Drift-Pac™

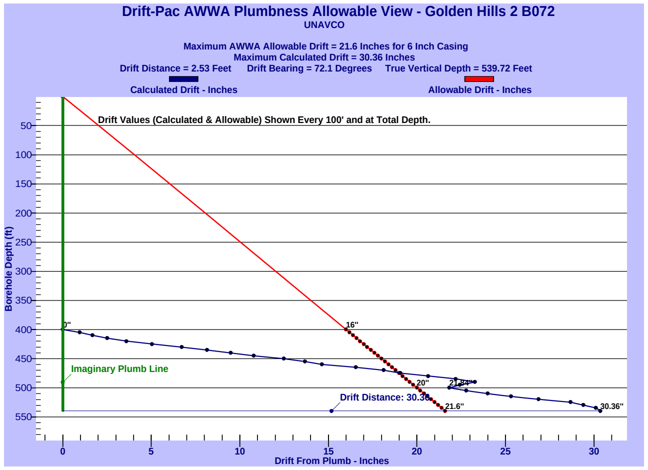
Wellbore DRIFT Interpretation Package

PREPARED ESPECIALLY FOR

UNAVCO

Golden Hills 2 B072

August 23, 2007



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welenco

Drift-Pac
New Solutions in Borehole Geophysics

Wellbore Drift Interpretation

welenco
(800) 445-9914

Company: UNAVCO **County:** San Luis Obispo **State:** California
Well Number: Golden Hills 2 B072 **Well Owner:** **Survey Date:** August 23, 2007 **Magnetic Declination:** Not Used
Field: **Operator:** Mitch Tullis **Casing Size:** 6"
Van No.: L-18 **Job Ticket:** 7826 **Welenco Office:** Bakersfield, CA. **Witness:** Sarah Venator
Location:
Remarks: Deviation computed from BHTV **Tool Type:** Compass **Tool No.:** BHTV
Methodology: Balanced Tangential **Lat.:** **Long.:** **Sec:** **Twp:** **Rge:** **Meridian:**

Measured Data			Drift Computations				Rectangular Computations			
Depth, Feet	Inclination, Degrees From Vertical	Azimuth, Degrees, True	Course Deviation, Feet	True Vertical Depth, Feet	Drift Distance, Feet	Drift Bearing, Degrees, True	Latitude, Feet	Departure, Feet	Total Latitude, Feet	Total Departure, Feet
400'	1.24°	166°	0.00'	400.00'	0.00' (.00")	00.00°	.00'	0.00'	.00'	0.00'
405'	0.91°	112°	0.08'	404.99'	0.08' (.96")	143.50°	-.07'	0.05'	-.07'	0.05'
410'	1.02°	060°	0.08'	409.98'	0.14' (1.68")	115.40°	.01'	0.08'	-.06'	0.13'
415'	1.06°	073°	0.09'	414.97'	0.21' (2.52")	96.70°	.04'	0.08'	-.02'	0.21'
420'	1.37°	060°	0.11'	419.96'	0.30' (3.60")	86.30°	.04'	0.10'	.02'	0.30'
425'	1.57°	059°	0.13'	424.95'	0.42' (5.04")	78.50°	.07'	0.11'	.08'	0.41'
430'	1.58°	067°	0.14'	429.94'	0.56' (6.72")	74.70°	.06'	0.12'	.15'	0.54'
435'	1.41°	066°	0.13'	434.93'	0.68' (8.16")	73.20°	.05'	0.12'	.20'	0.66'
440'	1.09°	056°	0.11'	439.92'	0.79' (9.48")	71.60°	.05'	0.10'	.25'	0.75'
445'	1.40°	052°	0.11'	444.91'	0.90' (10.80")	69.50°	.06'	0.09'	.31'	0.84'
450'	1.85°	075°	0.14'	449.90'	1.04' (12.48")	68.90°	.06'	0.13'	.37'	0.97'
455'	0.66°	077°	0.11'	454.89'	1.14' (13.68")	69.60°	.03'	0.11'	.40'	1.07'
460'	1.60°	017°	0.09'	459.88'	1.22' (14.64")	67.10°	.07'	0.05'	.47'	1.12'
465'	2.65°	067°	0.17'	464.87'	1.38' (16.56")	64.90°	.11'	0.13'	.58'	1.25'
470'	0.51°	053°	0.14'	469.86'	1.51' (18.12")	64.90°	.06'	0.12'	.64'	1.37'
475'	1.36°	073°	0.08'	474.85'	1.59' (19.08")	65.00°	.03'	0.08'	.67'	1.45'
480'	1.63°	083°	0.13'	479.84'	1.72' (20.64")	66.00°	.03'	0.13'	.70'	1.57'
485'	1.76°	024°	0.13'	484.83'	1.85' (22.20")	65.10°	.08'	0.10'	.78'	1.68'
490'	1.10°	113°	0.09'	489.82'	1.94' (23.28")	64.60°	.05'	0.08'	.83'	1.75'
495'	3.14°	204°	0.14'	494.81'	1.87' (22.44")	68.50°	-.14'	-0.01'	.69'	1.74'
500'	1.46°	116°	0.15'	499.80'	1.82' (21.84")	73.00°	-.15'	0.00'	.53'	1.74'
505'	0.85°	106°	0.10'	504.79'	1.90' (22.80")	74.90°	-.04'	0.09'	.50'	1.83'
510'	1.66°	097°	0.11'	509.78'	2.00' (24.00")	76.20°	-.02'	0.11'	.48'	1.94'
515'	1.06°	059°	0.11'	514.77'	2.11' (25.32")	76.50°	.02'	0.11'	.49'	2.05'
520'	2.00°	080°	0.13'	519.76'	2.24' (26.88")	76.30°	.04'	0.13'	.53'	2.18'
525'	2.07°	028°	0.16'	524.75'	2.39' (28.68")	74.80°	.10'	0.13'	.63'	2.31'
530'	0.30°	178°	0.08'	529.74'	2.45' (29.40")	73.60°	.07'	0.04'	.69'	2.35'

