

ORIGINAL

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

FIELD NOTES

OF THE

DEPENDENT RESURVEY

OF A PORTION OF THE

SUBDIVISIONAL LINES,

WHICH IS IDENTICAL TO THE BOUNDARY BETWEEN THE NAVAJO INDIAN RESERVATION

AND THE GRAND CANYON NATIONAL PARK,

**TOWNSHIP 31 NORTH, RANGE 6 EAST,**

OF THE GILA AND SALT RIVER MERIDIAN,

IN THE STATE OF ARIZONA

**EXECUTED BY**

**Jones Curtiss, Cadastral Surveyor**

Under Special Instructions dated and approved February 10, 2009, which provided for the surveys included under Group No. 1059, and assignment instructions dated February 10, 2009.

**Survey commenced May 6, 2009**

**Survey completed May 19, 2009**

**INDEX DIAGRAM**

TOWNSHIP 31 NORTH                      RANGE 6 EAST  
 GILA AND SALT RIVER MERIDIAN, ARIZONA

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**T. 31 N., R. 6 E., Gila and Salt River Meridian, Arizona**

CHAINS

The following field notes describe the dependent resurvey of a portion of the subdivisional lines, which is identical to the boundary between the Navajo Indian Reservation and the Grand Canyon National Park, Township 31 North, Range 6 East, Gila and Salt River Meridian, Arizona.

The history of surveys pertaining to this survey is as follows: Benjamin J. Kinsey surveyed a portion of the subdivisional lines (The Grand Canyon National Park Boundary) in Townships 30, 31 and 32 North, Range 6 East, in 1927. Jones Curtiss dependently resurveyed a portion of the subdivisional lines, which is identical to the boundary between the Navajo Indian Reservation and the Grand Canyon National Park, Township 30 North, Range 6 East, concurrently under this same group.

The survey was executed in accordance with the specifications as set forth in the Manual of Instructions for the Survey of the Public Lands of the United States, 1973, and the Special Instructions dated February 10, 2009, for Group Number 1059, Arizona.

The true meridian direction and length of all lines were determined by real time kinematic global positioning system observations using Trimble Navigation 5700 model receivers.

Preliminary to the resurvey, the lines of the prior surveys were retraced and search was made for all corners and other calls of record. Identified corners were remonumented in their original positions. Lost corners were reestablished and remonumented at proportionate positions based on the official record. The retracement data were thoroughly verified and only the true line field notes are given herein.

During this resurvey, monuments were recovered consisting of brass tablets or aluminum posts, most of them set in concrete collars, established at corner positions or at points on or near the lines between corners on the boundary between the Navajo Indian Reservation and the Grand Canyon National Park. The monuments are dated 1975. No record of their origin could be found.

Geodetic control was derived from Global Positioning System (GPS) static observations post processed by the National Geodetic Survey, Online Positioning User Service (OPUS), utilizing Continuously Operating Reference Stations (CORS) FERNO MESA CORS ARP, Flagstaff 5 CORS ARP and NAU FLAGSTAFF CORS ARP. The NAD 83 (COR96) (EPOCH:2002) (EPOCH:2009.4350), geographic position of the corner of sections 4, 5, 32 and 33 on the south boundary is as follows:

Latitude: 36°01'16.21" N.                      Longitude: 111°45'44.19" W.

The mean magnetic declination is 11 1/2° E.

**Dependent Resurvey of a Portion of the Subdivisional Lines,  
which is identical to the boundary between the Navajo Indian Reservation  
and the Grand Canyon National Park,  
T. 31 N., R. 6 E., Gila and Salt River Meridian, Arizona**

CHAINS	
	<p>Restoring the survey executed by Benjamin J. Kinsey, in 1927</p> <hr style="width: 20%; margin: auto;"/>
	<p>Beginning at the cor. of secs. 4, 5, 32 and 33, on the S. bdy. of the Tp., monumented with an iron post, 2 ins. diam., with brass cap set, mkd. and witnessed as described in the field notes of the dependent resurvey of a portion of the subdivisional lines, which is identical to the boundary between the Navajo Indian Reservation and the Grand Canyon National Park, T. 30 N., R. 6 E., executed concurrently under this same group.</p>
	<p>N. 0°08' W., bet. secs. 32 and 33.</p> <p>Over broken and rugged land.</p>
2.72	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 24 ins. above ground and in a concrete collar, 6 ins. square, projecting 14 ins. above ground, in a supporting mound of stone, 3 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A5 NPS 1975.</p> <p>Cor. is located on top of a rocky ridge, bears East and West, and along a barbed wire fence, 4 strand, bears North and South.</p>
11.25	<p>A brass tablet, 3 ins. diam., set in sandstone bedrock, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A6 NPS 1975.</p> <p>Cor. is located 7 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
16.33	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 16 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A7 NPS 1975.</p> <p>Cor. is located 2 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
34.69	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 16 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, in a supporting mound of stone, 2 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR LS7909 A8 NPS 1975, with a steel fence post set nearby.</p> <p>Cor. is located 4 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>

