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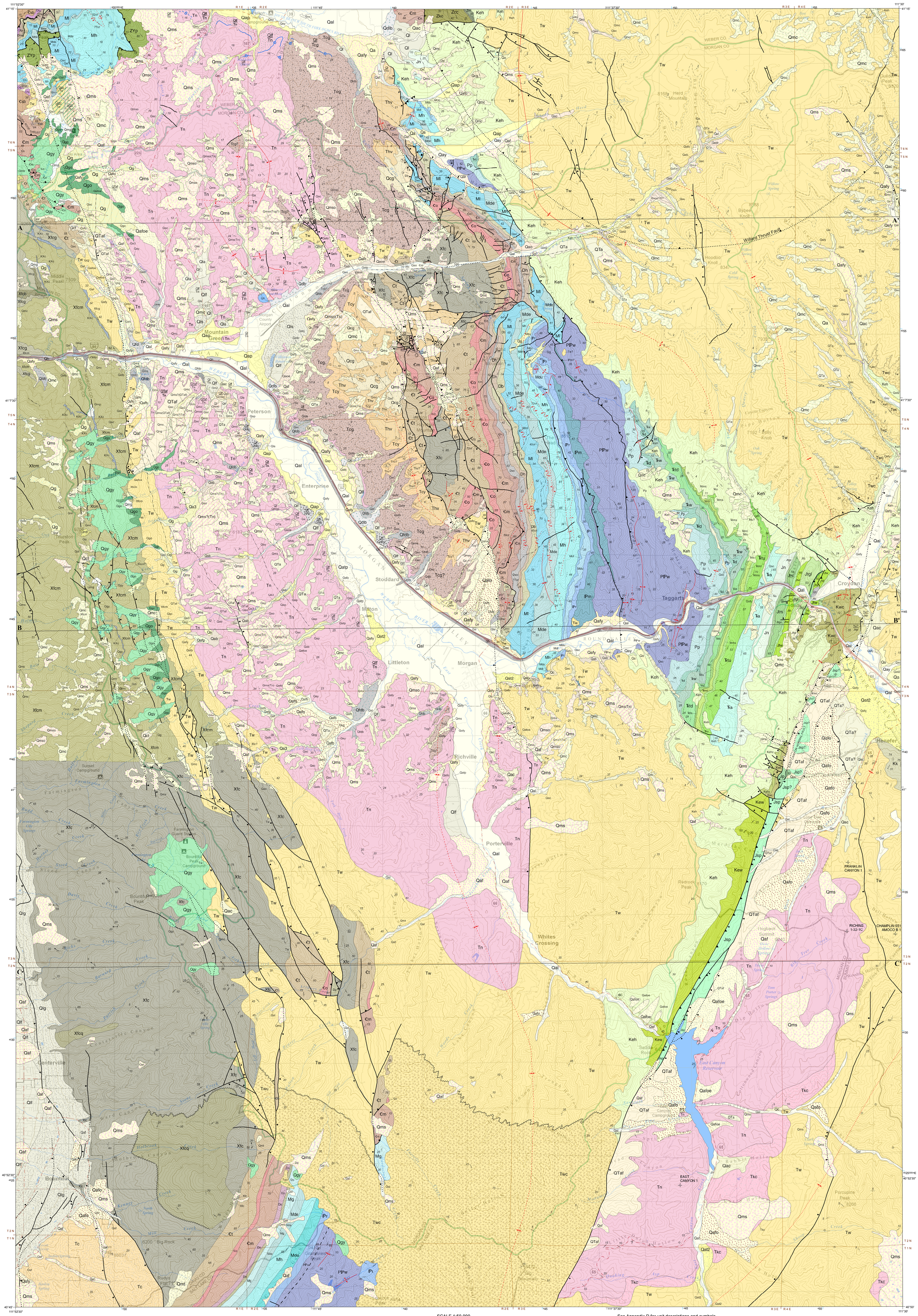

See Appendix D for unit descriptions and symbols

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SCALE 1:50,000

1 0.5 0 1 MILE

2000 0 2000 4000 6000 8000 10000 FEET

1 0.5 0 1 KILOMETER

CONTOUR INTERVAL 100 FEET

12°11'
TRUE
MAGNETIC NORTH

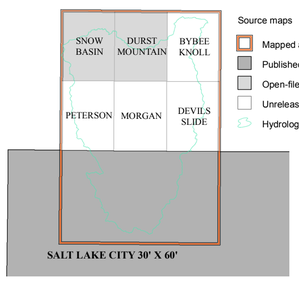
APPROXIMATE MEAN DECLINATION, 2011

GEOLOGIC MAP OF THE MORGAN VALLEY AREA, MORGAN, WEBER, SALT LAKE, DAVIS, AND SUMMIT COUNTIES, UTAH

Compiled by Jon K. King

2012

MAP LOCATION



Source maps
- Mapped area
- Published source
- Open-file report
- Unreleased source
- Hydrologic boundary

Base produced from Utah Automated Geographic Reference Center features
Projection: UTM Zone 12
Datum: NAD 1983
Spheroid: Clarke 1886

