

**Northpoint Technology – DBS Compatibility Test – Austin Test Area
Signal Strength Readings**

Rx Site Data Log

Rx Site No. 28

Set 1

Re: Condx Ref. No. 2

Date / Time 12/31/98 13:11 CST

Re: Condx Ref. No. 2

Operator: SMU/H

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	80	80	80	82	81	81	79	80	82	80	80.5
18	79	79	79	79	77	79	78	79	79	78	78.6
20	82	81	79	82	81	82	80	81	82	80	81

Estar T.V. Signal Strength Readings

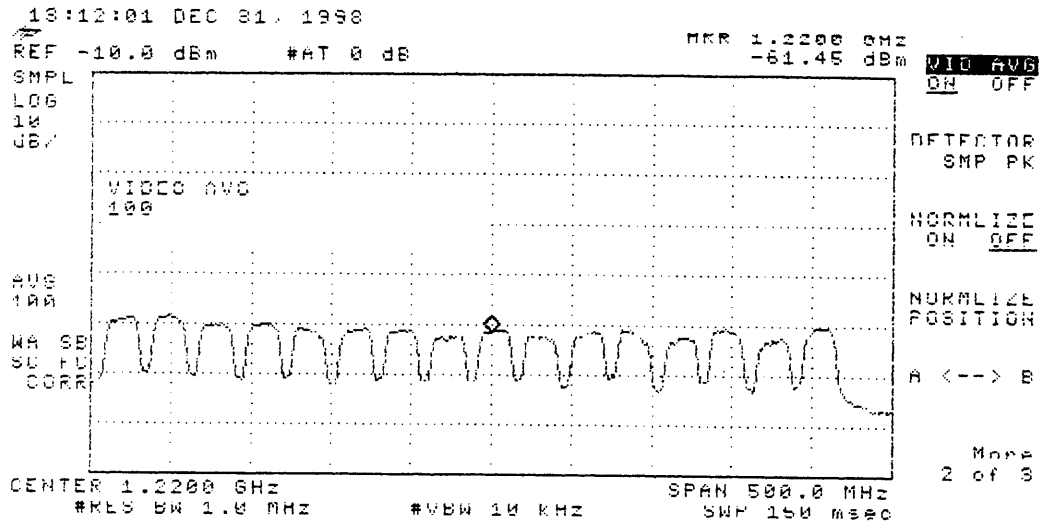
Tsp No	Signal Strength Readings										Avg
16	89	90	89	90	90	90	90	89	89	89	89.5
18	89	89	88	87	87	89	89	89	89	89	88.9
20	91	92	91	91	92	91	92	91	92	91	91.4

Notes: 60°-65°, Can Barely see downtown, A lot of traffic going by.

1.0TV, 12/31/98, Site-28

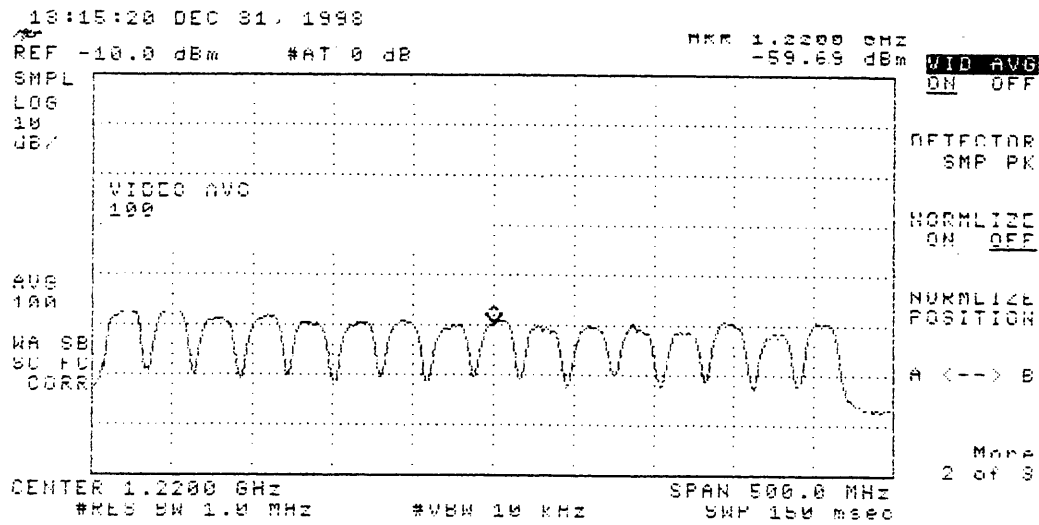
Boom Down

Plot-28-D



1. Estar, 12/31/98, Site-28
Boom Down

Plot-28-E

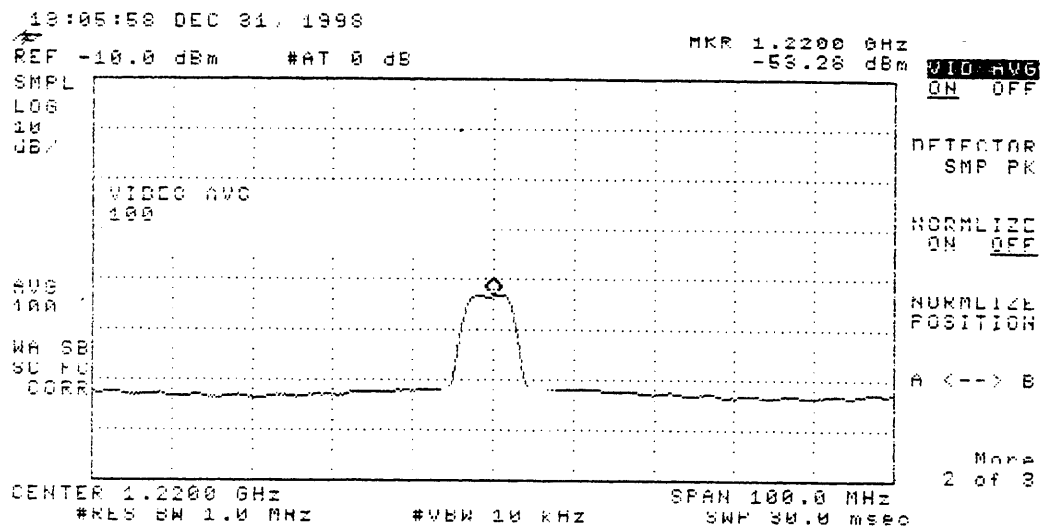


1. N.P., 12/31/98, Site-28

Boom Down

Picture good on T.V.

Plot 28-N



COMMENTS FROM SITE 28

Site 28 Gains Ranch loop

- a. Heavy fog can barley see downtown buildings. Rain off and on. A lot of traffic.

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log *1st of Wm Cannon*

Rx Site No. 29 p1
Set: 11

Re: Rx Condx Ref. No. 2

Date / Time: 12/31/98 3:30 CST

Re: Tx Condx Ref. No. 2

Operator: MUH

Data Measurements:

- (1) On arrival --
 - Position and deploy antenna platform (first at ground level).
 - Position GPS Receiver and allow to average during site occupation.
 - Obtain information for Rx Site Location Log
 - Point Precision Horn Antenna toward Tx (approx. direction)

- (2) DBS Signal Interference Tests – DirecTV and EchoStar.

For each satellite case (one at a time), with Tx OFF, point DBS Antenna to the satellite and peak the signal strength. Observe the monitor for the prescribed TV channel (w/ appropriate DBS Rx) and assess signal quality. Turn Tx ON and observe the TV signal quality. Note any change in signal quality that is correlated with the Tx ON/OFF condition. Repeat Tx ON/OFF sequence as needed.

With the Spectrum Analyzer (SA), observe and record the Signal Power Spectrum and its peak value at the LNB output for the two Tx states (ON/OFF). Label the Spectrum Plots and mark them with an assigned ID code.

DirecTV – Tx OFF: OK? Y___ / N___ Tx ON: OK? Y~~X~~ / N___

Any behavior correlated with Tx ON/OFF ? Y___ / N___

Comments: _____

Signal Power Spectrum – Tx ON: --Peak -- -60.97 dBm Plot ID Code 29-D
Tx OFF: – Peak -- _____ dBm Plot ID Code _____

Comments: _____

EchoStar – Tx OFF: OK? Y___ / N___ Tx ON: OK? Y~~X~~ / N___

Any behavior correlated with Tx ON/OFF ? Y___ / N___

Comments: _____

Signal Power Spectrum – Tx ON: --Peak -- -60.37 dBm Plot ID Code 29-E
Tx OFF: – Peak -- _____ dBm Plot ID Code _____

Comments: _____

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

Rx Site No. 29 p2
Set: 11

(3) Northpoint Signal Quality Test –

With the Tx ON, point the DBS antenna toward the Tx, while using the NP Rx equipment, and peak the signal strength. Observe the monitor (w/ NP Rx equipment) and assess the signal quality.

NP Signal – OK? Y / N Comments: _____

(4) NP Rx Signal Level and Power Spectrum at Rx Site – LNB output --

With the DBS antenna on the NP Tx, and with the Tx ON, observe and record the Signal Power Spectrum and the peak level at the LNB output. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- -64.78 dBm Plot ID Code -- 29-N

Comments: _____

(5) Tx Signal Level and Power Spectrum at Rx Site – w/ Precision Ant. and SA.

Using the Precision Antenna and Test Set, observe and record the Tx Signal Power Spectrum and the peak value at the Rx site. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- _____ dBm Plot ID Code -- _____

Comments: _____

(6) When Rx Site measurements and tests are completed, read the GPS Receiver and record the position in the Rx Site Location Log. Prepare the equipment for movement to the next site.

Use the space below for added comments and notes. Attach extra pages if necessary.

