

PLSS GPS Observation Sheet

Project Name SL T16S R10E <small>(Meridian Township Range)</small>				Township		½ (2)	N S	Range		½ (2)	E W	Section	Meridian																			
				T	1	6	S	1	0		E		(SL) US																			
Contacts Name Lee M. Swasey				Source Agency JOHANSEN & TUTTLE ENGINEERING						Date 11/17/05																						
Contacts Phone (435) 381-2523																																
Control Station																																
Name ELM GPS 12				Type COR HARN TRI <input checked="" type="radio"/> Other EMERY COUNTY						Accuracy Order																						
USGS Quad Name OLSEN RESERVOIR UTAH				Datum Nad27 Nad83 <input checked="" type="radio"/> Nad83 (1994) WGS84 Local						State UTAH County EMERY																						
Latitude						Longitude																										
N	3	9	-	2	3	-	2	5	.	4	2	8	1	2	7	W	1	1	0	-	4	5	-	0	1	.	5	8	6	1	0	
Northing													Easting																			
6	9	4	7	5	8	7	.	6	3							1	8	5	2	2	5	7	.	0	6							
Units Survey Foot <input type="radio"/> International Foot <input checked="" type="radio"/> Meter				Coordinate Type State Plane <input type="radio"/> UTM <input type="radio"/>				Zone Utah North <input type="radio"/> Utah Central <input checked="" type="radio"/> Utah South				Vertical Datum NGVD29 <input type="radio"/> NAVD88 <input checked="" type="radio"/>																				
Ellipsoid Height 1711.15 M				Geoid Height M 5671.75 FT																												
Base Receiver																																
Type TRIMBLE				Model 4000 SSI				Serial Number																								
Logging Interval 5 SEC.		Elevation Mask 13		PDOP Mask 6		Antenna Type L1/L2 w/GROUND PLANE																										
Start Time AM PM				End Time AM PM																												
Antenna Height																																
Session Beginning		1 st		M		2 nd		M		3 rd		M		Ave 4.547 Feet M																		
Session End		1 st		M		2 nd		M		3 rd		M		Ave M																		
Rover Receiver																																
Type TRIMBLE				Model 5800				Serial Number 4253117118																								
Approximate Distance From Base Station				Miles		Antenna Type 5800 INTERNAL				Antenna Height 6.6 FT																						
Station Observation																																
Observation Type <input checked="" type="radio"/> RTK <input type="radio"/> FAST STATIC <input type="radio"/> STATIC <input type="radio"/> OTHER																																
First Observation																																
Station Name (M1)		2		6		0		6		0		0		Description E 1/16 corner Sec. 5 / Sec. 8																		
Occupation time				PDOP Best				RMS Best																								
Number of Measurements 60				PDOP Worst 1.4				RMS Worst 10.4																								
Second Observation																																
Station Name (M2)		Description																														
Occupation time				PDOP Best				RMS Best																								
Number of Measurements				PDOP Worst				RMS Worst																								
Inverse Distance Between M1 and M2				FT		Alternate Base Station Used				Yes		No																				
Monument and Markings																																
Type / Size																																
Stone			Pipe/Cap				Post			Other																						
Size			Size 2½ / 3¼ 1969 BLM				Size			Size																						
Material			Material steel / brass				Material			Material																						

Sketch/Rubbing or Attach Photo of GPS Station Occupied
Show rotation of stampings/markings relative to North and describe briefly