Project Manager: Mike Lowe
GIS and Cartography: Richard Emerson

Utah Geological Survey
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Salt Lake City, UT 84114-6100
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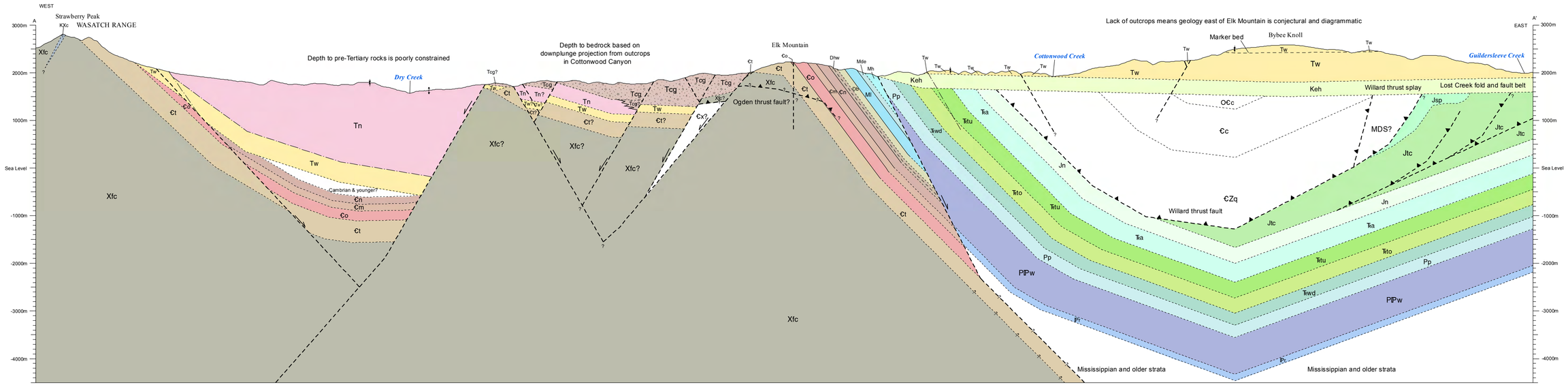
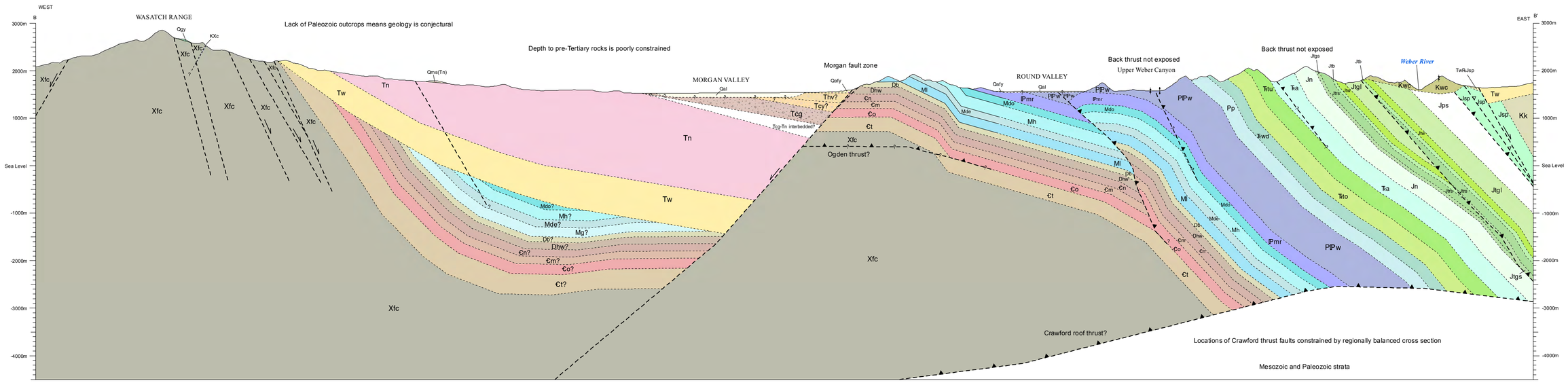
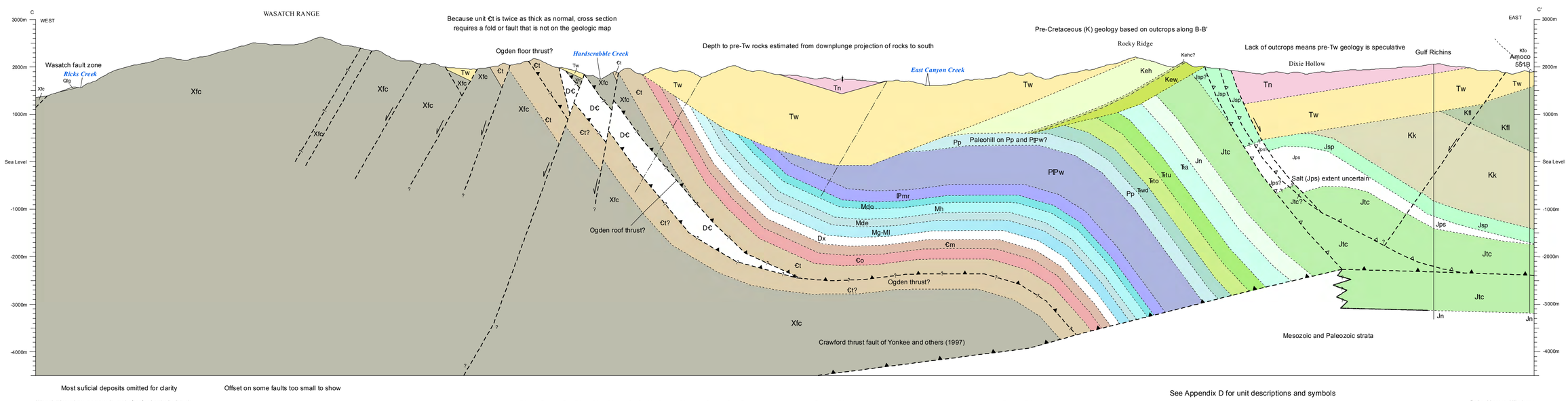


