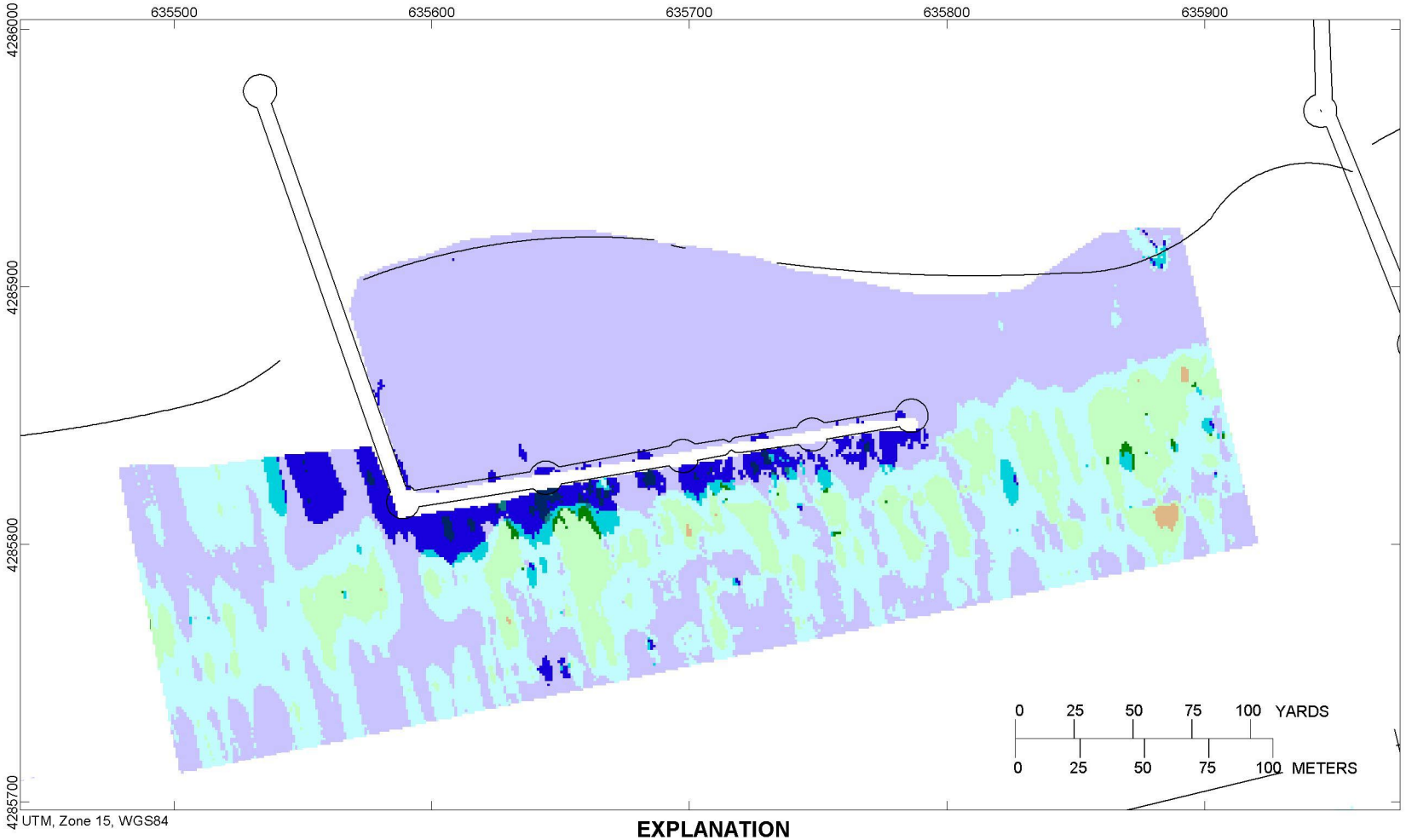
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Substrate - November 2000



EXPLANATION

COE hydro survey

Substrate

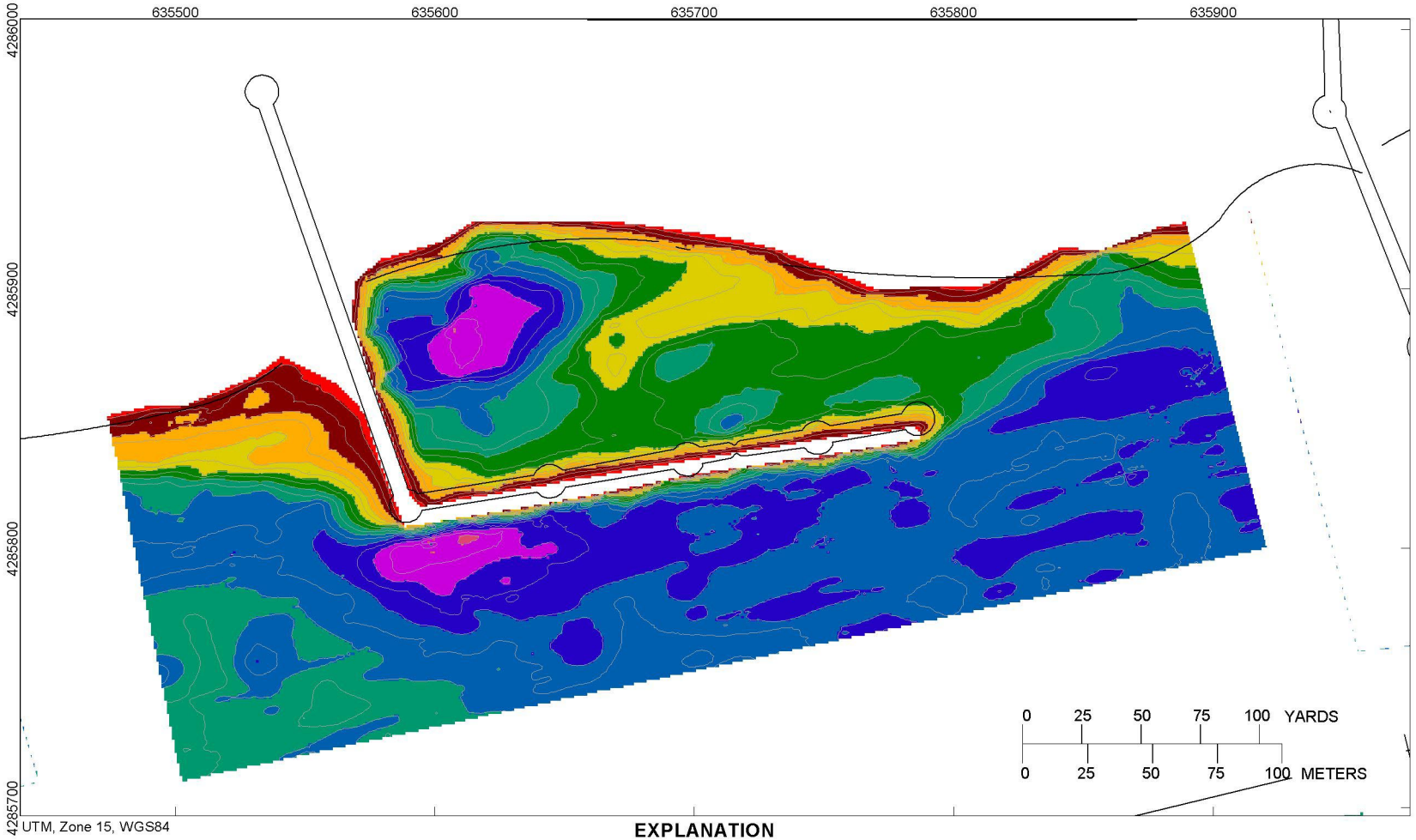
< increasing roughness <

> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation - March 2001



EXPLANATION

COE hydro survey

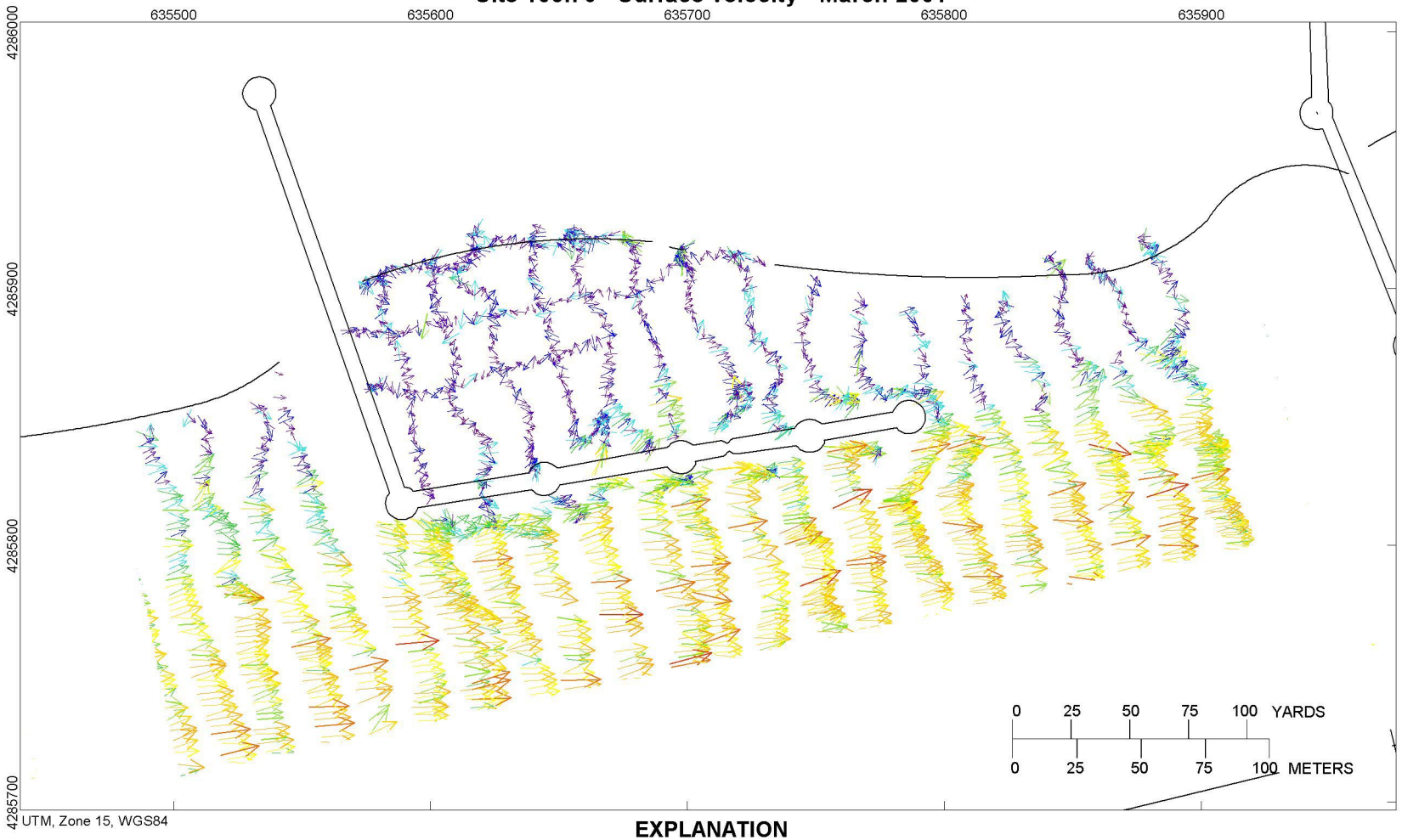
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Surface velocity - March 2001



EXPLANATION

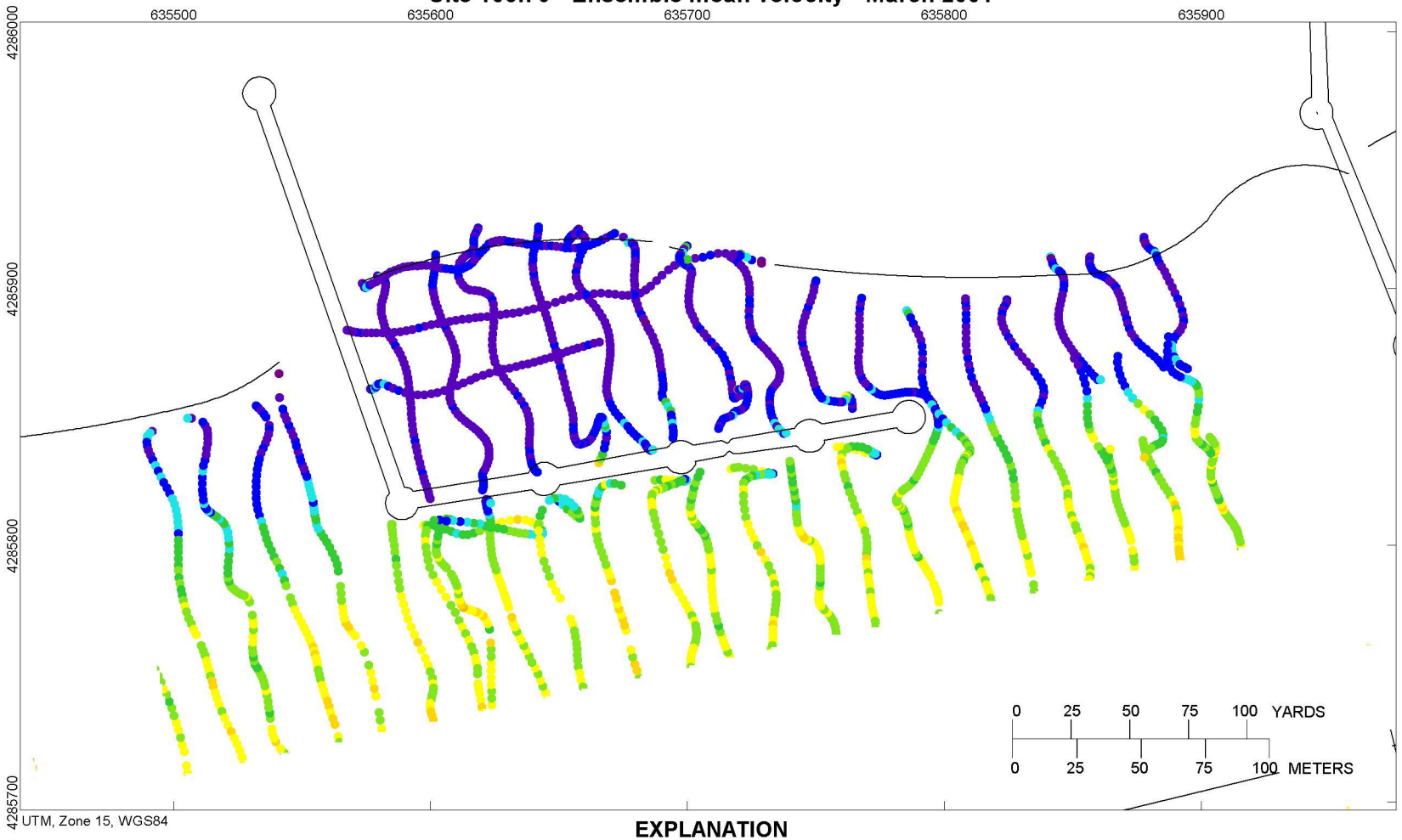
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Ensemble mean velocity - March 2001



EXPLANATION

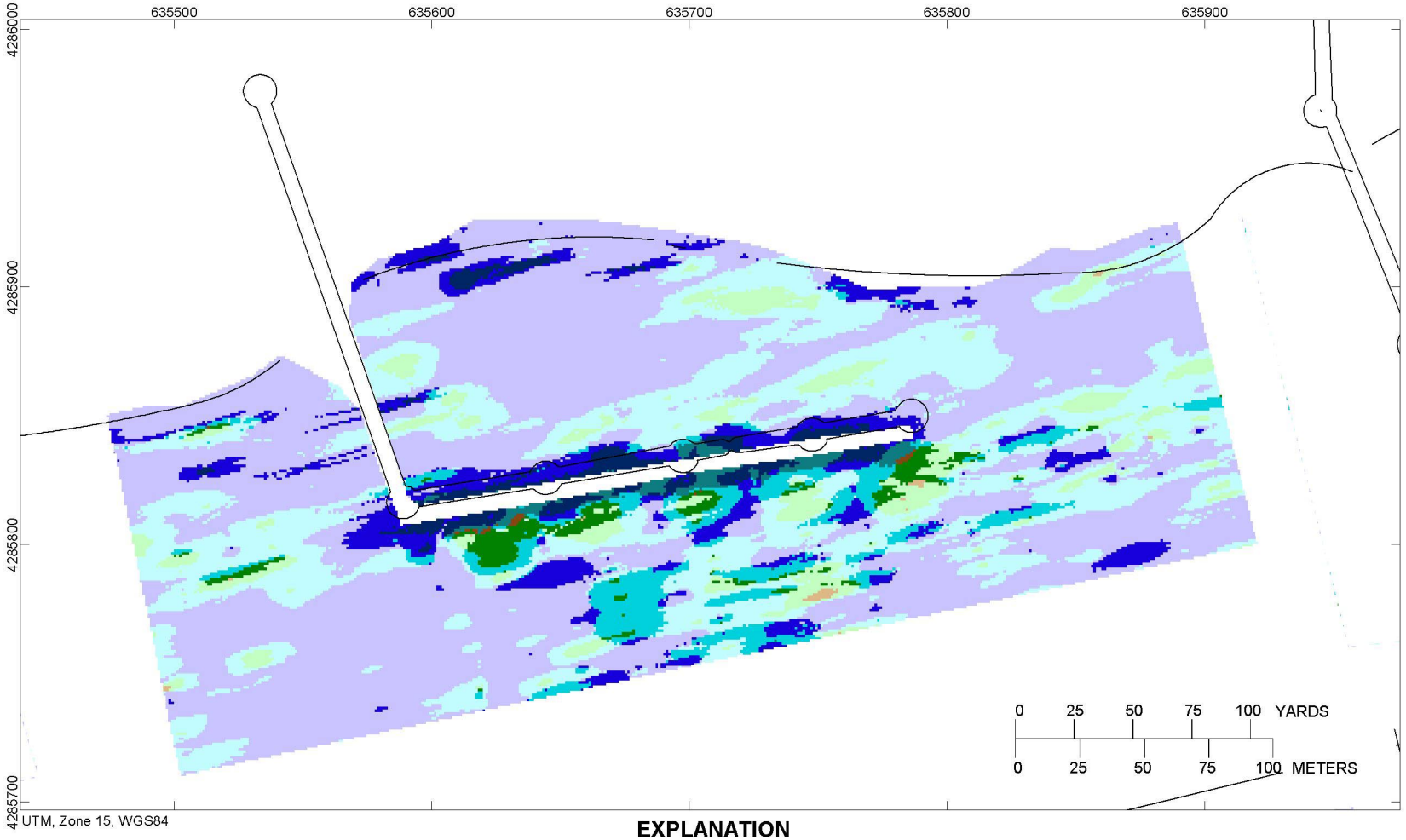
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Substrate - March 2001



EXPLANATION

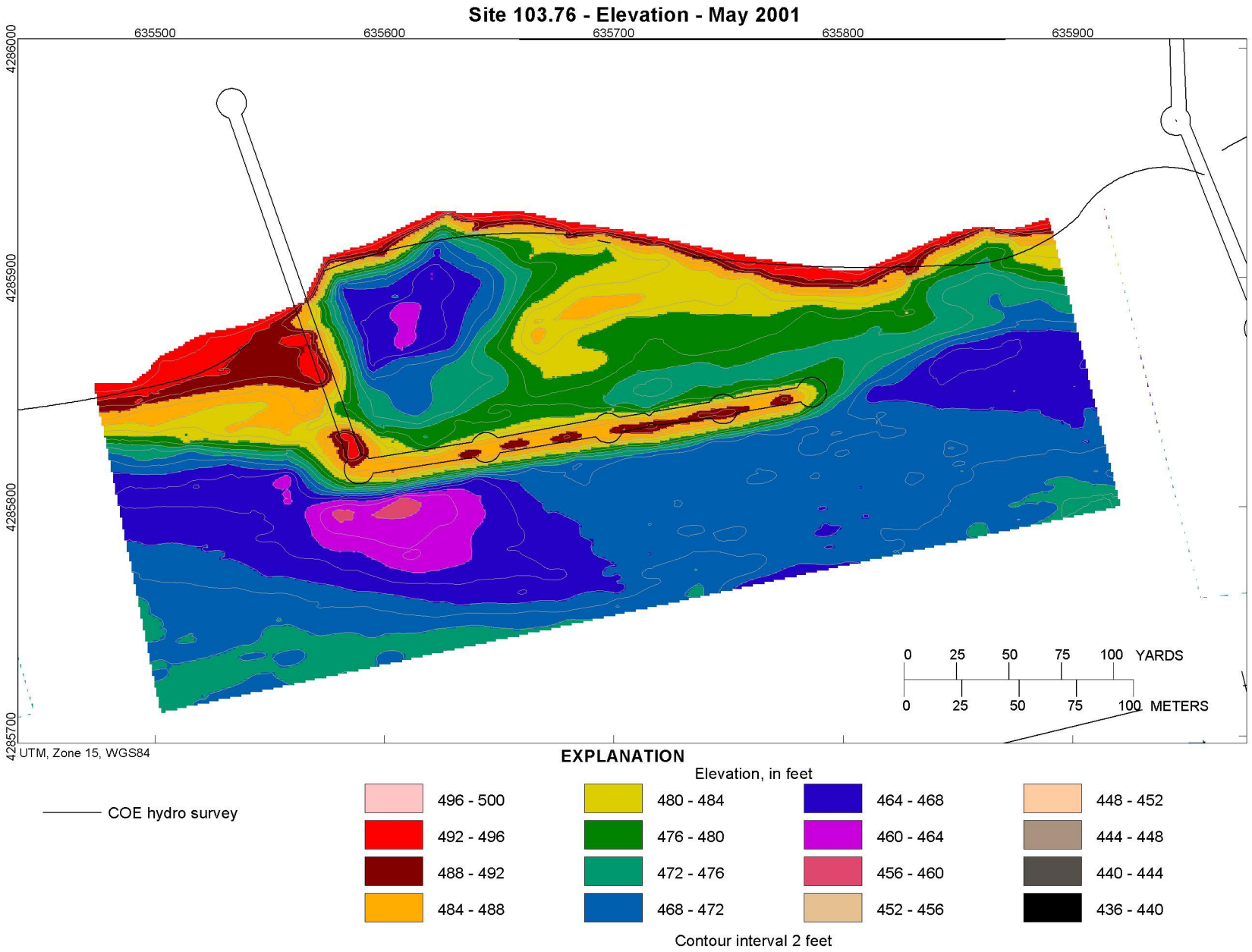
COE hydro survey

< increasing roughness <

Substrate
> increasing hardness >

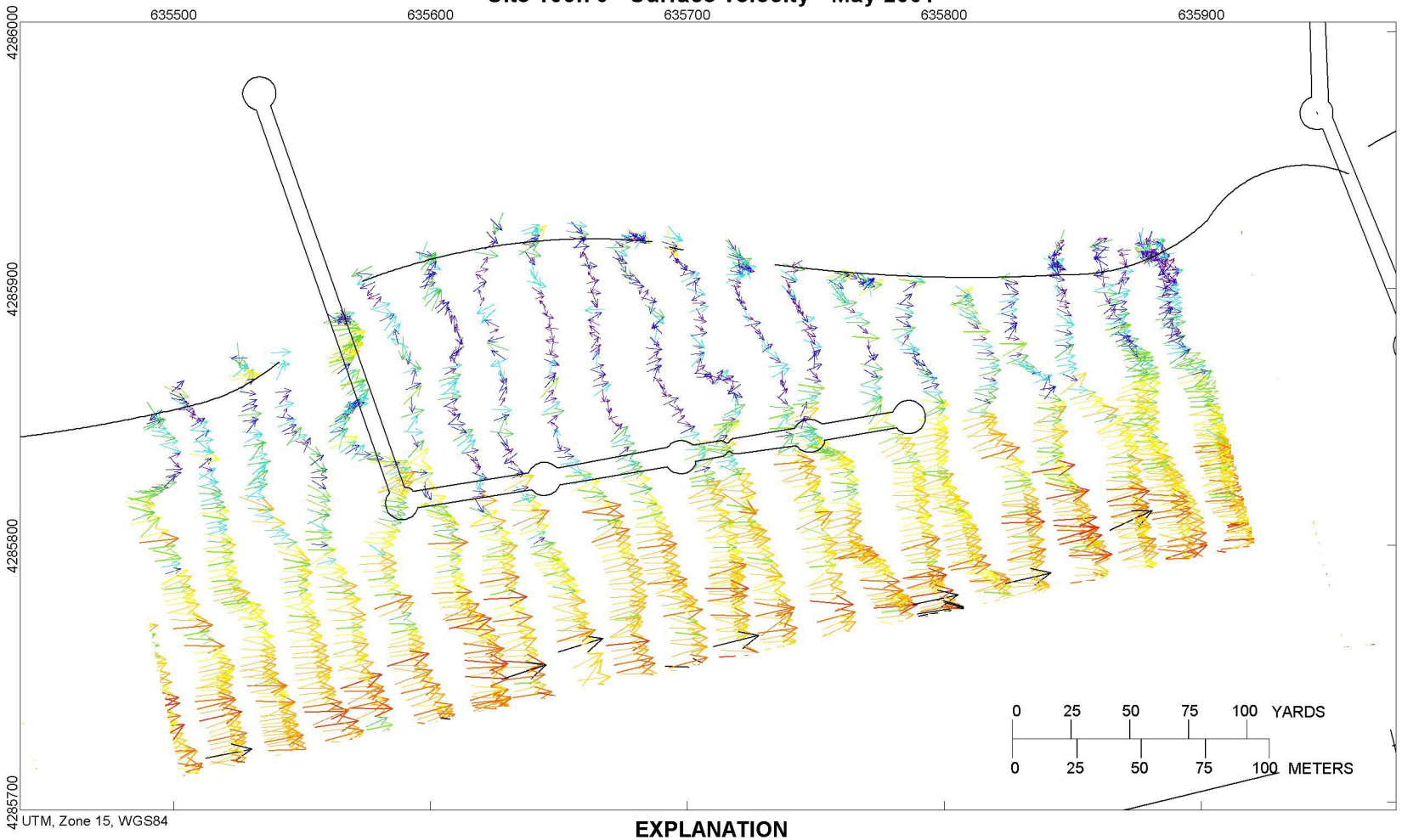
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Surface velocity - May 2001



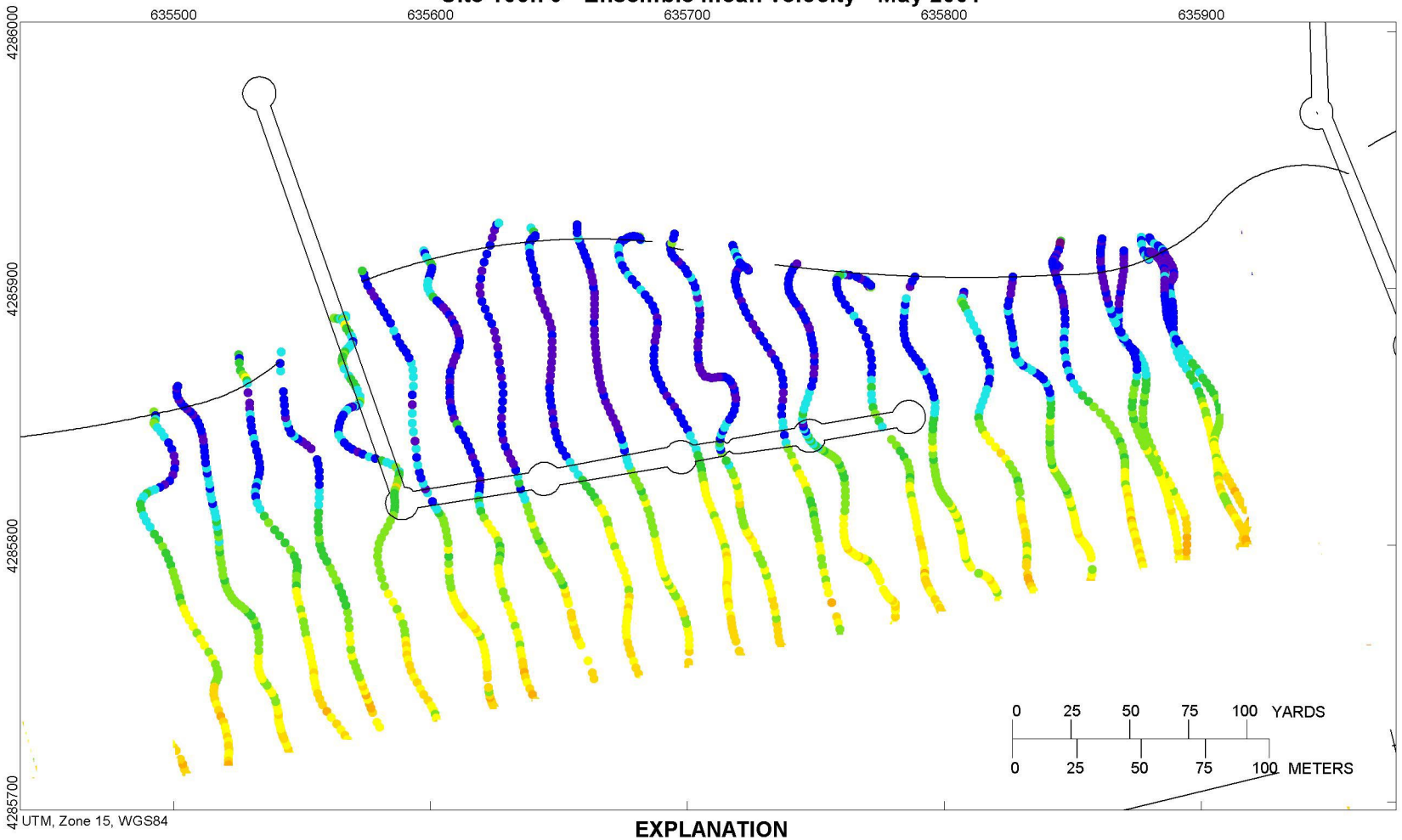
EXPLANATION

Surface velocity, in centimeters/second

- COE hydro survey
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Ensemble mean velocity - May 2001



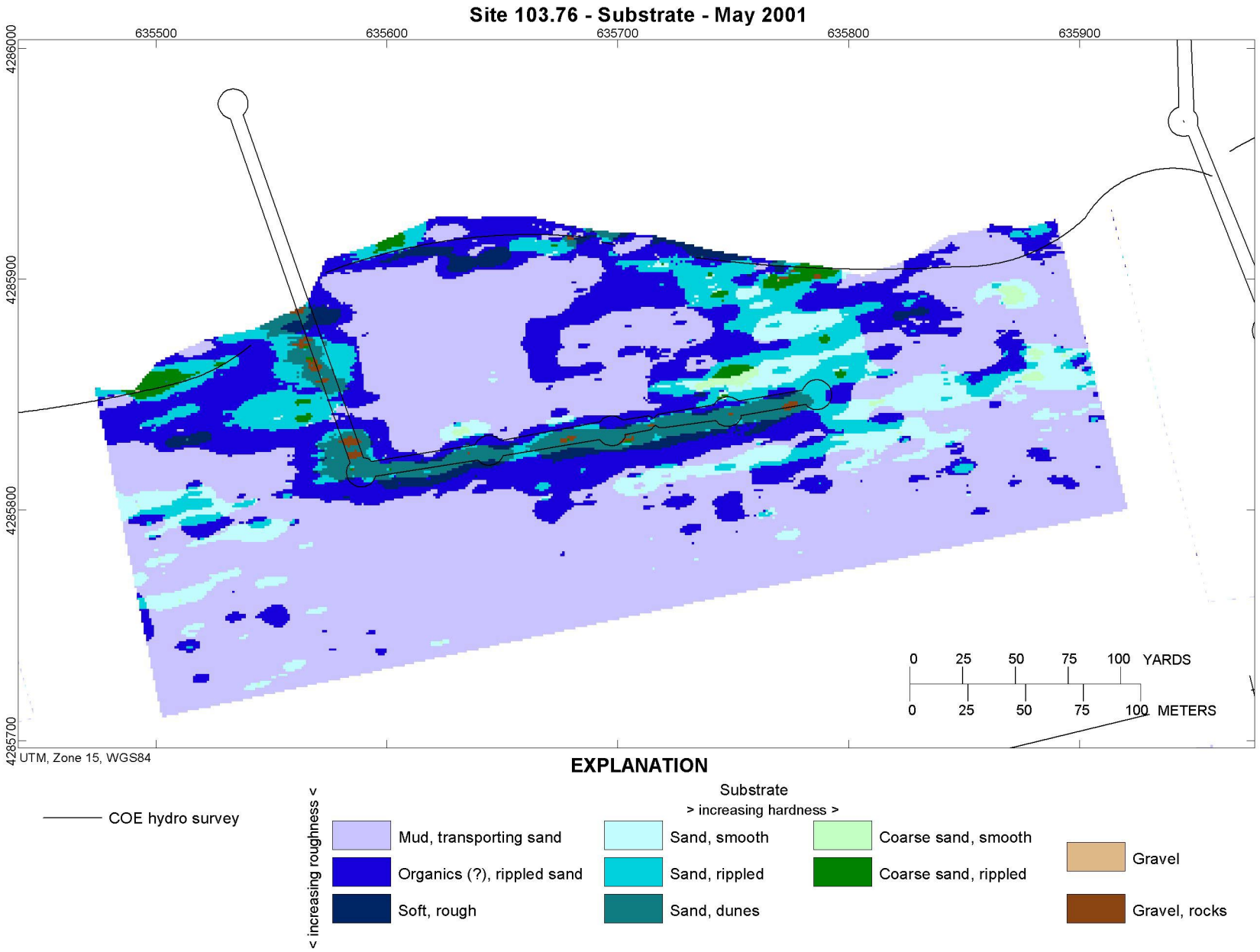
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

