

## PLSS GPS Observation Sheet

Project Name <b>SL T16S R11E</b> (Meridian Township Range)		Township <b>T 1 6</b>		½ (2)	N S	Range <b>1 1</b>		½ (2)	E W	Section	Meridian <b>(SL) US</b>	
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>							Date <b>12/07/05</b>			
Contacts Phone (435) 381-2523												
Control Station												
Name <b>CP-WEST</b>		COR		HARN		TRI		Type <input checked="" type="checkbox"/> LOCAL SURVEY			Accuracy Order	
USGS Quad Name <b>ELMO UTAH</b>		Nad27		Nad83		<input checked="" type="checkbox"/> Nad83 (1994)		WGS84		Local		State <b>UTAH</b> County <b>EMERY</b>
Latitude						Longitude						
N 3 9 - 2 8 - 0 8 . 2 2 8 1 8						W 1 1 0 - 4 7 - 1 5 . 1 3 2 7 7						
Northing						Easting						
6 9 7 6 1 1 2 . 8 0						1 8 4 1 5 4 5 . 4 0						
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 <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"		Ave <b>4.311 Feet M</b>
Session End		1"		M		2"		M		3"		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="checkbox"/> RTK		FAST STATIC		STATIC		OTHER				
First Observation												
Station Name (M1)		1 4 0 6 0 0		Description <b>S 1/4 corner Sec. 6</b>								
Occupation time		PDOP Best				RMS Best						
Number of Measurements <b>60</b>		PDOP Worst <b>4.5</b>				RMS Worst <b>31.2</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>2½ / ¾ 2005 ECS</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 1611140600

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 12-10-05

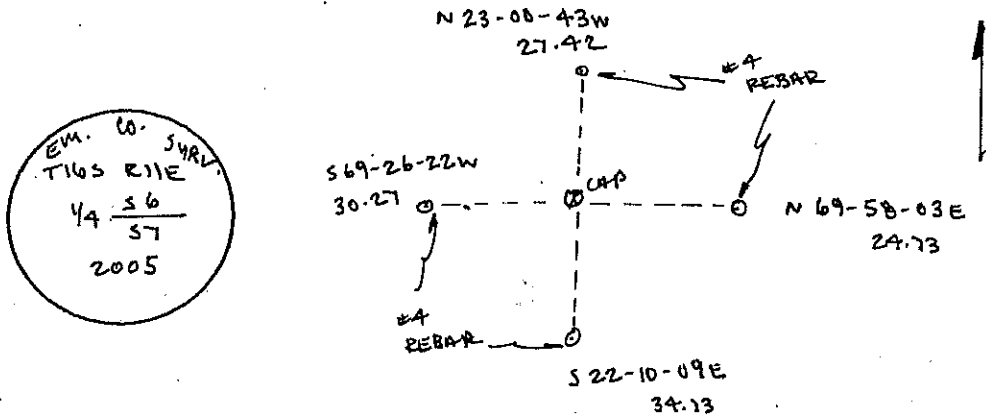
County Reference No. 161140600

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

Your Description and Observation of Monument Found ( Be Specific ):  
NO MONUMENT SET

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET ALUMINUM EMERY COUNTY SURVEYS CAP 0" ABOVE GROUND LEVEL.  
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.

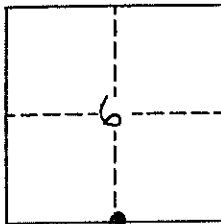


Certification:

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: 6  
 Township: 11S  
 Range: 11E



*Craig E. Johansen*  
 LICENSED SURVEYOR  
 No. 16602  
 CRAIG E. JOHANSEN  
 Date: 12-12-05  
 STATE OF UTAH