Surficial deposits omitted for clarity Offset on some faults too small to show - ½ mm on map = 25 m on ground



Most surficial deposits omitted for clarity Offset on some faults too small to show



Most suficial deposits omitted for clarity Offset on some faults too small to show

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GEOLOGIC CROSS SECTIONS OF THE MORGAN VALLEY AREA, MORGAN, WEBER, SALT LAKE, DAVIS, AND SUMMIT COUNTIES, UTAH

Compiled by Jon K. King

2012

See Appendix D for unit descriptions and symbols

1 0.5 0 1 MILE
2000 0 2000 4000 6000 8000 10000 FEET
1 0.5 0 1 KILOMETER
SCALE 1:50,000

Project Manager: Mike Lowe
GIS and Cartography: Richard Emerson

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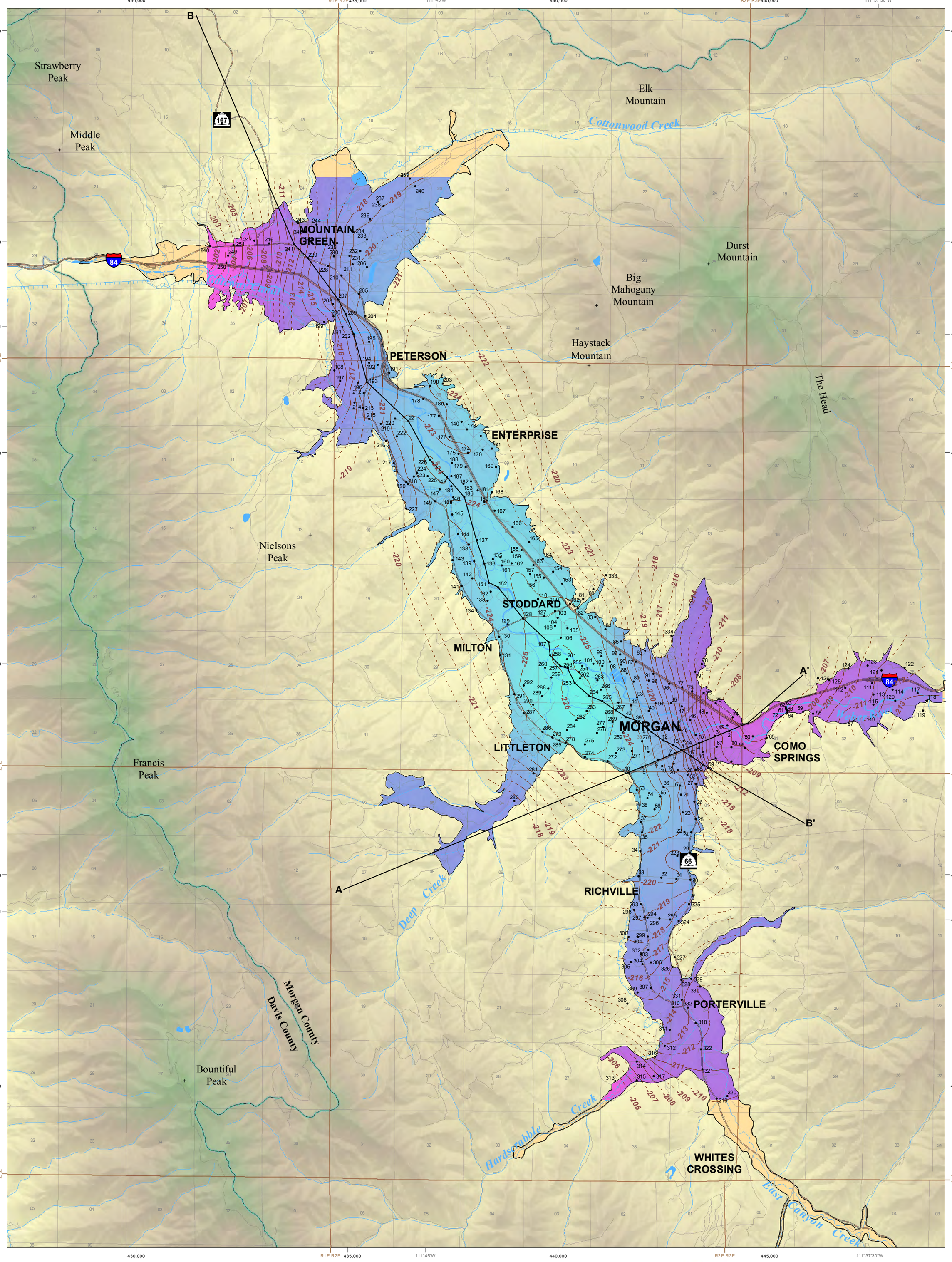