 TVD: 539.72' **Final Drift Distance:** 2.53' (30.36") **Final Drift Bearing:** 72.10°

Note: Magnetic Declination is not used because it is not a factor in the calculation of well drift or alignment. Magnetic Declination is only important if attempting to hit a target or miss another well and then it is included in the calculations.

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Well Owner:
Survey Date: August 23, 2007
Magnetic Declination: Not Used
Field:
Operator: Mitch Tullis
Casing Size: 6"
Van No.: L-18
Job Ticket: 7826
Welenco Office: Bakersfield, CA.
Witness: Sarah Venator
Location:
Remarks: Deviation computed from BHTV
Tool Type: Compass
Tool No.: BHTV
Methodology: Balanced Tangential
Lat.:
Long.:
Sec:
Twp:
Rge:
Meridian:

Measured Data			Drift Computations				Rectangular Computations			
Depth, Feet	Inclination, Degrees From Vertical	Azimuth, Degrees, True	Course Deviation, Feet	True Vertical Depth, Feet	Drift Distance, Feet	Drift Bearing, Degrees, True	Latitude, Feet	Departure, Feet	Total Latitude, Feet	Total Departure, Feet
535'	1.45°	059°	0.06'	534.73'	2.51' (30.12")	73.50°	.02'	0.06'	.71'	2.41'
540'	1.48°	301°	0.07'	539.72'	2.53' (30.36")	72.10°	.07'	0.00'	.78'	2.40'

TVD: 539.72'
Final Drift Distance: 2.53' (30.36")
Final Drift Bearing: 72.10°

Note: Magnetic Declination is not used because it is not a factor in the calculation of well drift or alignment. Magnetic Declination is only important if attempting to hit a target or miss another well and then it is included in the calculations.

Drift-Pac Plan View - Golden Hills 2 B072

UNAVCO

Drift Distance = 2.53 Feet   Drift Bearing = 72.1 Degrees   True Vertical Depth = 539.72 Feet