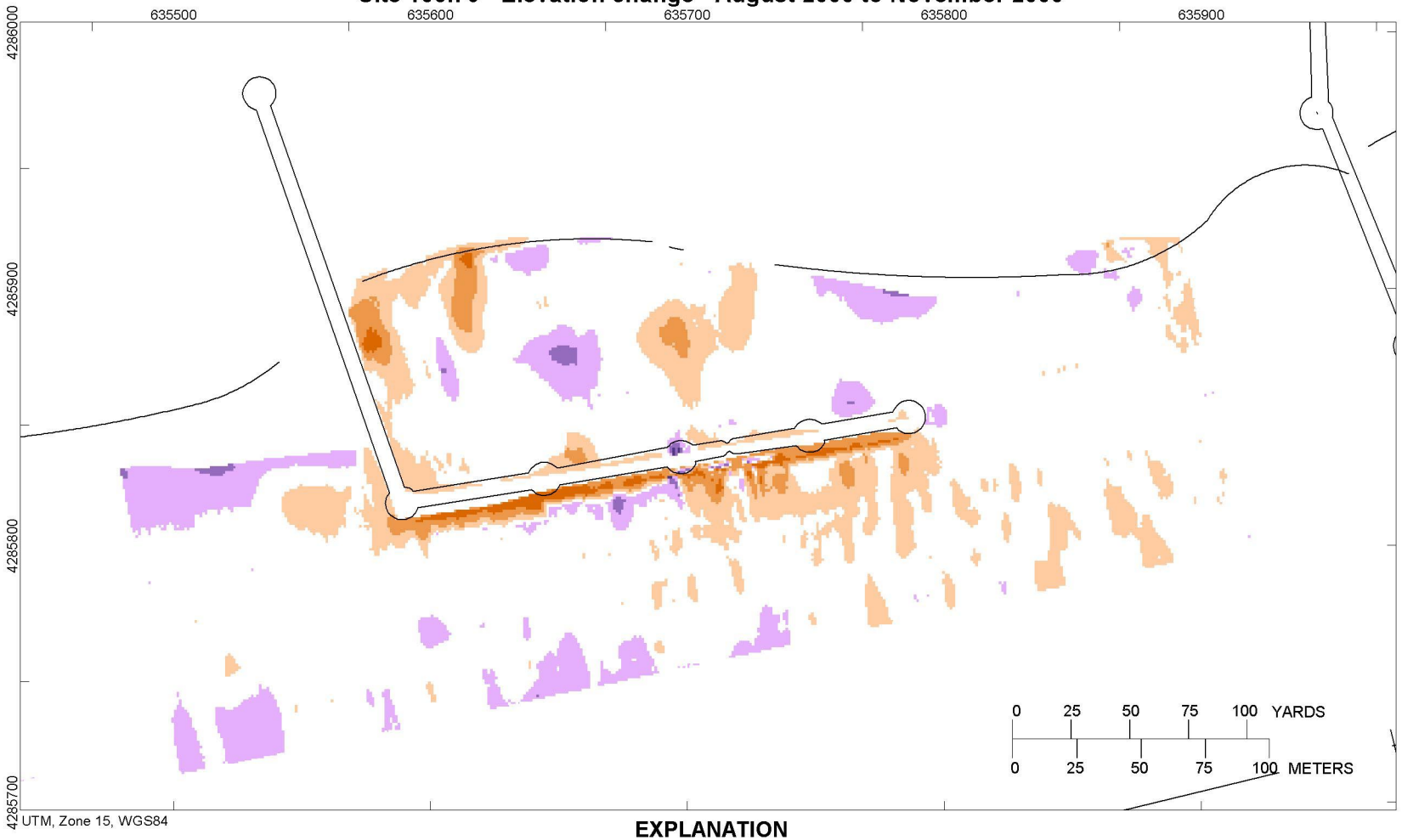
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation change - August 2000 to November 2000



EXPLANATION

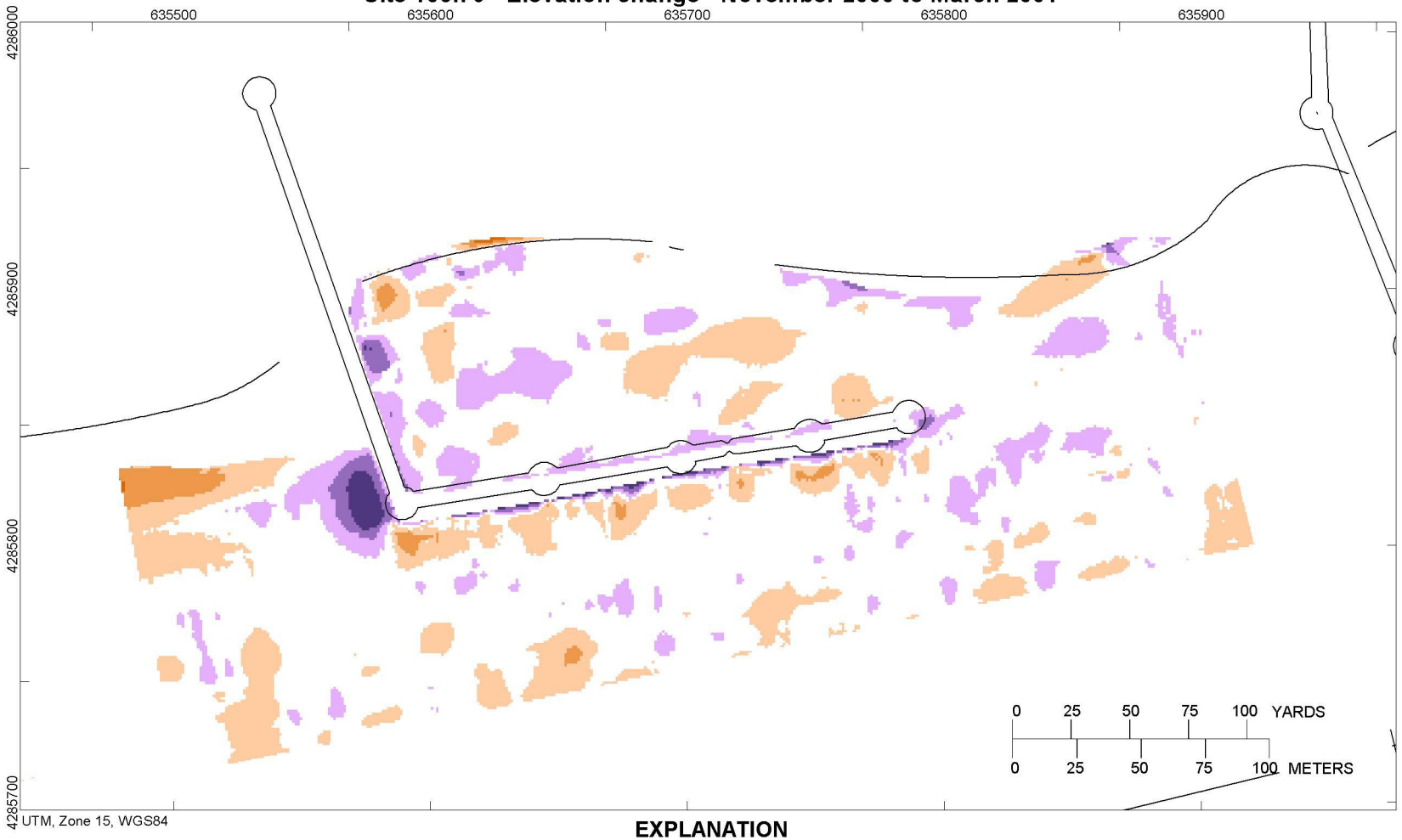
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation change - November 2000 to March 2001



EXPLANATION

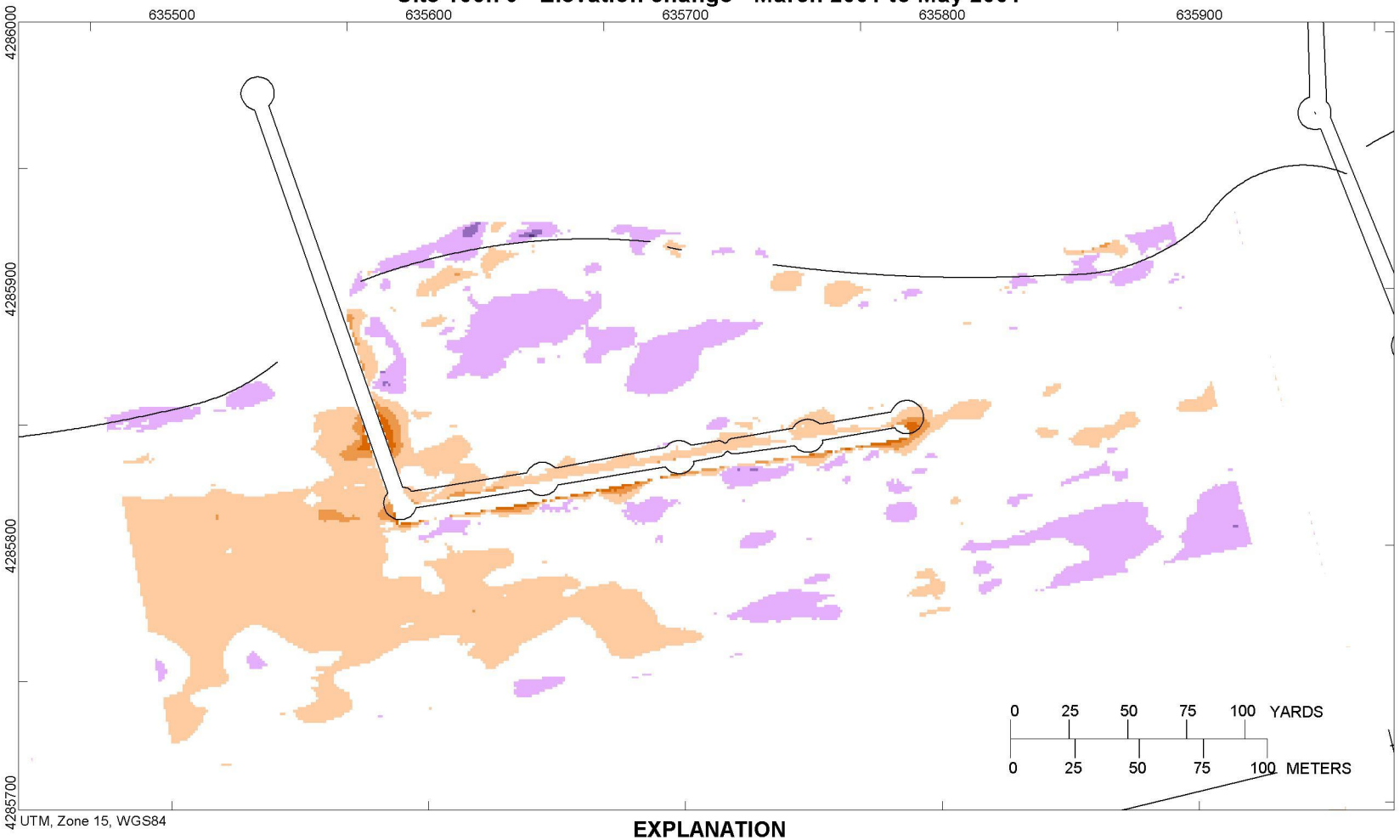
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation change - March 2001 to May 2001



EXPLANATION

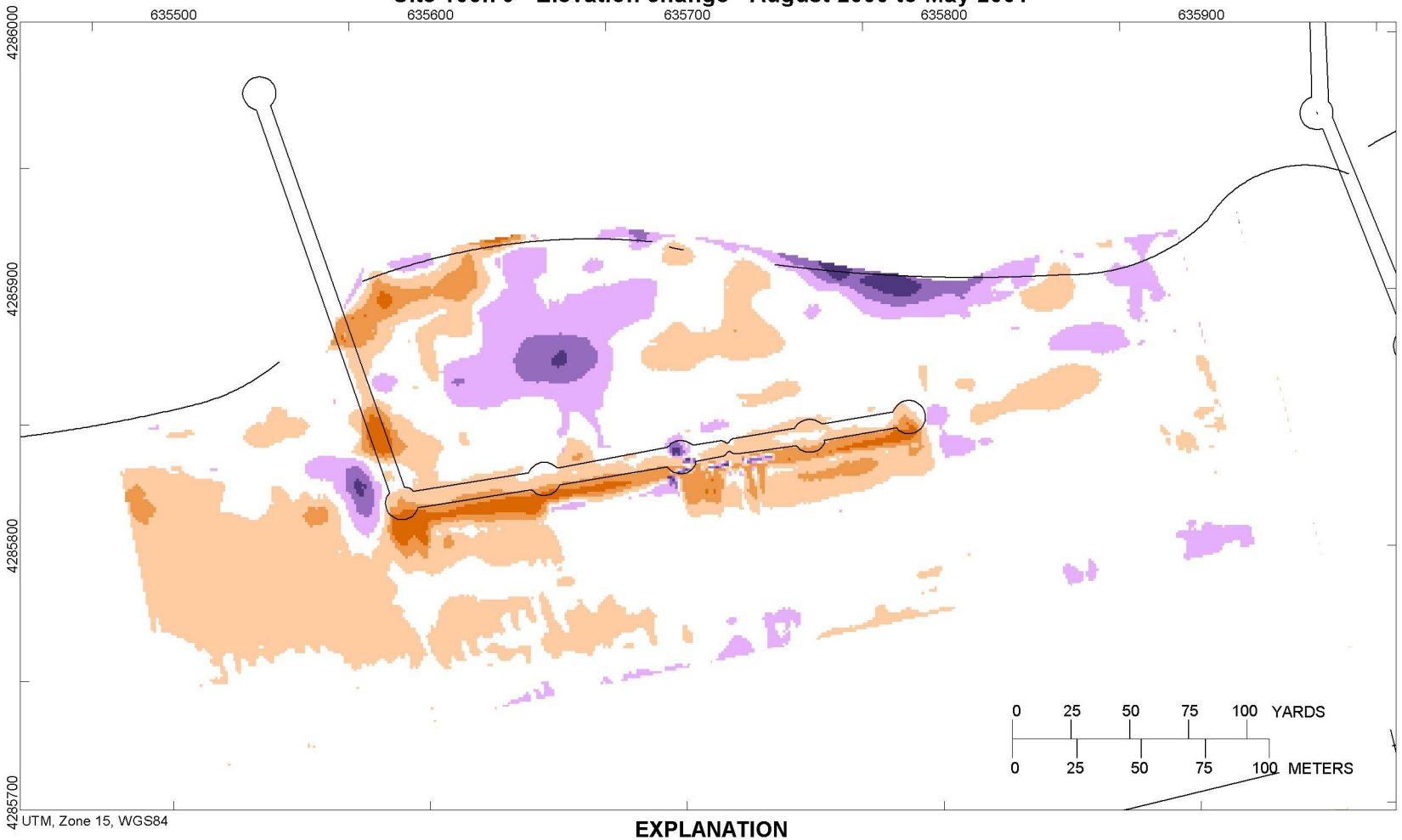
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 103.76 - Elevation change - August 2000 to May 2001



EXPLANATION

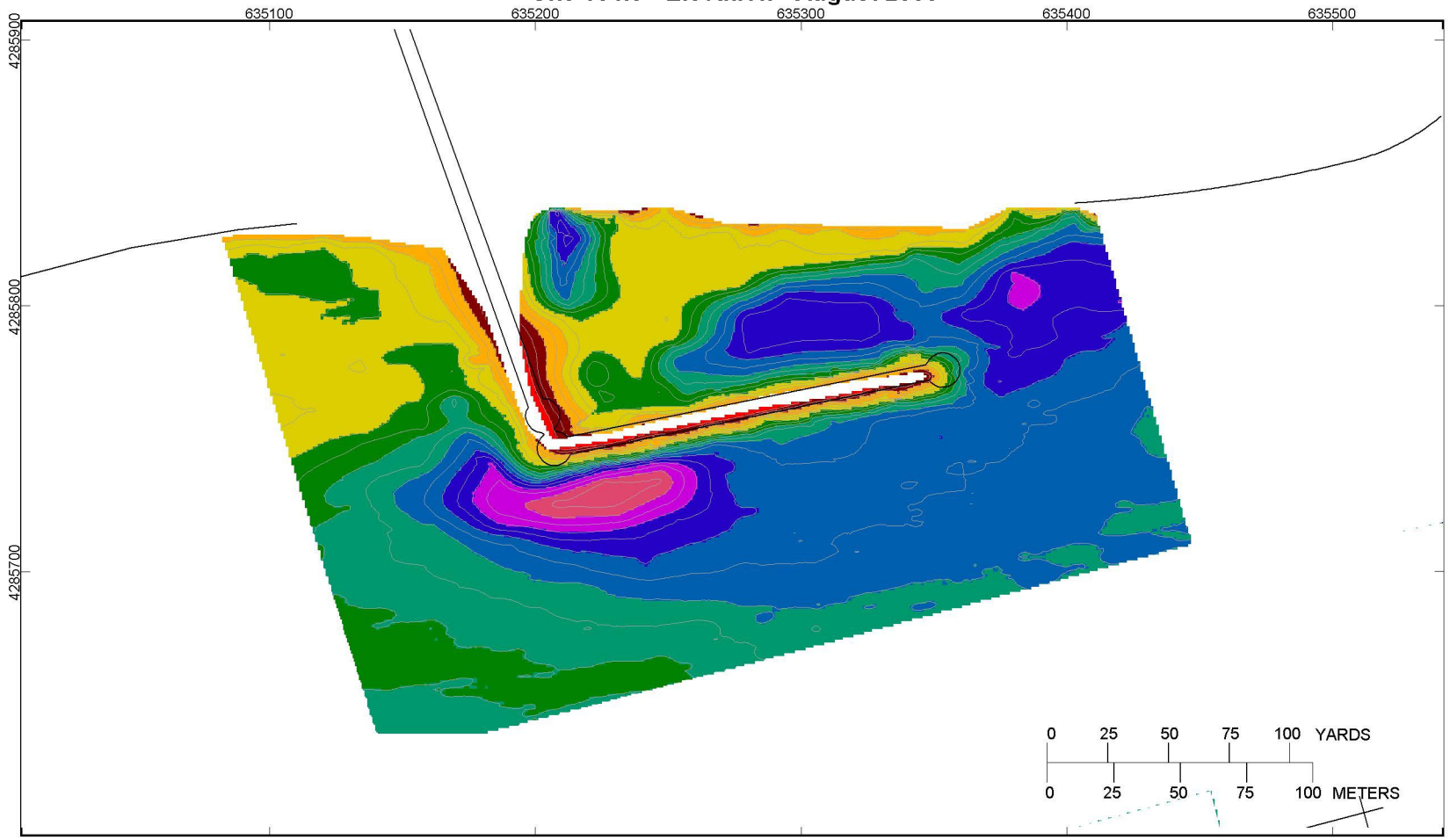
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation - August 2000



EXPLANATION

COE hydro survey

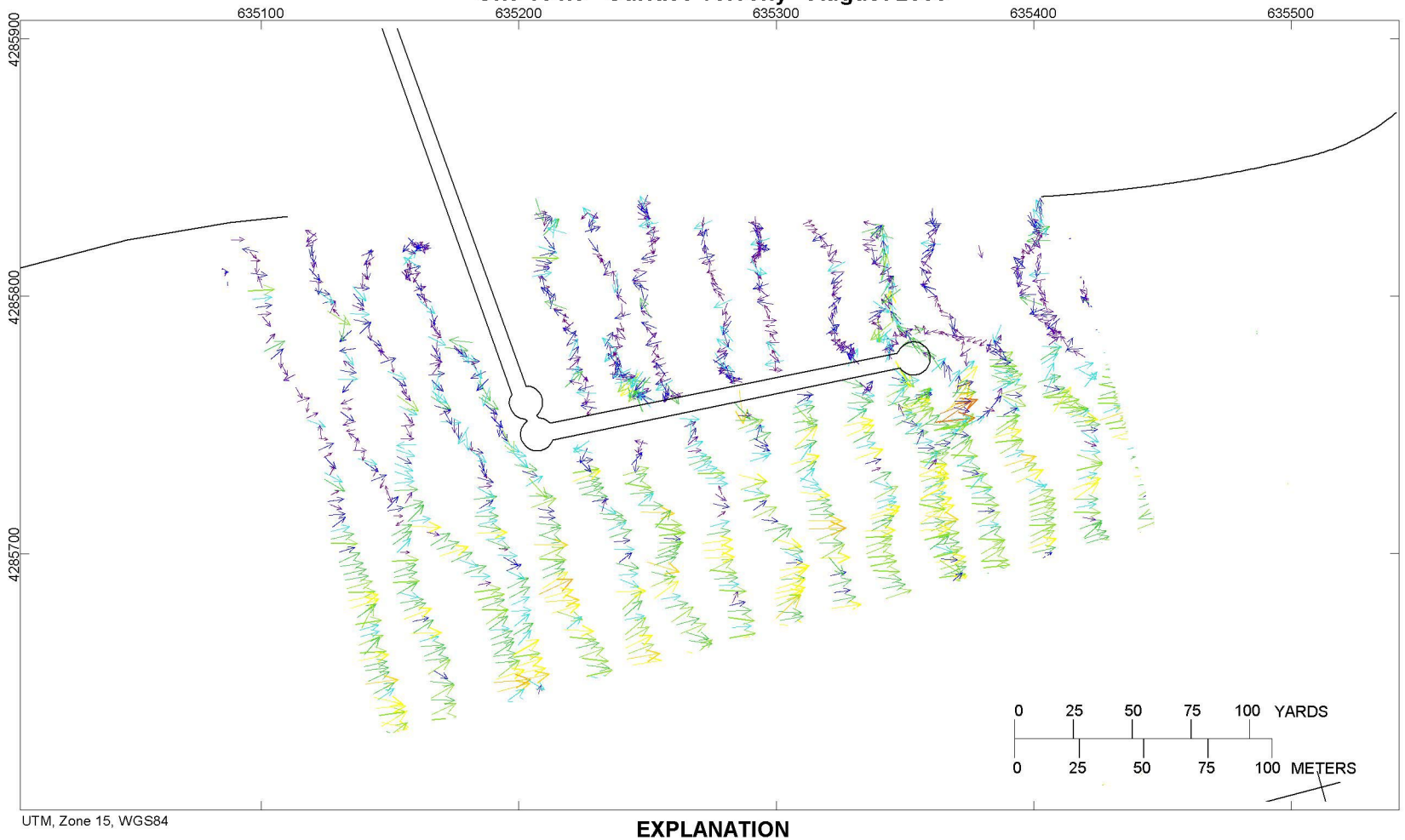
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Surface velocity - August 2000



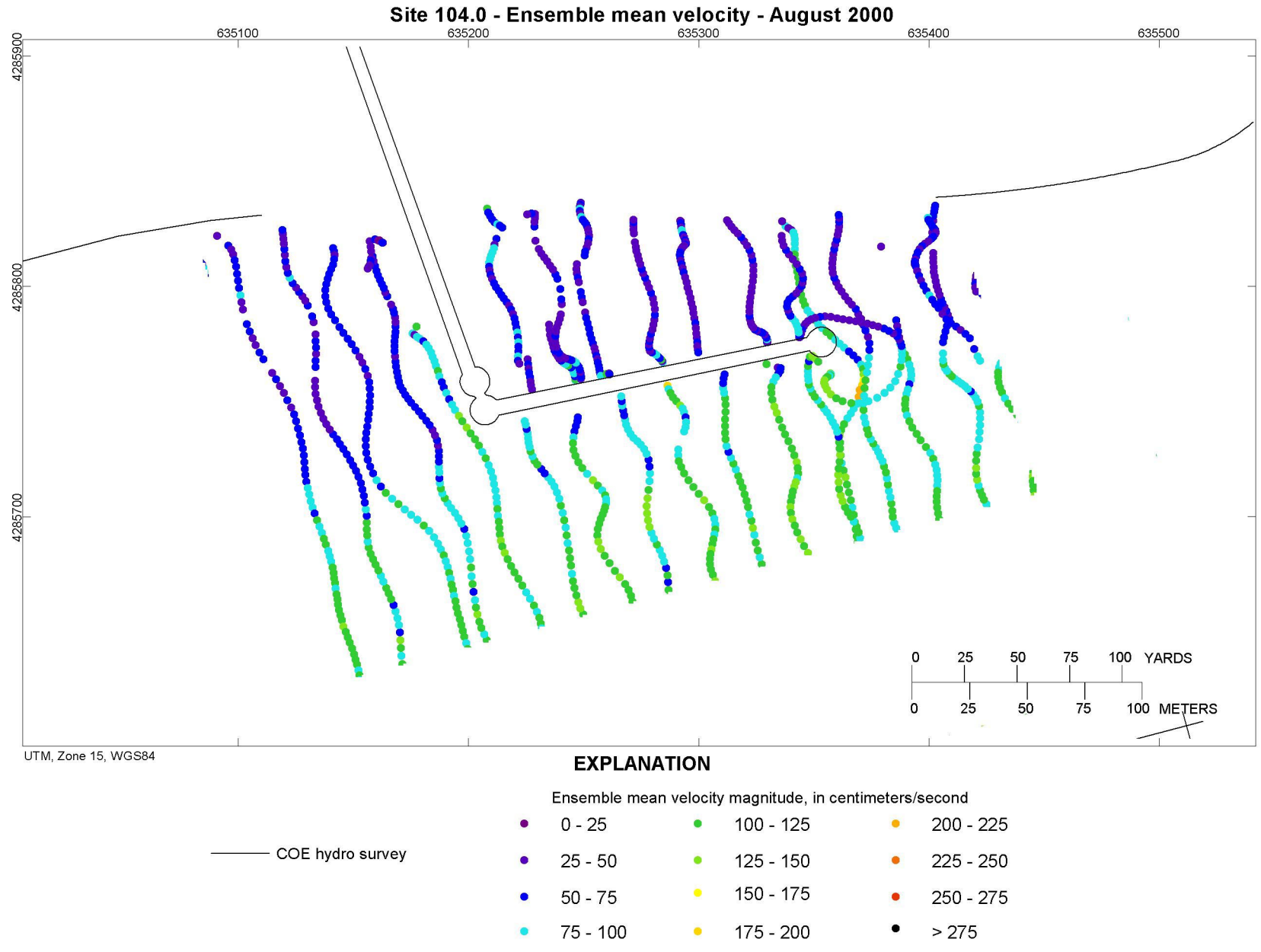
EXPLANATION

COE hydro survey

Surface velocity, in centimeters/second

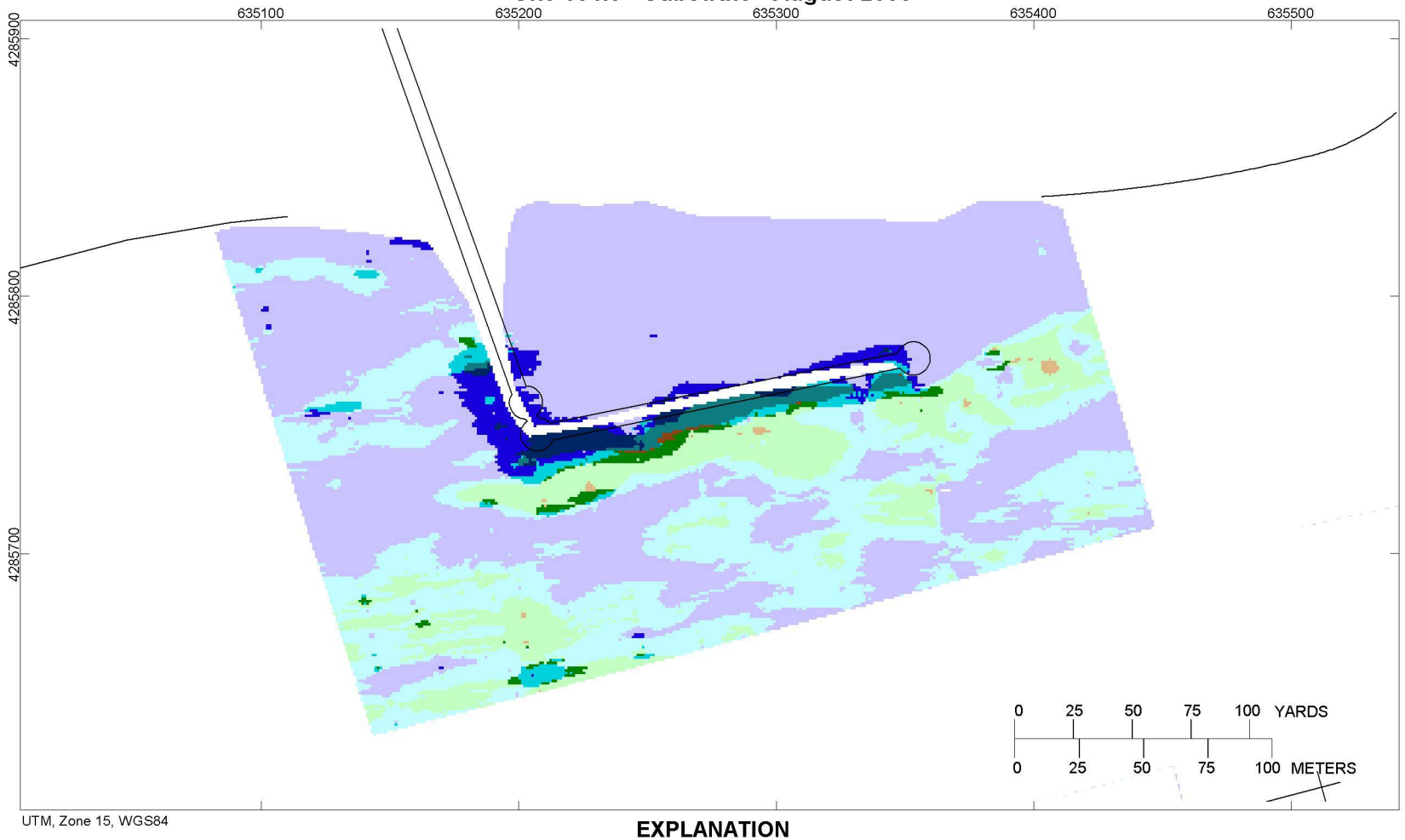
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Substrate - August 2000



EXPLANATION

COE hydro survey

Substrate

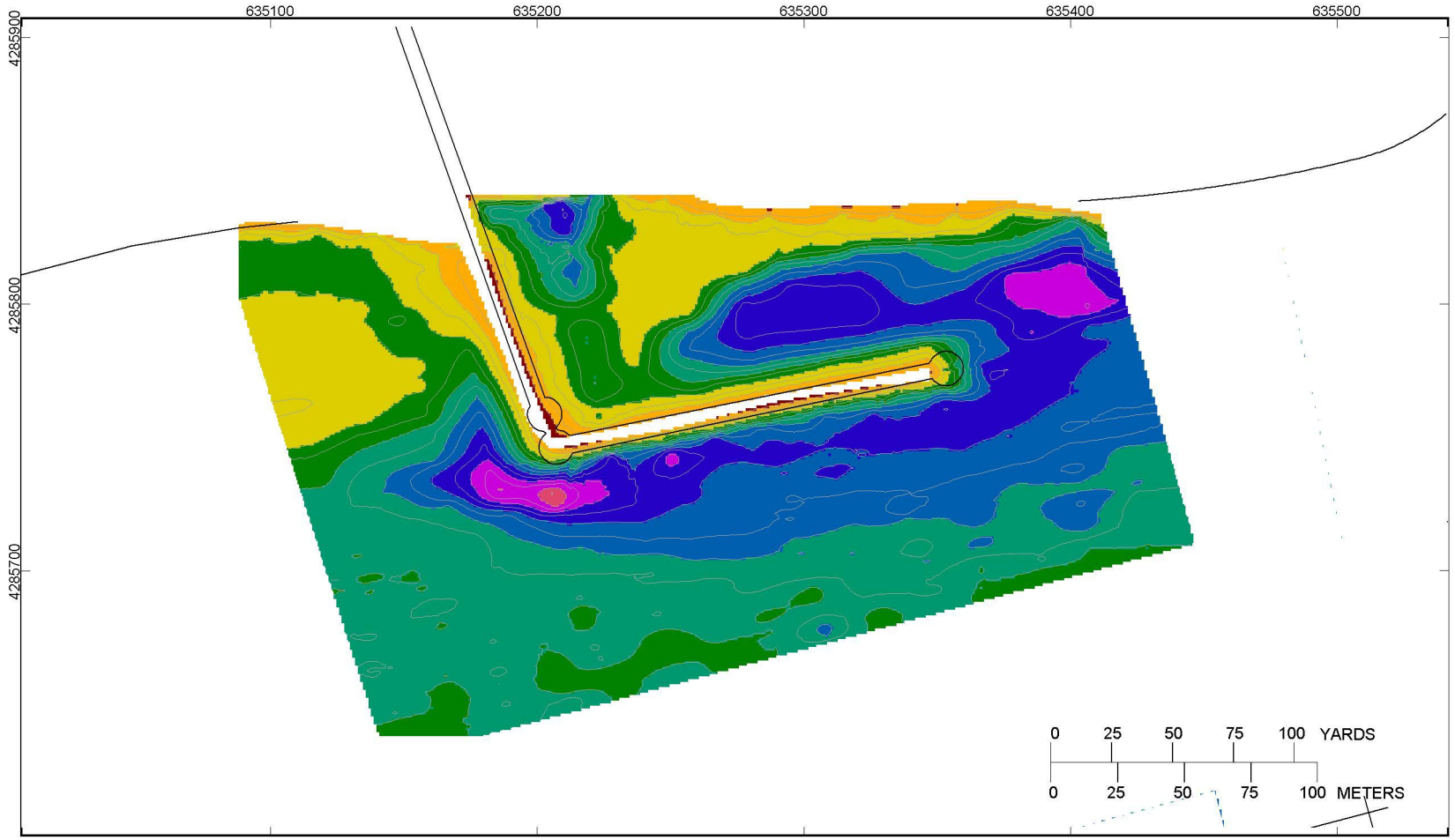
< increasing roughness <

> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation - November 2000



EXPLANATION

COE hydro survey

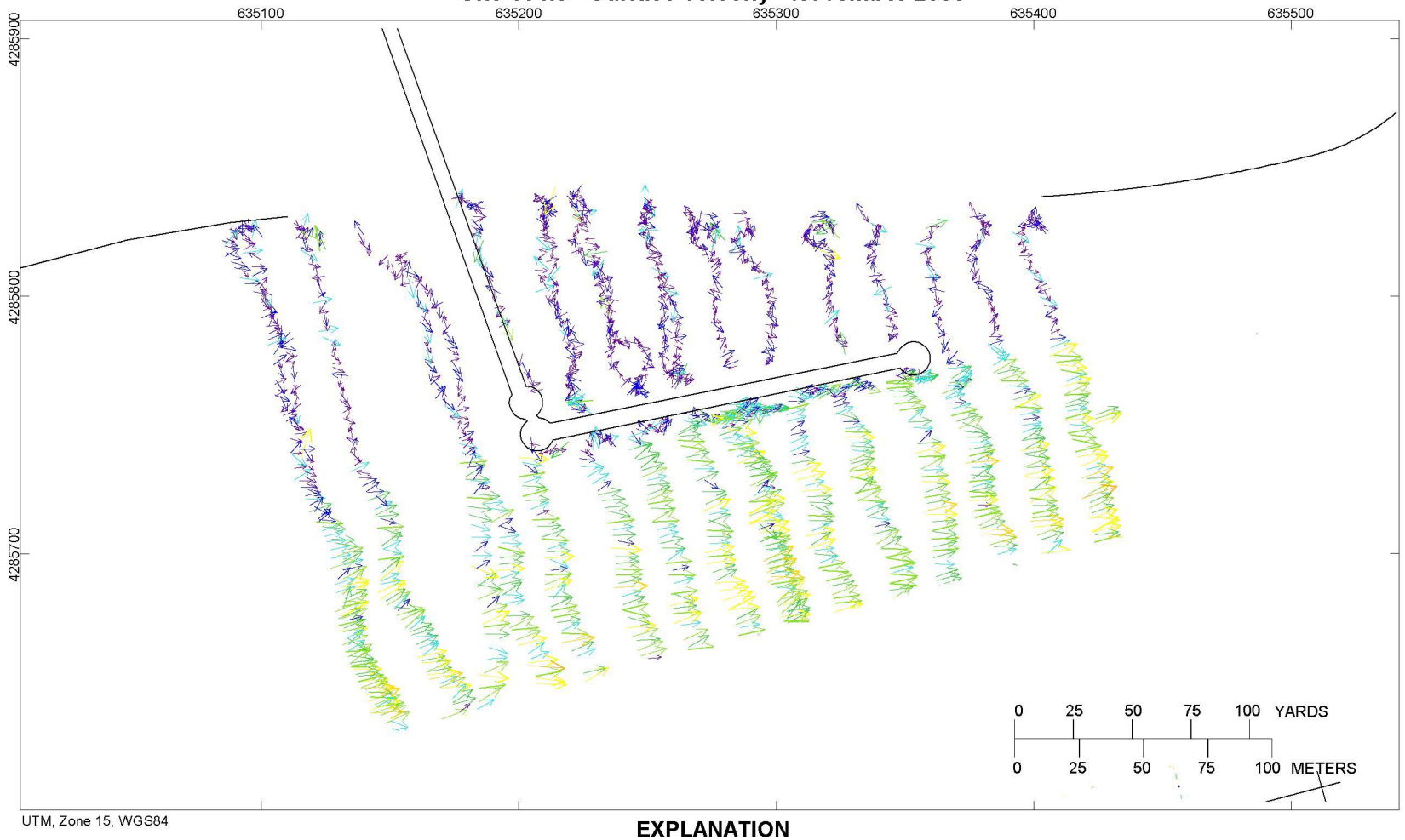
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Surface velocity - November 2000