**Northpoint Technology – DBS Compatibility Test – Austin Test Area
Signal Strength Readings**

Rx Site Data Log

Rx Site No. 29

Set 1.1

Re: Condx Ref. No. 2

Date / Time 12/31/98 3:36 CST

Re: Condx Ref. No. 2

Operator: MLH

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	81	80	80	81	81	82	80	80	79	80	80.4
18	79	80	80	79	80	78	78	80	79	79	79.2
20	80	80	80	81	81	80	82	82	80	81	80.7

Estar T.V. Signal Strength Readings

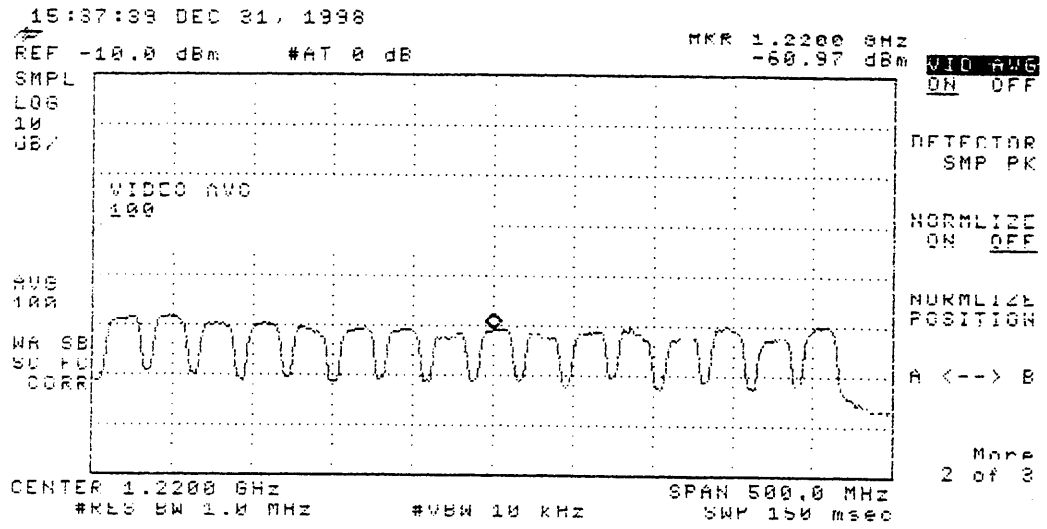
Tsp No	Signal Strength Readings										Avg
16	85	86	86	86	86	86	87	87	87	86	86.2
18	85	85	86	85	86	85	86	84	85	85	85.2
20	88	85	89	86	89	88	89	86	88	88	88.4

Notes: 60°-65°, Can't See Downtown, Heavy Fog

1. DTV, 12/31/98, Site-29

~~Boon Down Room ~27'~~

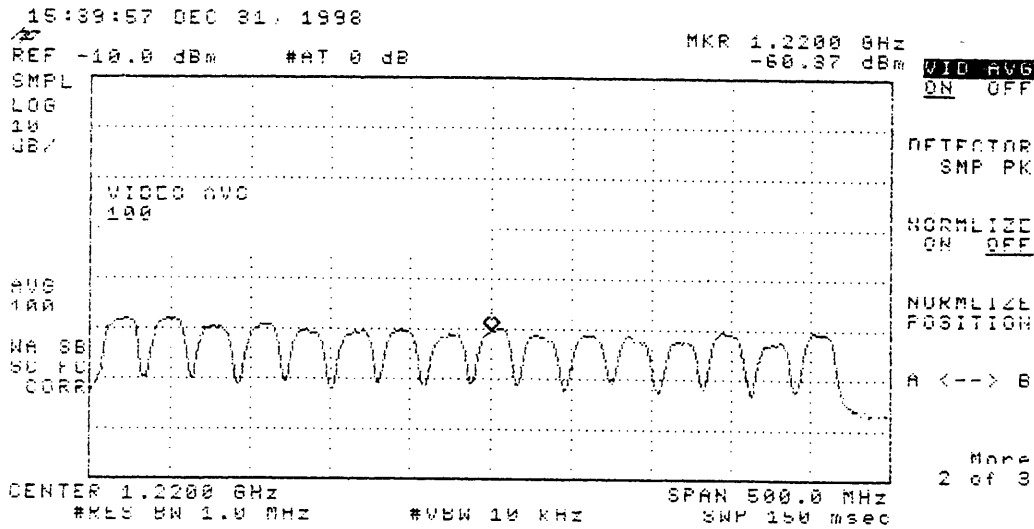
Plot-29-D



1. Estar, 12/31/98, Site-29

~~Boon. Down~~ Boon 227'

Plot-29-E

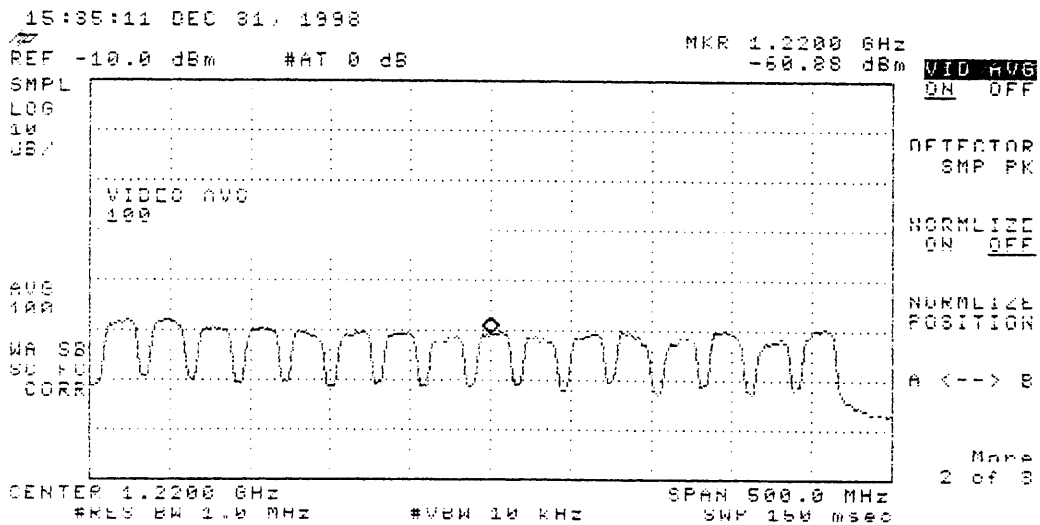
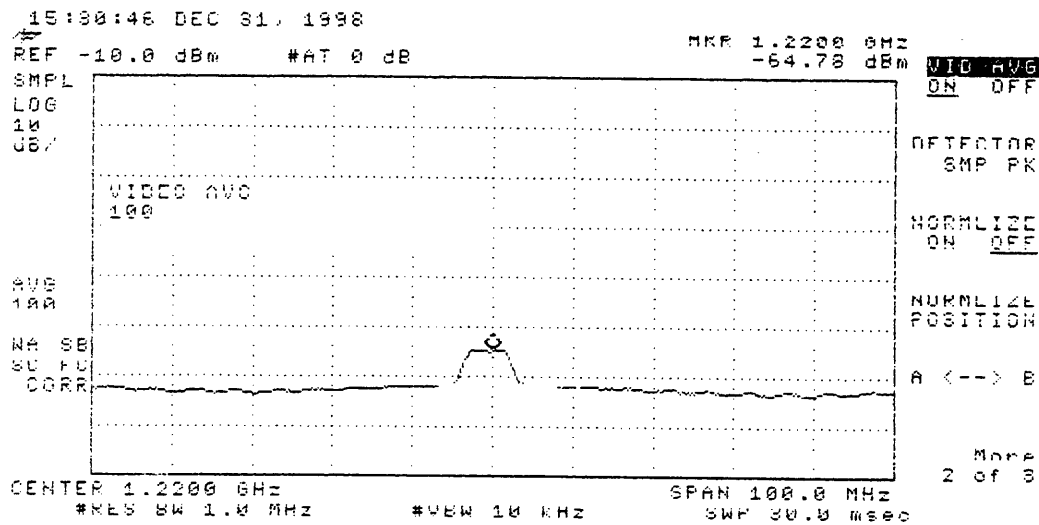


1. N.P., 12/31/98, Site-29

~~Beam Down~~, Boom ~ 27'

2. Pointing through trees and Power lines.

Plot-29-N



COMMENTS FROM SITE 29

Site 29 HEB 1st and WmCannon

- a. Heavy fog can barley see downtown buildings
- b. NP pointing through trees and power lines

B. Rx Site Maps

Northpoint Technology - DBS Compatibility Test - Austin Test Area

Rx Site Location Log

Rx Site No. 1 p1

Set: /

Site Name:

Date / Time:

**
12/8/98 12:30 CST

Hyatt

Operator:

Dmu

GPS Receiver Reading at Site:

Lat: N 30° 15' 33.2"

Time Read 10:30A CST

Lon: W 97° 44' 50.1"