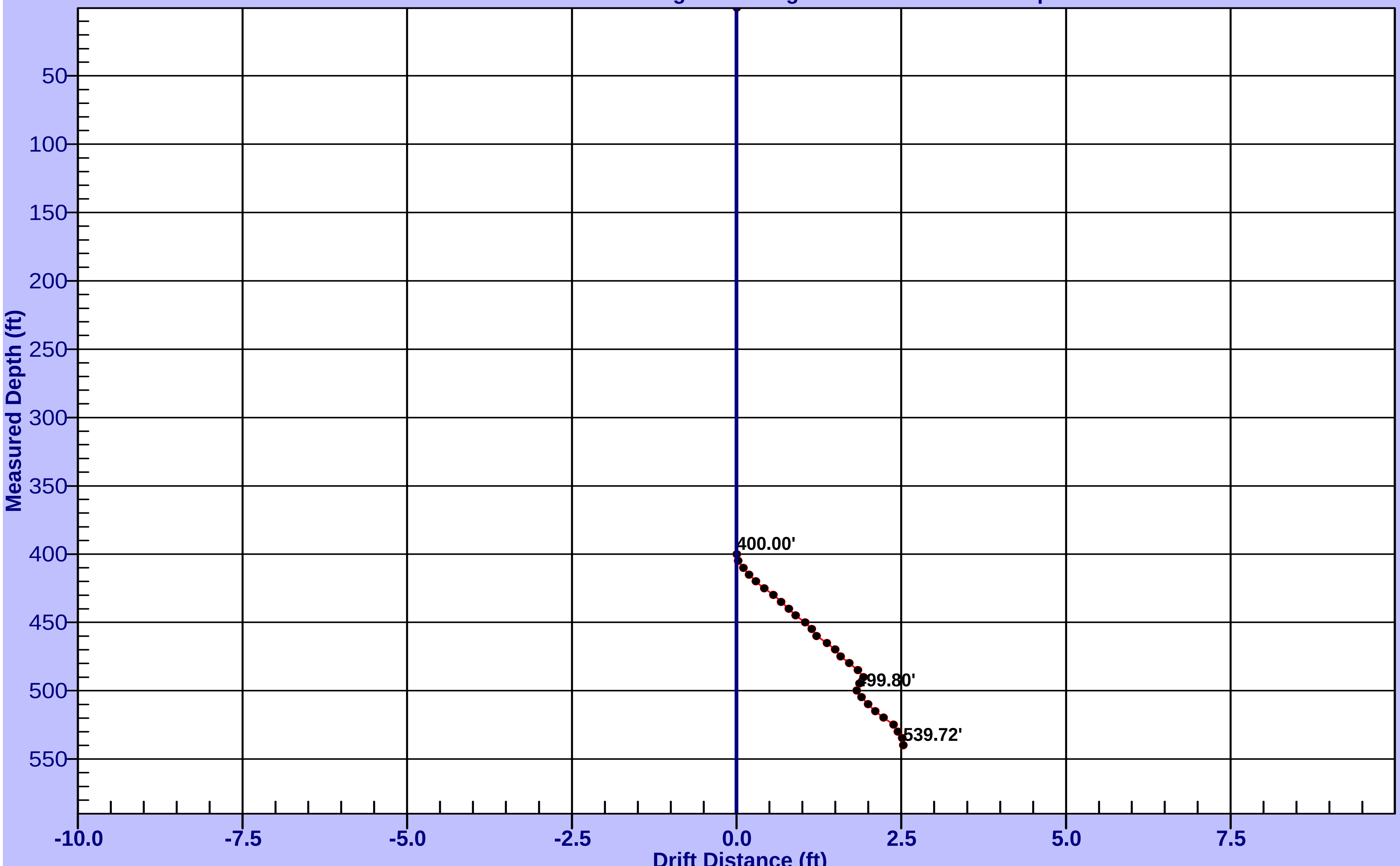
Date of Survey: August 23, 2007

Balanced Tangential Calculation Method

Drift-Pac Plane of Drift View - Golden Hills 2 B072

UNAVCO

Drift Distance = 2.53 Feet   Drift Bearing = 72.1 Degrees   True Vertical Depth = 539.72 Feet