See Emery County Land Survey Monument Record Sheet 1610260600

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-17-05

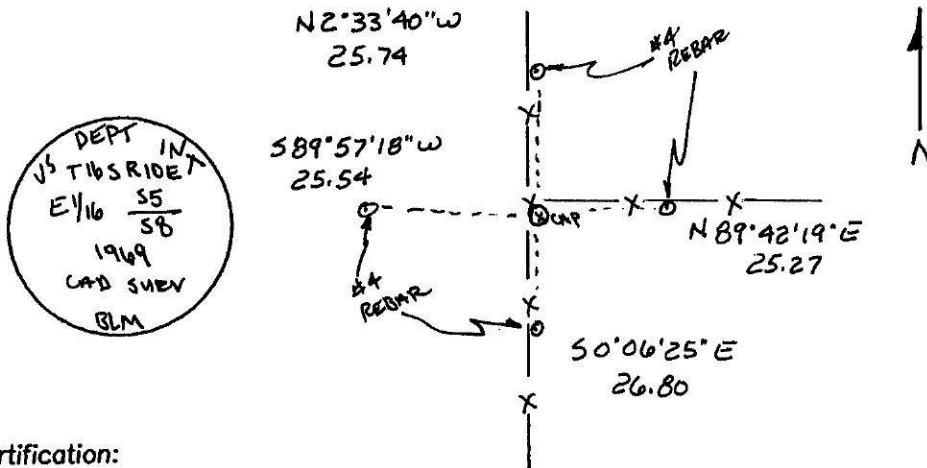
County Reference No. 1610260600

Type of Monument: Section Corner Quarter Corner
 Bench Mark ✓ Other 1/16 CORNER

Your Description and Observation of Monument Found (Be Specific):
 1969 BLM BRASS CAP 8" ABOVE GROUND LEVEL

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET 4 #4 REBAR AS SHOWN BELOW

Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

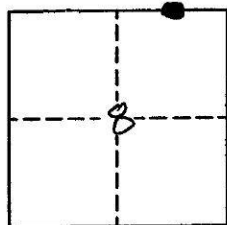


Certification:

Firm name and/or Surveyor: Johansen & Tuttle Eng.
 Address: 90 S. 100 E. Castle Dale, Utah 84513 Phone: (435) 381-2523

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:
 Section: 8
 Township: 16S
 Range: 10E



PLSS GPS Observation Sheet

Project Name SL T16S R10E (Meridian Township Range)		Township		½ (2)	N S	Range		½ (2)	E W	Section		Meridian																			
		T	1	6		S	1	0		E			(SL) US																		
Contacts Name Lee M. Swasey Contacts Phone (435) 381-2523		Source Agency JOHANSEN & TUTTLE ENGINEERING						Date 11/17/05																							
Control Station																															
Name ELM GPS 12		Type COR HARN TRI <input checked="" type="radio"/> Other EMERY COUNTY						Accuracy Order																							
		Datum Nad27 Nad83 <input checked="" type="radio"/> Nad83 (1994) WGS84 Local						State UTAH County EMERY																							
USGS Quad Name OLSEN RESERVOIR UTAH																															
Latitude						Longitude																									
N	3	9	-	2	3	-	2	5	.	4	2	8	1	2	7	W	1	1	0	-	4	5	-	0	1	.	5	8	6	1	0
Northing						Easting																									
6	9	4	7	5	8	7	.	6	3								1	8	5	2	2	5	7	.	0	6					
Units			Survey Foot		<input checked="" type="radio"/> International Foot		Meter			Coordinate Type			<input checked="" type="radio"/> State Plane		UTM																
Zone			Utah North		<input checked="" type="radio"/> Utah Central		Utah South			Vertical Datum			NGVD29		<input checked="" type="radio"/> NAVD88																
Ellipsoid Height			1711.15 M		FT			Geoid Height			M		5671.75 FT																		
Base Receiver																															
Type TRIMBLE			Model 4000 SSI				Serial Number																								
Logging Interval 5 SEC.		Elevation Mask 13		PDOP Mask 6		Antenna Type L1/L2 w/GROUND PLANE																									
Start Time			AM		PM		End Time			AM			PM																		
Antenna Height																															
Session Beginning		1"		M		2"		M		3"		M		Ave 4.547 Feet M																	
Session End		1"		M		2"		M		3"		M		Ave M																	
Rover Receiver																															
Type TRIMBLE			Model 5800				Serial Number 4253117118																								
Approximate Distance From Base Station				Miles		Antenna Type 5800 INTERNAL				Antenna Height 6.6 FT																					
Station Observation																															
Observation Type <input checked="" type="radio"/> RTK <input type="radio"/> FAST STATIC <input type="radio"/> STATIC <input type="radio"/> OTHER																															
First Observation																															
Station Name (M1)		2	4	0	6	0	0	Description N 1/4 corner Sec. 8																							
Occupation time		PDOP Best				RMS Best																									
Number of Measurements 60		PDOP Worst 1.9				RMS Worst 14.3																									
Second Observation																															
Station Name (M2)		Description																													
Occupation time		PDOP Best				RMS Best																									
Number of Measurements		PDOP Worst				RMS Worst																									
Inverse Distance Between M1 and M2				FT		Alternate Base Station Used				Yes		No																			
Monument and Markings																															
Type / Size																															
Stone			Pipe/Cap				Post			Other																					
Size			Size 2½ / 3¼ 1969 BLM				Size			Size																					
Material			Material steel / brass				Material			Material																					

