

## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section 		Meridian (SL) US	
Contacts Name Lee M. Swasey		Source Agency JOHANSEN & TUTTLE ENGINEERING						Date 11/14/05					
Contacts Phone (435) 381-2523													
Control Station													
Name ELM GPS 12		Type COR HARN TRI Other EMERY COUNTY						Accuracy Order					
USGS Quad Name OLSEN RESERVOIR UTAH		Datum Nad27 Nad83 Nad83 (1994) WGS84 Local						State 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 International Foot Meter		Coordinate Type State Plane UTM											
Zone Utah North Utah Central Utah South		Vertical Datum NGVD29 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 <sup>st</sup> M		2 <sup>nd</sup> M		3 <sup>rd</sup> M		Ave 4.718 Feet M					
Session End		1 <sup>st</sup> M		2 <sup>nd</sup> M		3 <sup>rd</sup> 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 (RTK) FAST STATIC STATIC OTHER													
First Observation													
Station Name (M1)		4 0 0 3 0 0		Description NE corner Sec. 28									
Occupation time		PDOP Best				RMS Best							
Number of Measurements 60		PDOP Worst 1.5				RMS Worst 17.3							
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 2 1/2 / 3/4 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 1710400300

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710400300

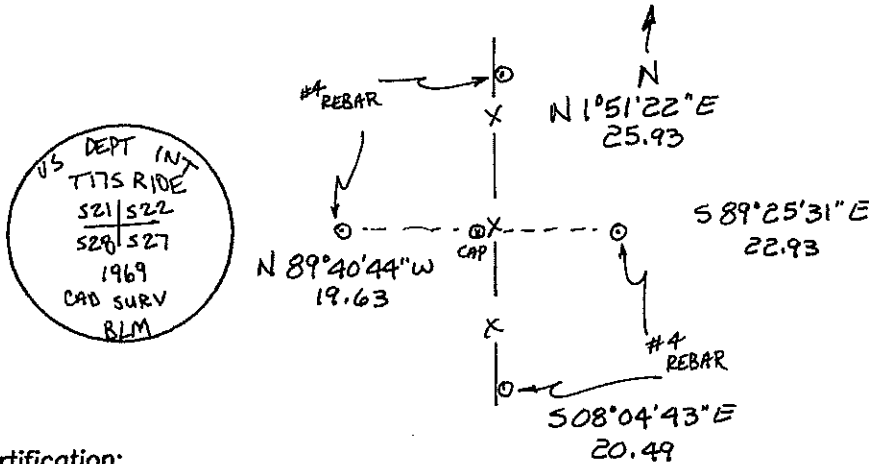
Type of Monument:  Section Corner  Quarter Corner  
 Bench Mark  Other \_\_\_\_\_

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

1969 BLM BRASS CAP 10" 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

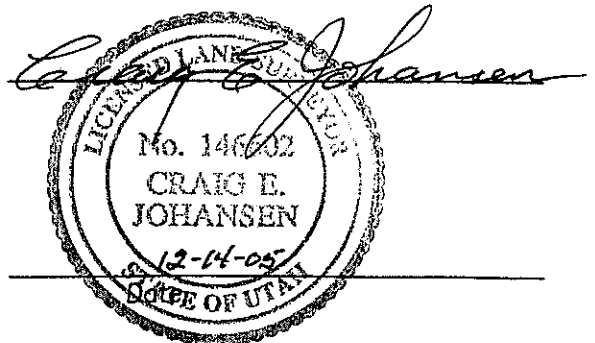
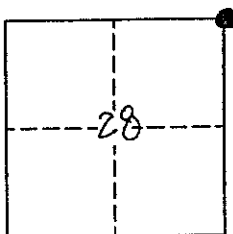
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:

Section: 28

Township: 17S

Range: 10E



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section		Meridian (SL) US																			
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>						Date 11/14/05																							
Contacts Phone (435) 381-2523																															
Control Station																															
Name <b>ELM GPS 12</b>		Type COR HARN TRI <input checked="" type="radio"/> Other <b>EMERY COUNTY</b>						Accuracy Order																							
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Datum Nad27 Nad83 <input checked="" type="radio"/> Nad83 (1994) WGS84 Local						State <b>UTAH</b> County <b>EMERY</b>																							
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 <b>TRIMBLE</b>				Model <b>4000 SSI</b>				Serial Number																							
Logging Interval <b>5 SEC.</b>		Elevation Mask <b>13</b>		PDOP Mask <b>6</b>		Antenna Type <b>L1/L2 w/GROUND PLANE</b>																									
Start Time				AM		PM		End Time				AM		PM																	
				Antenna Height																											
Session Beginning		1"		M		2 <sup>nd</sup>		M		3 <sup>rd</sup>		M		Ave <b>4.718 Feet M</b>																	
Session End		1"		M		2 <sup>nd</sup>		M		3 <sup>rd</sup>		M		Ave <b>M</b>																	
Rover Receiver																															
Type <b>TRIMBLE</b>				Model <b>5800</b>				Serial Number <b>4253117118</b>																							
Approximate Distance From Base Station				Miles		Antenna Type <b>5800 INTERNAL</b>				Antenna Height <b>6.6 FT</b>																					
Station Observation																															
Observation Type		<input checked="" type="radio"/> RTK		FAST STATIC		STATIC		OTHER																							
First Observation																															
Station Name (M1)		4		0		0		2		0		0		Description <b>SE corner Sec. 28</b>																	
Occupation time		PDOP Best				RMS Best																									
Number of Measurements <b>60</b>		PDOP Worst <b>2.2</b>				RMS Worst <b>25.2</b>																									
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 <b>2 1/2 / 3 1/4 1969 BLM</b>				Size				Size																					
Material		Material <b>steel / brass</b>				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 1710400200

