

# Regions from section 6.3.1

Drift Differencing								Length Difference							
descA	odoA	eventA	Drift	1st Diff	eventB	odoB	descB	Odo A	Event A	Len A	ΔLen	Len B	Event B	Odo B	
fitting at 90 de	123.31	fitting	-62.16		fitting	185.47	fitting at 90 de	123.31	fitting				fitting	185.47	
	144.23	weld	-62.05	0.11	weld	206.28		144.23	weld	20.92	0.11	20.81	weld	206.28	
	189.38	weld	-61.95	0.10	weld	251.33		189.38	weld	45.15	0.10	45.05	weld	251.33	
					agm	282.00	agm #15, sta.						agm	282.00	
casing begin -	224.41	casing	-62.52	-0.57	casing	286.93	casing begin -	224.41	casing	35.03	-0.57	35.60	casing	286.93	
agm # 130, sta	228.91	agm						228.91	agm						
	234.45	weld	-62.05	0.47	weld	296.50		234.45	weld	45.07	-0.10	45.17	weld	296.50	
	279.53	weld	-61.97	0.08	weld	341.50		279.53	weld	45.08	0.08	45.00	weld	341.50	
casing end - st	304.78	casing	-61.14	0.83	casing	365.92	casing end - st	304.78	casing	80.37	1.38	78.99	casing	365.92	
	324.62	weld	-61.91	-0.77	weld	386.53		324.62	weld	45.09	0.06	45.03	weld	386.53	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	
	5,141.97	weld	-57.89		weld	5,199.86		5,141.97	weld				weld	5,199.86	
bend left	5,177.37	bend	-58.48	-0.59	bend	5,235.85	bend left	5,177.37	bend	35.40	-0.59	35.99	bend	5,235.85	
	5,187.24	weld	-57.77	0.71	weld	5,245.01		5,187.24	weld	45.27	0.12	45.15	weld	5,245.01	
	5,232.59	weld	-57.61	0.16	weld	5,290.20		5,232.59	weld	45.35	0.16	45.19	weld	5,290.20	
	5,277.84	weld	-57.55	0.06	weld	5,335.39		5,277.84	weld	45.25	0.06	45.19	weld	5,335.39	
	5,322.99	weld	-57.53	0.02	weld	5,380.52		5,322.99	weld	45.15	0.02	45.13	weld	5,380.52	
	5,368.30	weld	-57.40	0.13	weld	5,425.70		5,368.30	weld	45.31	0.13	45.18	weld	5,425.70	
	5,413.55	weld	-57.35	0.05	weld	5,470.90		5,413.55	weld	45.25	0.05	45.20	weld	5,470.90	
	5,458.75	weld	-57.36	-0.01	weld	5,516.11		5,458.75	weld	45.20	-0.01	45.21	weld	5,516.11	
	5,503.99	weld	-57.31	0.05	weld	5,561.30		5,503.99	weld	45.24	0.05	45.19	weld	5,561.30	
	5,549.40	weld	-57.12	0.19	weld	5,606.52		5,549.40	weld	45.41	0.19	45.22	weld	5,606.52	
	5,594.59	weld	-57.05	0.07	weld	5,651.64		5,594.59	weld	45.19	0.07	45.12	weld	5,651.64	
bend right	5,625.34	bend	-56.27	0.78	bend	5,681.61	bend right	5,625.34	bend	30.75	0.78	29.97	bend	5,681.61	
	5,639.82	weld	-56.72	-0.45	weld	5,696.54		5,639.82	weld	45.23	0.33	44.90	weld	5,696.54	
					weld	5,735.35						38.81	weld	5,735.35	
					casing	5,748.70	casing begin -					13.35	casing	5,748.70	
agm # 140, sta	5,670.97	agm	-81.24	-24.52	agm	5,752.21	agm #16, sta.	5,670.97	agm	31.15	14.29	16.86	agm	5,752.21	
	5,678.40	weld						5,678.40	weld	38.58					
casing begin -	5,691.37	casing						5,691.37	casing	12.97	-0.38	13.35	casing	5,748.70	
	5,700.47	weld	-56.92	24.32	weld	5,757.39		5,700.47	weld	22.07	0.03	22.04	weld	5,757.39	
	5,723.57	weld	-56.85	0.07	weld	5,780.42		5,723.57	weld	23.10	0.07	23.03	weld	5,780.42	
casing end - st	5,749.22	casing	-57.01	-0.16	casing	5,806.23	casing end - st	5,749.22	casing	57.85	0.32	57.53	casing	5,806.23	
	5,748.23	weld	-56.83	0.18	weld	5,805.06		5,748.23	weld	24.66	0.02	24.64	weld	5,805.06	
	5,774.62	weld	-56.78	0.05	weld	5,831.40		5,774.62	weld	26.39	0.05	26.34	weld	5,831.40	
bend left	5,803.41	bend	-59.17	-2.39	bend	5,862.58	bend left	5,803.41	bend	28.79	-2.39	31.18	bend	5,862.58	
	5,815.94	weld	-56.74	2.43	weld	5,872.68		5,815.94	weld	41.32	0.04	41.28	weld	5,872.68	

<- Ref Point 1

Region  
Below, the  
Drift differ  
Length se  
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• Zipperin  
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Reg

Odo A  
5,639.8  
5,670.9  
5,678.4  
5,691.3  
5,700.9  
5,720.0

<- Ref Point 1

## Region (1)

Below, the AGM was in different locations in each of the datasets.