## PLSS GPS Observation Sheet

Project Name <b>SL T16S R11E</b> <small>(Meridian Township Range)</small>		Township		½ (2)	N S	Range		½ (2)	E W	Section		Meridian																					
		T	1	6	S	1	1		E			(SL)	US																				
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>							Date <b>12/05/05</b>																								
Contacts Phone <b>(435) 381-2523</b>																																	
<b>Control Station</b>																																	
Name <b>CP-WEST</b>		Type COR HARN TRI <input checked="" type="radio"/> Other LOCAL SURVEY							Accuracy Order																								
USGS Quad Name <b>ELMO 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	8	-	0	8	.	2	2	8	1	8	W	1	1	0	-	4	7	-	1	5	.	1	3	2	7	7			
Northing							Easting																										
6	9	7	6	1	1	2	.	8	0																								
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																					
<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 <sup>nd</sup>		M		3 <sup>rd</sup>		M		Ave		4.482 Feet M																	
Session End		1"		M		2 <sup>nd</sup>		M		3 <sup>rd</sup>		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 <input checked="" type="radio"/> RTK FAST STATIC STATIC OTHER																																	
First Observation																																	
Station Name (M1)		1		4		0		7		0		0		Description				N 1/4 corner Sec. 6															
Occupation time				PDOP Best				RMS Best																									
Number of Measurements				60				PDOP Worst				1.6				RMS Worst		22.8															
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																			
<b>Monument and Markings</b>																																	
Type / Size																																	
Stone				Pipe/Cap				Post				Other																					
Size		2 ½ / 3 ¼		2005 ECS		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 1611140700

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 12-10-05

County Reference No. 161140700

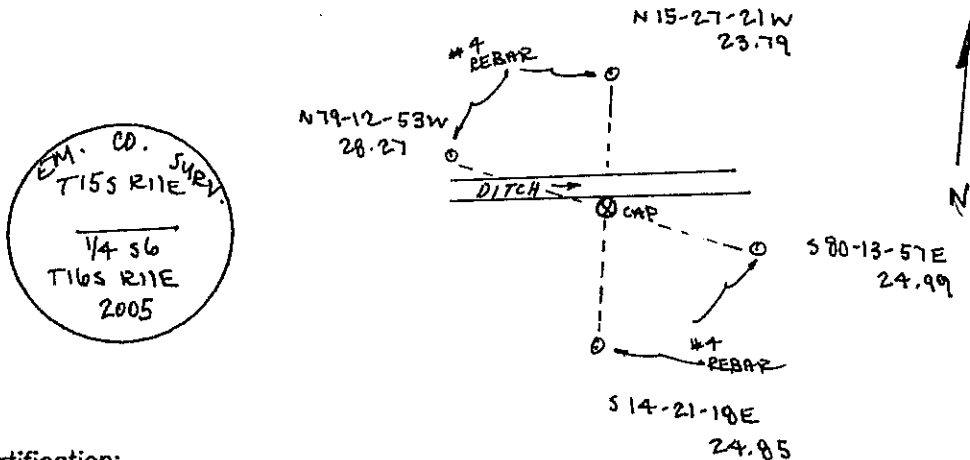
Type of Monument:  Section Corner  
 Bench Mark

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

Your Description and Observation of Monument Found ( Be Specific ):  
 MONUMENT NEVER SET

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET ALUMINUM EMERY COUNTY SURVEYS CAP 6" ABOVE GROUND LEVEL WITH 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:

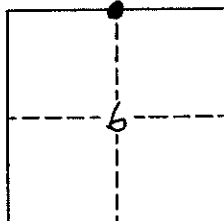
Firm name and/or Surveyor: Johansen & Tuttle Eng.

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: 6  
 Township: 16S  
 Range: 11E



Craig E. Johansen  
 No. 146002  
 CRAIG E. JOHANSEN  
 STATE OF UTAH  
 Date 12-13-05