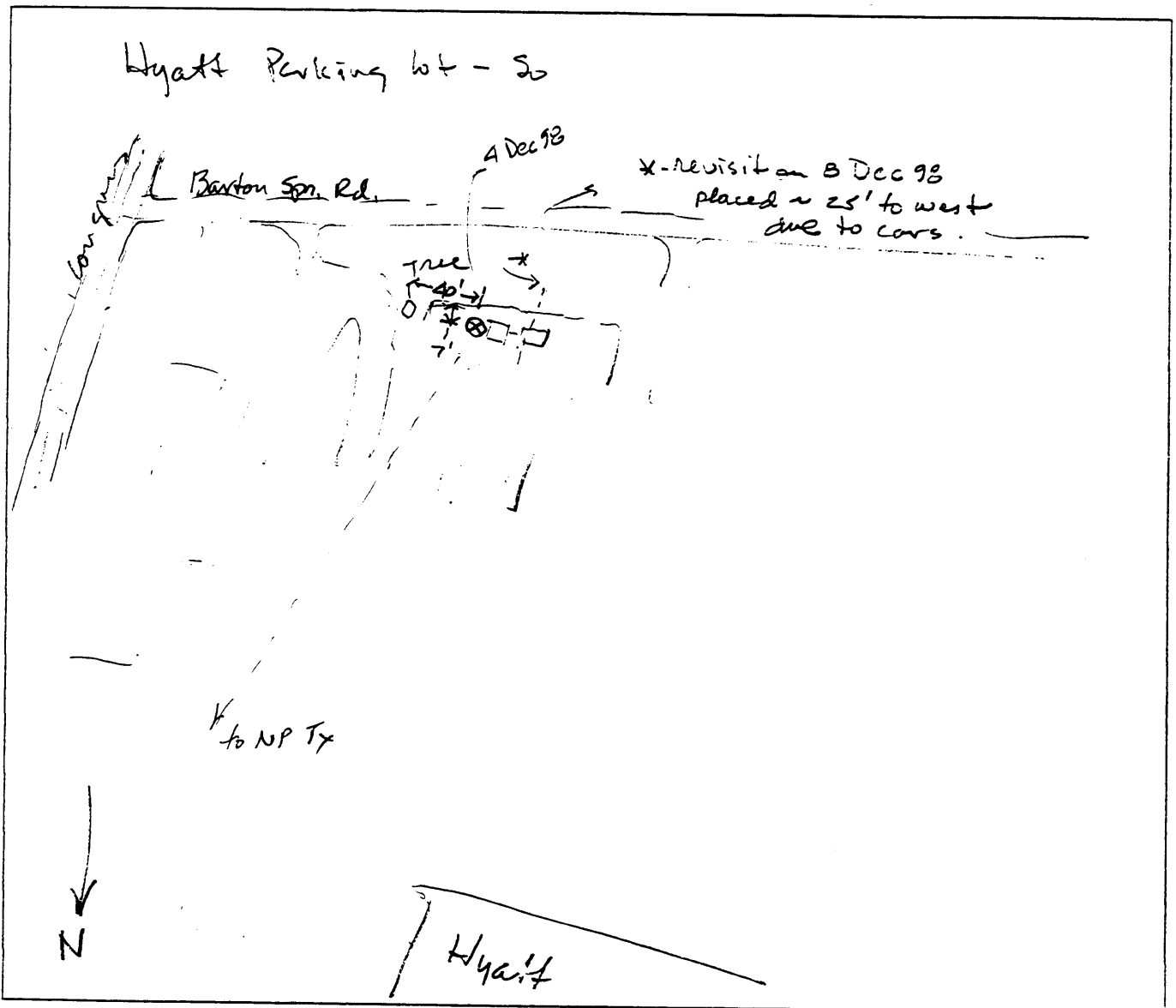
8 Dec 98 @

Elev: 424'

on floor
~ 2 hrs

Map Sketch (show street reference and local benchmark features):

** orig site occupation
4 Dec 98 @



Reflections

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 1 p1
Set: 2/2

Site Name:

Date / Time:

12/16/19 11:47 CST

HYAT

Operator:

ME / DM

GPS Receiver Reading at Site:

Lat: See Set 1/2

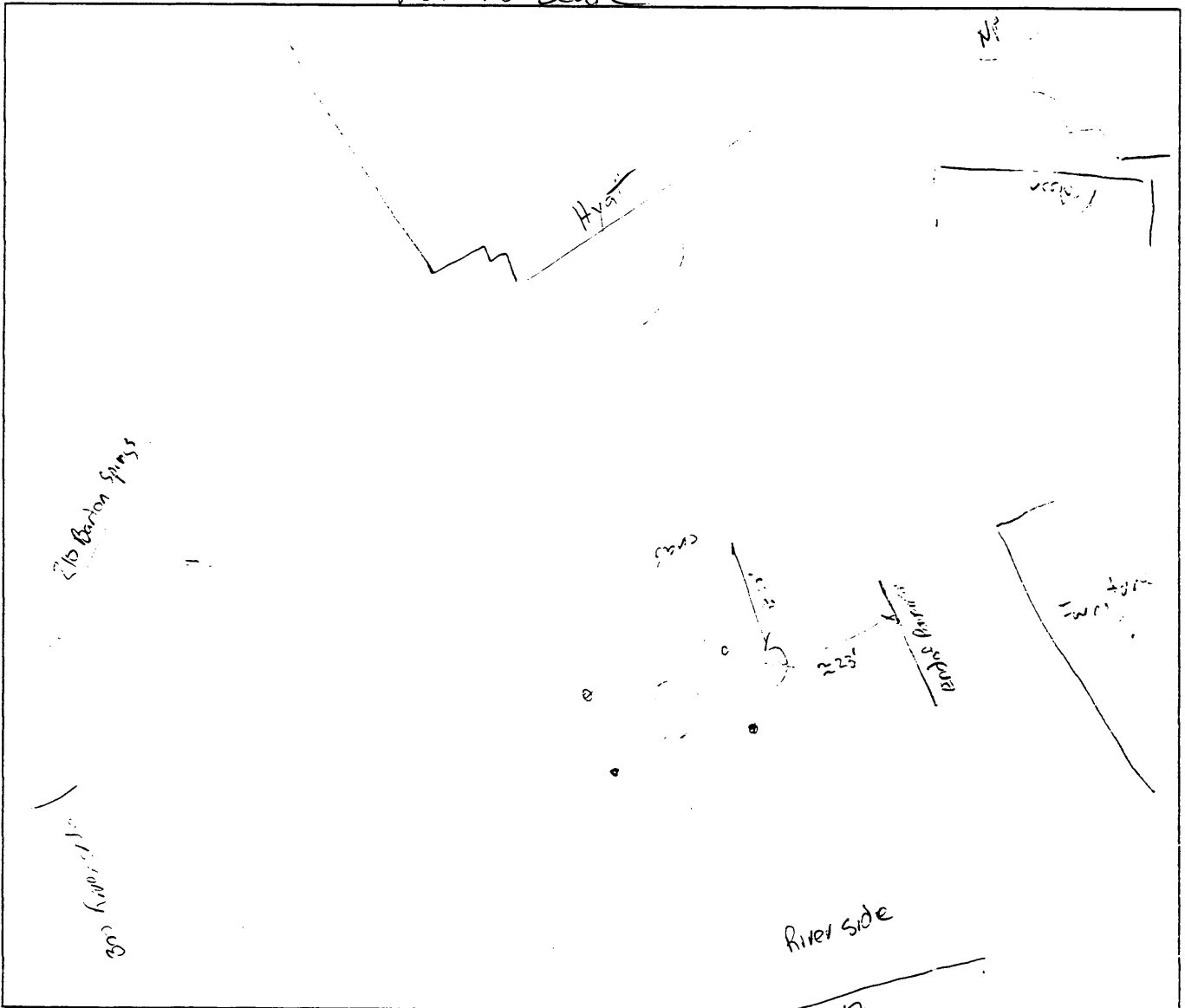
Time Read _____ CST

Lon: _____

Elev: _____

Map Sketch (show street reference and local benchmark features):

Not to Scale



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 2

p1

* 12/23/98 ^{Set: 1/1} 4:20P

Date / Time:

2/10/99 3:00 CST

Operator:

10:00E / Jm

GPS Receiver Reading at Site:

Lat: N 10° 3' 13.2" N 30° 13' 13.5"

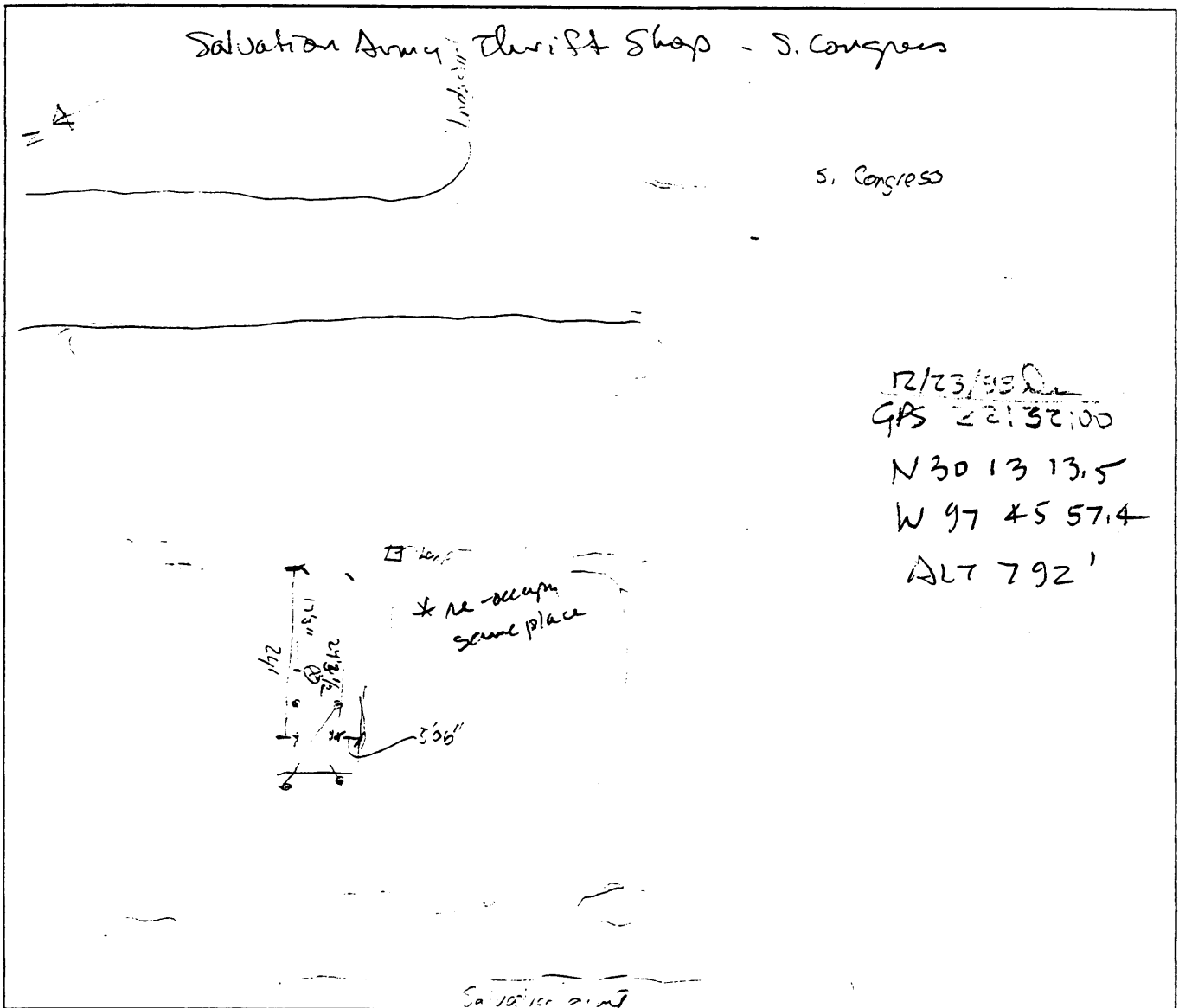
Lon: W 0° 0' 5' 57.5" W 97° 45' 57.4"