Date of Survey: August 23, 2007

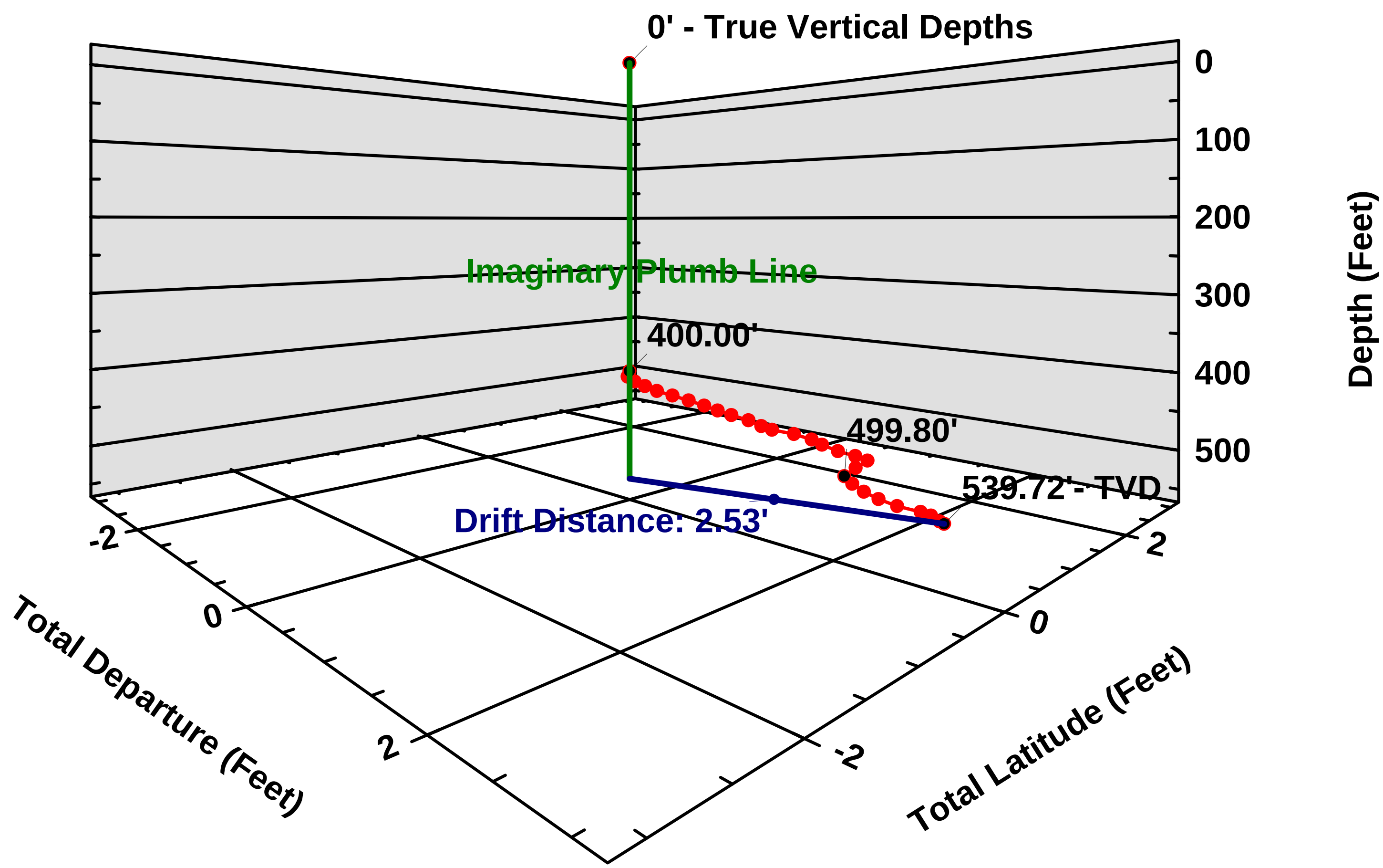
Balanced Tangential Calculation Method

Drift-Pac 3-D Projection View - Golden Hills 2 B072

UNAVCO

Drift Distance = 2.53 Feet **Drift Bearing = 72.1 Degrees** **True Vertical Depth = 539.72 Feet**