Drift difference sees it.

Length sees it if it is not used as a section boundary.

- This is NOT how this is normally used.
- Zippering normally matches on RPs and only uses joint boundaries
- This would typically only be seen during a SME review.

## Region (1)

### Correct Region (1)

Odo A	Event A	Len A	ΔLen	Len B	Event B	Odo B
5,639.82	weld	45.23	0.33	44.90	weld	5,696.54
5,670.97	agm	31.15				
5,678.40	weld	38.58	-0.23	38.81	weld	5,735.35
5,691.37	casing	12.97	-0.38	13.35	casing	5,748.70
				16.86	agm	5,752.21
5,700.47	weld	22.07	0.03	22.04	weld	5,757.39

	5,861.09	weld	-56.78	-0.04	weld	5,917.87			5,861.09	weld	45.15	-0.04	45.19	weld	5,917.87
	5,906.36	weld	-56.77	0.01	weld	5,963.13			5,906.36	weld	45.27	0.01	45.26	weld	5,963.13
	5,951.66	weld	-56.72	0.05	weld	6,008.38			5,951.66	weld	45.30	0.05	45.25	weld	6,008.38
	5,996.96	weld	-56.57	0.15	weld	6,053.53			5,996.96	weld	45.30	0.15	45.15	weld	6,053.53
	6,024.95	weld	-56.51	0.06	weld	6,081.46			6,024.95	weld	27.99	0.06	27.93	weld	6,081.46
	6,070.26	weld	-56.32	0.19	weld	6,126.58			6,070.26	weld	45.31	0.19	45.12	weld	6,126.58
	6,115.44	weld	-56.14	0.18	weld	6,171.58			6,115.44	weld	45.18	0.18	45.00	weld	6,171.58
	6,160.74	weld	-55.96	0.18	weld	6,216.70			6,160.74	weld	45.30	0.18	45.12	weld	6,216.70
	6,205.90	weld	-55.87	0.09	weld	6,261.77			6,205.90	weld	45.16	0.09	45.07	weld	6,261.77
	6,251.13	weld	-55.75	0.12	weld	6,306.88			6,251.13	weld	45.23	0.12	45.11	weld	6,306.88
	6,296.29	weld	-55.72	0.03	weld	6,352.01			6,296.29	weld	45.16	0.03	45.13	weld	6,352.01
	6,341.55	weld	-55.58	0.14	weld	6,397.13			6,341.55	weld	45.26	0.14	45.12	weld	6,397.13
	6,386.81	weld	-55.44	0.14	weld	6,442.25			6,386.81	weld	45.26	0.14	45.12	weld	6,442.25
	6,432.09	weld	-55.32	0.12	weld	6,487.41			6,432.09	weld	45.28	0.12	45.16	weld	6,487.41
	6,465.14	weld	-55.25	0.07	weld	6,520.39			6,465.14	weld	33.05	0.07	32.98	weld	6,520.39
	6,508.52	weld	-55.02	0.23	weld	6,563.54			6,508.52	weld	43.38	0.23	43.15	weld	6,563.54
	6,553.83	weld	-54.78	0.24	weld	6,608.61			6,553.83	weld	45.31	0.24	45.07	weld	6,608.61
	6,579.72	weld	-54.72	0.06	weld	6,634.44			6,579.72	weld	25.89	0.06	25.83	weld	6,634.44
	6,622.65	weld	-54.61	0.11	weld	6,677.26			6,622.65	weld	42.93	0.11	42.82	weld	6,677.26
	6,630.85	weld	-54.58	0.03	weld	6,685.43			6,630.85	weld	8.20	0.03	8.17	weld	6,685.43
	6,638.85	weld	-54.57	0.01	weld	6,693.42			6,638.85	weld	8.00	0.01	7.99	weld	6,693.42
bend left	6,669.32	bend	-54.84	-0.27	bend	6,724.16	bend left		6,669.32	bend	30.47	-0.27	30.74	bend	6,724.16
	6,678.56	weld	-54.40	0.44	weld	6,732.96			6,678.56	weld	39.71	0.17	39.54	weld	6,732.96
					misc	6,768.82	tool stopped							misc	6,768.82
bend left	6,686.68	bend							6,686.68	bend	8.12				
	6,719.75	weld	-53.98	0.42	weld	6,773.73			6,719.75	weld	41.19	0.42	40.77	weld	6,773.73
wt change	6,719.77	pipe							6,719.77	pipe	0.02				
	6,721.76	weld	-52.39	1.59	weld	6,774.15			6,721.76	weld	2.01	1.59	0.42	weld	6,774.15
	6,758.22	weld	-18.29	34.10	weld	6,776.51			6,758.22	weld	36.46	34.10	2.36	weld	6,776.51
speed excursion	6,771.28	misc	-5.92		misc	6,777.20	tool started		6,771.28	misc	13.06		0.69	misc	6,777.20
speed within t	6,790.64	misc	12.42		misc	6,778.22	speed excursion		6,790.64	misc	32.42		1.71	misc	6,778.22
					weld	6,809.11							32.60	weld	6,809.11
	6,799.29	weld	-50.97	-32.68	weld	6,850.26			6,799.29	weld	41.07	-0.08	41.15	weld	6,850.26
	6,840.45	weld	-50.92	0.05	weld	6,891.37			6,840.45	weld	41.16	0.05	41.11	weld	6,891.37
speed excursion	6,842.73	misc							6,842.73	misc					
	6,843.47	weld	-50.89	0.03	weld	6,894.36			6,843.47	weld	3.02	0.03	2.99	weld	6,894.36
wt change	6,843.49	pipe							6,843.49	pipe	0.02				
	6,889.24	weld	-50.10	0.79	weld	6,939.34			6,889.24	weld	45.77	0.79	44.98	weld	6,939.34
	6,935.15	weld	-49.52	0.58	weld	6,984.67			6,935.15	weld	45.91	0.58	45.33	weld	6,984.67
	6,980.36	weld	-49.18	0.34	weld	7,029.54			6,980.36	weld	45.21	0.34	44.87	weld	7,029.54
	7,025.61	weld	-48.95	0.23	weld	7,074.56			7,025.61	weld	45.25	0.23	45.02	weld	7,074.56
bend left	7,055.80	bend	-50.94	-1.99	bend	7,106.74	bend left		7,055.80	bend	30.19	-1.99	32.18	bend	7,106.74