Elev: 590ft 690ft

2407

2212

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 3 p1
 Set: 1/2

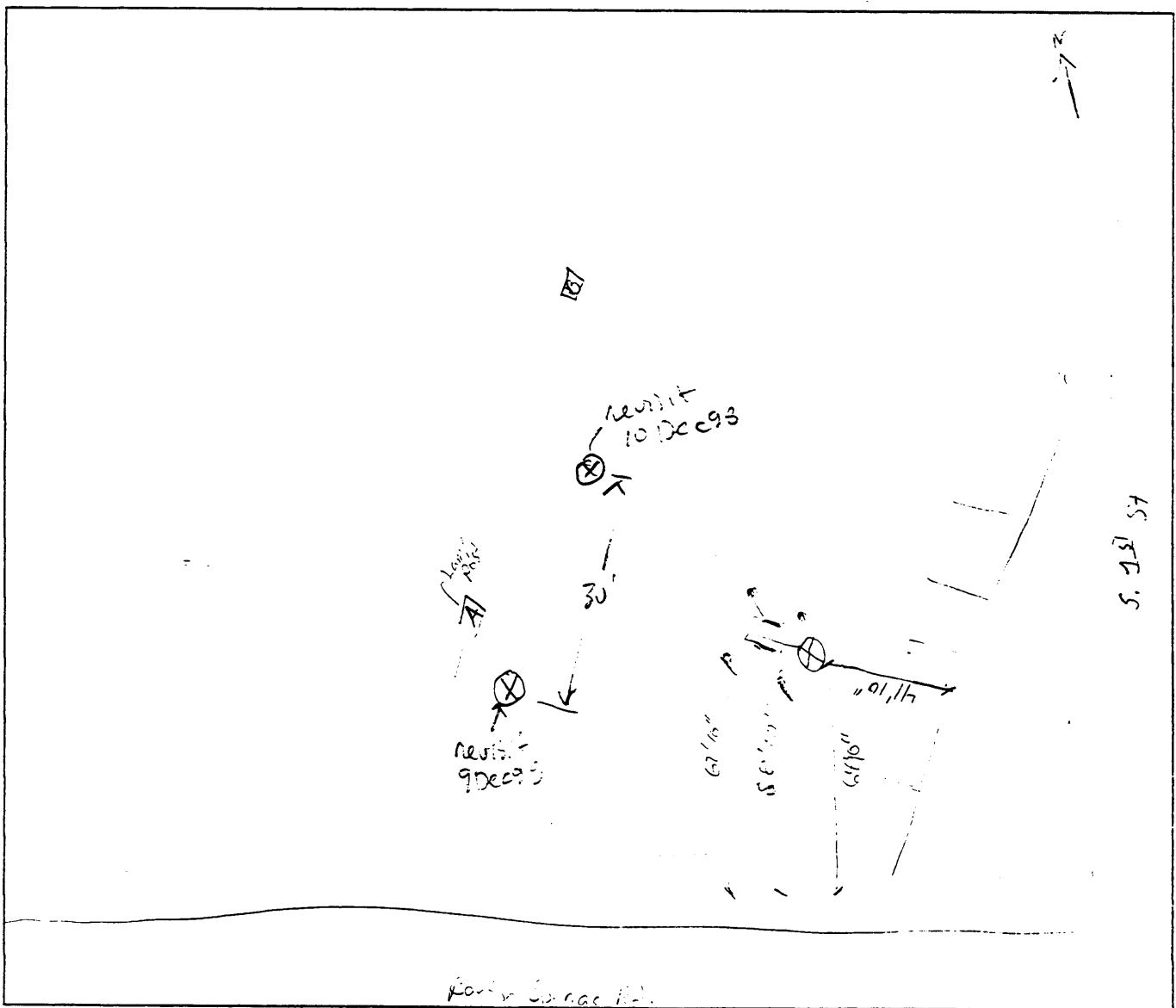
Site Name:
Palmer Auditorium

Date / Time: 12/07/02 10:47 CST

Operator: M. Edge

GPS Receiver Reading at Site:	Lat: <u>N 30° 15' 32.1"</u>	
Time Read _____ CST	Lon: <u>W 97° 45' 02.3"</u>	
	Elev: <u>390'</u>	
		<u>10:47A</u>

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatiblilty Test – Austin Test Area

Rx Site Location Log

Rx Site No. 3 p1
Set: 2/2

Site Name:

Date / Time:

12/17/98 : : CST

Palmer Auditorium

Operator:

ME

GPS Receiver Reading at Site:

Lat: N 30° 15' 33.0"

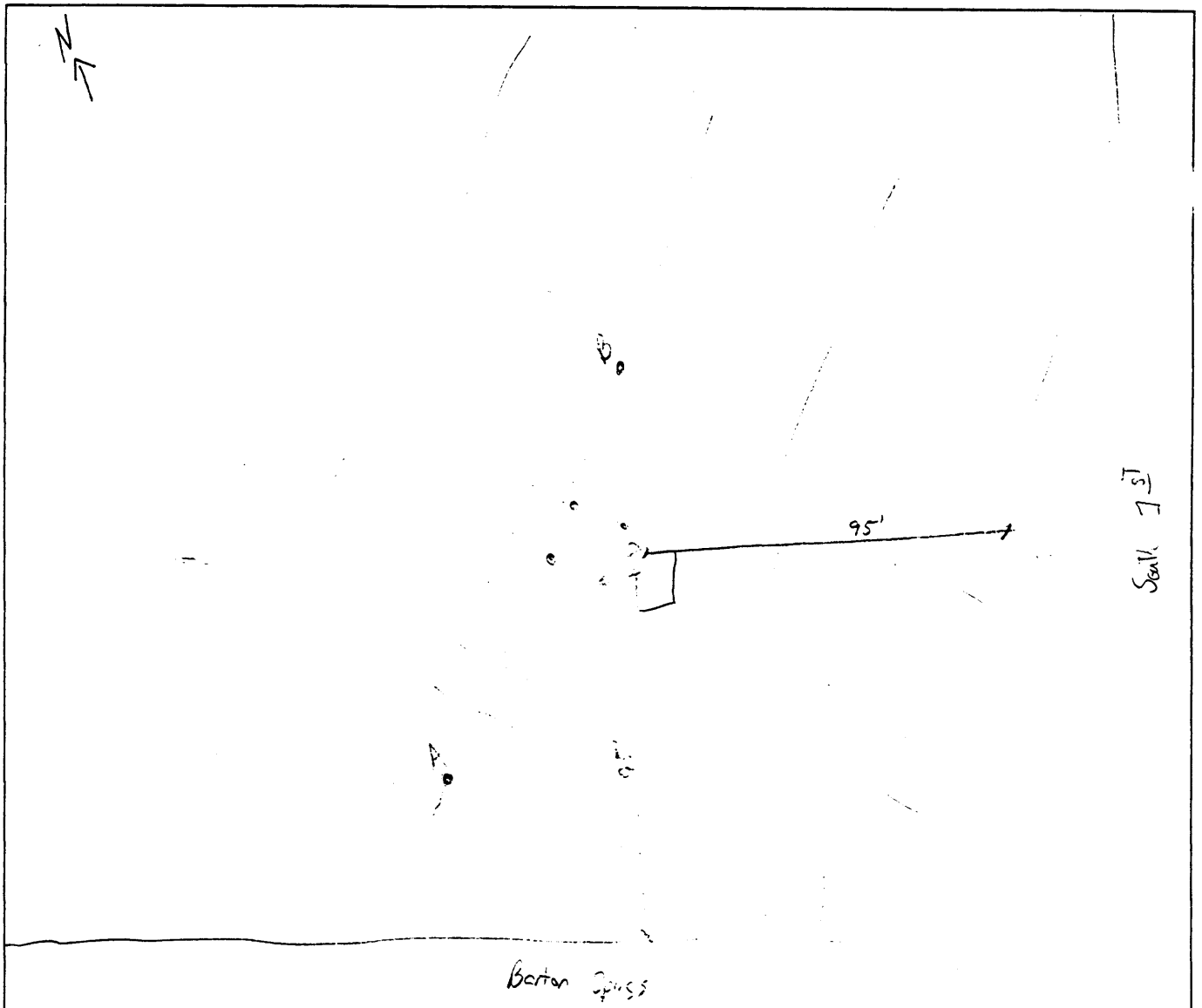
Time Read : : CST

Lon: W 99° 58' 02.3"

Elev: 469 Ft

17:38

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 4 p1
 Set: 1/1

Site Name:

Date / Time:

12/07/98 12:30 CST

FREDERICK S. ...

Operator:

M. Edge

GPS Receiver Reading at Site:

Lat: N 30° 15' 26.3" N 30° 15' 26.0" N 30° 15' 26.0"