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N

SCALE 1:62,500

1 0.5 0 1 MILES

1 0.5 0 1 2 3 KILOMETERS

MAP LOCATION

Base produced from Utah Automated Geographic Reference Center features
Projection: UTM Zone 12
Datum: NAD 1983
Spheroid: Clarke 1886

Project Manager: Mike Lowe
GIS and Cartography: Richard Emerson

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CONTOURED COMPLETE BOUGUER ANOMALY OF VALLEY-FILL DEPOSITS, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Bouguer value (mGal)
-200.8
-213.0
-226.5

307 Gravity station and station ID (see appendix C1 for station data)

A — A′ Cross Sections for figures 13 and 14

Bouguer contour - Contour interval 1.0 mGal

Valley fill

Bedrock (inferred)

Other symbols

Morgan Valley drainage basin boundary

Valley fill (no data)

Bedrock

Stream or river

Canal or aquaduct

Water body

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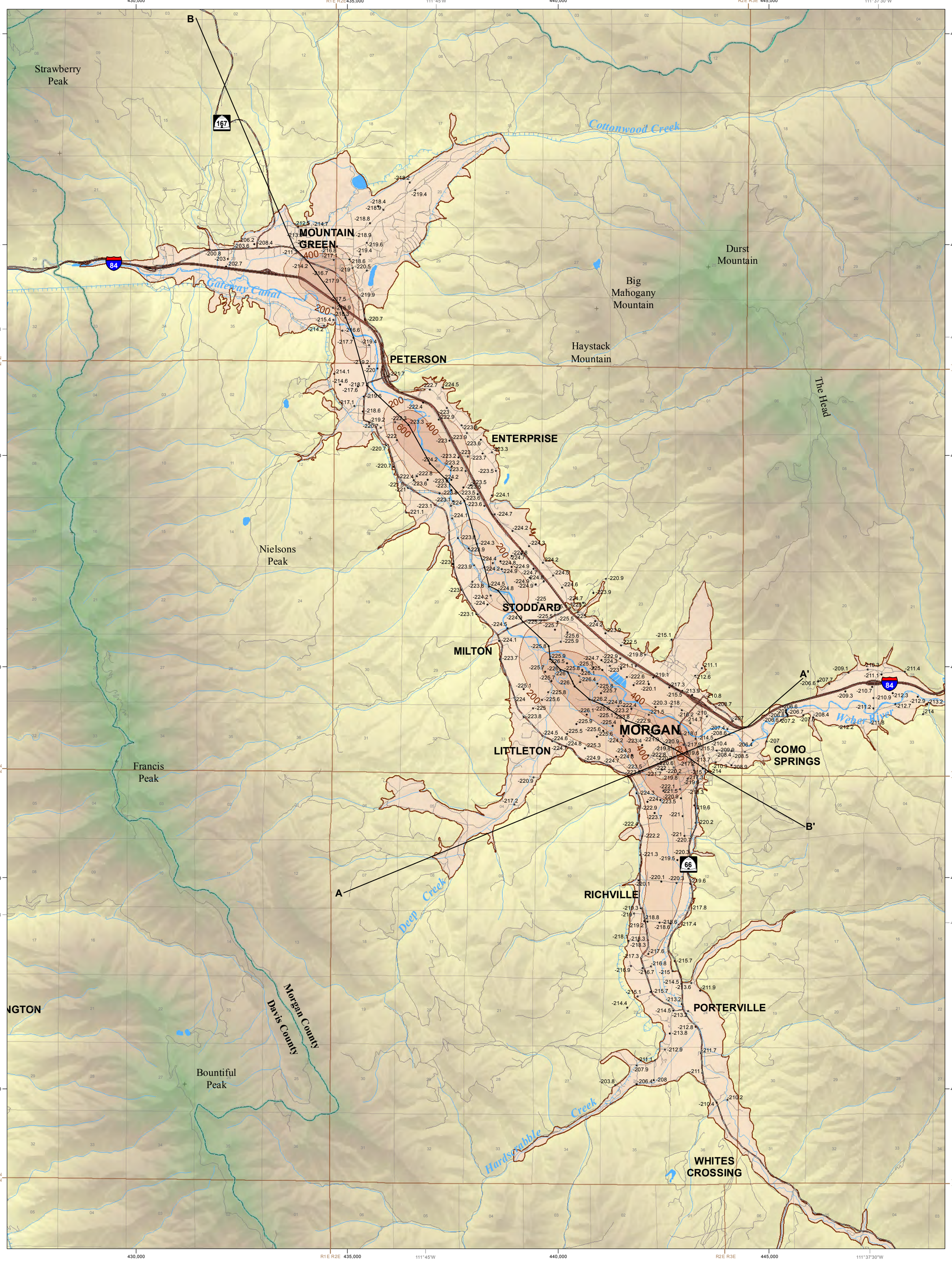

