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Route List

1. ~~B. E. Butler~~
- 2.
- 3.
- 4.
- 5.

FILE 100-11210.6

DATE July 24, 1947

COPIES 1 OF 1. SERIES MA

SUBJECT RIVER WATER SAMPLING

Yakima River Water - Analysis of Variance

To File

FROM B. F. Butler

COPY No. 1 7

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N C W 111

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 1

TITLE OF PROJ. Yakima River WaterYakima BridgeSUBJECT Analysis of VarianceStations VII, VIII, & IX

COMPUTER

DATE 7/26/47

TITLE OF PROJ.

Yakima Bridge

SUBJECT

Analysis of Variance

Stations VII, VIII, & IX

COMPUTER

DATE 7/26/47

Property	Stations	Dates
pH	N.S.	S.
Alkalinity M.D.	N.S.	S.
Alkalinity P.H.	N.S.	S.
Chlorine	A.S.	S.
Hardness	N.S.	S.
Albuminoid N.	N.S.	S.
NH ₃ N.	N.S.	N.S.
NO ₃ N.	N.S.	S.
Oxygen Dissolved	S.	S.
Oxygen BOD	N.S.	S.
Total Solids	N.S.	S.
Turbidity	A.S.	S.

W10.8
W10.40
A6 1487
A6 101

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42W. 71

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 2

TITLE OF PROJ.

Yakima River Water

PROJ. NO.

SUBJECT

Analysis of Variance

WORKS

Stations X, XI, + XII

COMPUTER

DATE

7/26/47

18

Property

Stations

Dates

pH

N.S.

S

Alkalinity M.D.

N.S.

S

Alkalinity P.H.

N.S.

S

Chlorine

N.S.

S

Hardness

N.S.

S

Albuminoid N.

N.S.

S

NH₃ N.

N.S.

N.S.

NO₃ N.

N.S.

S

Oxygen Dis.

N.S.

S

Oxygen BOD

N.S.

S

Total Solids

N.S.

S

Turbidity

N.S.

S

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 11

TITLE OF PROJ.

Hydro-Engine Water

PROJ. NO.

SUBJECT

(VII VIII IX)

pH

WORKS

COMPUTER

DATE

10

<i>Data</i>	<i>VII</i>	<i>VIII</i>	<i>IX</i>	
7.5	8.20	8.20	8.20	$\Sigma X = 24.60$
7.9	8.18	8.18	8.15	24.41
12	8.18	8.09	8.05	24.22
16	8.10	8.10	8.10	24.3
19	8.20	8.20	8.20	24.6
23	8.11	8.10	8.10	24.31
26	8.21	8.20	8.22	24.63
30	8.10	8.12	8.10	24.32
8.2	8.23	8.58	8.28	25.09
6	8.22	8.29	8.17	24.68
9	8.40	8.40	8.40	25.40
13	8.28	8.30	8.30	24.88
16	8.32	8.32	8.40	25.04
20	8.30	8.35	8.32	24.97
23	8.35	8.30	8.36	25.01
27	8.15	8.10	8.15	24.40

$\Sigma X = 131.231$

$\Sigma X = 131.731$

$\Sigma X = 131.501$

$\Sigma X = 394.46$

$\Sigma X = 3242.52$

Total	3243.3216	-	3241.63902	=	.682192
Station	3241.697237	-		=	.007929
Water	3245.316466	-		=	.572058
Inter	32	-		=	.097305

<i>Station</i>	<i>Water</i>	<i>Inter</i>	<i>Station</i>	<i>Water</i>	<i>Inter</i>
207829	2	103915	1021	103915	103915
577058	15	24847	1106	24847	24847
197305	30	103223			
	47				

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ENGINEERING DEPARTMENT COMPUTATION SHEET

SHEET NO. 3

TITLE OF PROJ. Yachima River Station PROJ. No. _____
 SUBJECT (VII LIT IX) Abal. M. P. WORKS _____