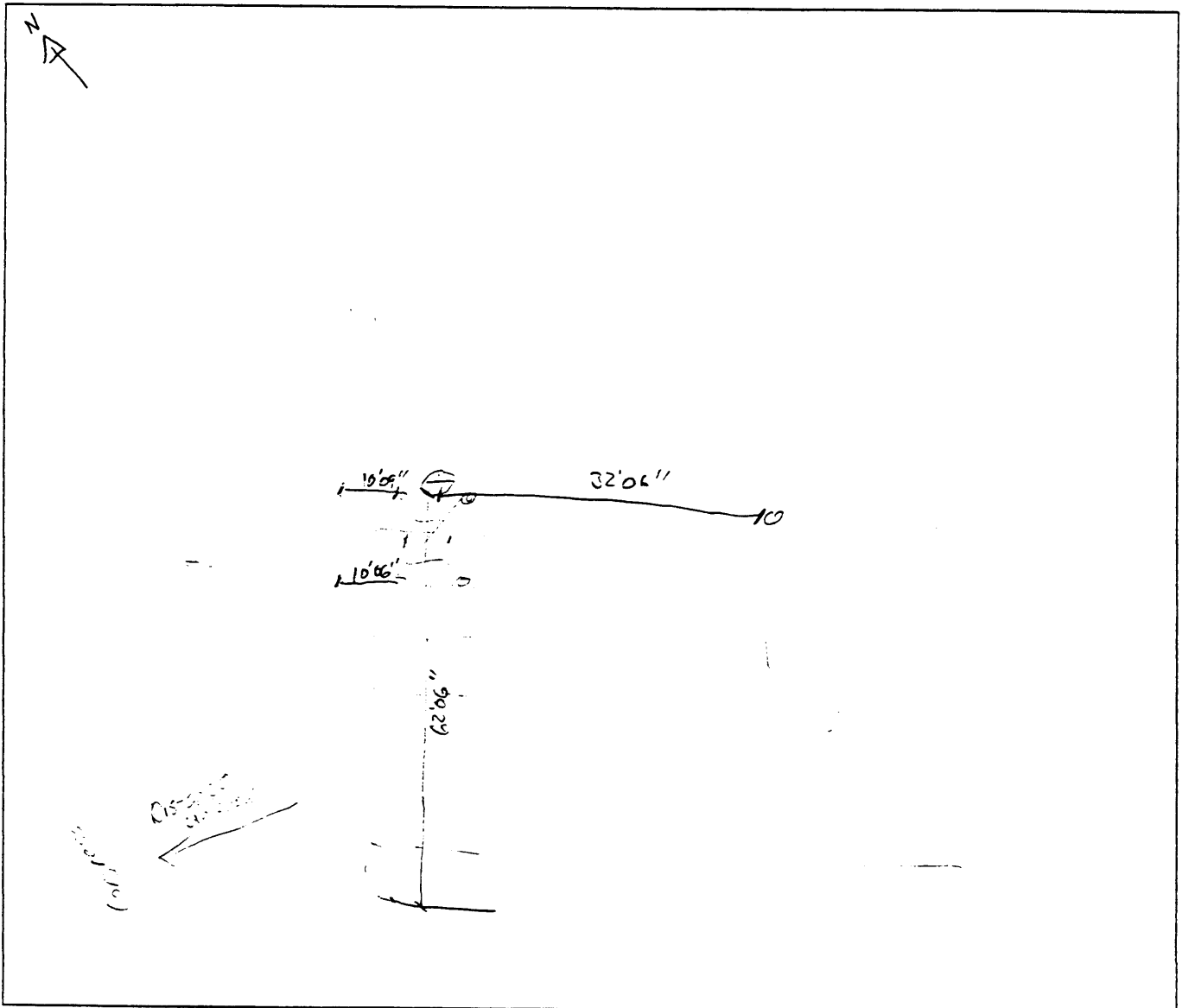
Time Read 18:45 CST

Lon: W 097° 44' 36.5" W 097° 44' 36.4" W 097° 44' 36.7"

Elev: 70' 409 508

18:45 18:10 21:32

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 5 p1
Set: 1 / 1

Site Name:

Date / Time:

12 / 16 / 98 3 : 25 CST

Jalisco

Operator:

mie / MWH /

GPS Receiver Reading at Site:

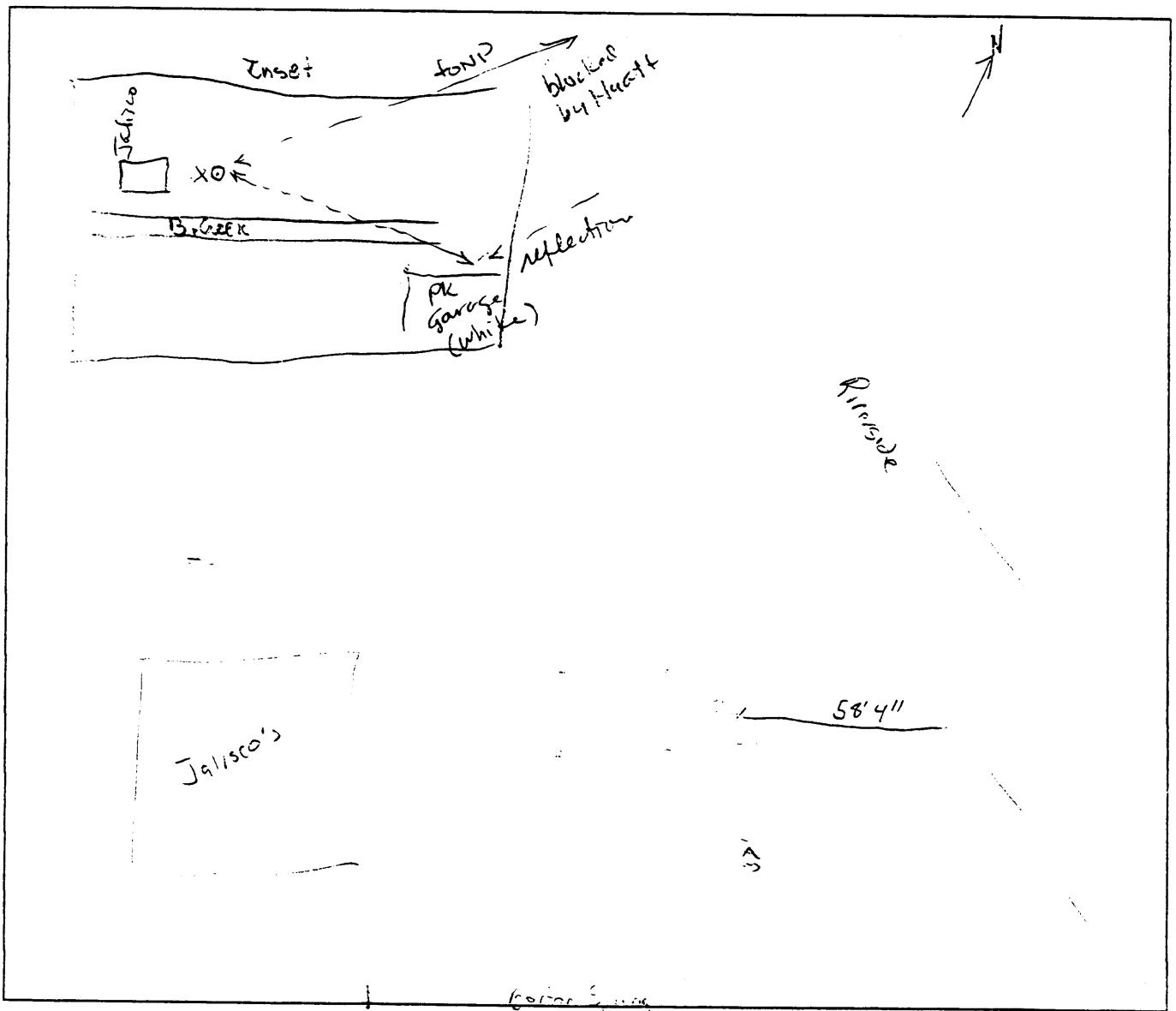
Lat: N 30° 15' 34.6" 21:32:00

Time Read 3:34 CST

Lon: W 97° 44' 55.2"

Elev: 532'

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 6

p1

* 12/22/98
Set: LI

Site Name:

Date / Time:

12/17/98 2:57 CST

Coliseum

Operator:

ME

GPS Receiver Reading at Site:

Lat: N 30° 15' 35.8"

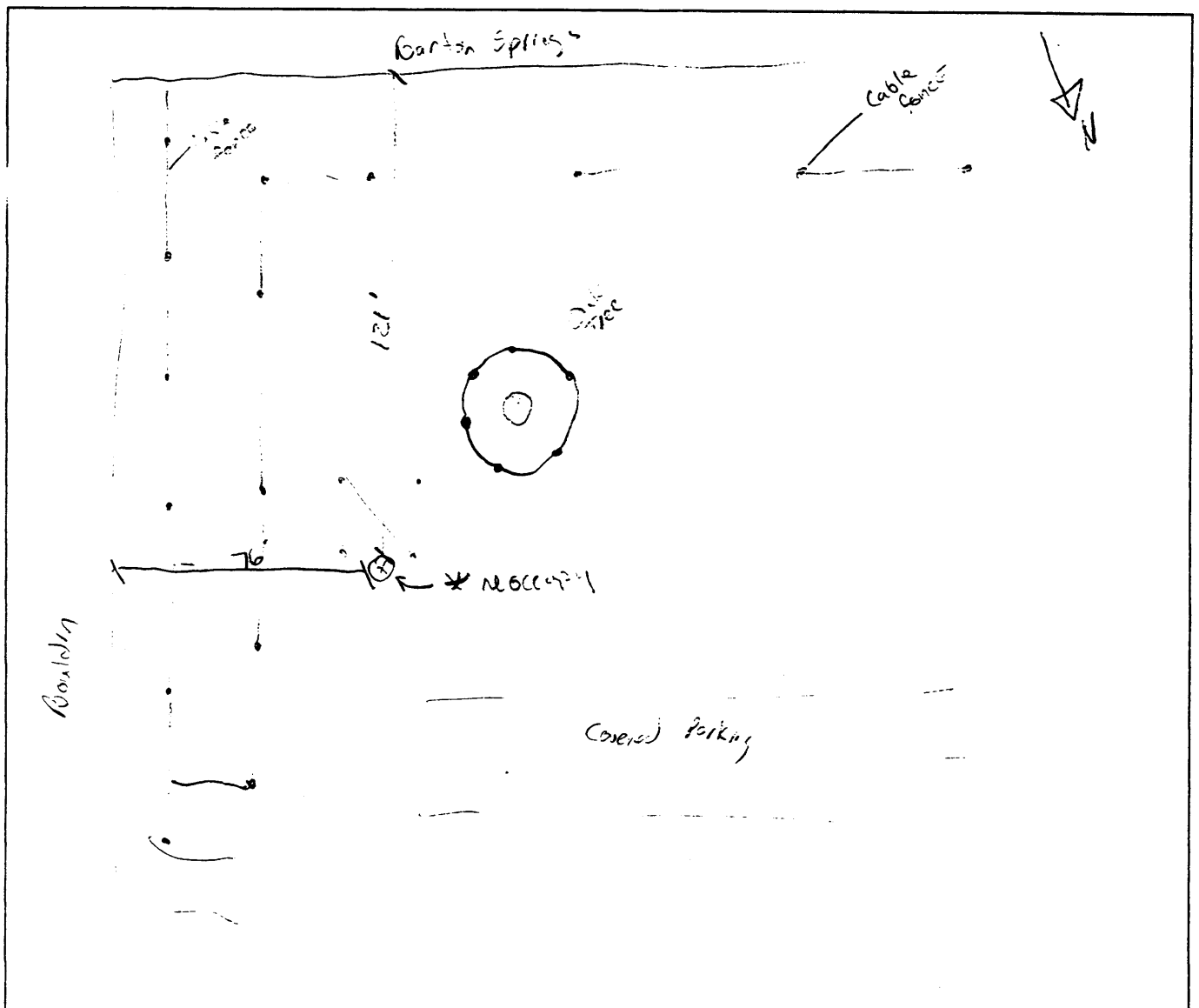
Time Read 2:57 CST

Lon: W 097° 45' 13.2"