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N

SCALE 1:62,500

1 0.5 0 1 MILES

1 0.5 0 1 2 3 KILOMETERS

UTAH

MAP LOCATION

Base produced from Utah Automated Geographic Reference Center features
Projection: UTM Zone 12
Datum: NAD 1983
Spheroid: Clarke 1886

Project Manager: Mike Lowe
GIS and Cartography: Richard Emerson

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SCHEMATIC ISOPACH OF UNCONSOLIDATED VALLEY-FILL DEPOSITS BASED ON INTERPRETATION OF GRAVITY DATA, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Depth to bedrock in feet

- < 200
- 200 - 400
- 401 - 600
- > 600
- Bedrock
- -217.3 Gravity station with station reading (see appendix C1 for station data)

Other symbols

- Stream or river
- Canal or aquaduct
- Water body
- Morgan Valley drainage basin boundary
- A — A′ Cross Sections for figures 13 and 14

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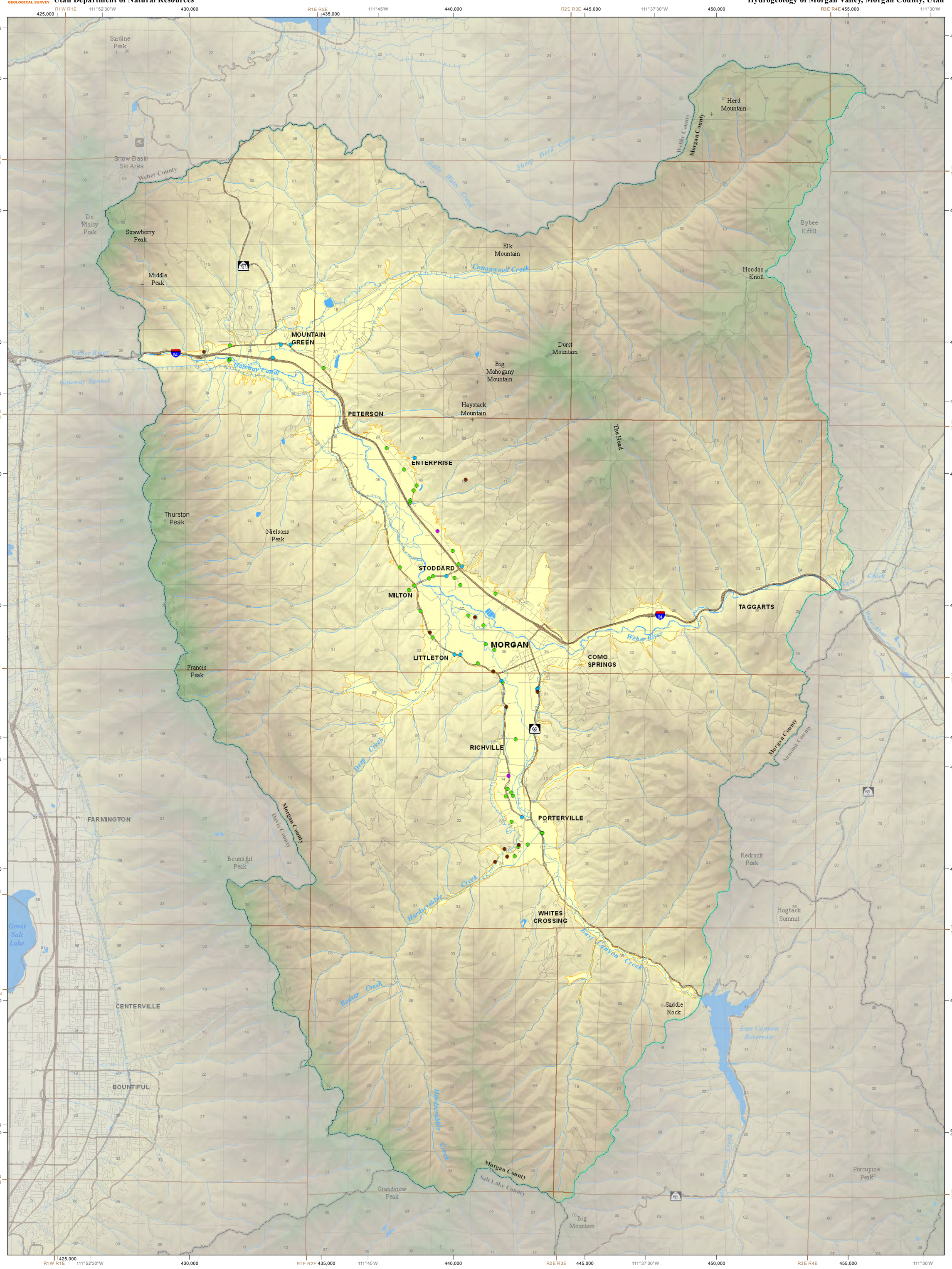

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N

SCALE 1:62,500

1 0.5 0 1 2 MILES

1 0.5 0 1 2 3 4 5 KILOMETERS

MAP LOCATION

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GROUNDWATER RECHARGE AREA, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Well characteristics
- Bedrock well
- Primary recharge well
- Secondary recharge well
- Discharge well