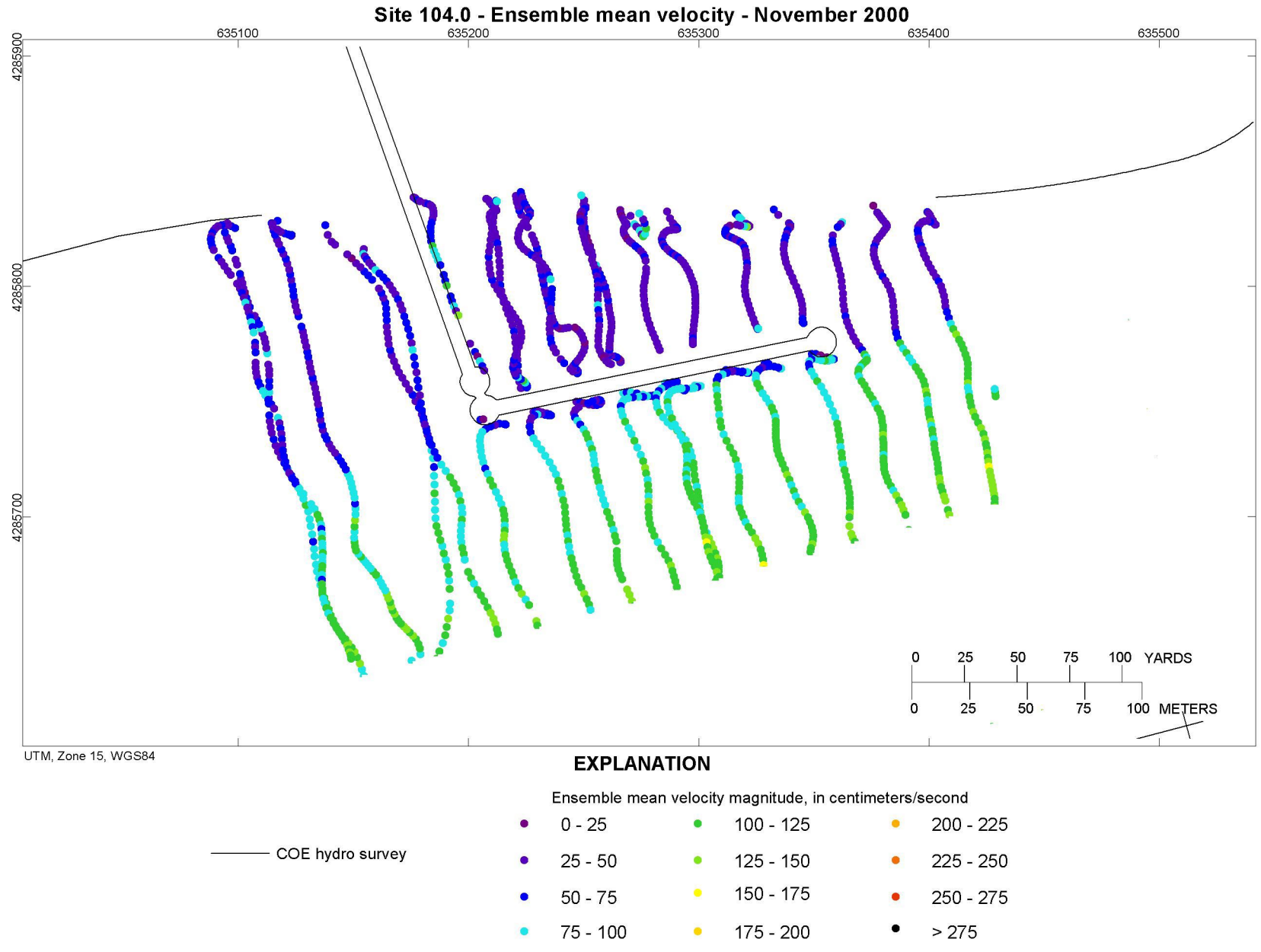
EXPLANATION

COE hydro survey

Surface velocity, in centimeters/second

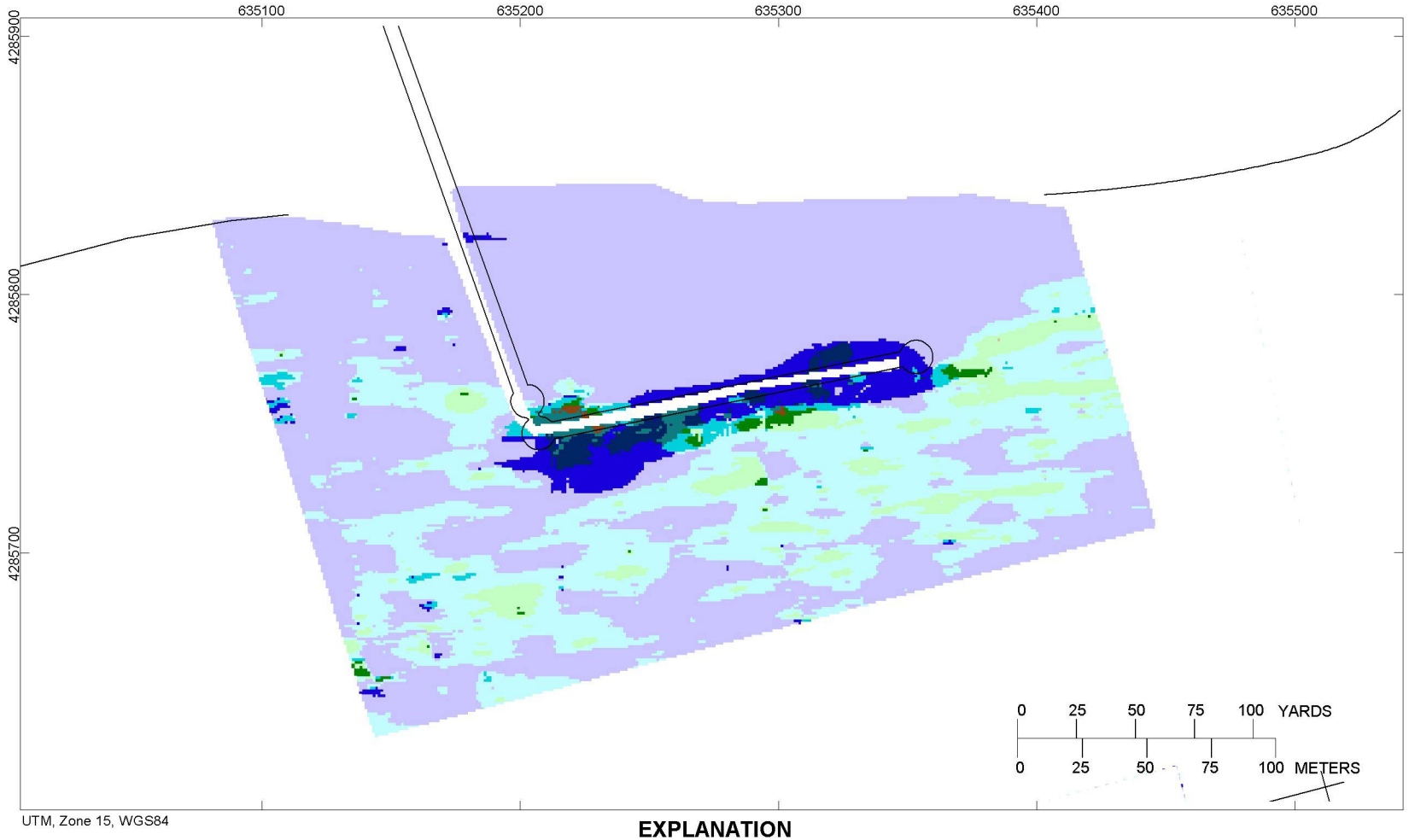
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Substrate - November 2000



EXPLANATION

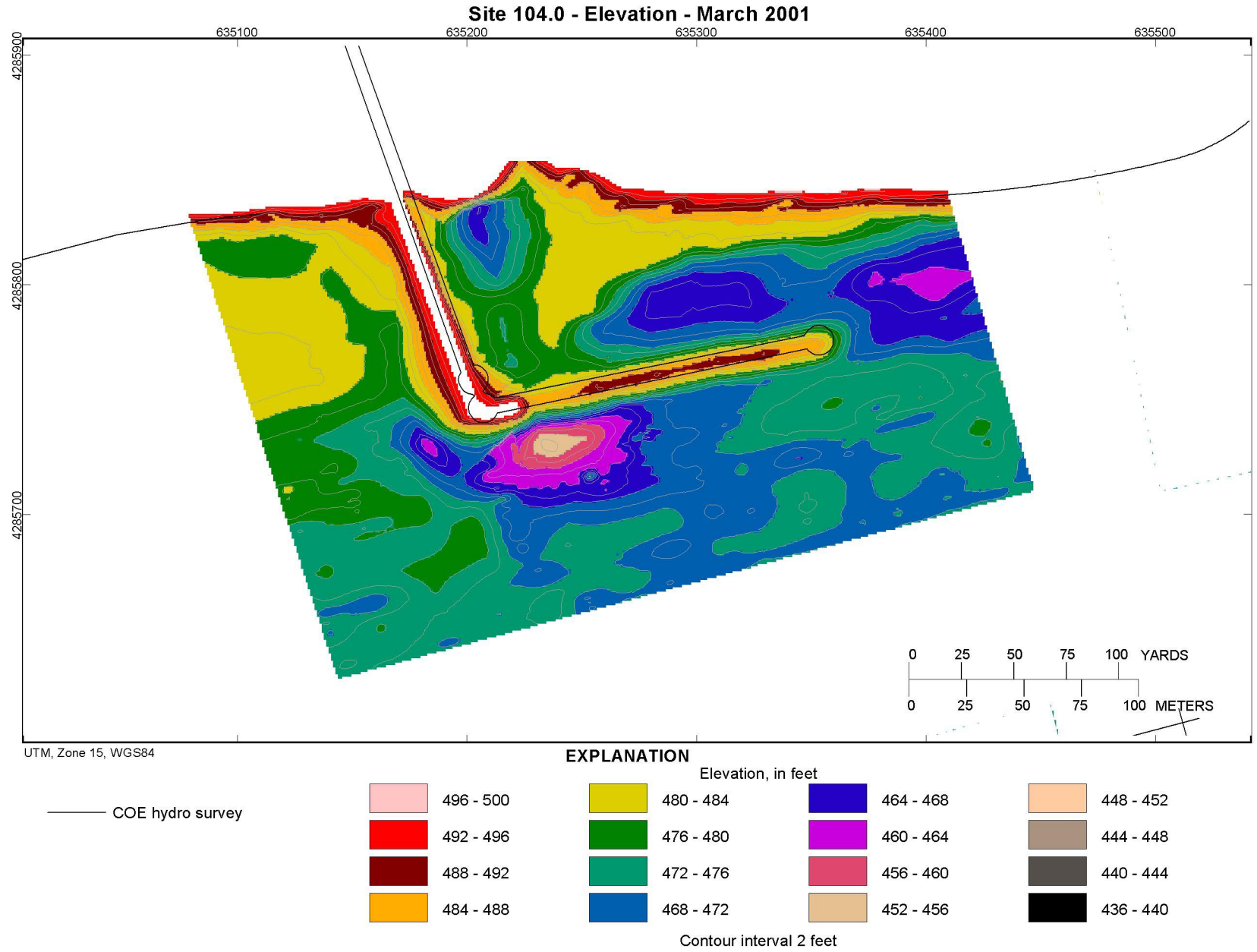
COE hydro survey

Substrate
> increasing hardness >

< increasing roughness <

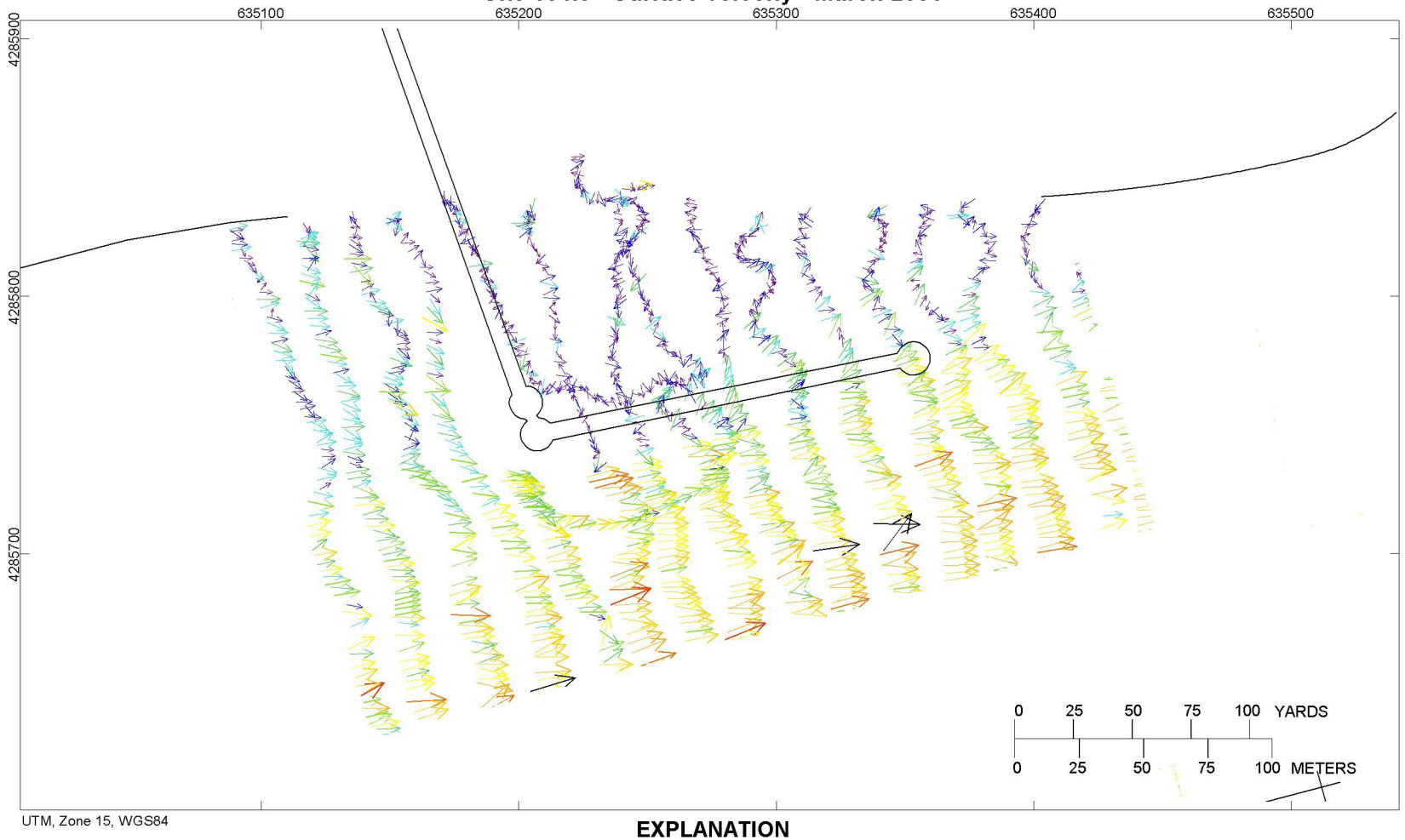
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Surface velocity - March 2001



EXPLANATION

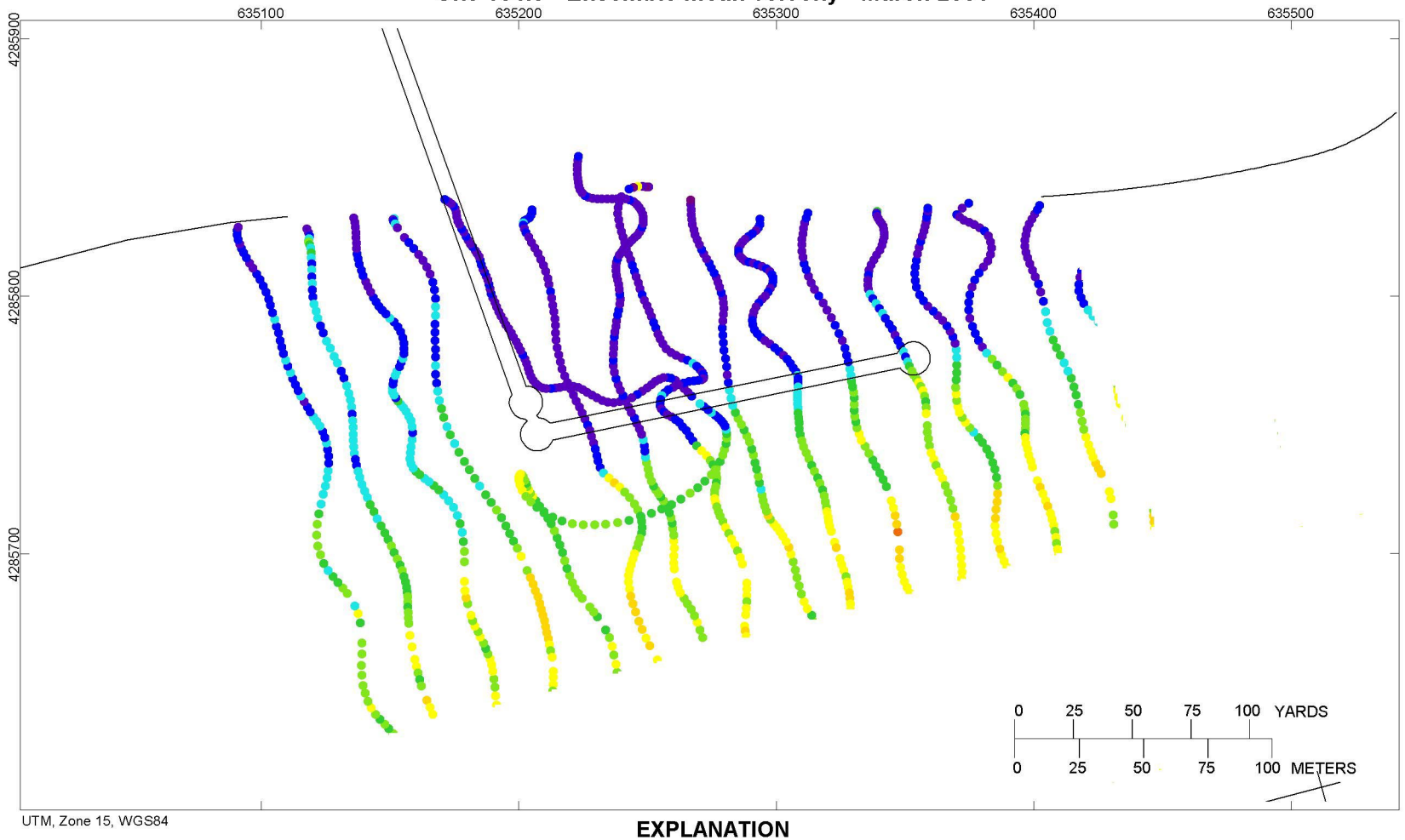
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Ensemble mean velocity - March 2001



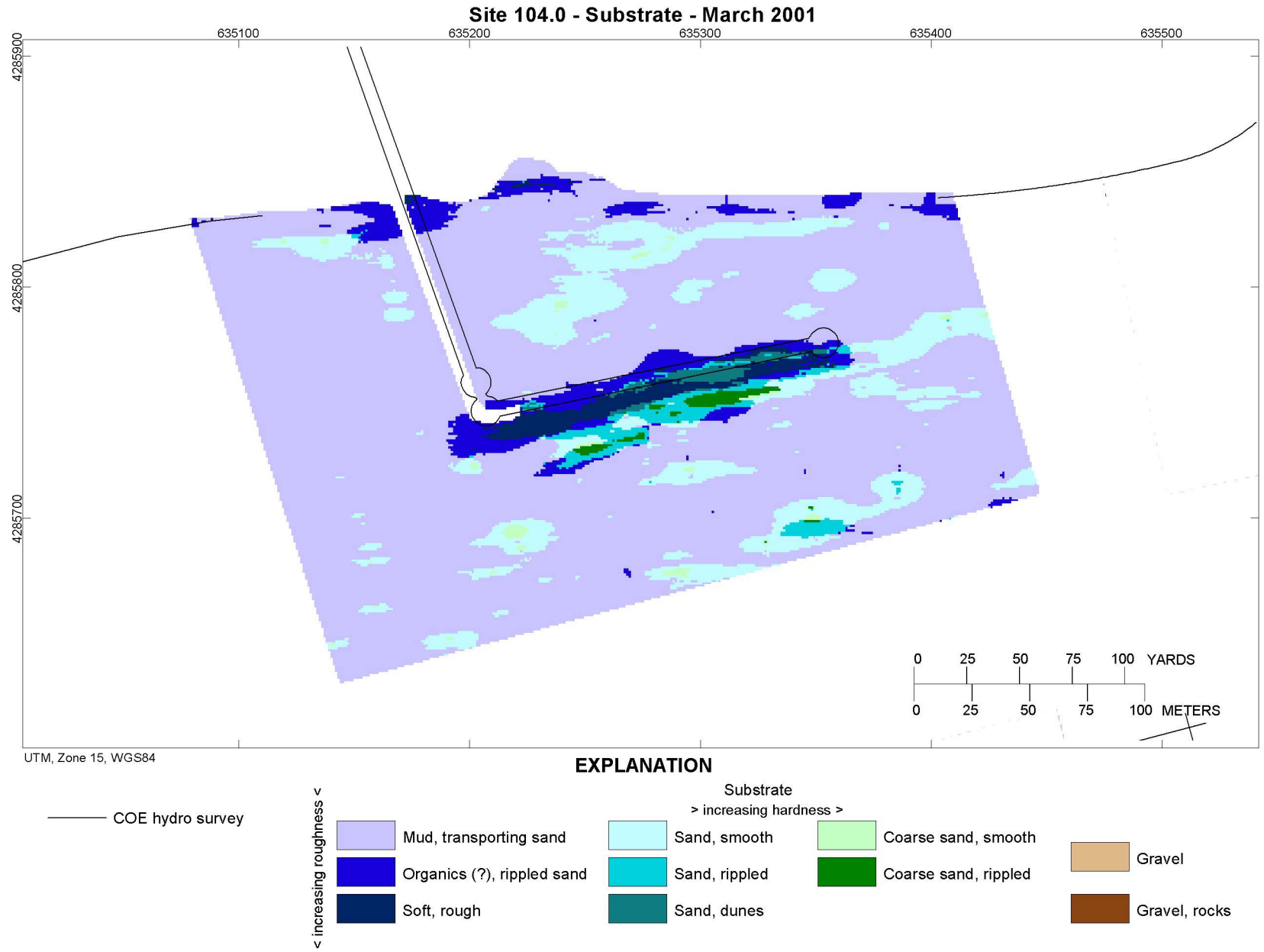
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

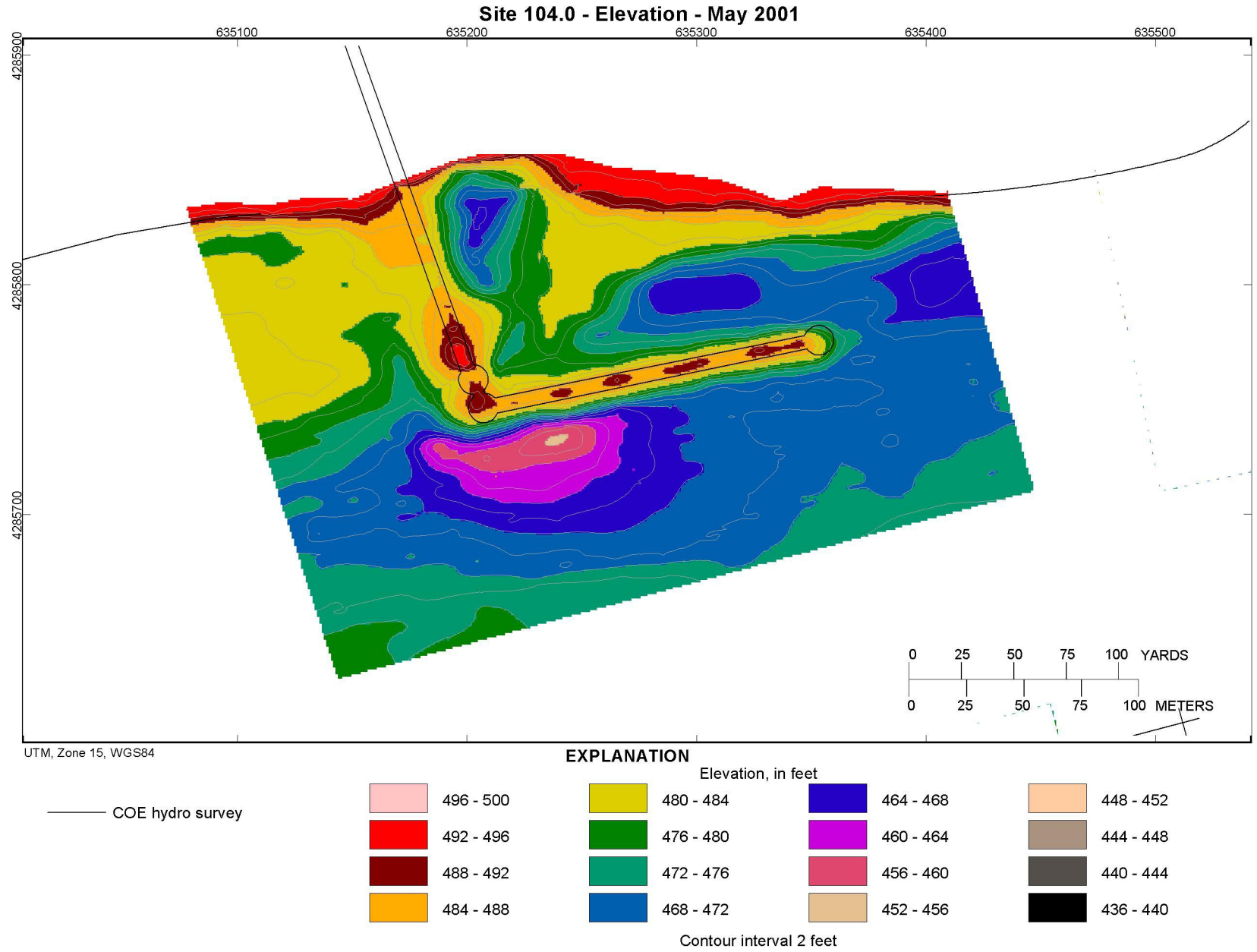
0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

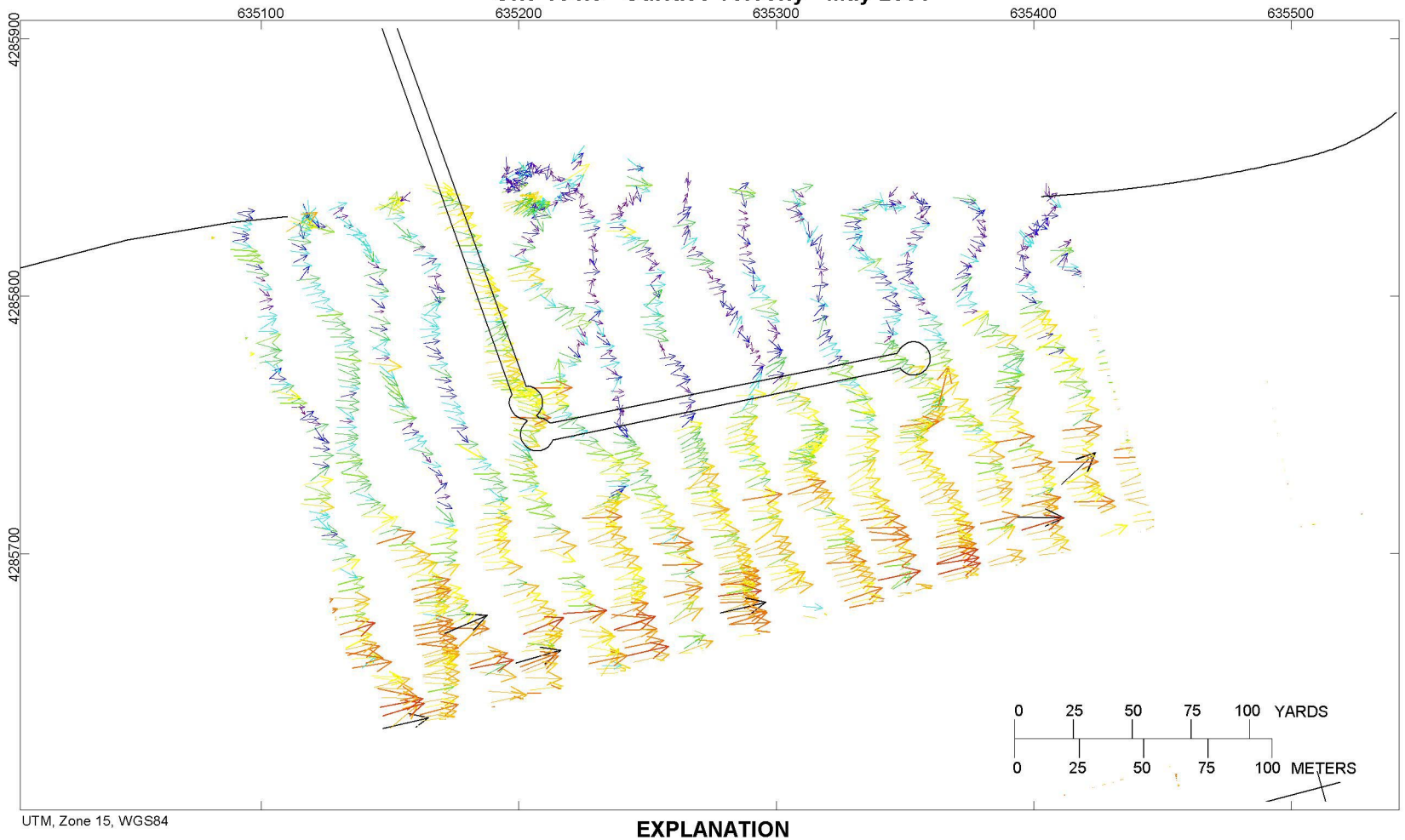


HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Surface velocity - May 2001



