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ORIGINAL

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD NOTES

OF THE

CORRECTIVE DEPENDENT RESURVEY OF THE MILE BETWEEN SECTIONS 34 AND 35,

THE DEPENDENT RESURVEY OF PORTIONS OF THE EAST, WEST, AND NORTH BOUNDARIES

AND SUBDIVISIONAL LINES, THE SUBDIVISION OF SECTIONS 4, 5, 6, 9, 15, 16,

21, 22, 25, 26, 27, AND 34, AND THE METES-AND-BOUNDS SURVEY OF

PORTIONS OF THE WESTERLY RIGHT-OF-WAY OF THE UNION PACIFIC RAILROAD

IN SECTIONS 27, 34, AND 35.

TOWNSHIP 1 NORTH, RANGE 36 EAST,

OF THE WILLAMETTE MERIDIAN,

IN THE STATE OF OREGON.

EXECUTED BY

Richard S. Kaiser, Cadastral Surveyor

Philip G. Griffin, Cadastral Surveyor

Bryan S. Seibold, Cadastral Surveyor

Under Special Instructions dated May 9, 1997, approved May 9,1997,

and Supplemental Special Instructions dated September 8, 1999,

approved September 8, 1999,

Which provided for the surveys included under Group No. 1844,

and assignment instructions dated May 12,1997, April 30,1998,

and September 8, 1999.

Survey commenced May 13, 1997

Survey completed October 13, 1999

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INDEX DIAGRAM

TOWNSHIP 1 NORTH RANGE 36 EAST

18 10 **6** 63	16 64 **5** 62	14 56 **4** 54	43 **3**	**2**	**1**
7	61 **8** 60	53 **9** 51	42 **10** 41	**11**	**12**
18	**17** 58	50 **16** 48	39 **15** 38	29 **14**	**13**
19	**20** 57	47 **21** 46	36 **22** 35	27 **23** 26	**24** 23
30	**29**	45 **28** 44	33 **27** 32	24 **26** 24	21 **25** 6 19
31	**32**	**33**	31 **34**	4 **35**	**36**

T. 1 N., R. 36 E., Willamette Meridian, Oregon

CHAINS

The following field notes are those of the corrective dependent resurvey of the mile between sections 34 and 35, the dependent resurvey of portions of the east, west and north boundaries and subdivisional lines, the subdivision of sections 4, 5, 6, 9, 15, 16, 21, 22, 25, 26, 27, and 34, and the metes-and-bounds survey of portions of the westerly right-of-way of the Union Pacific Railroad in sections 27, 34, and 35, township 1 north, range 36 east, of the Willamette Meridian, in the state of Oregon.

The history of surveys pertinent to this survey is as follows:

In 1863, Timothy W. Davenport, U.S. Deputy Surveyor, surveyed the Willamette Base Line (south boundary of the township) through Range 36 East.

In 1871, Zenith Moody, U.S. Deputy Surveyor, surveyed the east and north boundaries of T. 1 N., R. 35 E., the east boundary of T. 2 N., R. 35 E., and the Umatilla Indian Reservation boundary.

In 1882, Jacob C. Cooper, U.S. Deputy Surveyor, surveyed the east boundary.

In 1882, Herman D. Gradon, U.S. Deputy Surveyor, resurveyed the Willamette Base Line, (south boundary of the township) through Range 36 East, surveyed the north boundary, subdivided the township, and resurveyed a portion of the east boundary of T. 2 N., R. 35 E.

In 1887, James P. Currin and James E. Noland, U.S. Deputy Surveyors, resurveyed the east and north boundaries of T. 1 N., R. 35 E., the east boundary of T. 2 N., R. 35 E. and a portion of the Umatilla Indian Reservation boundary.

In 1895-96, Marius Buchanan, U.S. Deputy Surveyor, resurveyed portions of the east and north boundaries of T. 1 N., R. 35 E.

In 1917, Lincoln E. Wilkes, U.S. Surveyor, resurveyed the diminished Umatilla Indian Reservation boundary through T. 2 N., Rs. 35 and 36 E.

In 1919, C.E. Redfield, Surveyor for the U.S. Indian Service, resurveyed portions of the south and east boundaries of T. 2 N., R. 35 E. and portions of the Umatilla Indian Reservation boundary.

In 1982, A. Joseph Garrison, Cadastral Surveyor, remonumented certain original corners without survey.

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T. 1 N., R. 36 E., Willamette Meridian, Oregon

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In 1983-84 Robert J. Chappel, Lawrence D. Holmes, and Harold W. Heimark, Cadastral Surveyors, resurveyed a portion of the Willamette Base Line (south boundary of the township), a portion of the subdivisional lines and subdivided sections 18, 31, and 32.