226.0

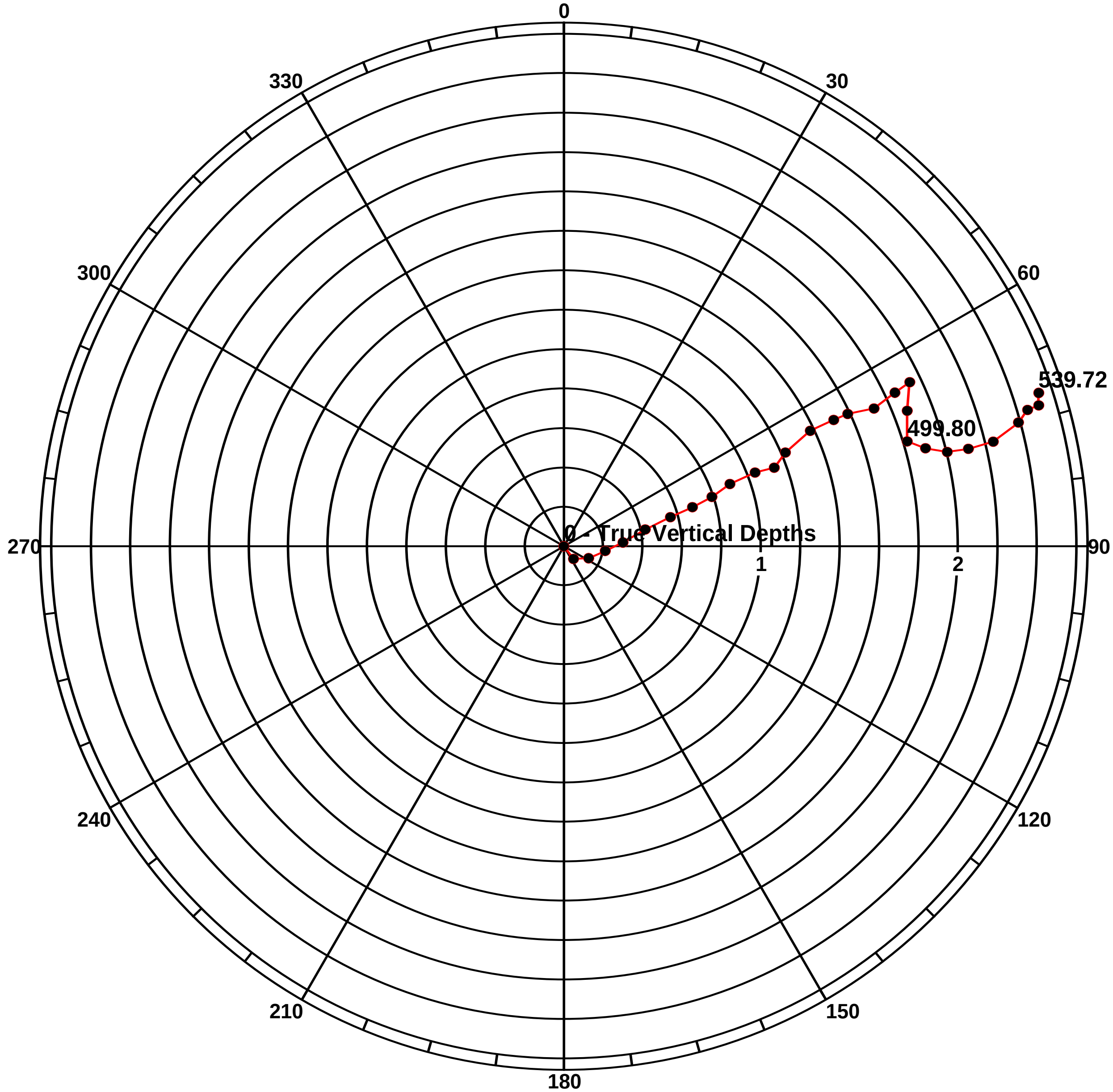


Date of Survey: August 23, 2007 **Balanced Tangential Calculation Method**

Drift-Pac Polar View - Golden Hills 2 B072

UNAVCO

Drift Distance = 2.53 Feet Drift Bearing = 72.1 Degrees True Vertical Depth = 539.72 Feet