Elev: 464 ft

20:56:47

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 7

p1

Set: 1/1

* 12/22/98

Site Name:

Date / Time:

12/17/98 4:30p CST

Palmer \oplus^1

Operator:

DLW

GPS Receiver Reading at Site:

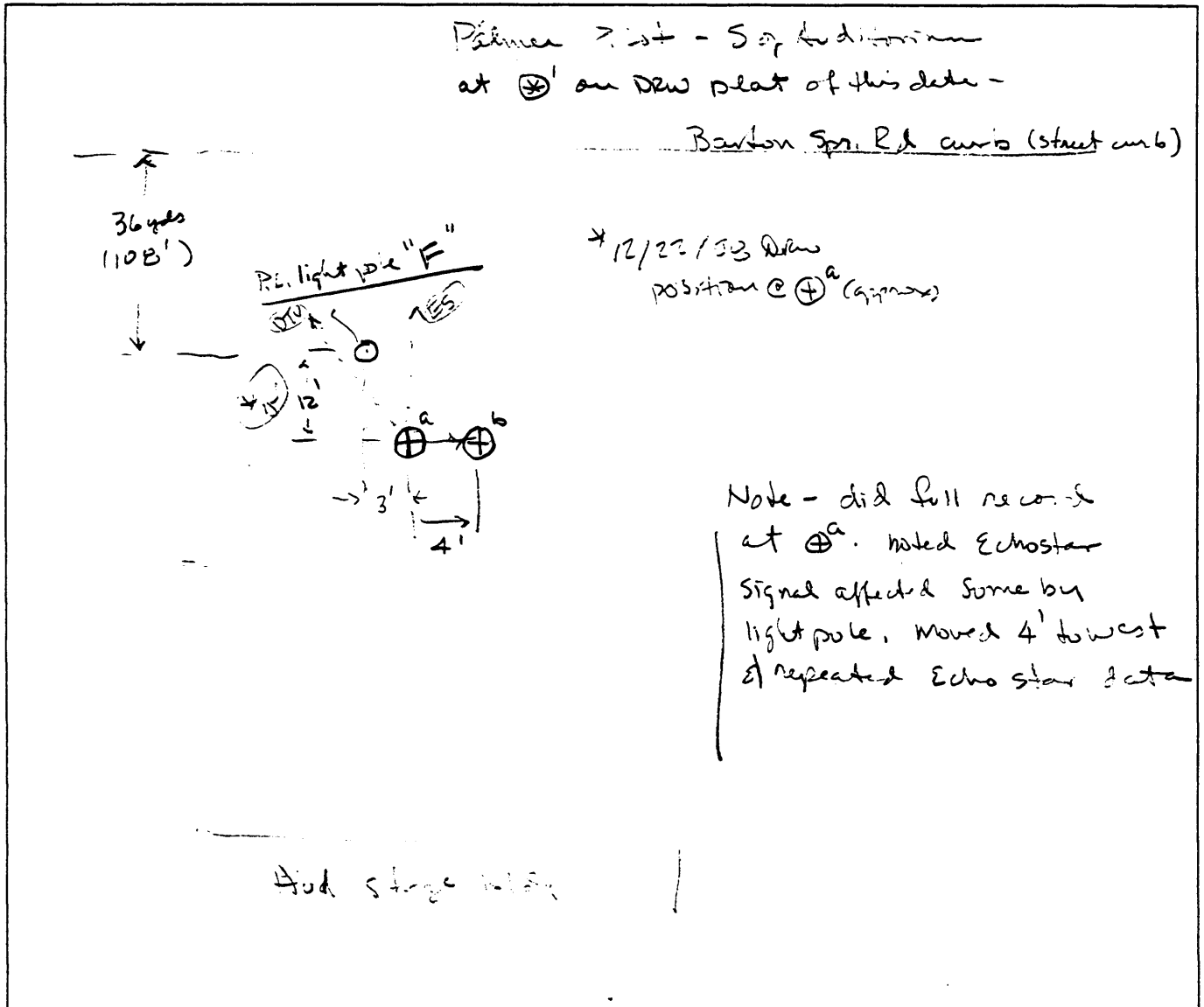
Lat: N 30 15 32.7

Time Read 4:09 p CST

Lon: W 97 45 08.4

Elev: 589

Map Sketch (show street reference and local benchmark features):



Northpoint Technology - DBS Compatibility Test - Austin Test Area

Rx Site Location Log

Rx Site No.

8

p1

* 12/22/93
Set: 1/1

Site Name:

Date / Time:

12/18/98 CST

Palmer #2

Operator:

M.E.

GPS Receiver Reading at Site:

Lat: N 30° 15' 34.1"

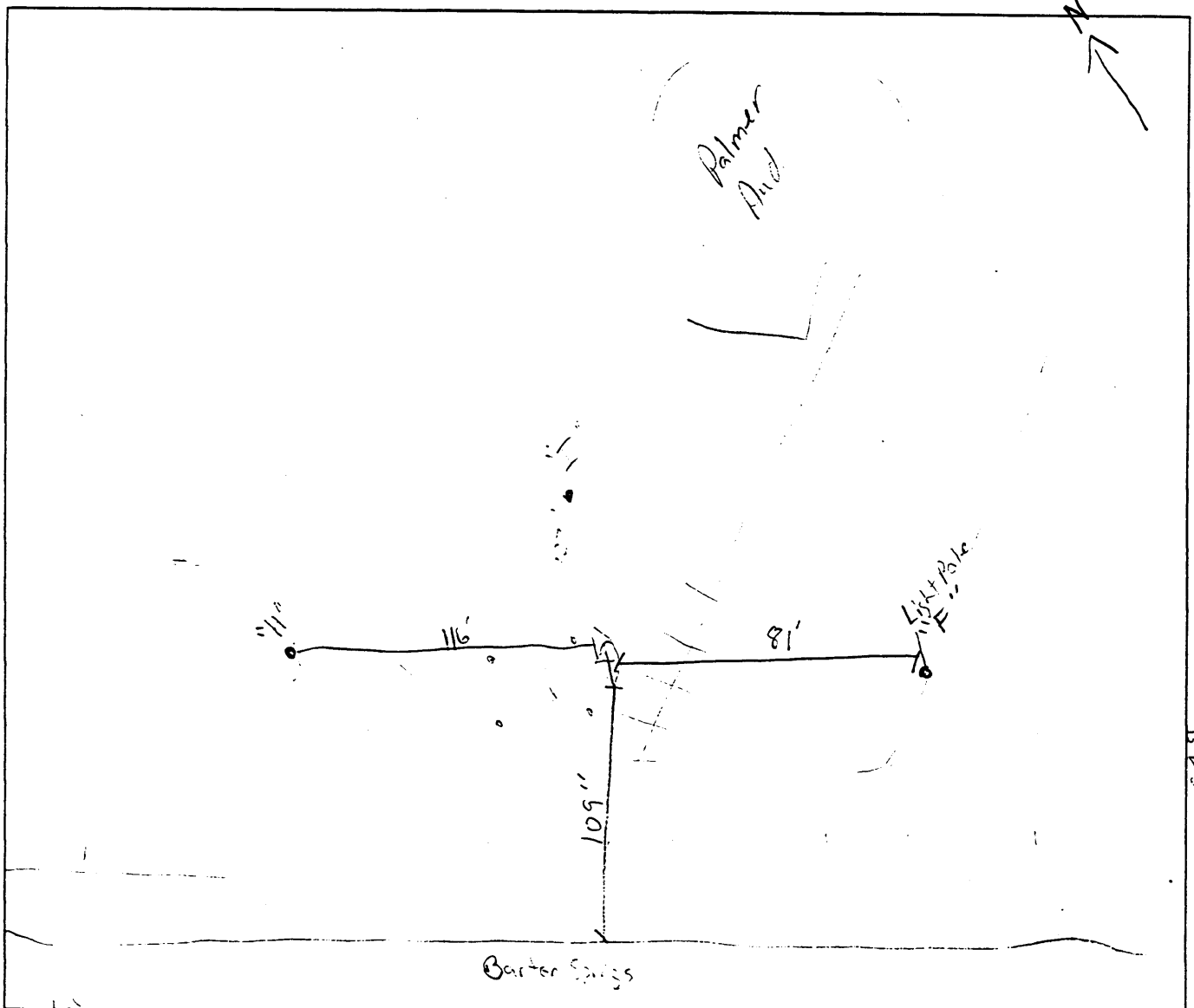
Time Read _____ CST

Lon: 110° 00' 05.8"

Elev: 491 ft

12:26:18

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibililty Test – Austin Test Area

Rx Site Location Log

Rx Site No.

