

PLSS GPS Observation Sheet

Project Name SL T17S R10E (Meridian Township Range)				Township T 1 7			Range S 1 0		Section E W		Meridian SL US	
Contacts Name Lee M. Swasey				Source Agency JOHANSEN & TUTTLE ENGINEERING					Date 11/08/05			
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 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="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				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 nd M		3 rd M		Ave 4.718 Feet M				
Session End		1" 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="checkbox"/> RTK <input type="checkbox"/> FAST STATIC <input type="checkbox"/> STATIC <input type="checkbox"/> OTHER												
First Observation												
Station Name (M1) 2 4 0 1 0 0				Description S 1/4 corner Sec. 32								
Occupation time				PDOP Best				RMS Best				
Number of Measurements 60				PDOP Worst 3.4				RMS Worst 42				
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 1710240100

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-08-05

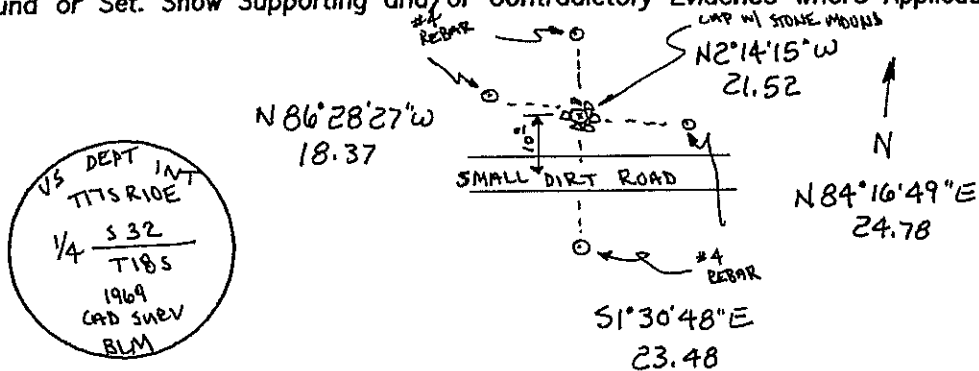
County Reference No. 1710240100

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

Your Description and Observation of Monument Found (Be Specific):
 1969 BLM BRASS CAP 9" 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 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.

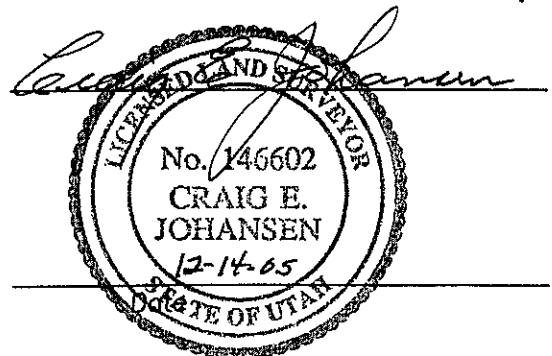
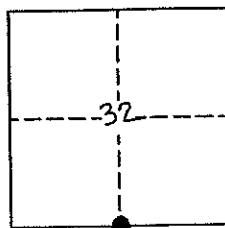


Certification:

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: 32
 Township: 17S
 Range: 10E



PLSS GPS Observation Sheet

Project Name SL T17S R10E (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 <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 type="checkbox"/> International Foot <input checked="" type="checkbox"/> Meter						Coordinate Type State Plane <input 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 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		4.692 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="checkbox"/> RTK <input type="checkbox"/> FAST STATIC <input type="checkbox"/> STATIC <input type="checkbox"/> OTHER																																
First Observation																																
Station Name (M1)		2		0	0	1	4	0	W	C	Description Witness Corner to W 1/4 corner Sec. 32																					
Occupation time		PDOP Best					RMS Best																									
Number of Measurements 60		PDOP Worst 2.3					RMS Worst 16.7																									
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 1710200140 WC