**Region (2)**  
Below, the tool stopped and restarted. It seems to have reported the same weld twice.

Weld 6,773.73 and 6,774.15 are the same weld!!

Drift sees this.

Joint length sees this.

## Region (2)

Correct Region (2)

Odo A	Event A	Len A	ΔLen	Len B	Event B	Odo B
6,630.85	weld	8.20	0.03	8.17	weld	6,685.43
6,638.85	weld	8.00	0.01	7.99	weld	6,693.42
6,669.32	bend	30.47	-0.27	30.74	bend	6,724.16
6,678.56	weld	39.71	0.17	39.54	weld	6,732.96
6,686.68	bend	8.12				
		tool stopped		35.86	misc	6,768.82
		reported twice ->		40.77	weld	6,773.73
6,719.75	weld	41.19	0.00	41.19	weld	6,774.15
6,719.77	pipe					
6,721.76	weld	2.01	-0.35	2.36	weld	6,776.51

	7,068.84	weld	-48.66	2.28	weld	7,117.50			7,068.84	weld	43.23	0.29	42.94	weld	7,117.50
bend left	7,080.18	bend	-47.66	1.00	bend	7,127.84	bend left		7,080.18	bend	11.34	1.00	10.34	bend	7,127.84
	7,114.03	weld	-48.57	-0.91	weld	7,162.60			7,114.03	weld	45.19	0.09	45.10	weld	7,162.60
	7,159.27	weld	-48.44	0.13	weld	7,207.71			7,159.27	weld	45.24	0.13	45.11	weld	7,207.71
	7,204.59	weld	-48.22	0.22	weld	7,252.81			7,204.59	weld	45.32	0.22	45.10	weld	7,252.81
bend right	7,240.85	bend	-48.67	-0.45	bend	7,289.52	bend right		7,240.85	bend	36.26	-0.45	36.71	bend	7,289.52
	7,249.75	weld	-48.07	0.60	weld	7,297.82			7,249.75	weld	45.16	0.15	45.01	weld	7,297.82
bend right	7,285.96	bend	-48.77	-0.70	bend	7,334.73	bend right		7,285.96	bend	36.21	-0.70	36.91	bend	7,334.73
	7,295.12	weld	-47.86	0.91	weld	7,342.98			7,295.12	weld	45.37	0.21	45.16	weld	7,342.98
	7,340.33	weld	-47.83	0.03	weld	7,388.16			7,340.33	weld	45.21	0.03	45.18	weld	7,388.16
	7,385.65	weld	-47.64	0.19	weld	7,433.29			7,385.65	weld	45.32	0.19	45.13	weld	7,433.29
	7,430.90	weld	-47.47	0.17	weld	7,478.37			7,430.90	weld	45.25	0.17	45.08	weld	7,478.37
	7,476.21	weld	-47.23	0.24	weld	7,523.44			7,476.21	weld	45.31	0.24	45.07	weld	7,523.44
speed within t	7,521.20	misc							7,521.20	misc	44.99				
	7,521.49	weld	-47.16	0.07	weld	7,568.65			7,521.49	weld	45.28	0.07	45.21	weld	7,568.65
	7,566.78	weld	-47.09	0.07	weld	7,613.87			7,566.78	weld	45.29	0.07	45.22	weld	7,613.87
	7,611.99	weld	-47.00	0.09	weld	7,658.99			7,611.99	weld	45.21	0.09	45.12	weld	7,658.99
	7,657.27	weld	-46.77	0.23	weld	7,704.04			7,657.27	weld	45.28	0.23	45.05	weld	7,704.04
	7,702.51	weld	-46.75	0.02	weld	7,749.26			7,702.51	weld	45.24	0.02	45.22	weld	7,749.26