Sketch/Rubbing or Attach Photo of GPS Station Occupied
 Show rotation of stampings/markings relative to North and describe briefly

See Emery County Land Survey Monument Record Sheet 1610240600

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 5-17-01

County Reference No. 1610200500

Type of Monument: Section Corner
 Bench Mark

Quarter Corner
 Other _____

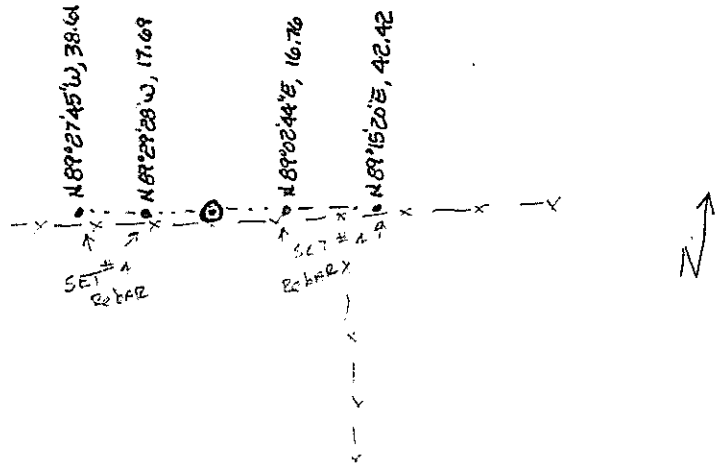
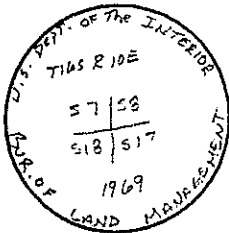
Your Description and Observation of Monument Found (Be Specific):

Found STD. BLM CAP ALONG A EAST-WEST FENCELINE

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

SET 2 = 4 REBARS EAST, AND WEST OF THE MONUMENT

Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.



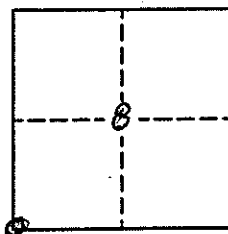
Certification:

Firm name and/or Surveyor: Johansen & Tuttle Eng.

Address: 90 S. 100 E. Castle Dale, Utah 84513 Phone: (435) 381-2523

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:
 Section: 8
 Township: 16 S
 Range: 10 E



LICENSED LAND SURVEYOR
 No. 146602
 CRAIG A. JOHANSEN
 STATE OF UTAH
Craig A. Johansen
 Date 11-30-01

UTAH LAND SURVEY MONUMENT RECORD

County EMERY

1610
County Reference No. 106 200540

1. Date of Field Work: 12-19-00

2. Type of Monument:
(Check one)

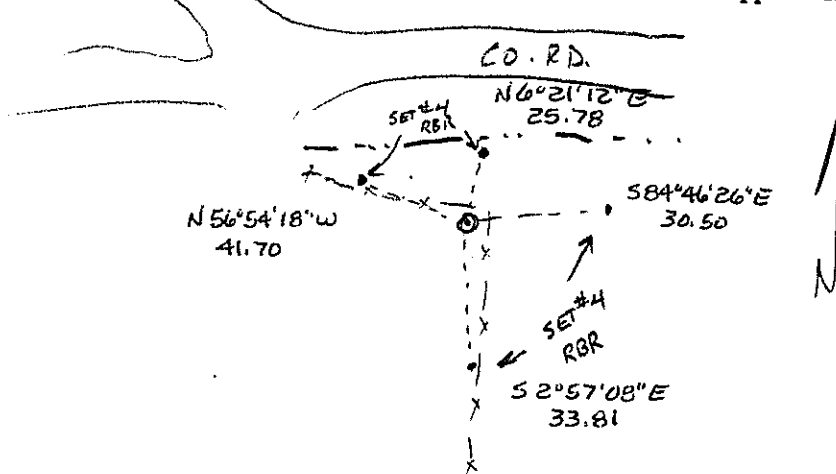
Section Corner Quarter Corner
 Bench Mark Other

3. Your Description and Observation of Monument Found (Be Specific):

FOUND STD BLM CAP AT A S-E FENCE CORNER

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET #4 REBAR NW-S-NE-E OF CAP

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.