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-14-05

County Reference No. 1710200140 WC

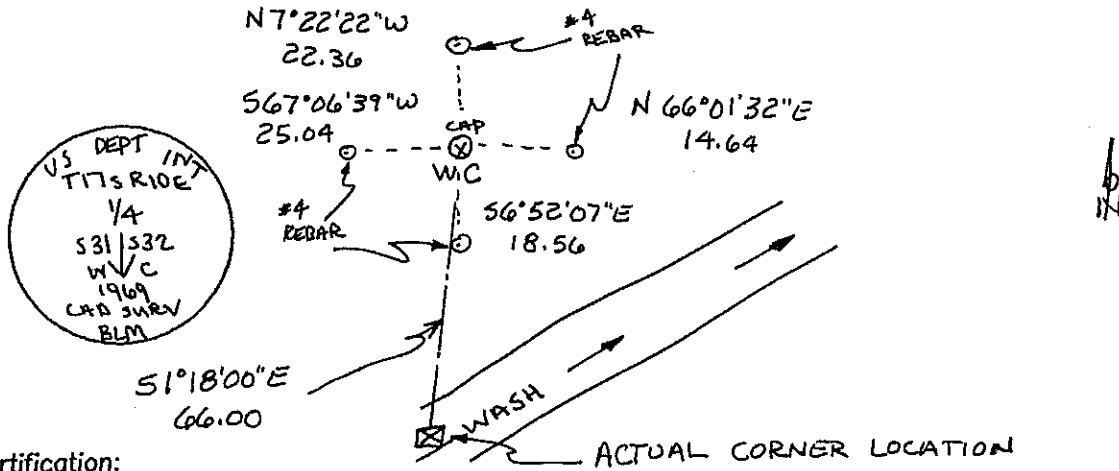
Type of Monument: Section Corner
 Bench Mark

Quarter Corner
 Other WITNESS CORNER

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 #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:

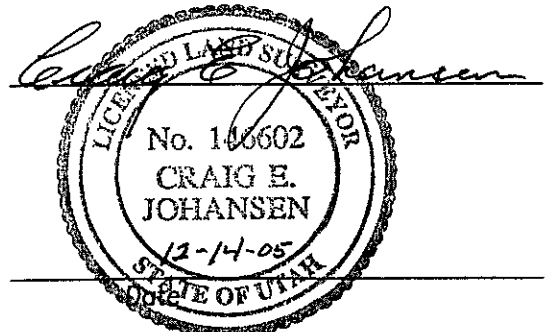
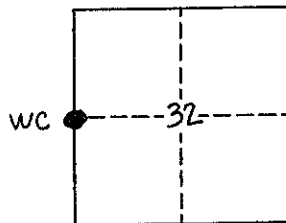
Firm name and/or Surveyor: Johansen & Tuttle Eng.

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

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Location Diagram:

Section: 32
 Township: 17S
 Range: 10E



PLSS GPS Observation Sheet

Project Name SL T17S R10E (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 11/08/05				
Contacts Phone (435) 381-2523												
Control Station												
Name ELM GPS 12		Type COR HARN TRI <u>Other</u> EMERY COUNTY						Accuracy Order				
USGS Quad Name OLSEN RESERVOIR UTAH		Datum Nad27 Nad83 <u>Nad83 (1994)</u> 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 <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 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 4.718 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 <u>RTK</u> FAST STATIC STATIC OTHER												
First Observation												
Station Name (M1) 2 0 0 1 0 0		Description SW corner Sec. 32										
Occupation time		PDOP Best				RMS Best						
Number of Measurements 60		PDOP Worst 3.9				RMS Worst 20.7						
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 1710200100

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-08-05

County Reference No. 1710200100

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

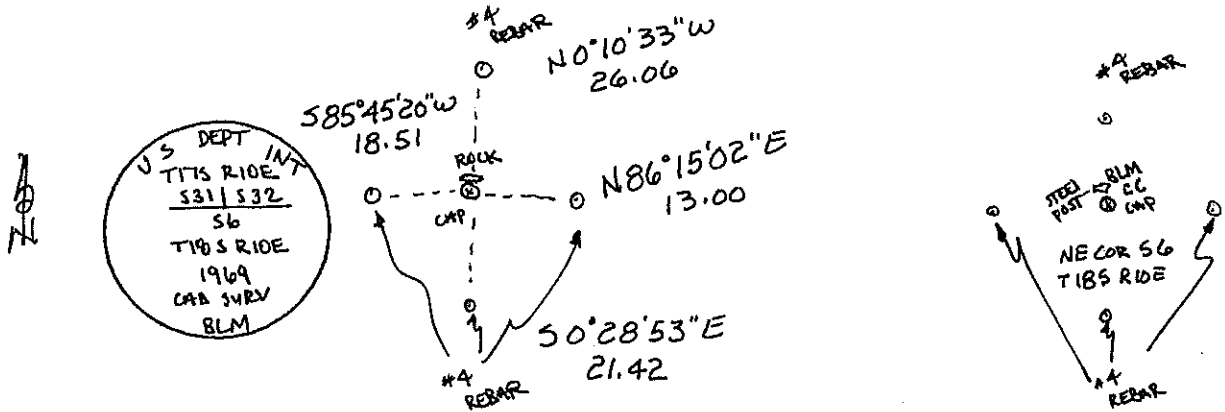
Your Description and Observation of Monument Found (Be Specific):