COMPUTER _____

DATE _____

10

Date	VII	VIII	IX	ΣX=
7-5	101.7	102.1	102.5	6.3
9	105.0	105.1	105.11	15.5
12	119.7	121.9	130.6	62.2
16	132.4	134.1	130.6	97.1
19	137.4	137.2	134.1	108.7
23	148.0	148.6	149.5	146.1
26	144.6	152.3	151.4	150.3
30	137.6	140.1	138.8	116.5
8-2	138.0	142.6	142.0	122.6
6	154.9	151.8	154.1	156.8
9	153.1	153.3	156.5	164.9
13	159.6	157.7	158.7	176.2
16	162.4	162.3	162.6	182.3
20	158.7	157.6	159.4	175.3
23	165.2	164.2	165.1	191.0
27	157.5	159.0	159.0	184.5

ΣX= 1716.00 ΣX= 700.80 ΣX= 690.50 ΣX= 2066.3
 ΣX= 10634.5

Total 106,343.35 - 888,638,352 = 17,979,5198
 Station 88,886,620.25 - = 22,894,925
 Date 106,210,836.6 - = 17347.0015
 Enter 309,667,975

ΣX=	22,894,925	25	11,422,712	11.1	11,422,712
Date	17,347,0015	15	11,646,611	112.04	11,646,611
Enter	309,667,975	30	10,322,762		10,322,762
Station		47			

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 3

TITLE OR PROJ.

Indus. River Water

PROJ. NO.

SUBJECT

(VII VIII IX)

Water pH

WORKS

COMPUTER

DATE

19

Date	VII	VIII	IX	ΣX
75	5.4	4.8	4.6	14.8
9	3.6	4.0	3.8	11.4
12	5.9	6.0	3.1	15.0
16	6.8	8.1	6.7	21.6
19	6.3	6.0	5.0	17.3
23	7.8	7.7	6.2	21.7
26	4.9	8.2	7.6	20.7
30	8.5	8.7	8.0	25.2
82	6.9	9.5	9.7	26.1
6	11.6	12.1	11.1	34.8
9	15.0	11.3	13.0	39.3
13	15.0	12.2	12.1	39.3
16	14.0	13.0	13.3	40.3
20	12.0	10.1	11.7	33.8
23	13.6	11.3	11.7	36.6
27	8.9	9.6	9.3	27.0

ΣX = 146.2

ΣX = 140.8

ΣX = 136.9

ΣX = 423.9

ΣX = 425.6

Total

4254.07

- 3743.56675 =

510.50325

Station

3746.393125

= 2.72625

Date

4210.53

= 466.963125

Inter

= 40.21375

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 2

TITLE OF PROJ.

Adkins River Station

PROJ. NO.

SUBJECT

(VII VIII IX)

C1-

WORKS

COMPUTER

DATE

18

Date	VII	VIII	IX	EX	
7-5	1.95	1.81	1.95	5.71	
7	3.10	3.76	3.50	10.36	
12	3.30	3.50	3.56	10.36	
16	3.36	3.89	4.35	11.60	
19	2.24	3.79	4.12	10.15	
23	3.66	3.79	3.56	11.01	
26	4.35	4.35	4.35	12.01	
30	4.12	4.19	4.02	13.23	
8-2	4.35	4.02	4.35	13.32	
6	4.12	4.35	4.35	12.82	
9	3.79	4.12	3.79	11.70	
13	4.35	3.79	4.12	12.26	
16	4.02	3.89	4.02	12.53	
20	4.12	3.99	4.22	12.33	
23	4.35	4.12	4.22	12.69	
27	4.25	4.12	4.20	12.62	

EX: 60.03

EX: 62.38

EX: 63.33

EX: 185.74

EX: 746.189

270.3295

Total	740.1892	-	718.736408	=	21.452792
Station	719.097137	-		=	360729
Date	736.568	-		=	19.831592
Enter				=	1.260471

Station	360729	21	19.831592	1.260471
Date	19.831592	13	1.321106	51.47
Enter	1.321106	30	0.25015	
		47		

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N2W 11.72

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 57

TITLE OF PROJ.

Johnson Pump Water

PROJ. NO.