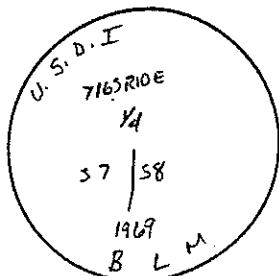
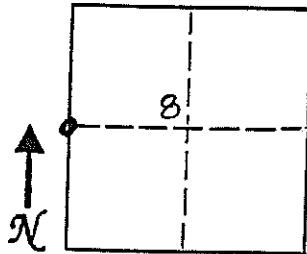
6. Certification:

Firm Name and/or Surveyor: JOHANSEN & TUTTLE ENG Phone: 381-2523
 Address: 90 S 100 E CASTLE DALE UTAH

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

8. Section: 8
 9. Township: 16 S
 10. Range: 12 E



11. Monument Inscription:

12. Diagram Coordinate from Master Index for Townships: _____

Signature: _____
 Surveyor's Seal (over signature) CRAIG E. JOHANSEN
 Date: 11-30-01

Report one monument per form.
 Type or use permanent black ink.
 Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County EMERY

County Reference No. ¹⁶¹⁰~~1016~~ 220500

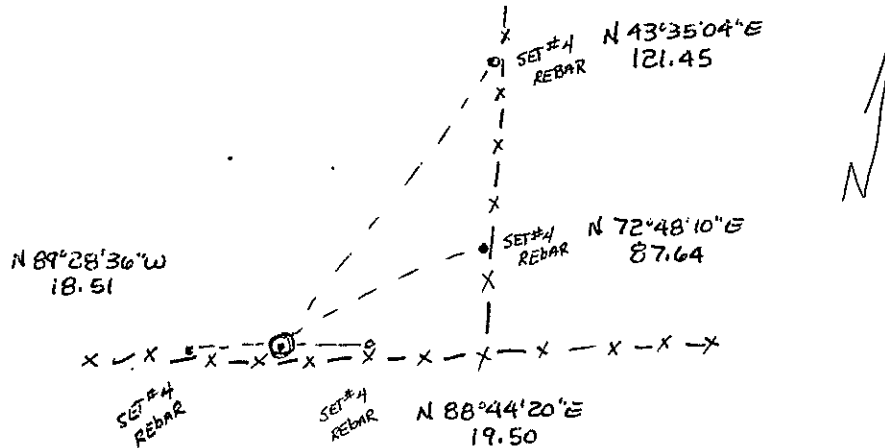
1. Date of Field Work: 12-21-00

2. Type of Monument: (Check one)
 Section Corner Quarter Corner
 Bench Mark Other 1/16 CORNER

3. Your Description and Observation of Monument Found (Be Specific):
FOUND STD BLM CAP ALONG A EAST-WEST FENCE

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET #4 REBAR W-E & 2 NE OF CORNER

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.



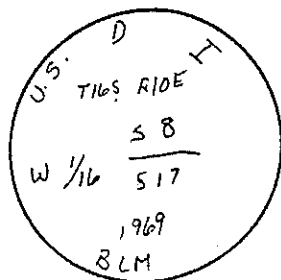
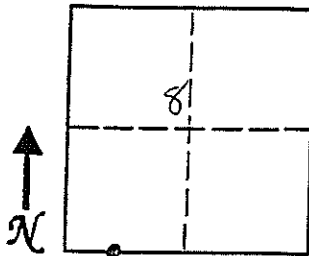
6. Certification:

Firm Name and/or Surveyor: JOHANSEN & TUTTLE ENG Phone: 381-2523
 Address: 90 S 100 E CASTLE DALE, UTAH

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

8. Section: 8
 9. Township: 16S
 10. Range: 10E



11. Monument Inscription:

12. Diagram Coordinate from Master Index for Townships: _____

Signature: _____
 Surveyor's Seal (over signature) **CRAIG E JOHANSEN**
 Date: 11-30-01

Report one monument per form. Type or use permanent black ink. Fill in all items.