9

p1

Set:

1/1

* 12/22/93 72V

Site Name:

Date / Time:

12/18/93 3:20 CST

Palmer Fr. Reservoir \oplus^3

Operator:

ME

GPS Receiver Reading at Site:

Lat: $31^{\circ} 30' 35.1''$

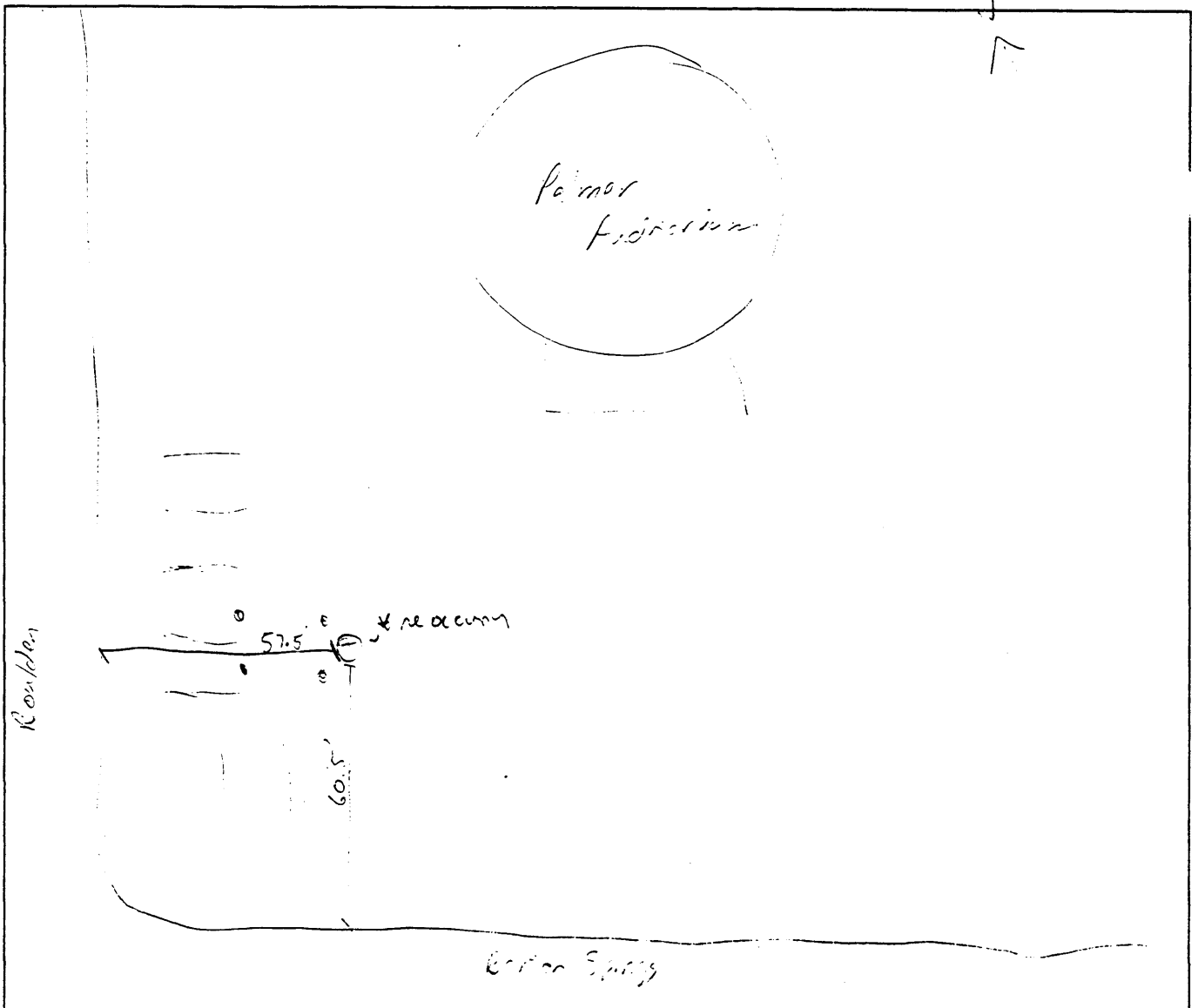
Time Read 326 CST

Lon: $100^{\circ} 00' 00.0''$

Elev: 32654

3120'00"

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 10

pl

Set: / /

Site Name:

Date / Time:

12 / 23 / 03 12: 23 CST

TX DOT

Operator:

Dew

GPS Receiver Reading at Site:

Lat: N 30° 15' 23.3"

Time Read 11:30 ~~12:30~~ CST

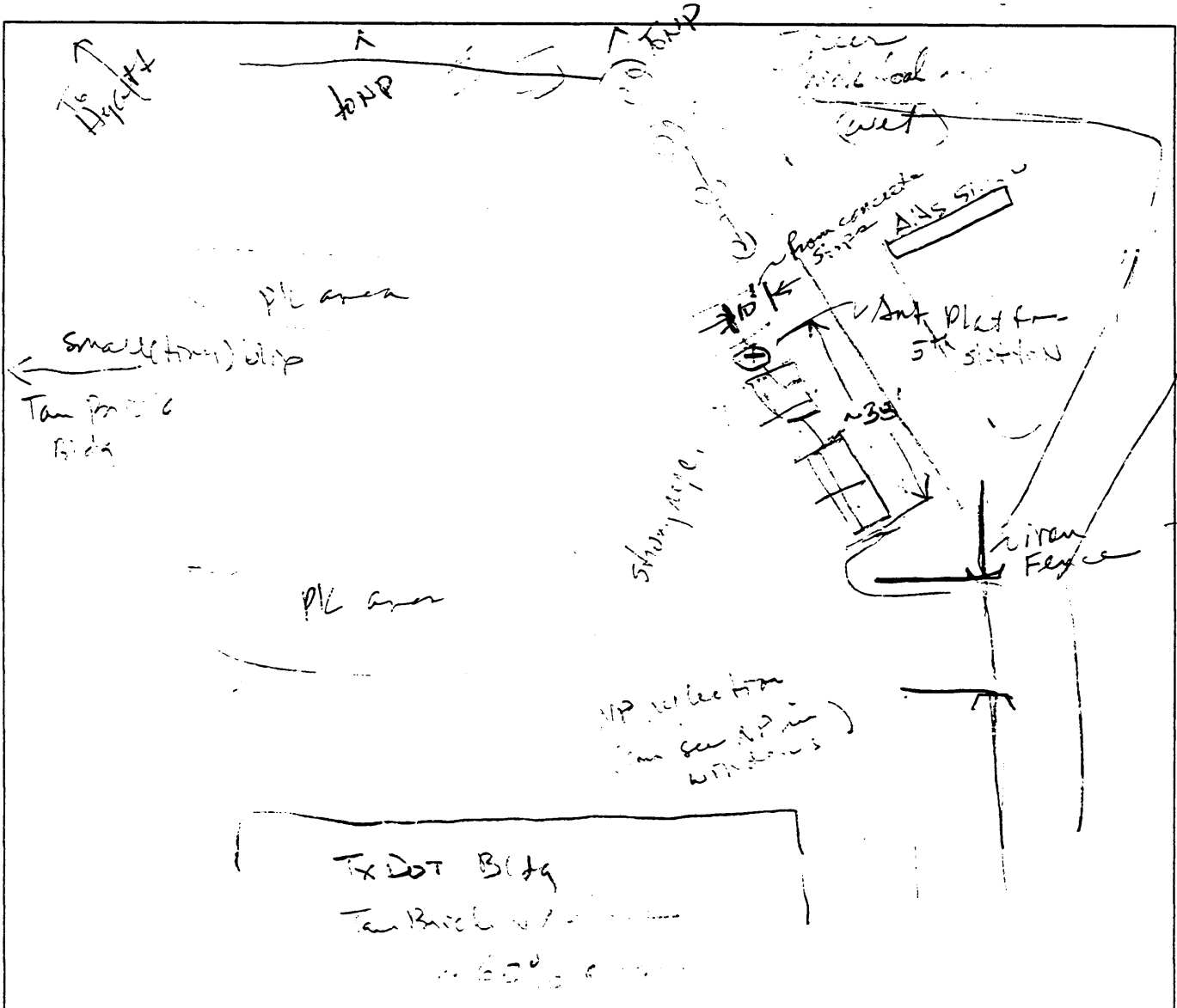
Lon: W 97 44 37.3

GPS 12/23/03

Elev: 433'

Map Sketch (show street reference and local benchmark features):

*heavy overcast
mist*



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 11 p1
Set: 1 / 1

Site Name:

Date / Time:

12/20/98 10:30 CST

3rd of Jewell

Operator:

[Signature]

GPS Receiver Reading at Site:

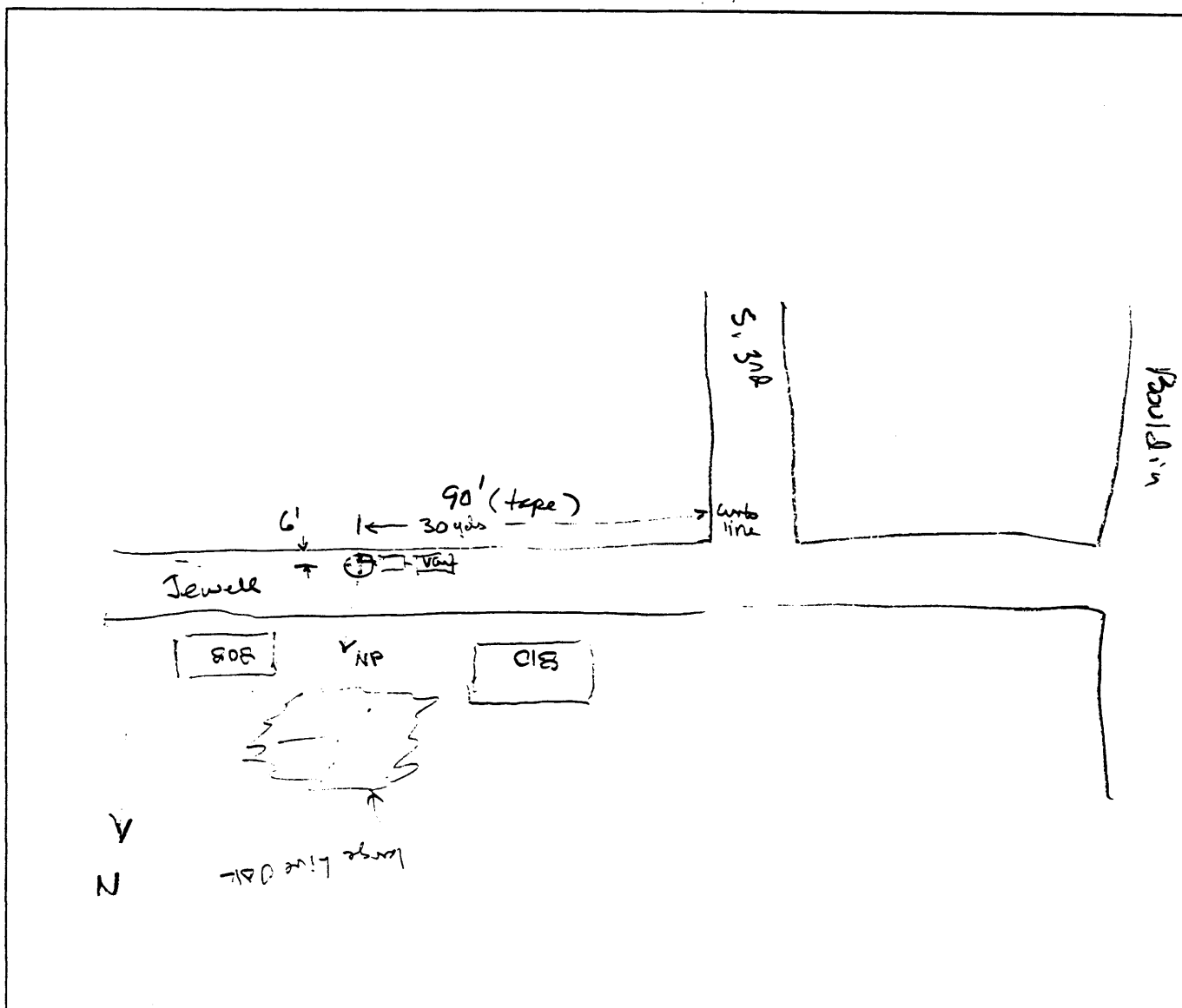
Lat: N 30 15 06.0

Time Read 10:39 CST
16:38:58

Lon: W 97 45 27.3

Elev: 352'