SUBJECT

(VII VIII IX)

Ref. Johnson

WORKS

COMPUTER

DATE

18

Date

VII

VIII

IX

7.5

78.8

81.6

81.0

EX = 240.8

9

83.2

82.1

110.4

265.7

12

89.6

89.1

88.6

267.8

16

100.4

100.4

110.4

301.2

19

99.4

103.7

103.7

306.8

23

103.7

105.8

104.8

314.3

26

113.7

113.7

115.8

313.2

30

101.5

99.4

99.4

300.3

8.2

106.9

115.8

116.9

317.6

6

116.9

104.8

116.9

318.6

9

102.0

110.0

108.0

326.5

13

118.0

115.8

108.0

321.8

16

108.0

105.8

108.0

321.8

20

115.8

105.8

105.8

317.4

23

118.0

115.8

108.0

321.8

27

100.4

101.5

101.5

303.4

EX = 1612.3

EX = 1611.0

EX = 1637.2

EX = 4860.5

EX = 495.44

Total

495,440.73 - 495,176.25 = 264.48

Stations

492,203.5081 - = 27.2529

Dates

495,196.8766 - = 3020.6214

Stations

495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

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495,196.8766 - = 324.6005

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495,196.8766 - = 324.6005

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495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

Stations

495,196.8766 - = 324.6005

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 6

TITLE OF PROJ.

Spokane River Station

PROJ. NO.

SI

(VII VIII IX)

Albion N.

WORKS

COMPUTER

DATE

19

Date	VII	VIII	IX	EX
7.5	0.10	0.07	0.10	.27
9	0.06	0.05	0.07	.18
12	0.07	0.09	0.10	.26
16	0.07	0.08	0.12	.27
19	0.03	0.04	0.05	.12
23	0.16	0.08	0.07	.21
26	0.04	0.09	0.03	.16
30	0.05	0.15	0.08	.18
8 2	0.05	0.07	0.10	.22
6	0.09	0.12	0.08	.29
9	0.09	0.06	0.07	.22
13	0.08	0.09	0.07	.24
16	0.06	0.05	0.05	.16
20	0.23	0.20	0.22	.65
23	0.09	0.11	0.12	.32
27	0.08	0.04	0.11	.23

EX = 1.25

EX = 1.29

EX = 1.44

EX = 3.96

EX = 4.124

Total 4.134 - .330000 = .083392

Station 33.126 - = .001254

Date 4.14 - = .071392

Enter = .010746

Station

20.1252

2

100.627

1.75

22.12

Date

07.1392

1

10.72.9

13.59

5.21

Station

0.10746

30

202.58

12

17.2

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ENGINEERING DEPARTMENT

REPORT

COMPUTATION SHEET

SHEET NO.

PROJ. NO.

WORKS

SUBJECT (VII) (VII) (N)

Station - *Station*

DATE

COMPUTER

Date

VII

VII

VII

7.5

7.4

7.3

7.2

9

1.03

1.03

1.1

12

1.09

1.08

1.04

16

1.09

1.09

1.05

19

1.01

1.06

1.03

23

1.05

1.06

1.07

26

1.09

1.08

1.11

30

1.05

1.05

1.04

8.2

1.05

1.05

1.05

6

1.04

1.09

1.10

9

1.02

1.03

1.04

13

1.06

1.05

1.06

16

1.07

1.07

1.08

20

1.08

1.08

1.08

23

1.07

1.08

1.08

27

1.07

1.08

1.08

EX: 104

EX: 106

EX: 107

EX: 108

Total

Station

Date

Enter

(7-5)

1.07

1.07

1.07

1.07

1.07

1.07

1.07

1.07

1.07

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO.

TITLE OF PROJ.

General Power Water

PROJ. NO.

SUBJECT

VII IX 103

WORKS

COMPUTER

DATE

19

<i>Date</i>	<i>VII</i>	<i>VIII</i>	<i>IX</i>	
7.5	.10	.11	.10	EX= 31
9	.11	.13	.12	.36
12	.10	.19	.12	.31
16	.11	.18	.10	.29
19	.32	.31	.32	.91
23	.32	.32	.34	.98
26	.21	.19	.21	.61
30	.20	.26	.22	.68
8.2	.20	.18	.19	.57
6	.08	.16	.06	.20
9	.10	.09	.08	.27
13	.12	.17	.15	.44
16	.12	.12	.10	.34
20	.16	.16	.13	.45
23	.11	.07	.12	.30
27	.127	.22	.32	.91

EX= 2.63

EX= 2.66

EX= 2.68

EX= 7.97

EX= 1.666

Total	16665	-	1373352	:	343148
Station	1323431	-		=	260074
Dues	11556966	-		=	333714
Interest				=	

Station	000079	2	000040	139	215	44
Dues	333714	15	622247	7153	12	13
Interest	009355	30	000311			

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10-20 PM-51

11

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 9

TITLE OF PROJ.