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 5-21-01

County Reference No. 1610240500

Type of Monument: _____ Section Corner Quarter Corner
 _____ Bench Mark _____ Other _____

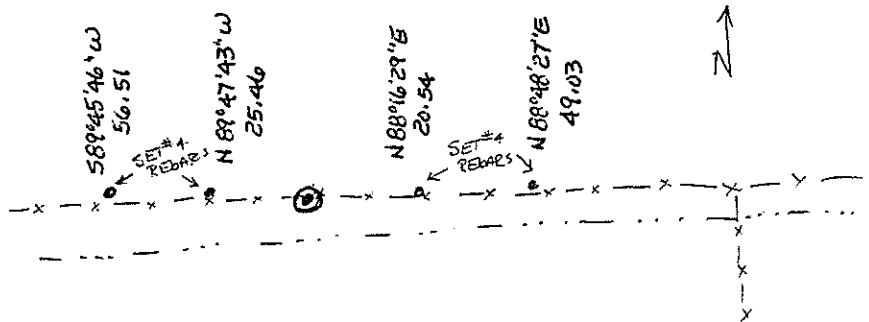
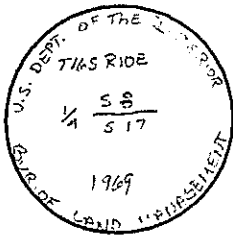
Your Description and Observation of Monument Found (Be Specific):

FOUND STD BLM CAP ALONG a EAST-WEST FENCE

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

SET TWO #4 REBARS WEST, AND EAST OF THE MONUMENT

Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

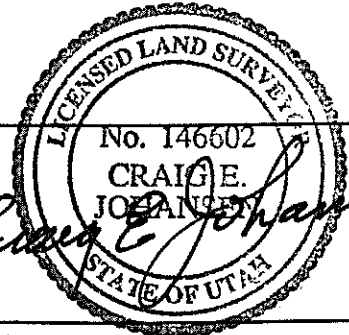
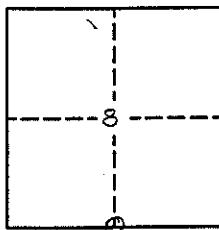


Certification:

Firm name and/or Surveyor: Johansen & Tuttle Eng.
 Address: 90 S. 100 E. Castle Dale, Utah 84513 Phone: (435) 381-2523

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:
 Section: 8
 Township: 16S
 Range: 10E



11-30-01

Date

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: _____ Section Corner Quarter Corner
(Check one) _____ Bench Mark _____ Other _____

3. Your Description and Observation of Monument Found (Be Specific):

Not Found

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

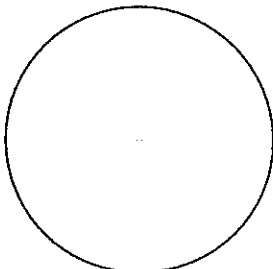
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7. Location Diagram:

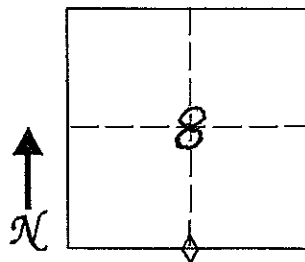
8. Section: 8

9. Township: 16 S

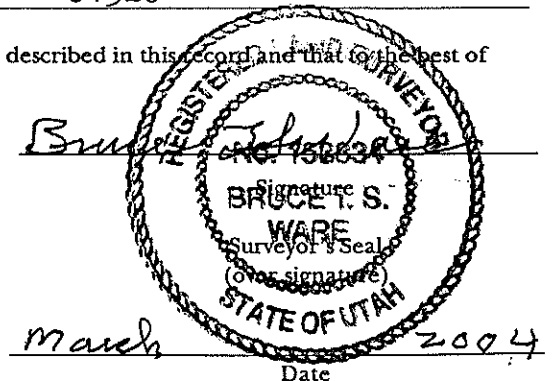
10. Range: 10 E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: R 7