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710400200

Type of Monument:  Section Corner  
 Bench Mark

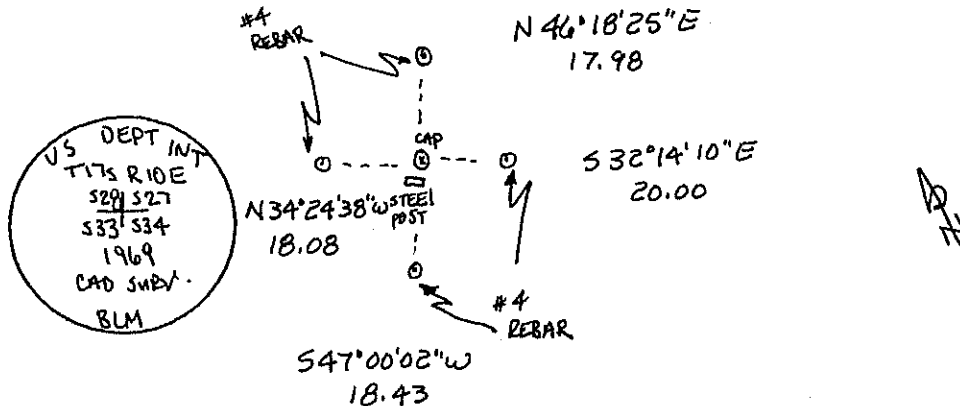
Quarter Corner  
 Other \_\_\_\_\_

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

1969 BLM BRASS CAP 8" ABOVE GROUND LEVEL WITH A STEEL FENCE POST LYING ALONGSIDE

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET 4 #4 REBAR AS SHOWN BELOW. RE-SET STEEL FENCE POST ALONGSIDE CAP.

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:

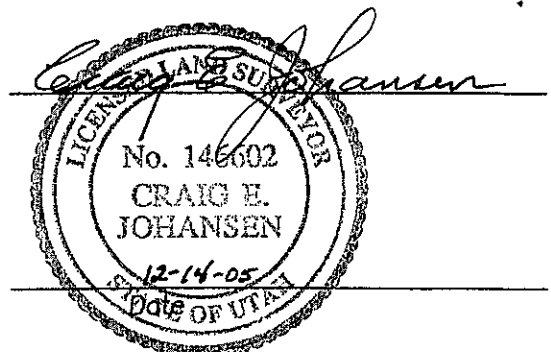
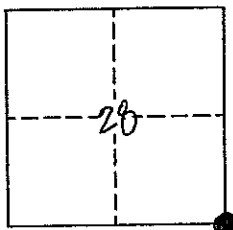
Firm name and/or Surveyor: Johansen & Tuttle Eng.

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: 28  
 Township: 17S  
 Range: 10E