Hydrogeologic characteristics
- Valley fill - primary recharge
- Bedrock - primary recharge
- Morgan Valley drainage basin

Other symbols
- Stream or river
- Canal or aquaduct
- Water body

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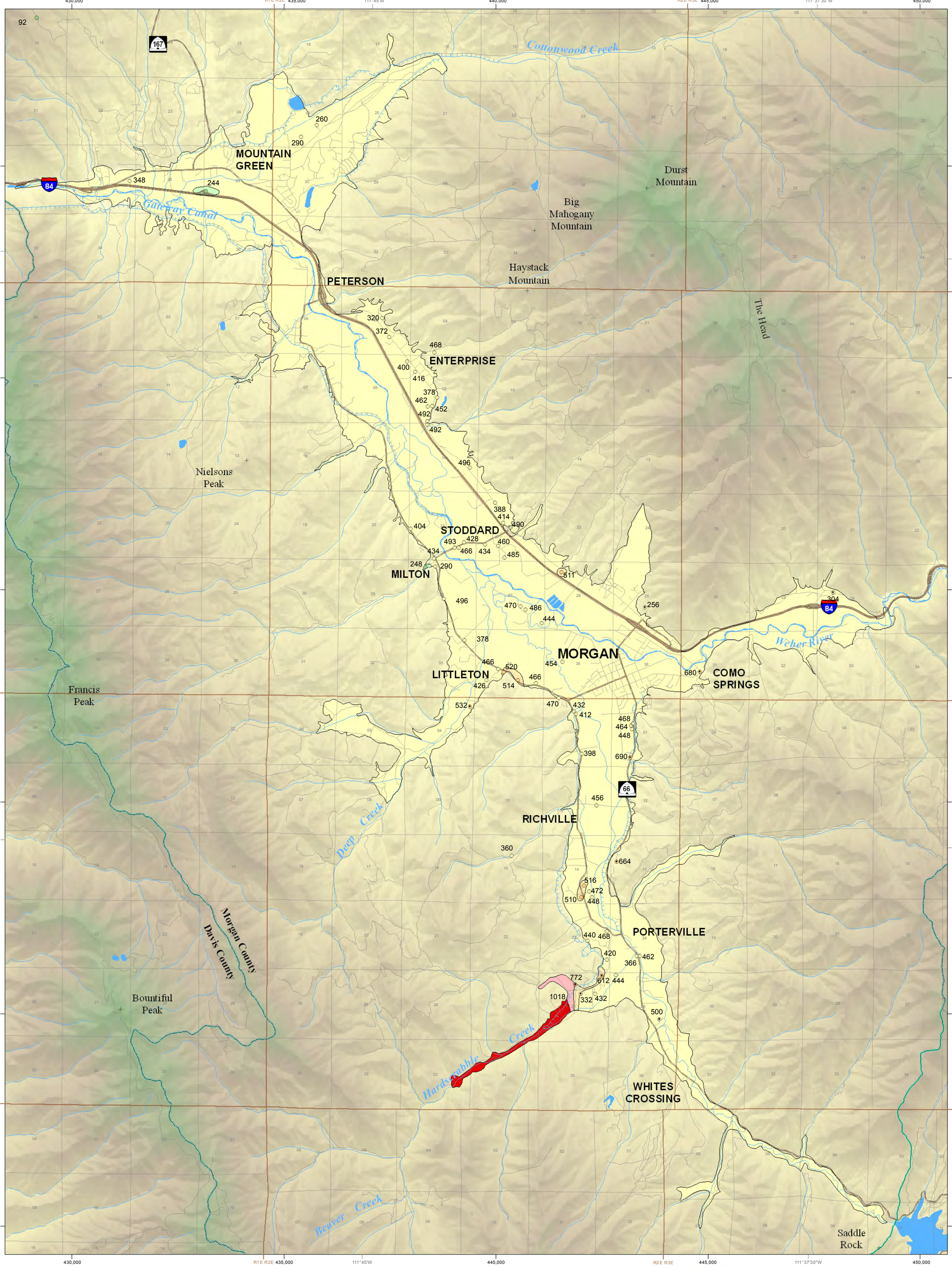