Spokane River Station

PROJ. NO.

SUBJECT

(VII VIII IX)

COMPUTER

DATE

19

<i>I & II</i>	<i>III</i>	<i>VI</i>	<i>IX</i>	<i>EX</i>
7.5	7.9	7.9	7.9	23.7
7	8.2	8.2	7.8	24.2
12	7.3	7.2	6.9	21.4
16	6.5	6.4	6.3	19.2
19	6.0	6.0	5.7	17.7
23	5.4	5.2	5.2	16.8
26	5.6	5.4	5.0	16.0
30	5.5	5.1	5.5	16.4
8.2	5.9	5.8	5.9	17.6
6	5.7	5.7	5.7	
9	5.9	5.9	5.6	17.4
13	5.9	5.8	5.8	17.6
16	6.6	6.4	6.3	19.3
20	6.7	6.2	6.3	19.4
23	5.5	6.0	5.6	17.7
27	6.7	6.7	6.7	20.1

EX = 76.0

EX = 94.5

EX = 92.7

EX = 283.2

EX = 1813.7

Total 1813.78 - 1782.272 = 31.508

Station 1202.436 - = 36.4

Date = 1813.006666 - = 31.734666

Inter = 40.734 -

Station	1202.436	1202.436	1202.436	1202.436
Date	1813.006666	1813.006666	1813.006666	1813.006666
Inter	40.734	40.734	40.734	40.734

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 12

TITLE OF PROJ.

Yakima River Station

PROJ. NO.

SUBJECT

(VII VIII IX)

Original B. O. &

WORKS

COMPUTER

DATE

19

Date	VII	VIII	IX	ΣX
75	10	1.9	2.3	
9	.7	0.5	0.1	1.3
12	1.3	1.3	1.7	4.3
16	5.7	5.1	5.3	16.1
19	0.8	1.3	0.8	2.9
23	0.4	?	?	
26	1.1	0.9	0.7	2.7
30	0.4	0.2	0.5	1.1
82	0.1	0.6	0.6	1.3
6	1.3	?	0.3	
9	0.4	0.2	0.1	1.0
13	0.1	0.2	0.1	.4
16	0.3	0.4	0.5	1.2
20	0.8	0.6	1.0	2.4
23	0.2	0.8	0.7	1.7
27	0.6	0.6	0.6	1.8

ΣX = 12.5

ΣX = 12.7

ΣX = 13.0

ΣX = 38.2

ΣX = 105.4

Total	105.44	-	374.164	=	68.5235
Stations	374.164	-		=	.009743
Dates	104.16	-		=	66.74.37
Inter		-		=	1.770057

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NEW 117

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 110

TITLE OF PROJ.

Yadon - General Notes

PROJ. NO.

SUBJECT

(VII TX)

General Notes

WORKS

COMPUTER

DATE

18

Date	VII	VIII	TX	ΣX
7.5	128.0	128.0	130.0	78.0
9	158.0	150.0	166.0	114
12	184.0	192.0	206.0	222
16	210.0	190.0	204.0	294
19	210.0	210.0	212.0	344
23	230.0	240.0	238.0	414
26	240.0	230.0	260.0	444
30	220.0	260.0	210.0	320
8.2	214.0	230.0	204.0	354
6	240.0	240.0	240.0	444
9	230.0	230.0	204.0	366
13	204.0	210.0	210.0	336
16	210.0	240.0	288.0	476
20	214.0	250.0	108.0	310
23	224.0	222.0	312.0	488
27	288.0	272.0	198.0	458

ΣV = 1892.0

ΣX = 1814.0

ΣX = 1744.0

ΣX = 1560.0

ΣX = 73160.0

Total

73160.0

- 634.800

= 76.360

Station

635.666

13

= 866

Date

20.14.3333

= 69.341.3333

Total

= 26,152,667

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14

SHEET NO. 2

ENGINEERING DEPARTMENT

COMPUTATION SHEET

TITLE OF PROJ.

Hydromechanical System

PROJ. NO.