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)			Township T 1 7			Range S 1 0		Section E		Meridian (SL) US																					
Contacts Name <b>Lee M. Swasey</b>			Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>					Date 11/15/05																							
Contacts Phone <b>(435) 381-2523</b>																															
Control Station																															
Name <b>ELM GPS 12</b>			Type COR HARN TRI <input checked="" type="checkbox"/> Other <b>EMERY COUNTY</b>					Accuracy Order																							
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>			Datum Nad27 Nad83 <input checked="" type="checkbox"/> Nad83 (1994) WGS84 Local					State <b>UTAH</b> County <b>EMERY</b>																							
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="checkbox"/> International Foot <input checked="" type="checkbox"/> Meter			Coordinate Type State Plane <input checked="" type="checkbox"/> UTM			Zone Utah North <input type="checkbox"/> Utah Central <input checked="" type="checkbox"/> Utah South			Vertical Datum NGVD29 <input type="checkbox"/> NAVD88 <input checked="" type="checkbox"/>			Ellipsoid Height 1711.15 M			Geoid Height M 5671.75 FT																
Base Receiver																															
Type <b>TRIMBLE</b>			Model <b>4000 SSI</b>			Serial Number																									
Logging Interval <b>5 SEC.</b>		Elevation Mask <b>13</b>		PDOP Mask <b>6</b>		Antenna Type <b>L1/L2 w/GROUND PLANE</b>																									
Start Time			AM PM			End Time			AM PM																						
Antenna Height																															
Session Beginning		1" M		2 <sup>nd</sup> M		3 <sup>rd</sup> M		Ave		4.587 Feet M																					
Session End		1" M		2 <sup>nd</sup> M		3 <sup>rd</sup> M		Ave		M																					
Rover Receiver																															
Type <b>TRIMBLE</b>			Model <b>5800</b>			Serial Number <b>4253117118</b>																									
Approximate Distance From Base Station			Miles			Antenna Type <b>5800 INTERNAL</b>			Antenna Height <b>6.6 FT</b>																						
Station Observation																															
Observation Type <input checked="" type="checkbox"/> RTK <input type="checkbox"/> FAST STATIC <input type="checkbox"/> STATIC <input type="checkbox"/> OTHER			First Observation																												
Station Name (M1)			3 4 0 3 0 0			Description <b>N 1/4 corner Sec. 28</b>																									
Occupation time			PDOP Best			RMS Best																									
Number of Measurements <b>60</b>			PDOP Worst <b>1.3</b>			RMS Worst <b>16.9</b>																									
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 <b>2 1/2 / 3 1/4 1969 BLM</b>			Size			Size																						
Material			Material <b>steel / brass</b>			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 1710340300



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section		Meridian (SL) US																				
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>						Date 11/14/05																								
Contacts Phone (435) 381-2523																																
Control Station																																
Name <b>ELM GPS 12</b>		Type COR HARN TRI <input checked="" type="radio"/> Other <b>EMERY COUNTY</b>						Accuracy Order																								
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Datum Nad27 Nad83 <input checked="" type="radio"/> Nad83 (1994) WGS84 Local						State <b>UTAH</b> County <b>EMERY</b>																								
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 checked="" type="radio"/> UTM																													
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 <b>TRIMBLE</b>			Model <b>4000 SSI</b>			Serial Number																										
Logging Interval <b>5 SEC.</b>		Elevation Mask <b>13</b>		PDOP Mask <b>6</b>		Antenna Type <b>L1/L2 w/GROUND PLANE</b>																										
Start Time			End Time																													
Antenna Height																																
Session Beginning		1 <sup>st</sup>	M	2 <sup>nd</sup>	M	3 <sup>rd</sup>	M	Ave	4.692 Feet M																							
Session End		1 <sup>st</sup>	M	2 <sup>nd</sup>	M	3 <sup>rd</sup>	M	Ave	M																							
Rover Receiver																																
Type <b>TRIMBLE</b>			Model <b>5800</b>			Serial Number <b>4253117118</b>																										
Approximate Distance From Base Station			Miles			Antenna Type <b>5800 INTERNAL</b>			Antenna Height <b>6.6 FT</b>																							
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)			3 4 0 2 0 0			Description <b>S 1/4 corner Sec. 28</b>																										
Occupation time			PDOP Best			RMS Best																										
Number of Measurements <b>60</b>			PDOP Worst <b>2.3</b>			RMS Worst <b>5.0</b>																										
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 <b>2 1/2 / 3/4 1969 BLM</b>			Size			Size																							
Material			Material <b>steel / brass</b>			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 1710340200

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710340200

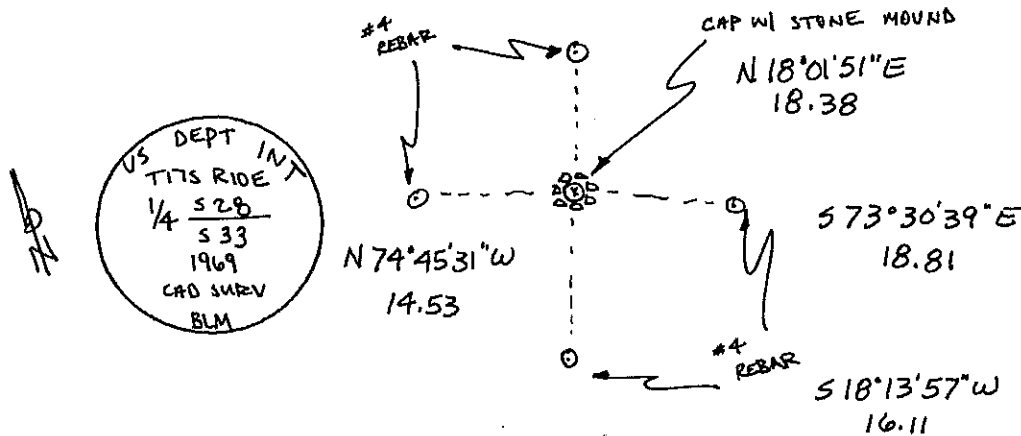
Type of Monument:  Section Corner  
 Bench Mark