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CHAINS	
40.04	<p>The 1/4 sec. cor. of secs. 32 and 33, monumented with an aluminum post, 2 1/2 ins. diam., firmly set, projecting 18 ins. above ground and in a concrete collar, 6 ins. square, projecting 9 ins. above ground, in a supporting mound of stone, 3 ft. base, to top, of unknown record, and is accepted as the best available evidence of the orig. cor. position, with aluminum cap mkd. U.S. DEPT. OF INTERIOR 1/4 32 33 A9 NPS 1975.</p> <p>from which the orig. bearing trees</p> <p style="padding-left: 40px;">A forked piñon, 13 ins. diam. at base, bears S. 19 1/4° E., 68 lks. dist., mkd. with illegible mks. on a partially healed blaze. (Record: S. 18 1/2° E.)</p> <p style="padding-left: 40px;">A dead forked piñon, 11 ins. diam. at base, bears N. 31 1/2° W., 81 lks. dist., mkd. 1/4 S32 BT on open blaze. (Record: 78 lks.)</p> <p>Add the marks 2009 to the aluminum cap.</p> <p>Cor. is located 7 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p> <hr style="width: 20%; margin: 10px auto;"/> <p>N. 0°01' E., beginning new measurement.</p>
25.27	<p>From this point, an aluminum post, 2 1/2 ins. diam., firmly set, projecting 18 ins. above ground and in a concrete collar, 6 ins. square, projecting 12 ins. above ground, in a supporting mound of stone, 3 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A10 NPS 1975, bears East, 1.5 lks. dist.</p> <p>Cor. is located 5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
33.03	<p>From this point, a brass tablet, 3 1/2 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A11 NPS 1975, bears West, 2 lks. dist.</p> <p>Cor. is located 4 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
40.05	<p>The cor. of secs. 28, 29, 32 and 33, monumented with an iron post, 2 ins. diam., firmly set, projecting 17 ins. above ground, with brass cap mkd. T31N R6E S29 S28 S32 S33 1927, with a mound of stone, 4 ft. base, 1 1/2 ft. high, W. of cor.</p>

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CHAINS	<p>from which the orig. bearing tree</p> <p style="padding-left: 40px;">A forked juniper, 16 ins. diam. at base, bears S. 36° W., 1.37 chs. dist., mkd. BT on partially open blaze. (Record: 1.40 chs.)</p> <p>Add the marks 2009 to the brass cap.</p> <p>Cor. is located 4 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p> <hr style="width: 50%; margin-left: 0;"/> <p>N. 0°03' W., bet. secs. 28 and 29.</p> <p>Over rolling and broken land.</p>
16.26	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 16 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, in a supporting mound of stone, 3 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A12 NPS 1975.</p> <p>Cor. is located 7.5 lks. E. of a barbed wire fence, 6 strand, bears North and South.</p>
40.05	<p>The 1/4 sec. cor. of secs. 28 and 29, monumented with an aluminum post, 2 1/2 ins. diam., firmly set, projecting 24 ins. above ground and in a concrete collar, 6 ins. square, projecting 10 ins. above ground, in a supporting mound of stone, 4 ft. base, 1 1/2 ft. high, of unknown record, and is accepted as the best available evidence of the orig. cor. position, with aluminum cap mkd. U.S. DEPT. OF INTERIOR T31N LS7909 S29 S28 A13 R6E NPS 1975.</p> <p>from which the remains of the orig. bearing trees</p> <p style="padding-left: 40px;">The root hole of a piñon, lying alongside, 8 ins. diam., bears S. 9° E., 4.17 chs. dist., mkd. 1/4 S28 BT on open blaze. (Record: S. 10° E.)</p> <p style="padding-left: 40px;">A piñon, 8 ins. diam., bears S. 80° W., 53 lks. dist., mkd. BT on partially open blaze.</p> <p>Add the marks 2009 to the aluminum cap.</p> <p>Cor. is located 6 lks. E. of a barbed wire fence, 5 strand, bears North and South.</p> <hr style="width: 50%; margin-left: 0;"/> <p>N. 0°04' W., beginning new measurement.</p>