EXPLANATION

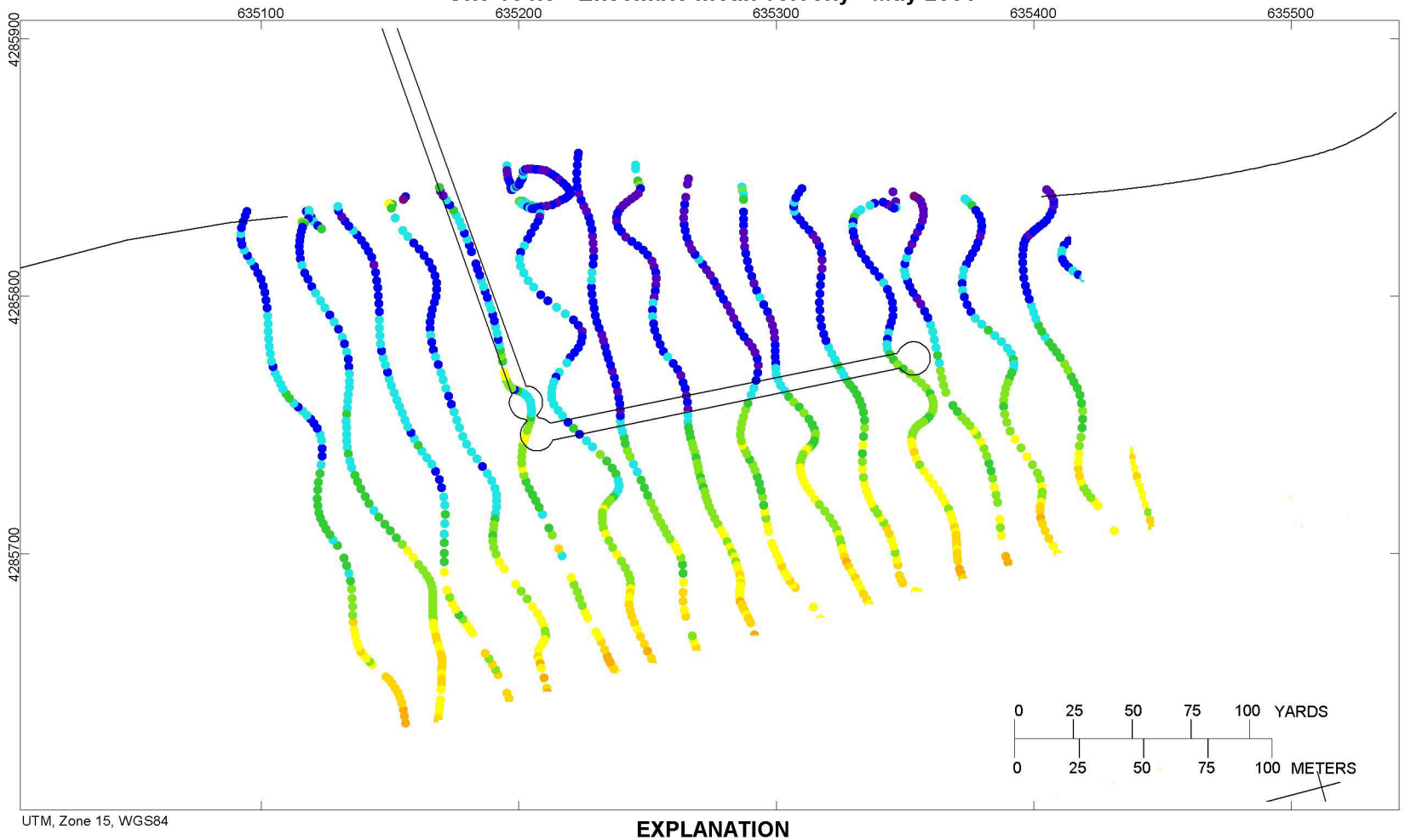
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Ensemble mean velocity - May 2001



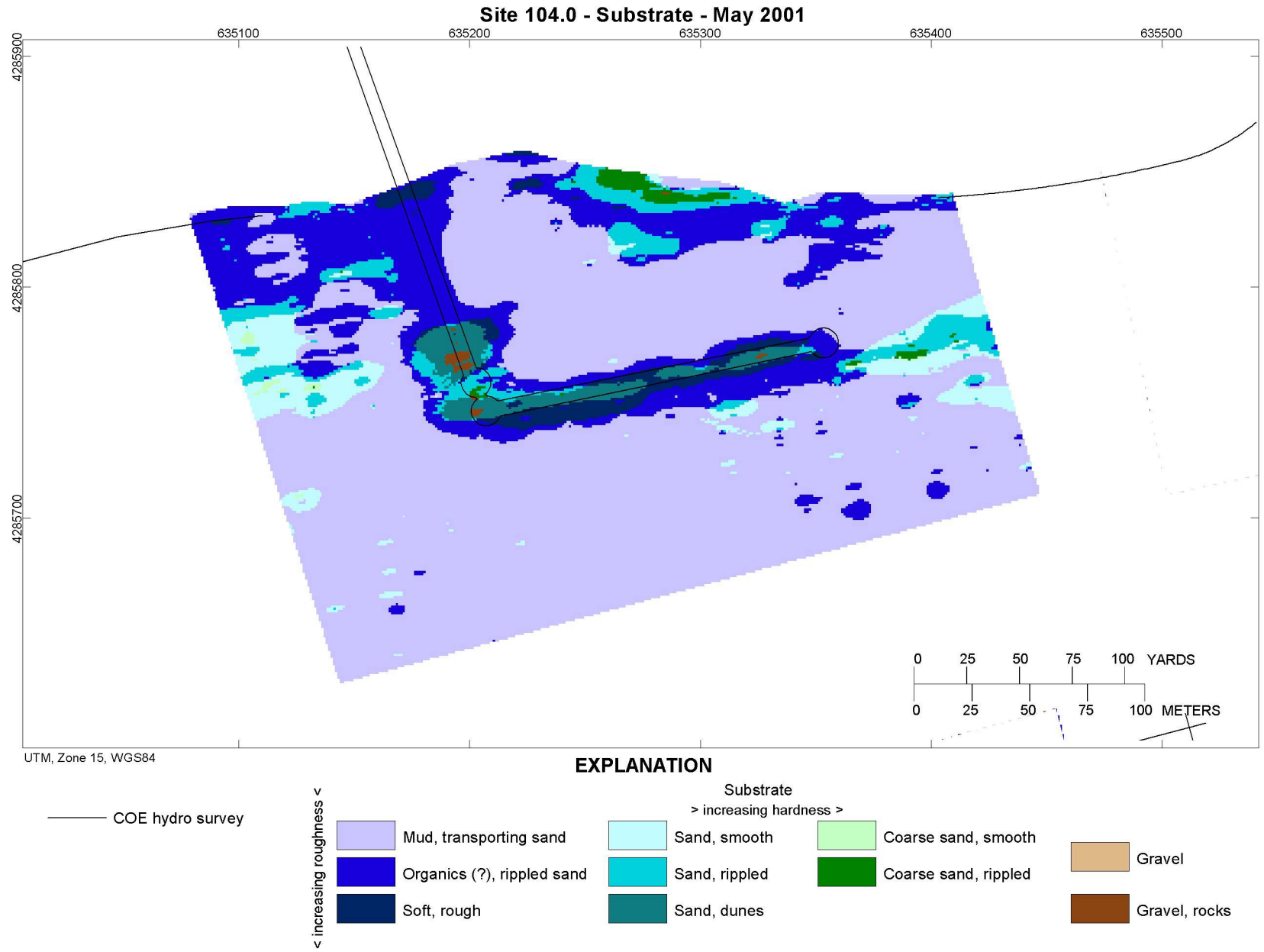
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

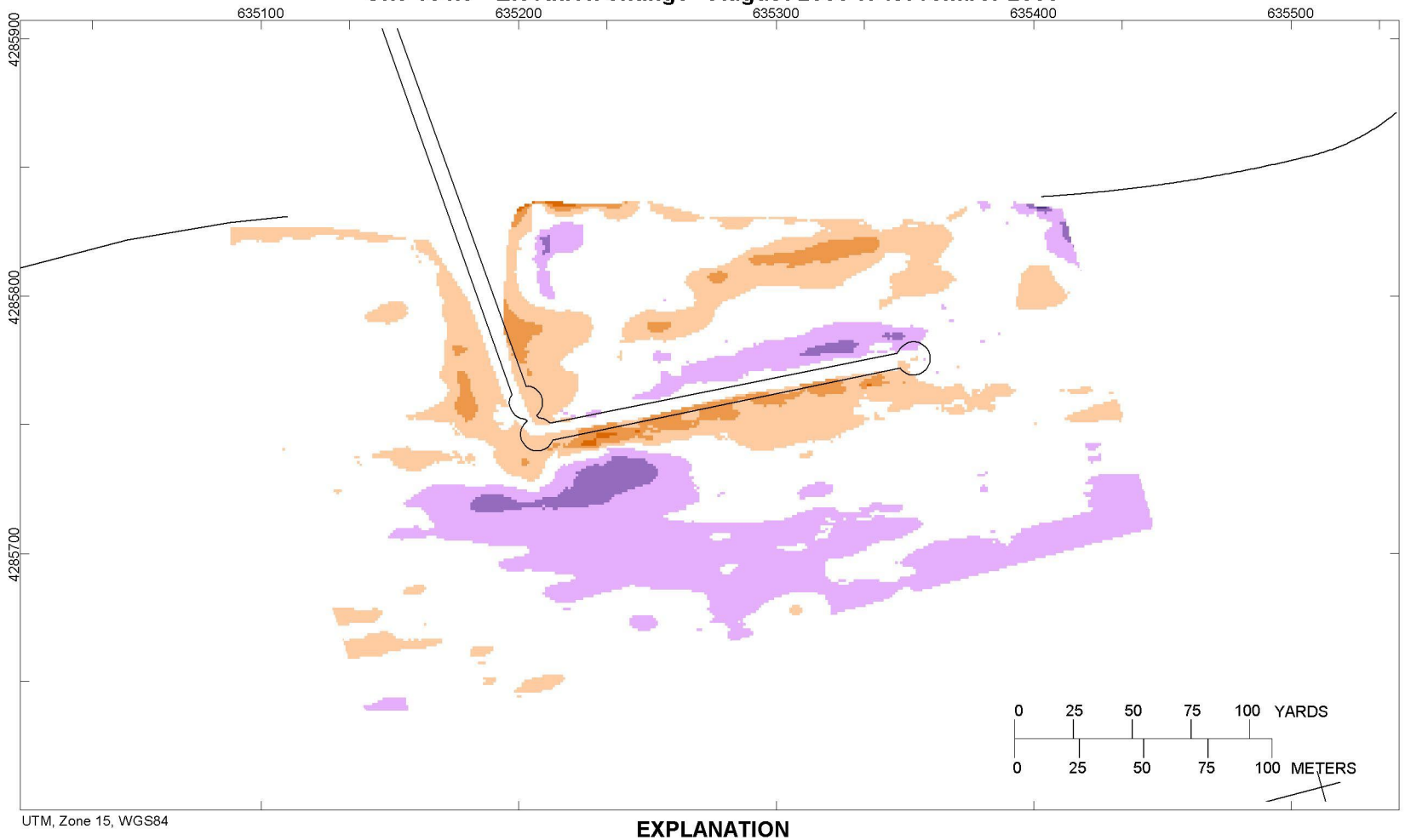
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation change - August 2000 to November 2000



EXPLANATION

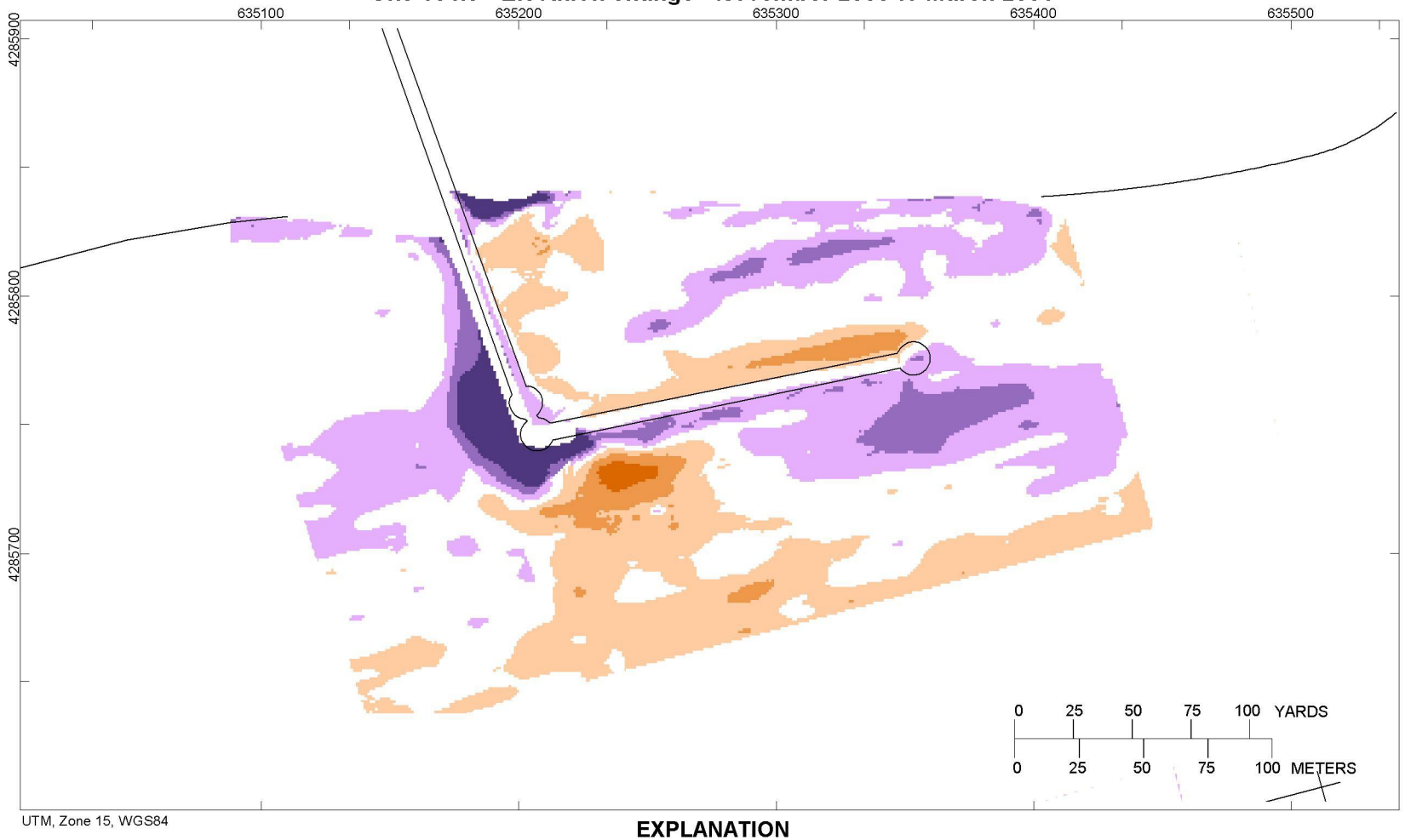
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation change - November 2000 to March 2001



EXPLANATION

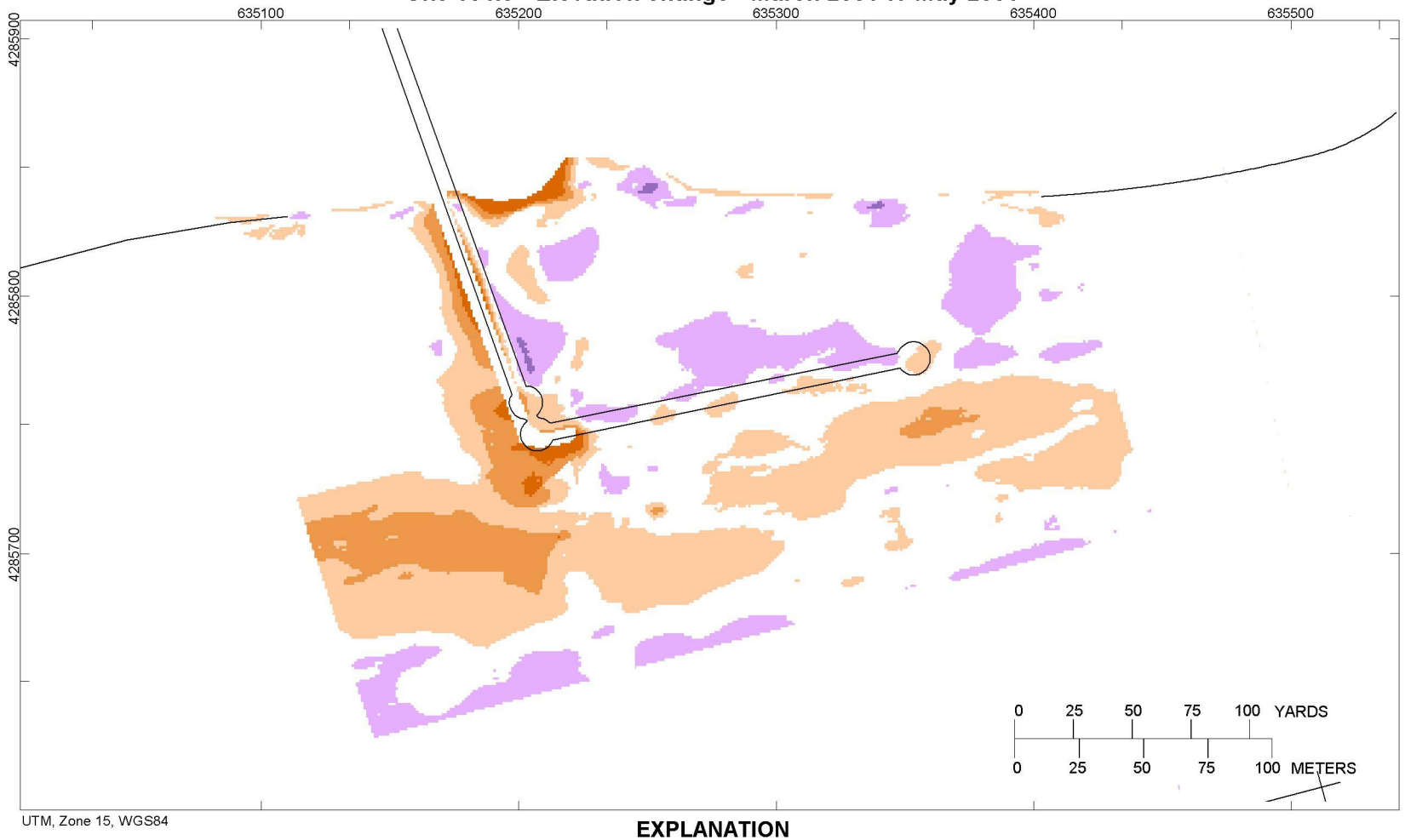
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation change - March 2001 to May 2001



EXPLANATION

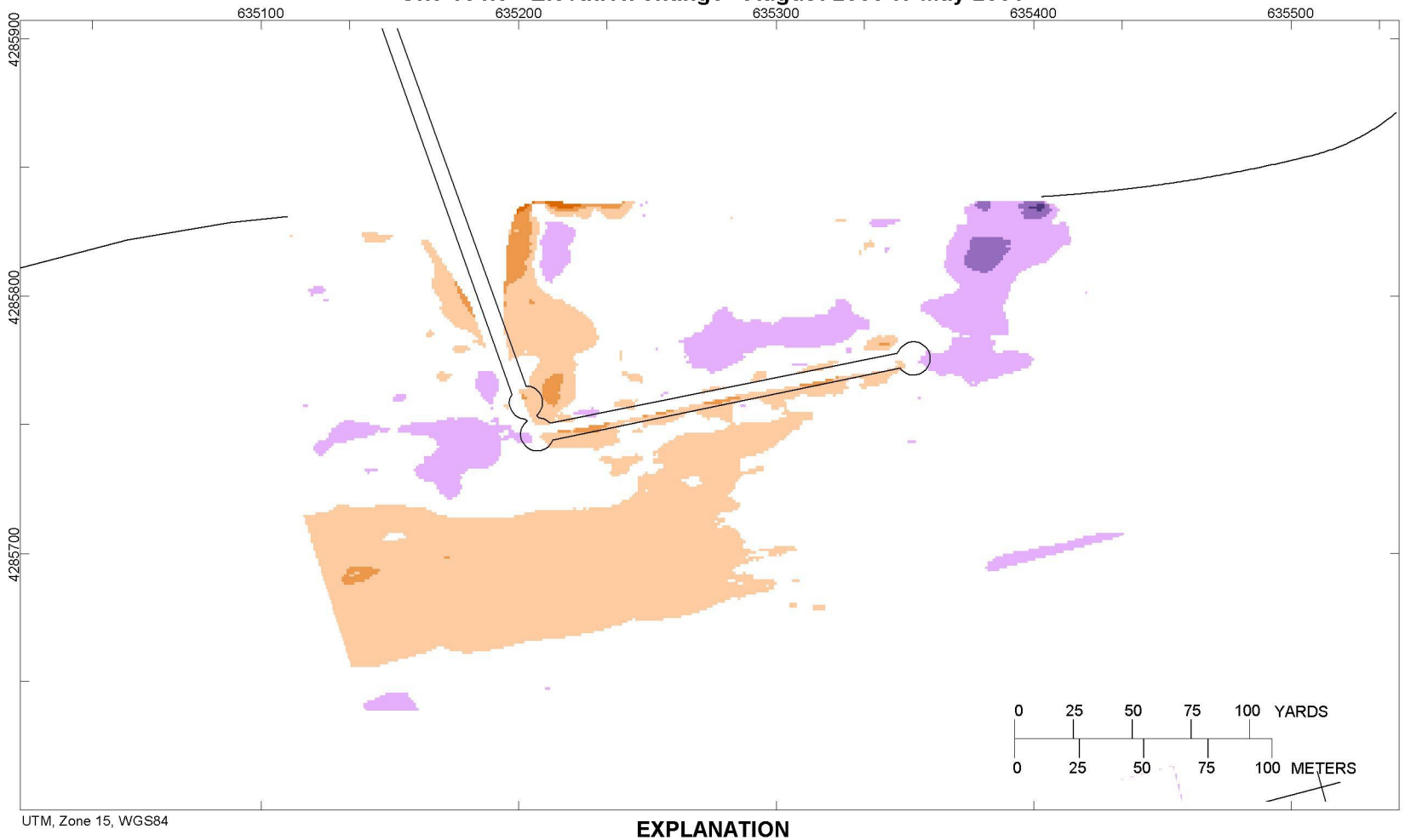
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.0 - Elevation change - August 2000 to May 2001



EXPLANATION

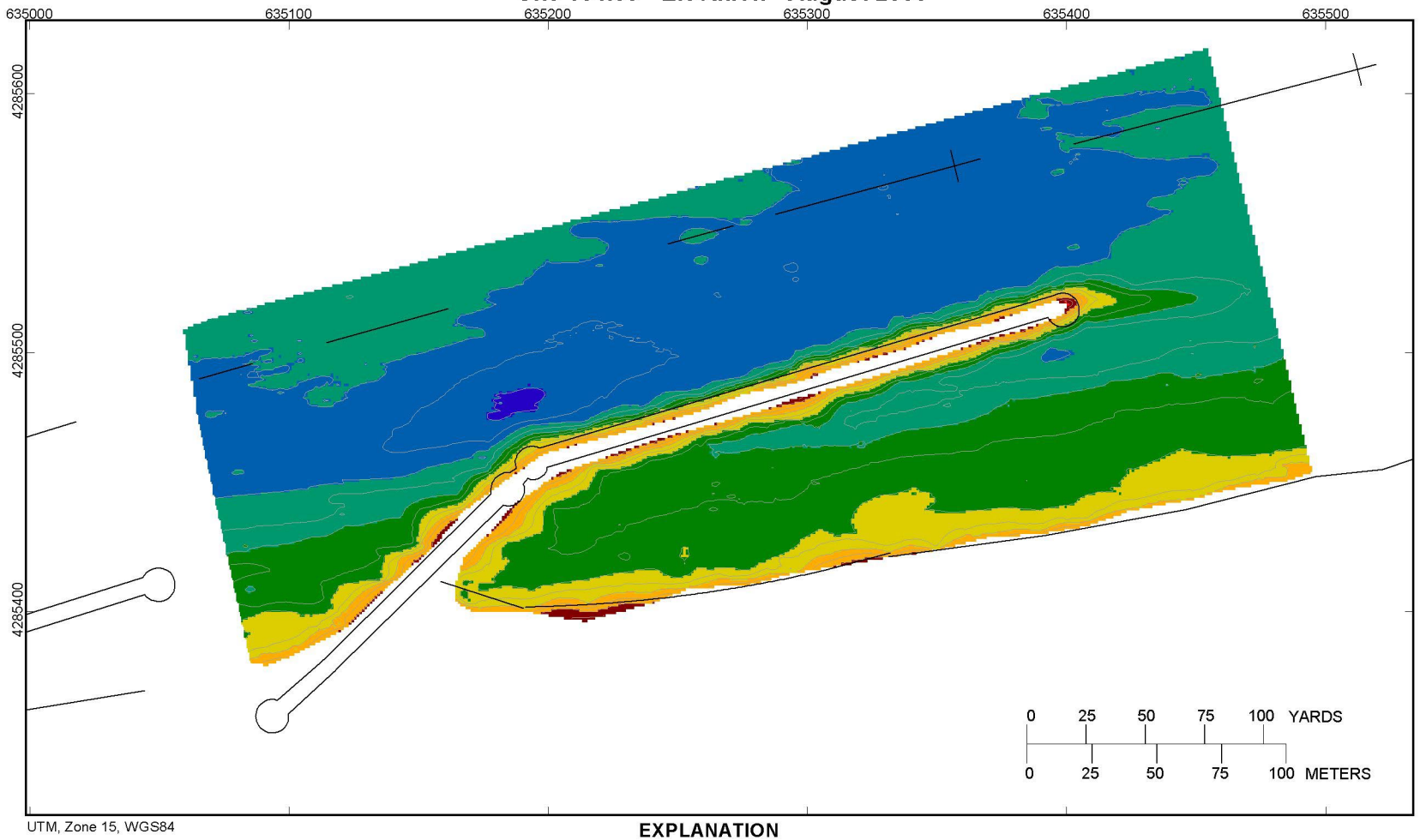
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation - August 2000



EXPLANATION

COE hydro survey

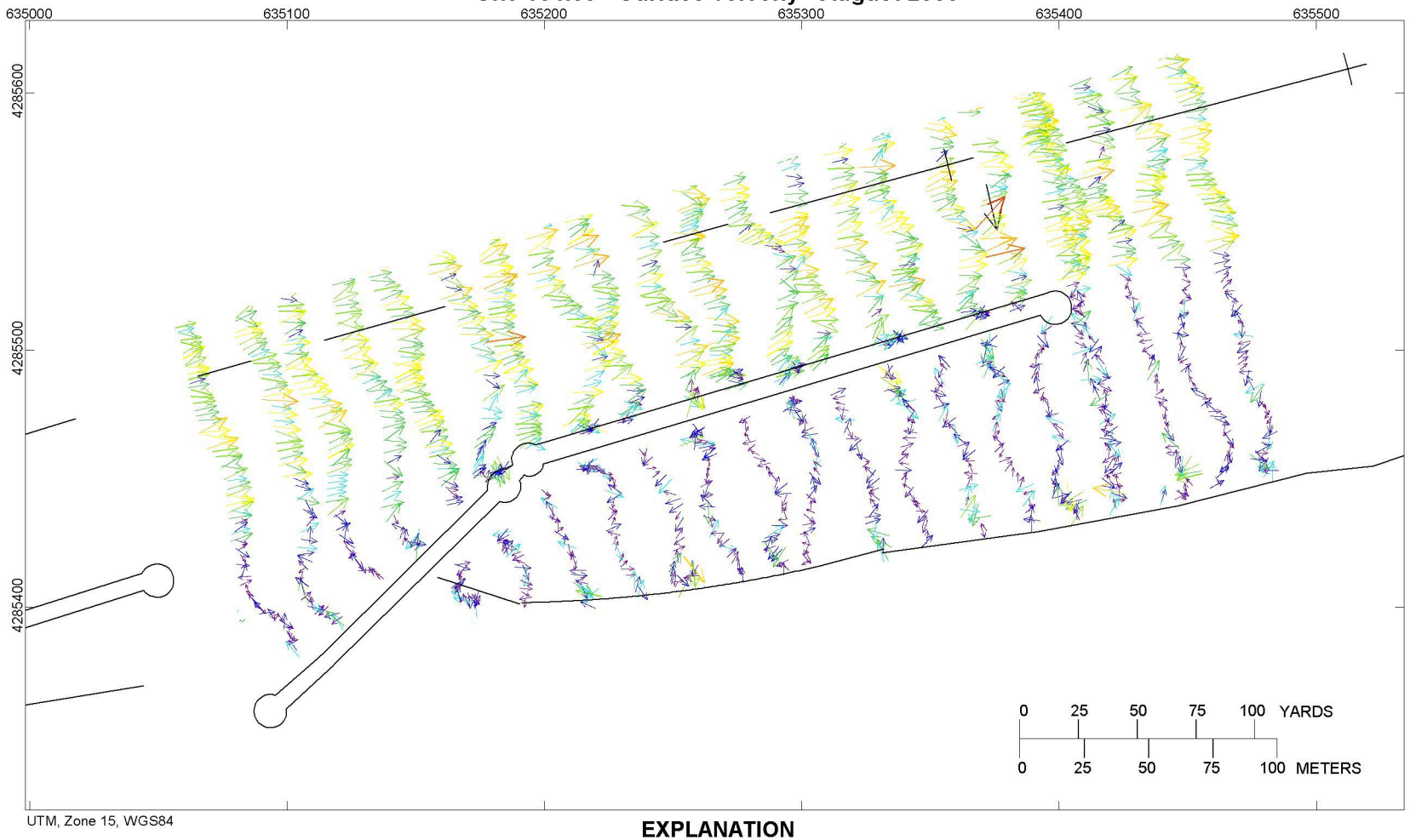
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Surface velocity - August 2000



EXPLANATION

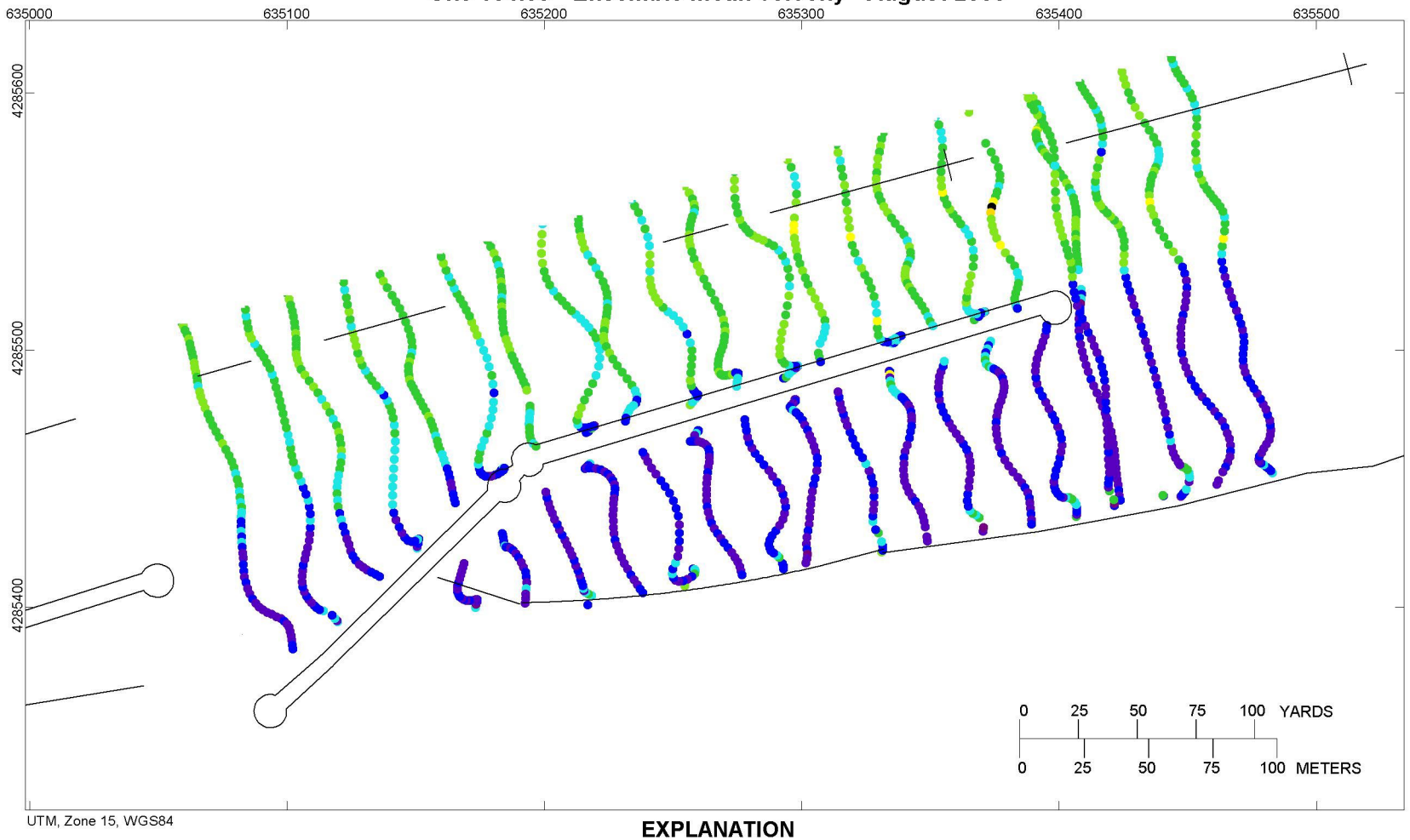
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Ensemble mean velocity - August 2000



EXPLANATION

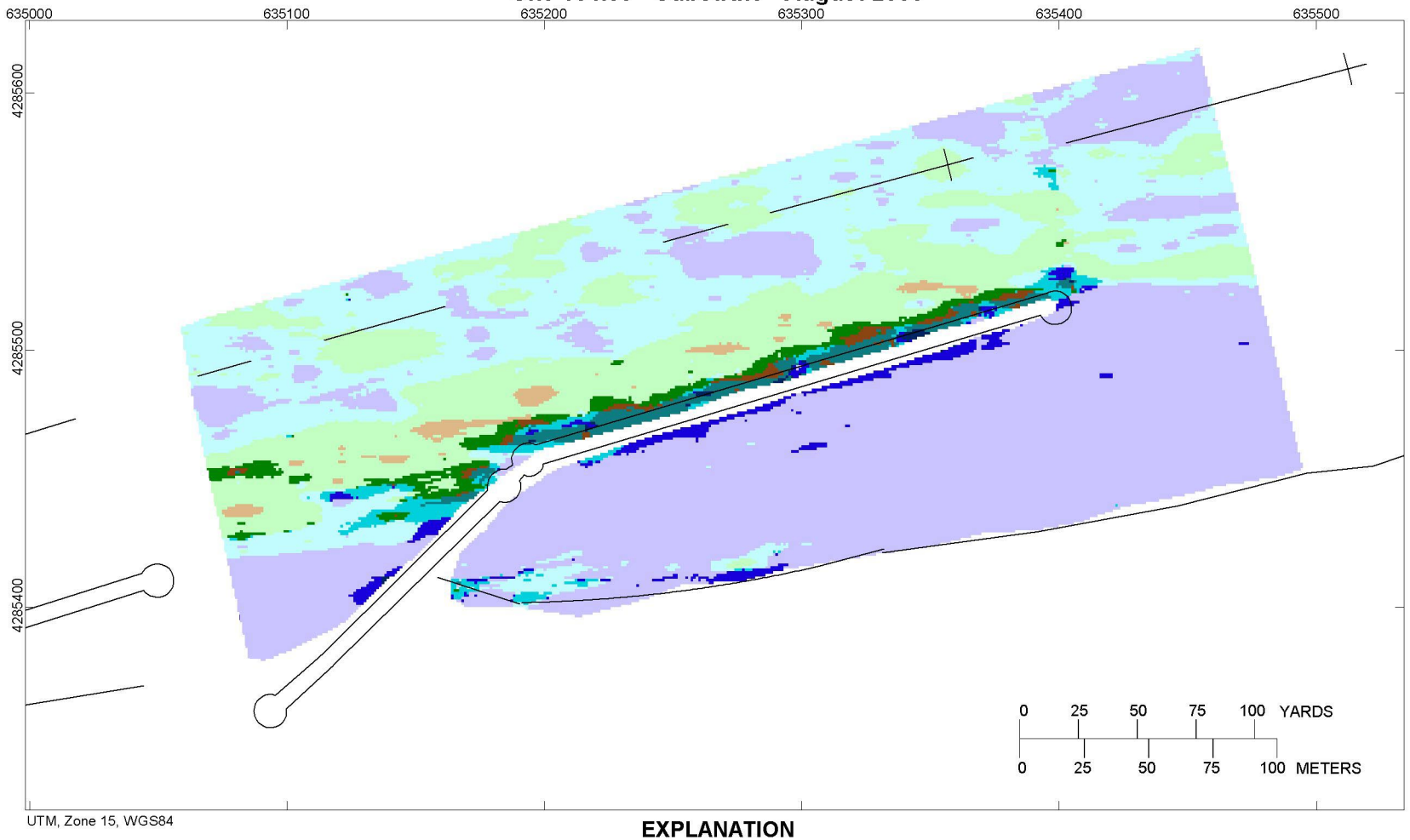
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Substrate - August 2000