SUBJECT

(VII VIII IX) Unsteady

WORKS

COMPUTER

DATE

Date	VII	VIII	IX	
7.5	16.0	12.0	19.0	47
9	16.0	17.5	20.5	50.5
12	12.0	16.5	16.0	38.5
16	20.5	17.0	25.0	62.5
19	19.0	1.0	14.5	52.5
23	16.0	17.0	20.5	53.5
26	20.0	17.0	20.5	63.5
30	20.5	20.5	26.5	72.0
8.2	13.0	13.0	17.5	39.5
1	9.5	16.0	19.0	44.5
7	14.5	25.0	17.0	56.5
13	12.0	23.5	17.0	51.0
16	15.5	19.0	20.5	55
20	17.0	19.0	17.0	53.0
23	15.5	15.5	19.0	50.0
27	26.5	19.0	15.0	70.5
	263.5	282.5	317.5	EX 263.5

Total	16,396.25	-	15,534.005208	= 852.24472 E14	16386.25
Stat	15,627.296275	-		= 93.791667	
Data	15,995.41666	-		461.411453	
Dist				298.041667	

Stat	93.791667	2	46.295834	4.74	
Data	461.411453	15	30.760163	3.16	57
Dist	298.041667	30	9.901389		

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ENGINEERING DEPARTMENT

DUPONT

COMPUTATION SHEET

SHEET NO.

H 2W 1172

15

Brokena [unclear] [unclear]

PROJ. NO.

8 XL VII PH

WORKS

COMPUTER

DATE

	XL	XL	XL	
9.9	8.10	8.00	8.07	0.17
12	8.10	8.08	8.10	2.8
16	8.20	8.15	8.12	47
18	8.12	8.18	8.18	48
23	8.18	8.20	8.20	58
26	8.22	8.10	8.23	55
30	8.18	8.18	8.18	5.1
34	8.22	8.25	8.30	7.7
36	8.25	8.30	8.30	1.85
39	8.38	8.40	8.40	1.18
43	8.20	8.22	8.20	.62
46	8.30	8.32	8.30	.92
50	8.38	8.37	8.38	1.13
53	8.32	8.34	8.32	.98
57	8.15	8.15	8.15	.43
	EX 33	EX 324	EX 343	
				EX 2 651

Total 26505 - E. 2029 = 4416
 Stations 2210166 - " = .00176
 Dates 26225 - " = 4.136
 Intersection 4416 - .00176 - 4.136 = .02624

Conditions	5d	14	28	42	56
Station	00176	2	100088	929	Not 5.9
Dates	4.136	14	1029572	31528	51.7
Intersection	26225	28	100937		
Total	4.16	14			

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO.

TITLE OF PROJ.

Alkaline Super Phosphate

PROJ. NO.

SUBJECT

(X 77 II)

Alkal. M.O.

WORKS

COMPUTER

DATE

<i>Date</i>	<i>X</i>	<i>Y</i>	<i>XII</i>	<i>YII</i>
7.9	113.0	113.7	113.8	310.3
12	122.0	122.5	121.8	371.3
16	111.5	132.9	33.0	410.2
19	106.6	117.7	111.2	335.5
23	146.2	145.6	146.8	433.6
26	151.3	150.9	149.5	451.7
30	135.8	136.3	137.4	409.5
8.2	143.4	143.2	143.0	429.6
6	152.5	153.2	153.0	458.7
9	138.4	156.8	155.7	470.9
13	157.5	159.6	158.2	475.3
16	145.0	165.1	163.4	492.5
20	168.1	158.1	158.0	476.2
23	163.0	165.2	165.4	493.1
27	167.1	164.7	159.6	460.5
	<i>EX 217220</i>	<i>3169.6</i>	<i>2159.8</i>	<i>6502.1</i>

EX 9547.577

Total 954715.27 - 939495.6535 15,220.1165
 Stations 939,501.6993 = 6.0458
 Dates 954,564.21 - = 15,069.1565
 Interaction = 80.502

<i>Condition</i>	<i>df</i>	<i>df</i>	<i>F</i>	<i>Not Sig</i>
Station	2	30229	935	5.1
Date	10	1076.3623	333.0	5.9
Interaction	20	5.23224		
Total				

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17

H2W-1112

FORM 8-51

ENGINEERING DEPARTMENT

DUPONT

COMPUTATION SHEET

SHEET NO. 3

TITLE OF PROJ.

Graduated River Water

PROJ. NO.

SUBJECT

(X XI XII)

Alkal Ph.