In 1983-85, Lawrence D. Holmes, Cadastral Surveyor, resurveyed a portion of the Willamette Base Line (south boundary of the township).

In 1995-96, Richard S. Kaiser and Robert J. Mayorga, Cadastral Surveyors, resurveyed a portion of the Willamette Base Line (south boundary of the township), and surveyed a portion of the westerly right-of-way of the Union Pacific Railroad in sec. 2, T. 1 S., R. 36 E.

During the review of this survey a problem was discovered in trying to close section 34. An investigation by Bryan S. Seibold, Cadastral Surveyor, confirmed the improper position of the 1/4 section corner of sections 34 and 35, that was reestablished in 1983-84, necessitating the corrective action.

The survey was executed in accordance with the specifications set forth in the Manual of Surveying Instructions, 1973, the Special Instructions dated May 9, 1997, and the Supplemental Special Instructions dated September 8, 1999, under Group No. 1844, Oregon.

The directions of the lines are based on the true meridian as determined by direct solar observations and by reference to the U.S. Geological Survey Triangulation System and were carried forward by means of sustained angulation. All measurements along the lines were derived through the use of electronic measuring equipment. An analysis of the unadjusted field data assured a closure not exceeding 1:4000 in error.

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

This survey was performed with both terrestrial and satellite technology. The satellite measurements utilized the NAVSTAR Global Positioning System and Trimble 4000SSE dual frequency, carrier phase receivers. The terrestrial measurements utilized a Topcon ITS 1 total station. The GPS portion of the survey followed guidelines published by the Federal Geodetic Control Committee in

CHAINS

May, 1988, in the publication "Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques." All standards for group C, second order, class II were met with these exceptions:

1. No vertical stations were included in the network. Positions were computed using the published ellipsoid heights of the control stations.

2. The length of time for data collection was shortened due the use of the Trimble fast static method of observation.

The following stations from the National Spatial Reference System were used as control:

LA GRANDE CBL 0 PT. NAD83(91)	Latitude	45° 18' 39.41551" N.
	Longitude	118° 03' 52.25917" W.
BIG HILL RESET NAD83(91)	Latitude	45° 35' 58.22343" N.
	Longitude	118° 31' 48.55294" W.

GPS baselines were computed with software developed by Trimble Navigation titled GPSurvey v. 2.00a and adjusted by least squares adjustment routine using the Trimble software TRIMNET™ v. 2.00. Some of the terrestrial measurements have been adjusted by "Cadastral Measurement Management" (CMM), computer software that incorporates a least squares adjustment routine. The adjusted bearings and distances are reported to the nearest second and 0.001 chain. The positional uncertainty of the GPS network points of this survey with respect to these control stations, as expressed by the semi-major axis of the error ellipses at 95% confidence level, ranged from 0.02 to 0.07 foot.

The geographic coordinates (NAD 1983 (91)) for those corners at which direct GPS observations were taken are listed below. These values are taken directly from the TRIMNET™ fixed adjustment of the GPS network and do not reflect any subsequent adjustment that may have occurred when combined with the terrestrial data in CMM. Therefore, the bearings and distances determined by inversing between these positions may yield slight differences from those shown in the notes and on the plat.

cor. of secs. 28, 29, 32 & 33	Latitude: 45° 31' 46.858" N. Longitude: 118° 19' 46.013" W.
cor. of secs. 19, 20, 29 & 30	Latitude: 45° 32' 38.117" N. Longitude: 118° 20' 57.135" W.

T. 1 N., R. 36 E., Willamette Meridian, Oregon

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The geographic coordinates (NAD 1983 (91)) of the cor. of secs. 1, 6, 7, and 12; on the W. bdy. of the Tp., as determined by a tie to U.S. Geological Survey triangulation station "GIBBON" is as follows:

Latitude: 45° 35' 16.45" N. Longitude: 118° 22' 23.50" W.

The mean magnetic declination is 19° East.

Corrective Dependent Resurvey of the Mile Between Sections 34 and 35, T. 1 N., R. 36 E., Willamette Meridian, Oregon

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(Restoring the survey by Herman D. Gradon, in 1882, and correcting the dependent resurvey by Robert J. Chappel, Lawrence D. Holmes, and Harold W. Heimark, in 1983-84)

Beginning at the standard cor. of secs. 34 and 35, on the S. bdy. of the Tp., (Willamette Base Line), monumented with a brass tablet, 3½ ins. diam., firmly cemented in solid rock, flush with the ground, with top mkd.