1969 BLM BRASS CAP 8" ABOVE GROUND LEVEL WITH A 3" X 10" X 16" STONE BURIED TO THE NORTH.

A CLOSING CORNER CAP SETS TO THE EAST WITH 4 #4 REBAR AS SHOWN BELOW

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.



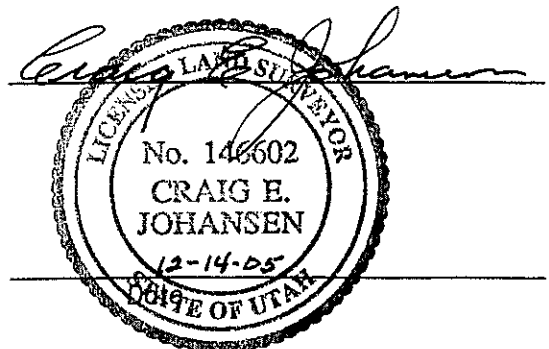
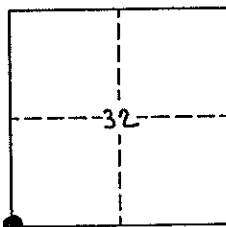
Certification:

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

Section: 32
 Township: 17S
 Range: 10E



PLSS GPS Observation Sheet

Project Name SL T17S R10E (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 <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"		M		2 nd		M		3 rd		M		Ave 4.692 Feet M																		
Session End		1"		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="checkbox"/> RTK		FAST STATIC		STATIC		OTHER																								
First Observation																																
Station Name (M1)		3 0 0 1 0 0		Description SE corner Sec. 32																												
Occupation time		PDOP Best				RMS Best																										
Number of Measurements 60		PDOP Worst 1.8				RMS Worst 21.7																										
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 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 1710300100

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-14-05

County Reference No. 171030D10D

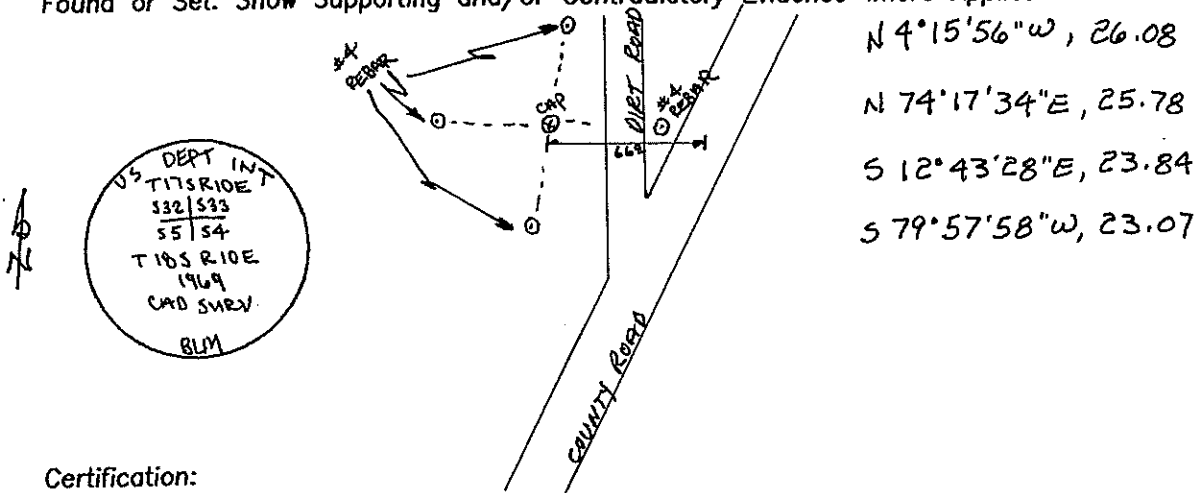
Type of Monument: Section Corner
 Bench Mark