	7,747.85	weld	-46.61	0.14	weld	7,794.46			7,747.85	weld	45.34	0.14	45.20	weld	7,794.46
					weld	7,839.51							45.05	weld	7,839.51
bend right	7,784.99	bend	-86.67	-40.06	bend	7,871.66	bend right		7,784.99	bend	37.14	4.99	32.16	bend	7,871.66
	7,793.10	weld	-91.26	-4.59	weld	7,884.36			7,793.10	weld	45.25	0.39	44.86	weld	7,884.36
	7,838.25	weld	-91.22	0.05	weld	7,929.47			7,838.25	weld	45.15	0.05	45.11	weld	7,929.47
	7,883.39	weld	-91.21	0.01	weld	7,974.60			7,883.39	weld	45.13	0.01	45.13	weld	7,974.60
	7,928.42	weld	-91.26	-0.04	weld	8,019.68			7,928.42	weld	45.03	-0.04	45.08	weld	8,019.68
	7,973.68	weld	-91.01	0.25	weld	8,064.69			7,973.68	weld	45.26	0.25	45.02	weld	8,064.69
bend right	8,009.70	bend							8,009.70	bend	36.01				
	8,018.78	weld							8,018.78	weld	45.10				
	8,060.69	weld	-45.80	45.20	weld	8,106.49			8,060.69	weld	41.90	0.11	41.80	weld	8,106.49
casing begin - t	8,073.38	casing	-45.80	0.01	casing	8,119.18	casing begin - t		8,073.38	casing	12.69	0.01	12.69	casing	8,119.18
	8,105.86	weld	-45.57	0.23	weld	8,151.44			8,105.86	weld	45.18	0.23	44.95	weld	8,151.44
agm # 150, sta.	8,141.18	agm	-46.12	-0.54	agm	8,187.29	agm #17, sta. 2		8,141.18	agm	35.31	-0.54	35.86	agm	8,187.29
casing end - st	8,142.21	casing	-45.46	0.66	casing	8,187.67	casing end - st		8,142.21	casing	68.83	0.34	68.49	casing	8,187.67
		Mean		0.14					Mean	38.34		0.65	38.02		
		Median		0.10					Median	45.15		0.10	45.02		
		Std Dev		8.85					Std Dev	13.58		3.86	13.93		

				0.69	misc	6,777.20
				1.71	misc	6,778.22
6,758.22	weld	36.46	3.86	32.60	weld	6,809.11
6,771.28	misc		^^^ 4-foot discrepancy			
6,790.64	misc					
6,799.29	weld	41.07	-0.08	41.15	weld	6,850.26

### Region (3)

The joint boundary alignment is offset by one in the region below.

Drift difference sees it.

Length does not see it.

- Joint lengths are all the same in this region.
- This misalignment requires an SME to detect and resolve

### Region (3)

#### Correct Region 3

Odo A	Event A	Len A	ΔLen	Len B	Event B	Odo B
7,747.85	weld	45.34	0.14	45.20	weld	7,794.46
7,784.99	bend					
7,793.10	weld	45.25	0.20	45.05	weld	7,839.51
					bend	7,871.66
7,838.25	weld	45.15	0.30	44.86	weld	7,884.36
7,883.39	weld	45.13	0.03	45.11	weld	7,929.47
7,928.42	weld	45.03	-0.09	45.13	weld	7,974.60
7,973.68	weld	45.26	0.19	45.08	weld	8,019.68
8,009.70	bend					
8,018.78	weld	45.10	0.08	45.02	weld	8,064.69
8,060.69	weld	41.90	0.11	41.80	weld	8,106.49