T 1 N R 36 E
S C
S 34 | S 35
T 1 S
1984

from which a new bearing tree

A pine, 5 ins. diam., bears N. 57½° E., 212 lks. dist., mkd. X at breast height and BT at the base.

A metal fence post bears S. 55° E., 0.17 chs. dist., with U.S.F.S. "LAND SURVEY MONUMENT" sign attached.

Build a mound of stone, 3½ ft. base, 2 ft. high, N. of the corner.

N. 0° 08′ 30" E., bet. secs. 34 and 35.

(Topography used for this line was taken from the official field notes by Chappel, Holmes, and Heimark, in 1983-84.)

Ascend over SE. slope, through scattering timber.

**Dependent Resurvey of a Portion of the West Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS

from which

A ponderosa pine, 40 ins. diam., bears N. 11° W., 205 lks. dist., mkd. X at breast height and BT at the base.

No other bearing trees available within limits.

Deposit a magnet in a white plastic case at the base and the corner stone alongside the stainless steel post.

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

(Restoring the survey by Herman D. Gradon in 1882)

From the cor. of secs. 3, 4, 33, and 34 on the N. Bdy. of the Tp., remonumented by Larry D. Bishop, Registered Land Surveyor No. 896, in 1983, filed with the Umatilla County Surveyor under Land Corner monumentation record A-11; monumented with an aluminum pipe, 2½ ins. diam., firmly set, in a mound of stone, 4 ft. base, with aluminum cap mkd.

T 2 N R 36 E
S 33	S 34
S 4	S 3
T 1 N

1983
PLS 896

The original stone, 17 x 14 x 12 ins., with 3 notches on the E. and W. edges, is deposited alongside in the mound of stone.

from which accessories by Bishop

A Douglas fir, 40 ins. diam., bears N. 48° E., 230 lks. dist., with fragmentary scribe marks visible on partially healed blaze

An iron rod, 5/8 in. diam., firmly set, projecting 18 ins. above ground, with plastic cap, bears S. 47½° E., 29 lks. dist.

An iron rod, 5/8 in. diam., firmly set, projecting 16 ins. above ground, bears S. 48° W., 36 lks. dist.

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS	
	A Douglas fir, 24 ins. diam., bears N. 45° W., 284 lks. dist., with fragmentary scribe marks on partially healed blaze.
	S. 87° 14' 00" W., bet. secs. 4 and 33.
	Descend W. slope and cross ravine draining SW.
40.50	Ridge top, slopes S. 20° W.
41.058	The ¼ sec. cor. of secs. 4 and 33, remonumented by Larry D. Bishop, Registered Land Surveyor No. 896, in 1983, from original evidence no longer visible, and filed with the Umatilla County Surveyor under Land Corner monumentation record A-11; monumented with an aluminum post, 2½ ins. diam., firmly set, in a mound of stone, 5 ft. base, with aluminum cap mkd. T 2 N R 36 E S 33 1/4 ——— S 4 T 1 N 1983 PLS 896 from which accessories by Bishop An iron rod, 5/8 in. diam., firmly set, projecting 20 ins. above ground, with a plastic cap mkd. LS 896, bears N. 5° E., 108 lks. dist. An iron rod, 5/8 in. diam., firmly set, projecting 16 ins. above ground, bears S. 16° W., 35 lks. dist.
	S. 89° 55' 00" W., beginning new measurement.
	Descend steep W. slope.
39.189	The cor. of secs. 4, 5, 32, and 33, monumented with the original basalt stone, 18 x 12 x 5 ins. (record, 16 x 12 x 6 ins.), loosely set, 3 ins. in the ground, with 4 notches on the E. and 1 notch on the W. edges. At the corner point Set a stainless steel post, 28 ins. long, 2½ ins. diam., 14 ins. in the ground, to solid rock, and in a mound of stone, 3 ft. base, to top, with brass cap mkd.

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS	
	T 2 N R 36 E S 32 | S 33 S 5 | S 4 T1N 1998
	No bearing trees available within limits.
	Deposit a magnet in a white plastic case at the base and the corner stone alongside the stainless steel post.
	N. 89° 26' 30" W., bet. secs. 5 and 32.
	Ascend gradually along steep, rocky, southerly slope.
20.035	Point for the E 1/16 sec. cor. of secs. 5 and 32.
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 4 ins. in the ground, to solid rock, and supported in a mound of stone, 4 ft. base, to top, with brass cap mkd. S 32 E 1/16 S 5 1998
	No bearing trees available within limits.
	Deposit a magnet in a white plastic case at the base of the stainless steel post.
23.00	Descend steep W. slope.
40.070	The 1/4 sec. cor. of secs. 5 and 32, determined at record distance from the remains of the original bearing trees: A ponderosa pine, 28 ins. diam., bears S. 76¾° W., 58 lks. dist., with curved scribe mark visible on partially opened blaze. (record: S. 73° W.) A sawed pine stump, 22 ins. diam., bears N. 42° W., 53 lks. dist., no marks. (record: N. 43° W.)
	At the corner point
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 22 ins. in the ground, in a collar of stone, with brass cap mkd.