Report one monument per form.
Type or use permanent black ink.
Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: Section Corner Quarter Corner
(Check one) Bench Mark Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap in W-E Fence

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

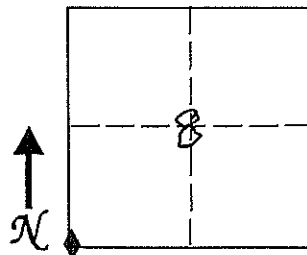
8. Section: 8

9. Township: 16 S

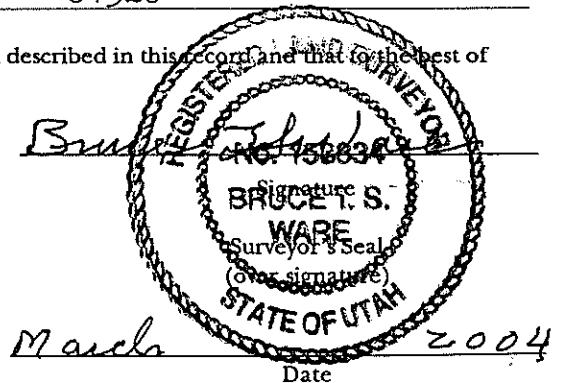
10. Range: 10 E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: R 5



Report one monument per form.
Type or use permanent black ink.
Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: _____ Section Corner Quarter Corner
(Check one) _____ Bench Mark _____ Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap w/metal fence post

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

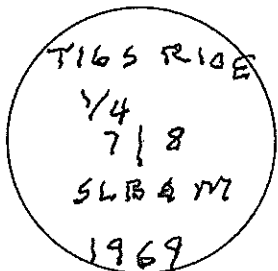
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

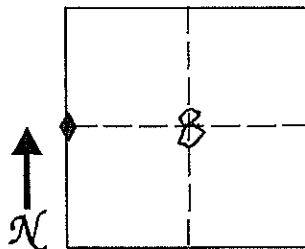
8. Section: 8

9. Township: 16 S

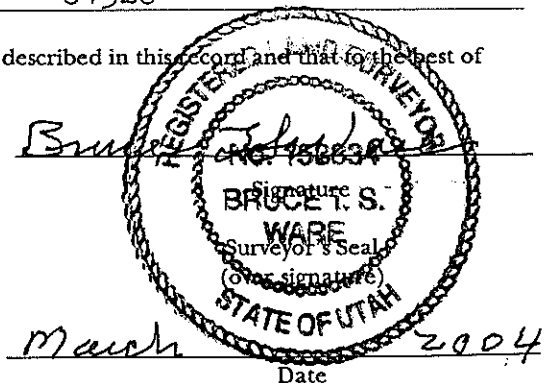
10. Range: 10 E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: T5



Report one monument per form. Type or use permanent black ink. Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Febr 2004

2. Type of Monument: Section Corner Quarter Corner
(Check one) Bench Mark Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap w/ 1/2 metal fence post

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

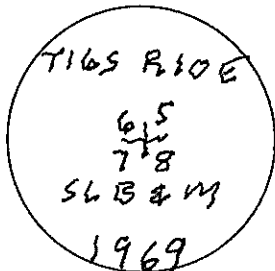
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

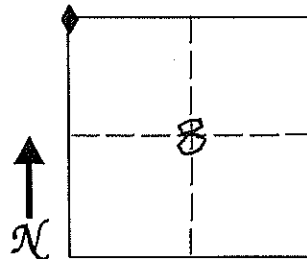
8. Section: 8

9. Township: 16S

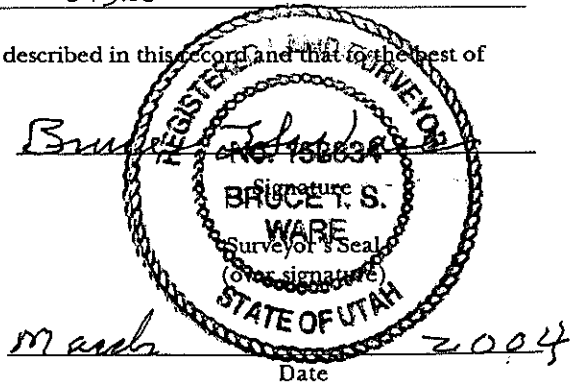
10. Range: 10E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: V.5