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N

SCALE 1:62,500

1 0.5 0 1 MILES

1 0.5 0 1 2 3 KILOMETERS

MAP LOCATION

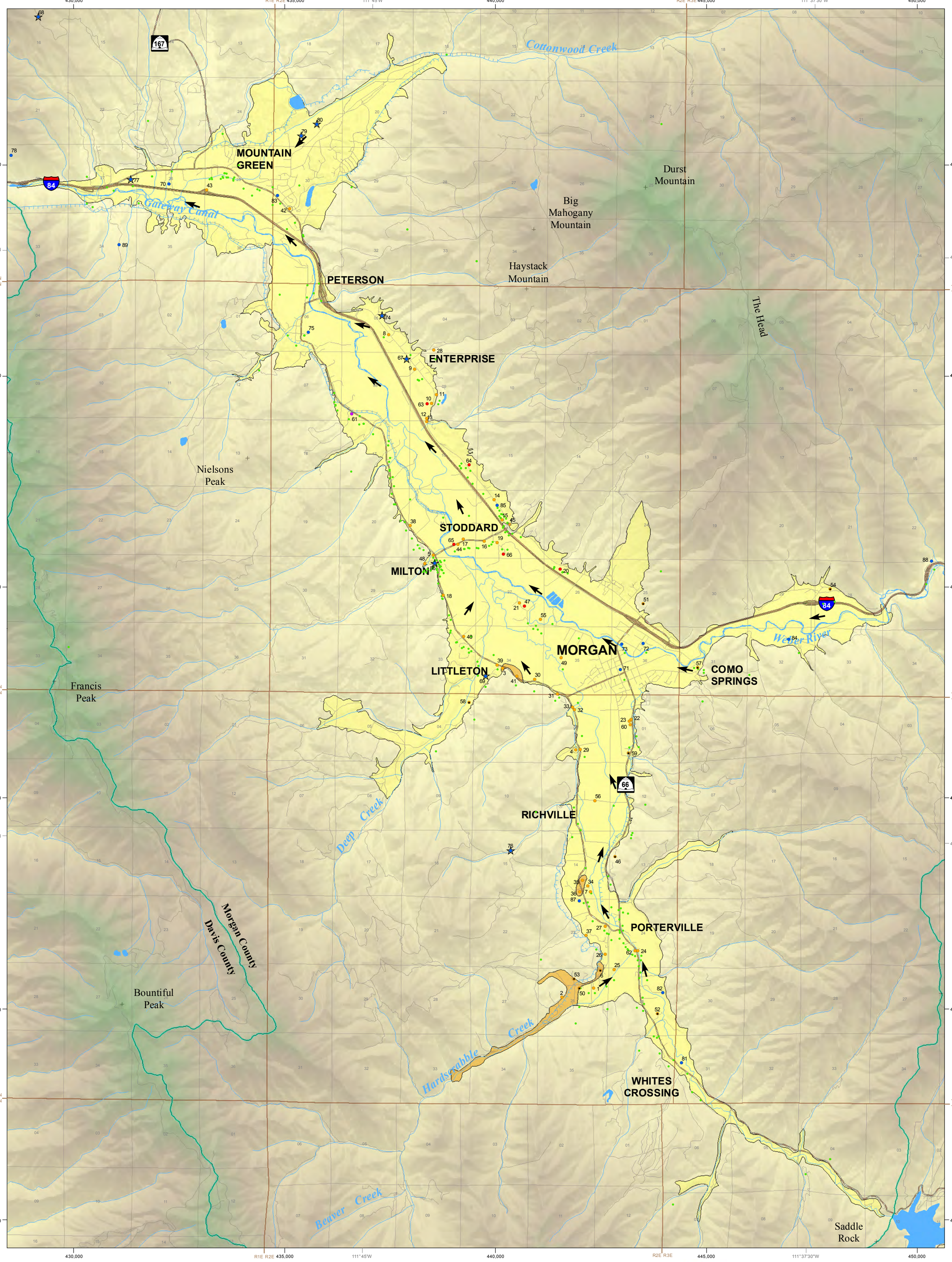
TOTAL-DISSOLVED-SOLIDS CONCENTRATIONS FOR THE VALLEY-FILL AQUIFER, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Total-Dissolved-Solids Sample Location	Total-Dissolved-Solids Concentration	Other symbols
0 - 250 mg/L	0 - 250 mg/L	Stream or river
251 - 500 mg/L	251 - 500 mg/L	Canal or aquaduct
501 - 750 mg/L	501 - 750 mg/L	Water body
751 - 1000 mg/L	751 - 1000 mg/L	Morgan Valley drainage basin boundary
1001 - 1250 mg/L	1001 - 2000 mg/L	
Denotes well completed in bedrock	Bedrock (not analyzed)	



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N

SCALE 1:62,500

1 0.5 0 1 MILES

1 0.5 0 1 2 3 KILOMETERS

MAP LOCATION

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GROUNDWATER-QUALITY CLASSIFICATION FOR THE VALLEY-FILL AQUIFER, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Groundwater-quality sample location and well ID. Color denotes agency responsible for sampling (see appendix B for chemistry data).

- 30 Utah Geological Survey
- 70 Utah Division of Drinking Water
- 51 Utah Department of Agriculture and Food
- 89 Weber-Morgan Health Department

- Halo denotes TDS calculated from specific conductance
- Solid center denotes well competed in bedrock (not used to classify valley-fill aquifer)
- Star denotes a public-supply well
- Perfected water well (DWRi data)

Groundwater-quality classification*

- Class IA, Pristine Quality (0-500 mg/L)
- Class II, Drinking Water Quality (500-3000 mg/L)
- Bedrock (not analyzed)
- Groundwater-flow direction

*From Wallace and Lowe, 2007

Other symbols

- Stream or river
- Canal or aquaduct
- Water body
- Morgan Valley drainage basin boundary

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1 0.5 0 1 2 3 KILOMETERS

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POTENTIAL GROUNDWATER CONTAMINANT SOURCES, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