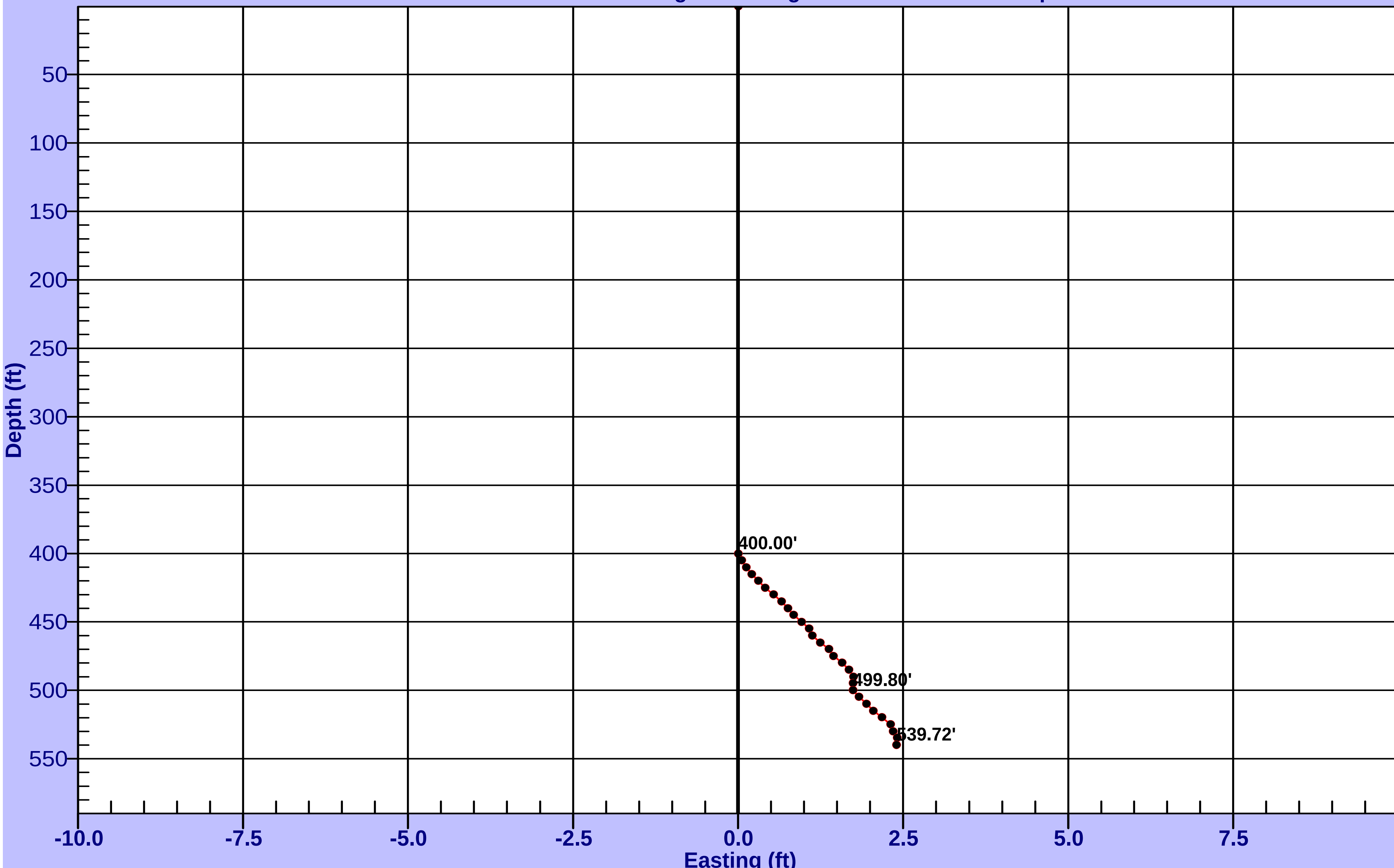


Date of Survey: August 23, 2007 Balanced Tangential Calculation Method

Drift-Pac Easting Rectangular View - Golden Hills 2 B072

UNAVCO

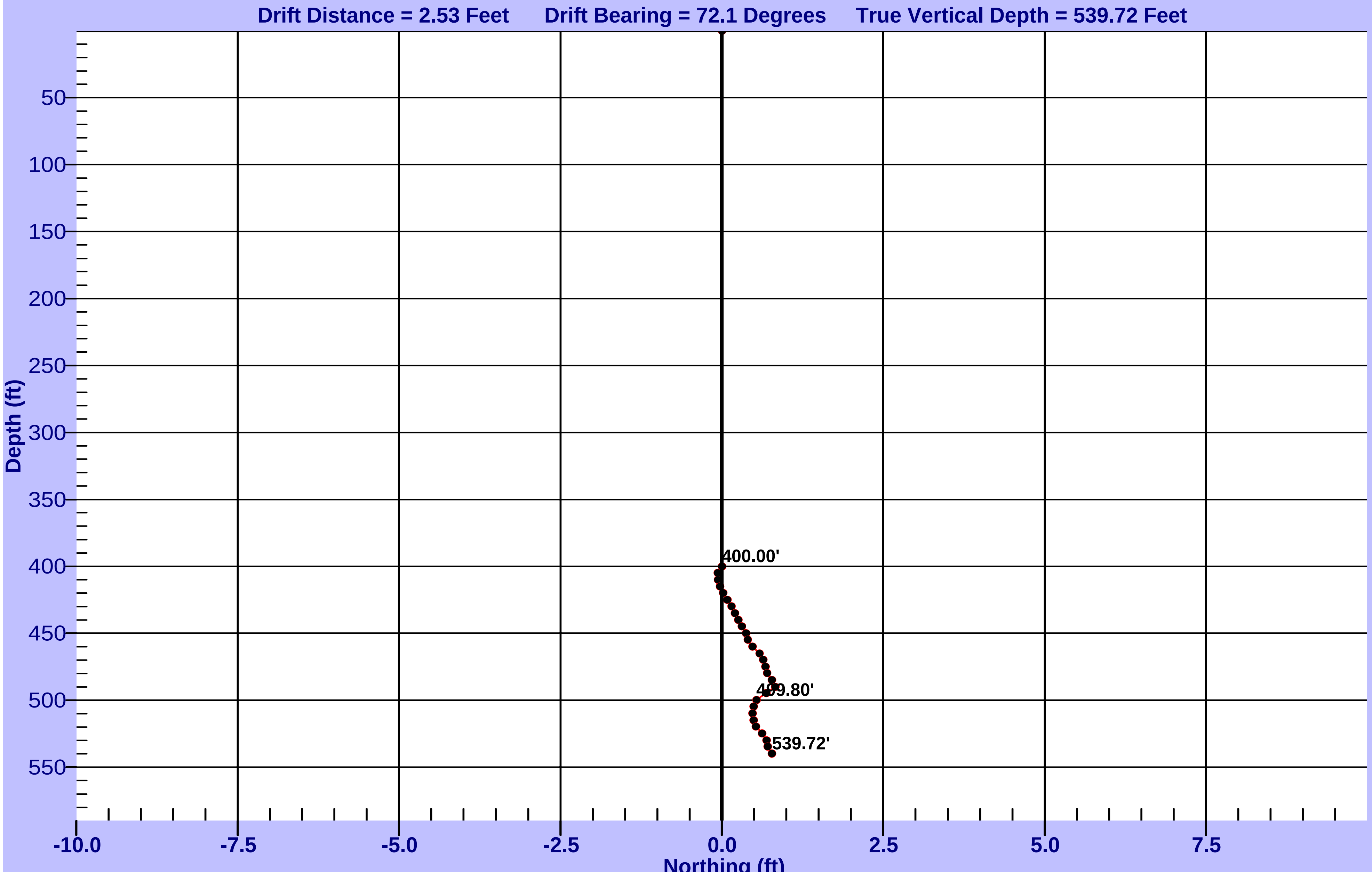
Drift Distance = 2.53 Feet **Drift Bearing = 72.1 Degrees** **True Vertical Depth = 539.72 Feet**



Date of Survey: August 23, 2007 **Balanced Tangential Calculation Method**

Drift-Pac Northing Rectangular View - Golden Hills 2 B072

UNAVCO



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Balanced Tangential Calculation Method

DRIFT-PAC METHODOLOGY

Balanced Tangential Method

The Balanced Tangential Method uses the inclination and direction angles at the upper and lower ends of the course length in a manner so as to balance the two sets of measured angles over a course length. From a theoretical standpoint, this method combines the trigonometric functions to provide the average balanced inclination and direction angles, which are used in standard computational procedures. Other common names for this method are Vector Averaging, Acceleration, and Trapezoidal.

Δ North = [ΔMD/2] x [$\sin(I_1) \times \cos(A_1) + \sin(I_2) \times \cos(A_2)$]

Δ East = [ΔMD/2] x [$\sin(I_1) \times \sin(A_1) + \sin(I_2) \times \sin(A_2)$]

Δ Vertical = [ΔMD/2] x [$\cos(I_2) + \cos(I_1)$]