WORKS

COMPUTER

DATE

19

Date	XI	XI	XI	
7.9	8.0	3.2	3.0	9.2
12	3.8	3.1	3.8	12.7
16	9.1	8.9	9.0	27.
9	11.8	6.2	6.0	17.6
23	8.3	8.2	9.5	26.7
26	7.4	4.7	7.8	19.9
30	6.9	7.9	8.8	23.6
8.2	8.2	9.3	11.6	29.1
6	15.1	11.6	13.3	36.0
9	11.4	11.7	9.8	32.9
13	11.7	11.1	11.6	33.4
16	12.7	13.4	11.0	37.1
20	14.1	11.5	11.8	34.4
23	7.6	11.4	9.8	29.8
27	8.9	7.4	7.2	25.5
11.16	EX 129.0	EX 128.90	137.0	394.9

EX 3828.95

Total	3828.95	-	3465.46333	363.49312
Stations	3465.46333	-	=	2.88.0445
Dates	3796.46333	-	=	333.87689
Inter	363.49312	-	2.88.0445 - 333.87689	26.725777

DATE	STATION	DATE	STATION	DATE	STATION
5-14-51	2.88.0445	12	1.4.4.4.4.4	1.5.1	11.5.5.1
5-20-51	333.87689	14	2.3.7.1.2.3.4.9	24.9.8	5.9
5-27-51	26.725777	23	1.9.4.4.4.2		

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H-2W 7172

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 7

FILE OF PROJ.

Hickman River Station

PROJ. NO.

SUBJECT

(X XI XII)

CL

WORKS

COMPUTER

DATE

19

Date	X	XI	XII	
7.9	3.76	3.76	3.66	11.18
12	3.76	3.76	3.76	11.28
16	3.89	3.99	3.99	11.87
19	3.89	3.89	3.89	11.57
23	3.89	4.35	3.80	11.64
26	4.61	4.75	4.62	13.98
30	4.62	4.62	4.62	13.13
8.2	4.35	4.75	4.75	13.85
6	5.18	4.75	4.75	14.68
4	4.75	4.35	4.49	13.59
13	4.12	4.35	4.35	12.82
16	4.12	4.35	4.49	13.96
20	4.62	3.99	4.35	12.56
23	4.35	4.42	4.35	12.72
27	4.62	3.76	3.99	12.00
EX 62.96		62.71	EX 63.56	109.43

EX 803.707

Total

803.7077

797.416100 =

6.291592

Stations

797.43353-

=

6.017445

Dates

802.204433-

=

7.720725

Interactions

=

STATIONS

21

df

21

1

STATIONS

0.1845

B

10.2724

16.5

Not 5.9

STATIONS

1.78872

14

31.2057

6.95

5.9

STATIONS

1.48542

23

0.5803

1

1

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19

NZW. 7172

ENGINEERING DEPARTMENT

SUPPLY

COMPUTATION SHEET

SHEET NO. 5

TITLE OF PROJ.

Yakima River Water

PROJ. NO.

SUBJECT

X X VII

WORKS

COMPUTED

DATE

18

I at	X	XI	XII	
29	78.8	79.9	79.9	238.6
12	89.6	89.6	89.6	266.8
16	101.5	100.4	100.4	308.3
19	101.5	100.4	99.4	309.3
23	108.0	106.9	108.0	328.9
26	115.8	113.7	103.7	313.2
30	101.2	97.2	98.3	396.7
32	98.3	105.8	108.0	313.1
6	108.0	108.0	106.9	322.9
9	108.0	108.0	108.0	321.1
13	108.0	101.5	108.0	317.5
16	108.0	105.8	108.0	301.8
20	109.1	108.0	108.0	325.1
23	105.8	105.8	108.0	39.6
27	101.5	112.6	101.5	305.6
	EX 1533.1	1523.6	1535.7	

4592.4

EX 1171429.40

Total	471,429.41	-	468,669.728	=	2,759.732
Stations	468,675.1373				54093.
Date	471,324.5866	-			2659,9526.
Interception					99.4641

Source	EDV	df	df	F
Station	54093	2	270465	176.1
Date	2659.9526	14	189,602.757	53.383
Interception	99.4641	20	3,528.9	

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 5

20

H 2 W 1 7 2

NAME OF PROJ.

Yakima River Station

PROJ. NO.

