

**ODFW AQUATIC INVENTORY PROJECT**  
**OREGON PLAN FOR SALMON & WATERSHEDS**  
**STREAM RESTORATION HABITAT REPORT**

STREAM: Cedar Creek (NC-13)  
 BASIN: Wilson River  
 SURVEY TYPE: Pre and Post-Tx  
 DATE: October 23, 2003  
 REPORT PREPARED BY: Paul Jacobsen

The Cedar Creek restoration project extended approximately 800 meters, with nearly the entire project being monitored for pre- and post-treatment conditions. Eleven habitat structures were created and 35 key pieces (according to the ODF Large Wood Placement Guide) were used. The intended goals of the project included increasing stream complexity, improved interaction with the floodplain, gravel retention, increased pool area, streambank stabilization, and enhanced salmonids spawning and rearing habitat. In the first seasons after restoration activities, large wood pieces, volume, and key pieces are increased as expected. In addition pool area is greater and pools occur more frequently. Riffle gravel is higher and riffle fines are lower.

	ODFW	Benchmark	Winter Pre	Summer Pre	Winter Post	Summer Post	
Habitat Variable	Desirable	Undesirable	3/22/00	6/21/00	2/12/01	6/25/01	
Reach #							
Pool Area	>35	<10	30.0	26.2	38.8	27.4	
Pool Frequency	5-8	>20	5.4	3.5	3.4	2.5	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.62	.62	.73	.62	
Complex Pools/km	>2.5	<1.0	7.2	4.1	5.8	6.3	
Width/Depth Ratio	<15	>30	19.4	19.0	23.1	28.1	
Riffle Gravel % area	>35	<15	40	15	46	29	
Silt-Sand-Organic %	<12	>25	14	17	9	13	
Shade %	>70	< 60		98		97	
LWD - pieces/100m	>20	<10	13.4	13.1	16.4	18.0	
LWD - Volume/100m	>30	<20	13.4	21.9	48.5	50.7	
LWD - Key pieces/ 100m	>3	<1	0.2	0.4	3.2	2.3	
Riparian Conifers>20" dbh/1000ft	>300	<150		0		0	
Riparian Conifers>35" dbh/1000ft	>200	<75		0		0	

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted evidence of beaver activity during the survey. Twelve habitat structures were also recorded.

ODFW AQUATIC INVENTORY PROJECT  
OREGON PLAN FOR SALMON & WATERSHEDS  
STREAM RESTORATION HABITAT REPORT

STREAM: Cedar Creek (NC-13)  
BASIN: Wilson River  
SURVEY TYPE: Post-Tx  
DATE: June 25, 2001  
SURVEY CREW: Sean Allen, Rachel Werner  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 13.3 km<sup>2</sup>  
USGS MAPS: Jordan Creek  
ECOREGION: Coast Range Volcanic