Quarter Corner  
 Other \_\_\_\_\_

Your Description and Observation of Monument Found ( Be Specific ):  
 1969 BLM BRASS CAP 10" ABOVE GROUND LEVEL WITH A STONE MOUND

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET  $\uparrow$  #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

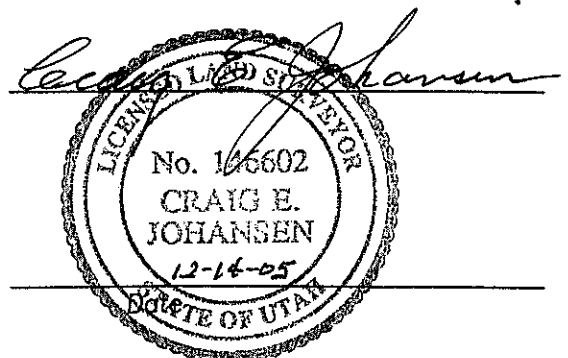
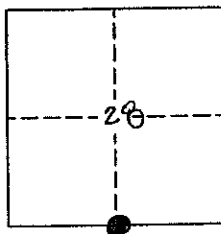
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:

Section: 29

Township: 17S

Range: 10E





## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section		Meridian (SL) US	
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>						Date <b>11/08/05</b>					
Contacts Phone <b>(435) 381-2523</b>													
Control Station													
Name <b>ELM GPS 12</b>		Type COR HARN TRI <u>Other</u> <b>EMERY COUNTY</b>						Accuracy Order					
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Datum Nad27 Nad83 <u>Nad83 (1994)</u> WGS84 Local						State <b>UTAH</b> County <b>EMERY</b>					
Latitude N 3 9 - 2 3 - 2 5 . 4 2 8 1 2 7							Longitude W 1 1 0 - 4 5 - 0 1 . 5 8 6 1 0						
Northing 6 9 4 7 5 8 7 . 6 3							Easting 1 8 5 2 2 5 7 . 0 6						
Units Survey Foot <u>International Foot</u> Meter		Coordinate Type <u>State Plane</u> UTM											
Zone Utah North <u>Utah Central</u> Utah South		Vertical Datum NGVD29 <u>NAVD88</u>											
Ellipsoid Height <b>1711.15 M</b>		FT		Geoid Height <b>M</b>		5671.75 FT							
Base Receiver													
Type <b>TRIMBLE</b>				Model <b>4000 SSI</b>				Serial Number					
Logging Interval <b>5 SEC.</b>		Elevation Mask <b>13</b>		PDOP Mask <b>6</b>		Antenna Type <b>L1/L2 w/GROUND PLANE</b>							
Start Time				AM PM		End Time				AM PM			
Antenna Height													
Session Beginning		1" M		2 <sup>nd</sup> M		3 <sup>rd</sup> M		Ave		4.718 Feet M			
Session End		1" M		2 <sup>nd</sup> M		3 <sup>rd</sup> M		Ave		M			
Rover Receiver													
Type <b>TRIMBLE</b>				Model <b>5800</b>				Serial Number <b>4253117118</b>					
Approximate Distance From Base Station				Miles		Antenna Type <b>5800 INTERNAL</b>				Antenna Height <b>6.6 FT</b>			
Station Observation													
Observation Type <u>(RTK)</u> FAST STATIC STATIC OTHER													
First Observation													
Station Name (M1)		3 2 0 2 0 0		Description <b>W 1/16 corner Sec. 28 / Sec. 33</b>									
Occupation time				PDOP Best				RMS Best					
Number of Measurements <b>60</b>				PDOP Worst <b>1.7</b>				RMS Worst <b>15.3</b>					
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 <b>2 1/2 / 3/4 1969 BLM</b>				Size				Size			
Material		Material <b>steel / brass</b>				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 1710320200

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710320200

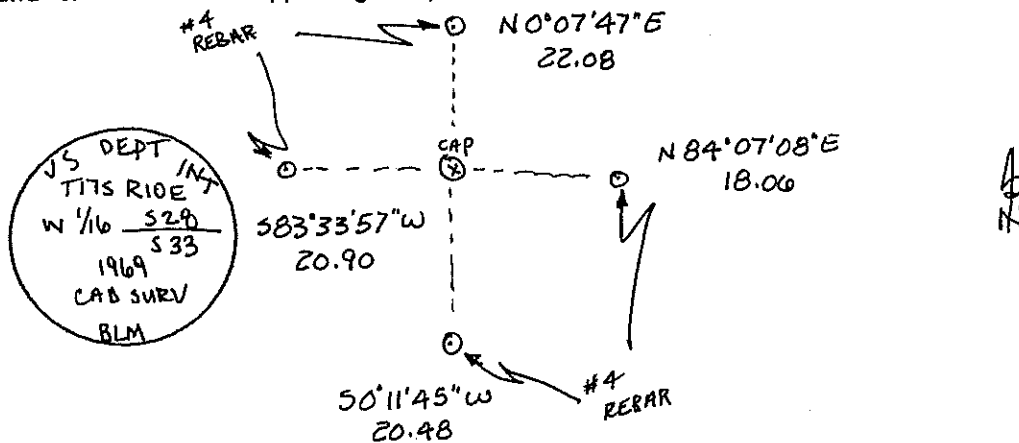
Type of Monument:  Section Corner  
 Bench Mark