## PLSS GPS Observation Sheet

Project Name <b>SL T16S R11E</b> <small>(Meridian Township Range)</small>		Township <b>T 1 6</b>		½ <b>(2)</b>	N <b>S</b>	Range <b>1 1</b>		½ <b>(2)</b>	E <b>W</b>	Section		Meridian <b>(SL) US</b>																				
Contacts Name <b>Lee M. Swasey</b>		Source Agency <b>JOHANSEN &amp; TUTTLE ENGINEERING</b>							Date <b>12/01/05</b>																							
Contacts Phone <b>(435) 381-2523</b>																																
Control Station																																
Name <b>CP - 1</b>		COR		HARN		TRI		Type <b>Other Local Survey</b>				Accuracy <b>Order</b>																				
USGS Quad Name <b>OLSEN RESERVOIR UTAH</b>		Nad27		Nad83		Datum <b>(Nad83 1994)</b>		WGS84		Local		State <b>UTAH</b>		County <b>EMERY</b>																		
Latitude							Longitude																									
N	3	9	-	2	6	-	1	6	.	2	0	1	4	5	W	1	1	0	-	4	2	-	2	8	.	1	7	5	6	3		
Northing							Easting																									
6	9	6	4	9	6	8	.	4	0																							
Units <b>Survey Foot</b>		<input type="radio"/> International Foot		<input type="radio"/> Meter		Coordinate Type <b>State Plane</b>				<input type="radio"/> UTM																						
Zone <b>Utah North</b>		<input type="radio"/> Utah Central		<input type="radio"/> Utah South		Vertical Datum <b>NGVD29</b>				<input type="radio"/> NAVD88																						
Ellipsoid Height <b>M</b>		<b>5481.181 FT</b>		Geoid Height <b>M</b>				<b>5538.90 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>4.206 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)		2		0		0		7		0		0		C C		Description <b>Closing Corner to NE corner Sec. 6</b>																
Occupation time		PDOP Best				RMS Best																										
Number of Measurements		60				PDOP Worst				2.1				RMS Worst				10.9														
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>2½ / 3¼ 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 1611200700 CC

# EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 12-01-05

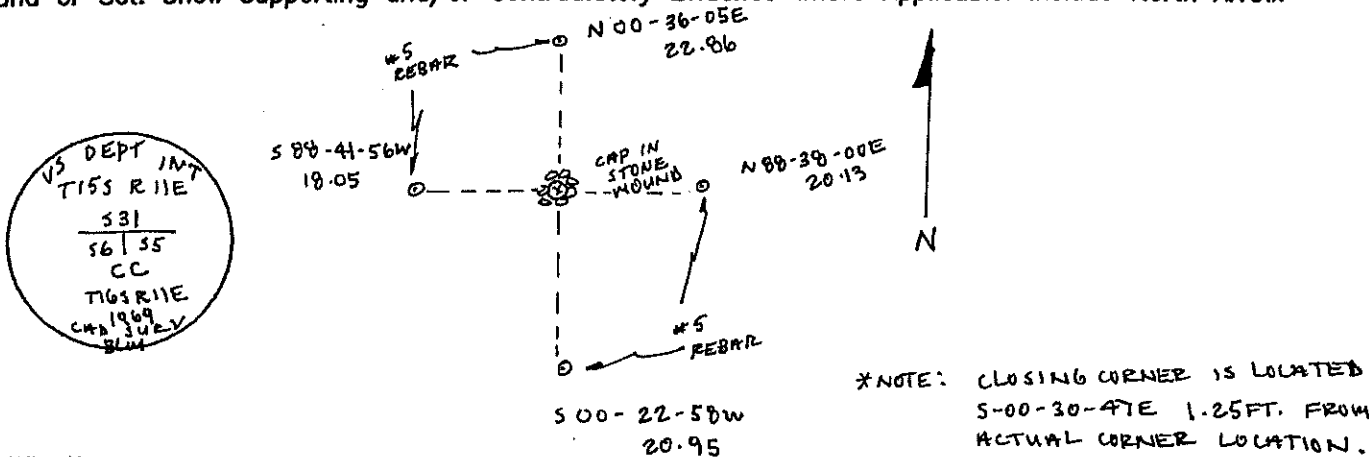
County Reference No. 16/1200700CC

Type of Monument:  Section Corner  Quarter Corner  
 Bench Mark  Other

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

Description of Monument, Reference Monument or Accessories Established by You to Perpetuate the Location of this Point: SET 4 #5 REBAR #5 SHOWN BELOW  
 BUILT STONE MOUND AROUND 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.

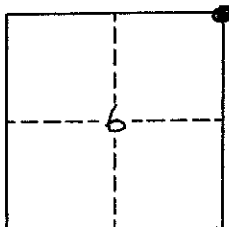


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 Section: 6  
 Township: 16S  
 Range: 11E



*Craig E. Johansen*  
 LICENSED LAND SURVEYOR  
 No. 146602  
 CRAIG E. JOHANSEN  
 12-13-05  
 STATE OF UTAH  
 Date \_\_\_\_\_