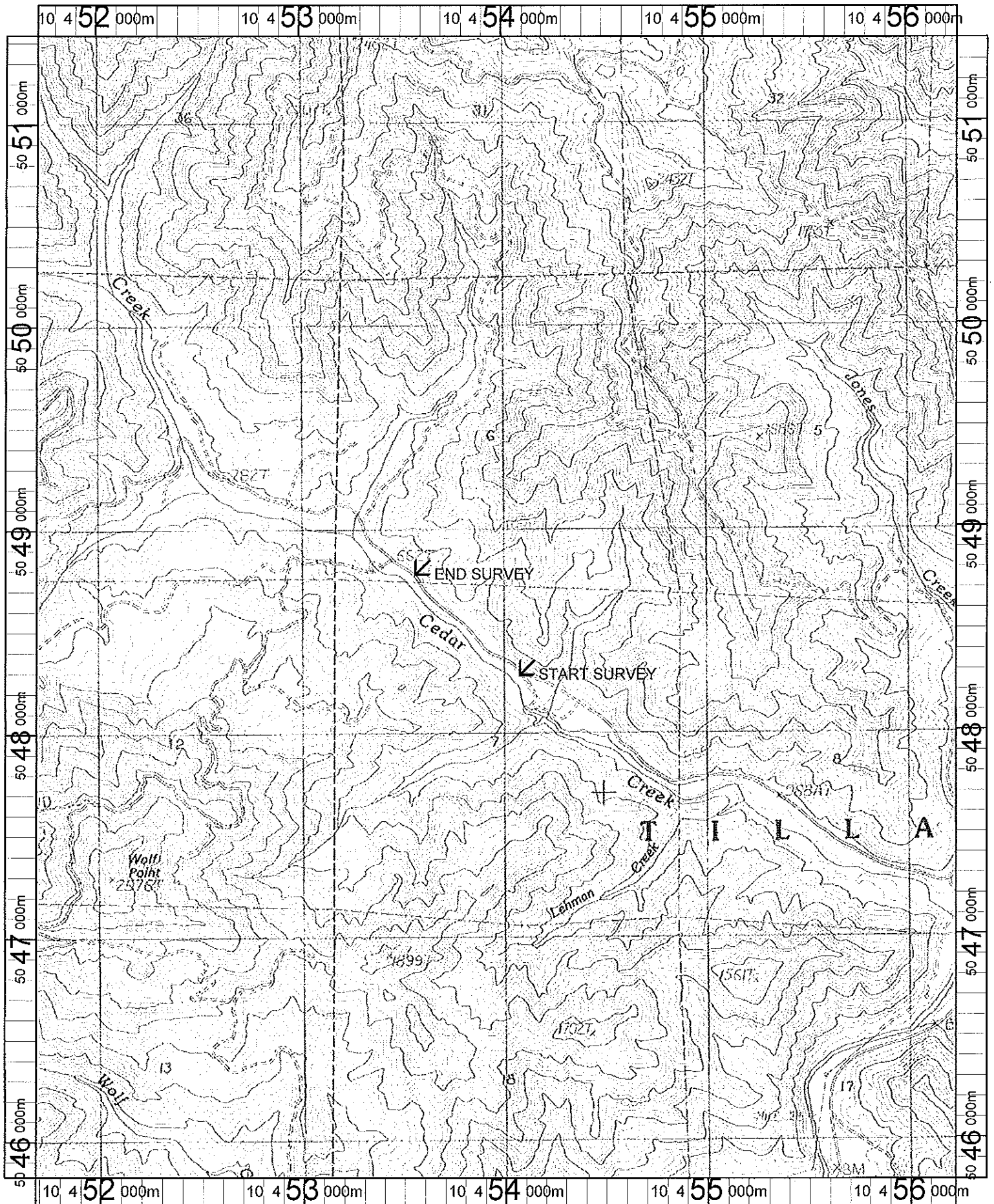
GENERAL DESCRIPTION:

The Cedar Creek habitat survey extended 799 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 4.1 (range: 3.0 – 6.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 1.8 percent. Riffles (39%) and scour pools (26%) dominated stream habitat. Cobble (30%) and gravel (27%) dominated stream substrate. Wood volume was high at 50.7 m<sup>3</sup>/100m.

COMMENTS:

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted several habitat structures during the survey.



Name: JORDAN CREEK  
 Date: 1/10/2002  
 Scale: 1 inch equals 2000 feet

Location: 10 453969 E 5048616 N  
 Caption: CEDAR CREEK RESTORATION SITE - WILSON  
 BASIN

REACH 1

T1N-R7W-S7NW

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	0	Constraining Terraces	100
Moderate V-shape	0	Multiple Terraces	0
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 4.1 range: 3.0-6.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	100	Braided Channel	0
Alt. Terrace/Hill	0		
Landuse	0		

Channel Characteristics

<u>Type</u>	<u>Length(m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	799	6,466	0
Secondary	463	1,809	5

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	5.6	Width	19.7	32.5	30.5
Depth	0.38	Height	0.7	1.4	1.7
		W:D ratio	28.1	Entrenchment	1.6

Stream Flow Type: LF Water Temp: 9.0-9.0°C  
 Avg. Unit Gradient: 1.8% Habitat Units/100m: 5.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	4%	Reach avg: 97%
Undercut Banks	7%	Range: 83-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ( $\geq 3m \times 0.15m$ )	144	18.0
Volume (m <sup>3</sup> )	405	50.7
Key pieces ( $\geq 10m \times 0.6m$ )	18	2.3