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS	
	T 2 N R 36 E S 32 1/4 ——— S 5 T 1 N 1998
	from which a new bearing tree
	A ponderosa pine, 10 ins. diam., bears N. 16½° E., 184 lks. dist., mkd. 1/4 S32 BT.
	Deposit a magnet in a white plastic case at the base of the stainless steel post.
	———
	N. 89° 31' 30" W., beginning new measurement.
	Descend steep W. slope.
1.00	Ravine, drains SW., continue across Union Pacific Railroad and Meacham Creek and ascend.
40.082	Point for the cor. of secs. 5, 6, 31, and 32, at proportionate distance; there is no remaining evidence of the original corner.
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 24 ins. in the ground, with brass cap mkd.
	T 2 N R 36 E S 31 | S 32 ———+——— S 6 | S 5 T 1 N 1998
	from which
	A Douglas fir, 17 ins. diam., bears N. 46° E., 83 lks. dist., mkd. T2N R36E S32 BT.
	A Douglas fir, 19 ins. diam., bears S. 17° E., 91 lks. dist., mkd. T1N R36E S5 BT.
	A ponderosa pine, 12 ins. diam., bears S. 41° W., 137 lks. dist., mkd. T1N R36E S6 BT.
	A ponderosa pine, 36 ins. diam., bears N. 53° W., 48 lks. dist., mkd. T2N R36E S31 BT.

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS	
	Deposit a magnet in a white plastic case at the base of the stainless steel post.
	N. 89° 31' 30" W., bet. secs. 6 and 31.
	Ascend steep E. slope in heavy timber and underbrush.
7.00	Spur, slopes NE., desc. brushy NW. slope.
20.040	Point for the E 1/16 sec. cor. of secs. 6 and 31.
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 22 ins. in the ground, with brass cap mkd.
	S 31 E 1/16 ——— S 6 1998
	from which
	A Douglas fir, 10 ins. diam., bears N. 37½° E., 73 lks. dist., mkd. E 1/16 S31 BT.
	A Douglas fir, 12 ins. diam., bears S. 34° W., 21 lks. dist., mkd. E 1/16 S6 BT.
	Deposit a magnet in a white plastic case at the base of the stainless steel post.
	Descend steep, brushy NW. slope to ravine, draining N. 30° E., ascend steep E. slope.
36.00	Spur, slopes NE.; over N. slope.
40.080	Point for the ¼ sec. cor. of secs. 6 and 31, at proportionate distance; there is no remaining evidence of the original corner.
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 24 ins. in the ground, in a collar of stone, with brass cap mkd.
	T 2 N R 36 E S 31 1/4 ——— S 6 T 1 N 1998

**Dependent Resurvey of a Portion of the North Boundary,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

CHAINS	
	from which
	A ponderosa pine, 38 ins. diam., bears N. 80° E., 30 lks. dist., mkd. 1/4 S31 BT.
	A ponderosa pine, 30 ins. diam., bears S. 38° E., 16 lks. dist., mkd. 1/4 S6 BT.
	Deposit a magnet in a white plastic case at the base of the stainless steel post.
	Continue descending to ravine, drains NE. and ascend E. slope.
57.50	Broad spur, slopes N.
89.50	Spur, slopes NE.
91.335	The cor. of Tps. 1 and 2 N., Rs. 35 and 36 E.

**Dependent Resurvey of a Portion of the Subdivisional Lines,
T. 1 N., R. 36 E., Willamette Meridian, Oregon**

(Restoring the survey by Herman D. Gradon in 1882,
the remonumentation by A. Joseph Garrison, in 1982,
and the resurvey by Robert J. Chappel, Lawrence D. Holmes,
and Harold W. Heimark, in 1983-84.)

	From the cor. of secs. 25, 30, 31, and 36, on the E. bdy. of the Tp.
	S. 88° 58' 00" W., bet. secs. 25 and 36.
	Descend steep W. slope and cross several ridges and ravines.
31.50	Spur, slopes N., descend steep W. slope.
39.535	Point for the 1/4 sec. cor. of secs. 25 and 36, at proportionate distance; there is no remaining evidence of the original corner.
	Set a stainless steel post, 28 ins. long, 2½ ins. diam., 22 ins. in the ground, with brass cap mkd.