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CHAINS	
4.00	<p>A brass tablet, 3 1/2 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 8 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR LS7909 A14 NPS 1975.</p> <p>Cor. is located 9 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
37.20	Trail road, bears N. 80° E. and S. 80° W.
40.00	<p>The cor. of secs. 20, 21, 28 and 29, monumented with an iron post, 2 ins. diam., firmly set, projecting 12 ins. above ground, encircled with a collar of stone, 3 ft. base, with brass cap mkd. T31N R6E S20 S21 S29 S28 1927.</p> <p>from which the remaining orig. bearing trees</p> <p style="padding-left: 40px;">A forked juniper, 20 ins. diam. at base, bears S. 71° E., 26 lks. dist., mkd. T31N R6E S28 BT on open blaze. (Record: S. 73° E.)</p> <p style="padding-left: 40px;">A dead piñon, 8 ins. diam., bears N. 17 1/2° W., 1.27 chs. dist., mkd. T31N R6E S20 on open blaze. (Record: 1.29 chs.)</p> <p>Add the marks 2009 to the brass cap.</p> <p>Cor. is located 15 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p> <hr/> <p>N. 0°05' W., bet. secs. 20 and 21.</p> <p>Over broken land along the E. slope of Cedar Mountain.</p>
4.61	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 18 ins. above ground and in a concrete collar, 6 ins. square, projecting 12 ins. above ground, in a supporting mound of stone, 1 1/2 ft. base, 1 ft. high, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A15 NPS 1975.</p> <p>Cor. is located 11 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
15.60	<p>From this point, a drill hole, the remaining evidence of the position of USGS BM 7057, 1 in. diam., 6 ins. deep, located on the W. side, on the top of Cedar Mountain, bears West, 49.84 chs. dist.</p>

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CHAINS	
16.79	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 18 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A16 NPS 1975.</p> <p>Cor. is located 9 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
29.52	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 16 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, in a supporting mound of stone, 2 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A17 NPS 1975.</p>
39.99	<p>The 1/4 sec. cor. of secs. 20 and 21, monumented with an iron post, 36 ins. long, 1 in. diam., firmly set, bent at ground level, projecting 13 ins. above ground, with brass cap mkd. 1/4 S20 S21 1927, with a steel fence post set nearby.</p> <p>from which the orig. bearing trees</p> <p style="padding-left: 40px;">A forked juniper, 24 ins. diam. at base, bears N. 88° E., 35 lks. dist., mkd. 1/4 S21 BT on open blaze. (Record: 31 lks.)</p> <p style="padding-left: 40px;">A forked piñon, 11 ins. diam. at base, bears N. 33° W., 84 lks. dist., mkd. 1/4 S20 BT on open blaze.</p> <p>At the corner point</p> <p>Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., flush with the surface of the ground, with brass cap mkd.</p> <p style="text-align: center;">T 31 N R 6 E 1/4 S 20   S 21</p> <p style="text-align: center;">2009</p> <p>Deposit a magnet, in a white plastic case, at the base of the stainless steel post.</p> <p>Bury the iron post alongside the stainless steel post.</p> <p>Cor. is located in the W. track of a dim trail road and 9 lks. E. of a barbed wire fence, 4 strand, both bear North and South.</p> <hr style="width: 20%; margin: 10px auto;"/> <p>N. 0°06' W., beginning new measurement.</p>



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CHAINS	
17.26	<p>From this point, an aluminum post, 2 1/2 ins. diam., firmly set, projecting 32 ins. above ground and in a concrete collar, 6 ins. square, projecting 8 ins. above ground, in a supporting mound of stone, 2 ft. base, 2 ft. high, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A18 NPS 1975, bears West, 1.5 lks. dist.</p> <p>Cor. is located 7 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
39.90	<p>The cor. of secs. 16, 17, 20 and 21, monumented with an iron post, 2 ins. diam., firmly set, projecting 28 ins. above ground, in a supporting mound of stone, 3 ft. base, 2 ft. high, against a sandstone ledge, 3 ft. high, with brass cap mkd. T31N R6E S17 S16 S20 S21 1927.</p> <p>Add the marks 2009 to the brass cap.</p> <p>Cor. is located on a steep, rugged, rocky slope.</p> <hr/> <p>North, bet. secs. 16 and 17.</p> <p>Over rugged land, thence across Straight Canyon.</p>
24.42	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 21 ins. above ground and in a concrete collar, 6 ins. square, projecting 11 ins. above ground, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A19 NPS 1975.</p> <p>Cor. is located 8 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
39.54	<p>The 1/4 sec. cor. of secs. 16 and 17, monumented with an iron post, 36 ins. long, 1 in. diam., loosely set, projecting 36 ins. above ground, in a supporting mound of stone, 4 ft. base, 1 1/2 ft. high, with no marks legible on defaced brass cap.</p> <p>from which the remains of the orig. bearing trees</p> <p style="padding-left: 40px;">The root hole of a forked piñon, lying alongside, 7 ins. diam., bears S. 88° E., 55 lks. dist., mkd. BT on open blaze.</p> <p>At the corner point</p> <p>Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 20 ins. in the ground, in a mound of stone, 3 ft. base, to top, with brass cap mkd.</p>