Map Sketch (show street reference and local benchmark features):



Northpoint Technology - DBS Compatibility Test - Austin Test Area

Rx Site Location Log

3rd of Christopher Columbus

Rx Site No. 12
Set: 11

p1

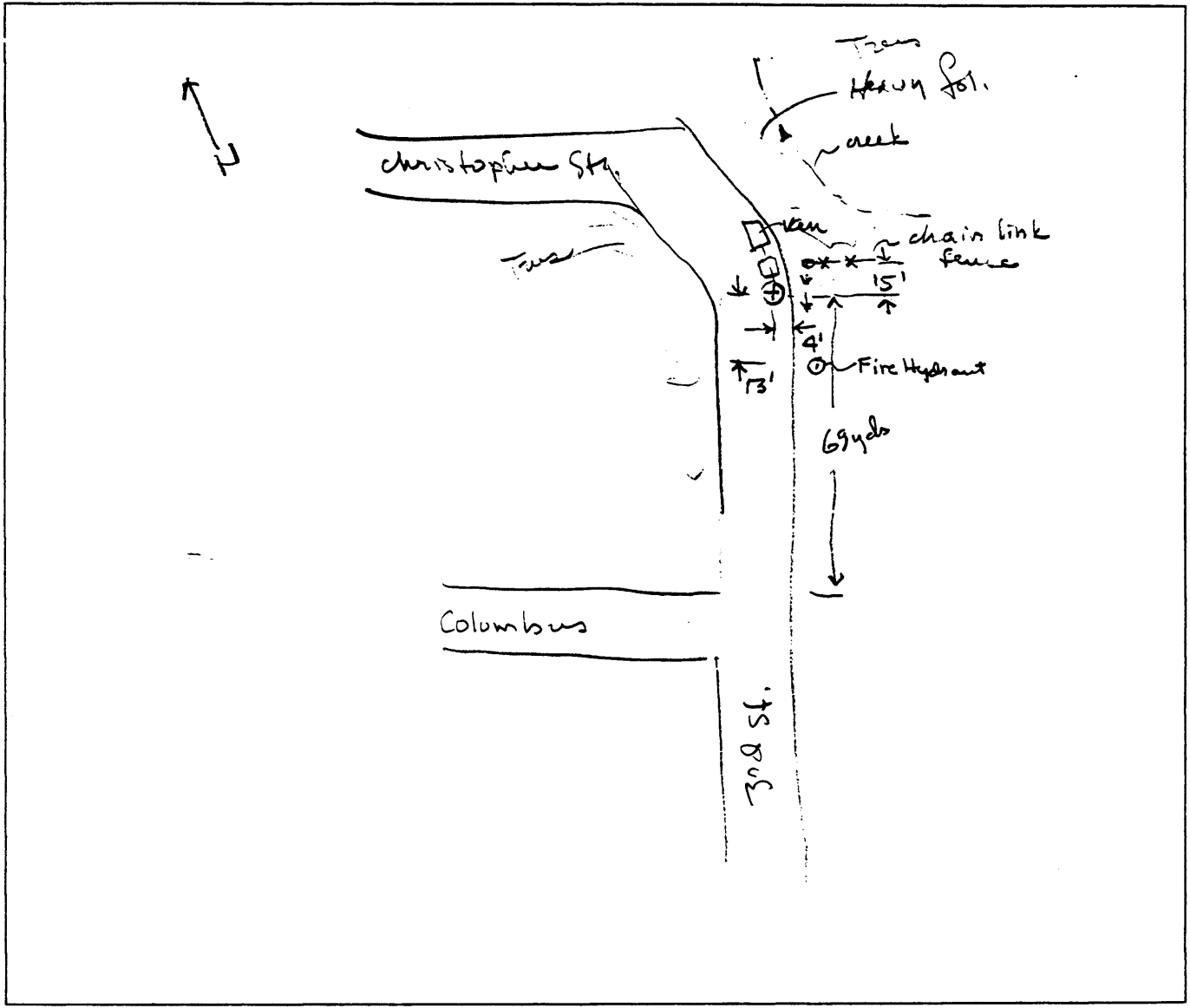
Site Name: Christopher
3rd of Columbus

Date / Time: 12/28/98 12:12p CST

Operator: Dew / MWH

GPS Receiver Reading at Site: Lat: N 30 15 17.3
Time Read 18:12:00 CST Lon: W 97 45 17.8
12:12 p Elev: 654

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No. 13 #13a
 Set: 11 p1

Site Name:

Date / Time:

12/28/98 1:00p CST

B. Creek Mall

Operator:

Drew / MNR / ME

GPS Receiver Reading at Site:

Lat: N 30 15 30.2

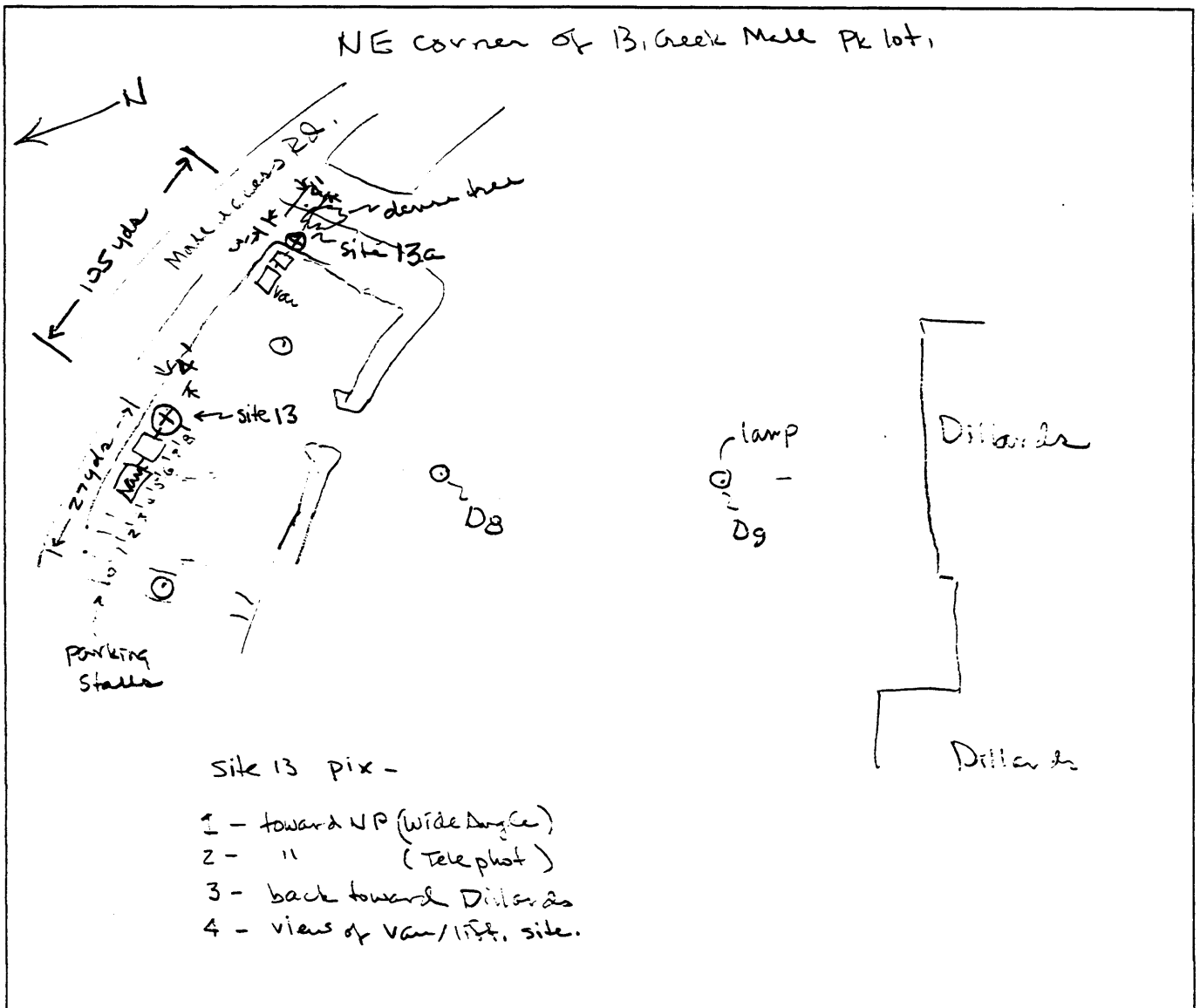
Time Read 1:05p CST

Lon: W 97 48 11.3

19:05:00

Elev: 993'

Map Sketch (show street reference and local benchmark features):



Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

Rx Site No.

13a

p1

Set:

1 /

Site Name:

Date / Time:

12 / 29 / 98 1:30p CST

13, creek mall - a

Operator:

GPS Receiver Reading at Site:

Lat: N 30 15 27.8

Time Read 1:42p CST

Lon: W 97 48 10.4

19:42:00

Elev: 951

Map Sketch (show street reference and local benchmark features):

Refer to site 13 map.

site 13a pix -

- 1 - toward NP (w. Angle)
- 2 - " " (telephoto)
- 3 - view of van toward NP.
- 4 - view back toward Foley's & Dillards.

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Location Log

See 13a log

Rx Site No. 13a-2
Set: /

p1

Site Name:

Date / Time:

12 / 30 / 98 10:43 CST

BCWall - a

Operator:

Dw / NH / ME

GPS Receiver Reading at Site:

Lat: _____

Time Read _____ CST

Lon: _____

Elev: _____

Map Sketch (show street reference and local benchmark features):

Refer to 13 & 13a plat.