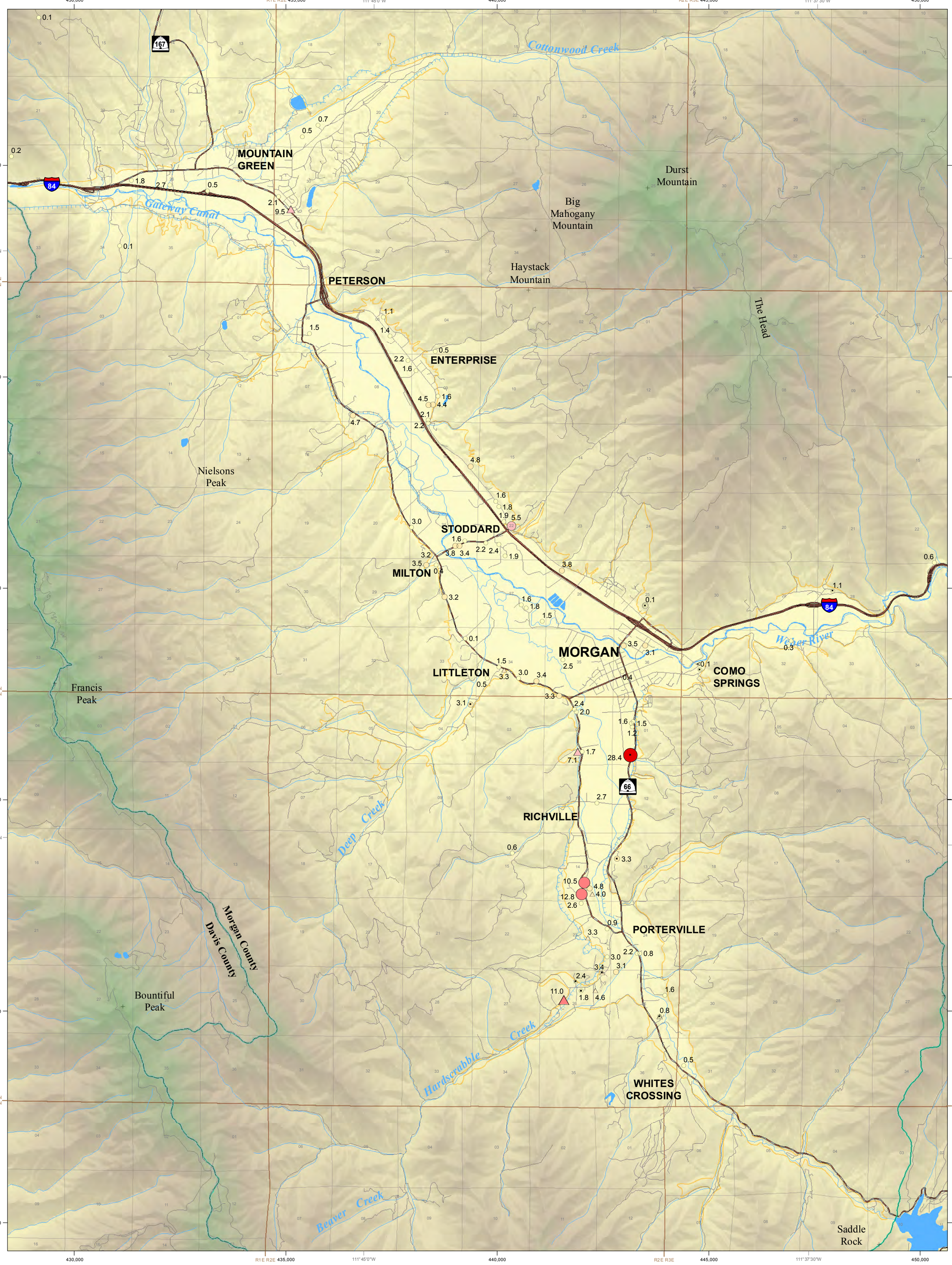
Potential Contaminant Sources*

- AFO
- Barn area
- Camping
- Commercial
- Equip/vehicle maintenance
- Fish hatchery
- Fuel storer
- Industry & manufacturing
- Junkyard/salvage
- Large lawn
- Mining
- RCRIS
- Remediation
- Residential area
- Rural home
- Substation
- UST/LUST
- Wastewater/sewer

Other symbols

- Stream or river
- Canal or aquaduct
- Water body
- Valley fill
- Morgan Valley drainage basin boundary

*See Appendix F for description by site ID; data from Hansen, Allen, and Luce, Inc. (2001)



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1 0.5 0 1 MILES

1 0.5 0 1 2 3 KILOMETERS

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NITRATE CONCENTRATION AND LOCATION OF NITROGEN AND OXYGEN ISOTOPE SAMPLES, MORGAN VALLEY, UTAH

by Janae Wallace, Mike Lowe, Walid Sabbah, and Kevin Thomas

2012

Explanation

Sample location

- 0.1 - 3.0 mg/L
- 3.1 - 5.0 mg/L
- 5.1 - 10.0 mg/L
- 10.1 - 15.0 mg/L
- 15.1 - 30.0 mg/L

- Denotes well completed in bedrock
- denotes $\delta^{15}N$ and $\delta^{18}O$ sample
- denotes only NO_3 sample

Other symbols

- Stream or river
- Canal or aquaduct
- Water body
- Valley fill
- Morgan Valley drainage basin boundary