EXPLANATION

COE hydro survey

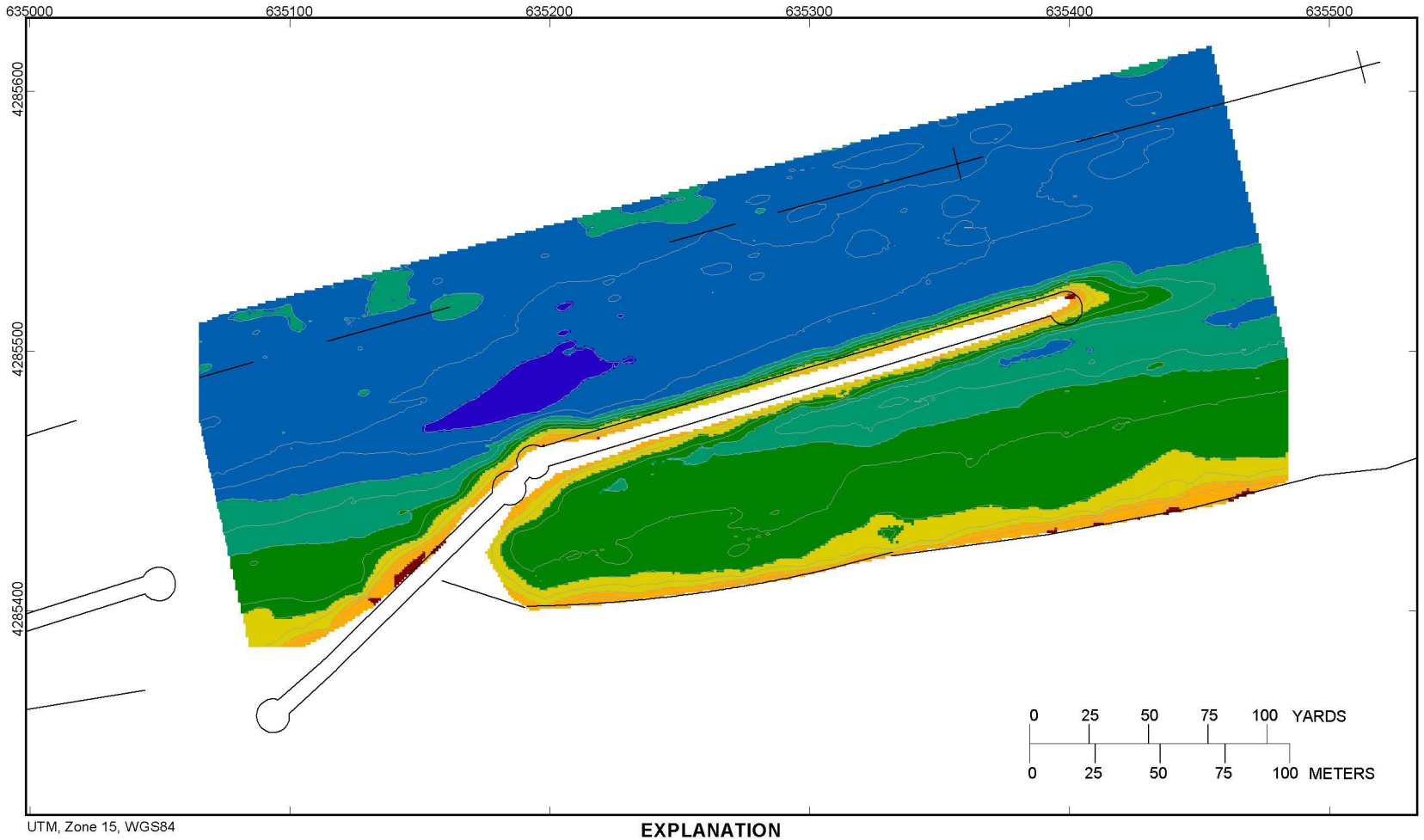
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation - November 2000



EXPLANATION

COE hydro survey

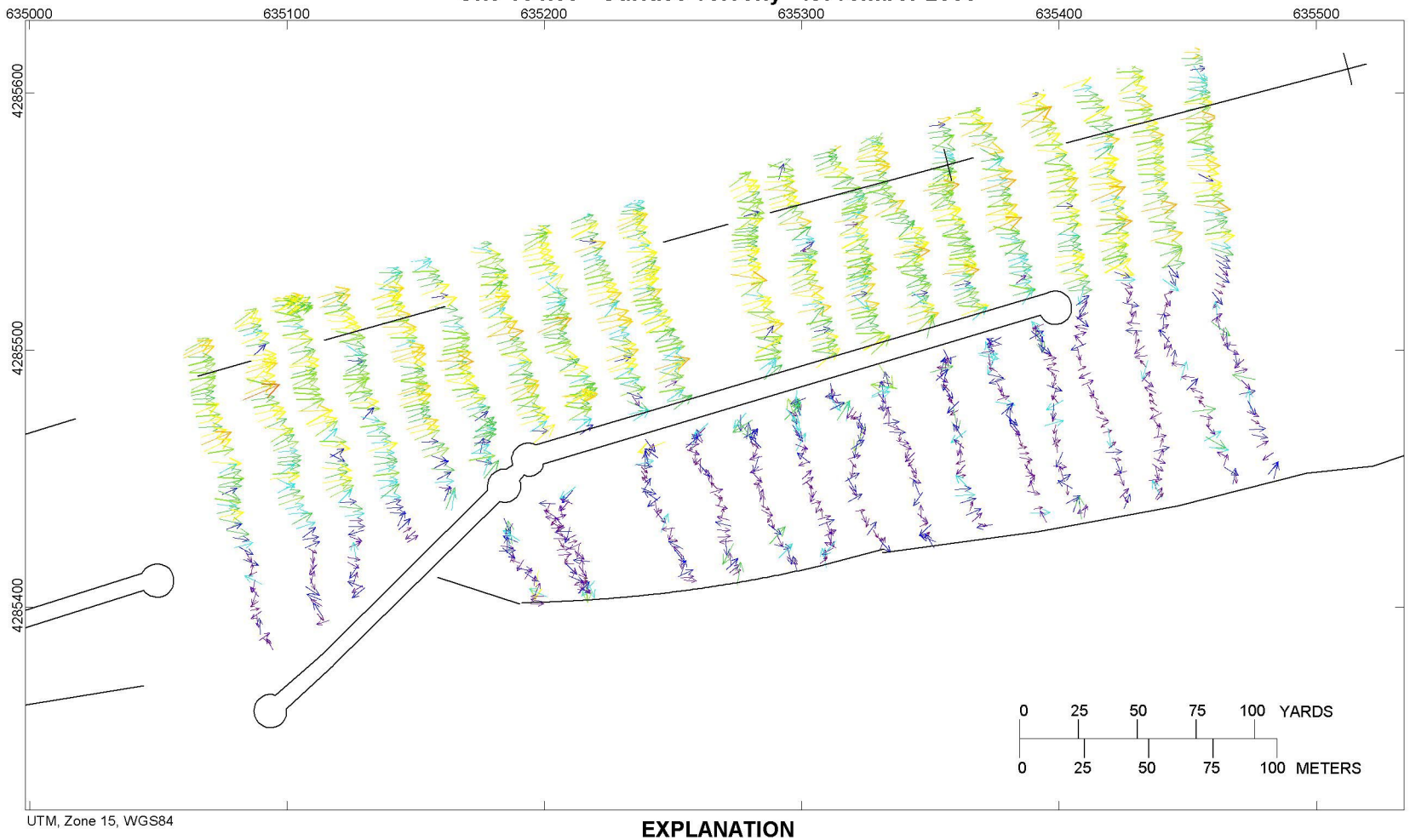
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Surface velocity - November 2000



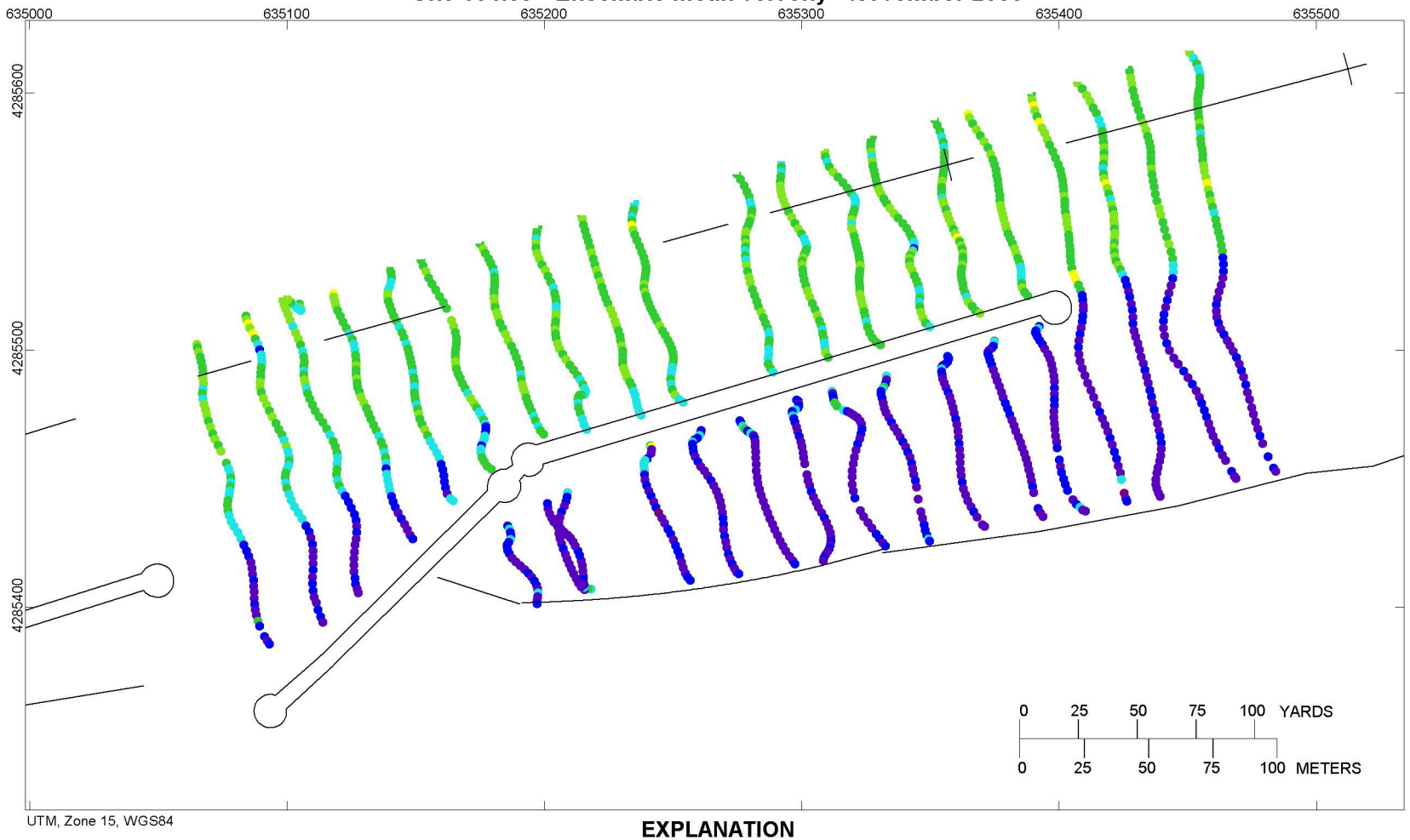
EXPLANATION

Surface velocity, in centimeters/second

- COE hydro survey
- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Ensemble mean velocity - November 2000



EXPLANATION

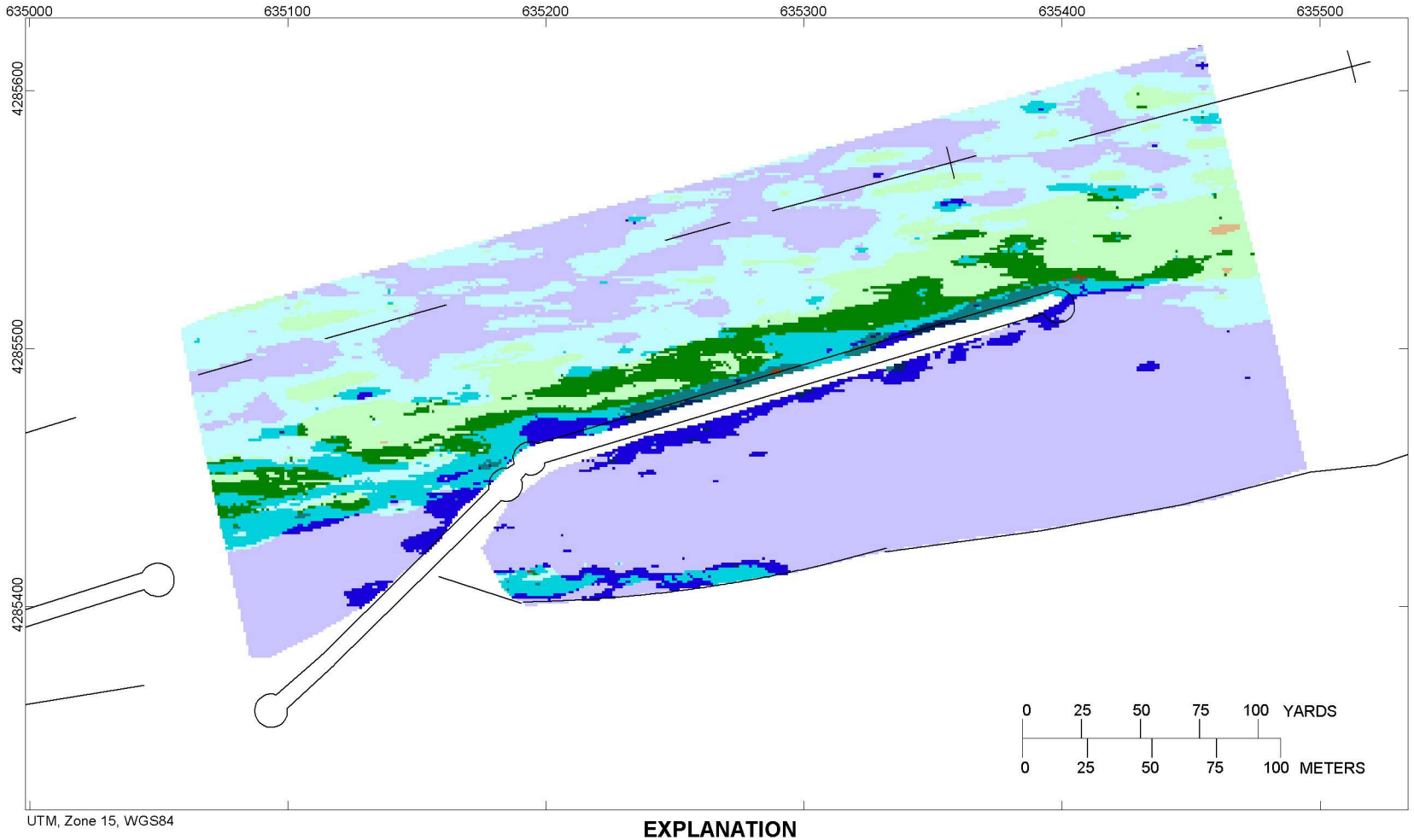
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Substrate - November 2000



EXPLANATION

COE hydro survey

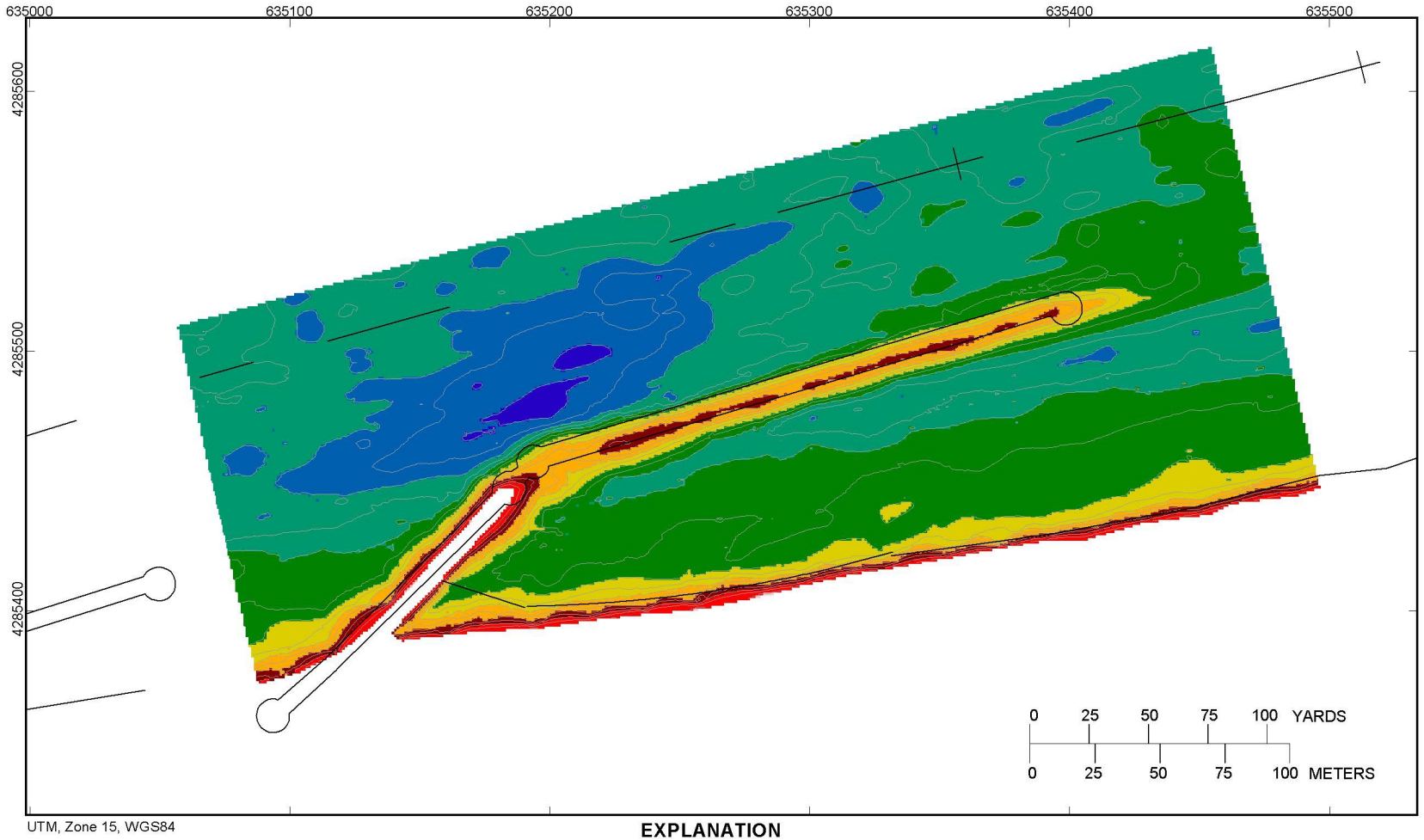
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation - March 2001



EXPLANATION

COE hydro survey

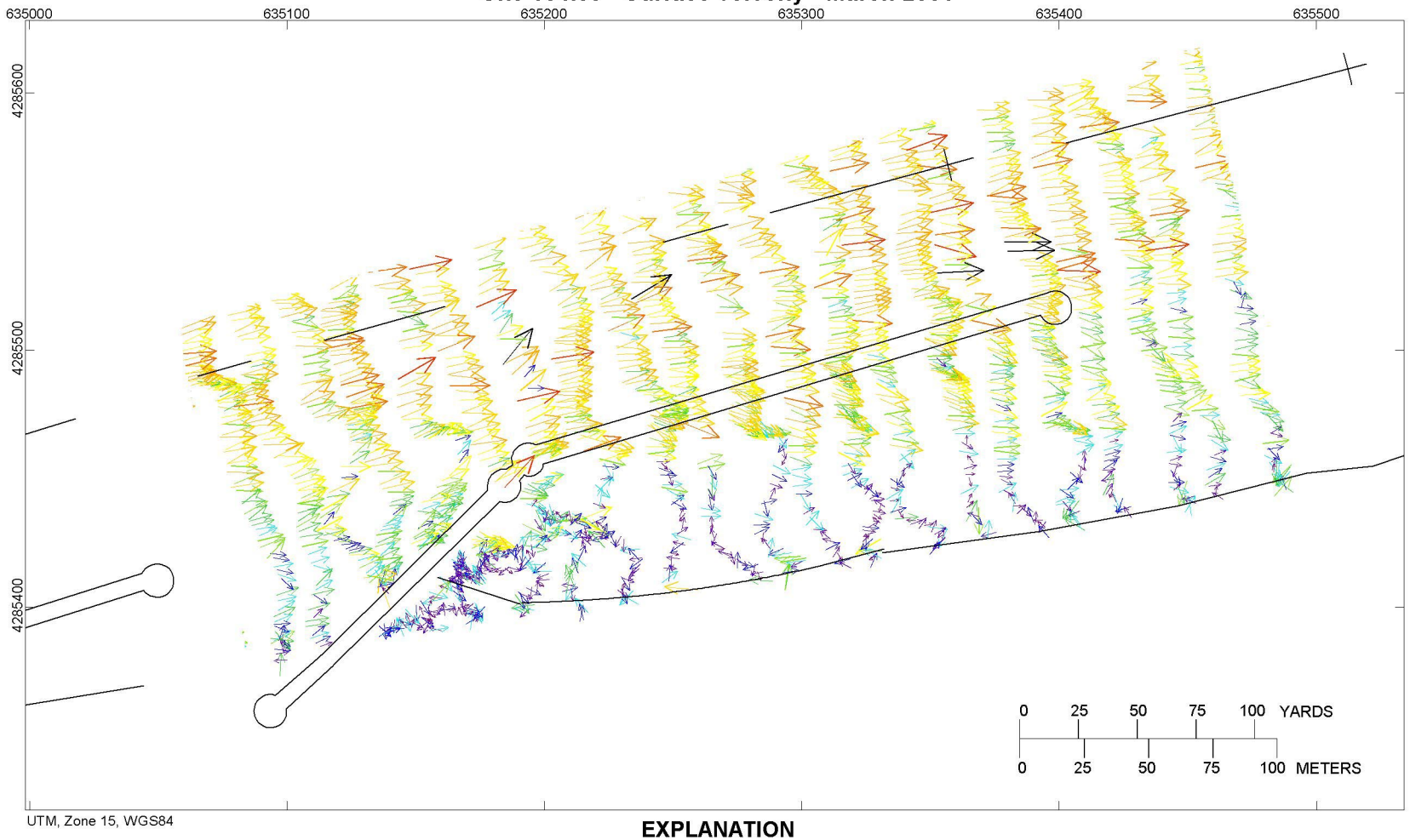
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Surface velocity - March 2001



EXPLANATION

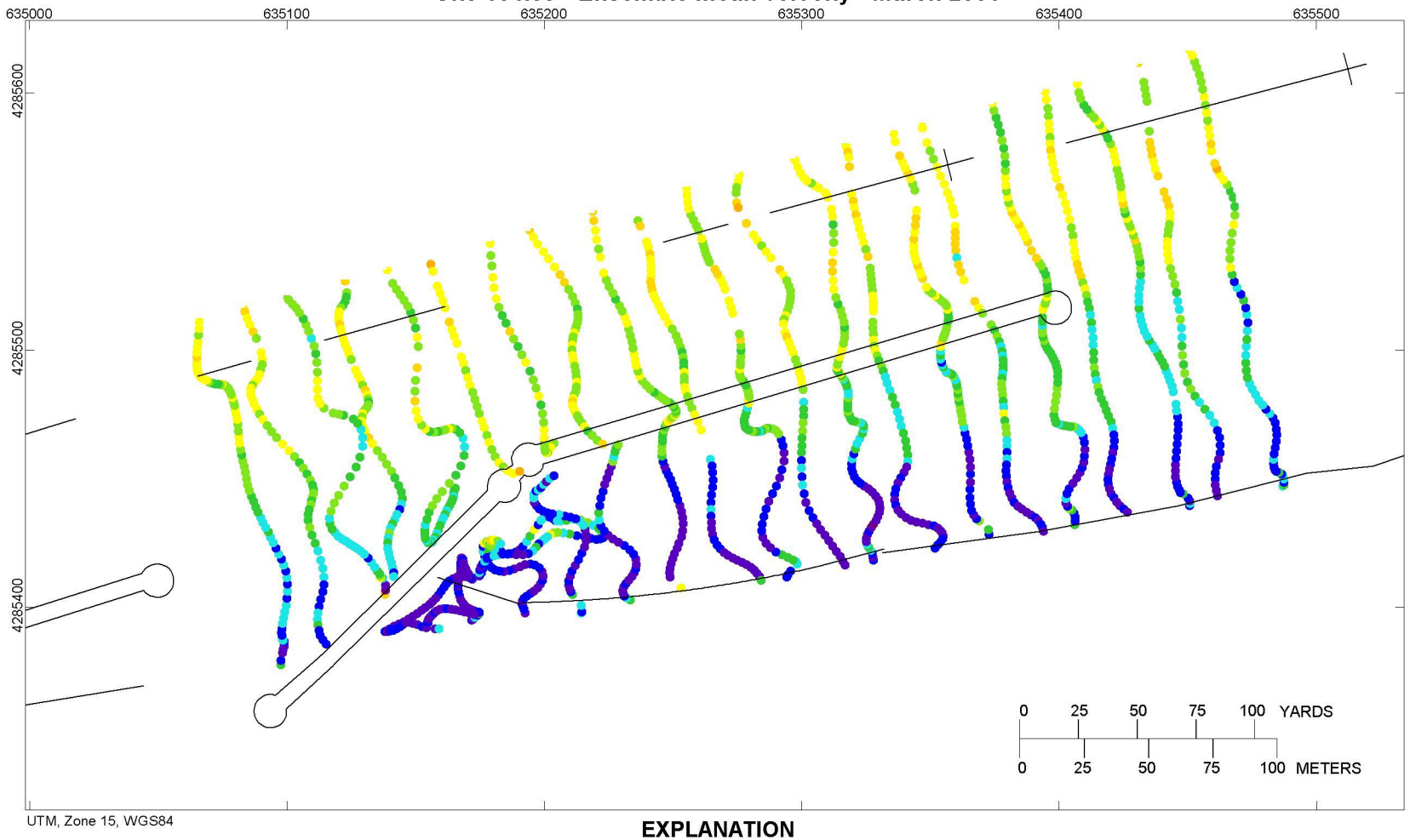
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Ensemble mean velocity - March 2001



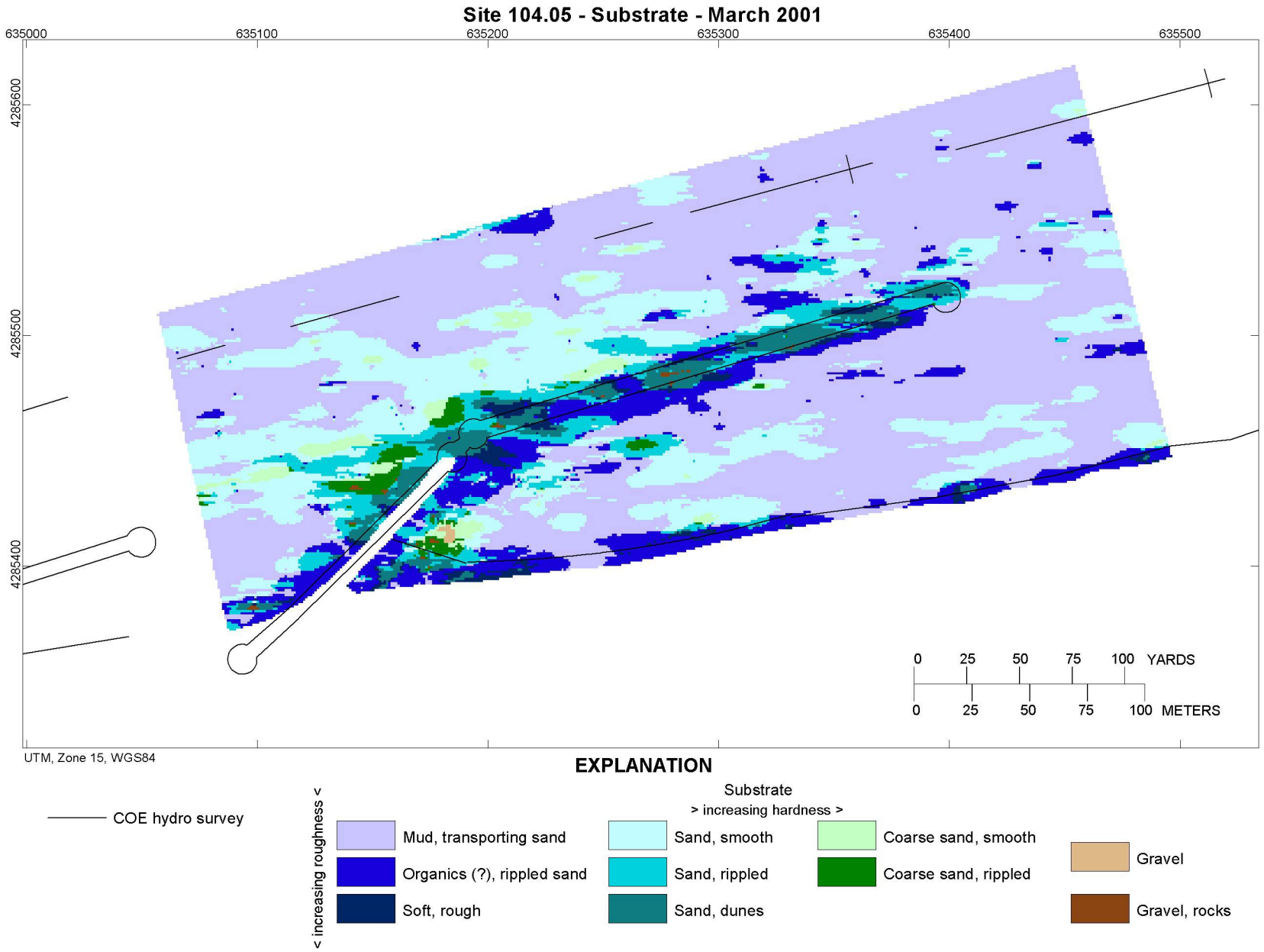
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
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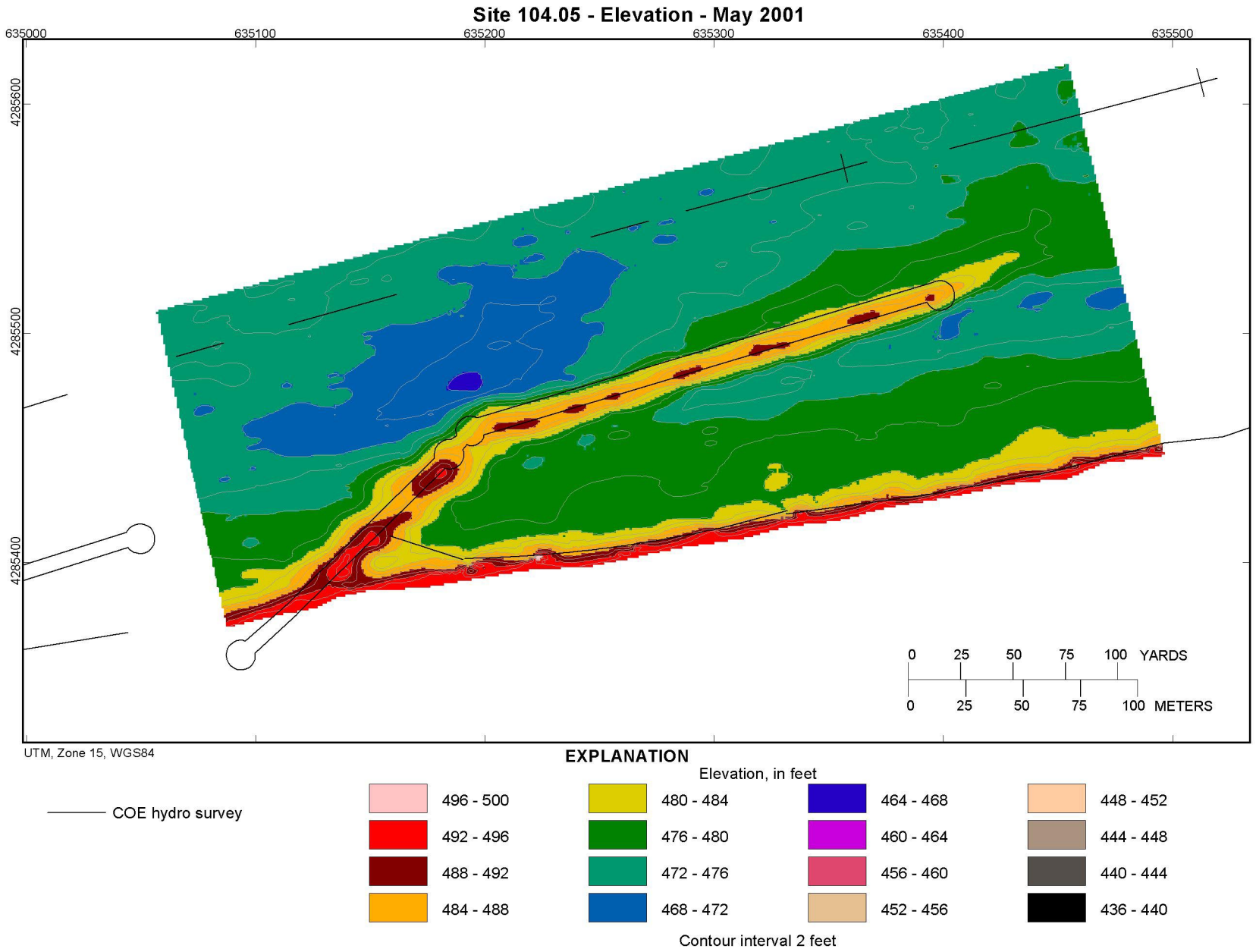
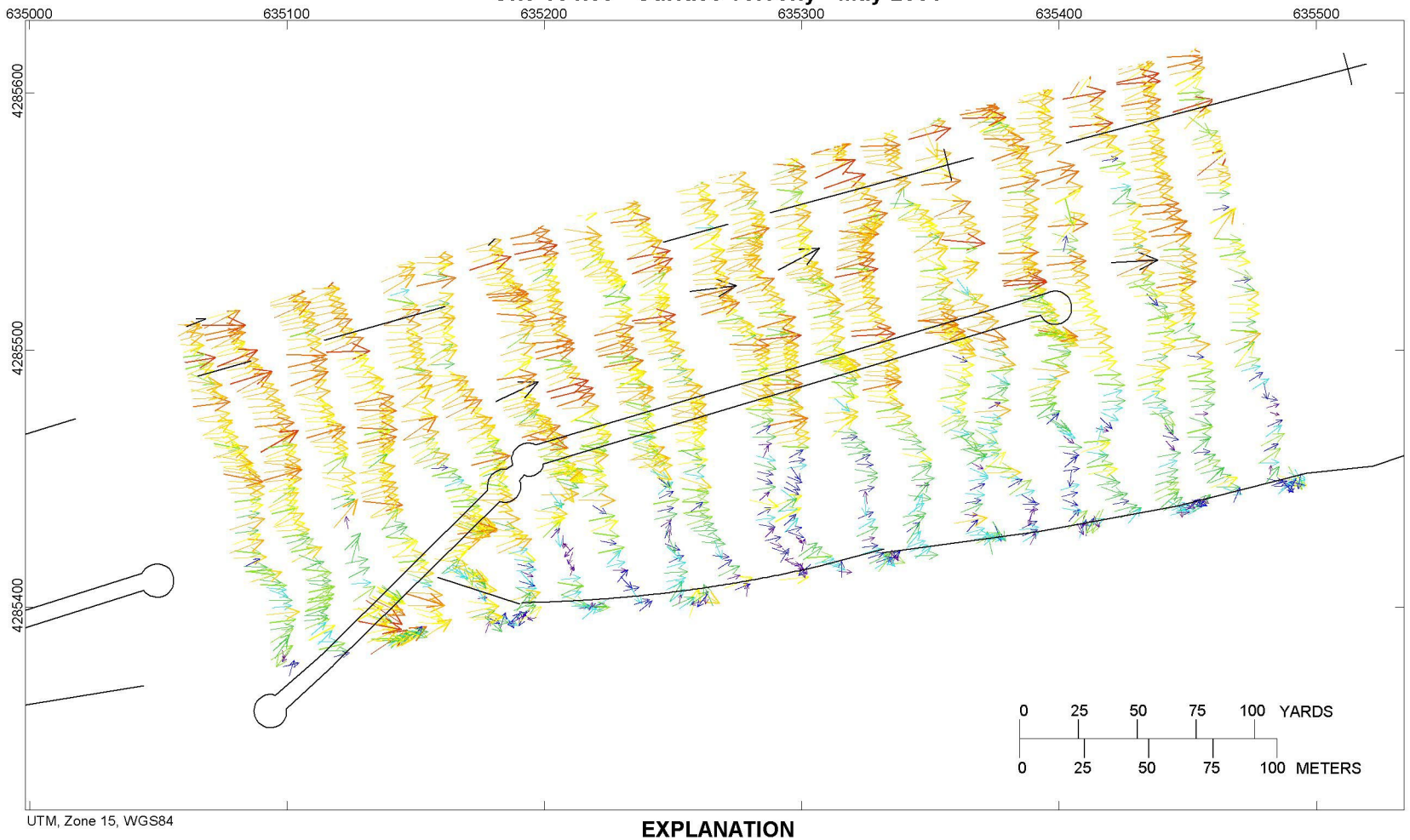
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Surface velocity - May 2001