T 1 N R 36 E
S 25
1/4 ———
S 36
1998

T. 1 N., R. 36 E., Willamette Meridian, Oregon

CHAINS

GENERAL DESCRIPTION

The land included in this survey is located in the Blue Mountains of northeastern Oregon in Umatilla County. Access is by dirt roads along Gibbon Ridge and Horseshoe Ridge from Meacham, Oregon, by the Union Pacific Railroad and a service road adjacent to it through the center of the township, and by State Highway No. 204 from Elgin, Oregon, together with U.S. Forest Service roads branching from it in the eastern portion of the township.

The terrain is basically an upraised basalt plain cut by steep canyons formed by normal gradational processes. As a result, much of the land surveyed falls on steep slopes covered with loose rock.

The vegetation varies with the micro-climates caused by the topography. South slopes are generally barren with little more vegetation than grass and small shrubs. Northerly slopes support fir, pine, and larch timber. Thick underbrush of various species grows beneath the timber.

In times past the area has had more human activity than it now has. The Whitman party, in 1836, traversed Gibbon Ridge in the west portion of the township on the way to establish Fort Walla Walla. On nearly every ridge rising from Meacham Canyon, which flows northerly through the center of the township, vestiges of old pack trails may be found where timber was cut and packed down by mule for fuel and railroad ties. An old sawmill, now defunct, was located in the South Fork of Meacham Creek. The remains of the old railroad station at Duncan are still in evidence. Present uses are mostly for grazing of cattle and sheep, for small timber sales, and for recreational purposes, including hunting. The main line of the Union Pacific railroad, a heavily used railroad route, uses Meacham Canyon as the way to cross the Blue Mountains on its transcontinental route.

No active mines were noted.

The mean magnetic declination as shown on the "DUNCAN, OREGON" 7½ minute quadrangle map, published by the United States Geological Survey, in 1964 and, photorevised in 1983, is 19° East.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD ASSISTANTS

NAMES	CAPACITY
James L. Carter	Land Surveyor
James A. Read	Surveying Technician
Thomas H. Prediletto	Surveying Technician
Michael Halleen	Surveying Technician
Larry G. Phillips	Surveying Technician

CERTIFICATE OF SURVEY

We, Richard S. Kaiser, Philip G. Griffin, and Bryan S. Seibold, Cadastral Surveyors, HEREBY CERTIFY, upon honor, that in pursuance of special instructions bearing date of the 9th day of May, 1997, and supplemental special instructions bearing date of the 8th day of September, 1999, we have correctively dependently resurveyed the mile between sections 34 and 35, dependently resurveyed portions of the east, west, and north boundaries and subdivisional lines, subdivided sections 4, 5, 6, 9, 15, 16, 21, 22, 25, 26, 27 and 34, and surveyed by metes-and-bounds, the westerly right-of-way of the Union Pacific Railroad in sections 27, 34 and 35, T. 1 N., R. 36 E., of the Willamette Meridian, in the State of Oregon which are represented in the foregoing field notes as having been executed by us and under our 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, and in specific manner described in the foregoing field notes.

January 31, 2000 — Richard S. Kaiser
(Date) (Cadastral Surveyor)

Feb-2, 2000 — Philip G. Griffin
(Date) (Cadastral Surveyor)

JANUARY 26, 2000 — Bryan S Seibold
(Date) (Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT
Portland, Oregon

The foregoing field notes of the corrective dependent resurvey of the mile between sections 34 and 35, the dependent resurvey of portions of the east, west, and north boundaries and subdivisional lines, the subdivision of sections 4, 5, 6, 9, 15, 16, 21, 22, 25, 26, 27 and 34, and the metes-and-bounds survey of the westerly right-of-way of the Union Pacific Railroad in sections 27, 34 and 35, T. 1 N., R. 36 E., Willamette Meridian, Oregon, executed by Richard S. Kaiser, Philip G. Griffin, and Bryan S. Seibold, Cadastral Surveyors, having been critically examined and found correct, are hereby approved.

MARCH 17, 2000 — Wayne M Gardner
(Date) (Chief Cadastral Surveyor of Oregon)

~~CERTIFICATE OF TRANSCRIPT~~

I CERTIFY That the foregoing transcript of the field notes of the above described surveys in T. 1 N., R. 36 E., Willamette Meridian, Oregon is a true copy of the original field notes.

~~(Date) (Chief Cadastral Surveyor of Oregon)~~