Quarter Corner  
 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

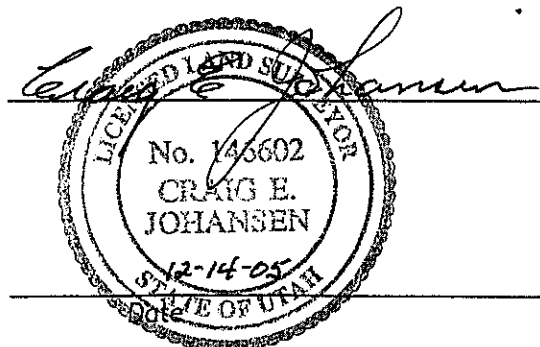
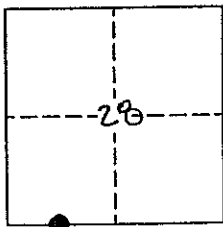
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:

Section: 29

Township: 17S

Range: 10E



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section		Meridian (SL) US	
Contacts Name Lee M. Swasey Contacts Phone (435) 381-2523		Source Agency JOHANSEN & TUTTLE ENGINEERING						Date 11/09/05					
<b>Control Station</b>													
Name ELM GPS 12		Type COR HARN TRI Other EMERY COUNTY						Accuracy Order					
USGS Quad Name OLSEN RESERVOIR UTAH		Datum Nad27 Nad83 Nad83 (1994) WGS84 Local						State UTAH County EMERY					
Latitude N 3 9 - 2 3 - 2 5 . 4 2 8 1 2 7							Longitude W 1 1 0 - 4 5 - 0 1 . 5 8 6 1 0						
Northing 6 9 4 7 5 8 7 . 6 3							Easting 1 8 5 2 2 5 7 . 0 6						
Units Survey Foot International Foot Meter		Coordinate Type State Plane UTM											
Zone Utah North Utah Central Utah South		Vertical Datum NGVD29 NAVD88											
Ellipsoid Height 1711.15 M		FT		Geoid Height M		5671.75 FT							
<b>Base Receiver</b>													
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 4.718 Feet M					
Session End		1" M		2" M		3" M		Ave M					
<b>Rover Receiver</b>													
Type TRIMBLE		Model 5800				Serial Number 4253117118							
Approximate Distance From Base Station Miles				Antenna Type 5800 INTERNAL				Antenna Height 6.6 FT					
<b>Station Observation</b>													
Observation Type		RTK FAST STATIC		STATIC		OTHER							
<b>First Observation</b>													
Station Name (M1)		3 0 0 2 4 0		Description W 1/4 corner Sec. 28									
Occupation time		PDOP Best				RMS Best							
Number of Measurements 60		PDOP Worst 2.6				RMS Worst 18.2							
<b>Second Observation</b>													
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					
<b>Monument and Markings</b>													
Type / Size													
Stone		Pipe/Cap				Post				Other			
Size		Size 2 1/2 / 3 1/4 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 1710300240

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

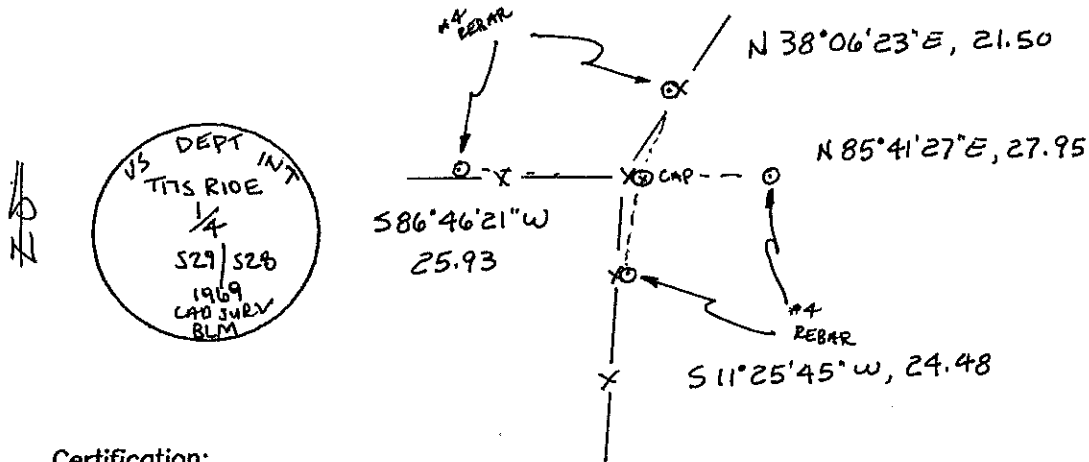
County Reference No. 1710300240

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

Your Description and Observation of Monument Found ( Be Specific ):  
1969 BLM BRASS CAP 10" 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.