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CHAINS	
	T 31 N R 6 E 1/4 S 17   S 16  2009
	Deposit a magnet, in a white plastic case, at the base of the stainless steel post.  Bury the iron post alongside the stainless steel.  Raise a mound of stone, 4 ft. base, 3 ft. high, W. of cor.  From this cor. point, the cor. of barbed wire fences, 4 strand, with fences extending South and N. 70° W., bears S. 21° W., 64 1/2 lks. dist.  <hr style="width: 20%; margin: auto;"/> N. 0°04' W., beginning new measurement.
32.77	A brass tablet, 3 ins. diam., set in a concrete collar, 7 ins. square, firmly set, projecting 7 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A20 NPS 1975.
37.48	A brass tablet, 3 ins. diam., set in a concrete collar, 7 ins. square, firmly set, projecting 7 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A21 NPS 1975.
39.87	The cor. of secs. 8, 9, 16 and 17, monumented with an iron post, 2 ins. diam., firmly set, projecting 36 ins. above ground, in a supporting mound of stone, 3 ft. base, 1 1/2 ft. high, with brass cap mkd. T31N R6E S8 S9 S17 S16 1927.  Add the marks 2009 to the brass cap.  Cor. is located on steep, rocky slope.  <hr style="width: 20%; margin: auto;"/> N. 0°07' W., bet. secs. 8 and 9.  Over rolling and broken land.
25.79	A brass tablet, 3 1/2 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 7 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A22 NPS 1975.
28.86	A brass tablet, 3 1/2 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 7 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A23 NPS 1975.

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CHAINS	
31.42	A brass tablet, 3 1/2 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A24 NPS 1975.
40.07	The 1/4 sec. cor. of secs. 8 and 9, monumented with an iron post, 1 in. diam., firmly set, projecting 24 ins. above ground, in a supporting mound of stone, 3 ft. base, 1 1/2 ft. high, with brass cap mkd. 1/4 S8 S9 1927.  Add the marks T31N R6E 2009 to the brass cap. <hr style="width: 20%; margin: 10px auto;"/> N. 0°04' W., beginning new measurement.
6.70	An aluminum post, 2 1/2 ins. diam., firmly set, projecting 18 ins. above ground and in a concrete collar, 6 ins. square, projecting 7 ins. above ground, in a supporting mound of stone, 1 1/2 ft. base, 1/2 ft. high, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A25 NPS 1975.
33.92	A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A26 NPS 1975.  From this cor. point, the cor. of barbed wire fences, 4 strand, with fences extending North and S. 55° W., bears S. 2° W., 1.03 chs. dist.
39.95	The cor. of secs. 4, 5, 8 and 9, monumented with an iron post, 2 ins. diam., firmly set, projecting 11 ins. above ground, with brass cap mkd. T31N R6E S5 S4 S8 S9 1927, with a scattered mound of stone, W. of cor.  Add the marks 2009 to the brass cap.  Cor. is located 5 lks. E. of a barbed wire fence, 4 strand, bears North and South. <hr style="width: 20%; margin: 10px auto;"/> N. 0°04' E., bet. secs. 4 and 5.  Over rolling land.
4.76	A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A27 NPS 1975.  Cor. is located 4.5 lks. E. of a barbed wire fence, 4 strand, bears North and South.