Report one monument per form. Type or use permanent black ink. Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: _____ Section Corner Quarter Corner
(Check one) _____ Bench Mark _____ Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap in Rock Pile

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

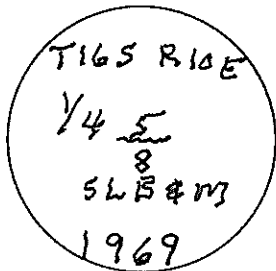
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

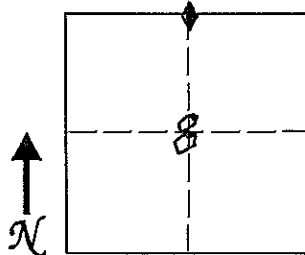
8. Section: 8

9. Township: 16 S

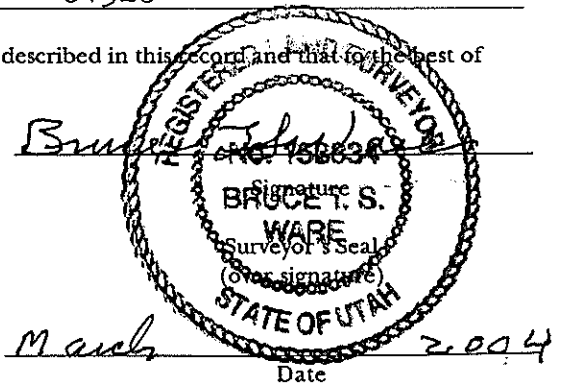
10. Range: 10 E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: 17



Report one monument per form. Type or use permanent black ink. Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: _____ Section Corner _____ Quarter Corner
(Check one) _____ Bench Mark X Other 1/16 Corner

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap in Fence Corner

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

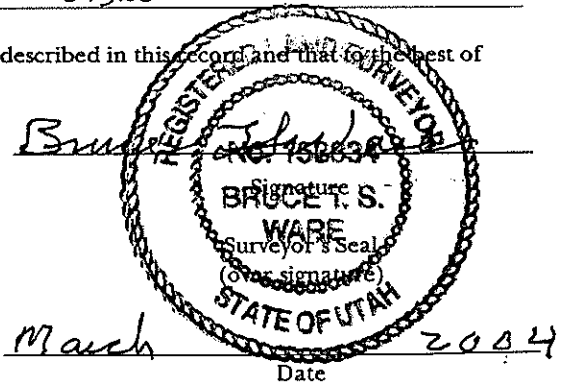
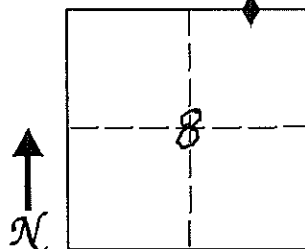
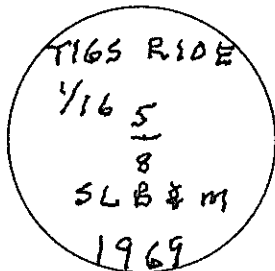
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

8. Section: 8

9. Township: 16 S

10. Range: 10 E



11. Monument Inscription:

12. Diagram Coordinate from Master Index for Townships: 16 S

Report one monument per form. Type or use permanent black ink. Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: Section Corner Quarter Corner
 (Check one) Bench Mark Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass cap in W-E fence

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

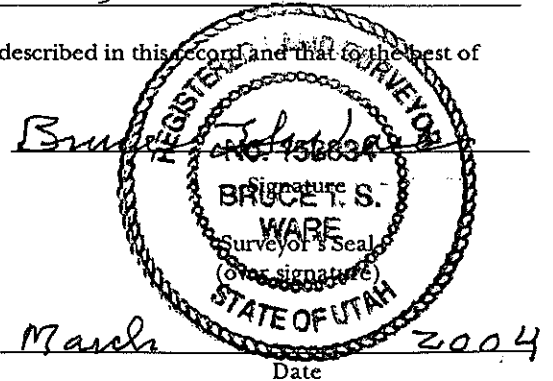
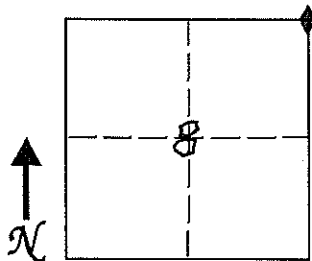
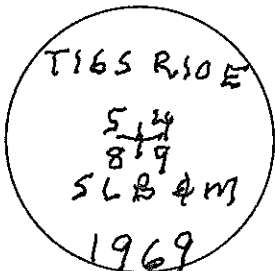
5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
 Address: 2223 N. 1200 W. Helper, Utah 84526