Quarter Corner
 Other _____

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

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:

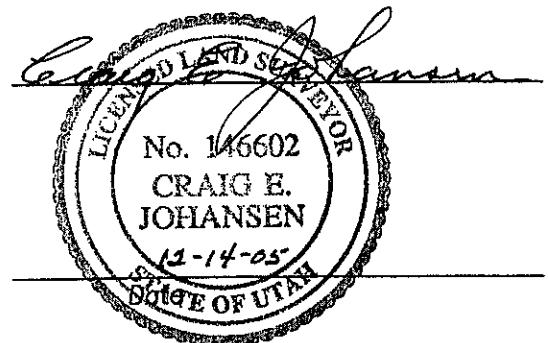
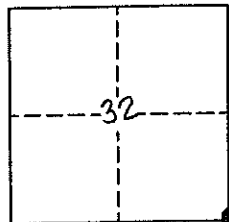
Firm name and/or Surveyor: Johansen & Tuttle Eng.

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Location Diagram:

Section: 32
 Township: 17S
 Range: 10E



PLSS GPS Observation Sheet

Project Name SL T17S R10E (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 <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 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 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				Geoid Height 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 4.692 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="checkbox"/> RTK <input type="checkbox"/> FAST STATIC <input type="checkbox"/> STATIC <input type="checkbox"/> OTHER															
First Observation															
Station Name (M1) 3 0 0 1 4 0				Description E 1/4 corner Sec. 32											
Occupation time				PDOP Best				RMS Best							
Number of Measurements 60				PDOP Worst 1.6				RMS Worst 20.2							
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 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 1710300140

EMERY COUNTY LAND SURVEY MONUMENT RECORD

Date of field work: 11-14-05

County Reference No. ¹⁷ ~~10300140~~

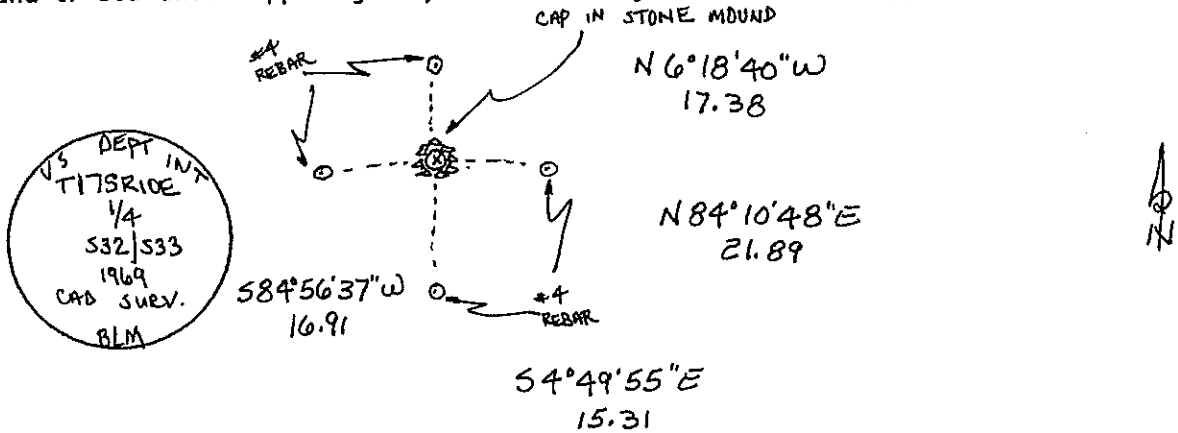
Type of Monument: Section Corner
 Bench Mark

Quarter Corner
 Other _____

Your Description and Observation of Monument Found (Be Specific):
 1969 BLM BRASS CAP STANDING LOOSELY 24" ABOVE GROUND LEVEL WITH A
 STONE MOUND SURROUNDING.

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.
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Location Diagram:
 Section: 32
 Township: ~~17S~~ 17S
 Range: 10E