SUBJECT

XL XL XL

WORKS

COMPUTER

DATE

10

Date	XL	XL	XL	
79	.06	.07	.06	.19
12	.04	.09	.05	.18
16	.06	.08	.08	.22
19	.03	.05	.06	.14
23	.07	.09	.07	.23
26	.05	.06	.09	.20
30	.09	.05	.07	.21
82	.03	.09	.06	.18
6	.15	.10	.07	.32
9	.06	.04	.06	.16
13	.08	.06	.09	.23
16	.04	.05	.06	.15
20	.28	.32	.31	.91
23	.12	.14	.11	.37
27	.11	.10	.09	.30
EX	1.27	EX 1.39	1.33	3.99

EX2 - 1.5351

Total	1.5331	-	35.378	=	17.932
Stations	354260	-		=	00048
Drops	521433	-		=	167653
Inter				=	

50	2d	04	05	F	
50	00048	2	00024	60	10.54
50	107663	10	001975	30.01	59
50	00048	29	000399		

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H-2-W-517

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO. 2

FILE OF PROJ.

Yakima River State

PROJ. NO.

SUBJECT

(X XI XII)

(NH₃ IV)

WORKS

COMPUTER

DATE

18

Date	X	XI	XII	
79	.06	.03	.03	.12
12	.12	.05	.02	.19
- 16	.08	.06	.10	.24
19	.02	.08	.09	.19
23	.10	.05	.08	.23
26	.06	.06	.07	.19
30	.07	.07	.07	.21
8.2	.02	.07	.04	.13
- 6	.08	.07	.08	.23
9	.08	.08	.04	.20
13	.08	.10	.10	.28
16	.06	.07	.04	.17
20	.08	.08	.07	.23
23	.05	.10	.07	.22
27	.08	.10	.08	.26
	1.04	1.07	.98	3.09

E/2 .2367

Total	.2367	-	21219 =	.02452
Stations	.21296	-		.00025
Difference	.2211	-		.000292
TOTAL				.01532

STATION	21028	✓	00014	256	No. 1
STATION	20292	14	1002637	116	
STATION	10332	29	000517		

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22

H.C.W. 117

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET No. 8

TITLE OF PROJ.

PROJ. No.

SUBJECT

WORKS

COMPUTER

DATE

19

Date

I

II

III

79

.18

.18

.20

.56

12

.09

.14

.09

.32

19

.09

.06

.06

.21

23

.26

.26

.26

.78

26

.26

.30

.26

.82

30

.23

.21

.23

.67

31

.20

.20

.23

.63

8.2

.25

.24

.24

.73

6

.10

.06

.06

.22

9

.09

.12

.09

.30

13

.14

.15

.12

.41

16

.13

.13

.14

.110

20

.14

.14

.05

.33

23

.15

.18

.11

.44

27

.34

.36

.37

1.07

2.65

2.73

2.51

2.29

EX. 1.6929

Total

1.6929 -

1.38330 =

30952

Stations

1.385033 -

= .001653

Dates

1.677933 -

= .294453

Interaction

= .013414

E.d.

df

d.f.

F

Stations

.001653

=

.002265

1.73

Dates

.294453

14

.021037

23.92

Interaction

.013414

20

.002419

5.7

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ENGINEERING DEPARTMENT

DU PONT

COMPUTATION SHEET

SHEET NO. 23

TITLE OF PROJ.

Gabon River Station

PROJ. NO.

SUBJECT

(X XL XII)

COMPUTER

DATE

WORKS

<i>Date</i>	<i>X</i>	<i>XL</i>	<i>XII</i>	
7.9	7.5	7.7	7.5	22.7
12	6.5	6.7	6.3	19.5
14	6.4	6.4	6.4	19.2
19	7.1	6.6	6.7	20.4
23	5.2	5.3	5.3	15.8
24	5.2	5.1	5.1	15.2
30	5.1	5.2	5.2	15.5
8.2	5.5	5.2	5.5	16.2
6	5.7	5.8	6.0	17.5
9	5.4	5.6	5.5	16.5
13	5.9	5.8	5.8	17.5
16	6.6	6.7	6.7	20.0
20	6.7	6.8	6.7	20.2
23	6.5	6.5	6.3	18.3
27	6.7	6.1	7.0	20.6
	91.3	91.6	92.1	275.1
				1705.77

TOTAL	1705.77	-	1681.778	=	23.992
Station	1681.795333	-	"	=	0.17333
Dated	1705.25	-	"	=	23.472
Inter					502.667

STATION	0.17333	1	0.00667	10.3	21.6
DATED	23.472	14	16.71571	40.39	84.1
INTER	502.667	20	0.17952		

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ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO.