REACH 1

T1N-R7W-S7NW

REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
CASCADE/BOULDERS	3	31	0.9	0.03	26	1	0	5	17	33	40	5
DRY UNITS	3	84	8.0	0.00	637	0	7	7	35	32	20	0
GLIDE	1	42	12.0	0.30	506	7	2	18	40	20	20	0
POOL-BACKWATER	4	28	3.4	0.48	98	1	11	20	32	33	4	0
POOL-ISOLATED	1	5	2.0	0.30	10	0	30	25	40	5	0	0
POOL-LATERAL SCOUR	19	326	5.0	0.74	1,809	16	9	16	29	26	18	2
POOL-STRAIGHT SCOUR	2	48	7.4	0.75	351	0	3	20	20	28	30	0
PUDDLED CHANNEL	2	72	2.5	0.13	172	1	18	15	33	20	15	0
RAPID/BOULDERS	7	167	7.8	0.21	1,368	17	0	6	20	27	44	4
RIFFLE	17	446	6.1	0.19	3,220	38	2	11	29	37	20	1
STEP/BOULDERS	4	13	6.0	0.24	78	7	0	0	13	32	51	4
<b>Total:</b>	<b>63</b>	<b>1,262</b>	<b>5.6</b>	<b>0.38</b>	<b>8,274</b>	<b>88</b>	<b>Avg: 6</b>	<b>12</b>	<b>27</b>	<b>30</b>	<b>24</b>	<b>2</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Number	Boulders #/100m <sup>2</sup>
Dammed & BW Pools	5	33	3.1	0.44	108	1.31	1	0.9
Scour Pools	21	374	5.2	0.74	2,159	26.10	16	0.7
Glides	1	42	12.0	0.30	506	6.12	7	1.4
Riffles	17	446	6.1	0.19	3,220	38.91	38	1.2
Rapids	7	167	7.8	0.21	1,368	16.53	17	1.2
Cascades	3	31	0.9	0.03	26	0.32	1	3.8
Step/Falls	4	13	6.0	0.24	78	0.94	7	9.0
Dry	5	155	5.8	0.05	809	9.78	1	0.1

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	26	20.6
Pools ≥1m deep:	6	4.8
Complex pools (LWD pieces ≥3):	8	6.3
Pool Frequency (channel widths/pool):	2.5	
Residual pool depth (avg)	0.62m	

STREAM SUMMARY

CEDAR CREEK POST-TX (#13)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
63	1,262	5.6	0.38	8,274	6	12	27	30	24	2	88

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	2,159	26.1
Backwater Pools	108	1.3
Glide	506	6.1
Riffle	3,220	38.9
Rapid	1,368	16.5
Cascade	26	0.3
Step	78	0.9
Dry	809	9.8

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) (3 transects)

Total hardwoods/1000 ft	894
Total conifers/1000 ft	20
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	2.7	0.3	1.7	0.0	0.7	0.3	5.0
15-30cm	0.0	1.7	0.0	2.3	0.0	1.7	0.0	5.7
30-50cm	0.0	2.0	0.0	0.7	0.0	1.0	0.0	3.7
50-90cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	0.0	6.7	0.3	4.7	0.0	3.3	0.1	4.9

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	80		73		54	
Shrub cover	58		65		67	
Grass/forb cover	42		35		13	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	50		50		50
High terrace	17		33		17	
Low terrace	33		17		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		33	
Riprap	0		0		0	
Surface slope (%)	38		27		18	

Summary of Riparian Zone (0-30m) for all reaches ( 3 transects)

Summary of riparian zone (0-100ft) extrapolated to 1,000 feet along stream

Total hardwoods/1000 ft	894
Total conifers/1000 ft	20
Total conifers >20" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.3	5.0
15-30cm	0.0	5.7
30-50cm	0.0	3.7
50-90cm	0.0	0.3
>90cm	0.0	0.0

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RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
17	LF	1	HS	120.0	80	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	ALDER
17	LF	2	HS	100.0	90	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	
17	LF	3	HS	65.0	85	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	1	0	0	
17	RT	1	LT	2.0	90	70	30	Conifer	0	0	0	0	0	
								Hardwood	0	1	3	0	0	ALDER
17	RT	2	HT	5.0	90	65	35	Conifer	0	0	0	0	0	
								Hardwood	0	0	1	0	0	
17	RT	3	HT	12.0	70	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
28	LF	1	LT	6.0	80	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
28	LF	2	LT	4.0	85	80	20	Conifer	0	0	0	0	0	
								Hardwood	0	3	0	0	0	ALDER
28	LF	3	HS	20.0	85	95	5	Conifer	0	0	0	0	0	
								Hardwood	2	1	1	0	0	
28	RT	1	HS	75.0	90	90	10	Conifer	0	0	0	0	0	
								Hardwood	4	0	1	0	0	VINEMAPLE
28	RT	2	HS	25.0	60	20	80	Conifer	0	0	0	0	0	
								Hardwood	4	0	1	0	0	
28	RT	3	RB	0.0	0	0	25	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	CEDAR CR ROAD
37	LF	1	HT	0.0	80	5	95	Conifer	0	0	0	0	0	
								Hardwood	2	1	1	0	0	
37	LF	2	HT	3.0	70	30	70	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	
37	LF	3	HS	9.0	85	95	5	Conifer	0	0	0	0	0	
								Hardwood	0	4	1	0	0	BIG CEDAR SNAG
37	RT	1	HS	22.0	60	80	20	Conifer	0	0	0	0	0	
								Hardwood	2	1	1	1	0	
37	RT	2	HS	27.0	40	95	5	Conifer	1	0	0	0	0	
								Hardwood	1	1	0	0	0	
37	RT	3	RB	0.0	0	10	40	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	