EXPLANATION

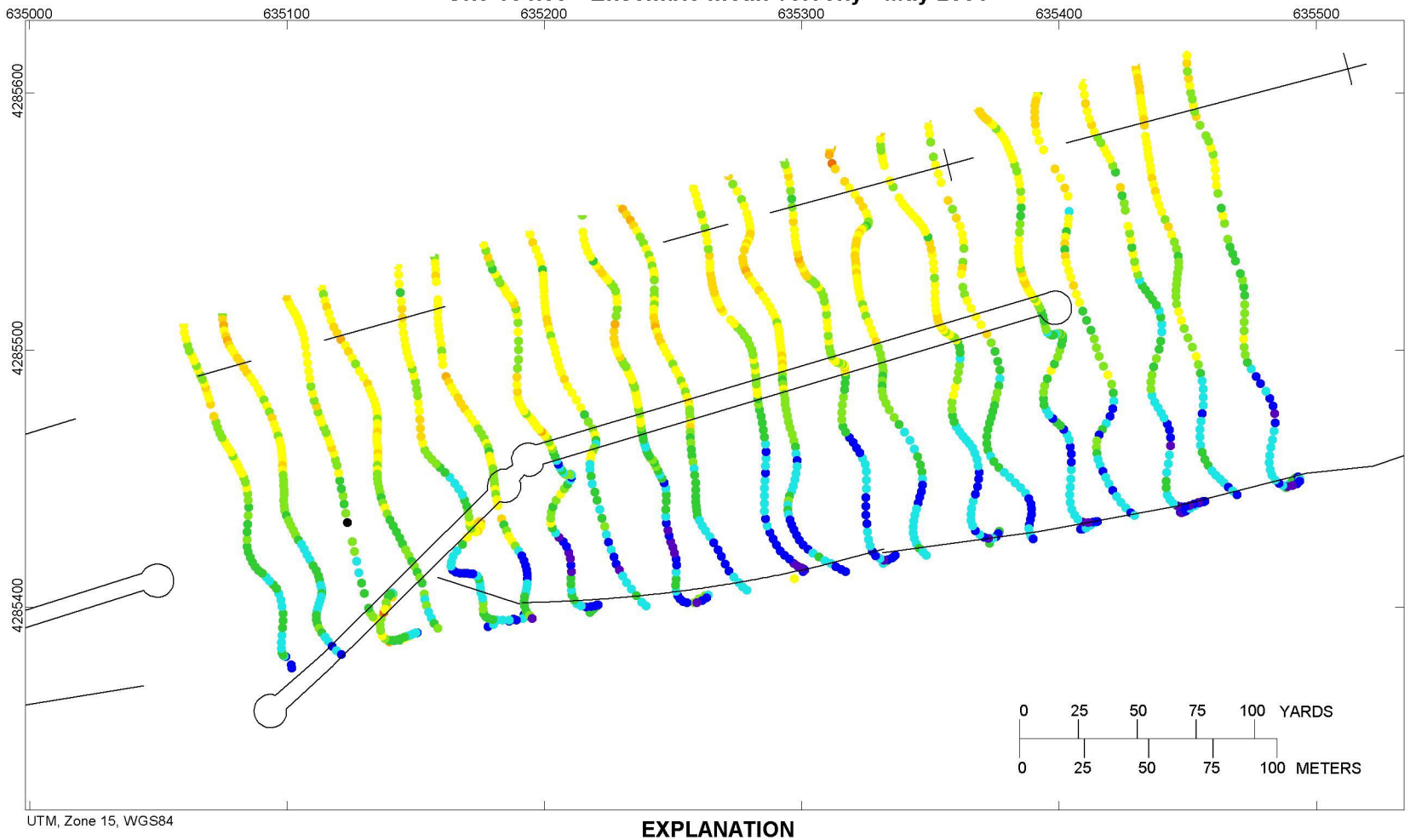
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Ensemble mean velocity - May 2001



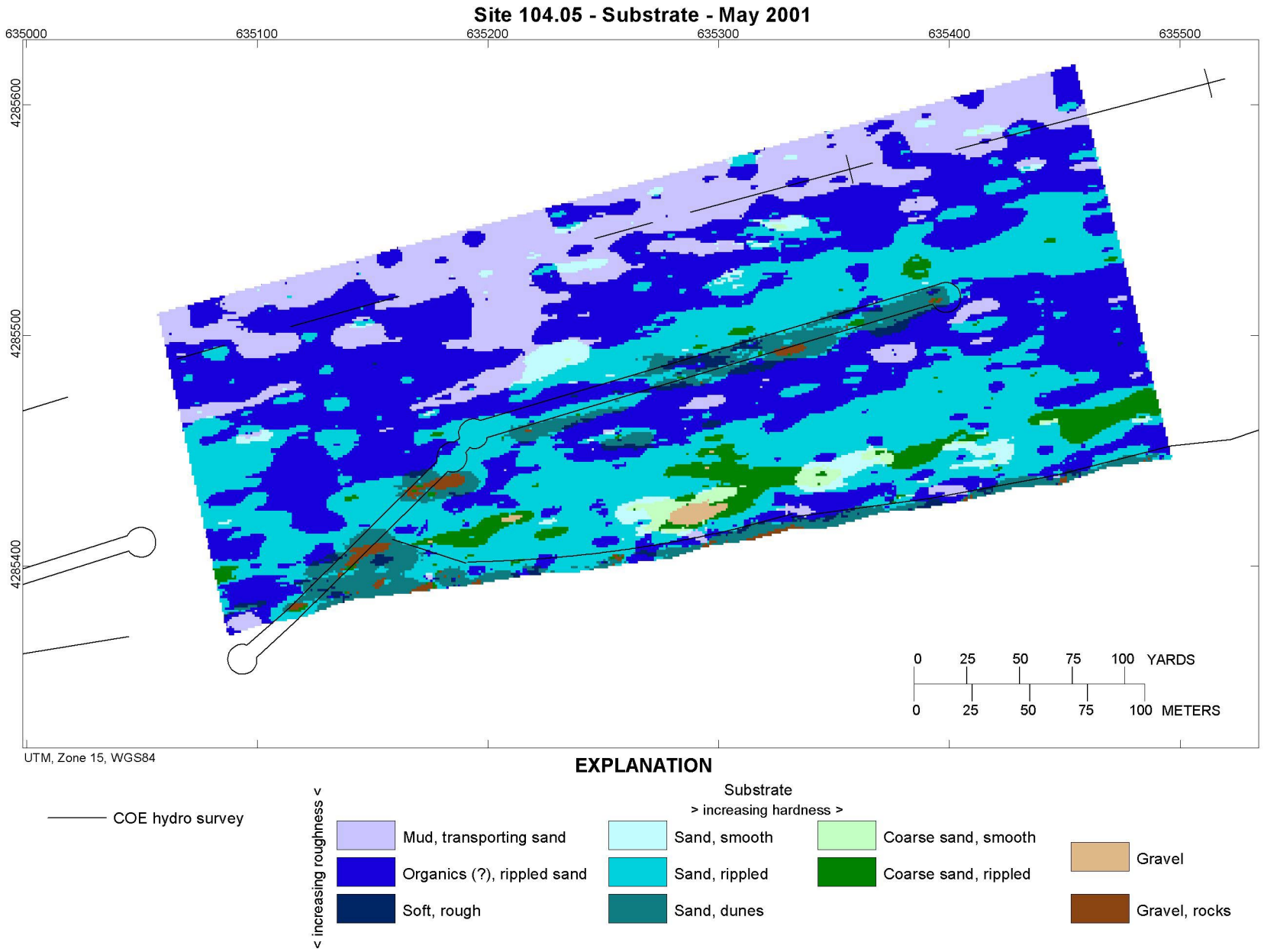
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

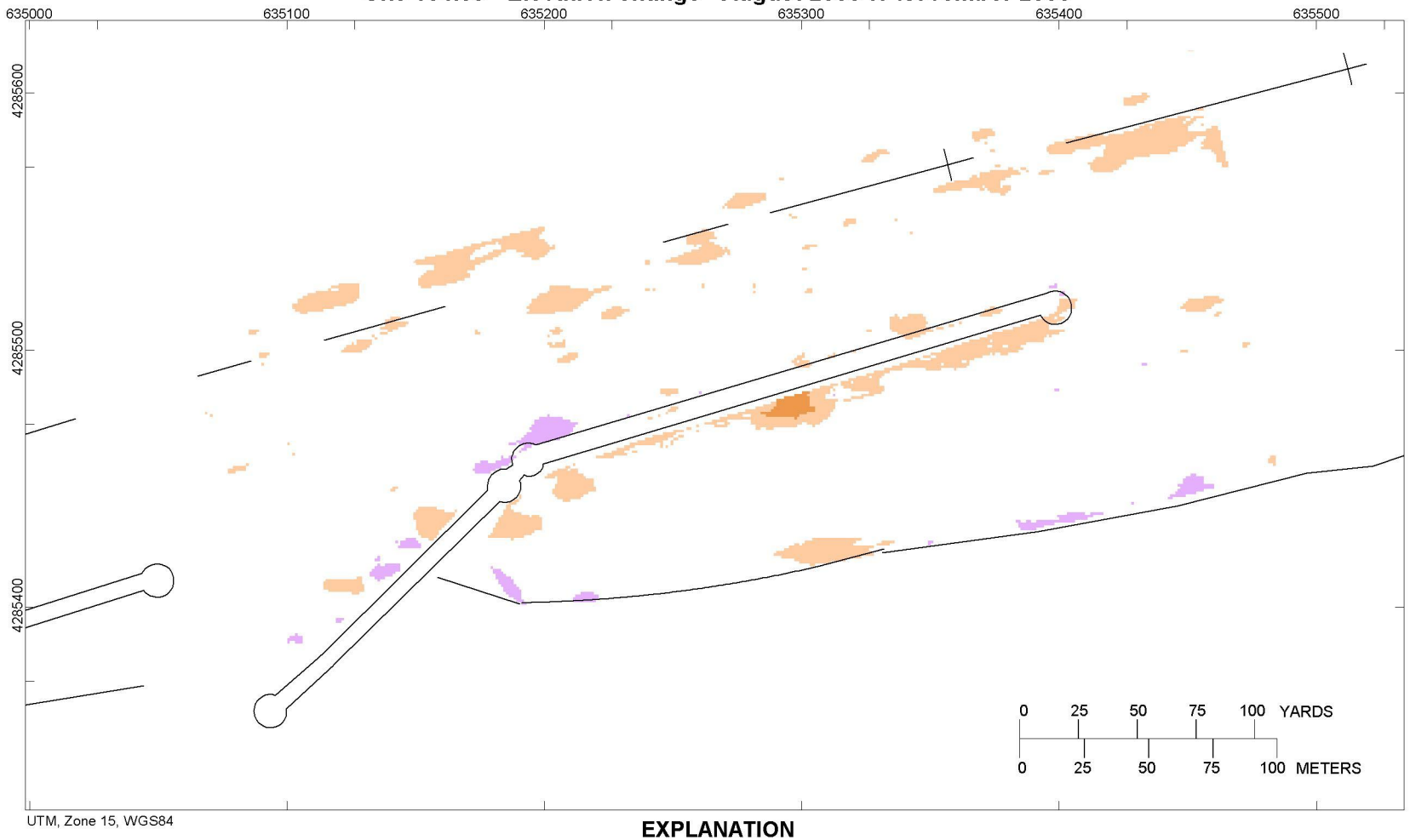
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation change - August 2000 to November 2000



EXPLANATION

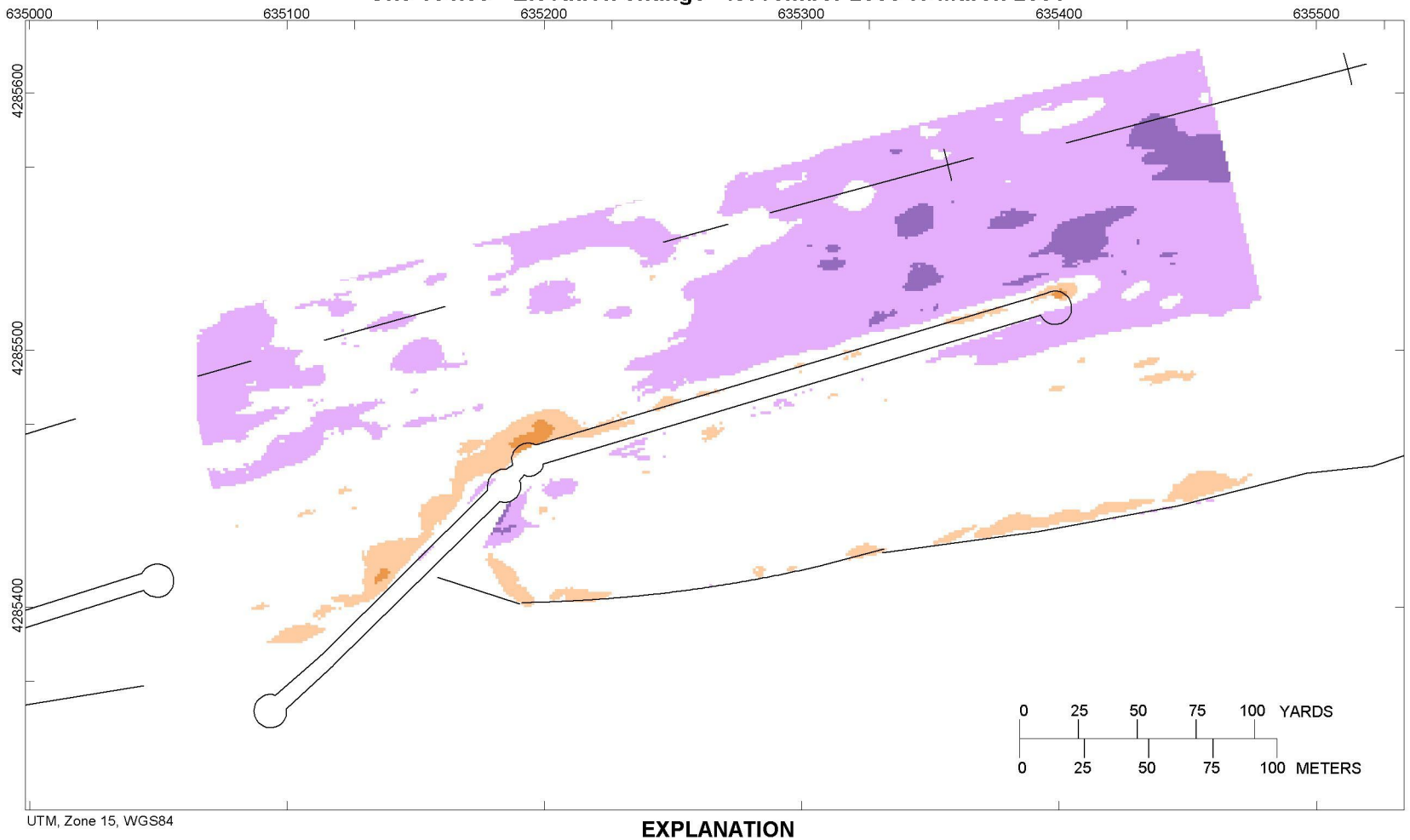
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation change - November 2000 to March 2001



EXPLANATION

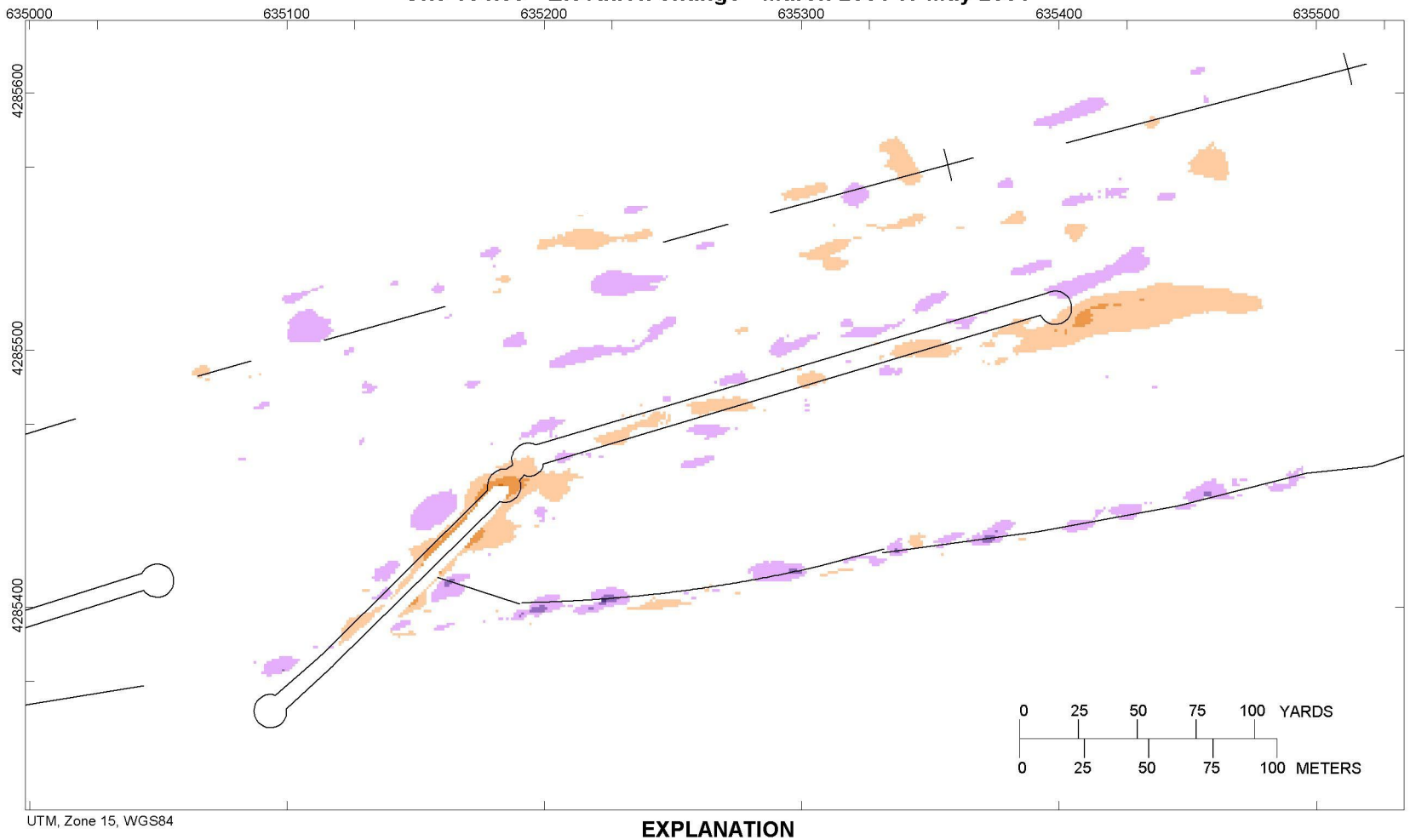
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation change - March 2001 to May 2001



EXPLANATION

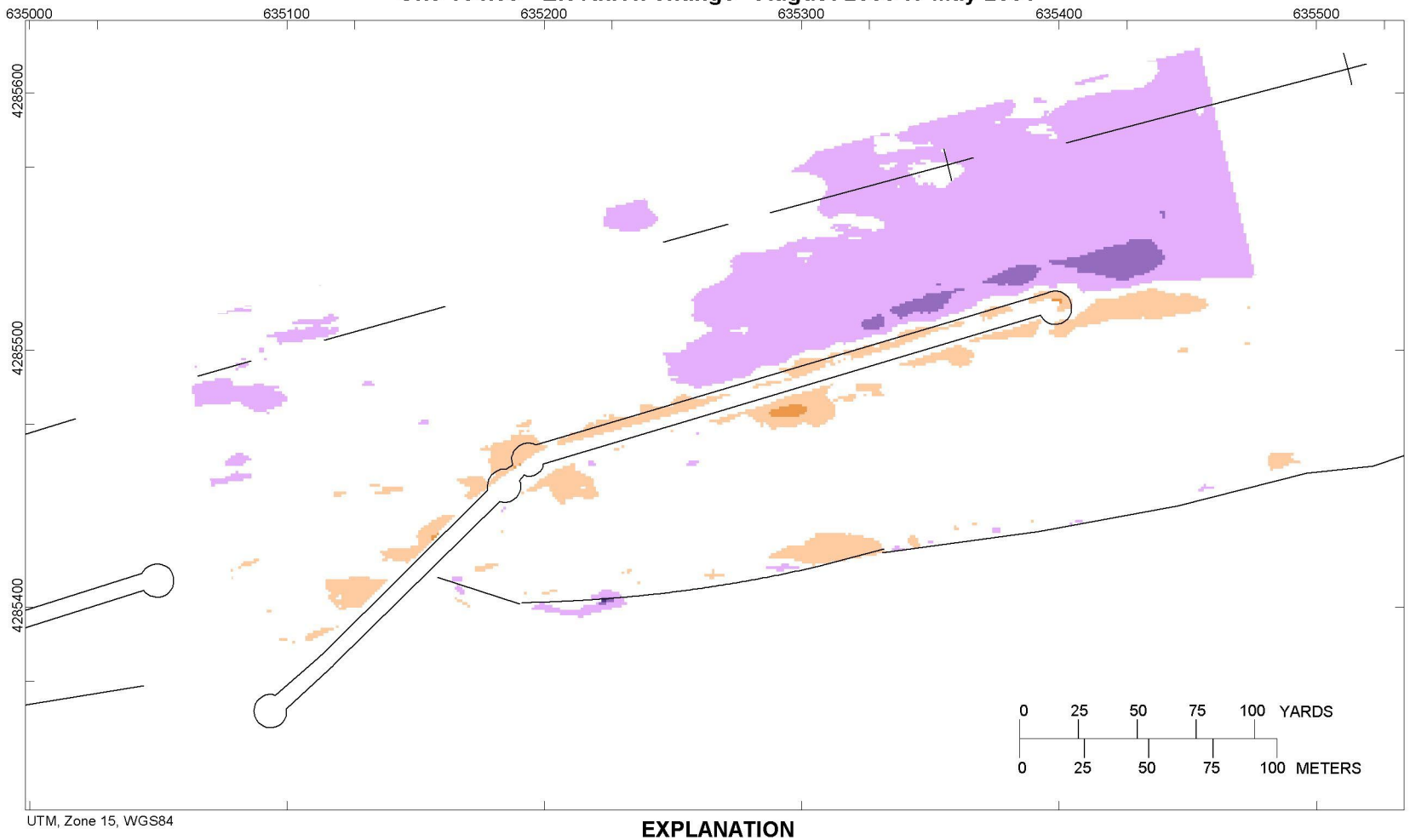
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.05 - Elevation change - August 2000 to May 2001



EXPLANATION

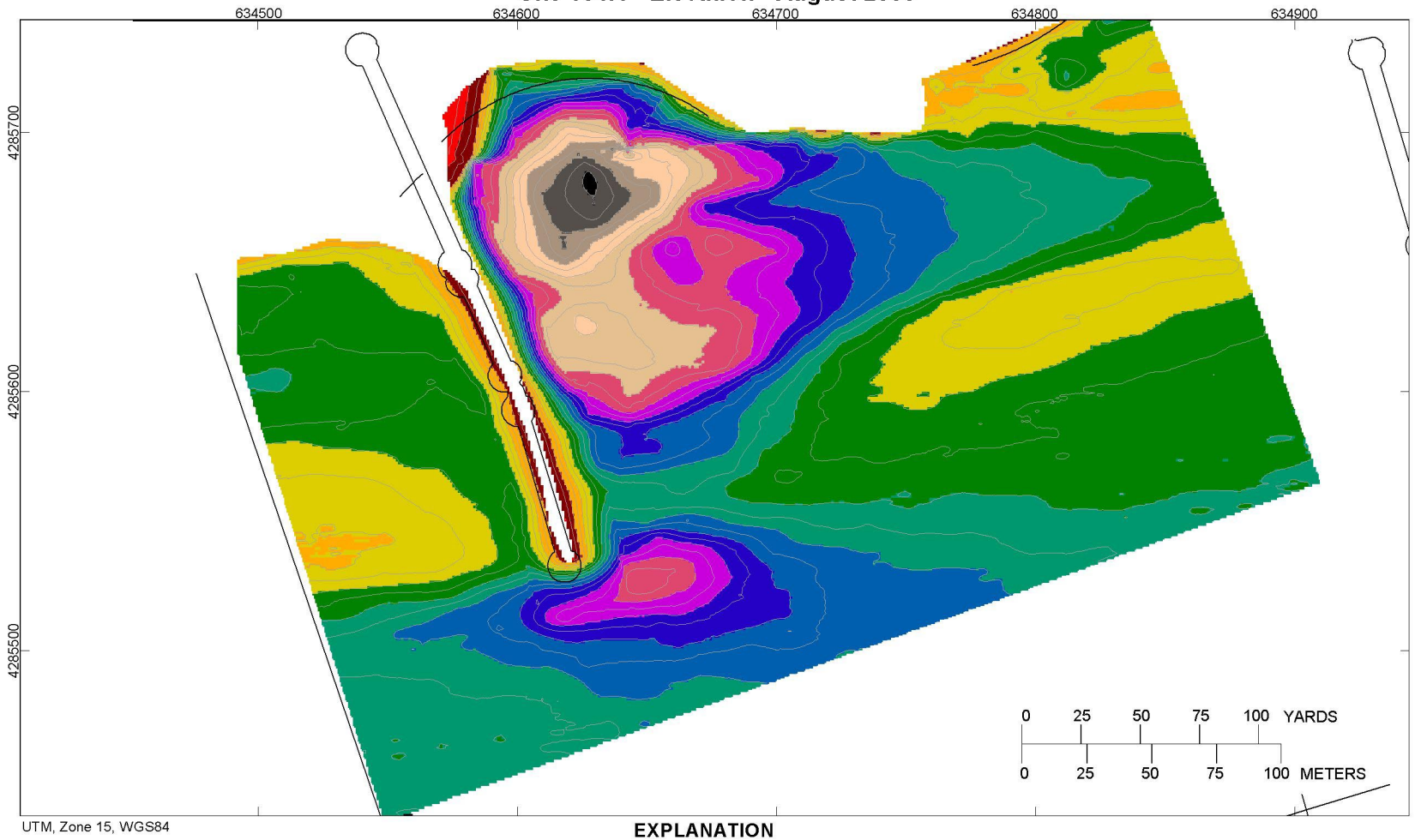
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation - August 2000



EXPLANATION

COE hydro survey

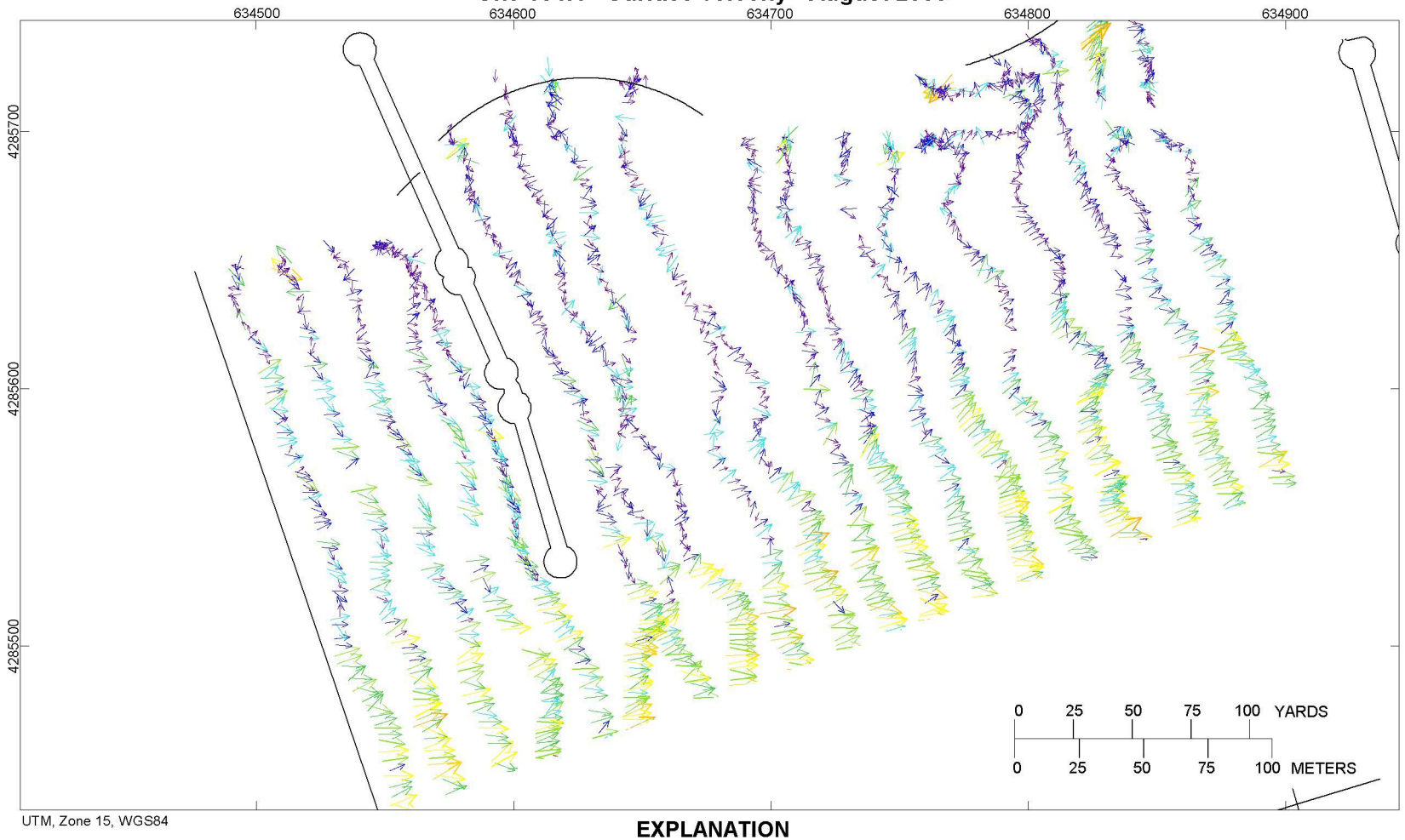
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Surface velocity - August 2000