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:
 8. Section: 8
 9. Township: 16 S
 10. Range: 10 E



11. Monument Inscription:

12. Diagram Coordinate from Master Index for Townships: 19

Report one monument per form.
 Type or use permanent black ink.
 Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: _____ Section Corner Quarter Corner witness corner
(Check one) _____ Bench Mark _____ Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap w/metal Fence Post

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

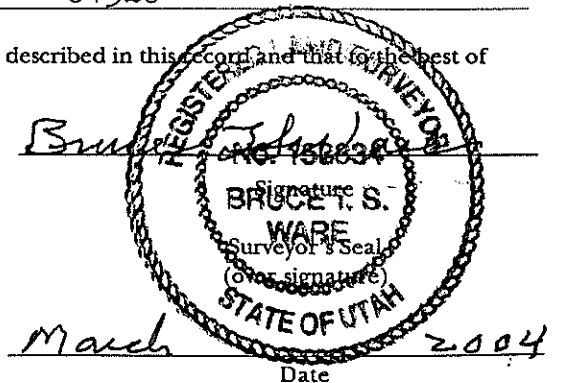
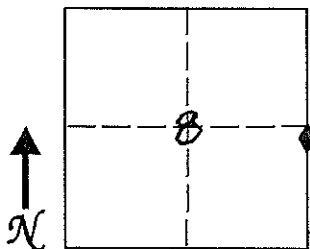
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

8. Section: 8

9. Township: 16 S

10. Range: 10 E



11. Monument Inscription:

12. Diagram Coordinate from Master Index for Townships: T 9

Report one monument per form.
Type or use permanent black ink.
Fill in all items.

UTAH LAND SURVEY MONUMENT RECORD

County Emery

County Reference No. _____

1. Date of Field Work: Feb 2004

2. Type of Monument: Section Corner Quarter Corner
(Check one) Bench Mark Other _____

3. Your Description and Observation of Monument Found (Be Specific):

BLM Brass Cap in fence corner

4. Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point:

5. Sketch showing Relative Location of Monument Accessories and Two Reference Points Stating Whether Found or Set. Show Supporting and/or Contradictory Evidence where Applicable. Include North Arrow.

6. Certification:

Firm Name and/or Surveyor: Bruce T. S. Ware Phone: 637-2620
Address: 2223 N. 1200 W. Helper, Utah 84526

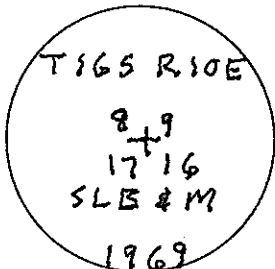
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

7. Location Diagram:

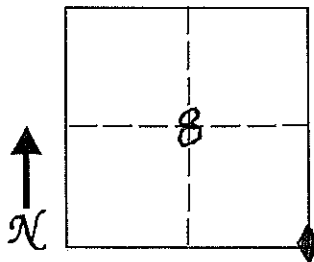
8. Section: 8

9. Township: 16 S

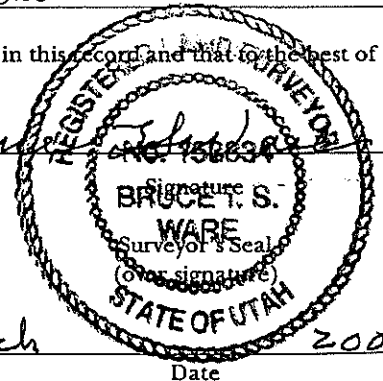
10. Range: 10 E



11. Monument Inscription:



12. Diagram Coordinate from Master Index for Townships: R 9



Report one monument per form. Type or use permanent black ink. Fill in all items.