123° 37' 30"

452000mE

453

454

35'

5052000mN

5051

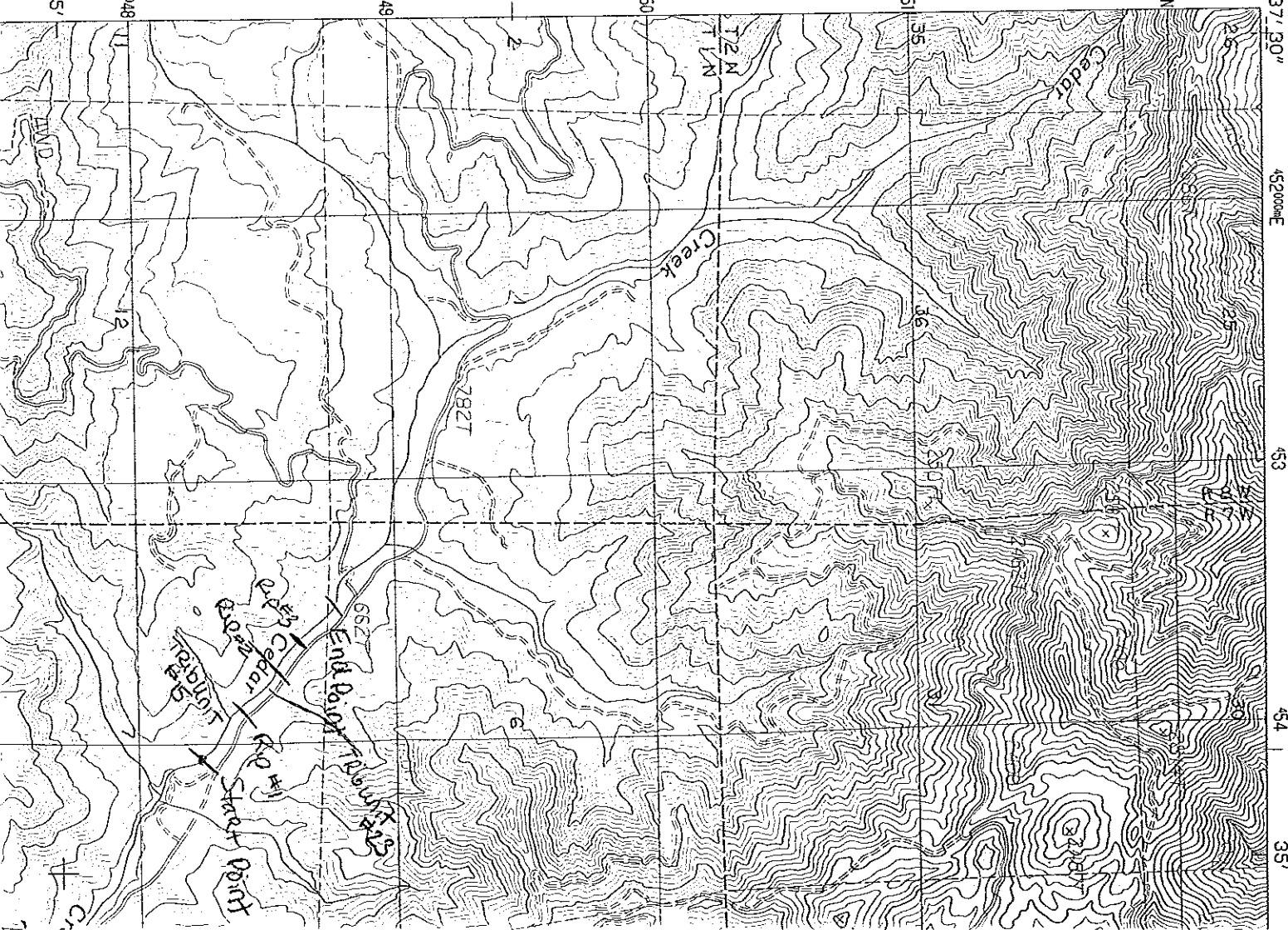
35

5050

5049

5048

35'



Cedar Creek #13  
 Post-TX 6/25/01