NEW-7172

TITLE OF PROJ.

Yakima River Water

PROJ NO.

SUBJECT

26 Mile *Chippewa River*

WORKS

COMPUTER

DATE

<i>Lat</i>	<i>X</i>	<i>Y</i>	<i>Z</i>	<i>W</i>
7.9	0.5	0.5	0.2	1.2
12	0.1	0.1	0.1	1.1
16	5.2	5.2	5.4	15.8
19	1.9	1.4	1.6	4.9
23	0.5	0.4	0.4	1.3
26	0.8	0.8	0.7	1.6
30	0.2	0.2	0.2	0.4
8.2	0.1	0.2	0.3	0.6
6	0.2	0.2	0.4	0.6
9	0.3	0.1	0.3	0.7
13	0.4	0.3	0.3	0.6
16	0.6	0.4	0.6	1.6
20	1.3	1.2	0.9	3.3
23	1.1	0.7	1.1	2.9
27	0.5	0.5	0.7	1.7
	11.9	10.6	11.5	34

Total	103.20	-	38.53333	67.746667
Station	38.624	-	"	08.86.7
Dist	100.793333	-		67.74
Inter				3980

103.20
101.28

<i>Station</i>	<i>Lat</i>	<i>Long</i>	<i>Elev</i>	<i>Notes</i>
Station	08.8667	2	44.333	3.12
Station	67.74	14	44.333	3.12.87
Station	39.15	20	014.214	

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ENGINEERING DEPARTMENT

DUPONT

COMPUTATION SHEET

SHEET NO. 11

TITLE OF PROJ.

Yacknow River Water

PROJ. NO.

WORKS

SUBJECT

XI XII

COMPUTER

DATE

19

Date	X	XI	XII	
7.9	164.0	168.0	166.0	1498
12	170.0	196.0	202.0	568
14	214.0	198.0	210.0	621
19	158.0	194.0	174.0	526
23	210.0	250.0	242.0	692
26	256.0	238.0	258.0	752
30	238.0	218.0	230.0	686
8.2	232.0	288.0	284.0	804
6	258.0	282.0	268.0	808
9	264.0	238.0	262.0	764
13	286.0	266.0	252.0	804
16	330.0	306.0	304.0	940
20	380.0	292.0	284.0	956
23	450.0	350.0	360.0	1138
27	360.0	388.0	360.0	1108
	3938	3872	3656	11666

512 3216, 3241

Total	3216,324	-	3,029,345.68	=	19,978.32
Station	3024,583.6	-		=	251.92
Dues	3,199,546	-		=	175,250.32
Inter	3,024,345.68	-		=	164,76.08

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25

4120 7175

ENGINEERING DEPARTMENT

COMPUTATION SHEET

SHEET NO.

General & Special Statistics
XL XL

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WORKS

COMPUTER

DATE

Date	X	Z	Z	
7-9	29.5	28.0	26.5	75.
12		22.0	25.0	72.
16	40.0	28.0	34.0	102.
19	36.5	23.5	20.5	70.5
23	29.5	28.0	25.0	82.5
26	31.0	25.0	35.0	91.
30	13.0	44.0	44.0	131.
1-2	33.5	35.0	29.5	112.
1	31.0	32.5	28.0	91.5
9	29.5	25.0	31.0	88.5
	33.0	31.0	32.5	98.5
16	38.0	34.0	36.5	108.5
20	20.5	44.0	38.0	98.5
23	24.0	38.0	48.0	180.
27	17.0	68.0	50.0	115.
	502.	502.	500.5	1569.5

62946.25 - 54740.672 x x = 77065.7778
54952.983333 - = 192.2111
53450.25 - 4.1325728
2773.78889

1-2	31.0	64	1-2	F	
1-2	192.2111	2	260556	26.9	26.9
1-2	1739.5772	14	32854127	3.92	3.92
1-2	2773.78889	20	98361818	1.1	1.1

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DATE

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END