EXPLANATION

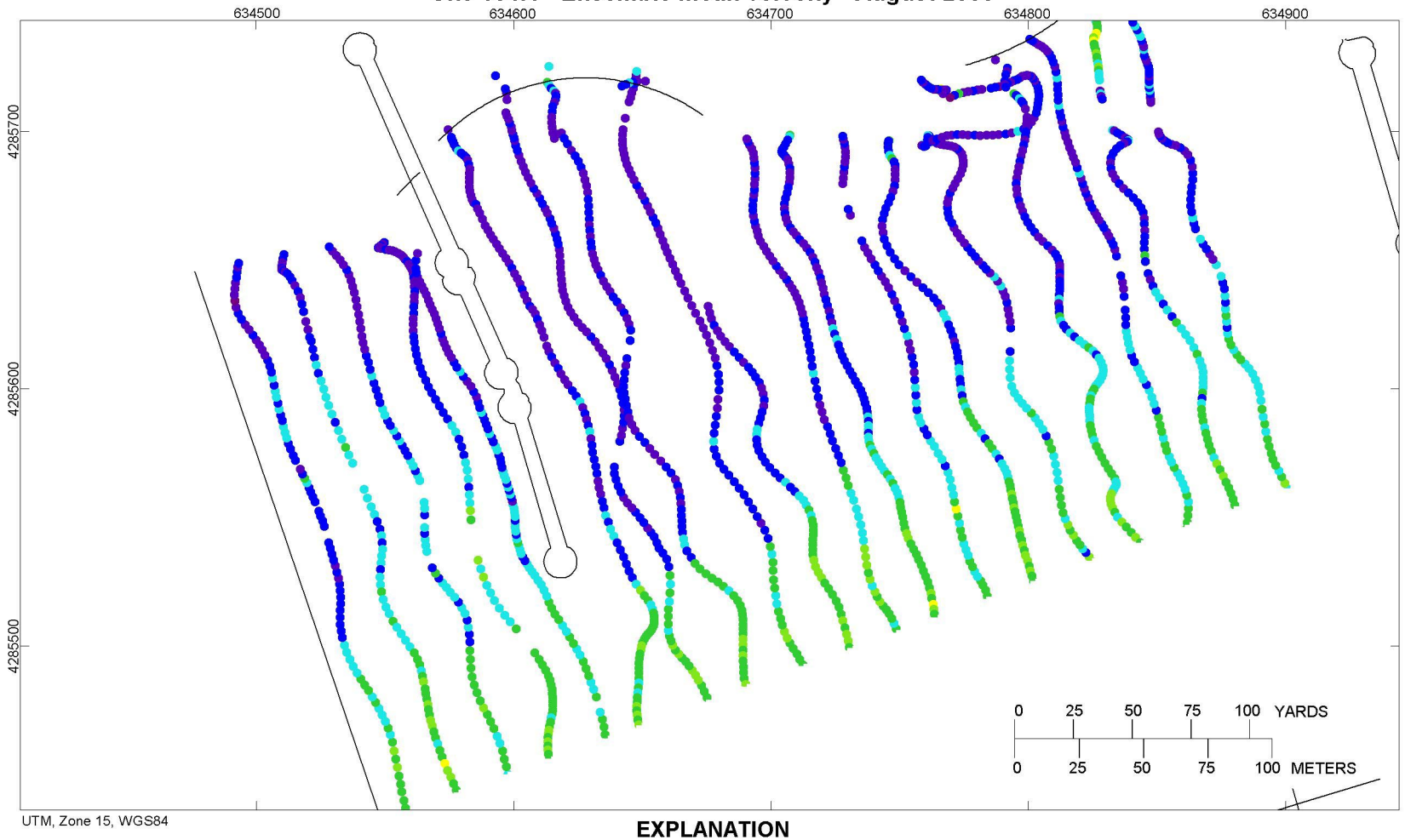
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Ensemble mean velocity - August 2000



EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
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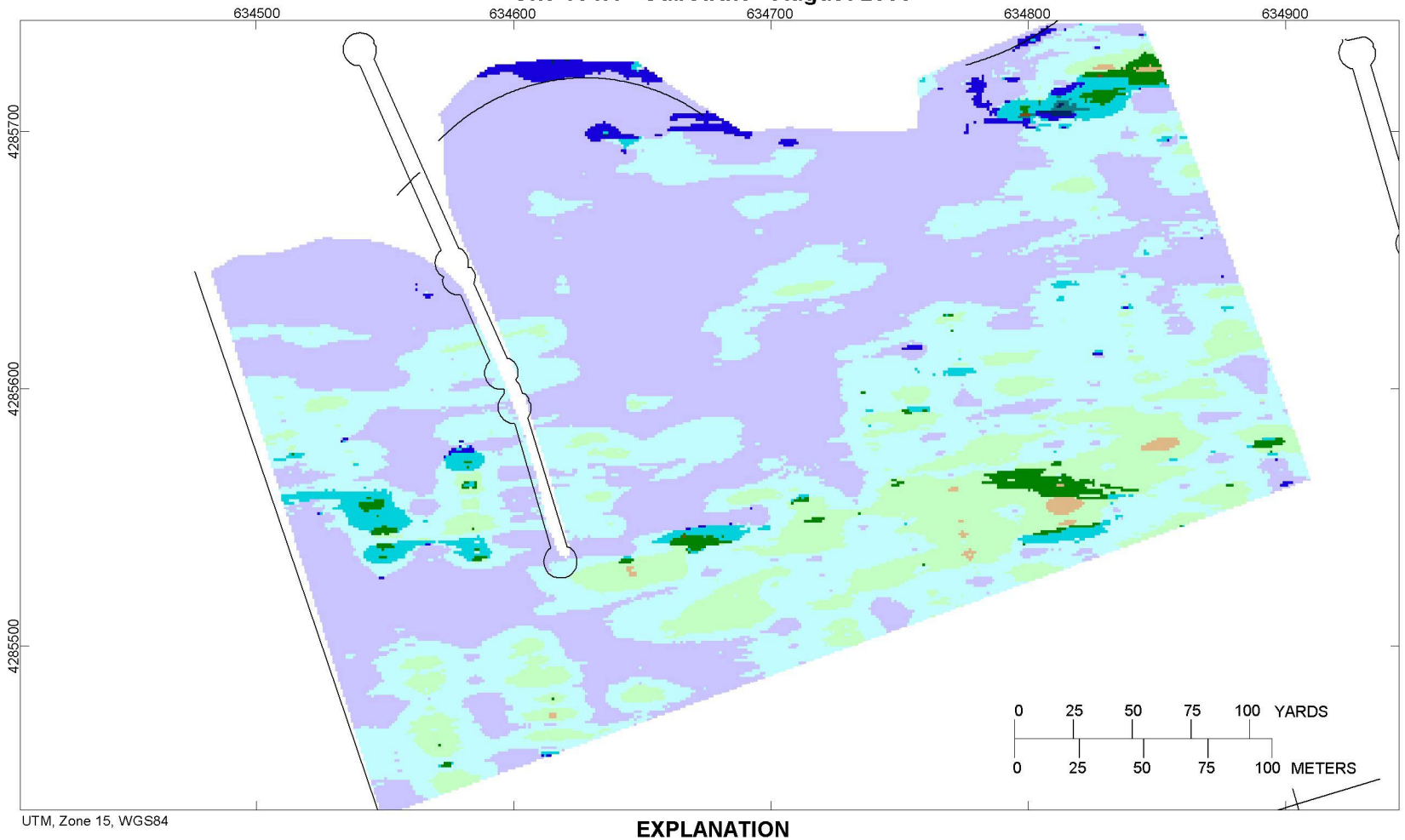
2002

Site 104.4 - Substrate - August 2000



EXPLANATION

COE hydro survey

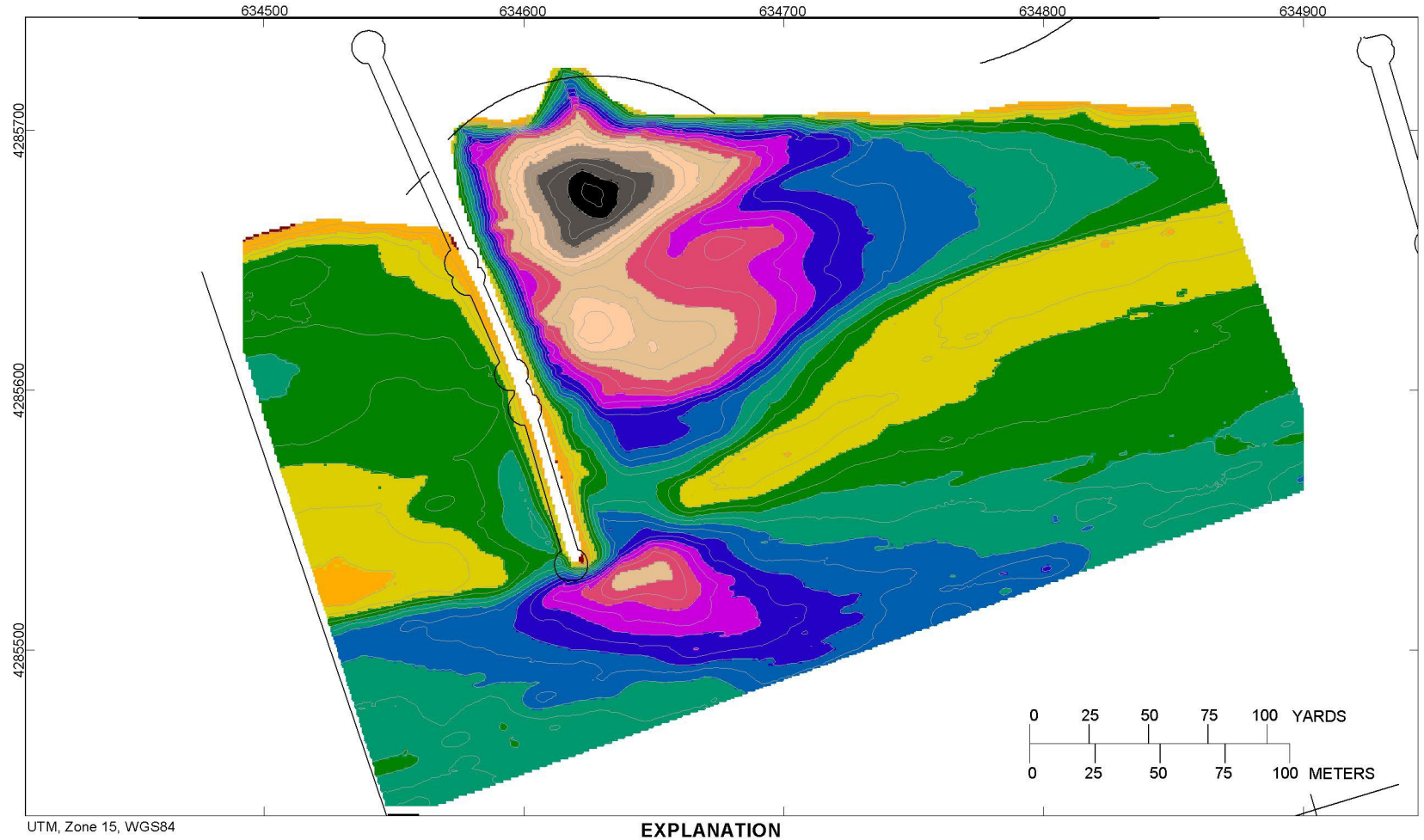
< increasing roughness <

Substrate
> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation - November 2000



EXPLANATION

COE hydro survey

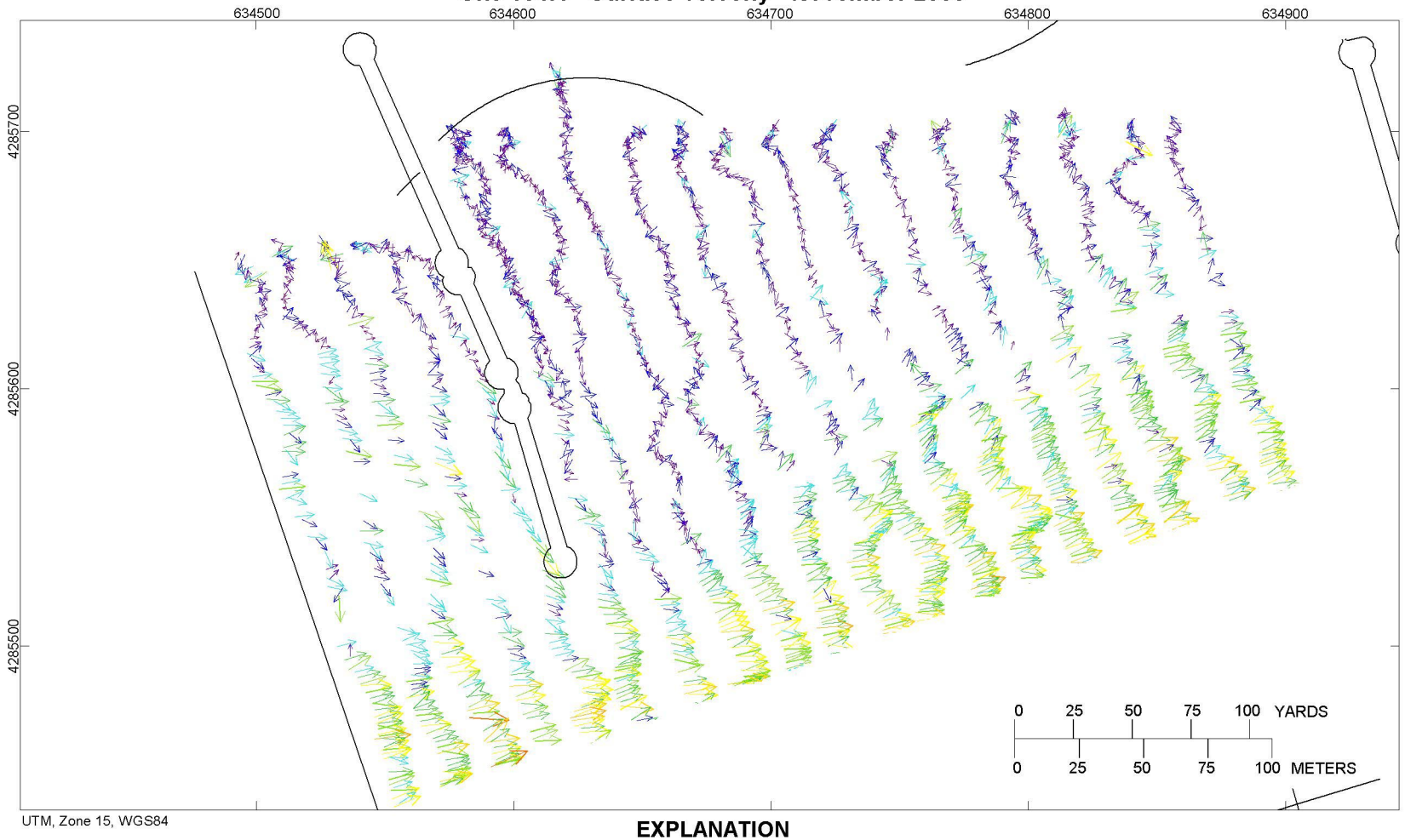
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Surface velocity - November 2000



EXPLANATION

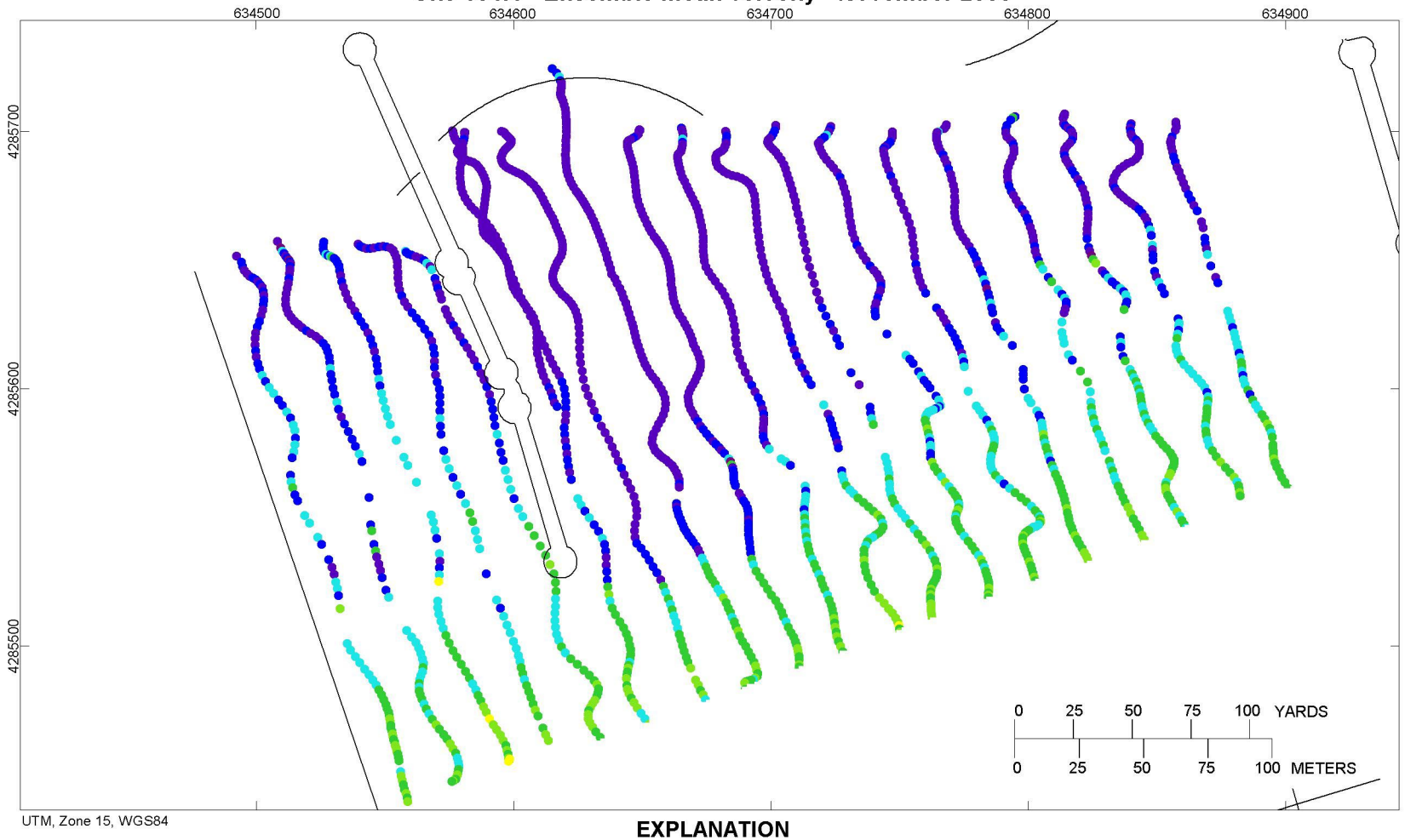
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Ensemble mean velocity - November 2000



EXPLANATION

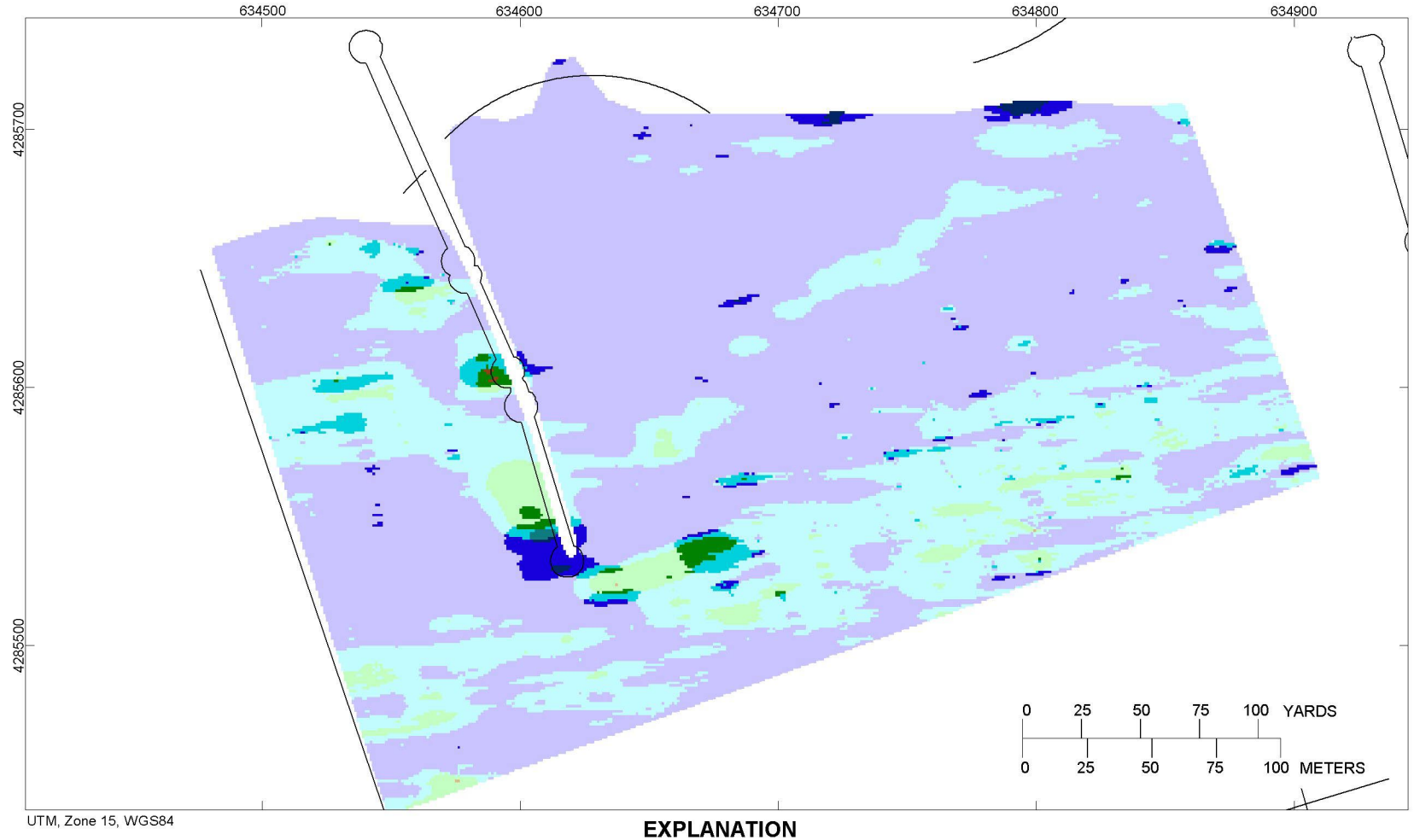
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Substrate - November 2000



EXPLANATION

COE hydro survey

Substrate

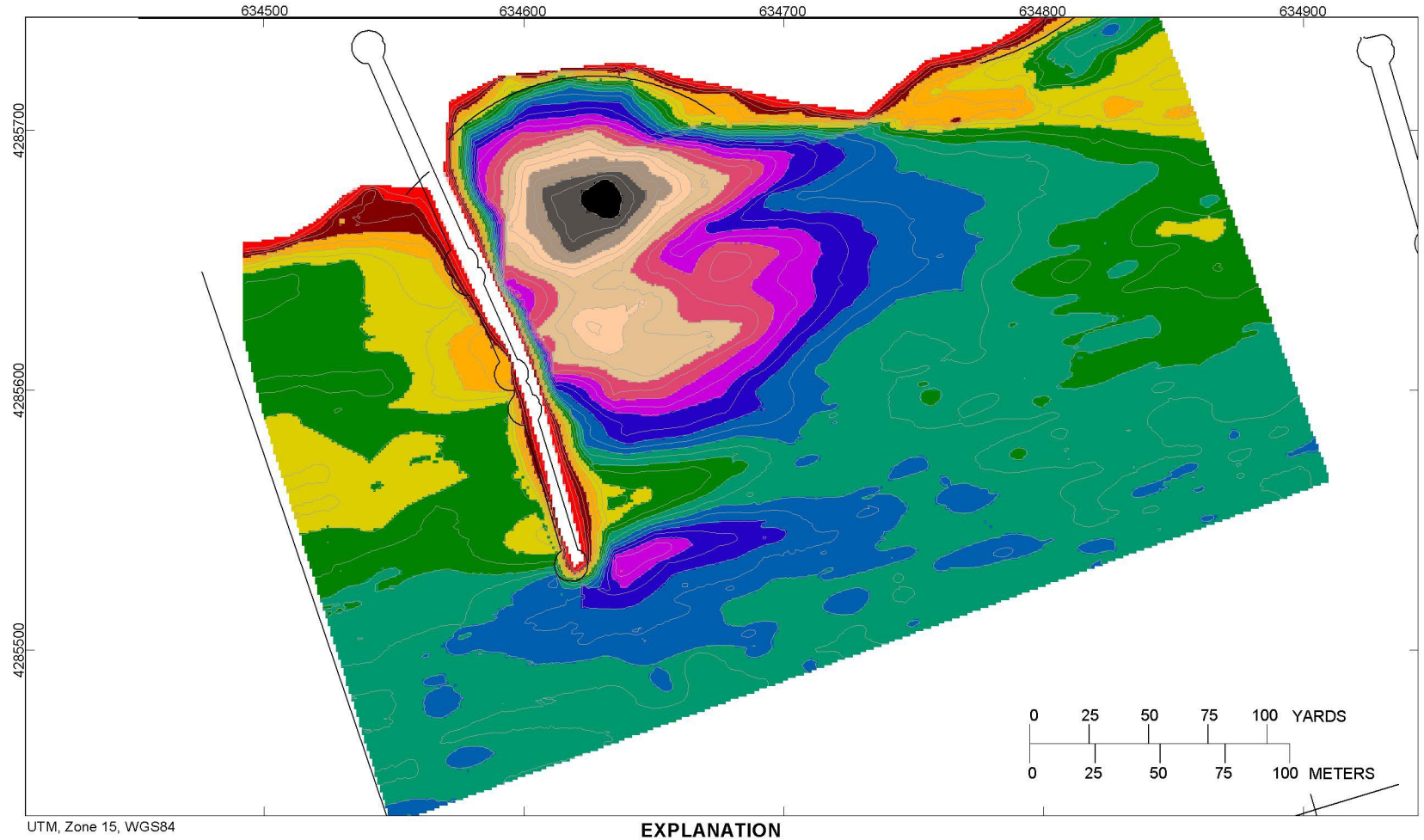
< increasing roughness <

> increasing hardness >

- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation - March 2001



EXPLANATION

COE hydro survey

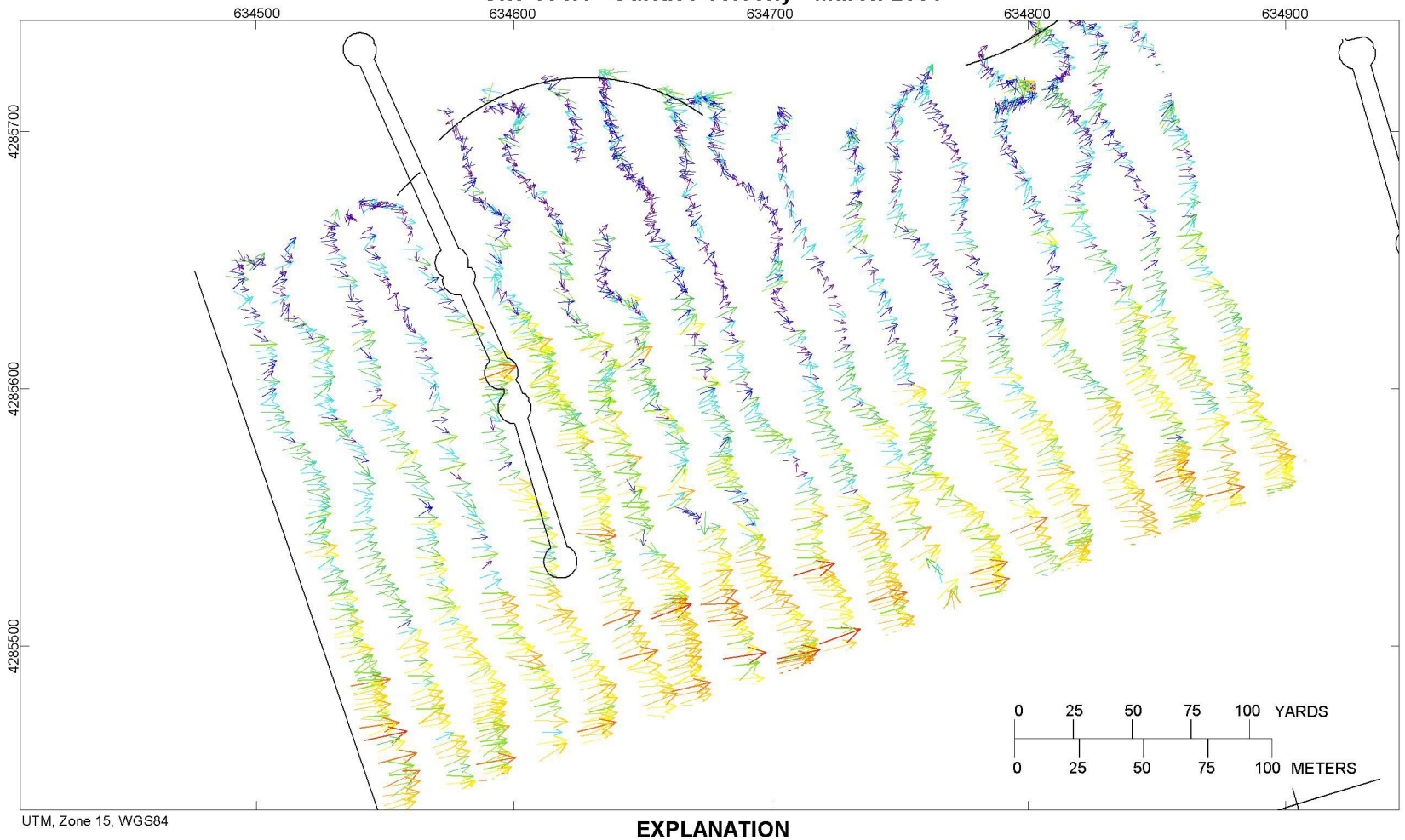
Elevation, in feet

496 - 500	480 - 484	464 - 468	448 - 452
492 - 496	476 - 480	460 - 464	444 - 448
488 - 492	472 - 476	456 - 460	440 - 444
484 - 488	468 - 472	452 - 456	436 - 440

Contour interval 2 feet

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Surface velocity - March 2001



EXPLANATION

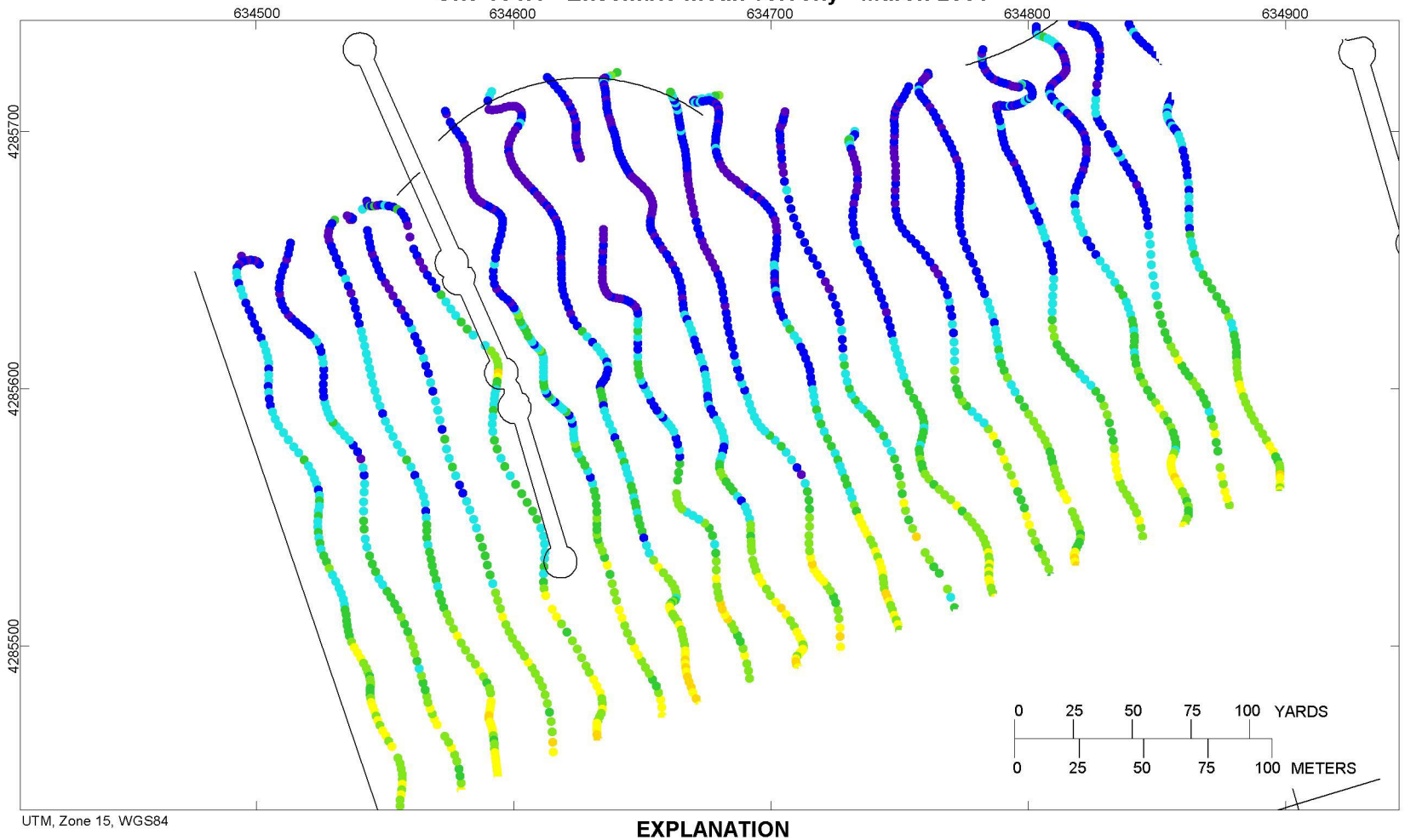
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Ensemble mean velocity - March 2001