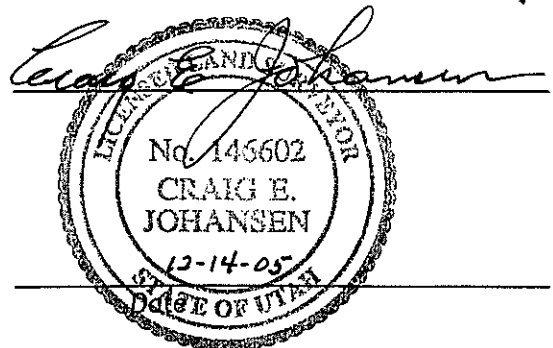
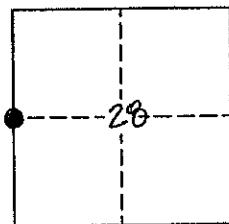


Certification:

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: 28  
 Township: 17S  
 Range: 10E



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> <small>(Meridian Township Range)</small>		Township T 1 7		1/2 (2) S	N S	Range 1 0		1/2 (2) W	E W	Section		Meridian (SL) US																			
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>						Date <b>11/09/05</b>																							
Contacts Phone <b>(435) 381-2523</b>																															
Control Station																															
Name <b>ELM GPS 12</b>		Type COR HARN TRI <input checked="" type="checkbox"/> Other <b>EMERY COUNTY</b>						Accuracy Order																							
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Datum Nad27 Nad83 <input checked="" type="checkbox"/> Nad83 (1994) WGS84 Local						State <b>UTAH</b> County <b>EMERY</b>																							
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="checkbox"/> International Foot		Meter		Coordinate Type				<input checked="" type="checkbox"/> State Plane		UTM																	
Zone		Utah North		<input checked="" type="checkbox"/> Utah Central		Utah South		Vertical Datum				NGVD29		<input checked="" type="checkbox"/> NAVD88																	
Ellipsoid Height		1711.15 M				FT		Geoid Height				M		5671.75 FT																	
Base Receiver																															
Type <b>TRIMBLE</b>				Model <b>4000 SSI</b>				Serial Number																							
Logging Interval		5 SEC.		Elevation Mask		13		PDOP Mask		6		Antenna Type <b>L1/L2 w/GROUND PLANE</b>																			
Start Time				AM		PM		End Time				AM		PM																	
Antenna Height																															
Session Beginning		1"		M		2"		M		3"		M		Ave		4.718 Feet M															
Session End		1"		M		2"		M		3"		M		Ave		M															
Rover Receiver																															
Type <b>TRIMBLE</b>				Model <b>5800</b>				Serial Number <b>4253117118</b>																							
Approximate Distance From Base Station				Miles		Antenna Type <b>5800 INTERNAL</b>				Antenna Height <b>6.6 FT</b>																					
Station Observation																															
Observation Type		<input checked="" type="checkbox"/> RTK		<input type="checkbox"/> FAST STATIC		<input type="checkbox"/> STATIC		<input type="checkbox"/> OTHER																							
First Observation																															
Station Name (M1)		3		0		0		2		2		0		Description <b>S 1/16 corner Sec. 29 - Sec 28</b>																	
Occupation time				PDOP Best				RMS Best																							
Number of Measurements				60				PDOP Worst				2.0				RMS Worst				16.8											
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 <b>2 1/2 / 3/4 1969 BLM</b>				Size				Size																					
Material		Material <b>steel / brass</b>				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 1710300220

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

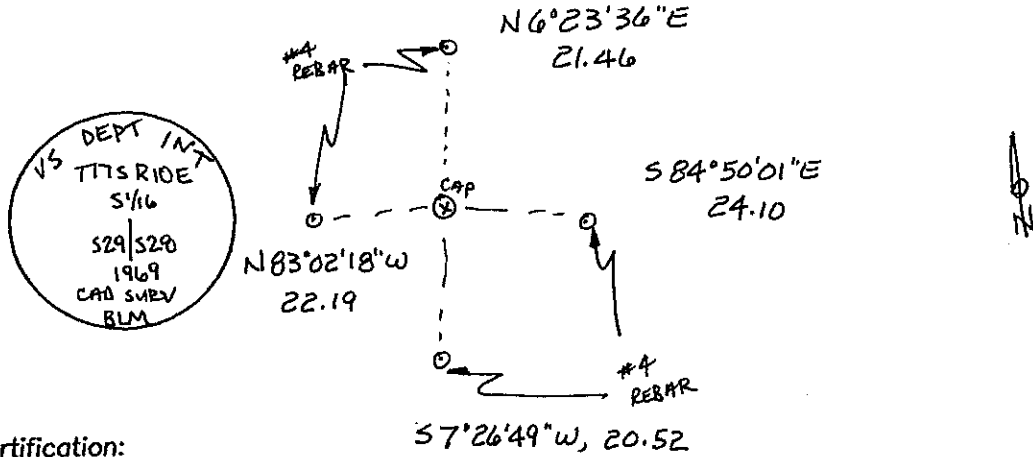
County Reference No. 1710300220

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.