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CHAINS	
21.37	<p>An aluminum post, 2 1/2 ins. diam., firmly set, projecting 12 ins. above ground and in a concrete collar, 6 ins. square, projecting 6 ins. above ground, in a supporting mound of stone, 2 ft. base, to top, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR A28 NPS 1975.</p> <p>Cor. is located 4.5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
29.92	<p>A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A29 NPS 1975.</p> <p>Cor. is located 5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
39.93	<p>The 1/4 sec. cor. of secs. 4 and 5, monumented with an aluminum post, 2 1/2 ins. diam., firmly set, projecting 32 ins. above ground and in a concrete collar, 6 ins. square, projecting 19 ins. above ground, in a supporting mound of stone, 3 ft. base, 1 ft. high, and is accepted as the best available evidence of the orig. cor. position, of unknown record, with aluminum cap mkd. U.S. DEPT. OF INTERIOR T31N LS7909 1/4 A30 R6E NPS 1975.</p> <p>Cor. is located 5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p> <hr style="width: 20%; margin: 10px auto;"/> <p>N. 0°02' W., beginning new measurement.</p>
1.63	<p>A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A31 NPS 1975.</p> <p>Cor. is located 4.5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
17.14	<p>A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A32 NPS 1975.</p> <p>Cor. is located 4.5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p>
31.70	<p>A brass tablet, 3 ins. diam., set in a concrete collar, 6 ins. square, firmly set, projecting 6 ins. above ground, of unknown record, with top mkd. U.S. DEPT. OF INTERIOR A33 NPS 1975.</p> <p>Cor. is located along a barbed wire fence, 4 strand, bears North and South.</p>

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<p>CHAINS</p> <p>39.99</p>	<p>The cor. of secs. 4, 5, 32 and 33, on the N. bdy. of the Tp., monumented with an iron post, 2 ins. diam., firmly set, projecting 28 ins. above ground, in a supporting mound of stone, 3 ft. base, 1 ft. high, with brass cap mkd. T32N R6E S32 S33 S5 S4 T31N 1927.</p> <p>Add the marks 2009 to the brass cap.</p> <p>Cor. is located 4.5 lks. E. of a barbed wire fence, 4 strand, bears North and South.</p> <hr/>
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## T. 31 N., R. 6 E., Gila and Salt River Meridian, Arizona

CHAINS

## GENERAL DESCRIPTION

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The area surveyed is approximately 3 miles E. of Desert View, Grand Canyon National Park, Arizona and on the boundary between the Navajo Indian Reservation and the Grand Canyon National Park. The terrain is rolling to rugged. The surveyed area includes a portion of the Coconino plateau and lower basin. The drainage is easterly with Cedar and Straight Canyons as the main drainages.

The elevation varies from 6000 to 8000 feet above sea level. The soil is mostly sand, sandy clay and rocky with sandstone and limestone outcrops. The timber is mostly piñon and juniper with the undergrowth consisting of scrub oak, sagebrush, cacti, greasewood, yucca, and native grasses.

Principal access to the township is provided by Navajo Route 6149, a graded road, branching off State Route 64 in the adjacent south township and extending into the lower basin. Cedar Mountain Road, a trail road from Desert View, Grand Canyon National Park, runs easterly to the foot of Cedar Mountain. The area is used primarily for livestock grazing on the Navajo Reservation side. There is no mining activity in the township.

The mean magnetic declination of  $11\ 1/2^\circ$  E. was derived from the computer program GEOMAGIX, utilizing the World Magnetic Model for Epoch 2005 for the dates of survey.

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CERTIFICATE OF SURVEY

I, Jones Curtiss, Cadastral Surveyor, HEREBY CERTIFY upon honor, that in pursuance of special instructions bearing date of the 10th day of February, 2009, I have dependently resurveyed a portion of the subdivisional lines, which is identical to the boundary between the Navajo Indian Reservation and the Grand Canyon National Park, T. 31 N., R. 6 E., of the Gila and Salt River Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me and under my direction. Said survey has been made in strict conformity with said special instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, 1973, and in specific manner described in the foregoing field notes.

March 02, 2010  
(Date)

Jones Curtiss  
(Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT  
Phoenix, Arizona

The foregoing field notes of the dependent resurvey of a portion of the subdivisional lines, which is identical to the boundary between the Navajo Indian Reservation and the Grand Canyon National Park, T. 31 N., R. 6 E., Gila and Salt River Meridian, in the State of Arizona, executed by Jones Curtiss, Cadastral Surveyor, having been critically examined and found correct, are hereby approved.

4/5/2010  
(Date)

Stephen H. Hansen  
(Chief Cadastral Surveyor of Arizona)

~~CERTIFICATE OF TRANSCRIPT~~

~~I CERTIFY That the foregoing transcript of the field notes of the above described surveys in T. 31 N., R. 6 E., Gila and Salt River Meridian, Arizona, is a true copy of the original field notes.~~

~~\_\_\_\_\_  
(Date)~~

~~\_\_\_\_\_  
(Chief Cadastral Surveyor of Arizona)~~