EXPLANATION

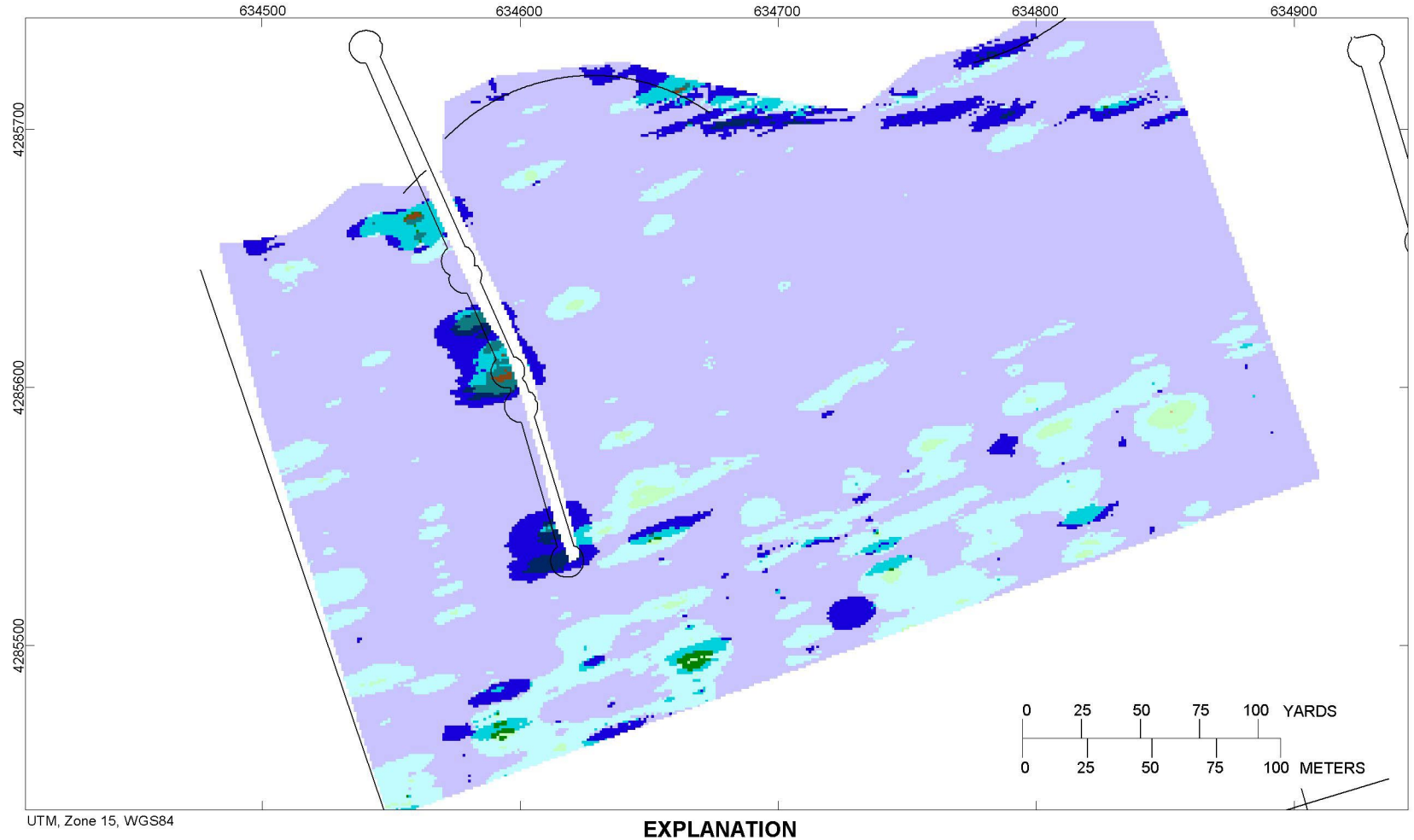
Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Substrate - March 2001



EXPLANATION

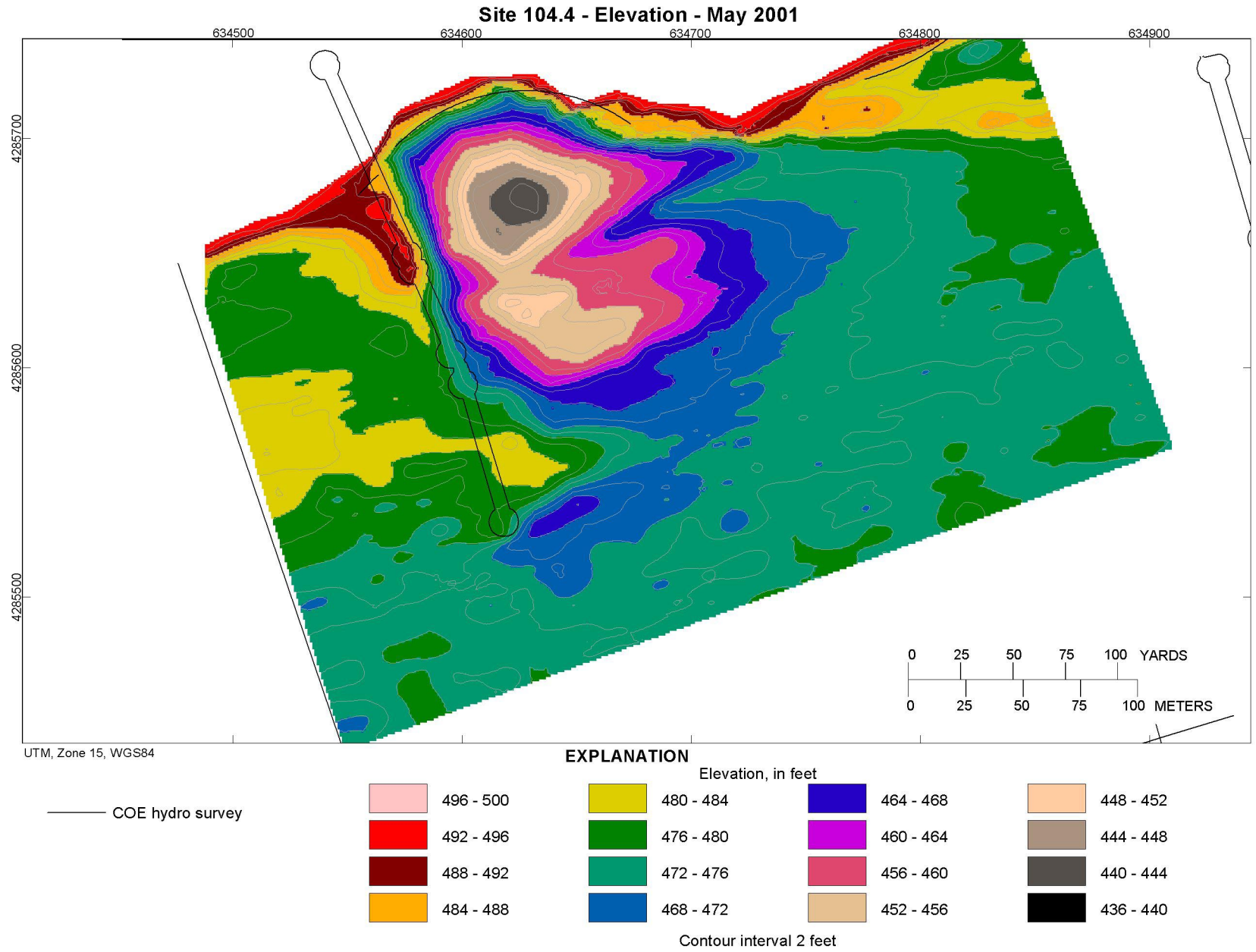
COE hydro survey

Substrate
> increasing hardness >

< increasing roughness <

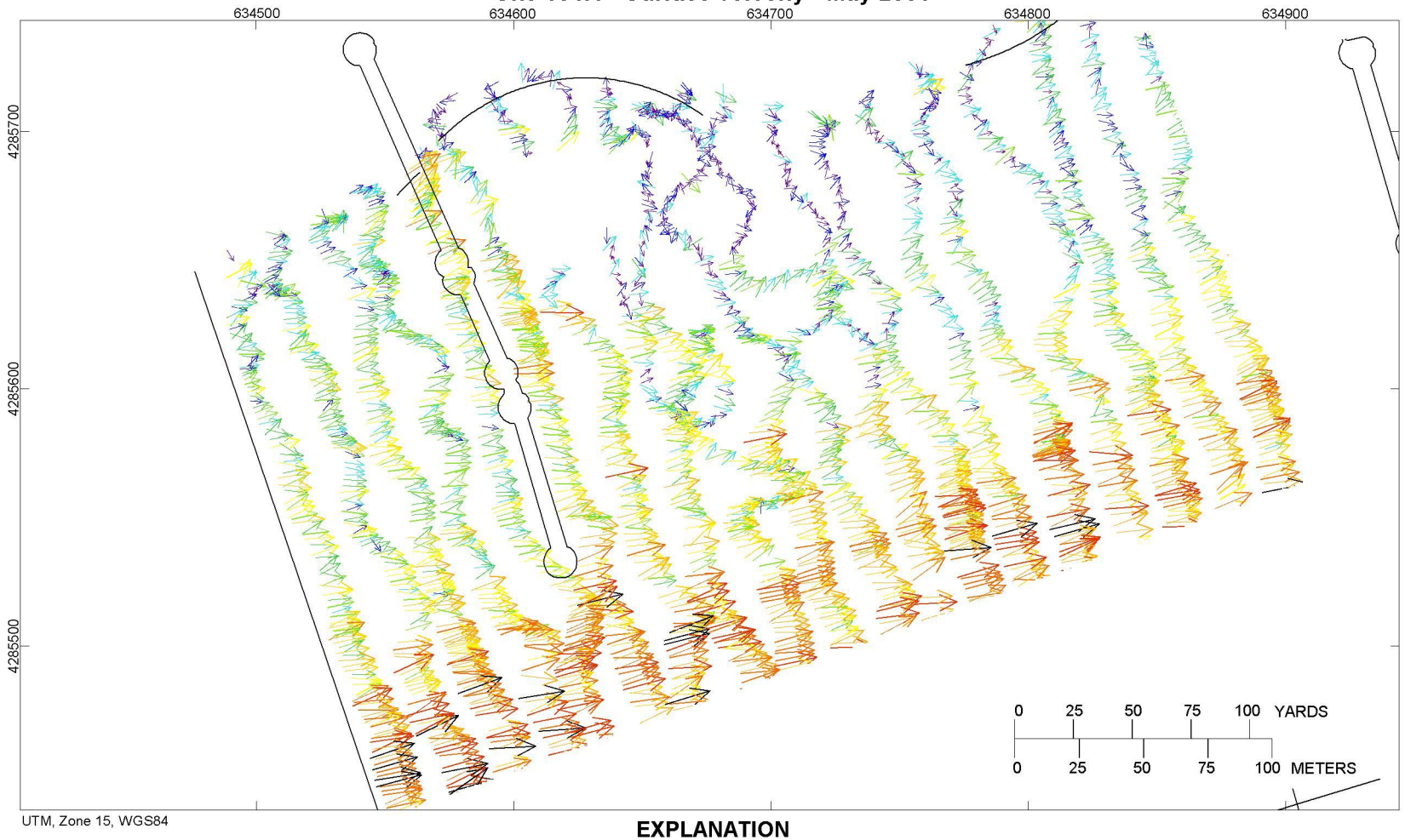
- Mud, transporting sand
- Organics (?), rippled sand
- Soft, rough
- Sand, smooth
- Sand, rippled
- Sand, dunes
- Coarse sand, smooth
- Coarse sand, rippled
- Gravel
- Gravel, rocks

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Surface velocity - May 2001



EXPLANATION

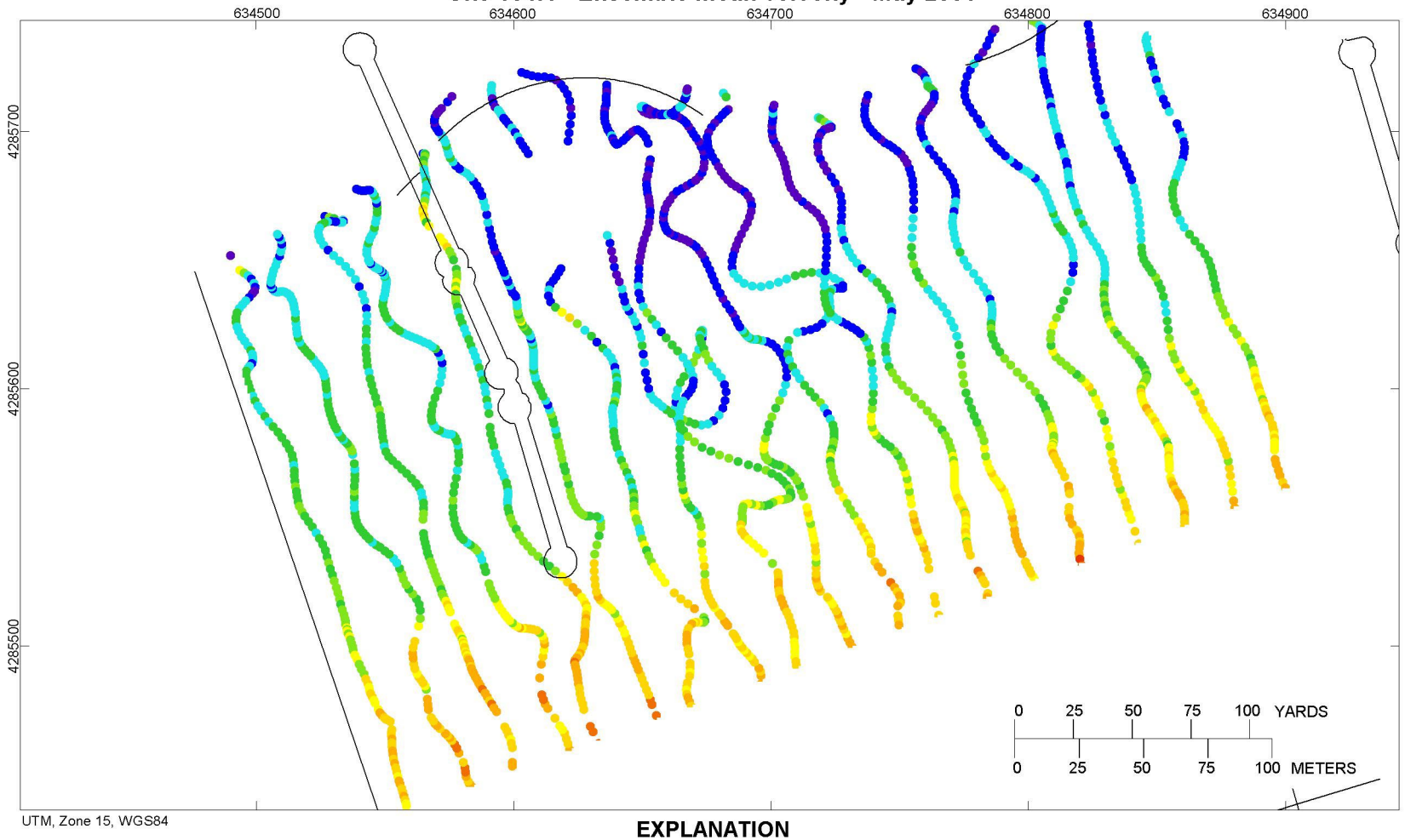
COE hydro survey

Surface velocity, in centimeters/second

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- > 275

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Ensemble mean velocity - May 2001



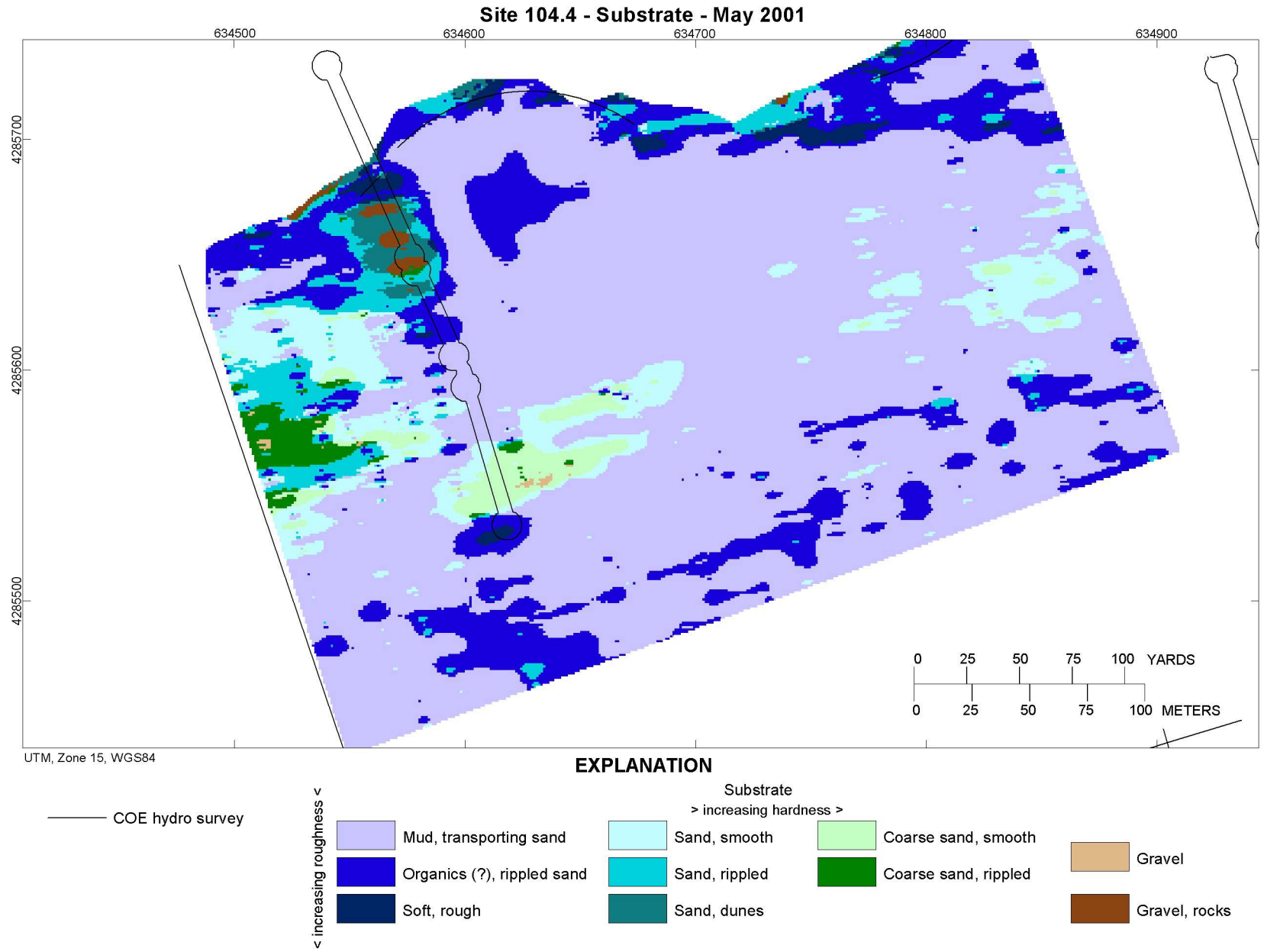
EXPLANATION

Ensemble mean velocity magnitude, in centimeters/second

0 - 25	100 - 125	200 - 225
25 - 50	125 - 150	225 - 250
50 - 75	150 - 175	250 - 275
75 - 100	175 - 200	> 275

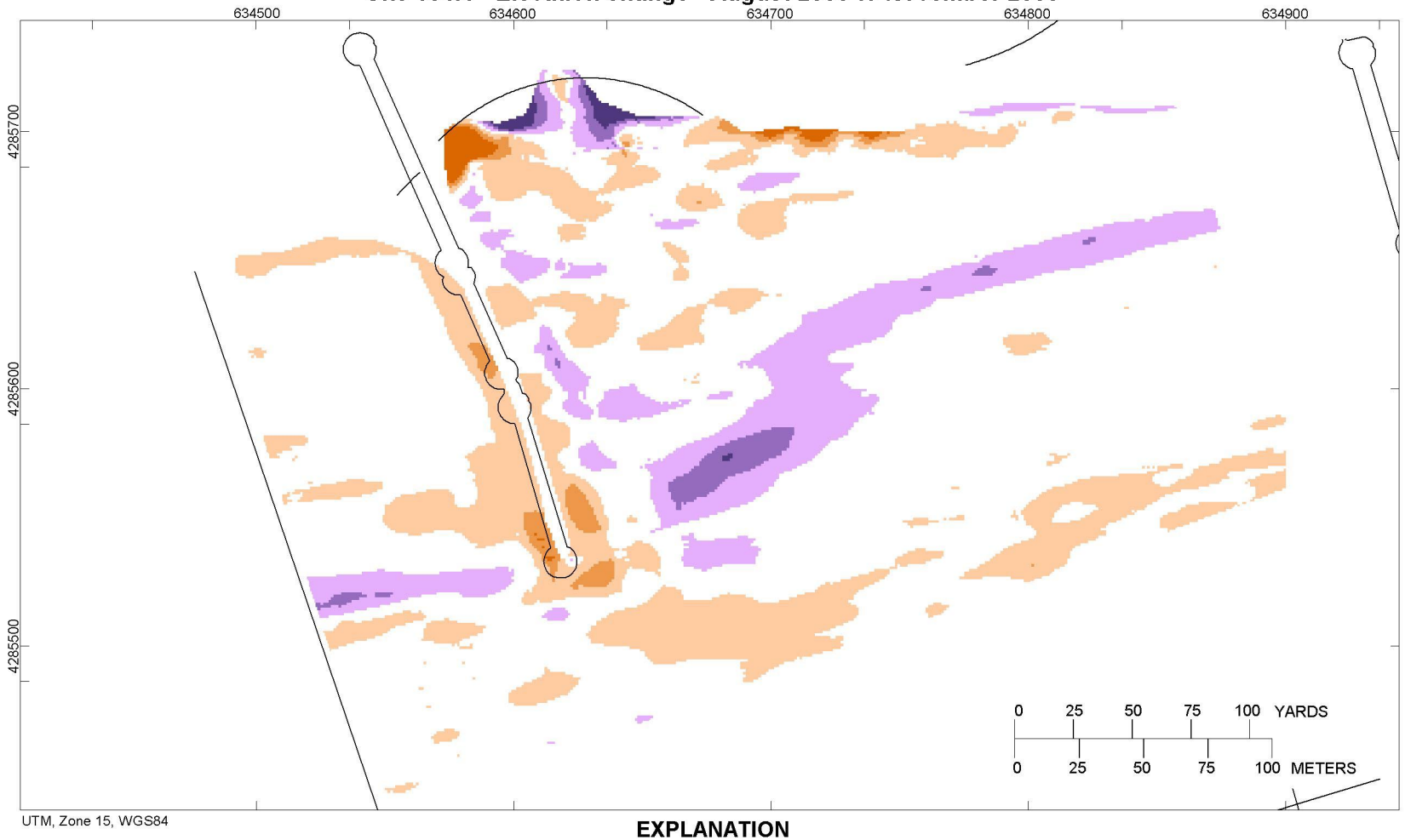
COE hydro survey

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002



HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation change - August 2000 to November 2000



EXPLANATION

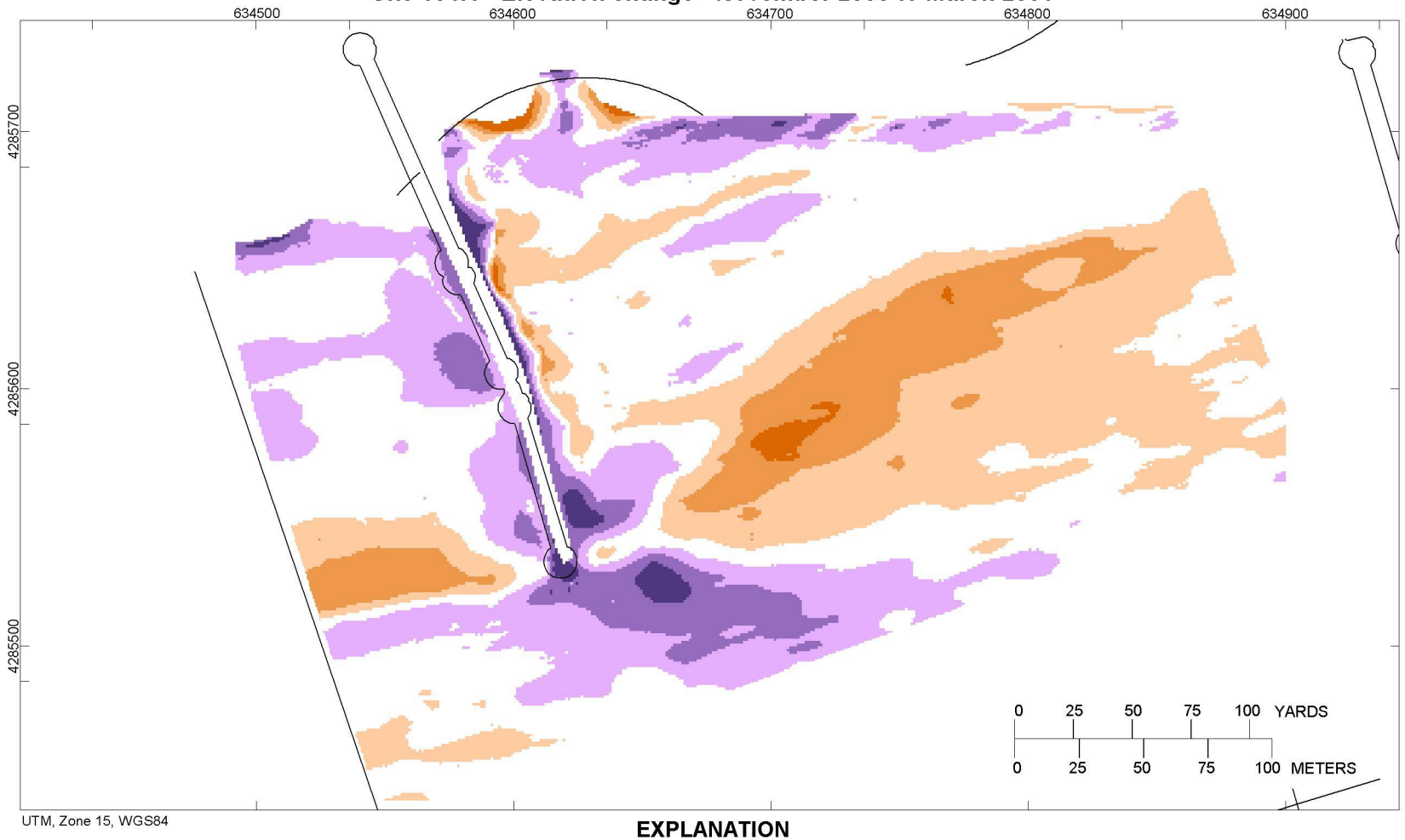
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation change - November 2000 to March 2001



EXPLANATION

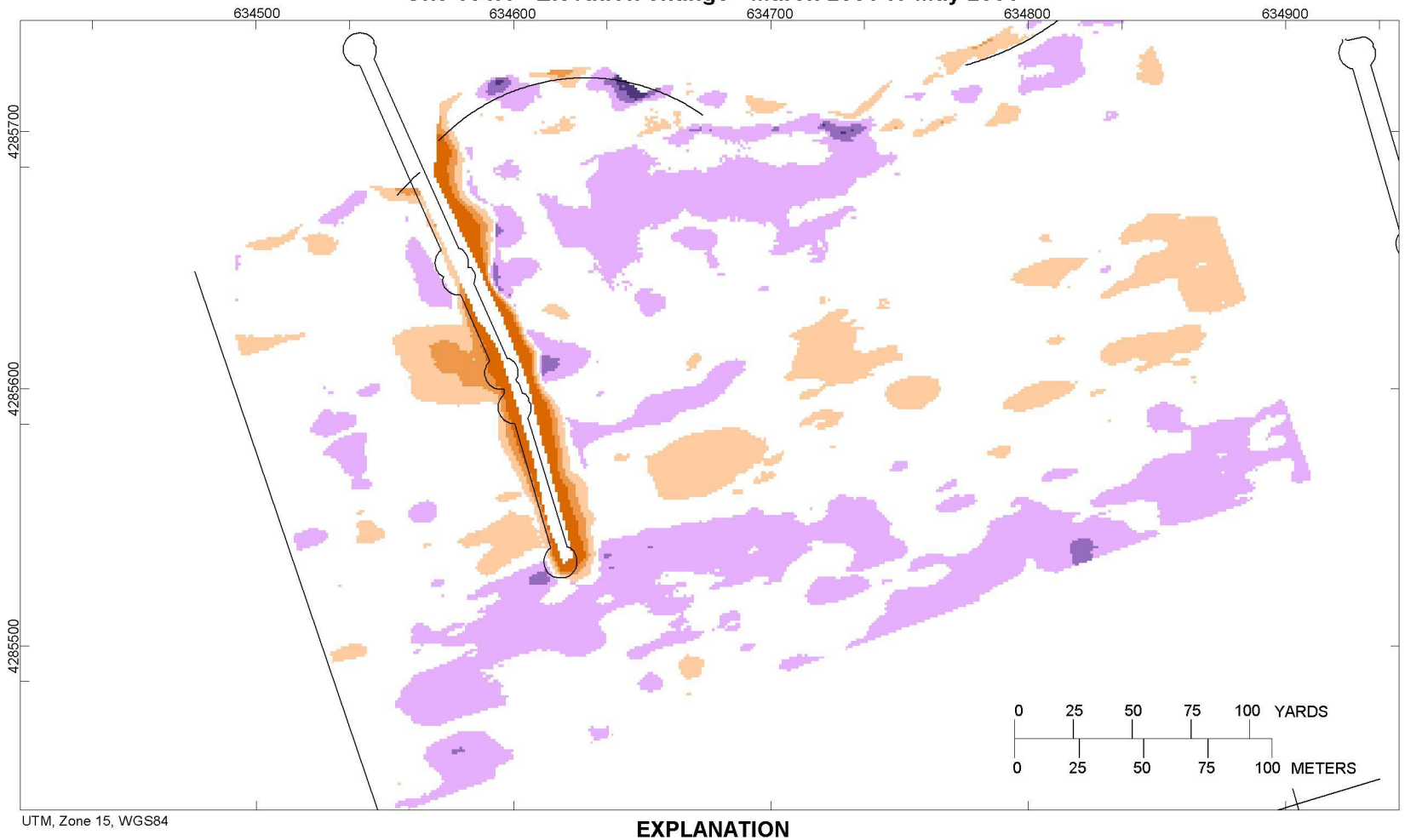
COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002

Site 104.4 - Elevation change - March 2001 to May 2001



EXPLANATION

COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
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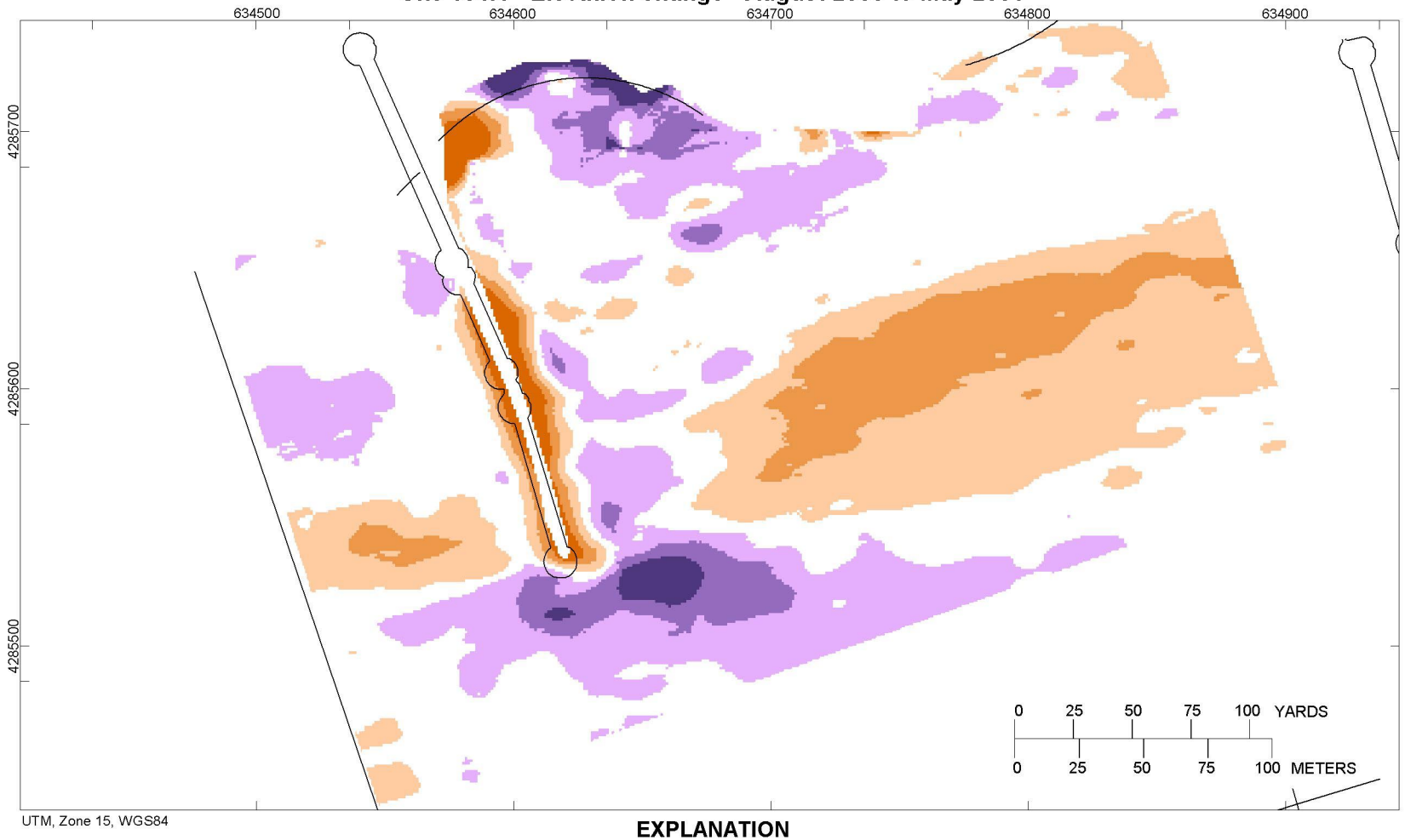
2002

Site 104.4 - Elevation change - August 2000 to May 2001



EXPLANATION

COE hydro survey

Elevation change, in feet

Erosion	Deposition
2 - 6	2 - 6
6 - 10	6 - 10
> 10	> 10

HABITAT ASSESSMENT, MISSOURI RIVER AT HERMANN, MISSOURI
Robert B. Jacobson, Mark S. Laustrup, and Joanna M. Reuter
2002