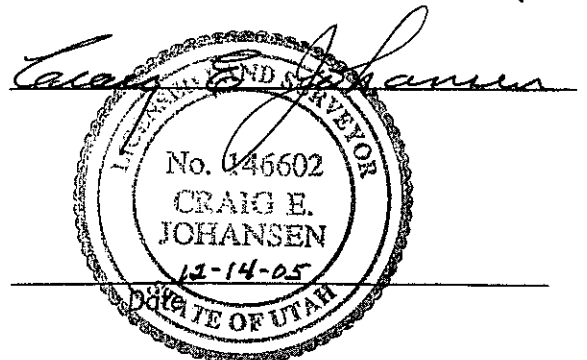
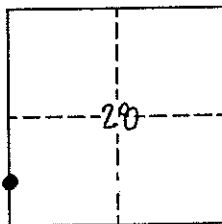


Certification:

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: 29  
 Township: 17S  
 Range: 10E



## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2) S	N S	Range 1 0		1/2 (2) E	E W	Section		Meridian (SL) US																					
Contacts Name Lee M. Swasey		Source Agency JOHANSEN & TUTTLE ENGINEERING						Date 11/09/05																									
Contacts Phone (435) 381-2523																																	
Control Station																																	
Name ELM GPS 12		Type COR HARN TRI <input checked="" type="checkbox"/> Other EMERY COUNTY						Accuracy Order																									
USGS Quad Name OLSEN RESERVOIR UTAH		Datum Nad27 Nad83 <input checked="" type="checkbox"/> 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 checked="" type="checkbox"/> International Foot		Meter		Coordinate Type				<input checked="" type="checkbox"/> State Plane		UTM																	
Zone		Utah North		<input checked="" type="checkbox"/> Utah Central		Utah South		Vertical Datum				NGVD29		<input checked="" type="checkbox"/> 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 <sup>st</sup>		M		2 <sup>nd</sup>		M		3 <sup>rd</sup>		M		Ave		4.718 Feet M																	
Session End		1 <sup>st</sup>		M		2 <sup>nd</sup>		M		3 <sup>rd</sup>		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="checkbox"/> RTK <input type="checkbox"/> FAST STATIC <input type="checkbox"/> STATIC <input type="checkbox"/> OTHER																																	
First Observation																																	
Station Name (M1)		4		0		0		2		4		0		Description E 1/4 corner Sec. 28																			
Occupation time				PDOP Best				RMS Best																									
Number of Measurements				60				PDOP Worst				4.1				RMS Worst				13.3													
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		2 1/2 / 3/4		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 1710400240

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710400240

Type of Monument:  Section Corner  
 Bench Mark

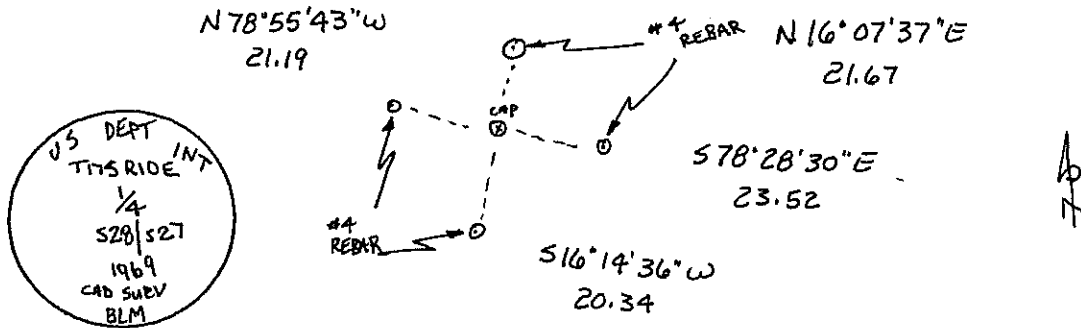
Quarter Corner  
 Other \_\_\_\_\_

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

1969 BLM BRASS CAP 10" 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

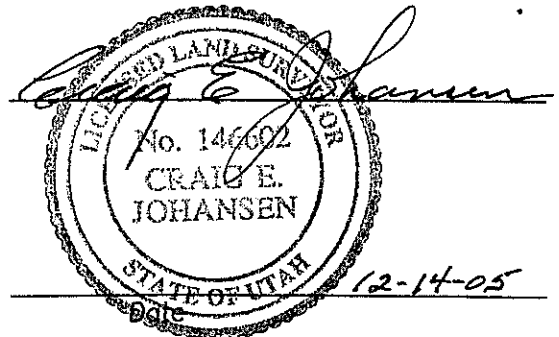
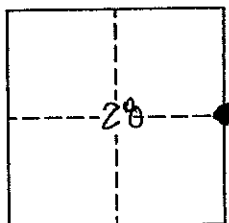
This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Location Diagram:

Section: 28

Township: 17S

Range: 10E





## PLSS GPS Observation Sheet

Project Name <b>SL T17S R10E</b> (Meridian Township Range)		Township T 1 7		1/2 (2)	N S	Range 1 0		1/2 (2)	E W	Section		Meridian (SL) US	
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>						Date <b>11/09/05</b>					
Contacts Phone <b>(435) 381-2523</b>													
Control Station													
Name <b>ELM GPS 12</b>		Type COR HARN TRI <input checked="" type="radio"/> Other <b>EMERY COUNTY</b>						Accuracy Order					
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Datum Nad27 Nad83 <input checked="" type="radio"/> Nad83 (1994) WGS84 Local						State <b>UTAH</b> County <b>EMERY</b>					
Latitude N 3 9 - 2 3 - 2 5 . 4 2 8 1 2 7							Longitude W 1 1 0 - 4 5 - 0 1 . 5 8 6 1 0						
Northing 6 9 4 7 5 8 7 . 6 3							Easting 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 checked="" type="radio"/> UTM											
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 <b>1711.15 M</b>		FT		Geoid Height <b>M</b>		<b>5671.75 FT</b>							
Base Receiver													
Type <b>TRIMBLE</b>				Model <b>4000 SSI</b>				Serial Number					
Logging Interval <b>5 SEC.</b>		Elevation Mask <b>13</b>		PDOP Mask <b>6</b>		Antenna Type <b>L1/L2 w/GROUND PLANE</b>							
Start Time				AM PM		End Time				AM PM			
Antenna Height													
Session Beginning		1" M		2" M		3" M		Ave <b>4.718 Feet M</b>					
Session End		1" M		2" M		3" M		Ave <b>M</b>					
Rover Receiver													
Type <b>TRIMBLE</b>				Model <b>5800</b>				Serial Number <b>4253117118</b>					
Approximate Distance From Base Station				Miles		Antenna Type <b>5800 INTERNAL</b>				Antenna Height <b>6.6 FT</b>			
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)		4 0 0 2 6 0		Description <b>N 1/16 corner Sec. 28 - Sec. 27</b>									
Occupation time		PDOP Best				RMS Best							
Number of Measurements <b>60</b>		PDOP Worst <b>3.8</b>				RMS Worst <b>14.7</b>							
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 <b>2 1/2 / 3 1/4 1969 BLM</b>				Size				Size			
Material		Material <b>steel / brass</b>				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 1710400260

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-09-05

County Reference No. 1710400260

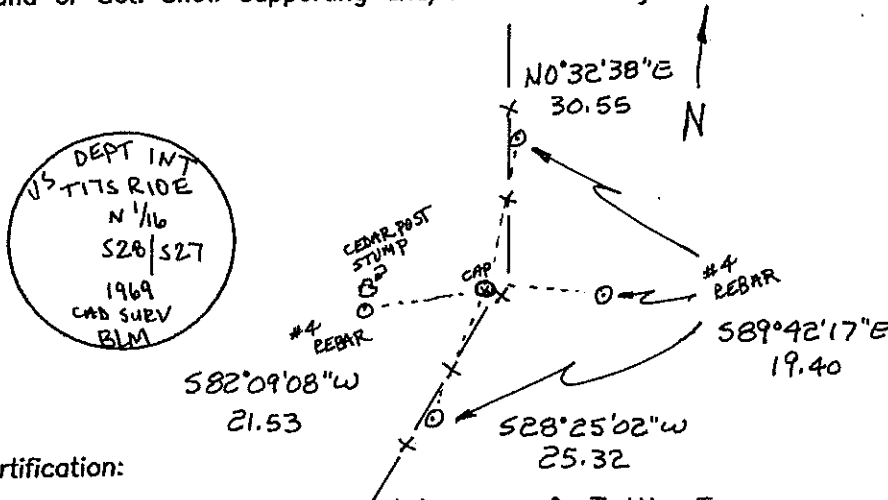
Type of Monument:  Section Corner  
 Bench Mark

Quarter Corner  
 Other 1/16 CORNER

Your Description and Observation of Monument Found ( Be Specific ):  
 1969 BLM BRASS CAP 6" ABOVE GROUNDLEVEL

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: 29

Township: 17S

Range: 10E

